

寄件者: Louis Tse [REDACTED]
寄件日期: 2024年09月26日星期四 16:53
收件者: tpbpd/PLAND
副本: Andrea Wing Yin YAN/PLAND; Olivia Lam Yan NG/PLAND; Bon Tang; Matthew Ng; Christian Chim; Danny Ng; Grace Wong
主旨: [FI] S.16 Application No. A/YL-KTN/1024 - FI to address departmental comments
附件: FI1 for A_YL-KTN_1024 (20240926).pdf
類別: Internet Email

Dear Sir,

Attached herewith the FI to address departmental comments of the subject application.

Should you require more information, please do not hesitate to contact me. Thank you for your kind attention.

Kind Regards,

Louis TSE | Town Planner
R-riches Group (HK) Limited

R-riches Property Consultants Limited | R-riches Planning Limited | R-riches Construction Limited



Our Ref. : DD107 Lot 1446 & VL
Your Ref. : TPB/A/YL-KTN/1024

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

By Email

26 September 2024

Dear Sir,

1st Further Information

**Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities
for a Period of 3 Years and Associated Filling of Land and Pond in "Agriculture" Zone,
Various Lots in D.D. 107 and Adjoining Government Land, Fung Kat Heung, Yuen Long**

(S.16 Planning Application No. A/YL-KTN/1024)

We are writing to submit further information to address departmental comments on the subject application (**Appendix I**).

Should you require more information regarding the application, please contact our Mr. Danny NG at [REDACTED] or the undersigned at your convenience. Thank you for your kind attention.

Yours faithfully,

For and on behalf of
R-riches Property Consultants Limited

Louis TSE
Town Planner

cc DPO/FSYLE, PlanD (Attn.: Ms. Andrea YAN email: awyyan@pland.gov.hk)
(Attn.: Ms. Olivia NG email: olyng@pland.gov.hk)

Responses-to-Comments

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land and Pond in “Agriculture” Zone, Various Lots in D.D. 107 and Adjoining Government Land, Fung Kat Heung, Yuen Long

(Application No. A/YL-KTN/1024)

- (i) Revised plans showing the layout, filling of land and swept path analysis of the application site (the Site) are provided (**Plans 1 to 3 and Annex I**).
- (ii) The layout of the proposed development is revised to meet the operational needs (**Plan 1 and Annex I**). 3 structures are proposed at the Site for warehouses (excluding dangerous goods godown), rain shelter, site office and washroom with total GFA of 7,321 m² (about). One 12m width ingress/egress is provided at the Site to facilitate the proposed development.
- (iii) The Site (i.e. 16,657m²) is proposed to be filled with concrete and soil of not more than 1.2m with site level ranging from +5.2mPD to +7.1mPD for site formation and circulation space (**Plan 2 and Annex I**). The existing 0.3m-deep dried pond (i.e. 2,468m²) within the Site is proposed to be filled with concrete and soil to facilitate a flat ground surface, within which, portion of the dried pond (i.e. 836m²) is proposed to be filled with soil, and then cover by a 0.2m concrete on top of the filled area for site formation of structure while the remaining portion (i.e. 1,632m²) is proposed to be filled with soil for circulation space. The proposed filling of land and pond is intended to facilitate the proposed development and has been kept to minimal. The applicant will strictly follow the proposed scheme, and no further filling of land and pond will be carried out during the planning approval period.
- (iv) A RtoC Table:

Departmental Comments	Applicant’s Responses
1. Comments of the Director of Environmental Protection (DEP) (Contact Person: Mr. Kelvin WONG; Tel.: 2835 1117)	
(a) EPD does not support the application as it involves the use of heavy vehicles and there are sensitive uses (i.e. residential buildings) within 100m from the Site, environmental nuisance on the nearby residential uses could be generated by the proposed use.	Fencing will be erected along the whole Site to mitigate potential nuisances to the surrounding areas. Restricted operation hours (i.e. from 09:00 to 19:00 Monday to Saturday, no operation on Sunday and public holiday) will take place at the Site during the planning approval period. The proposed warehouses are intended for storage of miscellaneous goods. No dangerous goods and workshop activities will be stored/conducted at the Site at any time during the planning approval period.

		<p>A landscape proposal is submitted by the applicant to provide landscape mitigation measures for the proposed development (Annex IV). <u>18</u> new trees (N1 to N18) are proposed to be planted along the northwest periphery boundary of the Site as a landscape buffer to minimise adverse visual impact to the adjoining sensitive receivers. A drainage impact assessment (DIA) report and a fire service installations proposal are also provided to demonstrate that sufficient drainage and fire services facilities will be provided within the Site (Annexes II to III). Therefore, adverse impacts generated by the proposed development to the nearby residential uses should <u>not</u> be anticipated.</p>
<p>2. Comments of the Director of Fire Services (D of FS) (Contact Person: Mr. CHEUNG Wing-hei; Tel.:2733 7737)</p>		
(a)	<p>In consideration of the design/nature of the proposal, FSIs are anticipated to be required. Therefore, the applicant is advised to submit relevant layout plans incorporated with the proposed FSIs to his Department for approval. In addition, the applicant should also be advised on the following points:</p> <ul style="list-style-type: none"> (i) The layout plans should be drawn to scale and depicted with dimensions and nature of occupancy; and (ii) The location of proposed FSIs to be installed should be clearly marked on the layout plans. 	<p>A fire service installations (FSIs) proposal, with provision of sprinkler and hose reel system is provided for your consideration (Annex II).</p>
<p>3. Comments of the Chief Engineer/Mainland North, Drainage Services Department (CE/MN, DSD) (Contact Person: Mr. Terence TANG; Tel.: 2300 1257)</p>		
(a)	<p>Please be advised that a Drainage Impact Assessment (DIA) is required for this application.</p>	<p>A DIA report is submitted by the applicant to review the drainage arrangements for the proposed development, and the DIA concluded that adverse drainage impact from the proposed development should <u>not</u> be anticipated (Annex</p>

		III).
<p>4. Comments of the District Planning Officer/Fanling, Sheung Shui and Yuen Long East, Planning Department (DPO/FSYLE, PlanD) (Contact Person: Mr. Samuel HUI / Ms. Olivia NG; Tel.: 3565 3957 /3168 4045)</p>		
(a)	<p>According to the proposed layout, the proposed structure, parking space and land filling work maybe in conflict with the existing trees. The applicant shall provide detailed information on the involved tree-felling, and any mitigation measures to be carried out.</p>	<p>A landscape proposal is submitted by the applicant to provide landscape mitigation measures for the proposed development (Annex IV). 18 new trees (N1 to N18) are proposed to be planted along the northwest periphery boundary of the Site as a landscape buffer to minimise adverse visual impact to the adjoining receivers. All these new trees within the Site will be maintained by the applicant during the planning approval period.</p>
(b)	<p>There is concern that approval of the application would alter the landscape character of the area; and</p>	<p>Although the Site falls within area zoned as “AGR”, there is no active agricultural use within the Site. The proposed development is intended to utilize the abandoned land resources to support the local warehousing industry as well as to facilitate the relocation of the warehouse operators in the New Territories due to the development of various New Development Areas by the Government. The applicant will reinstate the Site to a state that is suitable for agricultural use after the planning approval period.</p>
(c)	<p>As per the proposed layout and paving plan, the applicant shall justify the use of the open area and the necessity of the proposed filling of land and pond.</p>	<p>Since the applied use mainly involves ‘warehouse (excluding dangerous goods godown)’ operation, particularly related to logistic and storage activities, often involves large-scale production processes. These operations require adequate open space to accommodate machinery, equipment, parking and loading/unloading facilities, and production lines. Therefore, the Site with a large open area allows for the efficient layout and organization of these components. In addition, the proposed development requires specialized facilities in support of the daily operations (i.e. drainage facilities and fire service installations), having a larger space allows for the incorporation of these specialized facilities to support the</p>

		<p>operational needs.</p> <p>As heavy loading of structures and vehicles would compact the existing soiled ground and weaken the ground surface, concrete site formation is required to meet the operational needs and that has been kept to minimal for the operation of the proposed development. The applicant will reinstate the Site to a state that is suitable for farming after the planning approval period.</p>
<p>5. Comments of the District Lands Officer/Yuen Long, Lands Department (DLO/YL, LandsD) (Contact Person: Ms. S. L. CHENG; Tel.: 2443 1072)</p>		
(a)	<p>LandsD has reservation on the planning application since there is/are unauthorized structure(s) and/or uses on the private lot(s) which is/are already subject to lease enforcement actions according to case priority. The lot owner(s) should rectify/apply for regularization on the lease breaches as demanded by LandsD.</p>	<p>The applicant will submit Short Term Wavier (STW) and Short Term Tenancy (STT) applications to rectify the applied use after planning approval has been obtained from the Board. No structure is proposed for domestic use.</p>
(b)	<p>If the planning application is approved, the lot owner(s) shall apply to this office for a Short Term Waiver (STW) and a Short Term Tenancy (STT) to permit the structure(s) erected within the said private lots and the occupation of the Government land. The application(s) for STW and STT will be considered by the Government in its capacity as a landlord and there is no guarantee that they will be approved. The STW and STT, if approved, will be subject to such terms and conditions including the payment of waiver fee, rent and administrative fee as considered appropriate by LandsD. Besides, given the proposed use is temporary in nature, only erection of temporary structure(s) will be considered.</p>	

