Appendix |A

Extract of Previously Submitted Further Information

Further Information

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Date : 21st February, 2023
Your Ref. : TPB/A/NE-FTA/220
Our Ref. : ADCL/PLG-10225/L004

The Secretary
Town Planning Board
15/F., North Point Government Offices
333 Java Road, North Point, Hong Kong

By Email and Hand

Dear Sir/Madam,

Re: Section 16 Planning Application for Proposed Temporary Cold Storage for Poultry and Distribution Centre for a Period of 3 Years and Filling of Land for Site Formation Works at Lots 471 S.B RP (Part), 472, 473, 474, 475, 476, 483, 501, 502, 504 S.B, 505 and 506 S.B RP in D.D. 89 and Adjoining Government Land, Man Kam To Road, Sha Ling, New Territories

We refer to the comments from Environment and Ecology Bureau, Agriculture and Fisheries and Conservation Department, Environmental Protection Department, Hong Kong Police Force, Lands Department Home Affairs Department and Ta Kwu Ling District Rural Committee (dated 06.12.2022), Urban Design and Landscape Section of Planning Department (dated 08.12.2022), Drainage Services Department, Highway Department and Transport Department (dated 20.12.2022) regarding the subject application.

We submit herewith Further Information (FI) with *4 copies of Responses-to-Comments Table with Appendices* for the consideration by relevant Government departments or Town Planning Board.

In addition to the above, with a view to facilitating your consideration, we would like to provide clarifications as follows:-

- The Application Site is subject to a previously-approved application (No. A/NE-FTA/201) (hereinafter referred to as "the approved application") submitted by Hong Kong Chilled Meat & Poultry Association. In response to the most recent policies geared towards making Hong Kong an international centre for I&T and reviving the logistics industry through enhancing the use of technology and productivity of private sectors, the applicant, a key stakeholder in the logistic industry, aims to follow this regional and territorial direction and deliver the same vision by incorporating intelligent logistics solutions and the Internet of Things in the current application. The current application is also aimed at overcoming challenges in the traditional food logistic industry with the use of technology to boost efficiency and ensure public hygiene as well as safeguarding food safety. In order to put forth the concept of Innovation and Technology envisioned by the Northern Metropolis Development Strategy whilst at the same time meet the demands on chilled/frozen meat and poultry in the Territory and ensuring a centralized cold storage for poultry and distribution centre, the current application is so submitted to the Board with boundary and intensity adjustment.

- The approved application No. A/NE-FTA/201 for proposed temporary cold storage for poultry and distribution centre was approved by the Board on 28.5.2021 mainly on the grounds that (a) there was a genuine operational need for chilled meat and poultry importers and distributors for a centralized CSDC, and there was no other readily available site; (b) despite not being in line with the planning intention of the "AGR" zone, favorable consideration could be given considering the importance of the proposed

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Unit 1310, Level 13, Tower 2 Metroplaza,
223 Hing Fong Road, Kwai Chung, New Territories, Hong Kong

CSDC in ensuring food safety and diversity of food supply in Hong Kong; (c) the temporary nature of the proposed development would not frustrate the long-term planning intention of the "AGR" zone; (d) no significant adverse impact on the existing landscape resources was anticipated; (e) relevant Government departments did not have in-principle objections on the application; and (f) the proposed development was supported by the stakeholders of the chilled poultry/meat industry, whereas other local objections were properly addressed in the relevant impact assessments. The current application that aims to upgrade the approved cold storage facility has the same nature as the approved application and the planning grounds should remain valid.

- Regarding owners' consent for Lot 471, 476 and 502, the applicant has communicated with the relevant Tso/Tong members prior to the submission. Please see the **attached consents**.

- While the current application seeks planning permission for a temporary cold storage facility, the applicant continues to conduct site searching exercise. The progress in finding a permanent is still on-going, the applicant will continue to search for a permanent site as long-term solution.

Should you have any queries, please do not hesitate to contact our Miss Isa YUEN or Mr. Thomas LUK at 3180 7811. Thank you for your kind attention.

Yours faithfully,
For and on behalf of
Aikon Development Consultancy Limited

Encl.
c.c. Client
DPO/STN (Attn: Ms Amy CHONG) – By Email

根據(城市規劃條例)(第 131 章)第 16 條申請規劃許可

丈量約份第 89 約地段第 476 號土地擁有人同意書

申請編號	A/NE-FTA/220
申請地點	新界沙嶺文錦渡路丈量約份第 89 約地段第 471 號 B 分段餘段(部分)、第 472 號、第 473 號、第 474 號、第 475 號、第 476 號、第 483 號、第 501 號、第 502 號、第 504 號 B 分段、第 505 號及第 506 號 B 分段餘段和毗連政府土地
有關申請建議的性質	根據城市規劃條例第十六條申請作擬議臨時家禽冷藏庫及分銷中心(為期 3 年)及填土以作土地平整工程

本人(YUN HOK CHAU TSO)謹此聲明:

(i) 根據土地註冊處的記錄,**YUN HOK CHAU TSO** 是以下地段的業主:

丈量約份第 89 約地段第 476 號

(ii) **YUN HOK CHAU TSO** 同意香港冰鮮禽畜業商會有限公司提出上述規劃申請,該申請涉及在第(i)段指出由 **YUN HOK CHAU TSO** 擁有的地段。

(iii) 當上述規劃申請獲批准後,**YUN HOK CHAU TSO**(土地擁有人)和香港冰鮮禽畜業商會有限公司(申請人)願意解決與丈量約份第 89 約地段第 **476 號**有關的任何土地問題,並確保擬議發展能妥善地實施。

簽署

YUN HOK CHAU TSO

日期:2023 年 2 月 1 日

聲　明

本人 袁龍穩、　　香港身分證號碼 D053798(6)

現居於 上水風南路9號翠麗花園六座9樓D室

謹以至誠鄭重聲明：

茲證明本人是羅湖袁氏大祖堂
袁學洲祖良名下袁光宗祖後
人，有最大祖堂袁皓公祖家譜
壽載及在北區民政處資料
保存。（見附件1）

本人謹憑藉《宣誓及聲明條例》衷誠作出此項鄭重聲明，並確信其為真確無訛。

此項聲明於 二〇一七年 八月廿九日 年 月 日

在香港特別行政區 北區民政事務處 作出，

是經由 ，現於
任職

作出傳譯者，而此傳譯員亦已先行聲明，他已將本文件內容向聲明人作出真實明確及清晰可聞的傳譯，並會將本人即將為聲明人主持的聲明忠實向其傳譯。

袁龍穩
.....
（聲明人簽署）

在本人面前作出：

監誓員：.....吳偉君.....

本人 現於

謹以至誠鄭重聲明，本人諳熟本文件所採用的法定語文及 文，本人已將本文件內容向聲明人 作真實明確及清晰可聞的傳譯，並會將即將為其主持的聲明忠實向其傳譯。

.....
（傳譯者簽署）

此項聲明是於 年 月 日

在香港特別行政區 作出。

在本人面前作出：

監誓員：.....

DECLARATION

I,

of

solemnly and sincerely declare that:

And I make this solemn declaration conscientiously believing the same to be true and by virtue of the Oaths and Declarations Ordinance.

Declared at , in the Hong Kong Special Administrative Region this day of , through the interpretation of of the said interpreter having been also first declared that he/she* had truly, distinctly and audibly interpreted the contents of this document to the declarant, and that he/she* would truly and faithfully interpret the declaration about to be administered to him/her*.

Before me,

.....
(signature of declarant)

Commissioner for Oaths

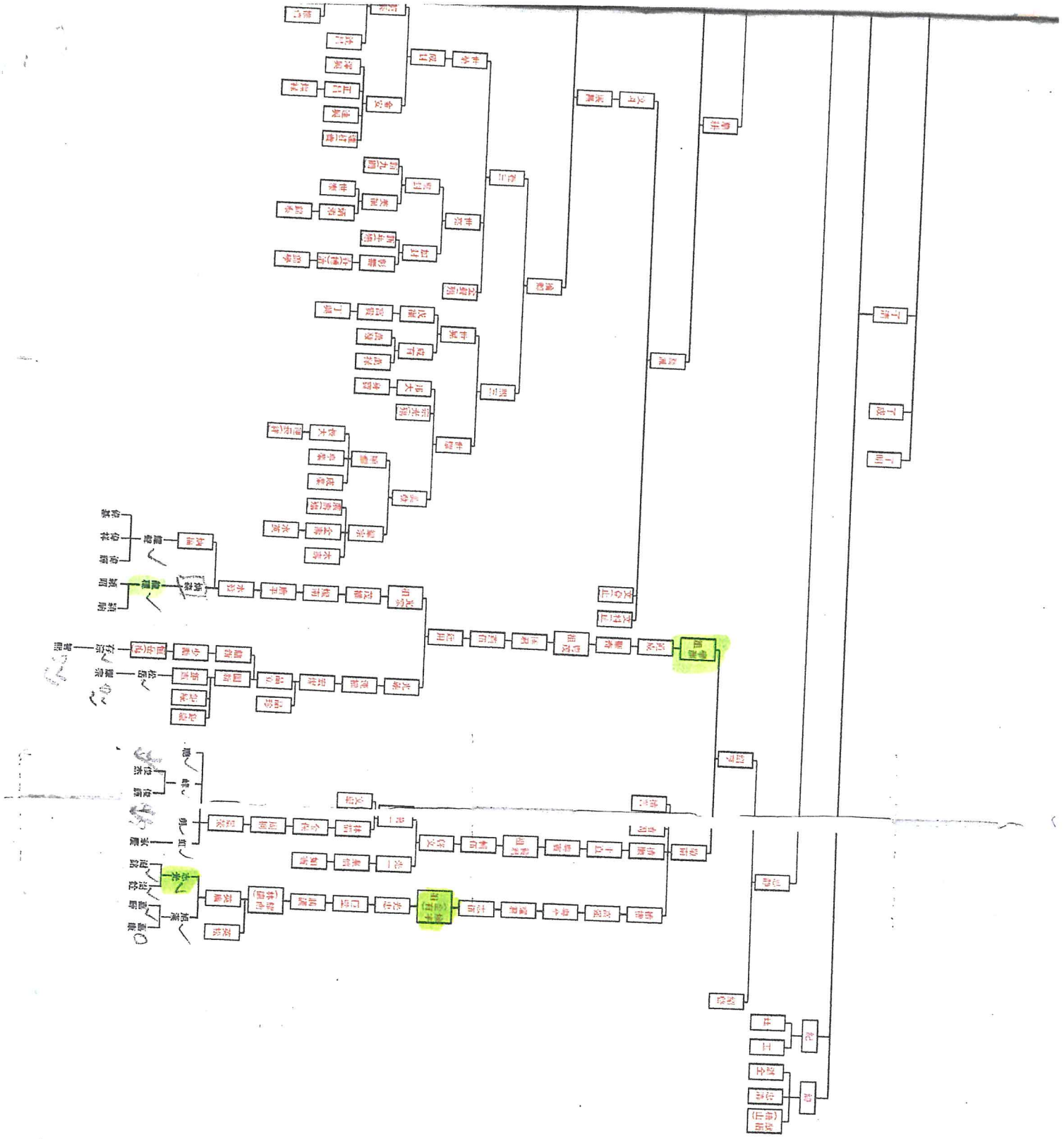
I, , of , solemnly and sincerely declare that I well understand the English and Chinese languages and that I have truly, distinctly and audibly interpreted the contents of this document to the declarant , and that I will truly and faithfully interpret the declaration about to be administered to him/her*.

Declared at
in the Hong Kong Special Administrative Region
this day of
Before me,

.....
(signature of interpreter)

Commissioner for Oaths

*Please delete where appropriate



這份文件是宣誓者／確認者／聲明人 袁龍穩 於二〇一七年 三月 廿 九日 在本人面前宣誓／確認／聲明時，其簽署／確認書／聲明書內所提及的證物編號"　"

監誓人 吳佩君

根據(城市規劃條例)(第 131 章)第 16 條申請規劃許可

丈量約份第 89 約地段第 471 號 B 分段餘段及第 502 號土地擁有人同意書

申請編號	A/NE-FTA/220
申請地點	新界沙嶺文錦渡路丈量約份第 89 約地段第 471 號 B 分段餘段(部分)、第 472 號、第 473 號、第 474 號、第 475 號、第 476 號、第 483 號、第 501 號、第 502 號、第 504 號 B 分段、第 505 號及第 506 號 B 分段餘段和毗連政府土地
有關申請建議的性質	根據城市規劃條例第十六條申請作擬議臨時家禽冷藏庫及分銷中心(為期 3 年)及填土以作土地平整工程

本人(YUEN WUN YU TSO)謹此聲明:

(i) 根據土地註冊處的記錄,YUEN WUN YU TSO 是以下地段的業主:

丈量約份第 89 約地段第 471 號 B 分段餘段及第 502 號

(ii) YUEN WUN YU TSO 同意香港冰鮮禽畜業商會有限公司提出上述規劃申請,該申請涉及在第(i)段指出由 YUEN WUN YU TSO 擁有的地段。

(iii) 當上述規劃申請獲批准後,YUEN WUN YU TSO (土地擁有人)和香港冰鮮禽畜業商會有限公司(申請人)願意解決與丈量約份第 89 約地段第 471 號 B 分段餘段及第 502 號有關的任何土地問題,並確保擬議發展能妥善地實施。

簽署

袁志光

YUEN WUN YU TSO

日期:2023 年 2 月 1 日

北區民政事務處
新界粉嶺
璧峰路三號
北區政府合署三樓

NORTH DISTRICT OFFICE
3/F, NORTH DISTRICT GOVERNMENT OFFICES,
3 PIK FUNG ROAD,
FANLING,
NEW TERRITORIES.

本處檔號 *Our Ref.:* (179) in HAD N TT 19/15/48/81

來函檔號 *Your Ref.:*

電　　話 *Tel.:* 2675 1780

傳　　真 Fax： 2676 9109

新界葵涌石梨村
石俊樓低座 1104 室
袁志光先生

袁先生：

有關袁煥宇祖委任司理申請

由於打鼓嶺羅湖並非新界原居民村，因此申請出任祖/堂司理的公告須於本港政府指定刊登法律廣告之報章上刊登。

現付上上述申請之公告，請將公告於報章上(名單見附頁)連續刊登三天。廣告之面積約為 5 公分乘 6 公分，公告之日期應為登報的首天。其後請將該三天廣告的整頁報紙交回本處辦理。

倘對上述有任何疑問，請致電 2675 1590 與祖堂事務組聯絡。

北區民政事務專員
（王淑嫻 代行）

2018 年 4 月 6 日

檔號 ：HAD N TT 19/15/48/81

北區民政事務處公告

申請出任祖堂司理事宜

打鼓嶺羅湖的袁志光先生向本處報稱，**袁煥宇祖**的司理袁國仁先生已於 1987 年 12 月 31 日去世，其遺下的司理職位空缺，應由他接任。任何人士如認為不合理而反對這項申請，必須在本公告的日期起計三十天內向本處提出。本處地址是新界粉嶺璧峰路 3 號北區政府合署 4 樓 401 室北區民政事務處。

該祖之物業詳情載於北區地政處糧冊第 74 卷第 169 頁。

如有查詢，請致電 2675 1590 與本處祖堂事務組聯絡。

由申請人呈報之袁煥宇祖有份人名單如下：

＜＜參照附頁之名單列出有份人名字＞＞

北區民政事務專員

2018 年　　月　　日

LIST OF MEMBERS

"A" Book Vol. ..... Page .....

Name of Tso/Tong	祖/堂名稱
	袁燦宇祖

Members of the Tong/Tso as follows:—

該堂/祖有份人姓名列下

1、袁志光
2、袁旭漢
3、袁澍銘
4、袁嘉暉
5、袁嘉康
6、袁志明
7、袁偉豪
8、袁國強
9、袁億伍
10、袁立翔 軒
11、袁麒立 (未滿18歲)
12、袁展其傑 (未滿18歲)

呈報人簽名
Reported by .....

Responses-to-Comments Table

Date	Bureau / Department	Comments	Responses
6.12.2022	Environment and Ecology Bureau	1. further information has yet to be ascertained from the applicant; and	Further information in justifying the proposed development and details of the proposal is elaborated further in **Appendix 1**.
		2. according to the information provided by the applicant is paragraph 4.3.6 in page 22 of the Planning Statement, the total daily import of chilled poultry from the HKCMPA members was roughly around 200,000 kg per day, which was also the proposed capacity in the original application (No. A/NE-FTA/201). As such, the applicant should further explain how the capacity of 200,000 kg per day square with the capacity increase through the use of new technology under the current proposal, as well as the basis and the assumption on which the applicant works out the required base area and / or the height of the cold storage	As refer to **Appendix 1,** the statistic of the existing daily imported chilled poultry and meat through HKCMA is clarified with further justifications.

Date	Department	Comments	Responses
6.12.2022	Agriculture, Fisheries and Conservation Department (AFCD)	<u>Agriculture</u> 1. from the agricultural perspective, the subject site is considered to have potential for agricultural rehabilitation, though whether there will be agricultural activities on a specific site will hinge on a lot of factors.	The agriculture value at the subject site is considered as low. Since the previous planning application is approved (A/NE-FTA/201), land filling and site formation works at the proposed area have been commenced, existing vegetation has been removed according to the approved scheme under A/NE-FTA/201. In addition, whether there will be agricultural activities on Site will hinge on a lot of factors, such as the landowners' willingness to lease out their land for agricultural use. According to the applicant, it is informed that the relevant owners expressed no intention to continue farming activities and have no objection to the current application.
		<u>Nature Conservation Perspective</u> 2. it is noted from the current submission that the size of the subject site is reduced but the building height is doubled to 20.675m, yet the potential ecological impact due to the revision has not been assessed. Please ask the applicant to review the ecological impact of the current design, in particular, in terms of the building height, and the impact to the freshwater crab Somanniathelphusa zanklon should be assessed again. Mitigation measures should be proposed when necessary. We will reserve our comment until these information are supplemented.	While the proposed development has increased its building height, the application site area under the current application is reduced by 21.6%. By all means, the affected site should remain unchanged when compared to the previously approved application. An Ecological Impact Assessment (EcoIA) Report dated March 2021 was conducted for the former Planning Application No. A/NE-FTA/201. In this EcoIA Report, the ecological impact was assessed by conducting literature review, ecological field surveys that:

Date	Department	Comments	Responses
			• Paragraph 4.4.4 stated that no bird species of conservation importance within the Application Site was recorded, and singles of Little Egret and Black Kite in flight within the Study Area were recorded. • Paragraph 4.4.5 stated no foraging ardeid within the Site was recorded. • Table 14 showed the evaluation results for Black Kite and Little Egret were Low because of low abundance and that both species were recorded in flight. Even though the building height of the current application will be double of the previously proposed one, no adverse ecological impact on the avifauna is anticipated which is in line with the EcoIA Report attached to the Planning Application No. A/NE-FTA/201. For the freshwater crab *Somanniathelphusa zanklon*, no *Somanniathelphusa zanklon* and other faunal species of conservation importance was encountered based on the capture survey conducted for five consecutive nights between 7 and 11 March 2022 with reference to Ecological Support for Discharge of Approval Condition (g) for the Approved S.16 Planning Application No. A/NE-FTA/201. The Report was received with no comment and Condition (g) was discharged (PlanD's ref.: ( ) in

Date	Department	Comments	Responses
			TPB/A/NE-FTA/201 dated June 2022 refers). Having a survey conducted only 5 months before the submission of current application, the survey is considered applicable to the current application and the presence of the freshwater crab *Somanniathelphusa zanklon*. *Somanniathelphusa zanklon* and other faunal species of conservation importance are unlikely to be found.

Date	Department	Comments	Responses
6.12.2022	Environment Protection Department (EPD)	<u>Noise</u> Major Comments 1. Sections 3.3.28 to 3.3.31 – i. Compared to the operation arrangement in previous application A/NE-FTA/201, there will be 8 and 3 veh/hr of container vehicle/HGV/MGV run in & out of the site in evening-time periods and night-time periods respectively, compared to 3 veh/hr and 1 veh/hr of MGV/LGV in evening-time periods and night-time periods in previous application.	Paragraphs 3.3.28 to 3.3.31 of the EA Report have been revised (**Appendix 2** refers). The number of vehicles has been revised as follows: • Day time: 16 veh/hr of CV/HGV/MGV • Evening time: 5 veh/hr of MGV Night time: 1 veh/hr of LGV.
		ii. From experience, noise nuisance from operation and manoeuvring of container vehicles and HGVs are quite disturbing but very difficult to control. Since noise sensitive uses are located in close proximity to the application site, in which some of them are located at <10m away from the site boundary only, the applicant should avoid or reduce the use of container vehicles and HGVs during evening-time and night-time period to minimise noise nuisance. In addition, in accordance with 'Code of Practice on Handling the Environmental Aspects of Temporary Uses and Open Storage Sites ', noisy operations should also be prohibited during sensitive hours, i.e. 11pm to 7am.	Considering the noise nuisance issue, the Applicant commits to allow LGV and MGV to enter the site only during evening (19:00 to 23:00) and night time (23:00 to 07:00) period.
		iii. To suit operation needs, please check if the use of container vehicles and HGVs during evening-time and night-time periods can be substituted by use of MGVs and LGVs, which	Considering the noise nuisance issue, the Applicant commits to allow LGV and MGV only to enter the site during evening (19:00 to 23:00) and night time (23:00 to 07:00) period, so as to minimise the noise

Date	Department	Comments	Responses
		pose less noise nuisance.	nuisance to the nearby NSRs.
		2. Section 3.3.30 and Figure 3.3 – i. Section 3.3.30 mentioned that the loading and unloading area of container vehicle/HGV/MGV will be set up near the site entrance to minimise on-site movement. However, Figure 3.1 shows that there are five loading and unloading area for container vehicles in the middle of the site far away from site entrance . Please review and clarify.	Paragraph 3.3.30 of the EA Report has been revised to "The loading and unloading area of container vehicle/ HGV/ MGV near the Site entrance/exit area will be used first especially during evening-time and night-time period to minimise the on-site movement these vehicles as soon as practicable as shown on *Figure 3.4*." (**Appendix 2** refers).
		ii. To minimise noise nuisance from on-site vehicles manoeuvring, especially during evening-time and night-time periods, the vehicles should use the loading and unloading area near the site entrance during evening-time and night-time periods as far as practicable. In case there are constraints to do so, please spell out such constraints in the report.	Paragraph 3.3.30 has been amended to supplement that "*4. The loading and unloading area of container vehicle/ HGV/ MGV near the Site entrance/exit area will be used first especially during evening-time and night-time period to minimise the on-site movement of these vehicles as far as practicable as shown on Figure 3.4. Except there is overloading at the loading and unloading area which is the closest to the site entrance.*" (**Appendix 2** refers).
		3. Table 3.8 - Container vehicles, especially those with five axles or more, may exceed 38-tonne. Therefore, the SWL of 105dB(A) may not be applicable for container vehicles. Please check and adopt a more appropriate SWL for container vehicles, if necessary.	Please be confirmed that there will be no vehicles with gross vehicle weight exceeding 38 tonnes. In this regard, the SWL of 105dB(A) for CV has been adopted in this assessment.
		4. Section 3.3.42 and Appendix F – i. Contrary to s.3.3.42, -20dB reduction is adopted in the	Appendix F has been revised that a 10dB(A) noise reduction has been adopted for the noise mitigation measures at sources

Date	Department	Comments	Responses
		calculation of noise levels in Appendix F. Please review and clarify.	(**Appendix 2** refers).
		ii. Contrary to s.3.3.42, noise reduction correction is still adopted for NSRs which seem to have direct line-of-sight to the enclosure opening, e.g. IN2, IN3, IN4, IN5, IN1, IN14, IN15. Please review and rectify.	Considering the worst-case scenario, there is no noise reduction for screening has been adopted to NSRs which seem to have direct line-of-sight to the enclosure opening, e.g. IN2, IN3, IN4, IN5, IN1, IN14, IN15.
		<u>Other Comments</u> 5. Section 3.3.15 – i. From Figure 3.4, it appears the depth of loading/unloading areas are more than 2m, therefore please check if the "2m extended canopy " mentioned in this section should be updated.	Figure 3.4 of the EA Report is an indicative drawing to show the proposed mitigation measures for on-site vehicle movement. It is confirmed that a 2m extended canopy is proposed at the loading/ unloading areas.
		ii. For clarity, please consider to indicate in Figure 3.4 that the loading/unloading areas will be provided with mitigation measures, i.e. canopy and side panels on both sides, and acoustic mat at open side of loading/unloading platform.	Figure 3.4 of the EA Report has been updated to indicate the 2m extended canopy with 2-side panels and acoustic mat at open side of loading/ uploading areas (**Appendix 2** refers).
		6. Section 3.3.15 and Appendix B - The example of acoustic material in Appendix B appears to have surface density of less than 6kg/m2, which do not tally with 7kg/m2 for acoustic mat mentioned in s.3.3.15.	Appendix B of the EA Report has been revised to show the example of acoustic mat with a surface density of at least 7kg/m^2 and tally with the description stated in paragraph 3.3.15 of the EA Report (**Appendix 2** refers).
		7. Table 3.6 - The noise criteria in daytime period for IN1 - IN15 seems to be 55dB(A).	Comparing the measured background noise level and ANL-5 (i.e. 55dB(A)), measured noise level is more stringent (i.e 57 dB(A) for

Date	Department	Comments	Responses
			IN1 to IN5 and IN15; 51dB(A) for IN6 to IN14) incorporating a 3 dB(A) façade correction to the background noise level. As such, the noise criteria in daytime period for IN1 to IN5 and IN15 shall be 55dB(A); for IN6 to IN14 shall be 51dB(A).
		8. Section 3.3.33 - Please clarify in the main text if NB2 and NB3 will be connected to the proposed cover and structures of Block 1 and Block 2 without slit or gap. Please also check and confirm whether the erection of noise barriers over 10m are practical from engineering perspective, and feasible from visual, ventilation and fire safety perspectives.	Paragraph 3.3.34 of the EA Report has been revised accordingly (**Appendix 2** refers).
		9. Sections 3.4.9 to 3.4.12 - A 9-tonne vehicle seems unable to represent noise from container vehicles and HGVs, which have gross vehicle weight of 24-tonnes or even more. Please review the approach in evaluating traffic noise impact from additional traffic at late night/early morning.	As mentioned in paragraph 3.3.30 and Table 3.7, only LGV (the gross vehicle weight not more than 5.5 tonnes) will enter the site during night-time period (2300-0700). A 9-tonne vehicle assessment could be considered for the worst-case scenario for the proposed development.
		10. Table 3.10 - Predicted noise level of IN6 to IN9 does not tally with Appendix F.	Table 3.10 of the EA Report has been revised (**Appendix 2** refers).
		11. Figure 3.1 - Please check if the temporary structure located at the north-west of IN14, which is in-between Man Kam To Road and site boundary, is an NSR.	There are several temporary structures at the north-west of IN14, and IN13 is the first closet NSR identified to the site. As such IN13 is representative to those temporary structures.
		12. Figure 3.4 - There appears to be a gap between NB1 and structure of Block 2. To prevent noise leakage through the gap,	Figure 3.4 of the EA Report has been revised that there is no gapping between NB1 and structure of Block 2 (**Appendix 2** refers).

Date	Department	Comments	Responses
		please consider to extend NB1 to connect to structure of Block 2.	
		13. Section 3.4 - Traffic noise model files are not provided for checking.	The traffic noise model files will be provided to the EPD for checking.
		14. Table 6.1 – i. Please check if "complete enclosure " should read as "semi-enclosure " ? Please also check other parts of report and revise accordingly.	Table 6-1 of the EA Report has been revised from "complete enclosure" to "semi-enclosure" (**Appendix 2** refers).
		ii. Please check if "3 vehicles" should read as "3 vehicles per hour ".	Table 6-1 of the EA Report has been revised from "3 vehicles" to "1 veh/hr" (**Appendix 2** refers).
		iii. Please also add the max. # of veh/hr allowed during day-time and evening-time periods.	Table 6-1 of the EA Report has been revised to include the max nos. of vehicles enter and leave the site during day and evening time period (**Appendix 2** refers).
		15. Appendix D - The content of Appendix D is missing and we are unable to verify if the SWLs for condensers used in FNIA are correct.	Appendix D of the EA Report has been provided (**Appendix 2** refers).
		16. Appendix F – i. Noise calculations for IN15 are missing.	The noise calculation of IN15 has been provided in Appendix F (**Appendix 2** refers).
		ii. Please check if the assumed vehicle speed of 25km/h for container vehicle/HGV/MGV is appropriate, and consider to adopt a lower but more realistic vehicle speed, e.g. 10km/h.	Considering the site situation, the vehicle speed of 15km/h has been adopted in this assessment. Noise calculation in Appendix F has been revised accordingly (**Appendix 2** refers).
		iii. For noise from on-site vehicle movements, it seems screening correction is not adopted for certain segments which have no direct line-of-sight to NSRs, e.g. S9 for IN13,	The screening correction for segments which have no direct line-of-sight to NSRs, including S9 for IN13 and S10 for IN14, have been adopted in the assessment, as such Appendix F has been revised

Date	Department	Comments	Responses
		S10 for IN14. Please check.	accordingly (**Appendix 2** refers).
		17. Appendix G - The traffic flow data under with proposed development scenario is same as the previous application A/NE-FTA/201. Please check with traffic consultant if such traffic data is still correct as the # and type of vehicles run in & out of the site is updated.	As confirmed by traffic consultant, the traffic flow data is still correct.
		<u>Textual/presentation comments</u> 18. Section 3.3.23 - The last sentence appears incomplete.	A complete sentence "In order to avoid over domination of traffic noise in the background noise levels of NSRs IN6 to IN14, L90 will be adopted to represent the background noise in the assessment to avoid." has been stated in Section 3.3.23 (**Appendix 2** refers).
		19. Section 3.3.30 - Please check the numbering of bullet points.	The numbering of bullet point in Section3.3.30 has been revised (**Appendix 2** refers).
		20. Table 3.6 - Since footnote 1 stated that 3dB(A) facade correction has been incorporated, please consider to update the 5th column accordingly. Please highlight all changes in the main text in the next submission for easy reference.	Table 3.6 has been updated to incorporate 3dB(A) facade correction (**Appendix 2** refers).
		<u>Water Quality</u> 21. S.4.2 - Please also include ETWB TC(W) No. 5/2005 and briefly elaborate.	A new para. 4.2.4 has been added in the EA for the mentioned Technical Circular (**Appendix 2** refers). The elaboration of the Technical Circular can be referred to para. 4.5.5 of the EA Report.
		22. S.4.4.11-12: In the revised EA under condition (m) of approved S.16 application A/NEFTA/201 for the same use, the potential water quality impact include water used in water cooling tower for the cooling function. Table 6.1 of the current EA also mentioned the cooling water. Please clarify.	A new para. 4.4.12 regarding water cooling tower has been added to this EA Report (**Appendix 2** refers). A new bullet regarding water cooling tower has also been included in Table 6.1 (**Appendix 2** refers).