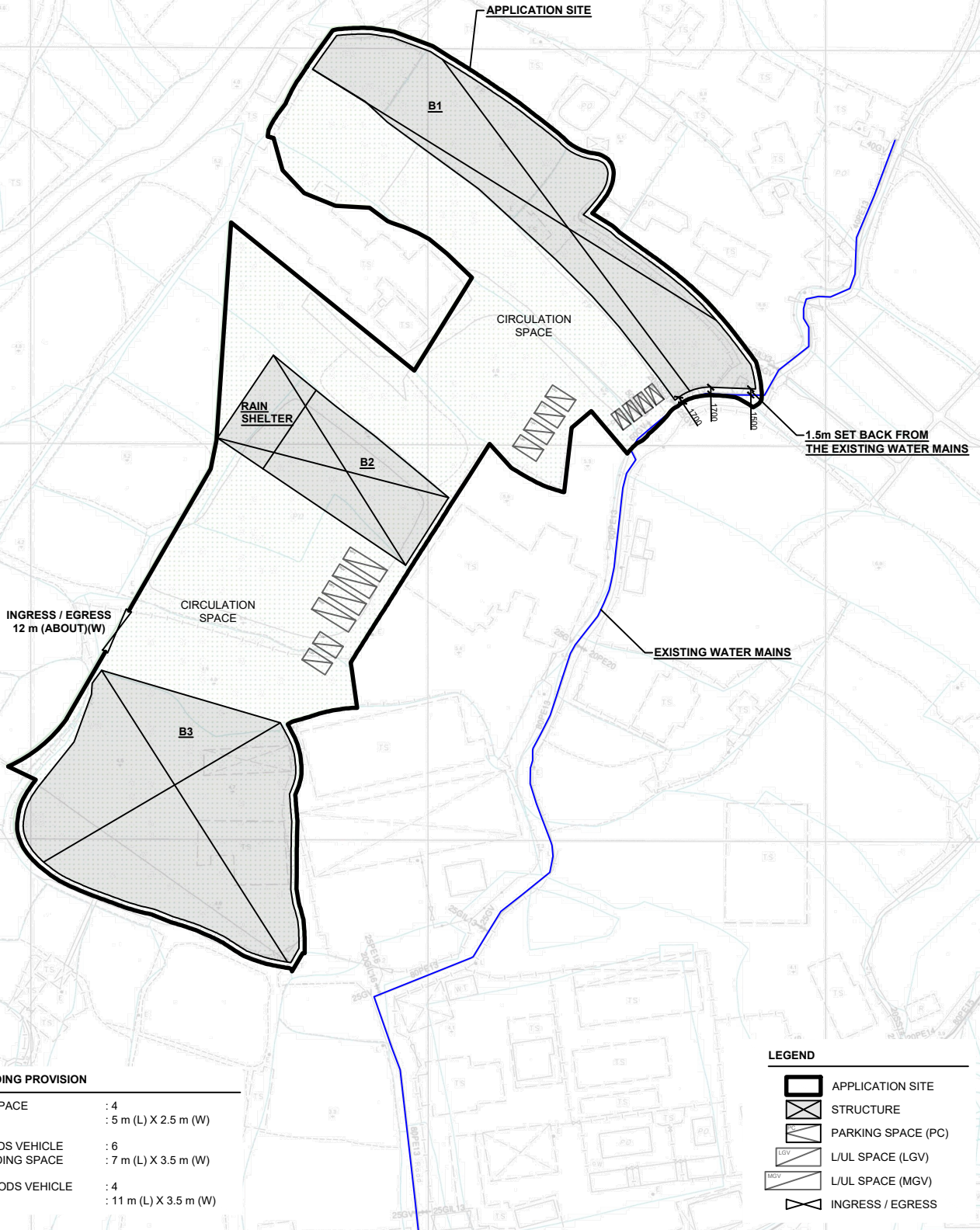
6. Comments of the Chief Engineer/Construction, Water Supplies Department (CE/C, WSD) (Contact Person: Mr. H. Y. HO; Tel.: 2152 5778)		
(a)	Existing water mains will be affected as shown on the plan. The cost of any necessary diversion shall be borne by the proposed development.	A revised layout plan with at least 1.5m setback from the existing water mains as a waterworks reserve is provided for your consideration (Plan 1). No structure will be erected and no material will be stored within the waterworks reserve area. Free access will be provided for staff / contractor of Water Supplies Department to carry out construction, inspection, operation, maintenance and repair works at any time during the planning approval period.
(b)	In case it is not feasible to divert the affected water mains, a waterworks reserve within 1.5metres from the center line of the water mains shall be provided to WSD. No structure shall be built or materials stored within this waterworks reserve. Free access shall be made available at all times for staff of the Director of Water Supplies or their contractor to carry out construction, inspection, operation, maintenance and repair works.	
(c)	No trees or shrubs with penetrating roots may be planted within the Waterworks Reserve or in the vicinity of the water main shown on the plan.	No trees or shrubs with penetrating roots will be planted within the waterworks reserve or in the vicinity of the water main.
(d)	Government shall not be liable to any damage whatsoever and howsoever caused arising from burst or leakage of the public water mains within and in close vicinity of the site.	Noted.
7. Comments of Commissioner for Transport (C for T) (Contact Person: Mr. Phil CAI; Tel.: 2399 2421)		
(a)	The applicant should justify the need for two run-in/out within the site; and	The layout of the proposed development is revised for your consideration (Plan 1). Please be noted that only one 12m width ingress/egress is provided to facilitate the proposed development. A plan showing the swept path analysis is also provided (Plan 2).
(b)	The applicant should note the local access between Castle Peak Road - Tam Mi and the site is not managed by this Department.”	Noted.

8. Comments of the Director of Agriculture, Fisheries and Conservation (DAFC) (Contact Person: Ms. WONG Cheuk-ling; Tel.: 2150 6933)	
(a)	<p>There is a watercourse located to the northwest of the subject site. The applicant shall clarify whether any measure will be implemented to avoid disturbance to the watercourse nearby during land filling and operation.</p> <p>All the proposed works will be carried out at least 3m away from the top bank of the existing watercourse that is located at the northwest of the Site. Fencing will be erected along the site boundary to avoid the watercourse from reaching.</p> <p>A DIA report is submitted by the applicant to review the drainage arrangements for the proposed development (Annex III). According to the DIA, surface runoff will be collected via the proposed drainage pipe and discharged into existing 7.5m wide open channel to the south of the Site. Therefore, adverse impact on the nearby watercourse on the northwest of the Site should <u>not</u> be anticipated. During the operation of the proposed development, surface run-off will be discharged into storm drains through appropriately designed sand/silt removal facilities such as sand traps, silt traps and sediments basins. Silt removal facilities, channels, and manholes will be maintained, and the deposited silt and grit will be removed on a regular basis, at the start and end of each rainstorm, to ensure that these facilities are always operational. Therefore, adverse impact on the nearby watercourse should <u>not</u> be anticipated.</p>

DEVELOPMENT PARAMETERS

APPLICATION SITE AREA	: 16,657 m ²	(ABOUT)
COVERED AREA	: 7,321 m ²	(ABOUT)
UNCOVERED AREA	: 9,336 m ²	(ABOUT)
PLOT RATIO	: 0.44	(ABOUT)
SITE COVERAGE	: 44 %	(ABOUT)
NO. OF STRUCTURE	: 3	
DOMESTIC GFA	: NOT APPLICABLE	
NON-DOMESTIC GFA	: 7,321 m ²	(ABOUT)
TOTAL GFA	: 7,321 m ²	(ABOUT)
BUILDING HEIGHT	: 13 m	(ABOUT)
NO. OF STOREY	: 1	

STRUCTURE	USE	COVERED AREA	GFA	BUILDING HEIGHT
B1	WAREHOUSE (EXCLUDING D.G.G.)	2,588 m ² (ABOUT)	2,588 m ² (ABOUT)	13 m (ABOUT)(1-STOREY)
B2	SITE OFFICE AND WASHROOM			
B3	WAREHOUSE (EXCLUDING D.G.G.)	1,307 m ² (ABOUT)	1,307 m ² (ABOUT)	13 m (ABOUT)(1-STOREY)
		3,426 m ² (ABOUT)	3,426 m ² (ABOUT)	13 m (ABOUT)(1-STOREY)
TOTAL		7,321 m² (ABOUT)	7,321 m² (ABOUT)	



PARKING AND LOADING/UNLOADING PROVISION

NO. OF PRIVATE CAR PARKING SPACE	: 4
DIMENSION OF PARKING SPACE	: 5 m (L) X 2.5 m (W)
NO. L/UL SPACE FOR LIGHT GOODS VEHICLE	: 6
DIMENSION OF LOADING/UNLOADING SPACE	: 7 m (L) X 3.5 m (W)
NO. L/UL SPACE FOR MEDIUM GOODS VEHICLE	: 4
DIMENSION OF L/UL SPACE	: 11 m (L) X 3.5 m (W)

LEGEND

- APPLICATION SITE
- STRUCTURE
- PARKING SPACE (PC)
- L/UL SPACE (LGV)
- L/UL SPACE (MGV)
- INGRESS / EGRESS

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PROJECT

PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND AND POND

ADDRESS

VARIOUS LOTS IN D.D. 107 AND ADJOINING GOVERNMENT LAND, FUNG KAT HEUNG, KAM TIN, YUEN LONG, NEW TERRITORIES

SCALE
1 : 1500 @ A4

DRAWN BY
MN

DATE
4.3.2024

REVISED BY
LT

DATE
15.7.2024

TITLE
LAYOUT PLAN

DWG NO.
PLAN 1

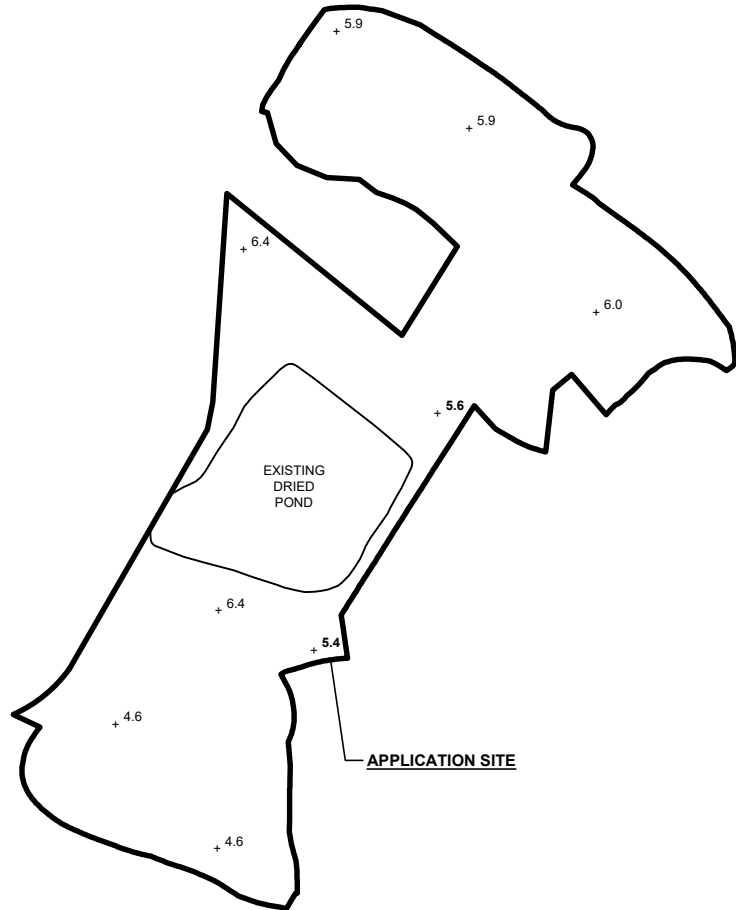
VER.
001



EXISTING CONDITION OF THE APPLICATION SITE

APPLICATION SITE AREA	: 16,657 m ²	(ABOUT)
EXISTING SITE SURFACE	: SOILED GROUND	(ABOUT)
EXISTING SITE LEVELS	: +4.6 mPD TO +6.4 mPD	(ABOUT)
EXISTING DRIED POND AREA	: 2,468 m ²	(ABOUT)
DEPTH OF DRIED POND	: 0.3 m	(ABOUT)

SITE LEVELS ARE FOR INDICATIVE PURPOSE ONLY.



EXISTING SITE LEVEL OF THE APPLICATION SITE
(INDICATIVE ONLY)

LEGEND

- APPLICATION SITE
- +3.3 EXISTING SITE LEVEL

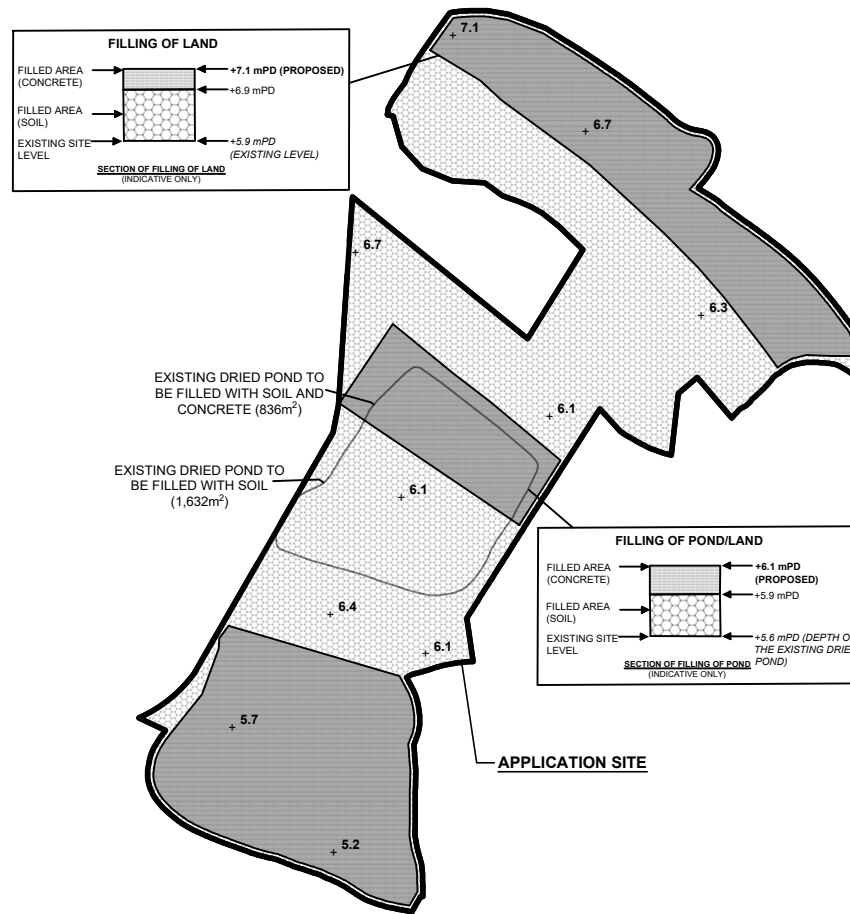
PROPOSED FILLING OF LAND/POND AREA OF THE APPLICATION SITE

APPLICATION SITE AREA	: 16,657 m ²	(ABOUT)
PROPOSED FILLING OF LAND AREA	: 16,657 m ²	(ABOUT)
DEPTH OF LAND FILLING	: NOT MORE THAN 1.2 m	
PROPOSED SITE LEVELS	: +5.2 mPD TO +7.1 mPD	(ABOUT)

MATERIAL OF LAND FILLING : CONCRETE AND SOIL
PURPOSE OF LAND FILLING : SITE FORMATION OF STRUCTURE# AND CIRCULATION SPACE

PROPOSED FILLING OF POND AREA	: 2,468 m ²	(ABOUT)
PROPOSED DEPTH OF POND FILLING	: 0.3 m	(ABOUT)
MATERIAL OF POND FILLING	: SOIL	
PURPOSE OF POND FILLING	: CIRCULATION SPACE	

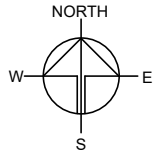
0.2m OF CONCRETE WILL BE FILLED ON TOP OF THE FILLED LAND TO FACILITATE A FLAT SURFACE FOR SITE FORMATION OF STRUCTURES



PROPOSED SITE LEVEL OF THE APPLICATION SITE
(INDICATIVE ONLY)

LEGEND

- APPLICATION SITE
- +3.7 PROPOSED SITE LEVEL
- STRUCTURE
- TO BE FILLED WITH CONCRETE
- TO BE FILLED WITH SOIL



PLANNING CONSULTANT



PROJECT

PROPOSED WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND AND POND

SITE LOCATION

VARIOUS LOTS IN D.D. 107 AND ADJOINING GOVERNMENT LAND, FUNG KAT HEUNG, KAM TIN, YUEN LONG, NEW TERRITORIES

SCALE

1 : 2000 @ A4

DRAWN BY: MN DATE: 4.6.2024

REVISED BY: LT DATE: 23.9.2024

APPROVED BY: DATE:

DWG. TITLE

LAND AND POND FILLING

DWG NO. PLAN 2

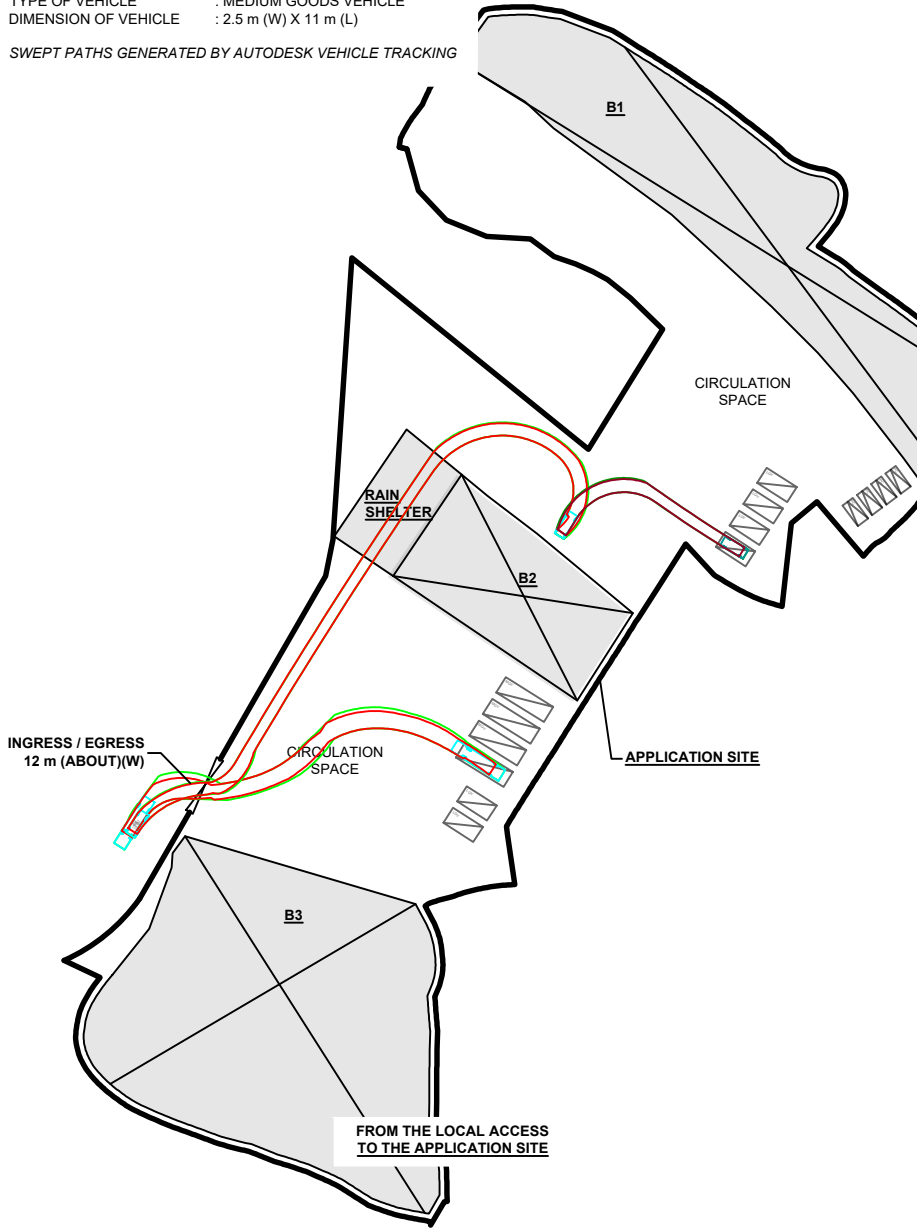
VER. 001

SWEPT PATH ANALYSIS

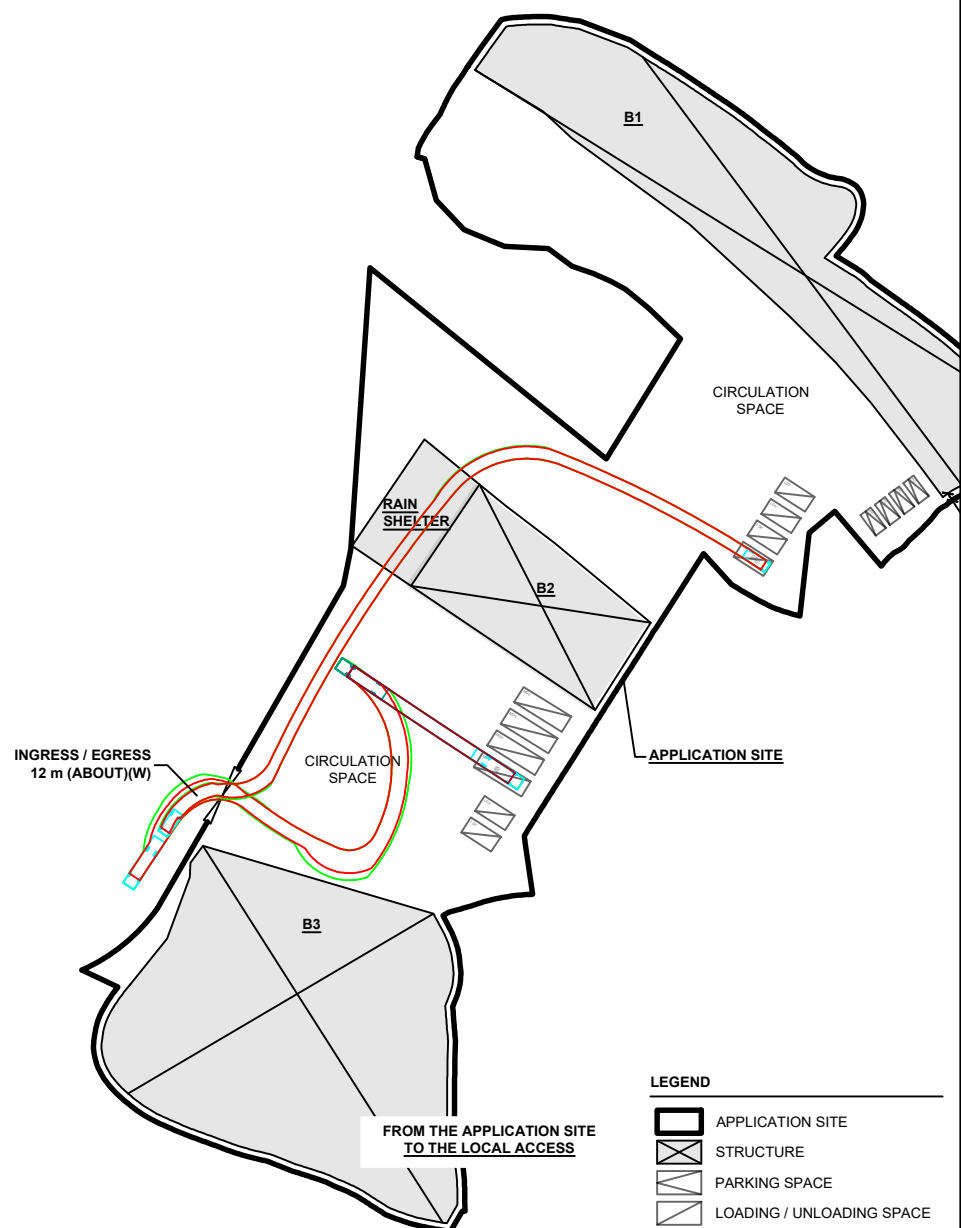
TYPE OF VEHICLE : LIGHT GOODS VEHICLE
 DIMENSION OF VEHICLE : 2.1 m (W) X 5.2 m (L)

TYPE OF VEHICLE : MEDIUM GOODS VEHICLE
 DIMENSION OF VEHICLE : 2.5 m (W) X 11 m (L)

SWEPT PATHS GENERATED BY AUTODESK VEHICLE TRACKING



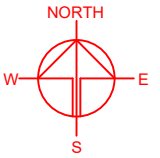
FROM THE LOCAL ACCESS
TO THE APPLICATION SITE



FROM THE APPLICATION SITE
TO THE LOCAL ACCESS

LEGEND

- APPLICATION SITE
- STRUCTURE
- PARKING SPACE
- LOADING / UNLOADING SPACE
- INGRESS / EGRESS
- MG / LGV
- SWEPT PATH OF VEHICLE