Date	Department	Comments	Responses
		23. Figure 4.3: Please review if this figure is necessary, since it is not mentioned in main text of S.4.	Noted and Figure 4.3 showing the indicative drainage layout plan has been deleted from the EA Report (**Appendix 2** refers).
		24. Appendix D: No information was found in Appendix D.	The catalogue of the cooling tower has been included in Appendix D (**Appendix 2** refers).
		Annex 7 – SIA 25. S.3.1.5 & S.3.3.1: In the revised EA under condition (m) of approved S.16 application A/NEFTA/201 for the same use, the wastewater from mopping will be not more than 10m/day, which is inconsistent with the current submission. Please clarify.	Section 4.4.7 has been revised to include the estimated amount of wastewater from mopping (**Appendix 2** refers).
		Waste Management and Land Contamination 26. Section 5.3 - Some of the calculations presented in this Section seems incorrect (such as the estimated quantity of demolition waste). Please review the calculations and update this Section accordingly. Also, please consider to present all the estimation in cubic meter to avoid confusion.	***Section 5.3*** has been checked and revised All the estimation were presented in terms of tonnes to align with the unit used in Monitoring of Solid Waste in Hong Kong – Waste Statistic for 2020 (**Appendix 2** refers).
		27. Table 5.4 - Some of the figures presented in the Table do not tally with the information presented in Section 5.3 (such as the quantity of building waste to be reused. Please review.	***Table 5.4*** has been updated to align with the results presented in ***Section 5.3*** (**Appendix 2** refers).
		Air Quality 28. Please identify the nearby ASRs as well as the ASRs of the proposed development and provide their distances and the assessment heights.	Noted and a new Section 2.3 as well as Figure 2-1 ASRs have been added to the revised EA Report (**Appendix 2** refers).
		29. Please present the background air quality data (AQMS data for existing and PATH data for predicted future).	Noted. The background air quality data RSP, FSP and NO2 have been provided in a new subsection Background Air Quality under

Date	Department	Comments	Responses
			Section 2.4 (**Appendix 2** refers).
		30. Paragraph 2.2.8 - In addition to the buffer distance requirements for roads, please also present the buffer distance requirements for chimneys.	Noted and amended accordingly (**Appendix 2** refers).
		31. Paragraph 2.3.10 – i. Please provide confirmation from Transport Department on the road type of Lo Wu Station Road.	As per TD's confirmation, the eastern section (about 300m from the junction with Man Kam To Road) of Lo Wu Station Road is a "Rural Road" while the western section is a "Local Distributor".
		ii. Please refer to the latest Annual Traffic Census 2021.	Noted and amended accordingly (**Appendix 2** refers).
		32. Paragraph 2.3.11 and figures - Please show the extent of the junction improvement works in the figure.	According to the latest TIA, no junction improvement will be required. Para. This paragraph has been deleted from the revised EA (**Appendix 2** refers).
		33. Paragraph 2.3.14 - Please evaluate the impact of the induced traffic of the proposed development when the traffic becomes more congested due to the cemeteries during festive days and discuss whether the road capacity of the nearby roads would be exceeded, resulting in adverse air quality impact.	Please note that according to the special traffic arrangement in 2022, Lo Wu Station Road and Sha Ling Road will be closed on festival day and several weekend before/after festival day. Vehicles could not access the cemeteries for grave sweeping purpose and hence it is envisaged that the traffic will not become more congested during festival period.
		<u>Non-fuel gas dangerous goods risk perspective</u> 34. Please provide the list of dangerous goods and their storage amount on-site at the proposed development.	No non-fuel gas Dangerous Goods ("DGs") such as chlorine will be required to be stored on site for the Proposed Development. Therefore, no risk perspective related to non-fuel gas DG due to the Proposed Development is anticipated. Please refer to the new Section 1.5 added to the revised EA Report (**Appendix 2** refers).

Date	Bureau / Department	Comments	Responses
6.12.2022	Police Force	1. Lo Wu Station Road and Sha Ling Road will be subjected to road closure for six weeks in both Ching Ming Festival and Chung Yeung Festival, particularly during Saturdays, Sundays , and public holidays. According to the proposed layout, the vehicle access to the proposed storage centre falls within the road closure area. Hence, traffic issue will be arise that vehicle access to the proposed storage centre will be affected.	Special traffic arrangement will be implemented at Lo Wu Station Road and Sha Ling Road to facilitate grave sweepers. Referenced to 2022's arrangement, the above road will be closed on festival day and serval weekend before/ after festival day from 6am and 6pm daily. Access of vehicles related to the proposed Temporary Cold Storage for Poultry and Distribution Centre via the above-mentioned closed area/ road will be avoided as much as possible. Should delivery be necessary during some time slot of the festival period, closed road permit will be applied to relevant government departments such as Transport Department, Hong Kong Police Force etc for these vehicles with need. The operation arrangement during the festival period would be subject to further discussion with related department and HKPF.

Date	Bureau / Department	Comments	Responses
6.12.2022	Home Affairs Department (HAD)	1. the 1st Vice-chairman of the Ta Kwu Ling District Rural Committee, the incumbent North District Councilor of N16 Constituency and the Chairman of 打鼓嶺沙嶺村居民福利會 objected the application with additional remarks at Annex I attached. 2. the Indigenous Inhabitant Representative (IIR) and the Resident Representative (RR) of San Uk Ling objected the application	The Application Site is subject to a previously-approved application (No. A/NE-FTA/201) (hereinafter referred to as "the approved application") submitted by Hong Kong Chilled Meat & Poultry Association. The approved application No. A/NE-FTA/201 for proposed temporary cold storage for poultry and distribution centre was approved by the Board on 28.5.2021 mainly on the grounds that (a) there was a genuine operational need for chilled meat and poultry importers and distributors for a centralized CSDC, and there was no other readily available site; (b) despite not being in line with the planning intention of the "AGR" zone, favorable consideration could be given considering the importance of the proposed CSDC in ensuring food safety and diversity of food supply in Hong Kong; (c) the temporary nature of the proposed development would not frustrate the long-term planning intention of the "AGR" zone; (d) no significant adverse impact on the existing landscape resources was anticipated; (e) relevant Government departments did not have in-principle objections on the application; and (f) the proposed development was supported by the stakeholders of the chilled poultry/meat industry, whereas other local objections were properly addressed in the relevant impact assessments. The current application that aims to upgrade the approved cold storage facility has the same nature as the approved application and the planning grounds should remain valid.

Date	Bureau / Department	Comments	Responses
			In response to the most recent policies geared towards making Hong Kong an international centre for I&T and reviving the logistics industry through enhancing the use of technology and productivity of private sectors, the applicant, a key stakeholder in the logistic industry, aims to follow this regional and territorial direction and deliver the same vision by incorporating intelligent logistics solutions and the Internet of Things in the current application. The current application is also aimed at overcoming challenges in the traditional food logistic industry with the use of technology to boost efficiency and ensure public hygiene as well as safeguarding food safety. In order to put forth the concept of Innovation and Technology envisioned by the Northern Metropolis Development Strategy whilst at the same time meet the demands on chilled/frozen meat and poultry in the Territory and ensuring a centralized cold storage for poultry and distribution centre, the current application is so submitted to the Board with boundary and intensity adjustment. As illustrated in relevant technical assessments, No adverse impacts on traffic, environmental, landscape, drainage, sewage and ecological aspects are envisaged at the Application Site and its surrounding areas Given the proposed development would handle the majority of

Date	Bureau / Department	Comments	Responses
			imported chilled poultries from Mainland China for the territory, there is a genuine need for a standardized operation for the industry. In view of recent challenge of manpower shortage and surging demand of chilled meat and poultry, as well as implementation constraints of the approved scheme, it is sincerely hoped that members of the Board will give sympathetic consideration to approve the current application for the proposed use to materialize the long-needed temporary cold storage for poultry and distribution centre at the application site.

Date	Bureau / Department	Comments	Responses
8.12.2022	Urban Design and Landscape Section, Planning Department (UD&L)	1. Based on aerial photo of 2022, the site is located in an area of rural inland plains landscape character comprising of temporary structures, small houses, vegetated areas and cluster of trees. Compared with the last approved planning application No. A/NE-FTA/201, the layout has changed with a significant increase in building height (i.e. from not more than 10.4m high to not more than 20.675m high) and site coverage (i.e. from approximately 32% to 56.94%). There is a concern that approval of the application may further alter the landscape character and degrade the landscape quality of the surrounding area. We have some reservations on the application from landscape planning perspective.	Existing open storages and logistics operations are available to the south and northeast of the Application Site, and scattered along Man Kam To Road. Hence, the proposed development of a storage and distribution centre is not incompatible with the rural character identified in the vicinity. The modified development parameters from the previous approved application enables the employment of smart intensive warehouse system which can greatly boost efficiency and reduce reliance on human input with a view to overcoming manpower shortage faced in recent years, while creating an environmentally- and labour-friendly working environment through modern logistic operation. As compared to the previous submission, the building footprint is minimized in order to preserve more existing trees on Site. The number of trees to be retained and trees to be felled were 101 nos. and 100 nos. respectively in the previous scheme while the number of trees to be retained and trees to be felled are 114 nos. and 80 nos. respectively in new scheme. Besides, roof gardens are proposed for enjoyment of the users in this scheme which results in high greenery ratio, i.e. 35.92%.

Date	Bureau / Department	Comments	Responses
			The proposed development will integrate with the surrounding landscape through a number of proposals, including provision of peripherical planting to create a soft planted edge and transparent panels along the boundary to alleviate the visual impact.

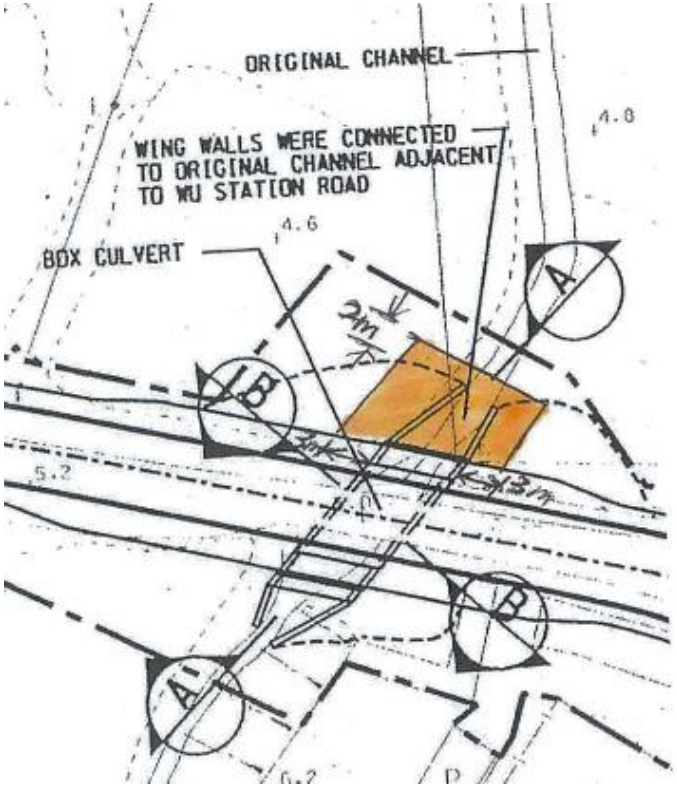
Date	Bureau / Department	Comments	Responses
20.12.2022	Drainage Services Department (DSD)	Drainage Impact Assessment 1. Please be advised that Stormwater Drainage Manual has been updated pursuant to Corrigendum No. 1/2022 promulgated recently. Please review the submission accordingly to ensure that the latest requirements are complied with.	Noted. The Corrigendum No. 1/2022 has been reviewed and the submission has complied with all applicable requirements.
		2. Climate change adjustment was not applied in the calculation. Please review the runoff calculation with due consideration of Section 6.8 of the Stormwater Drainage Manual 2018 in conjunction with its Corrigendum No. 1/2022.	The climate change adjustment was not applied as the proposed development is for temporary use for a period of 3 years only, whereas the climate change effect is for mid-21st or end of 21st Century.
		3. Para. 3.2.8 refers. The photos of relevant watercourse are missing in the Figure 3-1 and the submission.	The photos of relevant watercourse are added in the Figure 3-1 (**Appendix 3** refers).
		4. Para. 3.6.12 refers. It is mentioned that "part of the flow will adopt another arrangement at the catch pits CP7 and MH15 where partial stormwater will bypass the proposed Uchannel and overflow into the proposed underground stormwater storage tank". Please elaborate on the mechanism of separating the partial stormwater and the proposed underground stormwater storage tank. Please also specify under what condition that the concerned mechanism will be triggered.	Para 3.6.12 has been revised (**Appendix 3** refers).
		5. Para. 3.6.14 refers. i. Please provide the decking over details and proposed	i) The existing watercourse (about 1.5 m (W) x 0.9 m (D)) running in a northeast to southwest direction of the Site will be maintained and

Date	Bureau / Department	Comments	Responses
		manhole details for watercourse maintenance. You are reminded that the drainage capacity and functionality of the watercourse should not be affected by proposed works; ii. Please clarify if the future building development would impede the maintenance of the existing watercourse; iii. Please provide justification for the proposed 60m manhole interval for maintenance purpose;	not encroached. The Application Site will be partly decked over and partly filled with a range from 0.5 m to 1.5 m in depth to facilitate the proposed development to be constructed on an elevated platform at similar site levels ranging from + 6.0 to + 6.9 mPD. Decking over details and proposed manhole details for watercourse maintenance will be provided in detailed design stage after planning application is approved. As mentioned in the DIA, mitigation measures will be deployed such that the drainage capacity and functionality of watercourse are not to be affected by the proposed works. ii) The future building will be decked over. There are openings arranged at the site for maintenance. Therefore, future building development would not impede the maintenance of the existing watercourse. iii). The proposed 60m manhole interval for maintenance purpose is not a mandatory requirement. It was suggestion based on reference from Cap. 123I Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulations Clause 55 (2), which mentioned manholes or cleaning eyes shall be at intervals not exceeding 60m in every drain.
		6. Figure 3-2 refers. i. Please provide future ground levels to substantiate the flow	Please refer to **Appendix 3**. i) The indicative future ground levels are indicated in Figure 3-2

Date	Bureau / Department	Comments	Responses
		path; ii. Please provide the details for flexible drains connection; iii. The details (invert level, gradient, general sections etc.) of the proposed drain/ surface channel, catchpits and the discharge structure shall be provided; iv. The cover levels of proposed channels should be flush with the existing adjoining ground level; v. Please provide details for MH7, MH9 and MH15; and vi. The surface runoff from the plant rooms at southeast corner of the proposed development is not properly collected, please review.	ii) Diagram showing the connection arrangement is in Figure 3.2. Pipe drains connection is adopted. iii) Figure 3-2 is revised to include invert levels and gradient. Please also refer to Appendix C and E for the general sections of the proposed drain/ surface channel, catchpits and the discharge structure. iv)Noted, cover levels of proposed channels will be flushed with existing adjoining ground level as far as possible. v) Manhole design will be based on DSD standard manhole drawings. Details will be provided in detailed design stage after planning application is approved. vi) The drainage arrangement at the southeast corner has been adjusted such that U-channels are arranged along the entrance of plant rooms. There will be drainage fall leading surface runoff into the U-channels.
		7. Please advise the potential impacts to existing flow paths/streams which are connected to the existing watercourse within the site and assess the potential flooding risk to adjacent villages after development. Mitigation measures should be proposed and elaborated. The applicant is reminded that all existing flow paths as well as the run-off falling onto and passing through the site should be intercepted and disposed of via proper discharge points.	There is a peripheral U-channel along the site boundary to collect additional runoff due to the proposed development. Runoff will be collected into a storage tank which is sized to include additional buffer volume. Flow is intended to be discharged to the existing stream under low flow condition. With implementation of the proposed mitigation measures as described in Section 3.7 no adverse impacts are anticipated. No works are anticipated to be adversely interfere the free flow condition of the existing drains and channels during or

Date	Bureau / Department	Comments	Responses
		The applicant shall also ensure that no works, including any site formation works, shall be carried out as may adversely interfere with the free flow condition of the existing drains, channels and watercourses on or in the vicinity of the subject site any time during or after the works.	after the works.
		8. Appendix B refers. Please substantiate on the use of 1.93 m3/s as the threshold for discharge flowrate.	Appendix B has been revised (**Appendix 3** refers).
		9. The applicant should check and ensure that the existing drainage downstream to which the proposed connection will be made have adequate capacity and satisfactory condition to cater for the additional discharge from the captioned site. He should also ensure that the flow from this site will not overload the existing drainage system.	Noted.
		10. The applicant is required to provide the sectional views of the site in 2 different directions showing clearly any walls would be erected or kerbs would be laid along the boundary of the proposed development, the proposed and existing drainage facilities, flow direction, the existing ground level of the adjacent lands and the formation level of the subject sites for our reference.	Please find the sectional views of the site in Appendix F (**Appendix 3** refers).
		11. The applicant is reminded that where walls are erected or kerbs are laid along the boundary of the same, peripheral channels should be provided on both sides of the walls or	Noted.

Date	Bureau / Department	Comments	Responses
		kerbs, and/or adequate openings should be provided at the walls/kerbs to allow existing overland flow passing through the site to be intercepted by the drainage system of the site with details to be agreed by DSD, unless justified not necessary.	
		12. The proposed drainage works, whether within or outside the site boundary, should be constructed and maintained properly by the applicant and rectify the system if it is found to be inadequate or ineffective during operation at his/her own expense.	Noted.
		13. The applicant should make good all the adjacent affected areas upon the completion of the drainage works.	Noted.
		14. For works to be undertaken outside the lot boundary, the applicant should obtain prior consent and agreement from DLO/N and/or relevant private lot owners.	Noted.
		15. The applicant and the successive lot owners shall allow connections from the adjacent lots to the completed drainage works on Government Land when so required.	Noted.

Date	Bureau / Department	Comments	Responses
20.12.2022	Highways Department (HyD)	1. Para. 1.4.2: As we repeatedly requested in our previous comments, the applicant is required to exclude the "orange area" form the site in this application to avoid complicating our maintenance of the box culvert under Lo Wu Station Road (Appendix I)  	Refer to the MLP in the planning statement**,** no structure will be sitting on the box culvert for easy clearing and maintenance by the Highways Department (HyD). The concerned orange area would remain undecked which is same as that in the previously approved application (A/NE-FTA/201). This section of the watercourse will not be decked and can be accessed for 24-hr maintenance. In addition, as shown on the MLP in **the** planning statement, the section of existing watercourse at the downstream area near the box culvert will be located within the landscape area, and the metal mesh will not restrict the access to the box culvert. Although the concerned orange area falls within the application site, it is reiterated that it will not be decked or fenced off and no structure will be placed on the concerned area. For the maintenance from HyD, the Applicant is willing to allow the staff from HyD to access the box culvert anytime to carry out maintenance works / inspection.
		2. Para. 4.6.1: As the existing railings and beam barriers will be	Noted. Please find the attached Figure RC-01 for your information

Date	Bureau / Department	Comments	Responses
		modified due to the proposed ingress/egress, please provide more details for review.	and detailed design will be further submitted for approval by relevant government departments once approval of this S16 planning application is sought (**Appendix 4** refers).
		3. Para. 4.9.2: The u-channel proposed along the site boundary should be designed so that no surface run-off will flow from the site onto the adjacent public road.	Noted. The DIA concluded that the proposed and existing stormwater system will have sufficient capacity to receive stormwater runoff from the proposed use and its surroundings, and hence, no adverse drainage impact is anticipated.
		4. If the application is approved, the applicant is required to construct a proper ingress and egress for the site according to HyD's Standard Drawings. Upon termination of the application, the applicant is required to reinstate the ingress and egress to their original state to my satisfaction at his own cost.	Noted.

Date	Bureau / Department	Comments	Responses
20.12.2022	Transport Department (TD)	1. The size of the proposed development is similar to the previous application but the no. of parking spaces for private cars is reduced from 13 to 17. Justifications for this is necessary.	The proposed development seeks to adopt an automated transport and warehouse systems via AI modelling technology and end-to-end robotic automation with a view to overcoming manpower shortage. As advised by the current supplier of robotic automation system, it is anticipated that the human input could be reduced by 50-70%. In this regard and as a conservative approach, a 50% reduction in no. of parking spaces for private cars (from 13 nos. to 7 nos.) has been adopted and justified from traffic engineering point of view. As the operation in the current application would involve mainly staff for management and some technicians which are less labour intensive, the proposed parking provision of 7 private cars is considered sufficient and adequate to cater for the peak period demand.

LEGEND :

- PROPOSED VEHICULAR ACCESS
- EXISTING ROAD GULLY TO BE ABANDONED
- PROPOSED NEW ROAD GULLY
- EXISTING LIGHT POLE TO BE RELOCATED
- RELOCATED NEW LIGHT POLE
- EXISTING BEAM BARRIER
- EXISTING TYPE 2 RAILING
- BEAM BARRIER TO BE REMOVED
- TYPE 2 RAILING TO BE REMOVED

NOTE:

SPARE DUCTING WOULD BE PROVIDED AT THE NEW RUN-IN/OUT IN ACCORDANCE WITH THE LATEST VERSION OF HIGHWAYS STANDARD DRAWING NO. H1113 AND H1114.

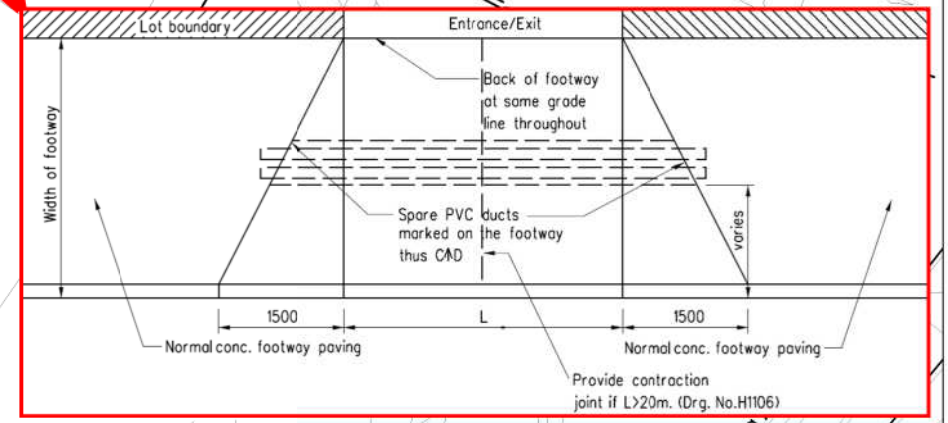


FIGURE NO.: RC-01	PROJECT TITLE: Section 16 Planning Application for Proposed Temporary Cold Storage for Poultry and Distribution Centre and Land Filling for Site Formation Works in 'Agriculture" Zone for a Period of 3 Years at Lots 471 S.B RP, 472, 473, 474, 475, 476, 483, 501, 502, 504 S.B, 505 and 506 S.B RP and in D.D. 89 and adjoining Government Land, Man Kam To Road Sandy Ridge, New Territories
PROJECT NO.: 21148HK	DRAWING TITLE: PROPOSED VEHICULAR ACCESS
SCALE: 1 : 350 @A4 / DATE: 17 JAN 2023	CTA Consultants Limited 志達顧問有限公司

Further Information

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Date : 30th March, 2023
Your Ref. : TPB/A/NE-FTA/220
Our Ref. : ADCL/PLG-10225/L005

The Secretary
Town Planning Board
15/F., North Point Government Offices
333 Java Road, North Point, Hong Kong

By Email and Hand

Dear Sir/Madam,

Re: Section 16 Planning Application for Proposed Temporary Cold Storage for Poultry and Distribution Centre for a Period of 3 Years and Filling of Land for Site Formation Works at Lots 471 S.B RP (Part), 472, 473, 474, 475, 476, 483, 501, 502, 504 S.B, 505 and 506 S.B RP in D.D. 89 and Adjoining Government Land, Man Kam To Road, Sha Ling, New Territories

We refer to the comments from Environment and Ecology Bureau (dated 21.03.2023) regarding the subject application.

We submit herewith Further Information (FI) with *4 copies of Responses-to-Comments Table and Replacement Pages of Planning Statement with Annex* for the consideration by relevant Government departments or Town Planning Board.

Should you have any queries, please do not hesitate to contact our Miss Isa YUEN or Mr. Thomas LUK at 3180 7811. Thank you for your kind attention.

Yours faithfully,
For and on behalf of
Aikon Development Consultancy Limited

Encl.
c.c. Client
DPO/STN (Attn: Ms Amy CHONG) – By Email

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Responses-to-Comments Table

Date	Bureau / Department	Comments	Responses
21.03.2023	Environment and Ecology Bureau	On 21.2.2023, in support of the current application, the applicant submitted further information on which the application works out the required base area and the height of the cold storage. However, additional information has yet to be ascertained from the applicant- According to the additional information provided by the applicant in paragraph 4.5.6 and Table 8 of the revised Planning Statement, some 7,634 pallets of goods (= 72,300 trays of chilled/frozen meat and poultry) would be involved in daily operation, which is the proposed capacity of the required base area and height of the cold storage under the current proposal. The applicant should further explain how the daily number of pallets is deduced (i.e. the number of chilled/frozen meat and poultry in one pallet and in one tray, the size of a pallet and a tray), as well as the assumption on which the applicant works out the required base area and the height of the cold storage.	Please refer to **Enclosure 1** and **Enclosure 2** for additional information and clarifications.

Further Information (3)

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Date : 15th June, 2023
Your Ref. : TPB/A/NE-FTA/220
Our Ref. : ADCL/PLG-10225/L007

The Secretary
Town Planning Board
15/F., North Point Government Offices
333 Java Road, North Point, Hong Kong

By Email

Dear Sir/Madam,

Re: Section 16 Planning Application for Proposed Temporary Cold Storage for Poultry and Distribution Centre for a Period of 3 Years and Filling of Land for Site Formation Works at Lots 471 S.B RP (Part), 472, 473, 474, 475, 476, 483, 501, 502, 504 S.B, 505 and 506 S.B RP in D.D. 89 and Adjoining Government Land, Man Kam To Road, Sha Ling, New Territories

We refer to the comments from Agriculture, Fisheries and Conservation Department (dated 21.3.2023), Environment Protection Department and Hong Kong Police Force (dated 13.4.2023), Highways Department, Lighting Division and Planning Department, Urban Design and Landscape Unit of Planning Department (dated 28.4.2023), Drainage Services Department (dated 28.4.2023 and 30.5.2023) and Lands Department (dated 14.6.2023) regarding the subject application.

We submit herewith Further Information 3 "(FI)3" with for the consideration by relevant Government departments or Town Planning Board. Please find the attached following items for your onward processing:-

i. Responses-to-Comments table;
ii. Replacement page of Revised Environment Assessment;
iii. Appendix G and H of Annual Traffic Census 2021;
iv. Supplementary Report for Ecological Survey;
v. Replacement pages of Revised Drainage Impact Assessment.

Should you have any queries, please do not hesitate to contact our Miss Isa YUEN or Mr. Thomas LUK at 3180 7811. Thank you for your kind attention.

Yours faithfully,
For and on behalf of
Aikon Development Consultancy Limited

Encl.
c.c. Client
DPO/STN (Attn: Ms Amy CHONG) – By Email

Address 地址：
香港葵涌興芳路 223 號新都會廣場 2 期 13 樓 1310 室
Unit 1310, Level 13, Tower 2 Metroplaza,
223 Hing Fong Road, Kwai Chung, New Territories, Hong Kong

Responses-to-Comments Table

Date	Department	Comments	Responses
13.4.2023	Environmental Protection Department (EPD)	Noise Major Comments 1. Section 3.4.8 - According to Table 3.7, there should only be 1 LGV going in and out of the site between 2300-0700. Please clarify why the maximum total single trip during 2300 and 0700 hours was 6 single trips.	Typo in para. 3.4.8 which six single trips per hour was outdated in the previous version of the EA Report dated August 2022. Para. 3.4.8 has been updated to one single trip per hour. Besides, "including container vehicle/HGV/MGV" has been deleted from para. 3.4.8 to avoid misleading (See **Appendix 1**).
		2. Figure 3.7 and Appendix G - Please check if the road section (ID: B) should be "Lo Wu Station Road" instead. Could the proponent clarify if the operational traffic would only affect a short road section near the junction with Man Kam To Road during the peak operation time as well? If yes, we suggest to separate Lo Wu Station Road into 2 sections (the affected part and unchanged part) to avoid misunderstanding that the whole Lo Wu Station Road increases the traffic flow by up to 50% higher.	Typo, name of Segment B has been amended to "Lo Wu Station Road" in Appendix G (See **Appendix 1**). It is correct that only a short road section of Lo Wu Station Road near the junction with Man Kam To Road will be used by the vehicles of the Proposed Development. As shown in Figure 3.7 of the EA Report, the most affected NSR by Lo Wu Station Road is TN4. As shown in Table 3.15, the contribution of road traffic noise to TN4 would be <0.0dB due to the Proposed Development. It shows that assuming the increase in the flow of Lo Wu Station Road due to the Proposed Development would be insignificant. Because the worst-case scenario was already adopted and the contribution from Lo Wu Station Road is negligible based on the

Date	Department	Comments	Responses
			modelling results, Lo Wu Station Road is not split.
		3. Section 3.3.38 - It is suggested to revise the second sentences as below: "Seven condensers and six condensers are located on Cold Storage Block 1 (SW) and Block 1 (NE), respectively, while another six condensers are located on the Block 2, as shown on Figure 3.5."	Noted with thanks and amended accordingly.
		<u>Water Quality</u> 4. With reference to the comment 24 of the RtC Table, Appendix D is missing, please provide the information.	According to our submission records, the catalogue with three pages of the cooling tower in Chinese was provided in Appendix D of the EA Report in Appendix 2 of the FI. Nevertheless, the catalogue has been re-provided for reference (See **Appendix 1**).
		5. The effluent produced from the site is subject to WPCO control. For the proposed tankering away option for disposing effluent produced from the site, the project proponent should seek advice from DSD.	As mentioned in para. 4.5.7 of the EA Report, all wastewater will be collected inside wastewater storage tanks and tankered away for offsite disposal by licensed collector. This was mentioned in the SIA Report. No comment on both the EA and SIA Reports from the DSD was received.
		<u>Air Quality</u> 6. Paragraph 2.3.2 and Figure 2.1 - Please provide the assessment height in this paragraph and mark the office of the proposed development in Figure 2.1 instead of referring	Noted and the following amendments have been made: a) "as indicated on Figure 2.1" has been added to the first sentence of para. 2.3.2 of the EA Report (See **Appendix 1**).

Date	Department	Comments	Responses
		to the planning statement.	b) A new sentence regarding the floor level 12.0mPD or 6m above ground of the office has been added to para. 2.3.2 of the EA Report (See **Appendix 1**). c) The indicative locations of the offices on 1/F with floor level of ~12.0mPD or ~6m above ground have been indicated on Figure 2.1 of the EA Report (See **Appendix 1**).
		7. Paragraph 2.4.13 - Please clarify whether the rural road is classified as local or district distributor as per confirmation from Transport Department.	In accordance with the road classification as detailed in Appendix G and H of the Annual Traffic Census (ATC) 2021 published by Transport Department (see **Appendix 2**), rural road, local distributor and district distributor are three different road types for New Territories in the road classification system. Hence rural road is not classified as either local or district distributor. Nonetheless, as local distributor is in higher road level hierarchy than rural road, it is revealed that rural road could be considered as local distributor for environmental assessment as conservative approach.
		8. Please insert the discussion about the arrangement during festive days in the EA report.	The arrangement of the Proposed Cold Store will not be affected by festive days.

Date	Department	Comments	Responses
13.4.2023	Hong Kong Police Force (HKPF)	Please note that the previous comments of HKPF remain valid.	Noted with thanks. The applicant will ensure the implementation of special traffic arrangements at Lo Wu Station Road and Sha Ling Road to facilitate grave sweepers. The applicant is willing to reduce delivery times with discuss with HKPF and relevant department regarding the operation arrangement during the festival period.

Date	Department	Comments	Responses
28.4.2023	HyD Lighting Division	• With reference to Fig. 2.2 and 5.1 of the submission, in addition to the mentioned existing L/P GD0493, the existing village lighting VG4579 to VG4582 are found in conflict with the subject planning application as highlighted on the attached part print of public lighting record.	Noted.
		• For L/P GD0493, the applicant shall submit a lighting proposal with lighting simulation for permanent relocation of it to the satisfactory of CE/Lighting, HyD.	Noted. Lighting proposal with lighting simulation for permanent relocation of L/P GD0493 would be prepared and submitted to Lighting/HyD for approval in later detailed design stage should this planning application be approved.
		• L/P VG4579 to VG4582 are village lightings serving for the existing "public access" of the village inside private lots where the "public access" is maintained by HAD. The applicant shall seek comment from HAD and the village representative for permanent relocation of the concerned "public access" as well as the corresponding village lightings and subsequently submit a lighting proposal with lighting simulation for permanent relocation of these village lighting to all relevant parties including this office for acceptance.	Noted. Comments from HAD and village representative for permanent relocation of the existing "public access" and village lightings L/P VG4579 to VG4582 would be sought accordingly. Also, lighting proposal with lighting simulation for permanent relocation of village lightings L/P VG4579 to LG4582 would be prepared and submitted to Lighting/HyD for approval in later detailed design stage should this planning application be approved.

Date	Department	Comments	Responses
21.03.2023	Agriculture, Fisheries and Conservation Department (AFCD)	<u>Comments from AFCD:</u> From nature conservation perspective It is noted that the response from the applicant is based on the previous ecological impact assessment (EcoIA) conducted and no recent ecological survey, flight path survey and EcoIA have been conducted for the revised layout under the current application No. A/NE-FTA/220. Based on this understanding, we have two major comments on the RtC: Impact on avifauna - It is noted from the RtC that the EcoIA for the revised layout, is based on previous EcoIA conducted, which no flight path survey has been conducted. Please ask the applicant to justify their conclusion of no adverse ecological impact of avifauna is anticipated with the proposed building height doubled to 20.675m.	Noted with thanks. In order to better assess any potential ecological impact, the applicant conducted ecological surveys in March, April and May. The supplementary report (see **Appendix 3**) provides the survey result and recommendations of ecological mitigation measures where necessary. Flight Path Surveys were conducted in March, April and May 2023. According to the survey, flight routes of the waterbird were studied and the results indicated that most of the birds flew toward the southeast area of the Subject Site and to Man Kam To. Most of the **bird species were urban and common** in Hong Kong. In addition, most of them were **recorded flew with a short distance within or near the subject site**. The proposed 20.675m height building **<u>will not be an obstacle for waterbirds or Ardeidae</u>** as only two Chinese Pond Herons were recorded to fly low, within the Subject Site. **The Subject Site is not attractive to bird species and not a major flight line of Ardeidae**. Therefore, the impact on the bird flight line is considered insignificant (see **Appendix 3**). While the impact on avifauna is considered insignificant, the applicant is willing to undertake mitigation measures to create a bird-friendly

Date	Department	Comments	Responses
			environment. The proposed green roof could serve as a resting stop for avifauna. During the detailed design stage, the applicant will explore the use of minimal glass and screening to reduce reflections. Furthermore, the incorporation of extensive vertical green will be considered to mitigate possible visual impact.
		Impact on Somanniathelphusa zanklon - We considered the capture survey done in March 2022 is irrelevant to address our concern on the potential impact on Somanniathelphusa zanklon. As the water channel within the subject site is not filled after the capture survey, Somanniathelphusa zanklon and other freshwater species could be recorded within the subject site again. The potential impact on Somanniathelphusa zanklon (and other fauna species,if any) could not be evaluated without a proper and recent survey to confirm the presence of Somanniathelphusa zanklon (and other fauna species,if any) in the subject site. If Somanniathelphusa zanklon is recorded within the site, mitigation measures such as translocation of the species, etc. should be proposed.	Capture survey of Somanniathelphusa zanklon was conducted in March, April and May 2023. Only **two** individuals of Somanniathelphusa zanklon were recorded within the Subject Site. As the watercourse would remain intact during construction and operation stage, the impact to the Somanniathelphusa zanklon is considered to be Low to Moderate. The applicant is willing to conduct a detailed survey to check for the presence of any individual of Somanniathelphusa zanklon prior to any construction works and carry out translocation whenever necessary, In addition, to mitigate the indirect impact during construction phase, the following mitigation measures will be adopted during the construction phase to mitigate these impacts: • Temporary sewerage and drainage will be designed and installed to collect wastewater and prevent it from entering nearby water bodies; • Proper locations well away from nearby water bodies will be used for temporary storage of materials (i.e. equipment, fill

Date	Department	Comments	Responses
			materials, chemicals and fuel) and temporary stockpile of construction debris and spoil, and these will be identified before commencement of works; • To prevent muddy water from entering nearby water bodies, work sites close to nearby water bodies will be isolated, using such items as sandbags or silt curtains with lead edge at bottom and properly supported props. Other protective measures will also be taken to ensure that no pollution or siltation occurs to the water gathering grounds of the work site; • Stockpiling of construction materials, if necessary, will be properly covered and located away from nearby water bodies; • Erection of temporary geotextile silt fences will be carried out around earth-moving works to trap any sediments and prevent them from entering watercourses; • Construction debris and spoil will be covered and/or properly disposed of as soon as possible to avoid being washed into nearby water bodies; • Exposed soil will be covered as quickly as possible following formation works, followed, where appropriate, by covering with biodegradable geotextile blanket for erosion control purposes; • Where appropriate, earth-bunding will be carried out of areas where soils have been disturbed or where vegetation has been cleared, to ensure that surface run-off will not move soils off-site;

Date	Department	Comments	Responses
			• Construction effluent, site run-off and sewage will be properly collected and/or treated. Wastewater from any construction site will be minimised via the following in descending order: reuse, recycling and treatment; • Proper locations for discharge outlets of wastewater treatment facilities well away from sensitive receivers will be identified and used; • Silt traps will be installed at points where drainage from the site enters local watercourses; • Appropriate sanitary facilities for on-site workers will be provided; • The site boundary will be clearly marked, with any works beyond the boundary strictly prohibited; and • Regular water monitoring and site audit will be carried out at suitable points. If the monitoring and audit results show that pollution occurs, adequate measures including temporary cessation of works will be considered. The above mitigation measures proposed would avoid direct impact on the crab S. zanklon and to minimise the potential indirect impacts on adjacent habitats/wildlife and water quality during the construction phase.

Date	Department	Comments	Responses
28.4.2023	Urban Design and Landscape Unit (UD&L)	• Discrepancies on the tree treatment and greenery ratio are found between the RtoC and the PS (i.e. Section 4.10 and 4.11). Please review.	Please be advised that the greenery ratio is 25.6 and the statement in the previous RtoC should be corrected as: "*As compared to the previous submission, the building footprint is minimized in order to preserve more existing trees on Site. The number of trees to be retained and trees to be felled were 101 nos. and 100 nos. respectively in the previous scheme while the number of trees to be retained and trees to be felled are 114 nos. and 80 nos. respectively in new scheme. Besides, roof gardens are proposed for enjoyment of the users in this scheme which results in high greenery ratio, i.e. ~~35.92~~ 25.6%.*" Nevertheless, please be advised that the numbers regarding tree treatment are correct. According to the PS, "114 nos. of the surveyed trees will be retained, 80 nos. of the surveyed trees will be felled", which tally with the RtoC.

Date	Department	Comments	Responses
28.4.2023	Drainage Services Department (DSD)	1. RtC Item 2 : It is noted that climate change adjustment is still not applied. Despite the proposed land use is tentatively planned for 3 years, the change in catchment characteristics appears to be permanent given that there has not been any mentioning of a site restoration after the planned use. As such, it is more prudent that the project proponent to demonstrate the drainage performance with appropriate consideration of potential climate change effect, especially for the proposed drainage network and storage tank.	While the proposed use is a temporary use for a period of 3 years, and not permanent in nature, to ease DSD's concern, a hydraulic check has been done to include the mid 21st Century Rainfall increase by 11.4% and it shows that the drainage capacity in the drainage network and the storage tank size 2,190m^3 which has included 20% buffer is still capable to accommodate the increase and no adverse impact is anticipated.
		2. RtC Item 5: Please clarify if the proposed land filling activity or ground profile changes would have any impact on the existing watercourse and its associated embankment structures.	Please be advised that there will be no impact on the existing watercourse and its associated embankment structures. In fact, the decking over is to avoid encroaching the watercourse. As mentioned in the DIA, mitigation measures will be deployed such that the drainage capacity and functionality of watercourse are not to be affected by the proposed works.
		3. RtC Item 6(vi): The drainage arrangement at the southeast corner of the development is the same as previous submission, please review.	Please note that the arrangement was adjusted. It was not obvious as the change was minor. Please also note that there will be provision of rainwater collection on the roof top of the plant building and rainwater collected will be diverted into the site through rain gutter.
		4. RtC Item 7): Please provide section view at the site boundary to indicate the arrangement of peripheral U channel. Please also advise if hoarding/boundary wall is	Please note that the arrangement in a sectional view is in Appendix F. No hoarding will be provided, fence will be provided instead which

Date	Department	Comments	Responses
		proposed under the development. The applicant is reminded that where walls are erected or kerbs are laid along the boundary of the same, peripheral channels should be provided on both sides of the walls or kerbs, and/or adequate openings should be provided at the walls/kerbs to allow existing overland flow passing through the site to be intercepted by the drainage system of the site with details to be agreed by DSD, unless justified not necessary.	will allow the overland flow to pass through.
		5. Appendix D: It is noted that the drainage performance of some proposed drainage networks were checked with the consideration of runoff from only a single sub-catchment C2. Please elaborate the drainage system allowed for the other sub-catchments as outlined in Figure 3-1. Also, it is noted a watercourse was identified within the site, please provide a performance check on any relevant drainage system related to the proposed development.	The other sub-catchments and the flow path had been discussed in paragraph 3.2.4 to 3.2.8. Only Catchment C2 is within the Site boundary. The drainage system only design for the Site area. The runoff in other sub-catchment can continue as existing manner without going into the Site.
		6. Page D-1, Appendix D: It is noted with the same sub-catchment reference, different total runoff may be observed for different drainage sections. For instance, sections Start 1 to CP1 and CP1 to CP2 were labeled to be both involving only Catchment C2a, but different total runoff at 0.03m3/s	Not the entire catchment of C2a is collected to Start 1 to CP1 and CP1 to CP2. Based on the flow direction, only partial of the catchment flow. We have assumed a quarter will be collected to the aforementioned Start 1 to CP1 and a half of the runoff to CP1 to CP2. To design these channels using the full capacity of the runoff of

Date	Department	Comments	Responses
		and 0.06 m3/s were adopted for the total runoff, where both were values not well represented in the runoff calculations (Appendix A). Please review and clarify.	Catchment 2a will likely result in overdesign. The description is only to indicate the catchments involved in the calculation.
		7. 3.6.13 and Figure 3-2: MH 15 mentioned in 3.6.13 is missing in Figure 3-2. Please review and clarify.	Typo. The MH15 is correct. Figure 3-2 has been revised.
30.5.2023	Drainage Services Department (DSD)	1. Further to Item 5 of the RtC, it appears that the DIA still only consider the drainage capacity of the system within the site whereas its impact on the upstream and surrounding catchment was not adequately elaborated, without which public concerns over the flood risk impacted by the site over the surrounding may not be sufficiently addressed.	Based on the existing topography, overland flow from upstream and surrounding Catchments are collected into the existing watercourse as the existing manner. There is **no change in the flow path due to the development of the site**. The description related to upper catchments are described in Paragraph 3.2.4-3.2.8 and 3.2.14 to 3.2.16. The estimated flow path is indicated in Figure 3-1. Refer to section 3.6.15, the existing watercourse passing through the Site is proposed to be decked over to minimise disturbance to it. Manholes for watercourse are proposed to be installed along the existing watercourse for maintenance (see **Appendix 4**). Refer to section 3.6.13 (see **Appendix 4**), the total runoff to be discharged into the watercourse will not be more than the estimated peak runoff generated from the Site before development. **No additional flow to the watercourse due to the proposed development of the site is anticipated as the drainage conditions shall remain the same as existing.**

Date	Department	Comments	Responses
			With the proposed mitigation measures in section 3.7 (see **Appendix 4**), and in addition, the applicant strives to **adopt more green measures** within the application site, such as green roof/ underground stormwater tank as improvement to drainage condition, therefore adverse impact due to the development of the site to the surrounding is not anticipated. The applicant is willing to submit and implement a detailed drainage proposal to the satisfaction of DSD if and when required as compliance of approval condition should the application be approved. It should be noted flood risk in downstream of the Site, if any, would mean there is flood risk potential under the existing conditions, in such case mitigation of such flood risk at downstream of the site would be beyond the control of the applicant.
		2. It is noted that a more intense development density is proposed compared to the earlier approved plan . In such case, further changes to the proposed foundation and site formation would be anticipated. Please elaborate proposed change in overall site formation setting of the site and its vicinity. Please also advise the land drainage condition of the vicinity of the site before and after the proposed application. Please provide appropriate	Please be advised that **no pilling will be placed on the watercourse**, and sufficient buffer will be provided. Same as the previously approved application, an elevated platform will be constructed within the Application Site to accommodate all necessary facilities for the proposed use. Therefore, it is considered that the site formation will not be significantly altered. Detailed site formation will be confirmed during the detailed design stage, the applicant is committed to consulting the Department of Drainage Services (DSD)

Date	Department	Comments	Responses
		mitigation measures, as necessary, to ensure no increase in flood risk in the vicinity.	before commencing the project. The estimated runoff is indicated appendix A and the flow path is indicated in figure 3-1. Refer to RtC 1 above, drainage flow path of the upstream and surrounding catchments was described and the drainage conditions shall remain the same as existing. Stormwater collection system is proposed to be running at the perimeter of the site, no additional flow from the site would be generated to the watercourse. Appropriate mitigations are described in section 3.7 and in addition, the applicant strives to adopt more green measures within the application site, such as green roof/ underground stormwater tank as improvement to drainage condition, therefore adverse impact due to the development of the site to the surrounding is not anticipated, and no increase in flood risk in the vicinity.

Date	Department	Comments	Responses
14.6.2023	HyD Lighting Division	• According to the proposed development, the covered area of the 6 proposed structures including one main block for cold storage, 4 plant rooms and one guard house is 9,144m (about). The applicant is reminded that the proposed ancillary facilities for underground stormwater storage tank, water meter rooms, transformer rooms, sprinkler water tanks and fire services pump rooms, etc. are also accountable for built-over area and occupation area for Short Term Waiver (STW)/Short Term Tenancy (STT) applications.	Noted with thanks.
		• As land excavation for underground stormwater tank and land filling works for site formation are proposed in the planning submission, the applicant should comply with all the land excavation and filling requirements imposed by relevant Government departments, if any and in no event cause any disturbance to GL without prior approval.	Noted with thanks. The applicant will comply with all the land excavation and filling requirements imposed by relevant Government departments.
		• An elevated platform decking over the existing watercourse within the application site is proposed in the planning submission, the applicant may wish to seek comment from Drainage Services Department (DSD) according to the Schedule of Responsibilities of ETWB TC(W) No. 14/2004 and impose conditions and requirements of DSD.	Noted with thanks. The applicant has negotiated with DSD with a view to fulfilling relevant requirements.
		• Regarding the tree felling and transplanting proposal under the planning proposal, comment/prior approval from	Noted with thanks.

Date	Department	Comments	Responses
		Agriculture, Fisheries and Conservation Department, and Leisure and Cultural Services Department for the trees on GL should be sought. There is no tree preservation requirement under Government lease governing the lots in the application site.	

APPENDIX G

ROAD CLASSIFICATION SYSTEM

Classification	Function	Standard	Traffic Management
Expressway and Urban / Rural Trunk Road	Connects the main centres of population	High capacity roads with no frontage access or development, pedestrians segregated, widely spaced grade-separated junctions.	24 hour stopping restrictions.
Primary Distributor	Forms the major network of the urban area	Roads having high capacity junction, normally grade separated, segregated pedestrian facilities and limited frontage access.	Usually 24 hour stopping restrictions.
District Distributor	Links districts to the Primary Distributor	Roads having high capacity at-grade junction.	Usually peak hour stopping restrictions and parking restrictions throughout the day.
Local Distributor	Roads within districts linking developments to the District Distributor		
Rural Road	Connects the smaller centres of population or popular recreation areas with major road networks	Roads having high capacity junction and limited frontage access.	

APPENDIX H

ROAD NETWORK

Major Road Network :

The major road network includes all the roads contained in the CTS simplified road network with modifications to exclude those road links generated by imaginary nodes connected to CTS zone centroids or produced for depicting turning movements at most road junctions.

Minor Road Network :

The minor road network includes all trafficable roads that are outside the major road network, with the exception of roads assigned for special use, all types of restricted roads and local access roads leading to a few premises.

SUMMARY OF ROAD NETWORK

Hong Kong Island :

Road Network	Road Type	Road Link	Trafficable Length (km)
Major	Expressway (EX)	10	7.78
	Urban Trunk Road (UT)	27	24.22
	Primary Distributor (PD)	132	56.86
	District Distributor (DD)	137	79.65
	Local Distributor (LD)	32	18.56
		Sub-total	**187.07**
Minor	District Distributor (DD)	6	2.23
	Local Distributor (LD)	708	210.38
		Sub-total	**212.61**
Total Covered by Census			**399.68**

APPENDIX H (Cont'd)

Kowloon:

Road Network	Road Type	Road Link	Trafficable Length (km)
Major	Expressway (EX)	7	11.40
	Urban Trunk Road (UT)	58	38.83
	Primary Distributor (PD)	193	65.25
	District Distributor (DD)	253	97.57
	Local Distributor (LD)	58	20.03
		Sub-total	**233.08**
Minor	District Distributor (DD)	2	0.10
	Local Distributor (LD)	764	**195.89**
		Sub-total	**195.99**
Total Covered by Census			**429.07**

New Territories :

Road Network	Road Type	Road Link	Trafficable Length (km)
Major	Expressway (EX)	60	136.90
	Urban Trunk Road (UT)	30	49.19
	Primary Distributor (PD)	146	85.47
	District Distributor (DD)	256	129.13
	Local Distributor (LD)	83	53.09
	Rural Trunk Road (RT)	15	30.75
	Rural Road (RR)	58	181.68
		Sub-total	**666.21**
Minor	District Distributor (DD)	10	11.21
	Local Distributor (LD)	896	386.95
	Rural Road (RR)	35	29.55
		Sub-total	**427.71**
Total Covered by Census			**1093.92**

Further Information (4)

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Date : 25th July, 2023
Your Ref. : TPB/A/NE-FTA/220
Our Ref. : ADCL/PLG-10225/L008

The Secretary
Town Planning Board
15/F., North Point Government Offices
333 Java Road, North Point, Hong Kong

By Email and Hand

Dear Sir/Madam,

Re: Section 16 Planning Application for Proposed Temporary Cold Storage for Poultry and Distribution Centre for a Period of 3 Years and Filling of Land for Site Formation Works at Lots 471 S.B RP (Part), 472, 473, 474, 475, 476, 483, 501, 502, 504 S.B, 505 and 506 S.B RP in D.D. 89 and Adjoining Government Land, Man Kam To Road, Sha Ling, New Territories

We refer to the comments from Drainage Services Department (dated 10.7.2023) and Agriculture, Fisheries and Conservation Department (dated 12.7.2023) regarding the subject application.

We submit herewith Further Information 4 "(FI)4" with for the consideration by relevant Government departments or Town Planning Board. Please find the attached following items for your onward processing:-

i. Responses-to-Comments table;
ii. Replacement page of Revised Ecological Survey;
iii. Existing Topography Plan;
iv. Revised Drainage Impact Assessment.

Should you have any queries, please do not hesitate to contact our Miss Isa YUEN or Mr. Thomas LUK at 3180 7811. Thank you for your kind attention.

Yours faithfully,
For and on behalf of
Aikon Development Consultancy Limited

Encl.
c.c. Client
DPO/STN (Attn: Ms Amy CHONG) – By Email

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Responses-to-Comments Table

Date	Department	Comments	Responses
12.7.2023	Agriculture, Fisheries and Conservation Department (AFCD)	Regarding the impact on avifanua, it is noted that flight path survey were conducted in March to May 2023. While it is agreed that the subject site is not a major flight path for ardeids as only two Chinese Pond Heron were recorded throughout the survey period, please elaborate on the potential impact on the remaining bird species.	The potential impact on the remaining bird species was elaborated in section 4.3 (See **Appendix 1**).

Date	Department	Comments	Responses
10.7.2023	Drainage Services Department (DSD)	1. Other than the water from the upstream of the watercourse, it is acknowledged that the subject watercourse within the site may drain flows from adjoining sub-catchments. As such, any change in site topography would be crucial in consideration of the drainage impact to the surrounding. Please supplement the existing topography and the proposed site formation plan for review and consideration.	Proposed level is indicated in figure 1-1. The existing topography is Attached (see **Appendix 2**). The overall flow path within the site is still from northeast tosouthwest after the development. Runoff collected from Catchment C3 in the southeast of the proposed site will follow existing flow path and collected to the proposed drainage layout as shown in figure 3-2 and drain together with runoff from Catchment C2 (Site) (see **Appendix 3**). The overland flow from the northwest of the site will follow the existing flow path and flow to the existing watercourse near the boundary of the Site. Based on the topography, the flow path of adjoining sub-catchments will not be affected adversely after the development.
		2. It was advised that no piling would be placed on the watercourse, nevertheless, the foundation and site formation works within the proposed site would likely alter the site setting and hence affect the existing flow path towards the subject watercourse. Please supplement the proposed structural layout and section of the elevated platform, as well as site formation plan for the proposed development for review and consideration to demonstrate that no adverse impacts on the existing flow would be caused.	Sectional views of the site are provided in Appendix F (see **Appendix 3**). They include the proposed structural layout and section of elevated platform. It showed that no pilling would be placed on the watercourse. Runoff collected from Catchment C3 in the southeast of the proposed site will follow existing flow path and collected to the proposed drainage layout as shown in figure 3-2 and drain together with runoff from Catchment C2 (Site) (see **Appendix 3**).

Date	Department	Comments	Responses
			The overland flow from the northwest of the site will follow the existing flow path and flow to the existing watercourse near the boundary of the Site. Please refer to updated figure 3-1 for the existing watercourse near the boundary of the site (see **Appendix 3**). Based on the above information, the proposed development will not cause adverse impacts on the existing flow.
		3. Appendix B: From the proposed drainage mechanism presented in this appendix, it is envisaged that the storage scheme would be effective in storing additional runoff due to the development if the u-channel in Section A-A is delicately designed so that the flow capacity would be at a capacity less or equal to the existing system such that the overflow could be captured by the system without spilling out and cause flooding around the channel and catchpit / manhole. Otherwise, additional flow discharge would still be discharged to the downstream through this u-channel bypassing the proposed storage system regardless of the scale and dimension of the proposed storage tank. Please kindly re-evaluate the effectiveness of such scheme in achieving the designed purpose. Nevertheless, please explain the design flow output maximum at 0.187m3/s for the pumping system.	The drainage layout design has been revised, please refer to revised section 3.6, figure 3-2 and Appendix D (see **Appendix 3**). The design flow output is based on the existing runoff of Catchment C2 and C3 in the revised drainage layout. The U-channel capacity is based on existing runoff Catchment C2 and C3. No extra flow will be allowed to discharge to the downstream. The U-channel at MH7 and MH15 has been designed such that there is a weir to allow flow exceeding the capacity to be discharge into the manhole and subsequently collect into the storage tanks. It should be noted that another storage tank is provided to increase the storage capacity. With 15% contingency buffer allowed in the tank, adverse drainage impact is not anticipated.

4. Potential Impact

4.1 Potential Habitat Loss of *Somanniathelphusa zanklon*

Two individuals of *Somanniathelphusa zanklon* were recorded within the watercourse. The watercourse will be retained in the construction design which may be disturbed during the construction phase indirectly. Therefore, the impact to the *Somanniathelphusa zanklon* is considered to be Low to Moderate.

4.2 Barrier Effect of Flight Path

4.2.1 Flight routes of the waterbird were studied and the results indicated that most of the birds flew toward the southeast area of the Subject Site and to Man Kam To. Most of the bird species were urban and common in Hong Kong. In addition, most of them were recorded flew with a short distance within or near the subject site. The proposed 20.675m height building will not be an obstacle for waterbirds or Ardeidae as only two Chinese Pond Herons were recorded to fly low, within the Subject Site. The Subject Site is not attractive to bird species and not a major flight line of Ardeidae. Therefore, the impact on the bird flight line is considered to insignificant.

4.3 Potential Impact of bird species

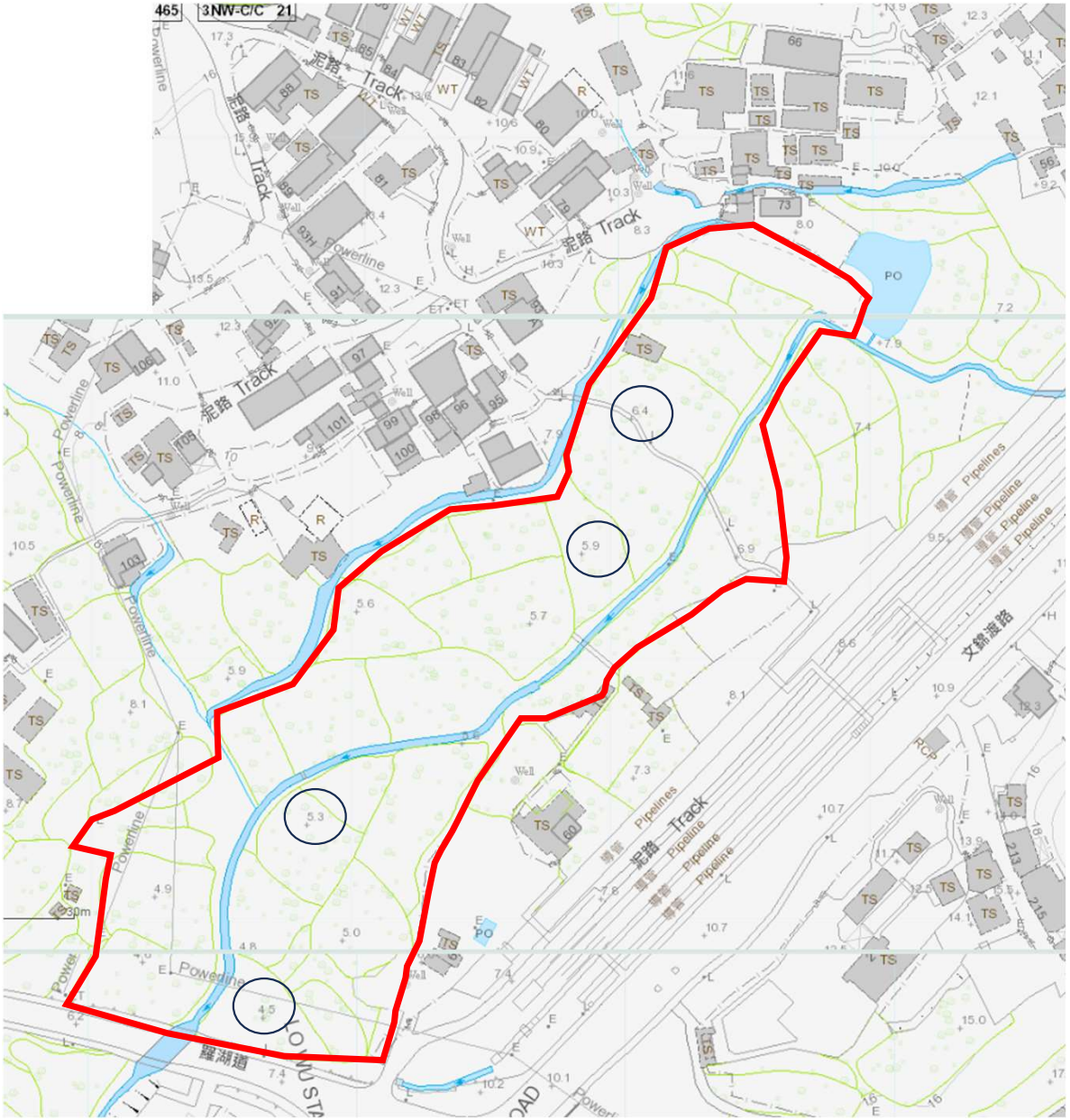
4.3.1 Only 11 avifauna species were recorded during the survey. Most of the species were common species and widely distributed in Hong Kong. Among of them, two species were species of conservation interest. Agricultural land was recorded adjacent to the project site, there is the same habitat for the remaining birds. The bird species were also adapted to other habitat (e.g. village area, plantation, developed area). Therefore, the impact on the remaining birds species is considered to insignificant.

5. Mitigation Measures

Capture-and-translocation of *Somanniathelphusa zanklon*

5.1 *Somanniathelphusa zanklon* were recorded within the Subject Site during the additional survey. Capture-and-translocation of *Somanniathelphusa zanklon* in these areas with sightings prior to site formation was recommended to minimize the impacts on these fauna species of conservation importance. The impact on the *Somanniathelphusa zanklon* would be reduced to insignificant after the mitigation measures.

Existing Topography



Source: Slope Information System

Further Information (5)

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毅勤發展顧問有限公司
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Date : 11th August, 2023
Your Ref. : TPB/A/NE-FTA/220
Our Ref. : ADCL/PLG-10225/L010

The Secretary
Town Planning Board
15/F., North Point Government Offices
333 Java Road, North Point, Hong Kong

By Email and Hand

Dear Sir/Madam,

Re: Section 16 Planning Application for Proposed Temporary Cold Storage for Poultry and Distribution Centre for a Period of 3 Years and Filling of Land for Site Formation Works at Lots 471 S.B RP (Part), 472, 473, 474, 475, 476, 483, 501, 502, 504 S.B, 505 and 506 S.B RP in D.D. 89 and Adjoining Government Land, Man Kam To Road, Sha Ling, New Territories

We refer to the comments from Transport Department (TD) conveyed by Planning Department on 1.8.2023 regarding the subject application.

We submit herewith Further Information 5 "(FI)5" with for the consideration by relevant Government departments or Town Planning Board. Please find the attached following items for your onward processing:-

i. Responses-to-Comments table;
ii. Replacement page of revised Traffic Impact Assessment.

In order to further substantiate the current application and hence to facilitate the consideration by TD or Town Planning Board (TPB), it is clarified that proposed development is anticipated to be operated in year 2023.

Should you have any queries, please do not hesitate to contact our Miss Isa YUEN or Mr. Thomas LUK at 3180 7811. Thank you for your kind attention.

Yours faithfully,
For and on behalf of
Aikon Development Consultancy Limited

Encl.
c.c. Client
DPO/STN (Attn: Ms Amy CHONG) – By Email

Address 地址：
香港葵涌興芳路 223 號新都會廣場 2 期 13 樓 1310 室
Unit 1310, Level 13, Tower 2 Metroplaza,
223 Hing Fong Road, Kwai Chung, New Territories, Hong Kong

Responses-to-Comments Table

Date	Department	Comments	Responses
1.8.2023	Transport Department (TD)	• The applicant should provide information on the slightline issue, in particular drivers driving from House 60/61 to Lo Wu Station Road, as there is level difference between Lo Wu Station Road and House 60/61.	Please refer to **Section 2.4.6** of the replacement pages of TIA for the sightline assessment of drivers driving from House 60/61 to Lo Wu Station Road (See **Appendix 1**).
		• It is noted that the applicant proposes to form an ingress and egress with a total width of 24m and some traffic mitigation measures, such as road markings and road signs, are proposed to ensure pedestrian safety. Considering that there are children and elderly living in Sha Ling village, please advise and elaborate more on the provision and management of pedestrian facilities to ensure pedestrian safety, especially when crossing the ingress/egress of the proposed development.	Please refer to **Section 2.4.3** of the replacement pages of TIA for provision and management of pedestrian facilities when crossing the ingress/egress of the proposed development to ensure pedestrian safety (See **Appendix 1**).
		• The above two items should be included and explained in the TIA report. The applicant is advised to revise accordingly for TD's consideration.	The above two items have been included in the TIA, please refer to **Section 2.4** for details (See **Appendix 1**).

Further Information (6)

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Date : 19th September, 2023
Your Ref. : TPB/A/NE-FTA/220
Our Ref. : ADCL/PLG-10225/L014

The Secretary
Town Planning Board
15/F., North Point Government Offices
333 Java Road, North Point, Hong Kong

By Email

Dear Sir/Madam,

Re: Section 16 Planning Application for Proposed Temporary Cold Storage for Poultry and Distribution Centre for a Period of 3 Years and Filling of Land for Site Formation Works at Lots 471 S.B RP (Part), 472, 473, 474, 475, 476, 483, 501, 502, 504 S.B, 505 and 506 S.B RP in D.D. 89 and Adjoining Government Land, Man Kam To Road, Sha Ling, New Territories

We refer to the comments from Drainage Services Department (dated 28.8.2023) and Transport Department (dated 4.9.2023) regarding the subject application, we submit herewith Further Information 6 "(FI)6" with for the consideration by relevant Government departments or Town Planning Board. Please find the attached following items for your onward processing:-

i. Responses-to-Comments tables;
ii. Drawings and Plans;
iii. Typical Section for Drainage Proposal;
iv. Hydraulic Checking;
v. Accepted Drainage Proposal under A/NE-FTA/201 and Compliance Letter dated 6.9.2022;
vi. Revised Traffic Impact Assessment;
vii. Photographic record of the completed pedestrian footpath.