PLANNING CONSULTANT



PROJECT

PROPOSED WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND AND POND

SITE LOCATION

VARIOUS LOTS IN D.D. 107 AND ADJOINING GOVERNMENT LAND, FUNG KAT HEUNG, KAM TIN, YUEN LONG, NEW TERRITORIES

SCALE
1 : 1500 @ A4

DRAWN BY MN	DATE 3.5.2024
REVISED BY LT	DATE 15.7.2024
APPROVED BY	DATE

DWG. TITLE
SWEPT PATH ANALYSIS

DWG. NO. PLAN 3	VER. 001
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Proposed operating hours 擬議營運時間 Monday to Saturday from 09:00 to 19:00, no operation on Sunday and public holiday.....																															
(d) Any vehicular access to the site/subject building? 是否有車路通往地盤/ 有關建築物?	<p>Yes 是 <input checked="" type="checkbox"/> There is an existing access. (please indicate the street name, where appropriate) 有一條現有車路。(請註明車路名稱(如適用)) Accessible from Mei Fung Road via the application Nos. A/YL-KTN/951 &.953.....</p> <p>No 否 <input type="checkbox"/> There is a proposed access. (please illustrate on plan and specify the width) 有一條擬議車路。(請在圖則顯示, 並註明車路的闊度)</p> <p><input type="checkbox"/></p>																														
(e) Impacts of Development Proposal 擬議發展計劃的影響 (If necessary, please use separate sheets to indicate the proposed measures to minimise possible adverse impacts or give justifications/reasons for not providing such measures. 如需要的話, 請另頁註明可盡量減少可能出現不良影響的措施, 否則請提供理據/理由。)																															
(i) Does the development proposal involve alteration of existing building? 擬議發展計劃是否包括現有建築物的改動?	<p>Yes 是 <input type="checkbox"/> Please provide details 請提供詳情</p> <p>No 否 <input checked="" type="checkbox"/></p>																														
(ii) Does the development proposal involve the operation on the right? 擬議發展是否涉及右列的工程?	<p>Yes 是 <input checked="" type="checkbox"/> (Please indicate on site plan the boundary of concerned land/pond(s), and particulars of stream diversion, the extent of filling of land/pond(s) and/or excavation of land) (請用地盤平面圖顯示有關土地/池塘界線, 以及河道改道、填塘、填土及/或挖土的細節及/或範圍)</p> <p><input type="checkbox"/> Diversion of stream 河道改道</p> <p><input checked="" type="checkbox"/> Filling of pond 填塘 Area of filling 填塘面積 2,468 sq.m 平方米 <input checked="" type="checkbox"/> About 約 Depth of filling 填塘深度 not more than 0.3... m 米 <input checked="" type="checkbox"/> About 約</p> <p><input checked="" type="checkbox"/> Filling of land 填土 Area of filling 填土面積 16,657... sq.m 平方米 <input checked="" type="checkbox"/> About 約 Depth of filling 填土厚度 m 米 <input type="checkbox"/> About 約</p> <p><input type="checkbox"/> Excavation of land 挖土 Area of excavation 挖土面積..... sq.m 平方米 <input type="checkbox"/> About 約 Depth of excavation 挖土深度 m 米 <input type="checkbox"/> About 約</p> <p>No 否 <input type="checkbox"/></p>																														
(iii) Would the development proposal cause any adverse impacts? 擬議發展計劃會否造成不良影響?	<table border="0"> <tr> <td>On environment 對環境</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>On traffic 對交通</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>On water supply 對供水</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>On drainage 對排水</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>On slopes 對斜坡</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>Affected by slopes 受斜坡影響</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>Landscape Impact 構成景觀影響</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>Tree Felling 砍伐樹木</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>Visual Impact 構成視覺影響</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>Others (Please Specify) 其他 (請列明)</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input type="checkbox"/></td> </tr> </table> <p>_____</p> <p>_____</p>	On environment 對環境	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	On traffic 對交通	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	On water supply 對供水	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	On drainage 對排水	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	On slopes 對斜坡	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	Affected by slopes 受斜坡影響	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	Landscape Impact 構成景觀影響	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	Tree Felling 砍伐樹木	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	Visual Impact 構成視覺影響	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	Others (Please Specify) 其他 (請列明)	Yes 會 <input type="checkbox"/>	No 不會 <input type="checkbox"/>
On environment 對環境	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>																													
On traffic 對交通	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>																													
On water supply 對供水	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>																													
On drainage 對排水	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>																													
On slopes 對斜坡	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>																													
Affected by slopes 受斜坡影響	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>																													
Landscape Impact 構成景觀影響	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>																													
Tree Felling 砍伐樹木	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>																													
Visual Impact 構成視覺影響	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>																													
Others (Please Specify) 其他 (請列明)	Yes 會 <input type="checkbox"/>	No 不會 <input type="checkbox"/>																													

p FIRE SERVICES NOTES

1. HOSE REEL SYSTEM

- 1.1 HOSE REEL SHALL BE PROVIDED AT POSITIONS OF THE WAREHOUSE B1, B2 & B3 AS INDICATED ON PLANS.
- 1.2 WATER SUPPLY FOR THE MODIFIED HOSE REEL SYSTEM TO BE SINGLE END FEED FROM THE GOVERNMENT TOWN MAIN.
- 1.3 A MODIFIED HOSE REEL SYSTEM OF 2,000 LITRES WATER TANK TO BE PROVIDED FOR THE STRUCTURE B1, B2 & B3 AS INDICATED ON PLAN.
- 1.4 TWO HOSE REEL PUMPS (ONE DUTY & ONE STANDBY) SHALL TO BE PROVIDED AT FS PUMP ROOM.
- 1.5 NO FIRE SERVICES INLET TO BE PROVIDED FOR THE MODIFIED HOSE REEL SYSTEM.
- 1.6 SUFFICIENT HOSE REELS SHALL BE PROVIDED TO THE PREMISES. HOSE REELS SHALL BE PROVIDED TO ENSURE THAT EVERY PART OF THE BUILDING CAN BE REACHED BY A LENGTH OF NOT MORE THAN 30 M OF HOSE REEL TUBING. ONE ACTUATING POINT AND ONE AUDIO WARNING DEVICE TO BE LOCATED AT EACH HR POINT.

2. SPRINKLER SYSTEM

- 2.1 THE CLASSIFICATION OF THE AUTOMATIC SPRINKLER INSTALLATION TO BE ORDINARY HAZARD GROUP 3.
- 2.2 AUTOMATIC SPRINKLER SYSTEM SHALL SUPPLIED BY A 135,000L SPRINKLER WATER TANK AND COVERED TO THE ENTIRE WAREHOUSES (B1, B2 & B3) IN ACCORDANCE WITH LPC RULES INCORPORATING BS EN12845 : 2015 AND FSD CIRCULAR LETTER 5/2020. THE SPRINKLER WATER TANK, SPRINKLER PUMP ROOM, SPRINKLER INLET AND SPRINKLER CONTROL VALVE GROUP SHALL BE AS INDICATED ON PLANS.
- 2.3 ALL INSTALLED SPRINKLER SHOULD BE CONVENTIONAL TYPE AND THE TEMPERATURE RATING OF SPRINKLER HEAD SHALL BE 68°C UNLESS OTHERWISE SPECIFIED.
- 2.4 ALL SPRINKLER PIPE SIZE SHOULD BE Ø32MM UNLESS SPECIFY.
- 2.5 STORAGE BLOCK SHOULD BE SEPARATED BY AISLES NO LESS THAN 2.4M WIDE.
- 2.6 THE MAXIMUM STORAGE AREA SHALL BE 50m² FOR ANY SINGLE BLOCK.
- 2.7 TYPE OF STORAGE METHOD FOR THOSE WAREHOUSES ARE AS FOLLOWS:
 - i) STORAGE CATEGORY : CATEGORY (III)
 - ii) STORAGE HEIGHT : NOT EXCEEDING 2.1M
 - iii) STORAGE : ST1

3. FIRE ALARM SYSTEM

- 3.1 FIRE ALARM SYSTEM SHALL BE PROVIDED THROUGHOUT THE ENTIRE COVERED AREA OF WAREHOUSES IN ACCORDANCE WITH BS 5839-1 : 2017 AND FSD CIRCULAR LETTER 6/2021. ONE ACTUATING POINT AND ONE AUDIO WARNING DEVICE SHOULD BE LOCATED AT EACH HOSE REEL POINT. THE ACTUATION POINT SHOULD INCLUDE FACILITIES FOR HOSE REEL PUMP START AND AUDIO / VISUAL WARNING DEVICE INITIATION.
- 3.2 AN ADDRESSABLE TYPE FIRE ALARM PANEL TO BE PROVIDED AND LOCATED IN FRONT OF THE MAIN ENTRANCE OF WAREHOUSE B1 ON G/F.

4. EMERGENCY LIGHTING

- 4.1 SUFFICIENT EMERGENCY LIGHTING SHALL BE PROVIDED THROUGHOUT THE COVERED AREA OF WAREHOUSES IN ACCORDANCE WITH BS 5266-1:2016 AND BS EN 1838:2013 AND FSD CIRCULAR LETTER 4/2021.
- 4.2 SELF-CONTAINED TYPE EMERGENCY LIGHTING SYSTEM COMPLYING WITH H.K.F.S.D.'S CODE OF PRACTICE AS WELL AS BS 5266-1 : 2011 + BS EN 1838 : 2013 WILL BE PROVIDED, AND PERMANENTLY MAINTAINED IN EFFECTIVE WORKING ORDER FROM NORMAL SUPPLY & TO BE PROVIDED.
- 4.3 EMERGENCY LIGHTING SHALL BE PROVIDED THROUGHOUT THOSE WAREHOUSES AND ALL EXIT ROUTES LEADING TO EXIT OF BUILDING.

5. EXIT SIGN

- 5.1 SUFFICIENT SELF-CONTAINED TYPE DIRECTIONAL AND EXIT SIGNS TO ENSURE THAT ALL EXIT ROUTES FROM ANYWHERE WITHIN THOSE WAREHOUSES ARE CLEARLY INDICATED AS REQUIRED BY THE CONFIGURATION OF EXIT ROUTE SERVING THE BUILDING.

6. EMERGENCY GENERATOR

- 6.1 NO EMERGENCY GENERATOR TO BE PROVIDED FOR SERVING THE EMERGENCY POWER. A.C. SUPPLY SOURCE WITH SECONDARY SUPPLY SHALL FEED BEFORE MAIN SWITCH.
- 6.2 DUPLICATED POWER SUPPLIES FOR ALL FIRE SERVICES INSTALLATIONS COMPRISING A CABLE CONNECTED FROM ELECTRICITY MAINS DIRECTLY BEFORE THE MAIN SWITCH.

7 PORTABLE HAND-OPERATED APPROVED APPLIANCE

- 7.1 PORTABLE FIRE EXTINGUISHER WITH SPECIFIED TYPE AND CAPACITY TO BE PROVIDED AT LOCATIONS AS INDICATED ON PLANS.

























8 STATIC OR DYNAMIC SMOKE EXTRACTION SYSTEM

- 8.1 SMOKE EXTRACTION SYSTEM SHALL NOT BE PROVIDED AS THE AGGREGATE AREA OF OPENABLE WINDOWS OF THE COMPARTMENT SHALL PROVIDE MORE THAN 6.25% OF THE FLOOR AREA OF THAT COMPARTMENT.