In addition, we would like to substantiate the current application and hence to facilitate the consideration Town Planning Board (TPB). with the following points:

- Firstly, we aim to clarify and expound upon the proposed development to ensure absolute clarity and avoid any potential confusion. As refer to the master layout plan (see **Appendix 1** - PL-001), the overall structure/bulk (as shown in cross hatch), would be decked over and situated above the watercourse within the application site, while only minor part of the land within the application site (as shown in diagonal line hatch) would be filled for the formation of Emergency Vehicular Access (EVA). To clarify, the horizontally hatched area that was labelled "deck over area" in SE-001, **will remain void and permeable to allow for proper drainage**. The section drawing has been revised to avoid confusion (see **Appendix 1**). The columns of the proposed development are also designed to avoid setting foot on the watercourse. For your convenience, we have prepared a typical section (see **Appendix 2**) to offer a comprehensive visual overview.

- Furthermore, we wish to reiterate that **the proposed temporary deck-over structure and minor land filling are unlikely to alter the drainage conditions significantly**. As evident in the typical section (see **Appendix 2**), overland flow at the northwestern and southeastern corners of the application site will continue to converge towards the site. While a portion of overflow is anticipated to be managed by the

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proposed stormwater collection system within the current application, any excess will **naturally flow towards the watercourse beneath the proposed development**. Importantly, **the existing watercourse's functionality will remain unimpeded, ensuring the continued discharge of flow**. The proposed stormwater collection system situated on the periphery of the application site **will augment our capacity to treat water flow effectively**.

- In addition, we have incorporated sufficient manholes in our design to facilitate future maintenance of the existing watercourse within the site, and an about 1.2m headroom is reserved. The detailed design will be subject to scrutiny during GBP submission, with consultation with DSD as deemed necessary.

- It is worth noting that **the current drainage proposal is almost identical to the approved proposal under A/NE-FTA/201, with the exception being the addition of a stormwater tank in the current proposal**. It is pertinent to mention that your office found the previous drainage proposal under the approval conditions of A/NE-FTA/201 to be acceptable (see **Appendix 4**). In essence, the current application aligns in principle with the approved scheme, except for the proposed building height. In terms of the nature of the current application, the development in principle to same as the approved scheme, except the proposed building height. The subject change is however deemed not significant from drainage point of view. The current proposal also involves a smaller site area and also less area of filling. Considered the nature of the current application and the drainage design is almost the same as the approved scheme, and the applicant merely wishes to optimise the scheme, it is sincerely hope that DSD could give favourable consideration to the current application.

- Regarding the proposed development parameters, **it is confirmed that the total floor area is 11,615 sq.m.** and GFA for the plant room and transformer room would be exempted during GBP submission stage. It is also confirmed that the proposed plant room and transformer room and guard house would be 1 storey in height.

- In light of the fact that **the proposed pedestrian footpath in the current application is the same as that proposed under previous application** (A/NE-FTA/201), we aim to provide additional context and updates for your consideration. Subsequent to the approval of the prior application (A/NE-FTA/201) on 28.5.2021, the applicant proactively engaged with contractors and successfully executed the reprovision of the footpath on the site by 31.10.2022, adhering to the initial proposal and the approval granted under A/NE-FTA/201. On 20.7.2023, local villagers raised requests for certain enhancements to the footpath, specifically concerning the flattening of a section to improve walkability. In response, the applicant promptly executed the road flattening improvements as requested by both the planning department and the local community by 6.9.2023. **The flattening of a portion of the approximately 210-meter-long footpath has been completed and is now serving the local villagers**. In comparison to the pre-existing footpaths, the proposed footpath completed by the applicant is considered to offer better walkability and convenience. It stands to benefit the local villagers significantly, particularly those requiring wheelchair access. Photographic record in **Appendix 6** presents the completed proposed footpath. The current application is considered to be matured since the applicant has demonstrated his effort in materialising the proposed development by completing part of the construction works.

Should you have any queries, please do not hesitate to contact the undersigned at 3180 7811. Thank you for your kind attention.

Yours faithfully,
For and on behalf of
Aikon Development Consultancy Limited

Encl.
c.c. Client
DPO/STN (Attn: Ms. Amy CHONG) – By Email
DSD (Attn. Mr. Samual WANG) – By Email
TD (Attn. Mr. Hoffman CHU) – By Email

Responses-to-Comments Table

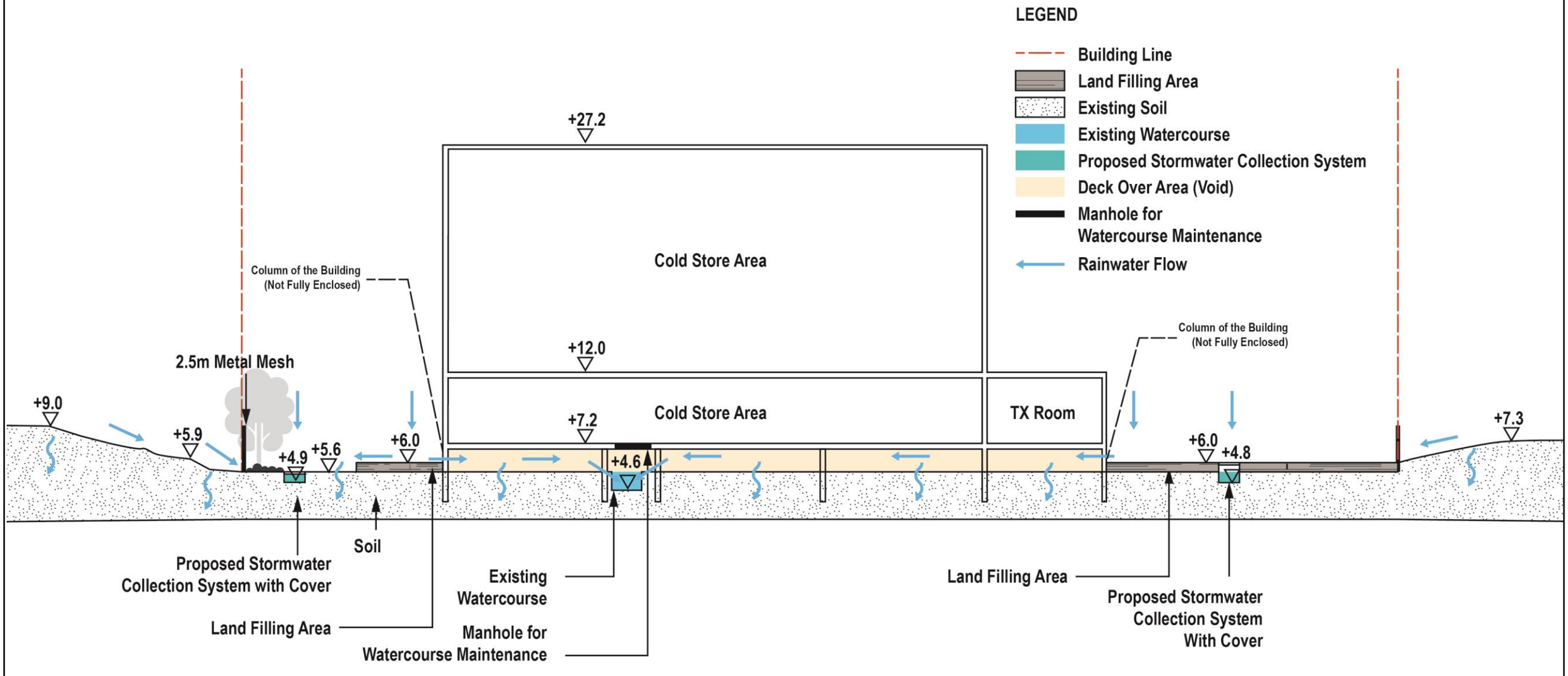
Date	Department	Comments	Responses
28.8.2023	Drainage Services Department (DSD) CE/MN of DSD (Contact Person: Mr. Samuel Wang; Tel: 2300 1135)	1. It is shown that catchment runoff from subcatchment C1, although is to be captured by an existing channel at the north of the site, is inevitably through the proposed site as it converges to the existing streamcourse. With the available structural layout (section Y-Y) provided, the decking of the existing streamcourse would suggest that the streamcourse would become more like a pipe flow, rather than an open channel flow where the floodplain adjoining the channel may be utilised in case of small scale overflow. Inadequacy of the section of such channel would potentially lead to flooding at the immediate upstream of the system. However, no hydraulic check has been provided in terms of the natural streamcourse section with the site. Please provide further elaboration on the respective hydraulic performance to ease any concern and suspicion of the flood risk related to the proposed development.	We aim to clarify and expound upon the proposed development to ensure absolute clarity and avoid any potential confusion. Please refer to the cover letter and the Appendices for details. We are aware that the subcatchment C1 runoff will likely flow to the watercourse adjacent to the Site Boundary and eventually flow to the watercourse within the site. The watercourse within the site is not like a pipe flow as it is not a full water flow in a closed conduits or circular cross section. It is remained no change as an open channel. As shown in the Section drawing (see **Appendix 2**), there is void space as deck over area, not covering or restricting the watercourse like a pipe. A typical section is provided for easy reference (see **Appendix 2**). As shown, watercourses within and adjacent to the Site are able to flow as its existing condition, no changes had been made to the watercourse due to the development as all the additional runoff due to the development are stored in the underground storage tank. There are also perimeter U-channels all along the boundary of the site which had been designed with additional capacity that can cater additional flow, such as overland flow if any, and they will be leading

Date	Department	Comments	Responses
			into the underground storage tank. The storage tank has also been sized with 15% additional buffer storage for contingency. No adverse drainage impact is anticipated. The capacity of the existing stream within the site area is checked. (see **Appendix 3**) The runoff from Catchment A, part of the Catchment C1 and Catchment C2 is considered in the capacity checking of the existing stream within the site. With reference to the estimation under 50 years return period calculated to our best estimation based on the available information, the utilization rate of the existing channel under existing situation and after the proposed development is 45.6% to 92.6% and 42.7% to 90.3% respectively. The above calculation has taken into account the 10% sedimentation. No adverse flooding risk is anticipated upon the completion of the proposed works. Considering that the existing topography would remain almost the same with the proposed temporary structure and no adverse flooding risk is anticipated upon the completion of the proposed works as supported by the technical assessment. Being the operator/user of the proposed development, the applicant is also committed to taking all necessary measures to prevent any potential flooding issues to ensure the smooth and safe operation of the proposed use.

Date	Department	Comments	Responses
		2. It is noted from the existing topography in Appendix 2 and formation level in Figure 3-2 that the site formation level would be altered to be equivalent or higher than the adjacent areas including areas in catchment C3 and C1 after proposed development. Further to your RtC, please advise how the overland flow could follow the existing flow path to the existing watercourse within the site area. Please also clarify if the flow path of the tributary from the northwest of the site to the watercourse within the site would be affected under the site formation level proposal.	The site formation level is only higher than adjacent areas locally within the site area, but there is no change to the level of the watercourses. The building is decked over as shown in the typical section attached. There is no change to the flow path for the runoff from subcatchment C3 and C1 before and after the proposed development. In fact overland flow from Subcatchment C1 will flow from catchment C1 flow to the watercourse adjacent to the Site boundary and eventually flow to the watercourse inside the site following existing flow path. If any runoff not captured, it will flow into the perimeter drain within the site, the levels are same as existing ground level. No change from existing condition. Overland flow from C3 is about 0.132m^3/s, if any will be collected into perimeter drain section CP11 to CP14 and they are shown to have more than 0.132m^3/s capacity in each of the U-channel segments.
		3. Appendix F – Please advise if adequate headroom is reserved for future maintenance of the existing watercourse within the site.	As shown in the typical section drawing (see **Appendix 2**), adequate headroom which is essentially the deck over area. The detailed design will be subject to scrutiny during GBP submission, with consultation with DSD as deemed necessary.

Date	Department	Comments	Responses
19.9.2023	Drainage Services Department (DSD) CE/MN of DSD (Contact Person: Mr. Samuel Wang; Tel: 2300 1135)	1. It is noted from the hydraulic checking that some parts (e.g. 1a to 1; 1 to 2; 2 to 3) were not included in the submission. Please supplement as appropriate.	Updated. The hydraulic checking of parts 1a to 1, 1 to 2 and 2 to 3 are included in the submission (see **Appendix 3**).
		2. Please advise the actual condition of the existing stream. One of the assumptions is that the bedding material is taken as trapezoidal shotcreted channel. Please justify, with site photo if possible.	Site photos (Photo 1 to 7) taken in 2022 showing the actual conditions are attached in the hydraulic checking document for reference. The photos also show the trapezoidal channel appeared to be concrete-lined (see **Appendix 3**).
		3. Runoff from sub-catchment B is not adopted in the calculation. Please advise the respective flow path and confirm if it should be considered.	Runoff from sub-catchment B is not adopted in the calculation because it does not flow into the sections of watercourse involved in the hydraulic checking. Flow path of sub-catchment B is indicated in Figure 1.1. As shown in Photo 8 to 10, there is an existing drainage channel to collect the runoff along sub-catchment B separately (see **Appendix 3**).

Date	Department	Comments	Responses
1.8.2023	Transport Department (TD)	• Section 3.2.2. - The applicant shall justify why no traffic survey was conducted but to apply a growth factor to 2018 surveyed data to obtain the base-line traffic flow condition. • Table 3.2 - The DFC for Po Shek Wu Road Interchange (i.e. Tai Tau Leng Roundabout) in year 2022 seems to be on the high side. Please review. • Figure 2.4 - It seems that the existing street furniture, e.g beam barrier, type II railing, etc. will obstruct the proposed ingress and egress on Lo Wu Station Road. Please indicate any required modification works on the drawing and confirm these modification works are technically feasible. Please also check if the proposed ingress / egress would affect any existing access. 1. Please be informed that the design year of the TIA should be 3 years after the planned completion of the development. The TIA should be updated if the planned completion date is revised.	• Please refer to **Section 3.2** of the revised TIA report for the justification of using 2018 surveyed data with growth factor applied to obtain the base-line traffic flow condition (See **Appendix 5**). • DFC for Po Shek Wu Road Interchange (Junction RC) has been reviewed and revised, please refer to Table 3.3 and **Table 4.4** of the revised TIA report for details (See **Appendix 5**). • Please refer to **Section 2.4.9** and **Figure 2.6** of the revised TIA report for modification works of existing street furniture, including beam barrier and type II railing, for the opening of site access (See **Appendix 5**). Please note that the existing staircase access to maintenance area would be maintained, and related staff could enter via the ramp of the site for maintenance when necessary (See **Appendix 5**). • Please note that the design year is revised to 2027, please refer to **Table 3.3** and **Table 4.4** of the revised TIA report for details of assessments (See **Appendix 5**).



(For identification only)
This section is for providing an initial understanding of the proposed development. The actual on-site levels may vary.

Project: Section 16 Planning Application for Proposed Temporary Cold Storage for Poultry and Distribution Centre for a Period of 3 Years and Filling of Land for Site Formation Works at Lots 471 S.B RP (Part), 472, 473, 474, 475, 476, 483, 501, 502, 504 S.B, 505 and 506 S.B RP in D.D. 89 and Adjoining Government Land, Man Kam To Road, Sha Ling, New Territories	**Title:** Typical Section for Drainage Proposal *Ref.: ADCL/PLG-10225-L014/I001*	**Illustration:** 1 **Scale:** Not to Scale **Date:** Sep 2023	AiKoN AIKON DEVELOPMENT CONSULTANCY LTD.

7076864 Drainage Impact Assessment for S16 Planning Application for Proposed Temporary Cold Storage for Poultry and Distribution Centre for a Period of 3 Years and Filling of Land for Site Formation Works at Various Lots in D.D. 89 and Adjoining Government Land, Man Kam To Road, Sha Ling, New Territories

Hydraulic Checking of the watercourse

Figure 1.1 Identification of Surrounding Catchment and surrounding environment

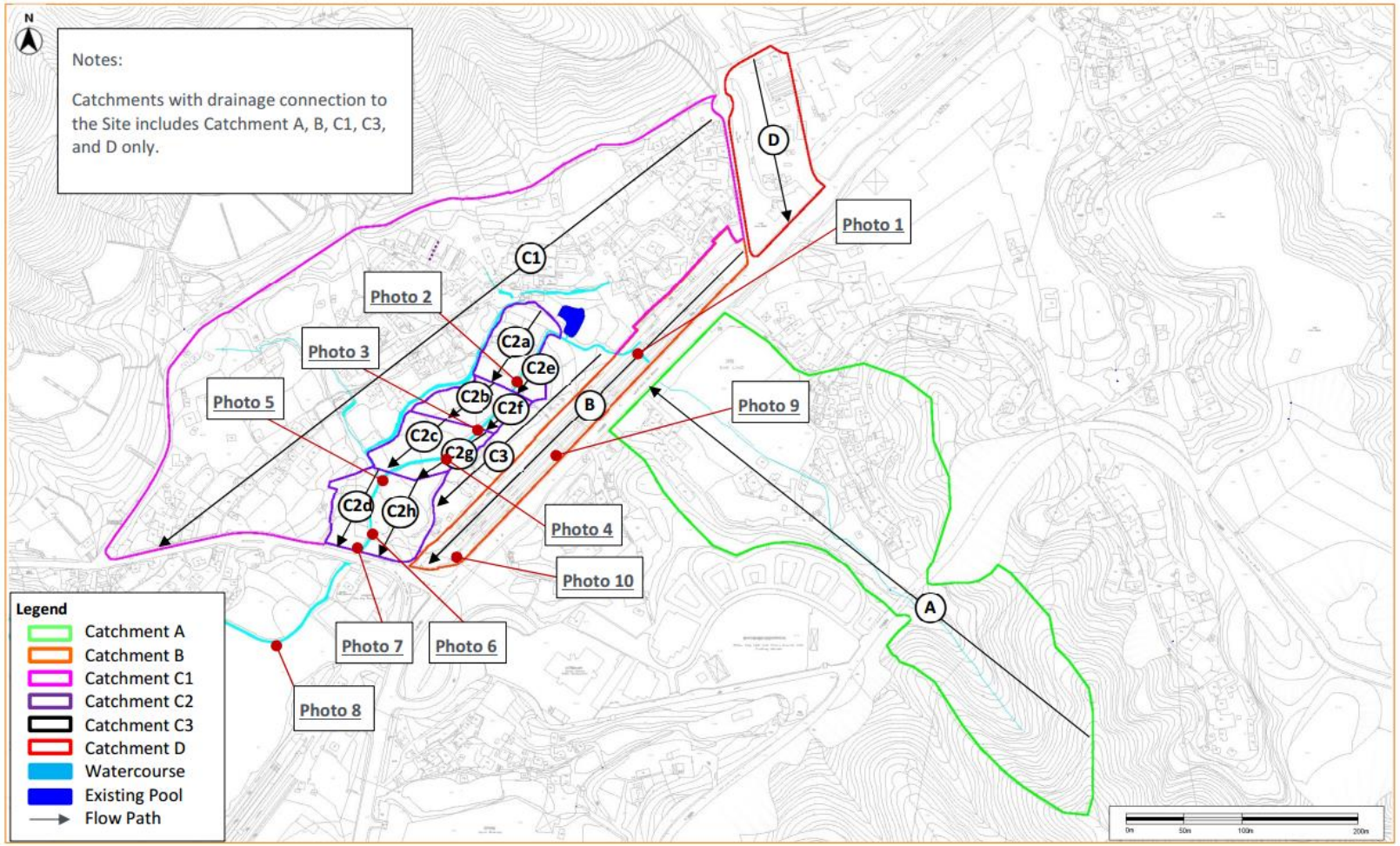


Photo 1 	Photo 2 
Photo 3 	Photo 4 

Photo 5

Photo 6

Photo 7

Photo 8

Photo 9

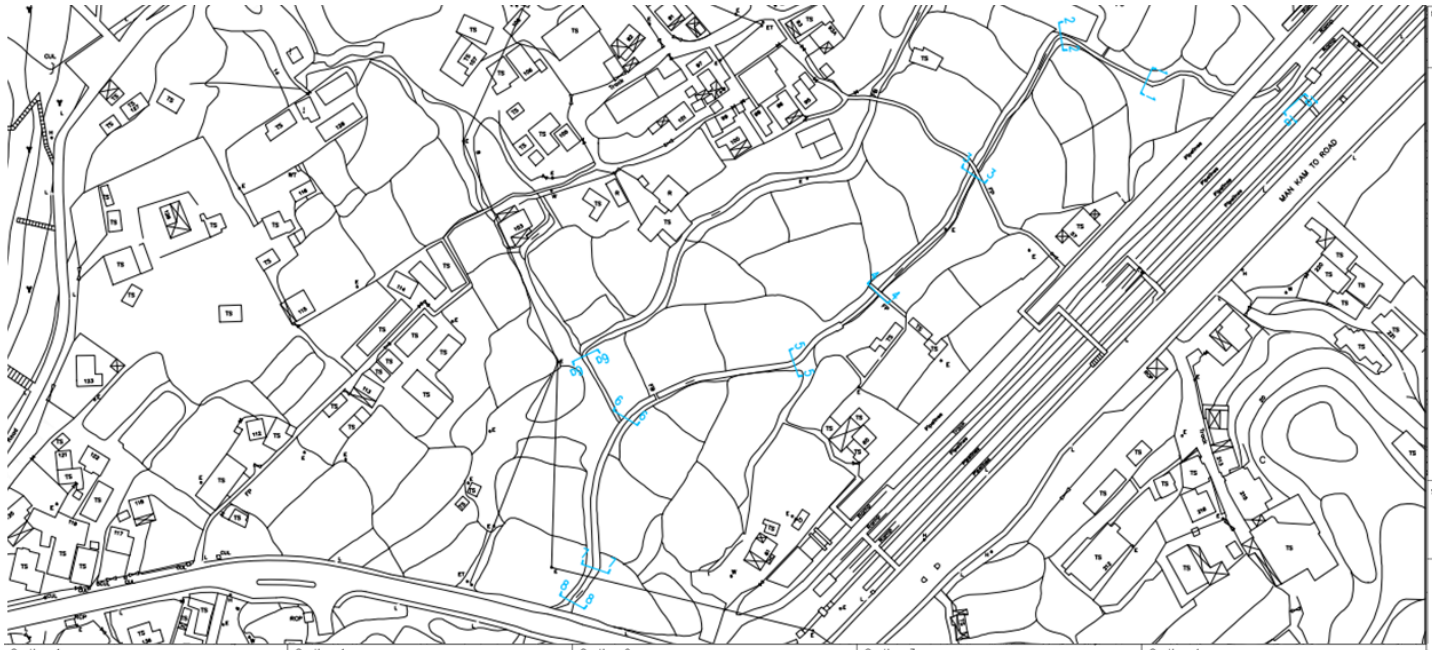
Photo 10

Calculation of Runoff for Return Period of 50 Years

Catchment ID	Catchment Area (A), km^2	Average slope (H), m/100m	Flow path length (L), m	Inlet time (t_o), min	Duration (t_d), min	Storm Constants			Runoff intensity (i) mm/hr	Runoff coefficient (C)	C x A	Peak runoff (Q_p), m^3/s
						a	b	c				
Before the Proposed Development												
Catchment A	0.0635	16.29	526.2	14.42	20.26	1167.6	16.76	0.561	153.95	0.63	0.0401	1.717
Catchment B	0.0113	1.28	164.20	8.89	10.71	1167.6	16.76	0.561	182.00	0.95	0.0108	0.545
Catchment C1	0.0844	3.94	365.80	12.94	17.00	1167.6	16.76	0.561	162.12	0.41	0.0347	1.563
Catchment C2	0.0161	0.69	237.30	14.05	16.69	1167.6	16.76	0.561	162.98	0.26	0.0041	0.187
Catchment C3	0.0066	1.17	85.72	4.99	5.94	1167.6	16.76	0.561	202.56	0.32	0.0021	0.119
Catchment D	0.0092	4.98	84.30	3.55	4.49	1167.6	16.76	0.561	210.22	0.95	0.0088	0.511
											Total (General Scenario)	**4.642**
After the Proposed Development												
Catchment A	0.0635	16.29	526.2	14.42	20.26	1167.6	16.76	0.561	153.95	0.63	0.0401	1.717
Catchment B	0.0113	1.28	164.20	8.89	10.71	1167.6	16.76	0.561	182.00	0.95	0.0108	0.545
Catchment C1	0.0844	3.94	365.80	12.94	17.00	1167.6	16.76	0.561	162.12	0.41	0.0347	1.563
Catchment C2a	0.0030	0.20	83.0	7.43	7.90	1167.6	16.76	0.561	193.39	0.77	0.0023	0.125
Catchment C2b	0.0023	0.20	56.0	5.16	5.47	1167.6	16.76	0.561	204.97	0.77	0.0018	0.101
Catchment C2c	0.0024	0.20	60.0	5.51	5.84	1167.6	16.76	0.561	203.05	0.77	0.0018	0.102
Catchment C2d	0.0024	0.20	76.1	6.98	7.40	1167.6	16.76	0.561	195.61	0.77	0.0018	0.100
Catchment C2e	0.0008	0.20	58.0	5.96	6.28	1167.6	16.76	0.561	200.89	0.77	0.0006	0.033
Catchment C2f	0.0006	0.20	45.3	4.80	5.05	1167.6	16.76	0.561	207.14	0.77	0.0004	0.025
Catchment C2g	0.0012	0.20	89.0	8.71	9.20	1167.6	16.76	0.561	187.86	0.77	0.0010	0.050
Catchment C2h	0.0034	0.20	68.3	6.04	6.42	1167.6	16.76	0.561	200.21	0.77	0.0026	0.147
Catchment C3	0.0066	1.17	85.72	4.99	5.94	1167.6	16.76	0.561	202.56	0.32	0.0021	0.119
Catchment D	0.0092	4.98	84.30	3.55	4.49	1167.6	16.76	0.561	210.22	0.95	0.0088	0.511
											Total (General Scenario)	**5.138**

Note:

1) Runoff is calculated in accordance with DSD's "*Stormwater Drainage Manual (with Eurocodes incorporated) - Planning, Design and Managemen* t" (SDM), fifth edition, January 2018 and DSD publication Stormwater Drainage Manual CORRIGENDUM No. 1/2022.
2) Time of concentraction td= to+tf; where tf time of flow in urban drainag esystem = length of drain/ velocity. Velocity assumed 1.5m/s for natural flow and 3m/s assumed for flow in urban area.
3) The gradient of Catchement C2 after development is assumed to be 1:500.



Notes
1. Hong Kong Geodetic Datum 1980
2. All levels refer to Principal Datum Hong Kong
3. All units are in Metres
4. All spot level positions are indicated by the decimal point or a cross.

Sheet Index

N

1

Approved

Helen Chan
ALS, MHKIS, MRICS, RPS(LS)
Date: March 23, 2022

Client

HONG KONG CHILLED MEAT IMPORTER LIMITED

Drawing Title

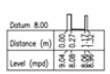
PROPOSED TEMPORARY COLD STORAGE FOR POULTRY & DISTRIBUTION CENTRE IN D.D.89 MAN KAM TO, SHEUNG SHUI

Drawing No.: HPL2503/S/01

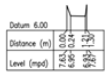
Scale: 1:200 (A2)

Helen Chan Professional Land Survey Ltd.
陳婉琪測量師行有限公司
2/F, No.36 Lung Sum Avenue, Sheung Shui, N.T., Hong Kong
Tel: 26395466 Fax: 26734966
e-mail: hcpls@netvigator.com

Section 1a



Section 1



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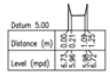

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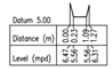

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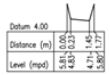

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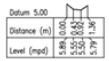

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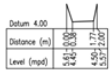

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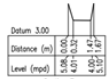

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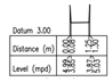

Existing Channel Preliminary Estimation under Return Period of 50 Years

From[1]	To[1]	Channel Type	Length, m	Base Width, m	Top Width T, m	Depth y, m	Upstream Invert Level (USIL) [2]	Downstream Invert Level (DSIL) [2]	Slope (s) (1 in x)	Cross Section Area, m2	% reduction	Wetted Perimeter	Hydaralius Radius, m	Manning Roughness Coefficient [3]	Mean Velocity, m/s	Capacity Flow, m^3/s	Catchment	Total Runoff, m^3/s	Utilsation Rate	Remark
1a	1	Rectangular	61.5	0.90	0.90	0.96	8.07	6.94	54.42	0.86	10%	2.76	0.31	0.016	3.91	3.037	A	1.717	56.5%	ok
1	2	Trapezoidal	33.2	0.97	1.30	0.68	6.94	6.43	65.10	0.77	10%	2.37	0.33	0.016	3.67	2.547	A	1.717	67.4%	ok
2	3	Trapezoidal	53.1	0.64	1.33	0.74	6.43	5.97	115.43	0.73	10%	2.27	0.32	0.016	2.73	1.788	A & C2	1.726	96.5%	ok
3	4	Trapezoidal	50.3	0.88	1.25	0.74	5.97	5.56	122.68	0.79	10%	2.41	0.33	0.016	2.68	1.902	A & C2	1.761	92.6%	ok
4	5	Trapezoidal	38.1	0.86	1.27	0.75	5.56	4.77	48.20	0.80	10%	2.42	0.33	0.016	4.31	3.095	A & C2	1.794	58.0%	ok
5	6	Trapezoidal	61.1	1.22	1.77	1.04	4.77	4.47	203.77	1.55	10%	3.37	0.46	0.016	2.61	3.657	A & C2	1.836	50.2%	ok
6	7	Trapezoidal	48.5	1.39	2.00	1.14	4.47	4.05	115.59	1.92	10%	3.74	0.51	0.016	3.73	6.461	A, C1 & C2	2.946	45.6%	ok
7	8	Trapezoidal	13.0	1.15	1.67	1.10	4.05	3.86	68.44	1.54	10%	3.40	0.45	0.016	4.46	6.201	A, C1 & C2	2.946	47.5%	ok

[1] Please refer to the survey for the location of the channel.
[2] The invert levels were assumed to be the average level based on the survey.
[3] Manning n=0.016 has been adopted, assuming they is concreted-lined channels in fair condition
[4] The hydraulic checking is only calculated to our best estimation based on the available information.

Existing Channel Preliminary Estimation after the Proposed Development under Return Period of 50 Years

From[1]	To[1]	Channel Type	Length, m	Base Width, m	Top Width T, m	Depth y, m	Upstream Invert Level (USIL) [2]	Downstream Invert Level (DSIL) [2]	Slope (s) (1 in x)	Cross Section Area, m2	% reduction	Wetted Perimeter	Hydaralius Radius, m	Manning Roughness Coefficient [3]	Mean Velocity, m/s	Capacity Flow, m^3/s	Catchment	Total Runoff, m^3/s	Utilsation Rate	Remark
1a	1	Rectangular	61.5	0.9	0.90	0.96	8.07	6.94	54.42	0.86	10%	2.76	0.31	0.016	3.91	3.037	A	1.717	56.5%	ok
1	2	Trapezoidal	33.2	1.0	1.30	0.68	6.94	6.43	65.10	0.77	10%	2.37	0.33	0.016	3.67	2.547	A	1.717	67.4%	ok
2	3	Trapezoidal	53.1	0.6	1.33	0.74	6.43	5.97	115.43	0.73	10%	2.27	0.32	0.016	2.73	1.788	A	1.717	96.0%	ok
3	4	Trapezoidal	50.3	0.9	1.25	0.74	5.97	5.56	122.68	0.79	10%	2.41	0.33	0.016	2.68	1.902	A	1.717	90.3%	ok
4	5	Trapezoidal	38.1	0.9	1.27	0.75	5.56	4.77	48.20	0.80	10%	2.42	0.33	0.016	4.31	3.095	A	1.717	55.5%	ok
5	6	Trapezoidal	61.1	1.2	1.77	1.04	4.77	4.47	203.77	1.55	10%	3.37	0.46	0.016	2.61	3.657	A	1.717	47.0%	ok
6	7	Trapezoidal	48.5	1.4	2.00	1.14	4.47	4.05	115.59	1.92	10%	3.74	0.51	0.016	3.73	6.461	A, C1	2.759	42.7%	ok
7	8	Trapezoidal	13.0	1.2	1.67	1.10	4.05	3.86	68.44	1.54	10%	3.40	0.45	0.016	4.46	6.201	A, C1 & C2	3.442	55.5%	ok

[1] Please refer to the survey for the location of the channel.
[2] The invert levels were assumed to be the average level based on the survey.
[3] Manning n=0.016 has been adopted, assuming they is concreted-lined channels in fair condition
[4] The hydraulic checking is only calculated to our best estimation based on the available information.