9 VENTILATION/AIR CONDITIONING CONTROL SYSTEM

- 9.1 WHEN A VENTILATION/ AIR CONDITIONING CONTROL SYSTEM TO A BUILDING IS PROVIDED, IT SHALL STOP MECHANICALLY INDUCED AIR MOVEMENT WITHIN A DESIGNATED FIRE COMPARTMENT.






















LEGEND (FOR LAYOUT PLAN)

- | | |
|---|---|
|  | HOSE REEL W/ LOCKABLE GLASS FRONTED NOZZLE BOX, STRIKER, C/W FIRE ALARM BELL & BREAK GLASS UNIT |
| ∅ | 150mm FIRE ALARM BELL |
|  | BREAK GLASS UNIT |
|  | SPRINKLER HEAD |
|  | FLOW SWITCH |
|  | MONITORED GATE VALVE |
|  | SPRINKLER ZONE SUBSIDIARY CONTROL VALVE ASSEMBLY INCLUDES ZONE SUBSIDIARY CONTROL VALVE, FLOW SWITCH, TEST GATE VALVE AND DRAIN VALVE |
|  | GATE VALVE |
|  | NON RETURN VALVE |
|  | VORTEX INHIBITOR |
|  | BALL FLOAT VALVE |
|  | PRESSURE SWITCH |
| — | SPRINKLER PIPE |
| — | HOSE REEL PIPE |
|  | SPRINKLER CONTROL VALVE SET |
|  | CHECK METER POSITION |
|  | SPRINKLER / F.S. INLET |
|  | 5Kg CO2 TYPE FIRE EXTINGUISHER |
|  | 4Kg DRY POWDER TYPE FIRE EXTINGUISHER |
|  | PUMP |
|  | 150mm WATER ALARM GONG |
|  | EMERGENCY LIGHTING |
|  | EXIT SIGN |
|  | FIRE ALARM PANEL |
|  | PUMP CONTROL PANEL |
|  | SELF-CONTAINED EMERGENCY FLUORESCENT LIGHTING UNIT |
| — | F. S. INSTALLTION |
|  | FLASH LIGHT |

ABBREVIATION

- | | |
|-----------------|----------------------------|
| SPR. | SPRINKLER |
| F.H. | FIRE HYDRANT |
| H.R. | HOSE REEL |
| F.E. | FIRE EXTINGUISHER |
| CO ₂ | CARBON DIOXIDE |
| L.P.C. | LOSS PREVENTION COUNCIL |
| F.S.I. | FIRE SERVICES INSTALLATION |
| H/L | HIGH LEVEL |
| M/L | MID LEVEL |
| L/L | LOW LEVEL |
| F/A | FROM ABOVE |
| F/B | FROM BELOW |
| T/A | TO ABOVE |
| T/B | TO BELOW |
| U/G | UNDERGROUND |
| F.S. | FIRE SERVICES |

LEGEND (FOR SCHEMATIC DIAGRAM)

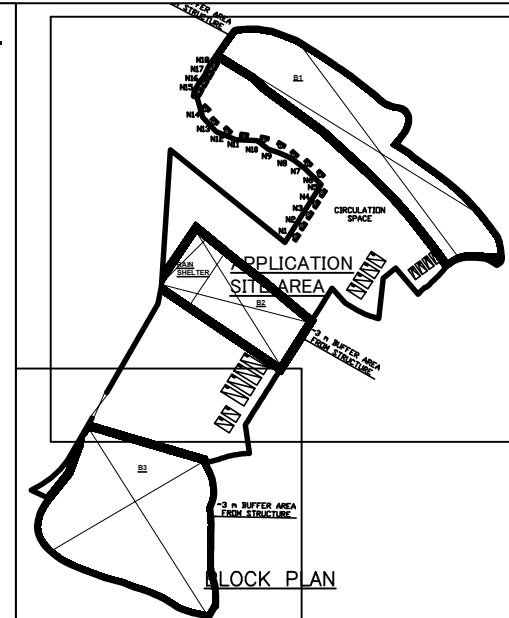
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|---|--|
|  | HOSE REEL W/ LOCKABLE GLASS FRONTED NOZZLE BOX, STRIKER, C/W FIRE ALARM BELL & BREAK GLASS UNIT |
| ∅ | 150mm FIRE ALARM BELL |
|  | BREAK GLASS UNIT |
|  | FAST RESPONSE TYPE SPRINKLER HEAD |
|  | FLOW SWITCH |
|  | MONITORED GATE VALVE |
|  | SPRINKLER ZONE SUBSIDIARY CONTROL VALVE ASSEMBLY INCLUDES ZONE SUBSIDIARY CONTROL VALVE, TEST GATE VALVE AND DRAIN VALVE |
|  | GATE VALVE |
|  | NON RETURN VALVE |
|  | VORTEX INHIBITOR |
|  | BALL FLOAT VALVE |
|  | PRESSURE SWITCH |
|  | PRESSURE GAUGE WITH COCK |
|  | AUTOMATIC AIR VENT WITH COCK |
| — | SPRINKLER / HOSE REEL PIPE |
|  | SPRINKLER CONTROL VALVE SET |
|  | LEVEL SWITCH (HIGH LEVEL SIGNAL & LOW LEVEL SIGNAL) |
|  | FLEXIBLE CONNECTOR |
|  | CHECK METER POSITION |
|  | PLUG |
|  | Y-STRAINER |
|  | SPRINKLER / F.S. INLET |
|  | SPRINKLER PROVING PIPE |
| — | F. S. INSTALLTION |

DRAWING LIST

DRAWING NO	DESCRIPTION
YL-KTB1024-FS01	FS NOTES, LEGEND, ABBREVIATIONS AND DRAWING LIST
YL-KTB1024-FS02	FIRE SERVICES INSTALLATION LAYOUT PLAN G/F LAYOUT PLAN (PART 1)
YL-KTB1024-FS03	FIRE SERVICES INSTALLATION LAYOUT PLAN G/F LAYOUT PLAN (PART 2)
YL-KTB1024-FS04	SCHEMATIC DIAGRAM FOR SPRINKLER SYSTEM
YL-KTB1024-FS05	SCHEMATIC DIAGRAM FOR HOSE REEL SYSTEM

COLOUR CODE

PIPE SIZES	COLOUR
Ø25mm	LIGHT GREEN
Ø32mm	RED
Ø40mm	PURPLE
Ø50mm	YELLOW
Ø65mm	BLUE
Ø80mm	GREEN
Ø100mm	LIGHT BROWN
Ø150mm	DEEP BROWN

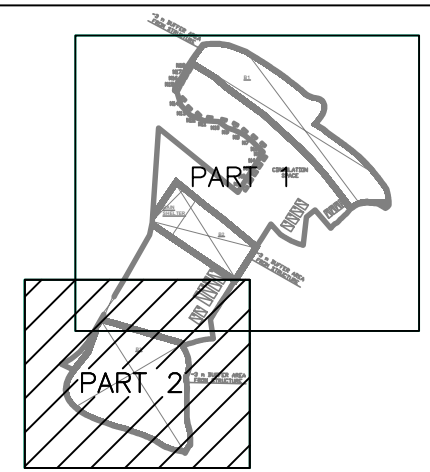
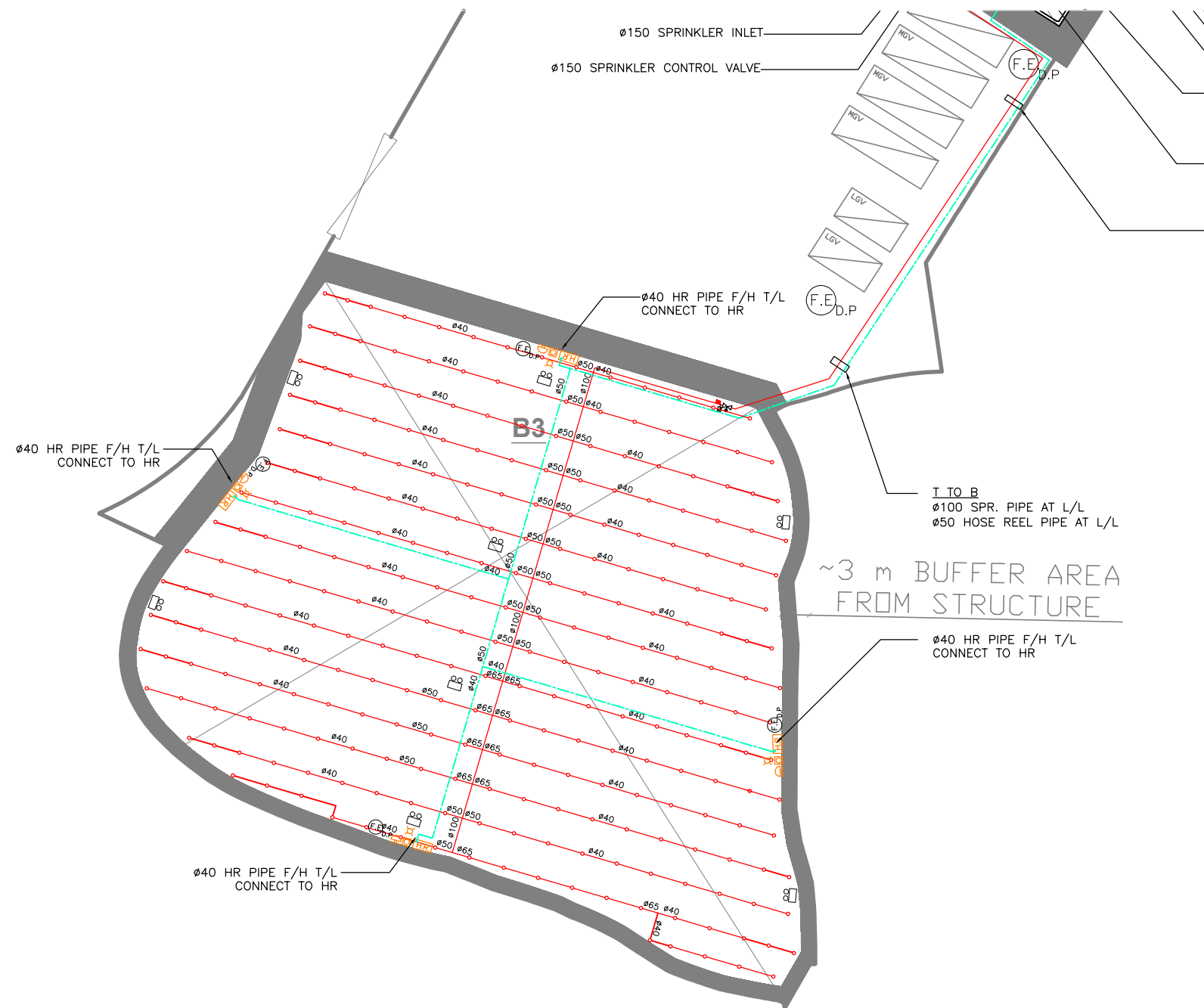


0	TPB SUBMISSION	05-08-2024	LH
REV	DESCRIPTION	DATE	BY

FSI CONTRACTOR
East Power Engineering Limited
 Flat A, 7/F., Hop Shing Commercial Building
 41 Chi Kiang Street, Tokwawan, Kowloon
 Fax : 2394-3772 Tel. : 2397-3238

PROJECT
 PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND AND POND AT VARIOUS LOTS IN D.D.107 AND ADJOINING GOVERNMENT LAND, FUNG KAT HEUNG, KAM TIN, YUEN LONG, NEW TERRITORIES.