With reference to the above estimation under 50 years return period calculated to our best estimation based on the available information, the utilization rate of the existing channel under existing situation and after the proposed development is 45.6% to 96.5% and 42.7% to 96% respectively. The above calculation has taken into account the 10% sedimentation. To conclude, no adverse flooding risk is anticipated upon the completion of the proposed works.

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Planning Department

Sha Tin, Tai Po & North District Planning Office
Rooms 1301-1314, 13/F.,
Shatin Government Offices,
1 Sheung Wo Che Road, Sha Tin ,
N.T., Hong Kong

來函檔號 Your Reference:
本署檔號 Our Reference: ( ) in TPB/A/NE-FTA/201
電話號碼 Tel. No. : 2158 6220
傳真機號碼 Fax No. : 2691 2806

Aikon Development Consultancy Ltd.
Unit 1310, Tower 2, Metroplaza
223 Hing Fong Road
Kwai Chung, New Territories
(Attn.: Thomas LUK)

By Post and Fax (3180 7611)
1 September 2022

Dear Sir/Madam,

Proposed Temporary Cold Storage for Poultry and Distribution Centre for a Period of 3 Years with Filling of Land in "Agriculture" Zone, Lots 471 S.B RP (Part), 472, 473, 474, 475, 476, 482 RP, 483, 484, 486, 487 RP, 497 S.A RP, 501, 502, 504 S.B, 505 and 506 S.B RP in D.D. 89 and Adjoining Government Land, Man Kam To Road, Sha Ling (Compliance with Approval Condition (o) for Planning Application No. A/NE- FTA/201)

I refer to your submission dated 19.7.2022 for compliance with approval condition (o) in relation to the submission of a revised drainage impact assessment under the captioned planning application.

Chief Engineer/Mainland North, Drainage Services Department (Contact person: Mr. CHENG Man-wai, Marcus; Tel.: 2300 1407) has been consulted and considered that approval condition (o) has been complied with. His advisory comments are attached at **Appendix I** for your reference.

Should you have any queries, please feel free to contact Mr. CHENG Man-wai, Marcus of Drainage Services Department at 2300 1407 or Ms. Amy Y. T. CHONG of this department at 2158 6241.

Yours faithfully,

(Margaret CHAN)
for Director of Planning

Appendix I

Comments of the Chief Engineer/Mainland North, Drainage Services Department (Contact person: Mr. CHENG Man-wai, Marcus; Tel.: 2300 1407):

(i) the "existing watercourse" to which the applicant proposed to discharge the storm water from the subject site is not maintained by this office. The applicant should identify the owner of the 'existing watercourse" to which the proposed connection will be made and obtain consent from the owner prior to commencement of proposed works. In the case that it is a local village drains, DO/N should be consulted;

(ii) the applicant is required to construct and maintain the proposed drainage works properly and rectify the drainage systems if they are found to be inadequate or ineffective during operation. The applicant shall establish and implement an operation and maintenance procedure, including 24-hour attendant staff for responding to emergency situations and contingency plan for pump and power failure. The applicant shall also be liable for and shall indemnify claims and demands arising out of damage or nuisance caused by a failure of the systems. For works undertaken outside the lot boundary, prior consent and agreement from DLO/N and/or relevant private lot owners should be sought;

(iii) the applicant is reminded that all existing flow paths as well as the run-off falling onto and passing through the site should be intercepted and disposed of via proper discharge points. The applicant shall also ensure that no works, including any site formation works, shall be carried out as may adversely interfere with the free flow condition of the existing drain, channels and watercourses on or in the vicinity of the subject site any time during or after the works;

(iv) the lot owner/developer shall take all precautionary measures to prevent any disturbance, damage and pollution from the development to any parts of the existing drainage facilities in the vicinity of the lots. In the event of any damage to the existing drainage facilities, the developer shall be held responsible for the cost of all necessary repair works, compensation and any other consequences arising there from; and

(v) the applicant shall allow all time free access for the Government and its agent to conduct site inspection on his completed drainage works, if necessary.

c.c.
CE/MN, DSD (Attn.: Mr. CHENG Man-wai, Marcus) (Fax No. 2770 4761)

Internal
CTP/TPB(1)
Site record

HYC/MC/AC/NW/nw

毅勤發展顧問有限公司
Tel 電話：(852) 3180 7811
Fax 傳真：(852) 3180 7611
Email 電郵：info@aikon.hk
Web 網址：www.aikon.hk

Date : 19th July, 2022
Your Ref. : TPB/A/NE-FTA/201
Our Ref. : ADCL/PLG-10229/L012

District Planning Officer,
Sha Tin, Tai Po and North District Planning Office,
13/F, Sha Tin Government Offices,
1 Sheung Wo Che Road, Shatin,
New Territories
(Attn: Ms. Amy CHONG)

By Email and Post

Dear Amy,

Re: Section 16 Planning Application for Proposed Temporary Cold Storage for Poultry and Distribution Centre and Filling of Land for a Period of 3 Years at Lots 471 S.B RP (Part), 472, 473, 474, 475, 476, 482 RP, 483, 484, 486, 487 RP, 497 S.A RP, 501, 502, 504 S.B, 505 and 506 S.B RP in D.D. 89 and Adjoining Government Land, Man Kam To Road, Sha Ling, New Territories
(Approval Conditions (o) of Planning Application No. A/NE-FTA/201)

With reference to the letter of Town Planning Board (TPB) dated 11.06.2021 concerning the planning approval granted for the captioned planning application, please find attached *3 sets of revised drainage impact assessment* for consideration by the Director of Drainage Services or of the TPB, with a view to discharging approval conditions (o).

Thank you for your kind attention and should you have any queries, please do not hesitate to contact our Miss Isa YUEN or Mr. Thomas LUK at 3180 7811.

Yours sincerely,
For and on behalf of
Aikon Development Consultancy Limited

Encl.
c.c. Client

Address 地址：
香港葵涌興芳路 223 號新都會廣場 2 期 13 樓 1310 室
Unit 1310, Level 13, Tower 2 Metroplaza,
223 Hing Fong Road, Kwai Chung, New Territories, Hong Kong

Responses-to-Comments

Item	Departmental Comments	Applicant's Responses
1. Comments from Drainage Service Department (received on 20 April 2022 via Planning Department)		
1	Table 3.3 – catchment areas are missing.	Table 3.3 has been updated.
2	Section 3.6 – for the proposed stormwater tank, design of water intake and discharge mechanism should be further detailed in order to achieve the expected hydraulic function.	Section 3.6 has been revised. An indicative schematic diagrams for aboveground and underground stormwater storage tank with water intake and discharge mechanism are provided in Appendix B.
3	Section 3.6.12 – details of the decking of the existing watercourse should be provided. The applicant should be clarify whether the future formation level of the site is formed by earth filling or by elevate structural platform.	The existing watercourse (about 1.5 m (W) x 0.9 m (D)) running in a northeast to southwest direction in the middle of the Site will be maintained and not encroached. The Application Site will be partly decked over (about 33.6% of the Site) and partly filled with a range from 0.5 m to 1.5 m in depth (about 28.3% of the Site) to facilitate the proposed development to be constructed on an elevated platform at similar site levels ranging from + 6.0 to + 6.9 mPD. There would be a 1.2m vertical gap between the proposed ground level and the structures (excluding an aboveground stormwater storage tank underneath Block 1) to allow clearing or maintenance of existing watercourse. Details of the proposal could refer to the enclosed Rural and New Town Planning Committee Paper - Planning Application No.

		A/NE-FTA/201. An indicative drawing is provided in Annex 1.
4	Section 3.6.13 – the applicant should check and ensure that the existing watercourse at the downstream of Lo Wu Station Road to which the proposed connection will be made adequate capacity and satisfactory condition to cater for the additional discharge from the captioned site. The applicant should also ensure that the flow from the site will not overload the existing drainage system.	Noted. The proposed drainage network has been checked as presented in Appendix D. There will be adequate capacity to accommodate the additional discharge from the Site. No adverse impact on the existing drainage system is anticipated.
5	Figure 3.1 – the applicant should review that Catchment A should be extended to further upstream.	Catchment A has been revised.
6	Figure 3.2 – the applicant is advised the following general requirements in the drainage proposal: (i) surface channel with grating covers should be provided along the site	(i) Grating covers will be provided.

		boundary;		
	(ii)	a drainage plan should be provided clearly showing the size, levels and routes of the proposed drainage. The details (invert level, gradient, general section etc.) of the proposed drain/ surface channel, catchpits and the discharge structure shall be provided;	(ii)	The proposed drainage layout is provided in Figure 3.2. Details of the proposed channel including the size, levels, gradient are presented in Appendix D. General section of the u-channel is presented in Appendix C.
	(iii)	the cover level of proposed channels should be flush with existing adjoining ground level;	(iii)	Noted.
	(iv)	a catchpit with covers should be provided where there is a change of direction of the channel/drain. The details of the catchpit with covers shall be provided;	(iv)	Noted. Catchpit with covers will be provided where there is change of direction. Typical detail of the catchpit with cover is provided in Appendix C.
	(v)	catchpits with sand trap shall be provided at the outlets of the proposed drainage	(v)	Noted. Catchpit with sand trap will be provided at the outlet of the proposed drainage. Typical detail of the catchpit with sand trap is

		system. The details of the catchpit with sand trap should be provided; and		provided in C.
	(vi)	the applicant is reminded that where walls are erected or kerbs are laid along the boundary of the same, peripheral channels should be provided on both sides of the walls or kerbs, and/or adequate openings should be provided at the walls/kerbs, to allow existing overland flow passing through the site to be intercepted by the drainage system of the site with details to be agreed by DSD, unless justified not necessary.	(vi)	Noted. The site boundary will be fenced with chaining fence. Noise barriers will be erected along a section of the Site boundary. Adequate opening will be provided as appropriate to allow existing overland flow passing through.

SMEC
Member of the Surbana Jurong Group

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D02 – Drainage Impact Assessment Report

Proposed Temporary Cold Storage for Poultry and Distribution Centre and Land Filling for Site Formation Works in “Agriculture” Zone for a Period of 3 Years at Various Lots in D.D. 89 and adjoining Government Land, Man Kam To Road, Sandy Ridge, NT

19 July 2022

SMEC INTERNAL REF. 7076840

Document Control

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Project Number:	7076840
Revision Number:	2

Revision History

REVISION NO.	DATE	PREPARED BY	REVIEWED BY	APPROVED FOR ISSUE BY
0	31 August 2021	Tommy KONG	Kitty LEE	Antony Wong
1	16 May 2022	Tommy KONG	Kitty LEE	Antony Wong
2	19 July 2022	Tommy KONG	Kitty LEE	Antony Wong

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Important Notice

This report is confidential and is provided solely for the purposes of supporting Proposed Temporary Cold Storage for Poultry and Distribution Centre and Land Filling for Site Formation Works in "Agriculture" Zone for a Period of 3 Years at Various Lots in D.D. 89 and adjoining Government Land, Man Kam To Road, Sandy Ridge, NT. This report is provided pursuant to a Consultancy Agreement between SMEC Asia Limited ("SMEC") and Hong Kong Chilled Meat & Poultry Association, under which SMEC undertook to perform specific and limited tasks for Hong Kong Chilled Meat & Poultry Association. This report is strictly limited to the matters stated in it and subject to the various assumptions, qualifications and limitations in it and does not apply by implication to other matters. SMEC makes no representation that the scope, assumptions, qualifications and exclusions set out in this report will be suitable or sufficient for other purposes nor that the content of the report covers all matters which you may regard as material for your purposes.

This report must be read as a whole. Any subsequent report must be read in conjunction with this report.

The report supersedes all previous draft or interim reports, whether written or presented orally, before the date of this report. This report has not and will not be updated for events or transactions occurring after the date of the report or any other matters that might have a material effect on its contents or which come to light after the date of the report. SMEC is not obliged to inform you of any such event, transaction or matter nor to update the report for anything that occurs, or of which SMEC becomes aware, after the date of this report.

Unless expressly agreed otherwise in writing, SMEC does not accept a duty of care or any other legal responsibility whatsoever in relation to this report, or any related enquiries, advice or other work, nor does SMEC make any representation in connection with this report, to any person other than Hong Kong Chilled Meat & Poultry Association. Any other person who receives a draft or a copy of this report (or any part of it) or discusses it (or any part of it) or any related matter with SMEC, does so on the basis that he or she acknowledges and accepts that he or she may not rely on this report nor on any related information or advice given by SMEC for any purpose whatsoever.

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1 PROJECT BACKGROUND

1.1 Introduction

1.1.1 Hong Kong Chilled Meat & Poultry Association ("HKCMA" or "the Applicant") plans to construct and operate a Temporary Cold Storage and Distribution Centre ("the Centre" or "the Proposed Development") for a period of three years at various lots in D.D.89 and adjoining Government Land, Man Kam To Road, Sandy Ridge in New Territories ("the Site").

1.1.2 HKCMA members are the chilled poultry importers who sell chilled poultry such as chickens, ducks, geese and squabs (unfledged pigeons), etc. With reference to the "Import Control and Food Safety Guidelines" published by the Centre for Food Safety of Food and Environmental Department ("FEHD"), "chilled" refers to "the pre-chilling process of food with subsequent storage at a temperature between 0°C and 4°C".

1.1.3 The absence of a proper cold storage and distribution centre has been a prolonged issue since the outbreak of Avian Influenza in 2003. In view of this, the Government has laid down instructions to slaughter live poultry to prevent the situation from worsening. Hence, the supply of live poultry was severely affected and led to an increased demand for chilled poultry in Hong Kong. Currently, there is a lack of central processing centre for HKCMA to handle the surging demand for chilled poultry.

1.1.4 The purpose of the Centre is for storage of chilled meat / poultry delivered from the Mainland to the Centre. Goods vehicles from the Mainland will stop at the Site and unload the chilled poultry. The chilled poultry will then be stored temporarily at the Site and delivered to different places in Hong Kong. No selling of poultry to individuals, retailers or wholesalers as well as no slaughtering or cleaning of chilled meat / poultry will be involved in the Centre. The Centre is of great importance since it will handle about 95% of the imported chilled poultry from the Mainland serving the Hong Kong.

1.1.5 The Site is currently zoned "Agriculture" (AGR) under the Approved Fu Tei Au and Sha Ling Outline Zoning Plan ("OZP") No. S/NE-FTA/16. In accordance with paragraph 10(a) of the Explanatory Note of the OZP, temporary use or development of any land or building not exceeding a period of three years would require planning permission from the Town Planning Board ("TPB"). Therefore, a Section 16 Planning Application with an application number A/NE-FTA/201 was made and approved with conditions on 28 May2021. One of the approval conditions is:

(o) The submission of a revised drainage impact assessment, as proposed by the applicant, within 6 months from the date of planning approval to the satisfaction of the Director of Drainage Services or of the TPB by 28.11.2021;

1.1.6 SMEC Asia Limited ("SMEC") has been commissioned by the Applicant to prepare this revised Drainage Impact Assessment ("DIA") Report to discharge the aforementioned Approval Condition (o).

1.2 Site Description

1.2.1 The Site is an elongated strip of land bounded by Man Kam To Road to the east and Lo Wu Station Road to the south with a total area of about 20,506m^2 in Sandy Ridge, which is close to the border between the Lo Wu Boundary Control Point ("BCP") and Man Kam To BCP in the North District. The Site is currently a vacant land overgrown with weeds and different tree groups. There is a watercourse cutting middle of the site running from the northeast to southeast direction, separating the Site into two halves.

1.2.2 The Site location and its environs are shown on ***Figure 1-1*** which the uses surrounding the Site include:

- To the north, northwest and west: dwellings and residential temporary structures, Sandy Ridge Cemetery and the planned Sandy Ridge Columbarium.
- To the east and southeast: The pipelines of the Dongjiang Water, Man Kam To Road, temporary structures, Boarder District Police Headquarter and Police Dog Unit and Force Search Unit Training School.
- To the south: Sha Ling Playground and Lo Wu Station Road.

1.3 Project Description

1.3.1 The Centre will be built upon a site area of about 20,506m^2 with a Gross Floor Area ("GFA") of about 12,736m^2 and a plot ratio of about 0.621, comprising the following major components:

- One two-storey building (Block 1) for cold storage area with a total GFA of about 6,701m^2 within the south portion of the Site.
- One two-storey building (Block 2) for cold storage area with a total GFA of about 5,850m^2 within the north portion of the Site.
- A transformer room with a total GFA of about 180m^2 within the southwestern portion of the Site.
- A guard house with a total GFA of about 6m^2 adjacent to the site ingress / egress at the southern boundary of the Site.
- A junction improvement works at the junction of the Man Kam To Road and Lo Wu Station Road.

1.3.2 The existing watercourse running through the Site from northeast to southwest direction will be decked over underneath the proposed development.

1.3.3 The indicative layout and sectional plans of the Proposed Development can be referred to the Planning Statement.

1.4 Objectives of this Report

1.4.1 The objectives of this DIA Report are to:

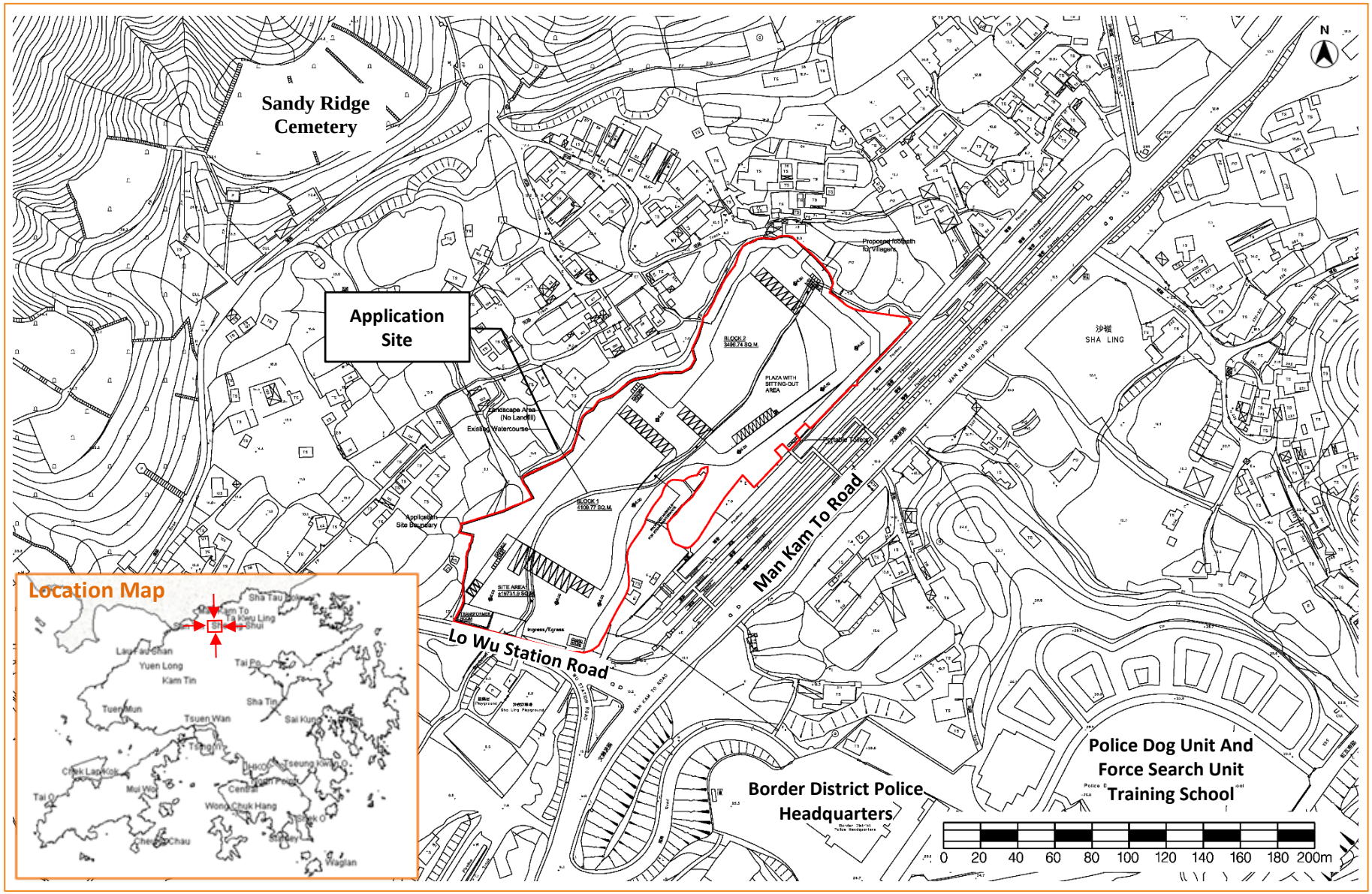
- Assess the potential drainage impacts arising from the Site.
- Recommend the necessary mitigation measures to alleviate any impacts.

1.5 Reference Materials

1.5.1 In evaluating the drainage impact arising from the Proposed Development, the following materials have been referred to:

- Drainage Services Department ("DSD") publication Stormwater Drainage Manual (with Eurocodes incorporated) – Planning, Design and Management (2018 Edition).
- DSD Advice Note No. 1 – Application of the Drainage Impact Assessment Process to Private Sector Projects.
- GeoInfo Map reviewed on 16 August 2021
- Slope Information System of CEDD on 16 August 2021

Figure 1-1: Site Location and its Environs



2 DESCRIPTION OF EXISTING ENVIRONMENT AND DRAINAGE CONDITIONS

2.1 Site Location and Topography

2.1.1 The area of the application site is about 20,506m^2 and is located at North District range from +4.5mPD to +8.0mPD.

2.1.2 As illustrated on ***Figure 1-1***, the Site is situated in Sandy Ridge that is an elongated strip land bounded by Man Kam To Road to the east and Lo Wu Station Road to the south. It is adjacent to the Sandy Ridge Cemetery that is bounded by Lo Wo Station Road and Shenzhen River.

2.1.3 Based on desktop study, there is an existing watercourse running from the surround of Sha Ling passing underneath the pipelines at Man Kam To Road and bisecting the whole site. It is connected to the existing box culvert at Lo Wo Station Road adjacent to the Sha Ling Playground which leads further downstream to connect to Ng Tung River.

2.2 Existing Baseline Conditions

2.2.1 According to the site inspection conducted on 17 August 2021, the Site is currently a vacant land overgrown with weeds and different tree groups. Moreover, several ditches/watercourses were observed inside the Site, which are connected to surrounding catchments.

2.2.2 There is continuous flow observed in the watercourse downstream of the box culvert, but relatively low level comparing to the height of the box-culvert.

2.2.3 During the site inspection, it was observed there is an on-going construction near the concrete batching plant that is upstream of the Site near the Sha Ling Road and the flow collected will eventually discharge into this box culvert.

3 DRAINAGE ANALYSIS

3.1 Assumptions and Methodology

3.1.1 Peak instantaneous runoff before and after the Proposed Development was calculated based on the Rational Method. The recommended physical parameters, including runoff coefficient (C) and storm constants for different return periods, are as per the *Stormwater Drainage Manual*.

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

$$\mathbf{Q_p = 0.278\ C\ i\ A} \qquad \textit{--- Equation 1}$$

where Q_p = peak runoff in m^3/s
C = runoff coefficient
i = rainfall intensity in mm/hr
A = catchment area in km^2

3.1.3 Rainfall intensity is calculated using the following expression:

$$\mathbf{i = \frac{a}{(t_d + b)^c}} \qquad \textit{--- Equation 2}$$

where i = rainfall intensity in mm/hr
t_d = duration in minutes ($t_d \leq 240$)
a, b, c = storm constants given in Table 3 of SDM

3.1.4 For a single catchment, duration (t_d) can be assumed equal to the time of concentration (t_c) which is calculated as follows:

$$\mathbf{t_c = t_0 + t_f} \qquad \textit{--- Equation 3}$$

where t_c = time of concentration
t_0 = inlet time (time taken for flow from the remotest point to reach the most upstream point of the urban drainage system)
t_f = flow time

3.1.5 Generally, t_0 is much larger than t_f. As shown in Equation 2, t_d is the divisor. Therefore, larger t_d will result in smaller rainfall intensity (i) as well as smaller Q_p. For the worst case scenario, t_f is assumed to be negligible and so:

$$\mathbf{t_d = t_c = t_0}$$

$$\mathbf{t_0 = \frac{0.14465\ L}{H^{0.2}\ A^{0.1}}} \qquad \textit{--- Equation 4}$$

where A = catchment area (m^2)
H = average slope (m per 100 m), measured along the line of natural flow, from the summit of the catchment to the point under consideration
L = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)

3.1.6 The capacities of the drainage pipes have been calculated using the Colebrook-White Equation, assuming full bore flow with no surcharge, as follows, the calculation of drainage flow capacity in accordance with the *Stormwater Drainage Manual*:

$$V = -\sqrt{32gRs} \times \log\left(\frac{k_s}{14.8R} + \frac{1.25\upsilon}{R\sqrt{32gRs}}\right) \qquad \textbf{--- Equation 5}$$

where
- V = mean velocity (m/s)
- g = gravitational acceleration (m/s^2)
- R = hydraulic radius (m)
- k_s = hydraulic pipeline roughness (m)
- υ = kinematic viscosity of fluid (m^2/s)
- s = hydraulic gradient (energy loss per unit length due to friction)

3.1.7 On the other hand, the capacity of open channel has been calculated using the Manning's Equation:

$$V = \frac{R^{1/6}}{n} \times \sqrt{Rs} \qquad \textbf{--- Equation 6}$$

where
- V = mean velocity (m/s)
- R = hydraulic radius (m)
- n = Manning coefficient (s/m$^{1/3}$)
- s = hydraulic gradient (energy loss per unit length due to friction)

3.2 Assessment Assumptions

Identification of Catchments

3.2.1 Based on desktop study and site observation, although the Site is adjacent to the Sandy Ridge Cemetery, majority of the surface runoff from the Sandy Ridge Cemetery mainly flows to Shen Zhen River and partially to Ng Tung River via separate drainage system that is along a road which leads the Lo Wu Station Road and eventually discharge into Ng Tung River, and therefore not included as upstream catchments of the Site.

3.2.2 Catchments A to D were identified to be the catchments to be most relevant for this Site based on the topographical data available on Slope Information System of CEDD and the surveys map obtained from Lands Department. The indicative catchment plan is shown on ***Figure 3-1*** and briefly described below:

- Catchments A: covered by natural slope and village houses/ temporary structure Sha Ling area.
- Catchment B: near the pipeline area that accommodate the fresh water mains alongside the Man Kam To Road
- Catchment C: composed of farmland/ grassland and village houses/ temporary structure comprises of Sub-Catchments C1 and C2 ("the Site").
- Catchment D: occupied by a concrete batching plant.

3.2.3 The surface runoff from Catchments A, B, C1, D will pass through the Site (Catchment C2) and collected into the watercourse that gather at the box culvert underneath Lo Wu Station Road that eventually conveyed to Ng Tung River. Details of the catchments are described in paragraphs below.

Surface Runoff from Catchments

3.2.4 As shown on ***Figure 3-1***, runoff from Catchment A will pass underneath Man Kam To Road and run into the Site underneath the superstructures and then further drain to the existing box culvert via the existing watercourse. As such, runoff arising from Catchment A should be taken into account in this DIA. The runoff from Catchment A was estimated by Rational Method.

3.2.5 Runoff from Catchment B will flow along the pipeline area and collected into a U-channel that eventually leads to the existing box culvert downstream.

3.2.6 According to the topographical data, the runoff from Catchments C1 would flow toward the stream that is along the north of site boundary. The flow will pass through the Site connecting the existing watercourse and eventually discharge to downstream via the box culvert.

3.2.7 Runoff from Catchment D will flow towards the Sha Ling Road and collected into the existing watercourse, therefore it will be taken into account in this DIA.

3.2.8 The calculation methods of corresponding catchments are summarised in ***Table 3.1*** and the photos of relevant watercourse and watercourse will be shown on ***Figure 3-1***.

Table 3.1: Method for Estimating the Surface Runoff from Surrounding Catchments

Catchment	Estimating Method for Surface Runoff
Catchment A	Rational Method
Catchment B	Rational Method
Catchment C	Rational Method
Catchment D	Rational Method

3.2.9 As the runoff from Catchments A, B, C1, and D were calculated by Rational Method, information of the catchment area and runoff coefficients are necessary.

Site Surface Characteristics and Runoff Coefficient of the Site

3.2.10 The Site is located in Catchment C2. An elevated platform will be constructed above the ground of the Site and the Site including its facilities will mainly be on the platform.

3.2.11 The Site is currently a vacant land overgrown with weeds and different tree groups. As such, for conservative approach, it is assumed that the Site is currently 99% grassland and 1% concrete paved area.

3.2.12 For the Proposed Development, at least 30% site coverage of greenery will be provided in order to maintain the ratio of unpaved area. Therefore, it was assumed that the paving condition of the Proposed Development will comprise approximately 30% soft landscape and 70% paved area.

3.2.13 The Site is relatively flat, with reference to the DSD's Stormwater Drainage Manual, the runoff coefficients of paved surface and grassland at existing site are 0.95 and 0.25, respectively. As a result, the respective average runoff coefficients of 0.26 and 0.74 were adopted for the Site before and after the Proposed Development, respectively, as summarised in ***Table 3.2***.

Table 3.2: Surface Characteristics and Runoff Coefficients of the Site

SCENARIO OF PROJECT	AREA	SURFACE CHARACTERISTICS	RUNOFF COEFFICIENT
Before Development	20,506m^2	1%paved+99% grassland	0.26

SCENARIO OF PROJECT	AREA	SURFACE CHARACTERISTICS	RUNOFF COEFFICIENT
After Development		70% paved + 30% soft landscape	0.74

Site Surface Characteristics and Runoff Coefficient of Surrounding Catchments

3.2.14 Areas of farmland, grassland and natural slope are assumed to be soft landscape, while the remaining areas of village houses, temporary structure and fresh water mains are assumed to be paved area. The paving conditions are summarised in ***Table 3.3***.

3.2.15 With reference to the Stormwater Drainage Manual, the runoff coefficients for Catchments A are assumed are 0.95 for paved surface and 0.35 for soft landscape, respectively. On the other hand, as Catchments B, C1 and D are relatively flat, the runoff coefficients of paved surface and soft landscape are 0.95 and 0.25, respectively. The runoff coefficients of related catchments are summarised in ***Table 3.3***.

Table 3.3: Surface Characteristics and Runoff Coefficients of Surrounding Catchments

CATCHMENT	AREA, m^2	SURFACE CHARACTERISTICS	OVERALL RUNOFF COEFFICIENT
Catchment A	63,483	59% paved + 41% soft landscape	0.63
Catchment B	11,345	100% paved	0.95
Catchment C1	87,892	23% paved + 77% soft landscape	0.41
Catchment D	9,212	100% paved	0.95

3.3 Estimated Existing and Future Runoff

Peak Runoff from the Site

3.3.1 Based on the assumption as described in ***paragraphs 3.2.1*** to ***3.2.13***, the runoff from the Site (Catchment C2) before and after development was estimated based on the return periods of 2, 10 and 50 years.

3.3.2 As shown in ***Table 3.4***, the estimated peak runoff generated from the Site before development is $0.33m^3/s$ and after development is $0.896m^3/s$ under 50 years return period. There will be around 170% of change in the estimated peak runoff after the proposed development under all assessed return periods. Detailed calculations are provided in ***Appendix A***.

Table 3.4: Estimated Peak Runoff of the Site (Catchment C2)

RETURN PERIOD	ESTIMATED PEAK RUNOFF (m^3/s)		
	BEFORE DEVELOPMENT	AFTER DEVELOPMENT	INCREMENT
2 Years	0.198	0.581	170%
10 Years	0.276	0.752	170%
50 Years	0.332	0.896	170%

3.4 Peak Runoff from Other Sub-Catchment

3.4.1 The runoff generated from other surrounding sub-catchments has been evaluated and are summarised at ***Table 3.5***. Detailed calculations are provided in ***Appendix A***.

Table 3.5: Estimated Runoff from Other Catchments

RETURN PERIOD	ESTIMATED PEAK RUNOFF FROM SUB-CATCHMENTS (m^3/s)				
	CATCHMENT				
	A	B	C1	D	SUB – TOTAL
2 Years	1.211	0.368	1.415	0.359	3.35
10 Years	1.588	0.475	1.788	0.451	4.30
50 Years	1.891	0.567	2.141	0.541	5.14

3.5 Total Peak Runoff

3.5.1 Under 50 years return period, the estimated peak runoff generated from the surround sub-catchments A, B, C1 and D is 5.14m^3/s; and the estimated total peak runoff from Catchment A, B, C1, C2 and D from upstream to the box culvert downstream is approximately 6 m^3/s. However, it should be noted to avoid adverse impact to the downstream box culvert due to the additional flow from C2, it is proposed to include a stormwater storage tank on-site for collecting stormwater generated from C2. Details are discussed in ***Section 3.6***.