DRAWING TITLE			
FS NOTES, LEGEND, ABBREVIATIONS AND DRAWING LIST			
	INITIAL	DESIGNATION	DATE
DRAWN BY	HY	Eng.T	05-08-2024
DESIGNED BY	HY	Eng.T	05-08-2024
CHECKED BY	CM	PM	05-08-2024
APPROVED BY	-	-	-
PROJECT NO.	A_YL-KTN_1024		
PAPER SIZE	A3	PLOT SCALE	1 : 1
DRAWING NO.			
YL-KTN1024-FS01			
SCALE	N. T. S.	REVISION	0



KEY PLAN

0	TPB SUBMISSION	05-08-2024	LH
REV	DESCRIPTION	DATE	BY

FSI CONTRACTOR
East Power Engineering Limited
 Flat A, 7/F., Hop Shing Commercial Building
 41 Chi Kiang Street, Tokwawan, Kowloon
 Fax : 2394-3772 Tel. : 2397-3238

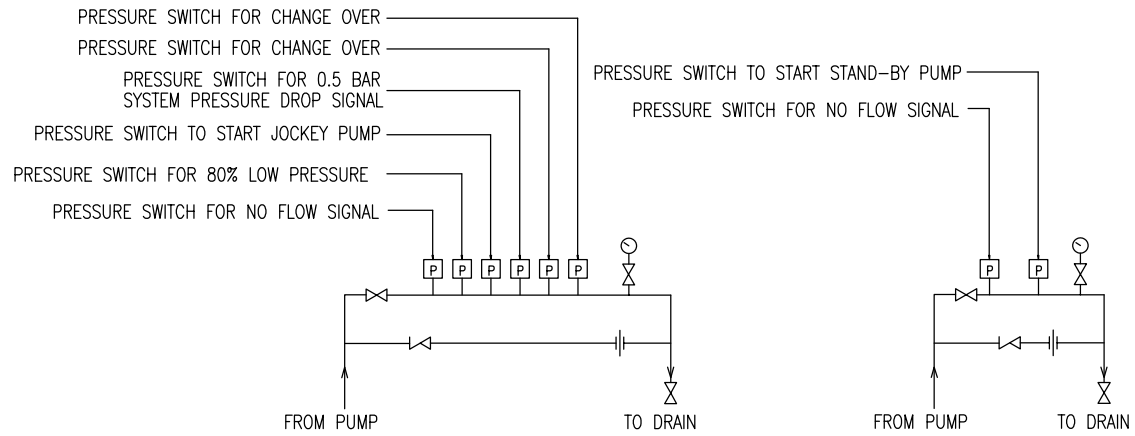
PROJECT
 PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND AND POND AT VARIOUS LOTS IN D.D.107 AND ADJOINING GOVERNMENT LAND, FUNG KAT HEUNG, KAM TIN, YUEN LONG, NEW TERRITORIES.

DRAWING TITLE
 FIRE SERVICES INSTALLATION LAYOUT PLAN-G/F LAYOUT PLAN (PART 2)

	INITIAL	DESIGNATION	DATE
DRAWN BY	HY	Eng.T	05-08-2024
DESIGNED BY	HY	Eng.T	05-08-2024
CHECKED BY	CM	PM	05-08-2024
APPROVED BY	-	-	-
PROJECT NO.	A_YL-KTN_1024		
PAPER SIZE	A3	PLOT SCALE	1 : 1
DRAWING NO.	YL-KTN1024-FS03		
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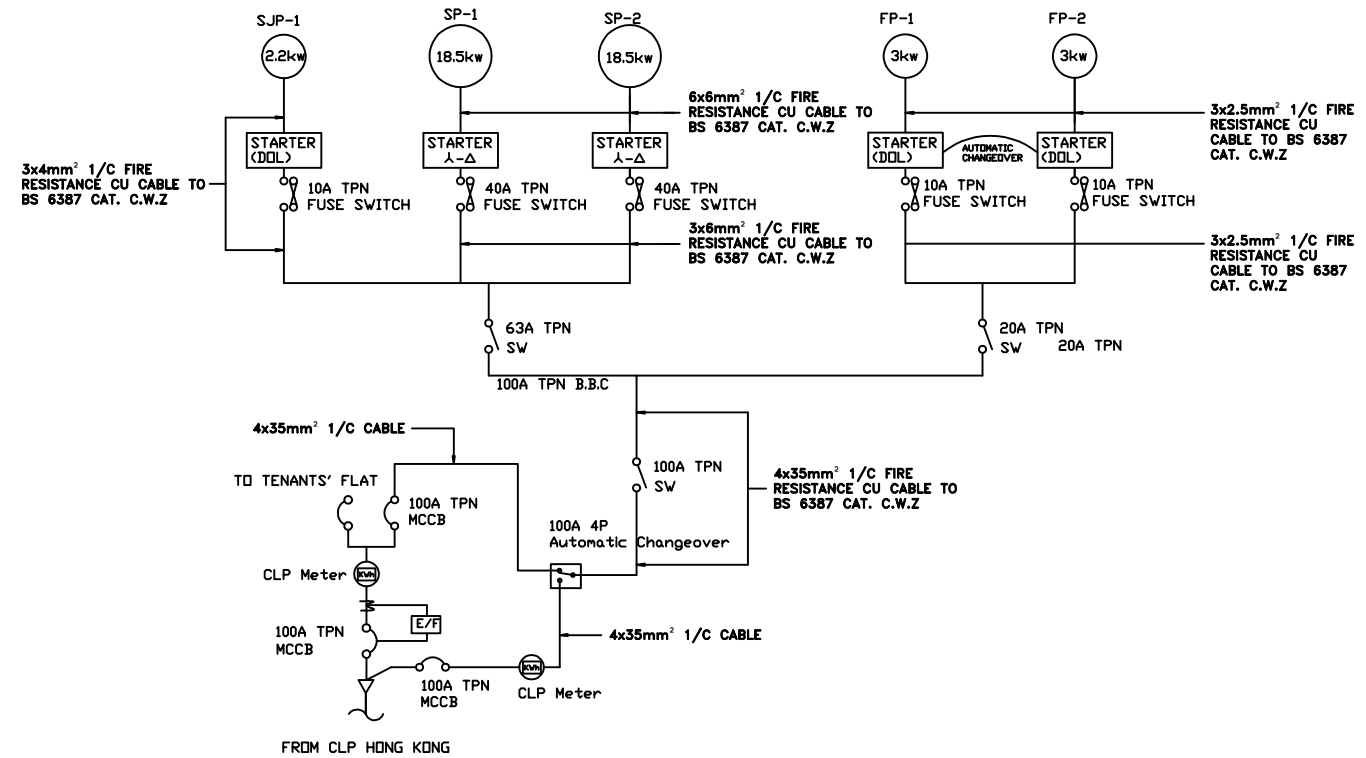
PUMP SCHEDULE

DESCRIPTION	PRESSURE (BAR)	FLOW (L/MIN.)	PUMP SPEED (RPM)	PUMP RATING (KW)	POWER SUPPLY (volts/phases/Hz)
SPRINKLER JOCKEY PUMP (SJP-1)	5	60	2900 MAXIMUM	2.2 KW	380/3/50
TWO SPRINKLER PUMPS (SP-1 AS DUTY & SP-2 AS STAND-BY PUMP)	1.4 / 2.9 / 3.2	2250 / 1350 / 1100	2900 MAXIMUM	18.5 KW	380/3/50

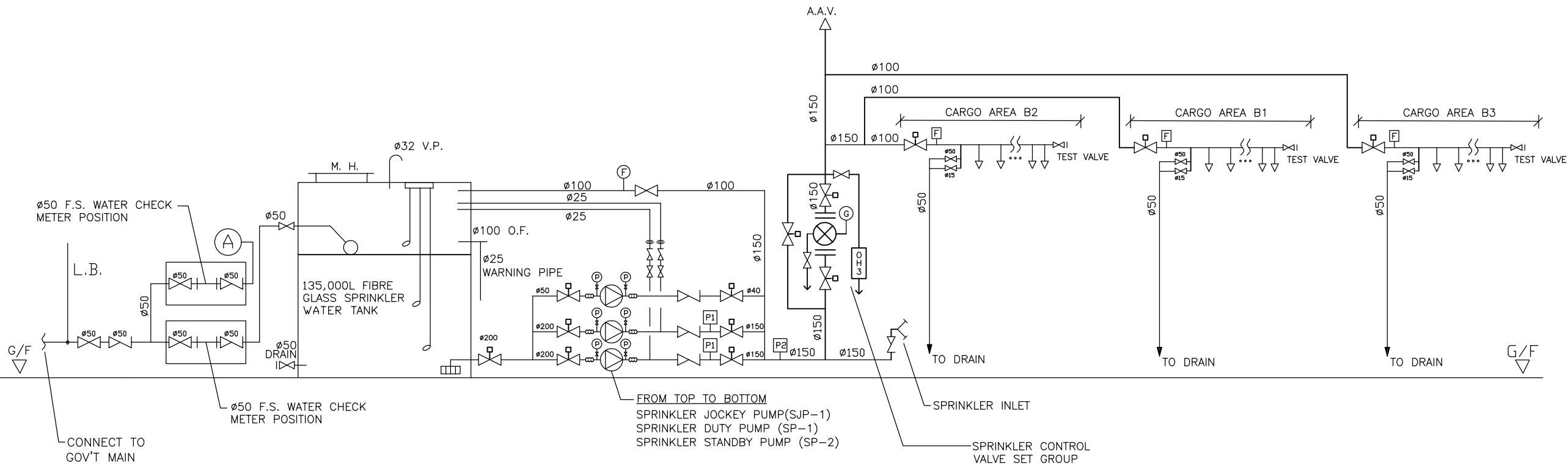


DETAIL ARRANGEMENT FOR 'P2'

DETAIL ARRANGEMENT FOR 'P1'



POWER DISTRIBUTION DIAGRAM FOR SPRINKLER AND FIRE SERVICE PUMPS



SCHEMATIC DIAGRAM FOR SPRINKLER SYSTEM

REV	DESCRIPTION	DATE	BY
0	TPB SUBMISSION	05-08-2024	LH

FSI CONTRACTOR
East Power Engineering Limited
 Flat A, 7/F., Hop Shing Commercial Building
 41 Chi Kiang Street, Tokwawan, Kowloon
 Fax. : 2394-3772 Tel. : 2397-3238

PROJECT
 PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND AND POND AT VARIOUS LOTS IN D.D.107 AND ADJOINING GOVERNMENT LAND, FUNG KAT HEUNG, KAM TIN, YUEN LONG, NEW TERRITORIES.

DRAWING TITLE
 SCHEMATIC DIAGRAM FOR SPRINKLER SYSTEM

	INITIAL	DESIGNATION	DATE
DRAWN BY	HY	Eng.T	05-08-2024
DESIGNED BY	HY	Eng.T	05-08-2024
CHECKED BY	CM	PM	05-08-2024
APPROVED BY	-	-	-

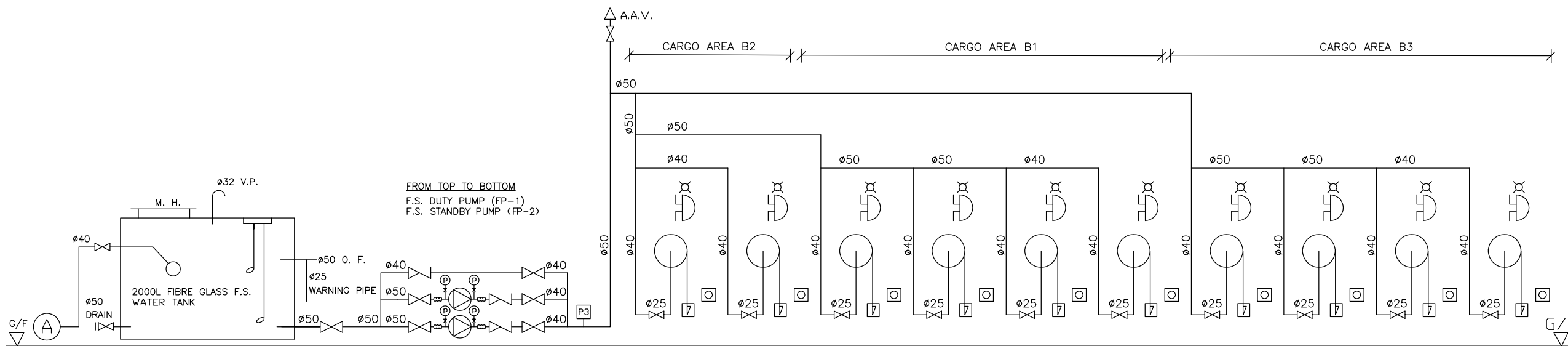
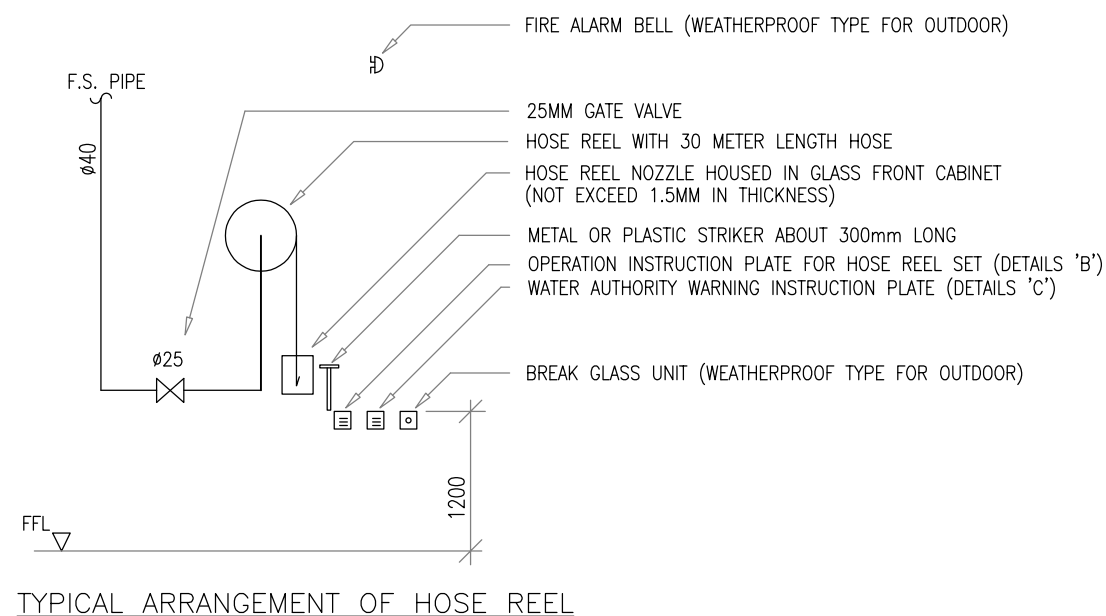
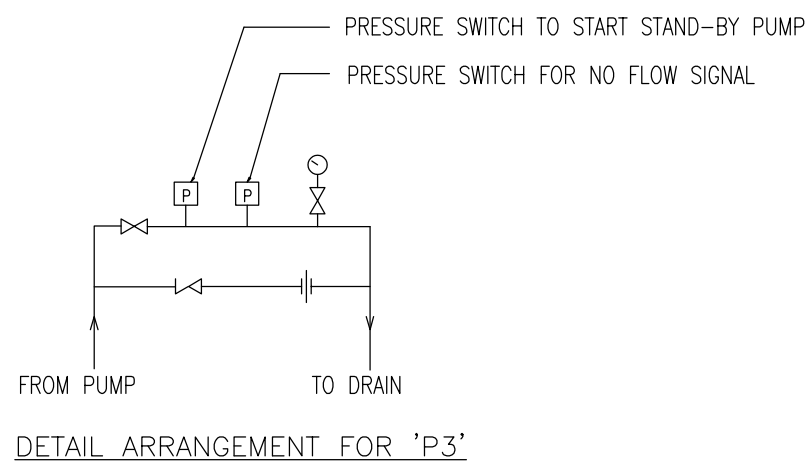
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PAPER SIZE	A3	PLOT SCALE	1 : 1

DRAWING NO.
 YL-KTN1024-FS04

SCALE	N. T. S.	REVISION	0
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PUMP SCHEDULE

DESCRIPTION	PRESSURE (BAR)	FLOW (L/MIN.)	PUMP SPEED (RPM)	PUMP RATING (KW)	POWER SUPPLY (volts/phases/Hz)
TWO FIRE SERVICES PUMPS (FP-1 AS DUTY & FP-2 AS STANDBY PUMP)	5	60	2900 MAXIMUM	2.2KW	380/3/50



REV	DESCRIPTION	DATE	BY
0	TPB SUBMISSION	05-08-2024	LH

FSI CONTRACTOR
East Power Engineering Limited
 Flat A, 7/F., Hop Shing Commercial Building
 41 Chi Kiang Street, Tokwawan, Kowloon
 Fax. : 2394-3772 Tel. : 2397-3238

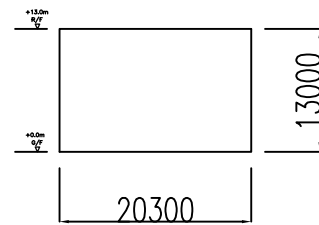
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DRAWING TITLE
 SCHEMATIC DIAGRAM FOR HOSE REEL SYSTEM

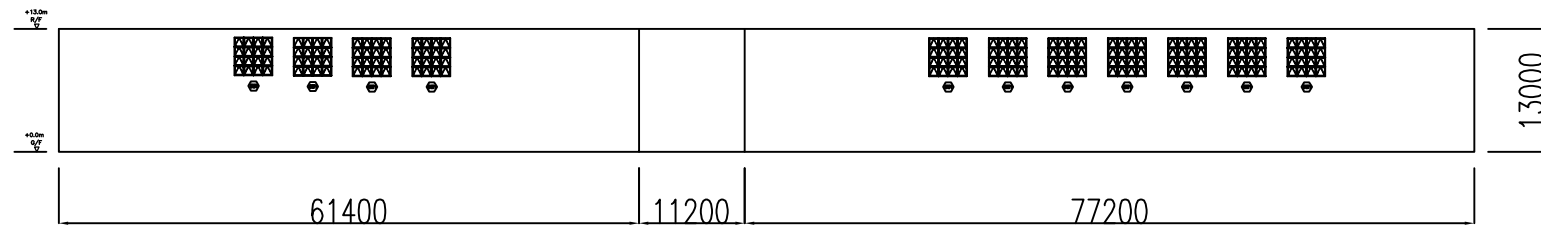
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DESIGNED BY	HY	Eng.T	05-08-2024
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APPROVED BY	-	-	-

PROJECT NO. A_YL-KTN_1024
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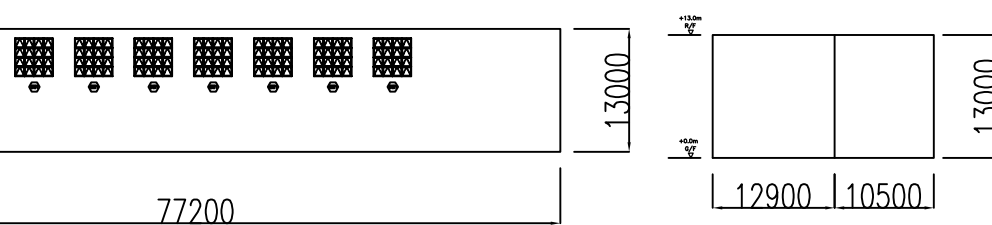
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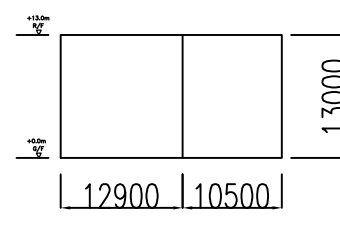
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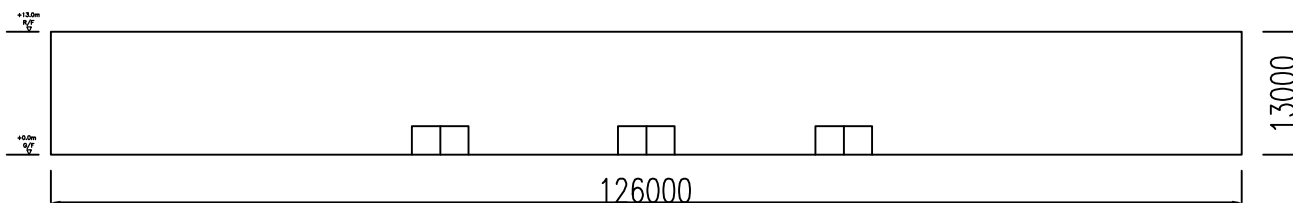
ELEVATION PLAN (ELV 2)



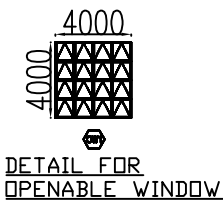
ELEVATION PLAN (ELV 3)



ELEVATION PLAN (ELV 4)

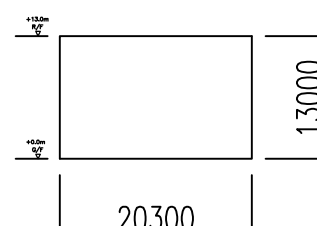
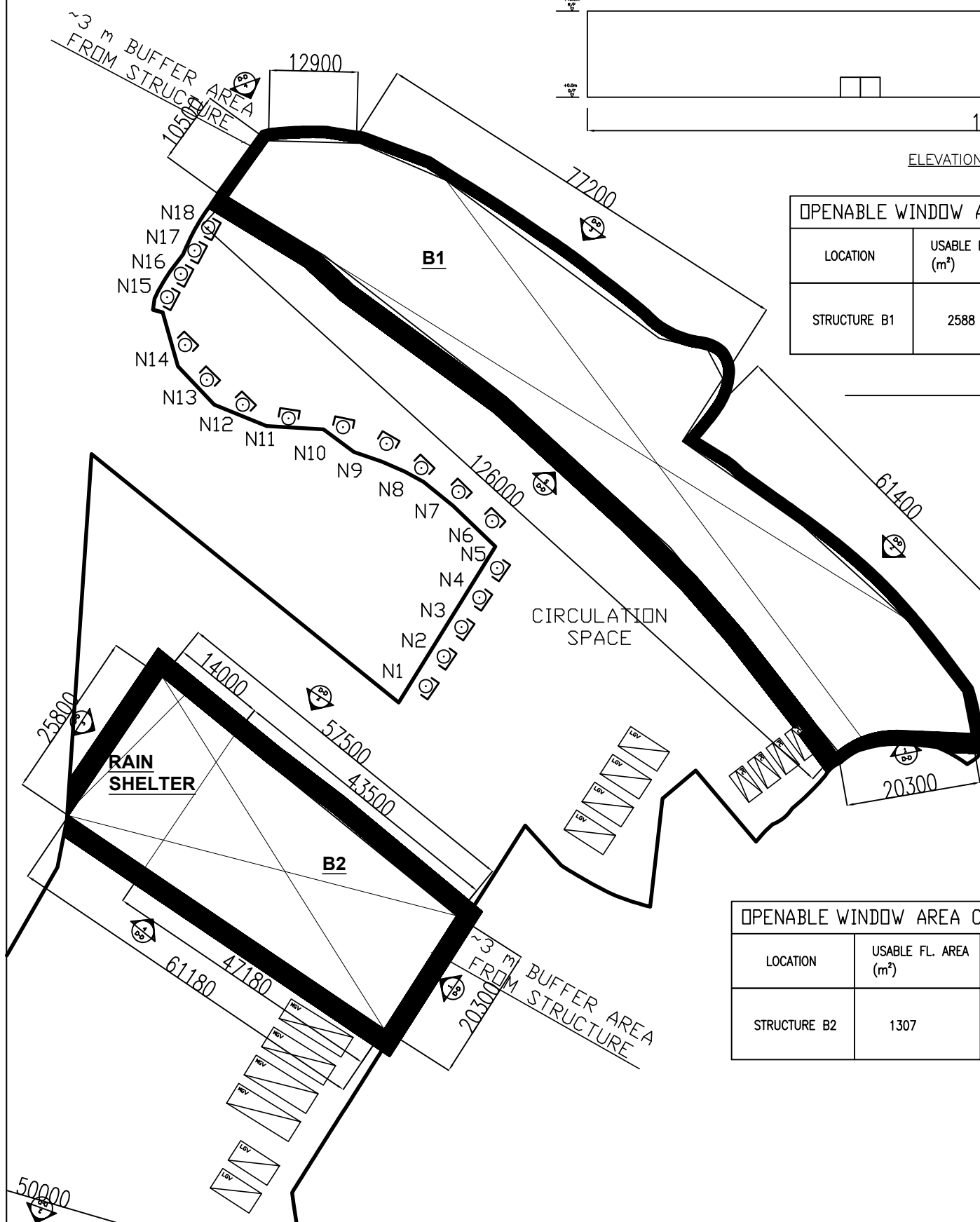