3.6 Proposed Drainage Layout

On-site Storage Facility

3.6.1 It is understood that the drainage facilities at the downstream might not be capable of receiving additional flow from the Site. In order to avoid additional drainage impact on the municipal drainage system, an on-site underground stormwater storage tank is proposed to store the additional runoff due to the Site.

3.6.2 Underground storage tank is more favourable for hydraulic flow and flow can be directly collected into the storage tank by gravity. The flow from the Site will be collected by the periphery U-channel drainage network and conveyed to the underground storage tank by gravity. Level sensors will be installed to trigger the pump start/stop and activate the valve to open/ close so that the water in the storage tank can be discharged under a controlled manner. The indicative cross-section of storage tank and with water intake and discharge mechanism is provided in ***Appendix B***.

3.6.3 The stored stormwater will either be reused on-site as much as practicable (e.g. floor mopping, toilet flush, etc.) or transported to the nearby active farmlands for irrigation (i.e. the farmland to the southwest of the Site).

3.6.4 In case of power failure, emergency generator will be used as the power supplier of the pump. Regular maintenance of the equipment will be carried out, spare pump will be used to maintain the operation when there is equipment failure.

On-site Storage Tank Sizing

3.6.5 Since Rational Method is not based on a total storm duration, but rather a period of rain that produces the peak runoff rate. The method cannot compute the runoff volumes unless the total storm duration is assumed. Therefore, 4 hours storm duration is proposed to be used as to design the size of on-site storage tank. This duration is sufficient to cover the effective life of many rainstorms (Royal Observatory, 1981). With reference to the IDF relationship of North District Area stated in Table 2d of the Stormwater Drainage Manual (DSD, 2018), the rainfall intensity of 54.9mm/h was adopted, which is based on 4 hours rainfall duration for 50 years return period.

3.6.6 The runoff coefficients of 0.26 and 0.74, as mentioned in ***paragraph 3.2.15*** were adopted for the Site before and after the proposed development, respectively.

3.6.7 The sizing of stormwater storage Tank is summarised and calculated in ***Table 3.6***.

Table 3.6: Estimated stormwater storage tank size

SCENARIO UNDER 50 YEARS RETURN PERIOD	Area, m^2	Runoff Coefficient	Rainfall Intensity, mm/hr	Peak Runoff Rate, m^3/s	Duration, hours	Estimated Runoff Volume, m^3
Before Development	20,506	0.26	54.9	0.080	4	1,158
After Development		0.74		0.232	4	3,335
					Incremental Runoff	**2,177**

3.6.8 As shown in ***Table 3.6***, the incremental runoff volume is 2,177 m^3 under 50 years return period. Thus, the designed storage capacity should be at least 2,177 m^3. The tentative location of the storage tank is under the Cold Storage Block 1 as shown on ***Figure 3-2***.

3.6.9 The tank volume of 2400m^3 with dimensions of approximately 80m(L) x 30(W) x 1(m) is proposed to be provided. it will be sufficient to meet the storage volume required. Proposed Arrangement for Stormwater Collection

3.6.10 Two peripheral U- channels with grating covers are proposed to be running at the perimeter of the Site. The U shape channels will be in a combination of size ranging from Ø450-600mm at an average gradient 1 in 250 to collect the runoff from the Site. Each of the two peripheral U- channels will eventually connect to catchpit pit that can connect to the storage tank mentioned in *paragraph 3.6.8*. Catchpit with sand trap and cover will also be provided on-site to minimise sand/silt go into the drainage system. The indicative location and path of proposed parameter drain was shown on ***Figure 3-2***. The typical drawing of the U-Channel and catchpit with sand trap and cover is provided in ***Appendix C***

3.6.11 During low intensity rainfall, flow will be collected to the peripheral U-channel and continue to flow to discharge at a flow rate no more than 0.332m^3/s to downstream box culvert. During heavy rainfall, flow will be collected to the peripheral U-channel, flow will continue to run along the U-channel; whilst part of the flow will adopt another arrangement at the catchpits CP5, CP9, CP12 and CP14 where partial stormwater will bypass the proposed U-channel and overflow into the tank. Thus, the additional runoff flow from the Site and nearby related catchments will be stored in the on-site storage tank and will not flow to downstream during heavy rainstorm. Hence, there is no additional flooding risk caused by the Proposed Development.

3.6.12 An indicative drawing of the catchpit with sandtrap design is provided in ***Appendix C***. The typical design of the peripheral U- Channel is presented in **Table 3.7.** Detailed calculations for impact assessment of proposed drainage channels and the design of on-site storage tank are provided in ***Appendix D.***

Table 3.7: Drainage Capacity of Proposed Peripheral Channels

Description	Size, mm	Related Catchment	Runoff, m^3/s	Capacity, m^3/s	% of Capacity Used	Sufficient Capacity?
U- Channel from Start 1 to MH9	Ø 450-600	Catchment C2(the Site)	0.14-0.30	0.18-0.40	57-73%	YES
U- Channel from Start 2 to MH14	Ø450-600	Catchment C2(the Site)	0.11-0.31	0.18-0.40	40-78%	YES

Description	Size, mm	Related Catchment	Runoff, m^3/s	Capacity, m^3/s	% of Capacity Used	Sufficient Capacity?
Pipe from CP5 to Tank	Ø 500	Catchment C2(the Site)	0.15	0.32	46%	YES
Pipe from CP9 to Tank	Ø 500	Catchment C2(the Site)	0.14	0.32	43%	YES
Pipe from CP12 to Tank	Ø 500	Catchment C2(the Site)	0.15	0.32	46%	YES
Pipe from CP14 to Tank	Ø 500	Catchment C2(the Site)	0.13	0.32	39%	YES

Maintenance of Existing Watercourse

3.6.13 The existing watercourse passing through the Site is proposed to be decked over to minimise disturbance to it. To support regular maintenance, manholes for watercourse are proposed to be installed along the existing watercourse with an interval of 60m in which the indicative location of maintenance manholes can be referred to ***Figure 3-2***.

Drainage Point

3.6.14 The runoff from the surrounding catchments run into the existing stream which located underneath the proposed platform inside the Site as before the proposed development. The collected runoff from the existing watercourse would be diverted to southwest of the Site and discharged to downstream through a box culvert with 5000mm (W) x 1550mm (H) with 1% fall laid under the Lo Wo Station Road, as shown on ***Figure 3-2*** and the detail drawing of the box culvert underneath Lo Wu Station is shown on ***Appendix E***.

Figure 3-1: Identification of Surrounding Catchments

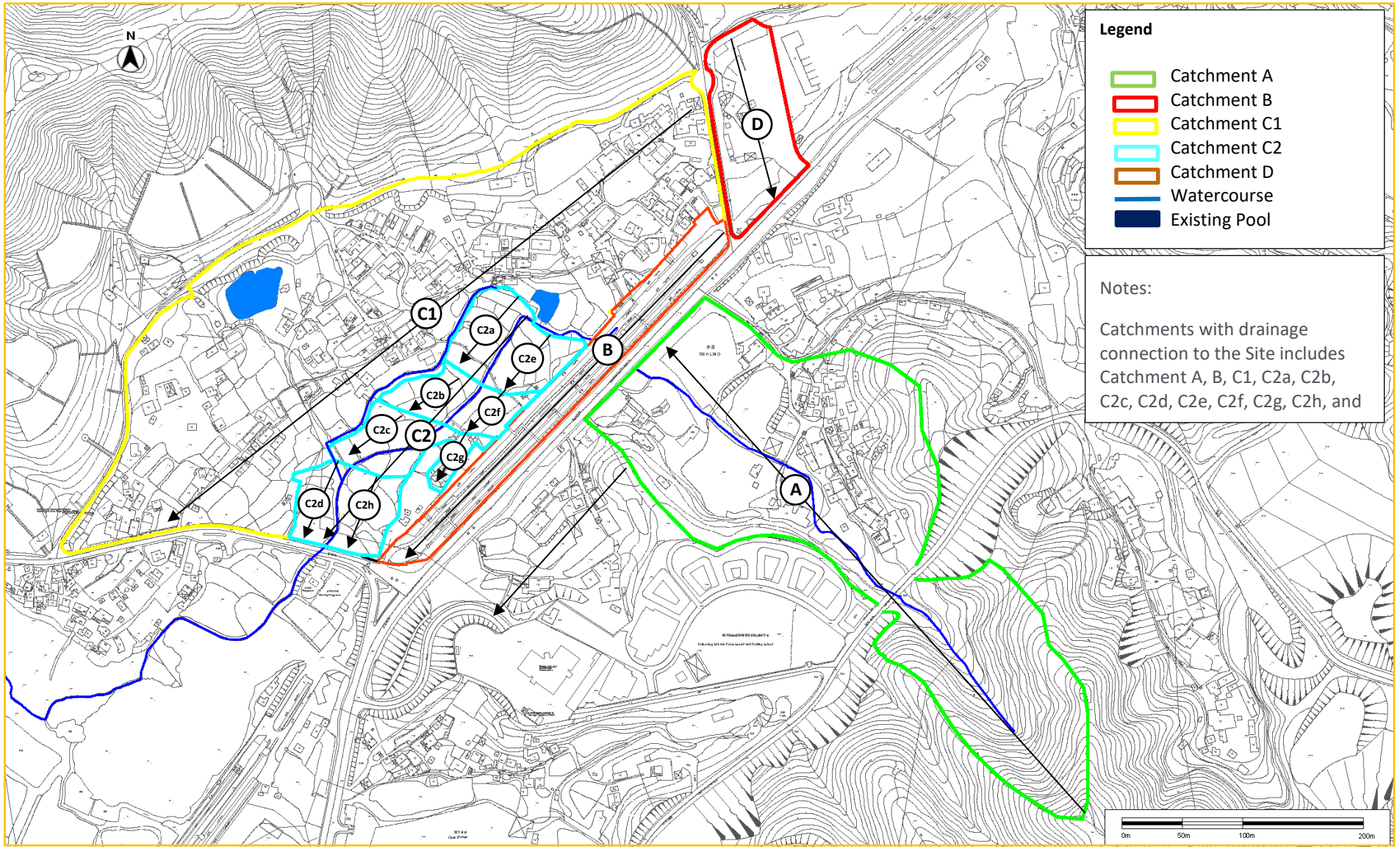
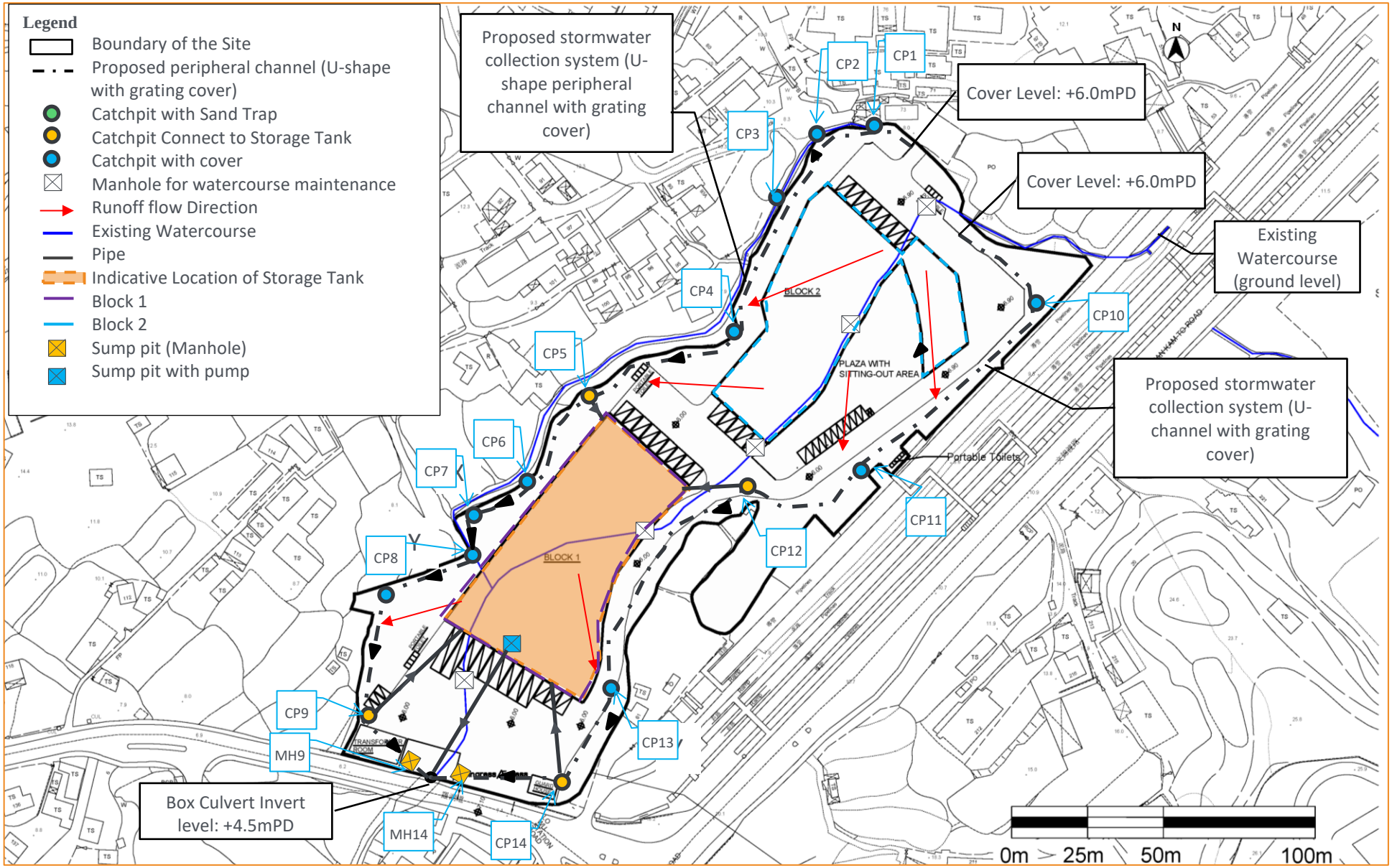


Figure 3-2: Indicative Proposed Drainage Layout



4 CONCLUSION

4.1.1 Potential drainage impacts that may arise from the Site after construction of the Proposed Development have been assessed.

4.1.2 The peak runoff before and after the development of the Site were estimated using Rational Method and based on the catchment surface characteristics for the existing environment and the Proposed Development. The paving area of the Site will increase to 70%, additional surface runoff will be generated from the site. The estimated peak runoff generated from the Site and the surrounding catchments are 0.896m^3/s and 5.14^3/s under 50 years return period, and the total estimated peak flow from the Site and surrounding catchments to the box culvert downstream is about 6m^3/s.

4.1.3 U-shape peripheral channels has been proposed to be installed at the boundary of the Site to collect surface runoff from the Site (Catchment C2). The U- channel of size 450-600 mm dia. has been proposed. Based on the calculation, the utilisation rate of the capacity is about 42-73% under the 50 years return period, which shows there is sufficient capacity to accommodate flow from the Site.

4.1.4 The incremental runoff before and after the development were estimated using the rainfall duration of 4 hours based on a return period of 50 years. Regarding to the additional runoff, on-site storage tank was proposed. The capacity of storage tank should not be less than 2,177m^3 to prevent generating additional runoff to the downstream. As a result, no adverse drainage impact to the existing drainage system is anticipated after the development of the Site, subject to the following condition:

(a) At least 30% of the Site area shall be soft landscape.

4.1.5 This DIA Report indicates the initial findings regarding drainage impact and indicative drainage layout. A qualified engineer should be engaged by the Architect/Contractor of the Proposed Development to review and provide detailed designs for the internal Site drainage layout, including the water storage tank. A “Drainage Proposal” including detailed designs based on calculations and quantitative assessments, as well as hydraulic model if necessary, shall be prepared by the qualified engineer and submitted to the drainage Authority, EPD and DSD, for their review and approval prior to the commencement of work. The Applicant shall obtain the consent from the owner of the existing watercourse for discharging of storm water prior to commencement of the proposed works. All the relevant government departments shall also be consulted with when necessary.

Appendix A RUNOFF CALCULATIONS

Calculation of Runoff for Return Period of 2 Years

Catchment ID	Catchment Area (A), km^2	Average slope (H), m/100m	Flow path length (L), m	Inlet time (t_0), min	Duration (t_d), min	Storm Constants			Runoff intensity (i), mm/hr	Runoff coefficient (C)	C x A	Peak runoff (Q_p), m^3/s
						a	b	c				
Before the Proposed Development												
Catchment A	0.063483	16.29	526.24	14.42	14.42	1004.5	17.24	0.644	108.55	0.63	0.0401	1.211
Catchment B	0.011345	1.28	164.20	8.89	8.89	1004.5	17.24	0.644	122.84	0.95	0.0108	0.368
Catchment C1	0.087892	3.94	110.00	3.88	3.88	1004.5	17.24	0.644	140.90	0.41	0.0361	1.415
Catchment C2	0.020506	1.19	110.00	5.69	5.69	1004.5	17.24	0.644	133.61	0.26	0.0053	0.196
Catchment D	0.009212	4.98	58.00	2.44	2.44	1004.5	17.24	0.644	147.42	0.95	0.0088	0.359
											Total (General Scenario)	**3.549**
After the Proposed Development												
Catchment A	0.0635	16.29	526.2	14.42	14.42	1004.5	17.24	0.644	108.55	0.63	0.0401	1.211
Catchment B	0.0113	1.28	164.20	8.89	8.89	1004.5	17.24	0.644	122.84	0.95	0.0108	0.368
Catchment C1	0.087892	3.94	110.00	3.88	3.88	1004.5	17.24	0.644	140.90	0.41	0.0360	1.412
Catchment C2a	0.00306	0.01	23.0	3.75	3.75	1004.5	17.24	0.644	141.46	0.74	0.0023	0.089
Catchment C2b	0.00309	0.01	11.8	1.92	1.92	1004.5	17.24	0.644	150.00	0.74	0.0023	0.095
Catchment C2c	0.00231	0.01	31.9	5.34	5.34	1004.5	17.24	0.644	134.93	0.74	0.0017	0.064
Catchment C2d	0.00182	0.01	31.9	5.47	5.47	1004.5	17.24	0.644	134.44	0.74	0.0013	0.050
Catchment C2e	0.00252	0.01	31.9	5.30	5.30	1004.5	17.24	0.644	135.12	0.74	0.0019	0.070
Catchment C2f	0.00221	0.01	31.9	5.37	5.37	1004.5	17.24	0.644	134.84	0.74	0.0016	0.061
Catchment C2g	0.00234	0.01	31.9	5.34	5.34	1004.5	17.24	0.644	134.96	0.74	0.0017	0.065
Catchment C2h	0.00316	0.01	34.5	5.60	5.60	1004.5	17.24	0.644	133.95	0.74	0.0023	0.087
Catchment D	0.0092	4.98	58.00	2.44	2.44	1004.5	17.24	0.644	147.42	0.95	0.0088	0.359
											Total (General Scenario)	**3.931**

Note:

1) Runoff is calculated in accordance with DSD's "*Stormwater Drainage Manual (with Eurocodes incorporated) - Planning, Design and Managemen* t" (SDM), fifth edition, January 2018.

Calculation of Runoff for Return Period of 10 Years

Catchment ID	Catchment Area (A), km^2	Average slope (H), m/100m	Flow path length (L), m	Inlet time (t_0), min	Duration (t_d), min	Storm Constants			Runoff intensity (i) mm/hr	Runoff coefficient (C)	C x A	Peak runoff (Q_p), m^3/s
						a	b	c				
Before the Proposed Development												
Catchment A	0.063483	16.29	526.24	14.42	14.42	1157.7	19.04	0.597	142.39	0.63	0.0401	1.588
Catchment B	0.011345	1.28	164.20	8.89	8.89	1157.7	19.04	0.597	158.60	0.95	0.0108	0.475
Catchment C1	0.087892	3.94	110.00	3.88	3.88	1157.7	19.04	0.597	178.49	0.41	0.0360	1.788
Catchment C2	0.020506	4.98	58.00	2.25	2.25	1157.7	19.04	0.597	186.47	0.26	0.0053	0.276
Catchment D	0.009212	4.98	58.00	2.44	2.44	1157.7	19.04	0.597	185.50	0.95	0.0088	0.451
											Total (General Scenario)	**4.578**
After the Proposed Development												
Catchment A	0.0635	16.29	526.2	14.42	14.42	1157.7	19.04	0.597	142.39	0.63	0.0401	1.588
Catchment B	0.0113	1.28	164.2	8.89	8.89	1157.7	19.04	0.597	158.60	0.95	0.0108	0.475
Catchment C1	0.087892	3.94	110.00	3.88	3.88	1157.7	19.04	0.597	178.49	0.41	0.0360	1.788
Catchment C2a	0.00306	0.01	23.0	3.75	3.75	1157.7	19.04	0.597	179.09	0.74	0.0023	0.113
Catchment C2b	0.00309	0.01	11.8	1.92	1.92	1157.7	19.04	0.597	188.25	0.74	0.0023	0.120
Catchment C2c	0.00231	0.01	31.9	5.34	5.34	1157.7	19.04	0.597	171.99	0.74	0.0017	0.082
Catchment C2d	0.00182	0.01	31.9	5.47	5.47	1157.7	19.04	0.597	171.45	0.74	0.0013	0.064
Catchment C2e	0.00252	0.01	31.9	5.30	5.30	1157.7	19.04	0.597	172.19	0.74	0.0019	0.089
Catchment C2f	0.00221	0.01	23.0	3.87	3.87	1157.7	19.04	0.597	178.51	0.74	0.0016	0.081
Catchment C2g	0.00234	0.01	11.8	1.97	1.97	1157.7	19.04	0.597	187.96	0.74	0.0017	0.091
Catchment C2h	0.00316	0.01	31.9	5.18	5.18	1157.7	19.04	0.597	172.69	0.74	0.0023	0.112
Catchment D	0.0092	4.98	58.00	2.44	2.44	1004.5	17.24	0.644	147.42	0.95	0.0088	0.359
											Total (General Scenario)	**4.962**

Note:
1) Runoff is calculated in accordance with DSD's "*Stormwater Drainage Manual (with Eurocodes incorporated) - Planning, Design and Managemen* t" (SDM), fifth edition, January 2018.

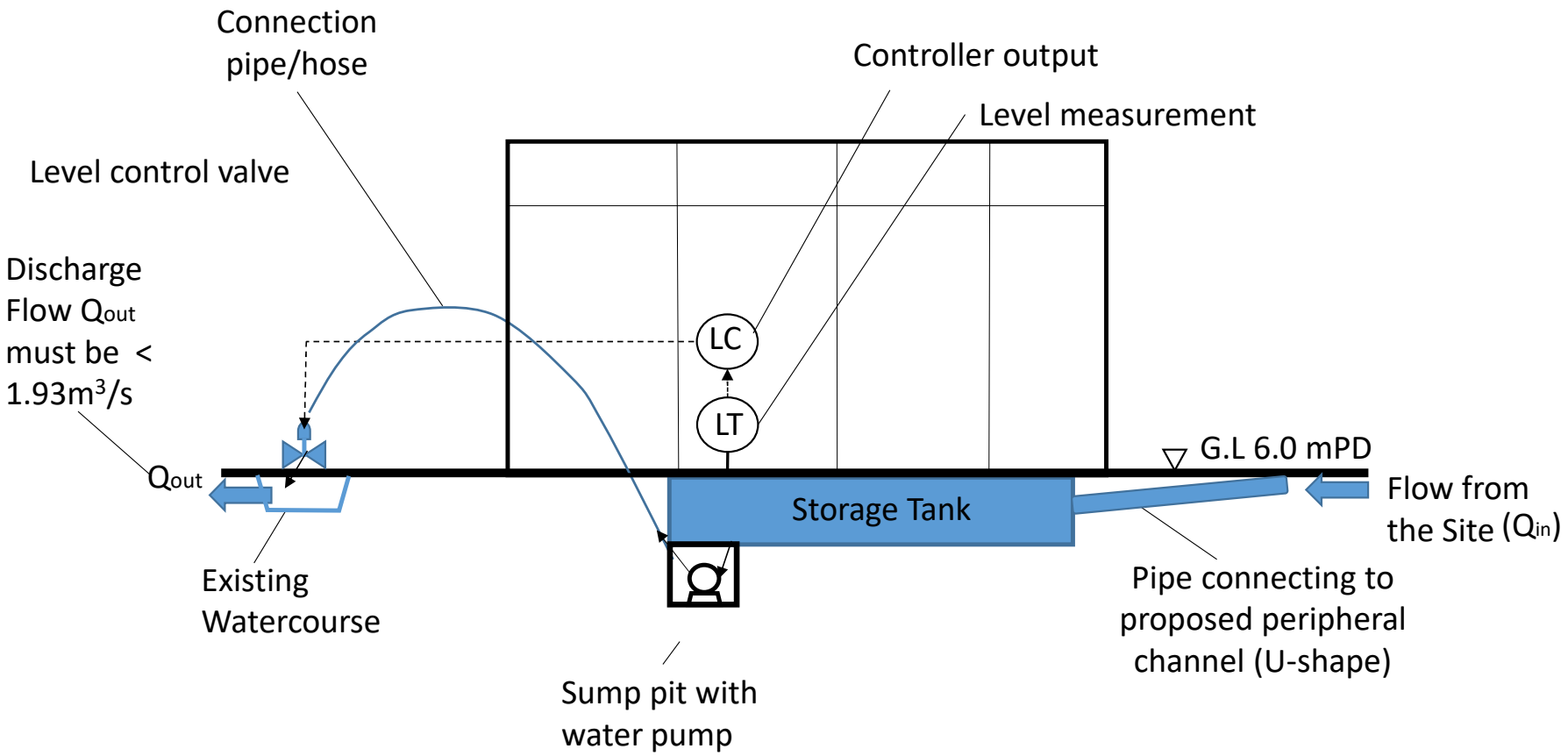
Calculation of Runoff for Return Period of 50 Years

Catchment ID	Catchment Area (A), km^2	Average slope (H), m/100m	Flow path length (L), m	Inlet time (t_0), min	Duration (t_d), min	Storm Constants			Runoff intensity (i) mm/hr	Runoff coefficient (C)	C x A	Peak runoff (Q_p), m^3/s
						a	b	c				
Before the Proposed Development												
Catchment A	0.063483	16.29	526.24	14.42	14.42	1167.6	16.76	0.561	169.53	0.63	0.0401	1.891
Catchment B	0.011345	1.28	164.20	8.89	8.89	1167.6	16.76	0.561	189.15	0.95	0.0108	0.567
Catchment C1	0.087892	3.94	110.00	3.88	3.88	1167.6	16.76	0.561	213.70	0.41	0.0360	2.141
Catchment C2	0.020506	4.98	58.00	2.25	2.25	1167.6	16.76	0.561	223.73	0.26	0.0053	0.332
Catchment D	0.009212	4.98	58.00	2.44	2.44	1167.6	16.76	0.561	222.50	0.95	0.0088	0.541
											Total (General Scenario)	**5.472**
After the Proposed Development												
Catchment A	0.0635	16.29	526.2	14.42	14.42	1167.6	16.76	0.561	169.53	0.63	0.0401	1.891
Catchment B	0.0113	1.28	164.2	8.89	8.89	1167.6	16.76	0.561	189.15	0.95	0.0108	0.567
Catchment C1	0.087892	3.94	110.00	3.88	3.88	1167.6	16.76	0.561	213.70	0.41	0.0360	2.141
Catchment C2a	0.00306	0.01	23.0	3.75	3.75	1167.6	16.76	0.561	214.46	0.74	0.0023	0.135
Catchment C2b	0.00309	0.01	11.8	1.92	1.92	1167.6	16.76	0.561	225.97	0.74	0.0023	0.144
Catchment C2c	0.00231	0.01	31.9	5.34	5.34	1167.6	16.76	0.561	205.61	0.74	0.0017	0.098
Catchment C2d	0.00182	0.01	31.9	5.47	5.47	1167.6	16.76	0.561	204.94	0.74	0.0013	0.077
Catchment C2e	0.00252	0.01	31.9	5.30	5.30	1167.6	16.76	0.561	205.87	0.74	0.0019	0.107
Catchment C2f	0.00221	0.01	11.8	2.02	2.02	1167.6	16.76	0.561	225.27	0.74	0.0016	0.102
Catchment C2g	0.00234	0.01	31.9	5.30	5.30	1167.6	16.76	0.561	205.87	0.74	0.0017	0.099
Catchment C2h	0.00316	0.01	31.9	5.18	5.18	1167.6	16.76	0.561	206.48	0.74	0.0023	0.134
Catchment D	0.0092	4.98	58.0	2.44	2.44	1167.6	16.76	0.561	222.50	0.95	0.0088	0.541
											Total (General Scenario)	**6.036**

Note:
1) Runoff is calculated in accordance with DSD's "*Stormwater Drainage Manual (with Eurocodes incorporated) - Planning, Design and Managemen* t" (SDM), fifth edition, January 2018.

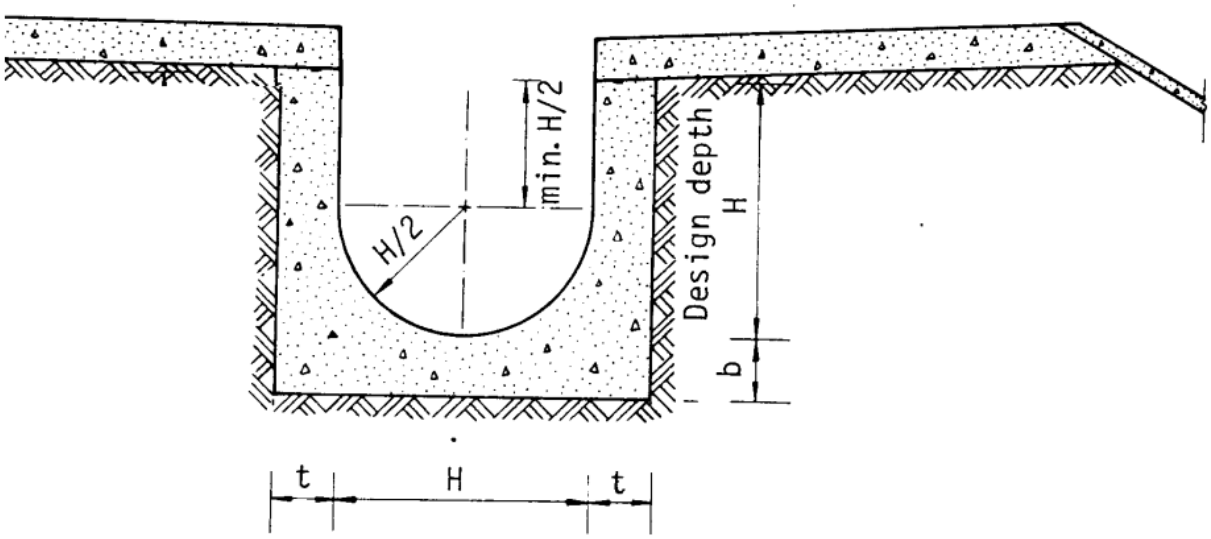
Appendix B INDICATIVE SCHEMATIC DIAGRAMS FOR STORAGE TANK

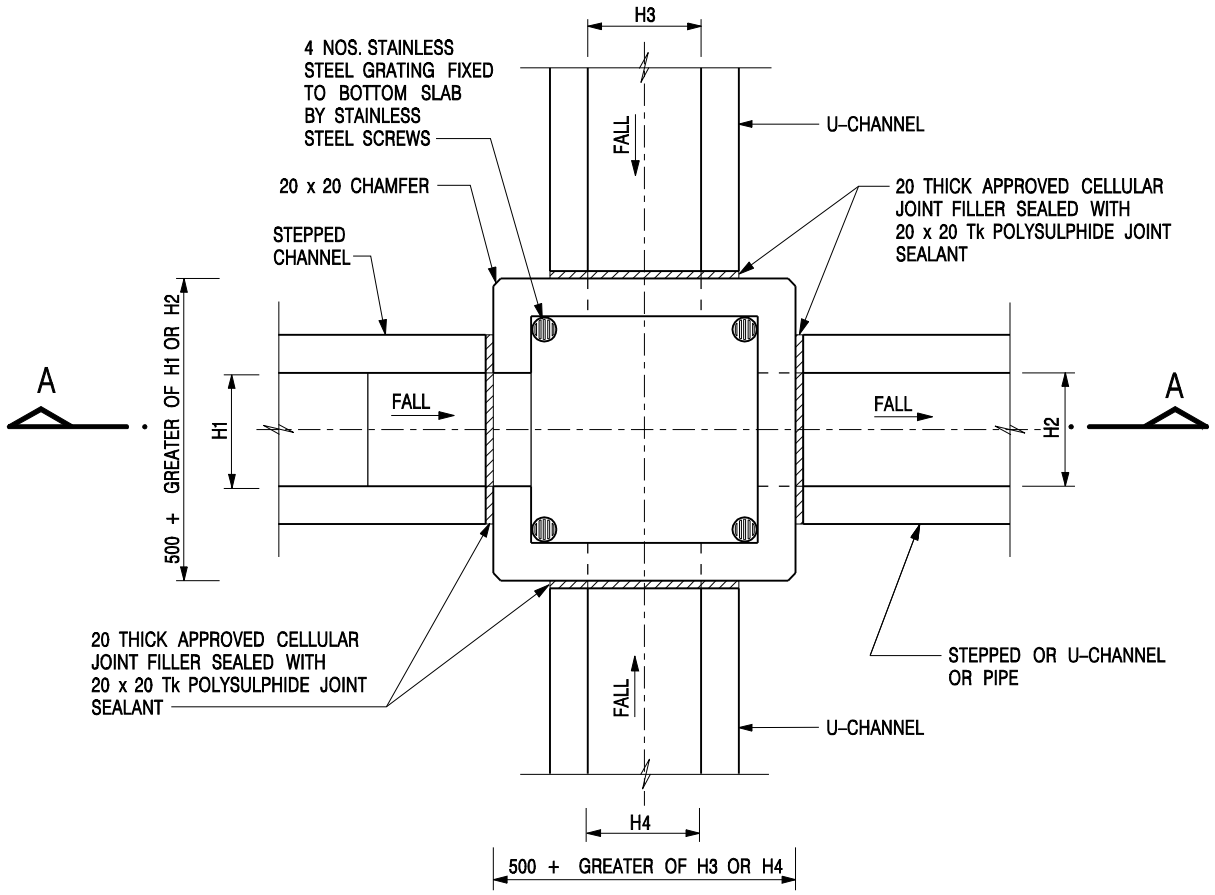
Water Intake and Discharge Mechanism with Storage Tank Underground



Appendix C DRAWINGS OF TYPICAL DETAILS OF U-CHANNEL AND CATCHPIT

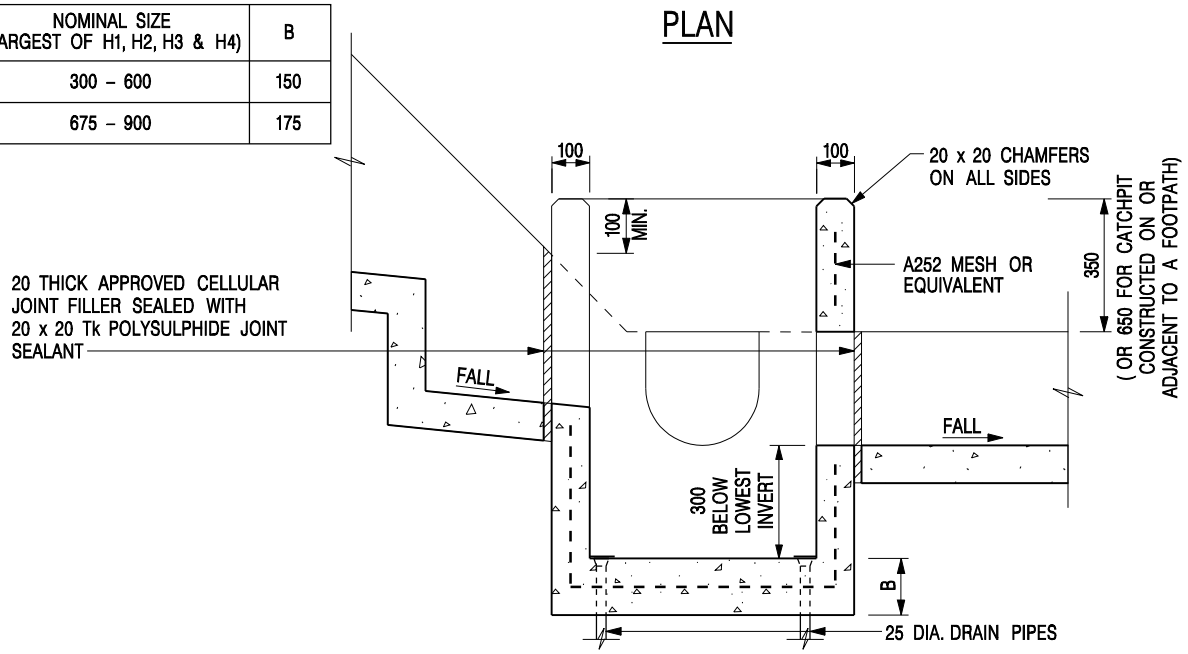
Typical Detail of the U-channel cross section





PLAN

NOMINAL SIZE (LARGEST OF H1, H2, H3 & H4)	B
300 – 600	150
675 – 900	175



SECTION A – A

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 2 FOR OTHER NOTES.

REF.	REVISION	SIGNATURE	DATE
–	FORMER DRG. NO. C2406J.	Original Signed	03.2015

CATCHPIT WITH TRAP

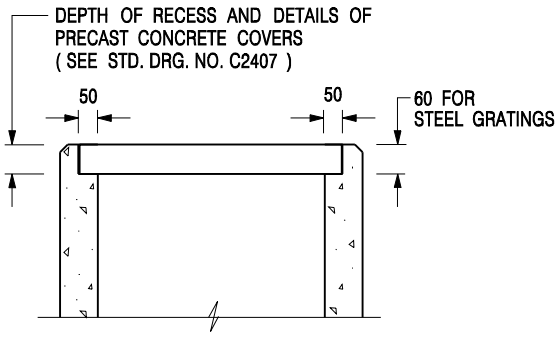
(SHEET 1 OF 2)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2406 /1



ALTERNATIVE TOP SECTION
FOR PRECAST CONCRETE COVERS / GRATINGS

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE SHALL BE GRADE 20 /20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2 OR F2 AS APPROPRIATE.
4. FOR DETAILS OF JOINT, REFER TO STD. DRG. NO. C2413.
5. CONCRETE TO BE COLOURED AS SPECIFIED.
6. UNLESS REQUESTED BY THE MAINTENANCE PARTY AND AS DIRECTED BY THE ENGINEER, CATCHPIT WITH TRAP IS NORMALLY NOT PREFERRED DUE TO PONDING PROBLEM.
7. UPON THE REQUEST FROM MAINTENANCE PARTY, DRAIN PIPES AT CATCHPIT BASE CAN BE USED BUT THIS IS FOR CATCHPITS LOCATED AT SLOPE TOE ONLY AND AS DIRECTED BY THE ENGINEER.
8. FOR CATCHPITS CONSTRUCTED ON OR ADJACENT TO A FOOTPATH, STEEL GRATINGS (SEE DETAIL 'A' ON STD. DRG. NO. C2405 /2) OR CONCRETE COVERS (SEE STD. DRG. NO. C2407) SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER.
9. IF INSTRUCTED BY THE ENGINEER, HANDRAILING (SEE DETAIL 'J' ON STD. DRG. NO. C2405 /5; EXCEPT ON THE UPSLOPE SIDE) IN LIEU OF STEEL GRATINGS OR CONCRETE COVERS CAN BE ACCEPTED AS AN ALTERNATIVE SAFETY MEASURE FOR CATCHPITS NOT ON A FOOTPATH NOR ADJACENT TO IT. TOP OF THE HANDRAILING SHALL BE 1 000 mm MIN. MEASURED FROM THE ADJACENT GROUND LEVEL.
10. MINIMUM INTERNAL CATCHPIT WIDTH SHALL BE 1 000 mm FOR CATCHPITS WITH A HEIGHT EXCEEDING 1 000 mm MEASURED FROM THE INVERT LEVEL TO THE ADJACENT GROUND LEVEL. AND, STEP IRONS (SEE DSD STD. DRG. NO. DS1043) AT 300 c/c STAGGERED SHALL BE PROVIDED. THICKNESS OF CATCHPIT WALL FOR INSTALLATION OF STEP IRONS SHALL BE INCREASED TO 150 mm.
11. FOR RETROFITTING AN EXISTING CATCHPIT WITH STEEL GRATING, SEE DETAIL 'G' ON STD. DRG. NO. C2405 /4.
12. SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

REF.	REVISION	SIGNATURE	DATE
A	MINOR AMENDMENT.	Original Signed	04.2016
–	FORMER DRG. NO. C2406J.	Original Signed	03.2015

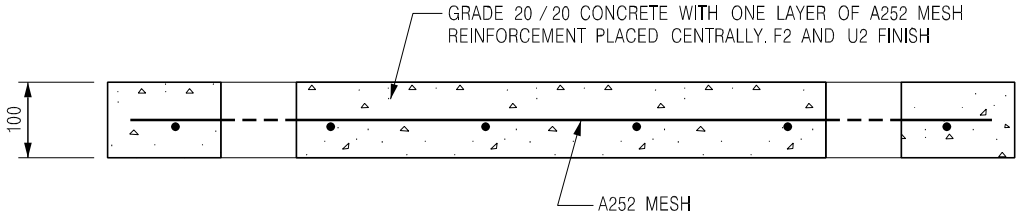
CATCHPIT WITH TRAP
(SHEET 2 OF 2)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

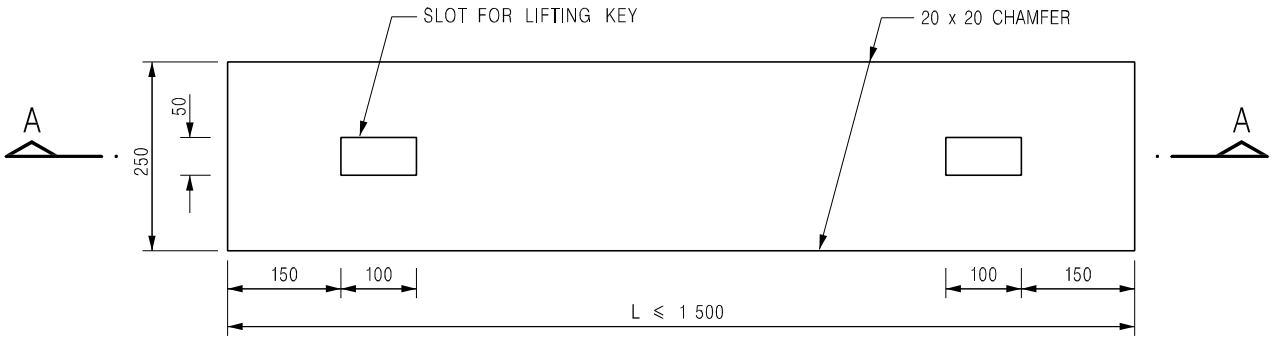
SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2406 /2A

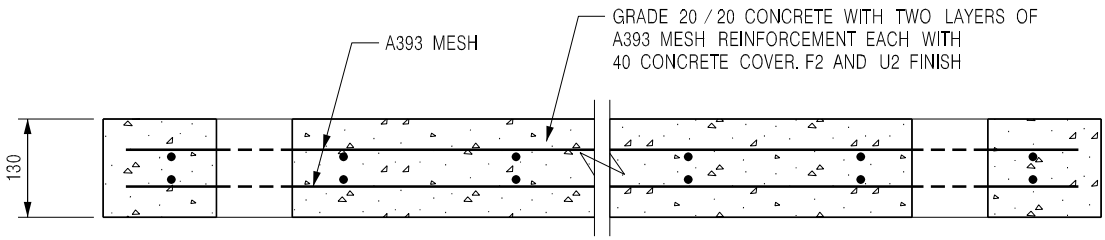


SECTION A – A

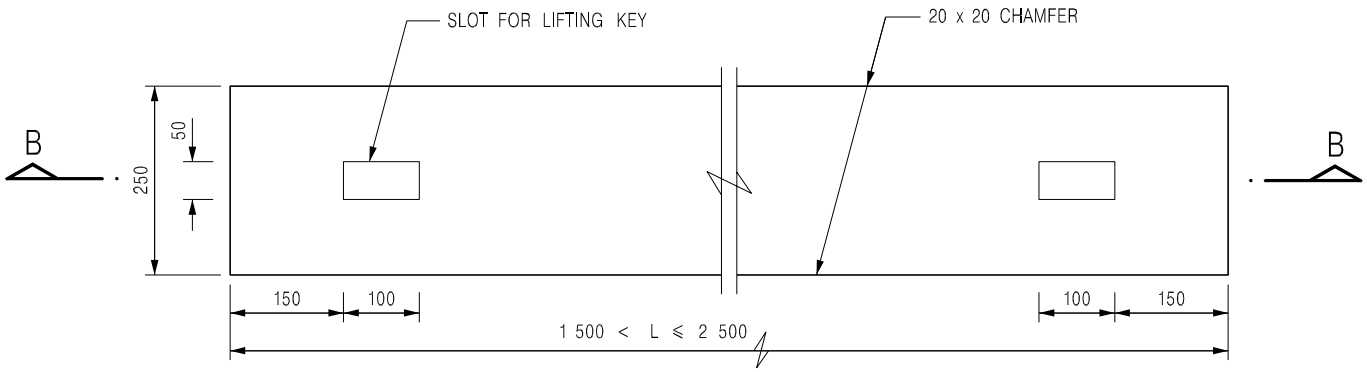


PLAN

TYPE 1 – FOR SPAN UP TO 1.5 m



SECTION B – B



PLAN

TYPE 2 – FOR SPANS 1.5 m TO 2.5 m

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL EXTERNAL EDGES OF THE COVERS SHALL BE 20mm CHAMFERED.

REF.	REVISION	SIGNATURE	DATE
B	NAME OF DEPARTMENT AMENDED.	Original Signed	01.2005
A	GENERAL REVISION	Original Signed	12.2002

PRECAST CONCRETE COVERS FOR CATCHPIT AND SAND TRAP

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 10

DATE JAN 1991

DRAWING NO. C2407B

興土木 利民生 齊拓展 創明天

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Appendix D CALCULATION OF DRAINAGE CAPACITY

Calculation of Drainage Capacity for Return Period of 50 Years

Drainage Capacity of Proposed Stream Course

From	To	Description	U-Shape Channel / Pipe	Length	Diameter	Upstream Invert Level (mPD)	Downstream Invert Level (mPD)	Slope (s)	Cross Section Area, m2	Wetted Perimeter	Hydaralius Radius, m	Manning Roughness Coefficient	Roughness Coefficient	g m/s^2	Kinematic Viscosity m^2/s	Mean Velocity, m/s	Capacity Flow, m3/s	Total Runoff, m3/s	Flow go to Tank	% of capacity	Remark
Start 1	CP1	C2a	U-Shape Channel	26.4	0.45	5.89	5.78	0.0040	0.18	1.16	0.16	0.018				1.02	0.18	0.14		73%	OK
CP1	CP2	C2a	U-Shape Channel	26.4	0.45	5.78	5.68	0.0040	0.18	1.16	0.16	0.018				1.02	0.18	0.14		73%	OK
CP2	CP3	C2a	U-Shape Channel	43.7	0.45	5.68	5.50	0.0040	0.18	1.16	0.16	0.018				1.02	0.18	0.14		73%	OK
CP3	CP4	C2a	U-Shape Channel	32.7	0.45	5.50	5.37	0.0040	0.18	1.16	0.16	0.018				1.02	0.18	0.14		73%	OK
CP4	CP5	C2a+C2b	U-Shape Channel	37.8	0.6	5.37	5.22	0.0040	0.32	1.54	0.21	0.018				1.23	0.40	0.28		70%	OK
CP5	Tank	flow discharge to tank	pipe	37.5	0.5	5.42	5.23	0.0050	0.20	1.57	0.13		0.30	9.81	0.000001	1.65	0.32		0.15	46%	OK
CP5	CP6	C2a+C2b	U-Shape Channel	20.1	0.45	5.22	5.14	0.0040	0.18	1.16	0.16	0.018				1.02	0.18	0.13		70%	OK
CP6	CP7	C2a+C2b	U-Shape Channel	26.4	0.45	5.14	5.03	0.0040	0.18	1.16	0.16	0.018				1.02	0.18	0.13		70%	OK
CP7	CP8	C2a+C2b+C2c	U-Shape Channel	33.7	0.6	5.03	4.90	0.0040	0.32	1.54	0.21	0.018				1.23	0.40	0.23		57%	OK
CP8	CP9	C2a+C2b+C2c+2d	U-Shape Channel	42.9	0.6	4.90	4.73	0.0040	0.32	1.54	0.21	0.018				1.23	0.40	0.30			
CP9	Tank	flow discharge to tank	pipe	44.8	0.5	4.93	4.70	0.005	0.20	1.57	0.125		0.30	9.81	0.000001	1.65	0.32		0.14	43%	OK
CP9	MH9	C2a+C2b+C2c+2d	U-Shape Channel	49.4	0.6	4.73	4.53	0.0040	0.32	1.54	0.21	0.018				1.23	0.40	0.17		42%	OK
MH9	discharge	flow discharge to tank	U-Shape Channel	7.7	0.6	4.53	4.50	0.0040	0.32	1.54	0.21	0.018				1.23	0.40	0.17		42%	OK
Start 2	CP10	C2e	U-Shape Channel	13.3	0.45	5.45	5.39	0.0040	0.18	1.16	0.16	0.018				1.02	0.18	0.11		58%	OK
CP10	CP11	C2e	U-Shape Channel	75.6	0.45	5.39	5.09	0.0040	0.18	1.16	0.16	0.018				1.02	0.18	0.11		58%	OK
CP11	CP12	C2e+C2f	U-Shape Channel	27.8	0.60	5.09	4.98	0.0040	0.32	1.54	0.21	0.018				1.23	0.40	0.21		53%	OK
CP12	Tank	flow discharge to tank	pipe	23.2	0.5	5.18	5.06	0.0050	0.20	1.57	0.13		0.30	9.81	0.000001	1.65	0.32		0.15	46%	OK
CP12	CP13	C2e+C2f+2g	U-Shape Channel	38.2	0.60	4.98	4.83	0.0040	0.32	1.54	0.21	0.018				1.23	0.40	0.16		40%	OK
CP13	CP14	C2e+C2f+2g	U-Shape Channel	38.2	0.60	4.83	4.68	0.0040	0.32	1.54	0.21	0.018				1.23	0.40	0.16		40%	OK
CP14	Tank	flow discharge to tank	pipe	30.0	0.5	4.88	4.73	0.0050	0.20	1.57	0.13		0.30	9.81	0.000001	1.65	0.32		0.13	39%	OK
CP14	MH14	C2e+C2f+2g+2h	U-Shape Channel	33.0	0.6	4.68	4.54	0.0040	0.32	1.54	0.21	0.018				1.23	0.40	0.17		42%	OK
MH14	discharge	flow discharge to tank	U-Shape Channel	10.8	0.6	4.54	4.50	0.0040	0.32	1.54	0.21	0.018				1.23	0.40	0.17		42%	OK
Tank	discharge	Remaining flow for direct discharge	pipe	45.2	0.7	4.73	4.50	0.005	0.38	2.20	0.175	0.018				1.23	0.47	0.33		70%	OK

Legend

d = pipe diameter, m

r = pipe radius (m) = 0.5d

A_w = wetted area (m^2) = πr^2

P_w = wetted perimeter (m) = $2\pi r$

R = Hydraulic radius (m) = A_w/P_w

s = Slope of the total energy line

k_s = equivalent sand roughness, mm

V = Velocity of flow calculated based on Colebrook White Equation, m/s

Q_c = Flow Capacity (10% sedimentation incorporated), m^3/s

Q_p = Estimated total peak flow from the Site during peak season, m^3/s

Remarks

[1] The proposed U-channel is assumed to be concrete-lined channels under bad condition based on a conservative approach, therefore the manning coefficient of $0.018 s/m^{1/3}$ is assumed as per the SDM.

[2] The material of proposed drainage pipe is assumed to be galvanised iron with coated cast iron generally under bad condition based on a conservative approach, therefore pipelines roughness coefficient ks of 0.3mm is assumed as per the SDM.

Tank Sizing for Stormwater Storage Tank

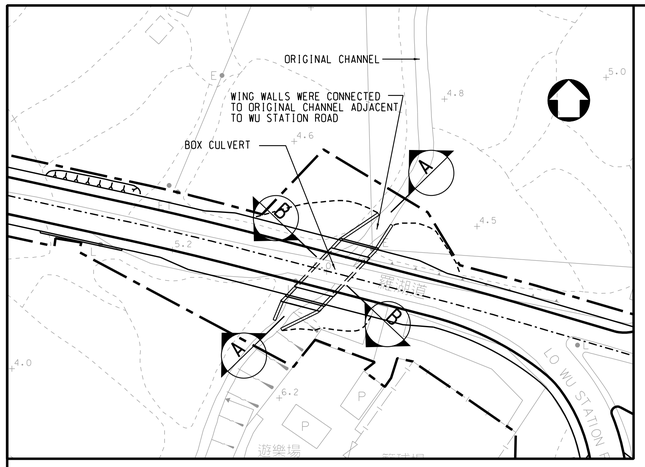
Catchment ID	Catchment Area (A), km^2	Runoff intensity (i), mm/hr [2]	Runoff coefficient (C)	C x A	Peak runoff (Q_p), m^3/s	Duration of Storm, hours	Runoff Volume, m^3/s
C2 Before Proposed Development	0.0205	54.90	0.26	0.0053	0.080	4.000	1158.227
C2 After Proposed Development	0.0205	54.90	0.74	0.0152	0.232	4.000	3334.973
						Incremental Runoff	**2176.75**

Note:

1) Runoff is calculated in accordance with DSD's "*Stormwater Drainage Manual (with Eurocodes incorporated) - Planning, Design and Managemen* t" (SDM), fifth edition, January 2018.

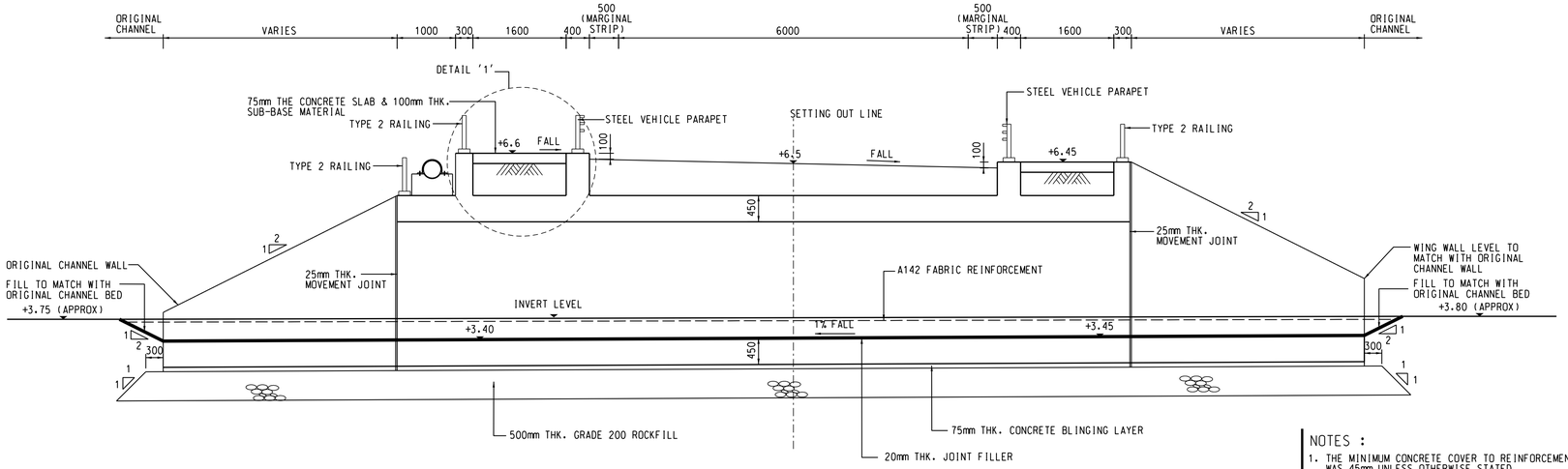
2) Extreme intensity under 50 years return period is based on Table 2a of SDM

Appendix E DRAWINGS OF BOX CULVERT UNDERNEATH LO WU STATION ROAD



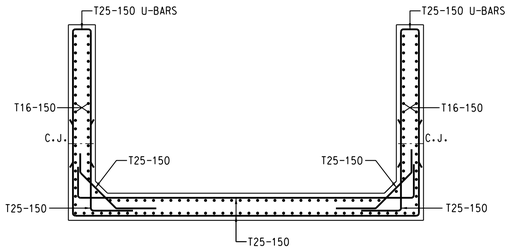
GENERAL LAYOUT OF BOX CULVERT

SCALE 1 : 500



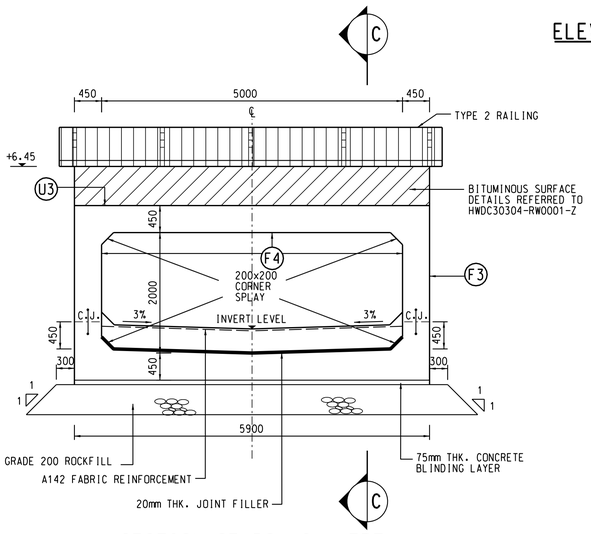
ELEVATION OF BOX CULVERT (SECTION A - A)

SCALE 1 : 50



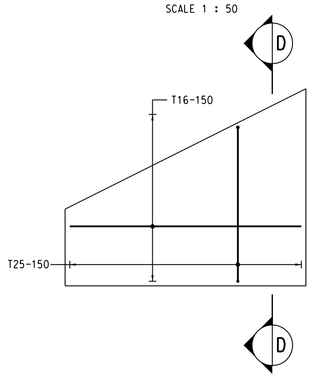
WING WALL REINFORCEMENT DETAIL (SECTION D - D)

SCALE 1 : 50



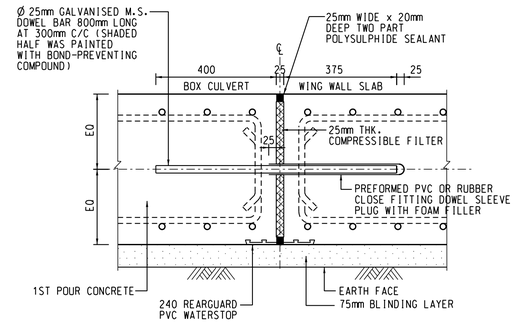
SECTION OF BOX CULVERT

SCALE 1 : 50



TYPICAL R.C. DETAILS OF WING WALL

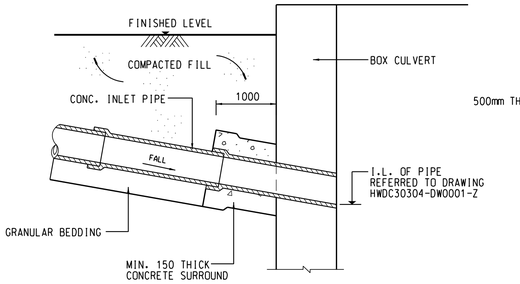
SCALE 1 : 50



MOVEMENT JOINT AT BASE SLAB WITH WATERSTOP

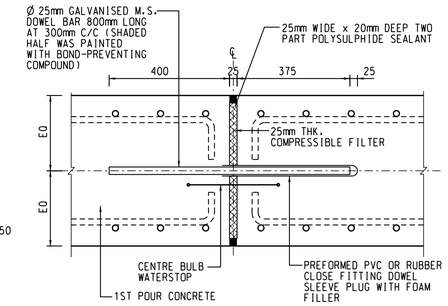
SCALE 1 : 10

NOTE : WATERSTOP ON WALL WAS EXTENDED TO 50mm BELOW FINISHING GROUND LEVEL.



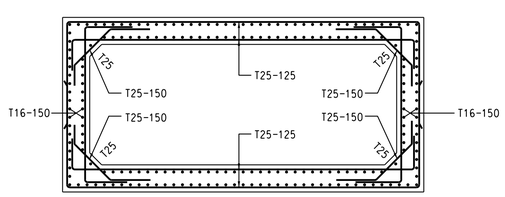
TYPICAL DETAIL OF PIPE CONNECTION TO BOX CULVERT

SCALE 1 : 5



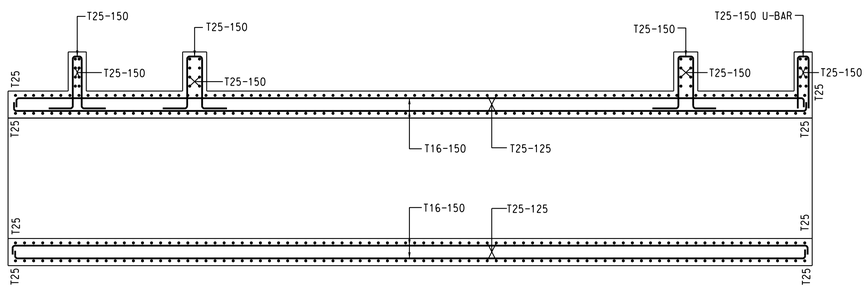
MOVEMENT JOINT AT WALL STEM WITH WATERSTOP

SCALE 1 : 10



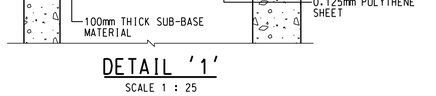
BOX CULVERT REINFORCEMENT DETAIL B - B (SECTION B - B)

SCALE 1 : 50



BOX CULVERT REINFORCEMENT DETAIL C - C (SECTION C - C)

SCALE 1 : 50



DETAIL '1'

SCALE 1 : 25

NOTES :

1. THE MINIMUM CONCRETE COVER TO REINFORCEMENT WAS 45mm UNLESS OTHERWISE STATED.
2. DETAILS STEEL VEHICLE PARAPET REFERRED TO HyD STD. DWG NO.SSD141-B.
3. ALL DIMENSIONS WERE IN MILLIMETERS, UNLESS OTHERWISE SPECIFIED.
4. CONCRETE GRADE WAS 40/20D AND CONFORMED TO CONSTRUCTION STANDARD CS1:1990.
5. 25 x 25 CHAMFER UNLESS STATED OTHERS WAS PROVIDED AT EXTERNAL CORNER OF CONCRETE SURFACE LESS THAN 120 DEGREES.
6. THE LEVELS SHOWN ON THE DRG WERE INDICATIVE ONLY THE EXACT LEVELS WERE DETERMINED ON SITE.
7. DETAILS OF THE DRAWING EXTRACTED FROM MCAL'S DRAWING No. 96802/14/01101C.

no.	date	description	initial
Z	22.01.14	AS CONSTRUCTED	SIGNED W.P. WONG (E/NT2-3)

REVISION

	post	name	initial	date
designed	ACE/NT2-1	C.Y. WONG	SIGNED	26.02.09
drawn	TO/3-1	S.C. CHAN	SIGNED	26.02.09
checked	SE/NT2	W.S. MAK	SIGNED	26.02.09

approved

SIGNED
S.W. CHU — 26.02.09
Chief Highway Engineer / Works — Date

contract no.

file no.

project no. 630G041X

project

IMPROVEMENT TO LO WU STATION ROAD

drawing title

BOX CULVERT DETAILS

drawing no. HWDC30304-MC0009-Z

scale A1 AS SHOWN

office

WORKS DIVISION

HIGHWAYS DEPARTMENT HONG KONG

A1 841x594

0 10 20 30 40 50 60 70 80 90 100 mm SCALE 1 : 1

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global experience

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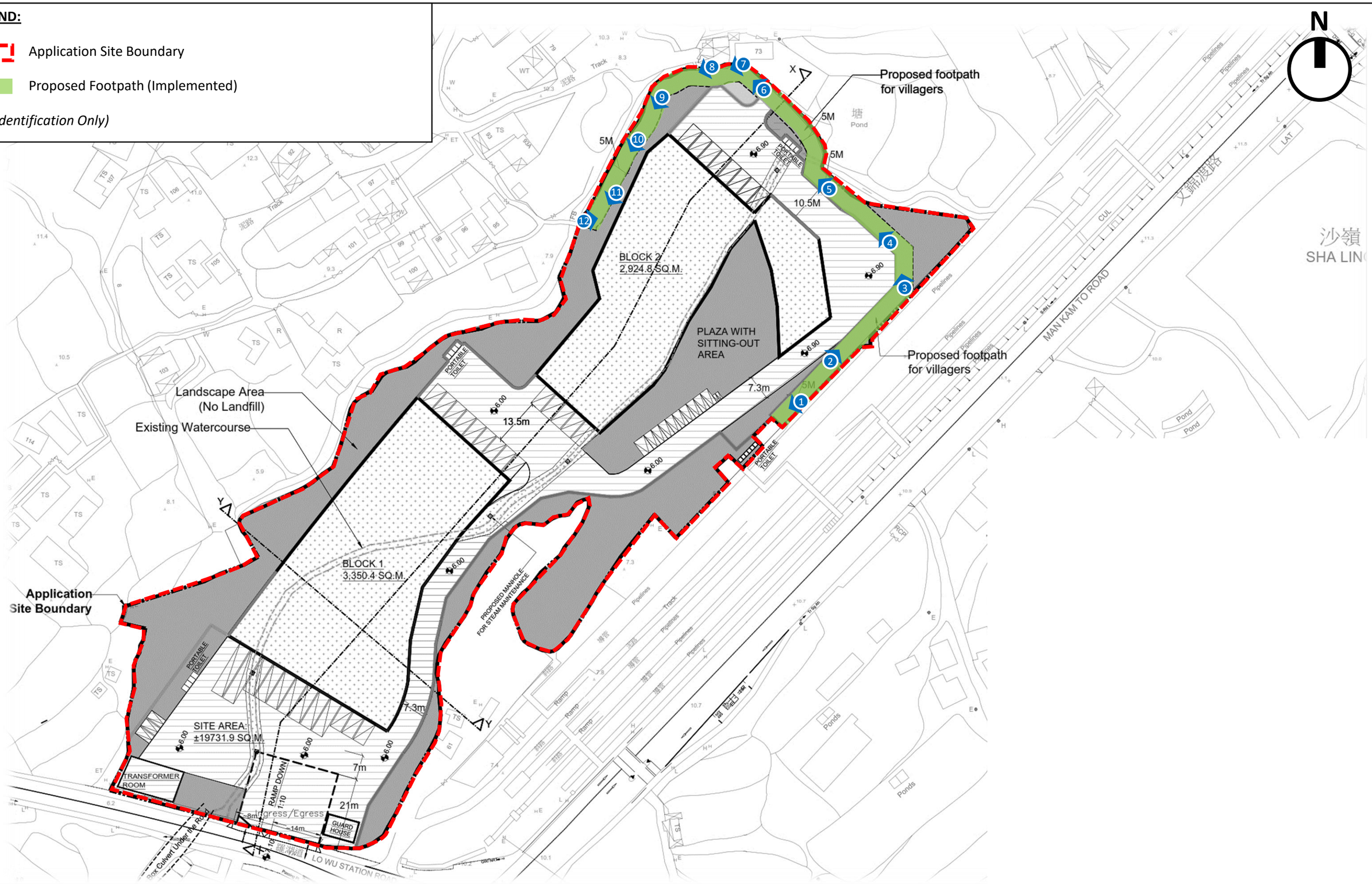
LEGEND:

Application Site Boundary

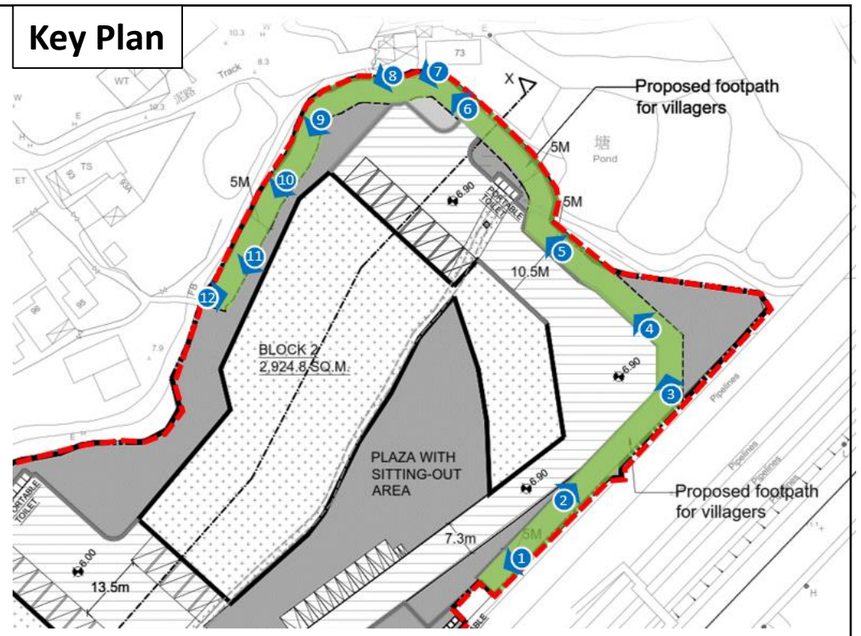
Proposed Footpath (Implemented)

(For Identification Only)



Project: Section 16 Planning Application for Proposed Temporary Cold Storage for Poultry and Distribution Centre and Filling of Land for a Period of 3 Years at Lots 471 S.B RP (Part), 472, 473, 474, 475, 476, 482 RP, 483, 484, 486, 487 RP, 497 S.A RP, 501, 502, 504 S.B, 505 and 506 S.B RP in D.D. 89 and Adjoining Government Land, Man Kam To Road, Sha Ling, New Territories (A/NE-FTA/201)	**Title:** Key Plan *Ref.: ADCL/PLG-10229/AC(e)-I001*	**Illustration:** 1 **Scale:** N/A **Date:** Sep 2023	AiKoN AIKON DEVELOPMENT CONSULTANCY LTD.

Key Plan



Project:
Section 16 Planning Application for Proposed Temporary Cold Storage for Poultry and Distribution Centre and Filling of Land for a Period of 3 Years at Lots 471 S.B RP (Part), 472, 473, 474, 475, 476, 482 RP, 483, 484, 486, 487 RP, 497 S.A RP, 501, 502, 504 S.B, 505 and 506 S.B RP in D.D. 89 and Adjoining Government Land, Man Kam To Road, Sha Ling, New Territories (A/NE-FTA/201)

Title:
Reprovision of a footpath on the site (Photographic Records)

Ref.: ADCL/PLG-10229/AC(e)-I002

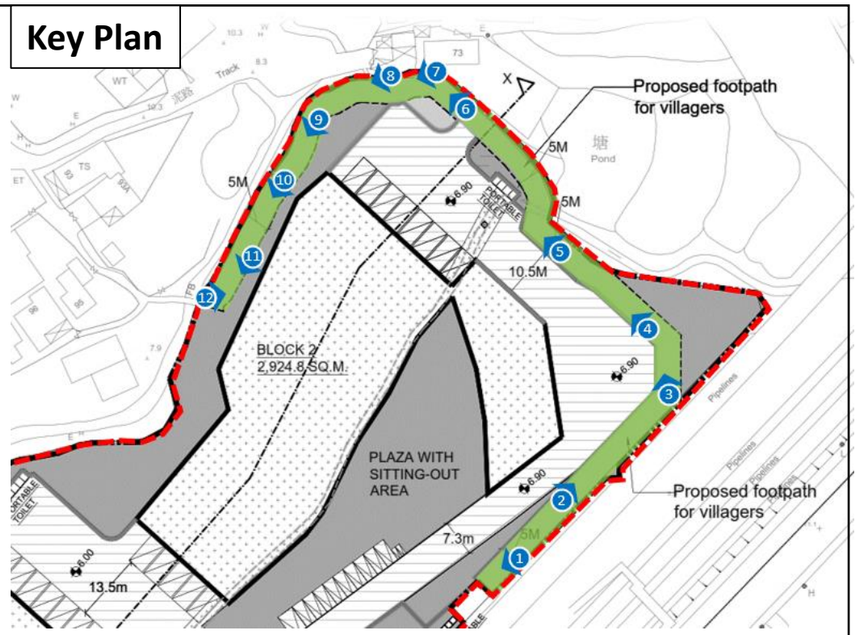
Illustration:
2

Scale:
N/A

Date:
Sep 2023

AIKON DEVELOPMENT CONSULTANCY LTD.

Key Plan



Project: Section 16 Planning Application for Proposed Temporary Cold Storage for Poultry and Distribution Centre and Filling of Land for a Period of 3 Years at Lots 471 S.B RP (Part), 472, 473, 474, 475, 476, 482 RP, 483, 484, 486, 487 RP, 497 S.A RP, 501, 502, 504 S.B, 505 and 506 S.B RP in D.D. 89 and Adjoining Government Land, Man Kam To Road, Sha Ling, New Territories (A/NE-FTA/201)	**Title:** Reprovision of a footpath on the site (Photographic Records) *Ref.: ADCL/PLG-10229/AC(e)-I003*	**Illustration:** 3 **Scale:** N/A Sep 2023	AiKoN AIKON DEVELOPMENT CONSULTANCY LTD.

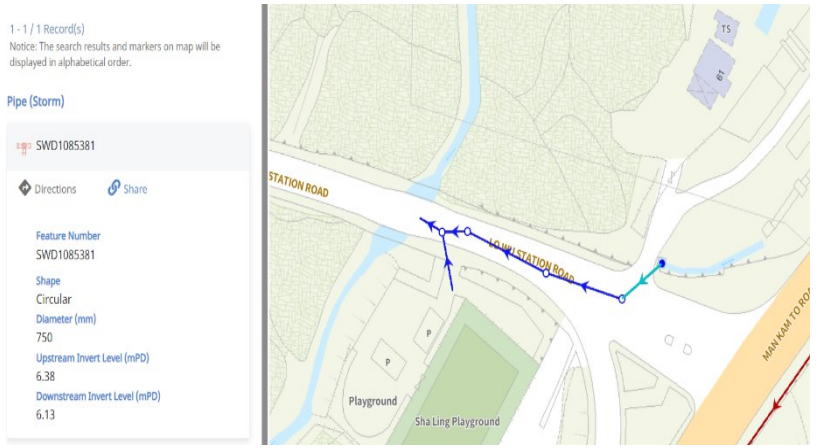
Further Information (7)

Table of Contents

Responses-to-Comments Table

Date	Department	Comments	Responses
12 October 2023	CE/MN of DSD (Contact Person: Mr. Samuel Wang; Tel: 2300 1135)	1. P. 6 of Appendix 3: The figures regarding the surveyed channel dimension on the section drawings is hardly legible to be checked against the adopted flow section presented on P. 7. Please provide a clearer figure for consideration.	Clearer figure has been included.
		2. P. 7 of Appendix 3: Except for the total runoff referring to only Sub-catchment A, the total runoff adopted on this calculation does not appear to be consistent with the figures presented on P. 5. Please review the calculation	Calculation has been checked and it is consistent with the Figures presented on p. 5. Further elaboration and descriptions are added to p.7 to clarify.
		3. P. 7 of Appendix 3: It is noted that sub-catchment B and D were not considered in the hydraulic checking. Please identify the respective downstream path and confirm the relevant downstream would not be flowing into the existing streamcourse of concern and is therefore not required to be considered in the hydraulic check.	Catchment B is the pipeline area. There is an existing drainage system for this pipeline area. Photo 9 and 10 are provided in appendix 3, indicating that there is an existing drainage system for Catchment B and direct the runoff from Catchment B to the downstream stream course via pipe SWD1085381, not to the stream inside the site boundary.

Date	Department	Comments	Responses
			 

Date	Department	Comments	Responses
			

			For Catchment D, there is a Sha Ling Cement Plant (https://maps.app.goo.gl/rgoS8poSmst2XNPi8).  Based on site visit, there is a construction nearby the Man Kam Road and Sha Ling Road intersection. Existing drainage observed on site and based on understanding from the site staff, no discharge going into the stream inside the site boundary. .

Date	Department	Comments	Responses
			
		4. The proposed drainage system including the existing watercourse within site should be maintained properly at all times during the planning approval period by the applicant and the applicant should rectify the system if it is found to be inadequate or ineffective during operation at his/her own expense. The applicant should be reminded to have adequate headroom reserved for future maintenance of the existing watercourse within the site.	Noted.

7076864 Drainage Impact Assessment for S16 Planning Application for Proposed Temporary Cold Storage for Poultry and Distribution Centre for a Period of 3 Years and Filling of Land for Site Formation Works at Various Lots in D.D. 89 and Adjoining Government Land, Man Kam To Road, Sha Ling, New Territories

Hydraulic Checking of the watercourse

Figure 1.1 Identification of Surrounding Catchment and surrounding environment

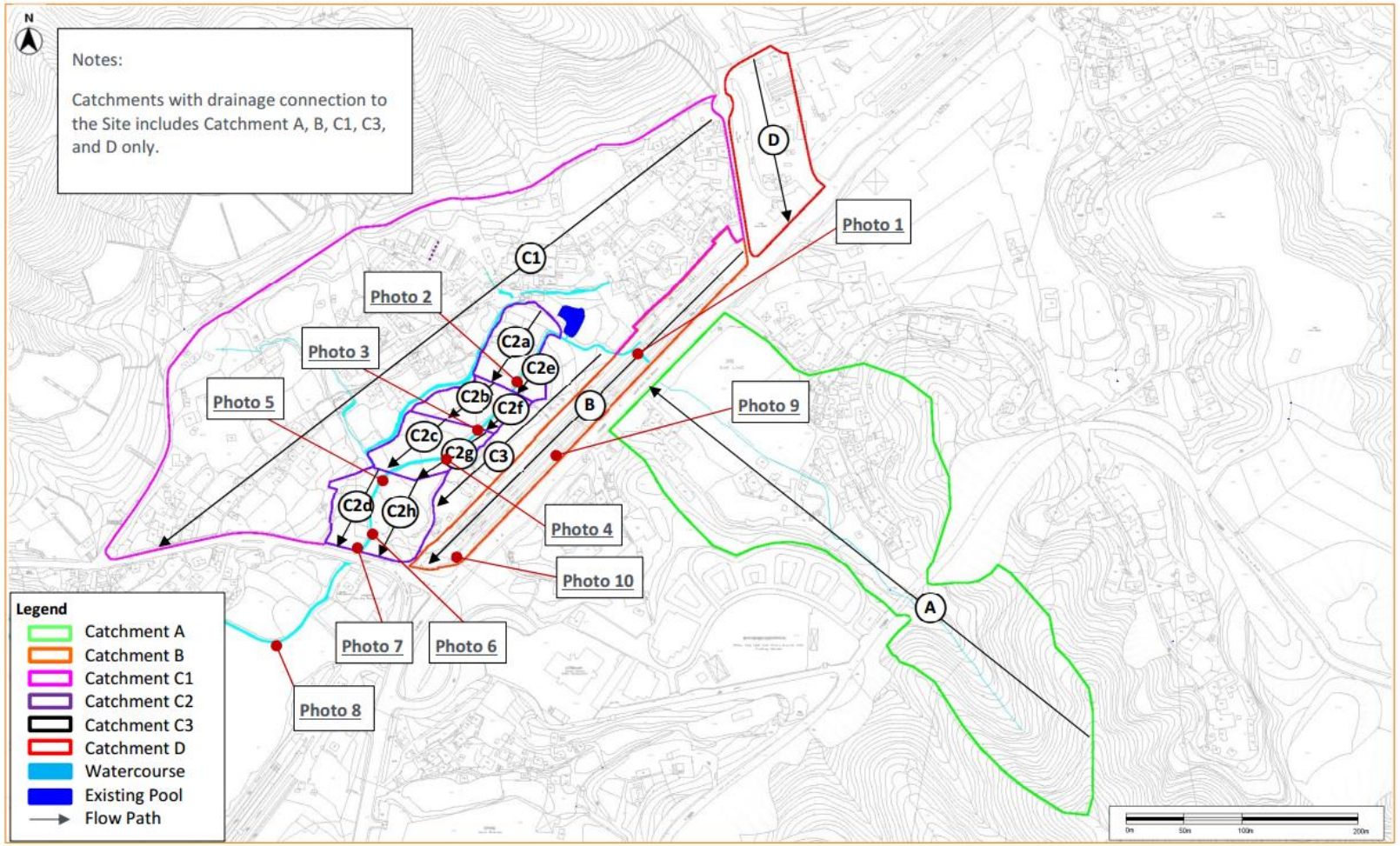


Photo 1 	Photo 2 
Photo 3 	Photo 4 

Photo 5

Photo 6

Photo 7

Photo 8

Photo 9

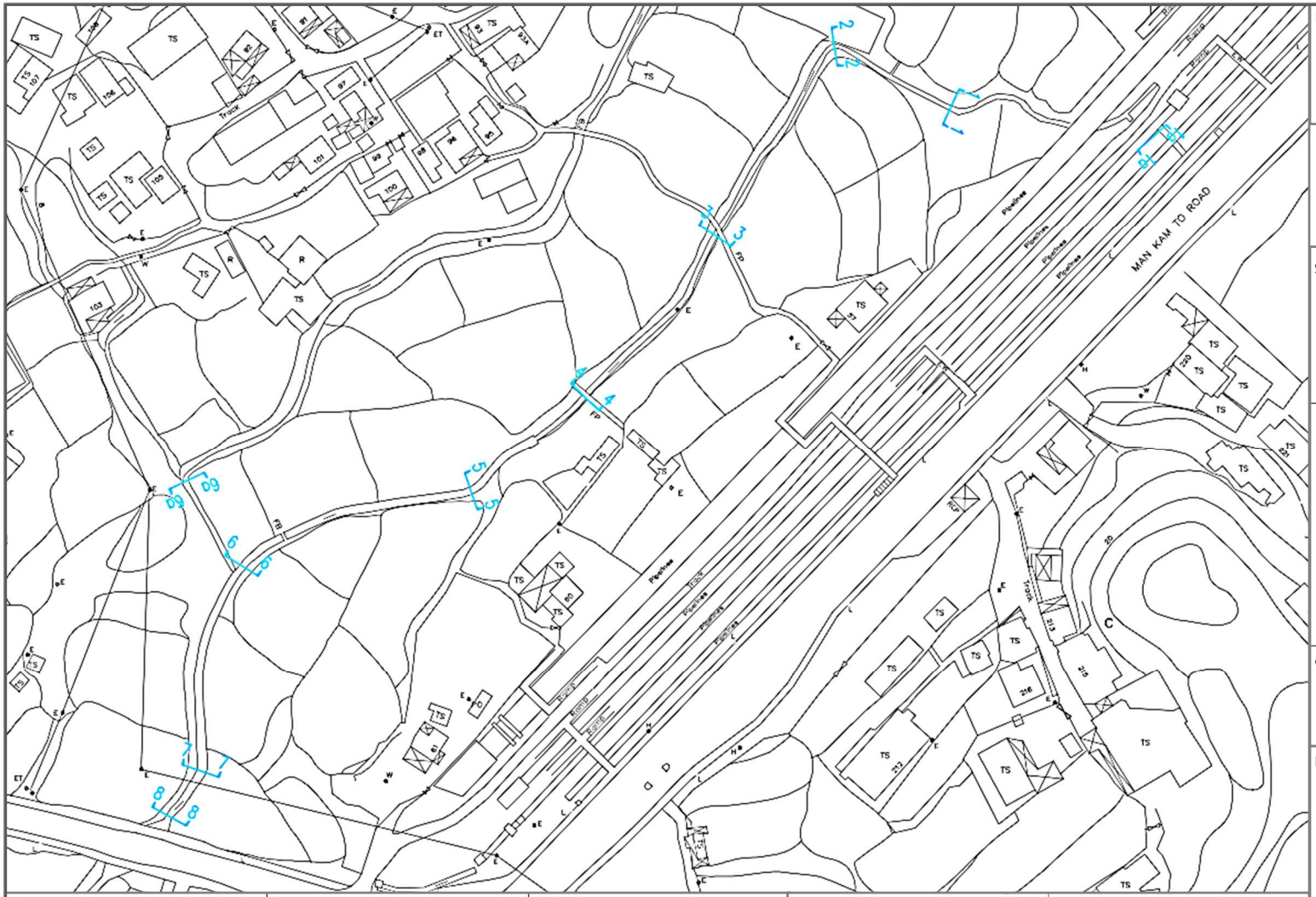
Photo 10

Calculation of Runoff for Return Period of 50 Years

Catchment ID	Catchment Area (A), km^2	Average slope (H), m/100m	Flow path length (L), m	Inlet time (t_0), min	Duration (t_d), min	Storm Constants			Runoff intensity (i) mm/hr	Runoff coefficient (C)	C x A	Peak runoff (Q_p), m^3/s
						a	b	c				
Before the Proposed Development												
Catchment A	0.0635	16.29	526.2	14.42	20.26	1167.6	16.76	0.561	153.95	0.63	0.0401	1.717
Catchment B	0.0113	1.28	164.20	8.89	10.71	1167.6	16.76	0.561	182.00	0.95	0.0108	0.545
Catchment C1	0.0844	3.94	365.80	12.94	17.00	1167.6	16.76	0.561	162.12	0.41	0.0347	1.563
Catchment C2	0.0161	0.69	237.30	14.05	16.69	1167.6	16.76	0.561	162.98	0.26	0.0041	0.187
Catchment C2a	*0.0030*											*0.035*
Catchment C2b	*0.0023*											*0.027*
Catchment C2c	*0.0024*											*0.027*
Catchment C2d	*0.0024*											*0.028*
Catchment C2e	*0.0008*											*0.009*
Catchment C2f	*0.0006*											*0.007*
Catchment C2g	*0.0012*											*0.015*
Catchment C2h	*0.0034*											*0.040*
Catchment C3	0.0066	1.17	85.72	4.99	5.94	1167.6	16.76	0.561	202.56	0.32	0.0021	0.119
Catchment D	0.0092	4.98	84.30	3.55	4.49	1167.6	16.76	0.561	210.22	0.95	0.0088	0.511
											Total (General Scenario)	**4.642**
After the Proposed Development												
Catchment A	0.0635	16.29	526.2	14.42	20.26	1167.6	16.76	0.561	153.95	0.63	0.0401	1.717
Catchment B	0.0113	1.28	164.20	8.89	10.71	1167.6	16.76	0.561	182.00	0.95	0.0108	0.545
Catchment C1	0.0844	3.94	365.80	12.94	17.00	1167.6	16.76	0.561	162.12	0.41	0.0347	1.563
Catchment C2a	0.0030	0.20	83.0	7.43	7.90	1167.6	16.76	0.561	193.39	0.77	0.0023	0.125
Catchment C2b	0.0023	0.20	56.0	5.16	5.47	1167.6	16.76	0.561	204.97	0.77	0.0018	0.101
Catchment C2c	0.0024	0.20	60.0	5.51	5.84	1167.6	16.76	0.561	203.05	0.77	0.0018	0.102
Catchment C2d	0.0024	0.20	76.1	6.98	7.40	1167.6	16.76	0.561	195.61	0.77	0.0018	0.100
Catchment C2e	0.0008	0.20	58.0	5.96	6.28	1167.6	16.76	0.561	200.89	0.77	0.0006	0.033
Catchment C2f	0.0006	0.20	45.3	4.80	5.05	1167.6	16.76	0.561	207.14	0.77	0.0004	0.025
Catchment C2g	0.0012	0.20	89.0	8.71	9.20	1167.6	16.76	0.561	187.86	0.77	0.0010	0.050
Catchment C2h	0.0034	0.20	68.3	6.04	6.42	1167.6	16.76	0.561	200.21	0.77	0.0026	0.147
Catchment C3	0.0066	1.17	85.72	4.99	5.94	1167.6	16.76	0.561	202.56	0.32	0.0021	0.119
Catchment D	0.0092	4.98	84.30	3.55	4.49	1167.6	16.76	0.561	210.22	0.95	0.0088	0.511
											Total (General Scenario)	**5.138**

Note:

1) Runoff is calculated in accordance with DSD's "*Stormwater Drainage Manual (with Eurocodes incorporated) - Planning, Design and Managemen*t" (SDM), fifth edition, January 2018 and DSD publication Stormwater Drainage Manual CORRIGENDUM No. 1/2022.
2) Time of concentraction td= to+tf; where tf time of flow in urban drainag esystem = length of drain/ velocity. Velocity assumed 1.5m/s for natural flow and 3m/s assumed for flow in urban area.
3) The gradient of Catchement C2 after development is assumed to be 1:500.



Notes

1. Hong Kong Geodetic Datum 1980
2. All levels refer to Principal Datum Hong Kong
3. All units are in Metres
4. All spot level positions are indicated by the decimal point or a cross.

Sheet Index

N

1

Approved

Helen Chan
ALS, MHKIS, MRICS, RPS(LS)

Date: March 23, 2022

Client

HONG KONG CHILLED MEAT IMPORTER LIMITED

Drawing Title

PROPOSED TEMPORARY COLD STORAGE FOR POULTRY & DISTRIBUTION CENTRE IN D.D.89 MAN KAM TO, SHEUNG SHUI

Drawing No.	Scale
HPL2503/S/01	1:200 (A2)

Helen Chan Professional Land Survey Ltd.
陳婉琪測量師行有限公司
2/F, No.36 Lung Sum Avenue, Sheung Shui, N.T., Hong Kong
Tel: 26395466 Fax: 26734966
e-mail: hcpls@netvigator.com

Existing Channel Preliminary Estimation under Return Period of 50 Years

From[1]	To[1]	Channel Type	Length, m	Base Width, m	Top Width T, m	Depth y, m	Upstream Invert Level (USIL) [2]	Downstream Invert Level (DSIL) [2]	Slope (s) (1 in x)	Cross Section Area, m2	% reduction	Wetted Perimeter	Hydaralius Radius, m	Manning Roughness Coefficient [3]	Mean Velocity, m/s	Capacity Flow, m^3/s	Catchment	Total Runoff, m3/s	Utilsation Rate	Remark
1a	1	Rectangular	61.5	0.90	0.90	0.96	8.07	6.94	54.42	0.86	10%	2.76	0.31	0.016	3.91	3.037	A	1.717	56.5%	ok
1	2	Trapezoidal	33.2	0.97	1.30	0.68	6.94	6.43	65.10	0.77	10%	2.37	0.33	0.016	3.67	2.547	A	1.717	67.4%	ok
2	3	Trapezoidal	53.1	0.64	1.33	0.74	6.43	5.97	115.43	0.73	10%	2.27	0.32	0.016	2.73	1.788	A & C2	1.726 [5]	96.5%	ok
3	4	Trapezoidal	50.3	0.88	1.25	0.74	5.97	5.56	122.68	0.79	10%	2.41	0.33	0.016	2.68	1.902	A & C2	1.761 [6]	92.6%	ok
4	5	Trapezoidal	38.1	0.86	1.27	0.75	5.56	4.77	48.20	0.80	10%	2.42	0.33	0.016	4.31	3.095	A & C2	1.794 [7]	58.0%	ok
5	6	Trapezoidal	61.1	1.22	1.77	1.04	4.77	4.47	203.77	1.55	10%	3.37	0.46	0.016	2.61	3.657	A & C2	1.836 [8]	50.2%	ok
6	7	Trapezoidal	48.5	1.39	2.00	1.14	4.47	4.05	115.59	1.92	10%	3.74	0.51	0.016	3.73	6.461	A, C1 & C2	2.946 [9]	45.6%	ok
7	8	Trapezoidal	13.0	1.15	1.67	1.10	4.05	3.86	68.44	1.54	10%	3.40	0.45	0.016	4.46	6.201	A, C1 & C2	2.946 [9]	47.5%	ok

[1] Please refer to the survey for the location of the channel.
[2] The invert levels were assumed to be the average level based on the survey.
[3] Manning n=0.016 has been adopted, assuming they is concreted-lined channels in fair condition
[4] The hydraulic checking is only calculated to our best estimation based on the available information.
[5] The runoff to this section is approximately proportionate to the runoff from area of C2, and it is best estimated using the proportion of area assigned for C2e within Catchment C2 and together with runoff from Catchment A.
[6] The runoff to this section is approximately proportionate to the runoff from area of C2, and it is best estimated using the proportion of area assigned for C2a & C2e within Catchment C2 and together with runoff from Catchment A.
[7] The runoff to this section is approximately proportionate to the runoff from area of C2, and it is best estimated using the proportion of area assigned for C2a, C2e C2b, C2f within Catchment C2 and together with runoff from Catchment A.
[8] The runoff to this section is approximately proportionate to the runoff from area of C2, and it is best estimated using the proportion of area assigned for C2a, C2e C2b, C2f, C2c, C2g within Catchment C2 and together with runoff from Catchment A.
[9] The runoff to this section is approximately proportionate to the runoff from area of C2, and it is best estimated using the proportion of area assigned for C2a, C2e C2b, C2f, C2c, C2g, C2d & C2h within Catchment C2 and together with 2/3 of the runoff from Catchment C1 and runoff from Catchment A.

Existing Channel Preliminary Estimation after the Proposed Development under Return Period of 50 Years

From[1]	To[1]	Channel Type	Length, m	Base Width, m	Top Width T, m	Depth y, m	Upstream Invert Level (USIL) [2]	Downstream Invert Level (DSIL) [2]	Slope (s) (1 in x)	Cross Section Area, m2	% reduction	Wetted Perimeter	Hydaralius Radius, m	Manning Roughness Coefficient [3]	Mean Velocity, m/s	Capacity Flow, m^3/s	Catchment	Total Runoff, m3/s	Utilsation Rate	Remark
1a	1	Rectangular	61.5	0.9	0.90	0.96	8.07	6.94	54.42	0.86	10%	2.76	0.31	0.016	3.91	3.037	A	1.717	56.5%	ok
1	2	Trapezoidal	33.2	1.0	1.30	0.68	6.94	6.43	65.10	0.77	10%	2.37	0.33	0.016	3.67	2.547	A	1.717	67.4%	ok
2	3	Trapezoidal	53.1	0.6	1.33	0.74	6.43	5.97	115.43	0.73	10%	2.27	0.32	0.016	2.73	1.788	A	1.717	96.0%	ok
3	4	Trapezoidal	50.3	0.9	1.25	0.74	5.97	5.56	122.68	0.79	10%	2.41	0.33	0.016	2.68	1.902	A	1.717	90.3%	ok
4	5	Trapezoidal	38.1	0.9	1.27	0.75	5.56	4.77	48.20	0.80	10%	2.42	0.33	0.016	4.31	3.095	A	1.717	55.5%	ok
5	6	Trapezoidal	61.1	1.2	1.77	1.04	4.77	4.47	203.77	1.55	10%	3.37	0.46	0.016	2.61	3.657	A	1.717	47.0%	ok
6	7	Trapezoidal	48.5	1.4	2.00	1.14	4.47	4.05	115.59	1.92	10%	3.74	0.51	0.016	3.73	6.461	A, C1	2.759 [5]	42.7%	ok
7	8	Trapezoidal	13.0	1.2	1.67	1.10	4.05	3.86	68.44	1.54	10%	3.40	0.45	0.016	4.46	6.201	A, C1 & C2	3.442 [6]	55.5%	ok

[1] Please refer to the survey for the location of the channel.
[2] The invert levels were assumed to be the average level based on the survey.
[3] Manning n=0.016 has been adopted, assuming they is concreted-lined channels in fair condition
[4] The hydraulic checking is only calculated to our best estimation based on the available information.
[5] The runoff to this section is best estimated including 2/3 of the runoff from Catchment C1 and runoff from Catchment A.
[6]The runoff to this section is best estimated including the runoff from Catchment C2, runoff from Catchment A and 2/3 of the runoff from Catchment C1.