ELEVATION PLAN (ELV 5)

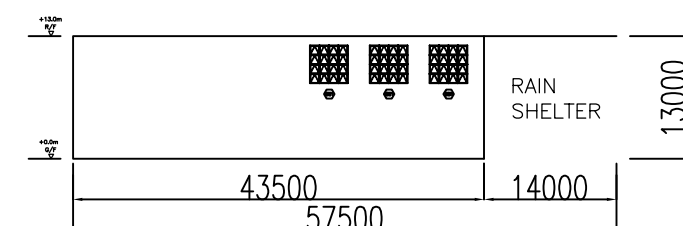


OPENABLE WINDOW AREA CALCULATION UNDER F.S.D. REQUIREMENT FOR COMPARTMENT EXCEEDING 7000m²

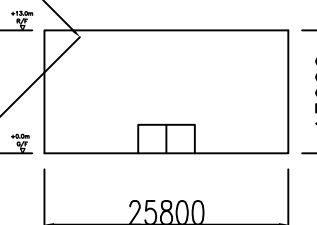
LOCATION	USABLE FL. AREA (m ²)	OPENABLE WINDOW AREA REQUIRED (m ²)	OPENABLE WINDOW AREA PROVIDED (m ²)
STRUCTURE B1	2588	2588 X 6.25% = 161.8	REFER TO ELEVATION 2 = 64 REFER TO ELEVATION 3 = 112 TOTAL = 176 > 161.8



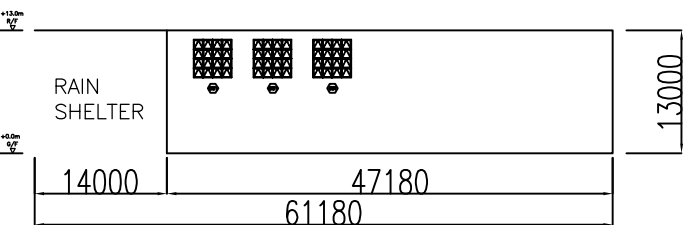
ELEVATION PLAN (ELV 1)



ELEVATION PLAN (ELV 2)



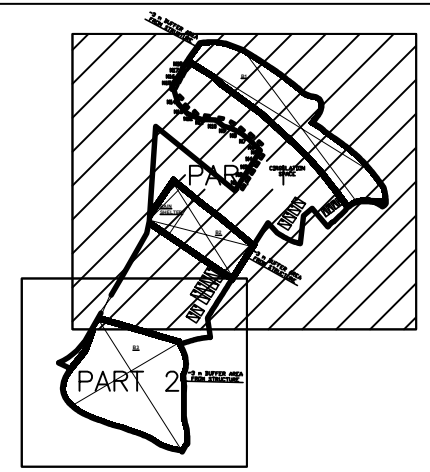
ELEVATION PLAN (ELV 3)



ELEVATION PLAN (ELV 4)

OPENABLE WINDOW AREA CALCULATION UNDER F.S.D. REQUIREMENT FOR COMPARTMENT EXCEEDING 7000m²

LOCATION	USABLE FL. AREA (m ²)	OPENABLE WINDOW AREA REQUIRED (m ²)	OPENABLE WINDOW AREA PROVIDED (m ²)
STRUCTURE B2	1307	2588 X 6.25% = 81.7	REFER TO ELEVATION 2 = 48 REFER TO ELEVATION 4 = 48 TOTAL = 96 > 81.7



KEY PLAN

REV	DESCRIPTION	DATE	BY
0	TPB SUBMISSION	05-08-2024	LH

FSI CONTRACTOR
East Power Engineering Limited

Flat A, 7/F., Hop Shing Commercial Building
41 Chi Kiang Street, Tokwawan, Kowloon
Fax : 2394-3772 Tel. : 2397-3238

PROJECT
PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND AND POND AT VARIOUS LOTS IN D.D.107 AND ADJOINING GOVERNMENT LAND, FUNG KAT HEUNG, KAM TIN, YUEN LONG, NEW TERRITORIES.

DRAWING TITLE
OPENABLE WINDOW AREA CALCULATION FOR STRUCTURE (PART 1)

	INITIAL	DESIGNATION	DATE
DRAWN BY	HY	Eng.T	05-08-2024
DESIGNED BY	HY	Eng.T	05-08-2024
CHECKED BY	CM	PM	05-08-2024
APPROVED BY	-	-	-
PROJECT NO.	A_YL-KTN_1024		
PAPER SIZE	A3	PLOT SCALE	1 : 1
DRAWING NO.	YL-KTN1024-FS06		
SCALE	1 : 800	REVISION	0

Excel Link Development Limited

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for A Period of 3 Years and Associated Filling of Land and Pond and in “Agriculture” Zone, Various Lots in D.D. 107 and Adjoining Government Land, Fung Kat Heung, Kam Tin Yuen Long, New Territories

**Drainage Impact Assessment
(Section 16 Planning Application No. A/YL-KTN/1024)**



Document No. V1094/02
Issue 1

September 2024

V1094/02
Issue 1
September 2024

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for A Period of 3 Years and Associated Filling of Land and Pond and in “Agriculture” Zone, Various Lots in D.D. 107 and Adjoining Government Land, Fung Kat Heung, Kam Tin Yuen Long, New Territories

**Drainage Impact Assessment
(Section 16 Planning Application No. A/YL-KTN/1024)**

Approved for Issue by:	

Bryan LEUNG	
Position:	Project Manager

Date:	25 September 2024

Excel Link Development Ltd
205A Sik Kong Tsuen
Ha Tsuen, Yuen Long
New Territories

Mannings (Asia) Consultants Ltd
5/F, Winning Commercial Building
46-48 Hillwood Road
Tsim Sha Tsui
Kowloon

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for A Period of 3 Years and Associated Filling of Land and Pond and in “Agriculture” Zone, Various Lots in D.D. 107 and Adjoining Government Land, Fung Kat Heung, Kam Tin Yuen Long, New Territories

**Drainage Impact Assessment
(Section 16 Planning Application No. A/YL-KTN/1024)**

Issue	Prepared by	Reviewed by	Date
1	EM	BLE	25 Sep 2024

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- Table 4-1: Estimated Runoff and Capacities of Existing Drainage

Abbreviations

- D.D. Demarcation District
- DSD Drainage Services Department
- SDM Stormwater Drainage Manual



1.0 Introduction

- 1.1 This submission presents the drainage impact assessment of the proposed temporary warehouse (excluding dangerous goods godown) with ancillary facilities for a period of 3 years, the associated filling of land and pond at various lots in D.D. 107 and the adjoining government land at Fung Kat Heung, Kam Tin, Yuen Long, New Territories (“Site”).
- 1.2 The Site has an area of about 16,657m² and it is currently occupied by the open space uses. 3 nos. of a 1- storey structure are proposed at the Site for temporary warehouse (excluding dangerous goods godown) with total GFA of about 7,321 m². The general layout plan and cross sections of the Site are shown on the **Drawing Nos. V1094/101 &102** enclosed in **Appendix A**.
- 1.3 Due to the concerns of possible drainage impact arising from the change of uses, Mannings (Asia) Consultants Limited (MACL) was appointed by the Excel Link Development Limited to undertake a Drainage Impact Assessment (DIA) to demonstrate the acceptability of drainage impact upon the surrounding environment.



2.0 Site Condition

- 2.1 The topography of the Site is generally flat and currently situated with levels ranging from +4.60 mPD to +6.40 mPD. In general, the direction of existing surface runoff flows from east to southern west. After completion of the project, the finished ground level of the Site will be raised to approximately +5.20 mPD to +7.10 mPD. Part of the unpaved areas is proposed to be occupied by 3 new covered structures whilst the remaining unpaved area would be unchanged in regards of the finished surface and continued to be an opened space area. In addition, some of these unpaved opened areas are proposed to be served as access road and parking spaces. The catchment plan after upon completion of the proposed development is demonstrated on the **Drawing No. V1094/106** enclosed in **Appendix A**.
- 2.2 According to the site survey and observation, there is a 7.5m wide open channel located at the south of the Site flowing from east to west and connecting to the Kam Tin River. Based on site survey, the existing 750mm wide U-channel is located at the south of the site, connecting to the existing 750mm dia, outfall pipe at the south of the site, and finally flows into the 7.5m wide open channel. All surface runoff from the site will be discharged to the existing 750mm wide U-channel. The photo records of the existing drainage are presented in **Appendix C**.



3.0 Design Methodology and Assumptions

Design Code

3.1 The below design codes are to be followed for this design assessment:

- Stormwater Drainage Manual (DSD) - Fifth Edition, January 2018;
- Stormwater Drainage Manual (DSD) - Corrigendum No. 1/2022;
- Stormwater Drainage Manual (DSD) - Corrigendum No. 1/2024;
- Stormwater Drainage Manual (DSD) - Corrigendum No. 2/2024;
- BS 5911 Code of Practice for Precast Concrete Pipe Design
- DSD Standard Drawings

Design Parameters

3.2 Design Parameters

a) Runoff Coefficient

Table 3-1 Runoff Coefficients

Surface Characteristic	Runoff Coefficient, C
Roof of Structure	1.00
Grassland (heavy soil**) Flat	0.25

Roughness Coefficient for pipe flow $k_s=3$

b) Minimum Pipeline Cover and Manhole Spacing Requirements

Table 3-2 Minimum Pipeline Cover and Manhole Spacing Requirements

Minimum pipeline cover	
In Roads	0.9 m
In footways and verges	0.45 m
Manhole spacing requirements	
D<675 mm	80 m
675 < D < 1050	100 m
D > 1050	120 m

c) Bedding factors

- Granular bedding : 1.9
- Plain concrete bedding : 2.6
- Reinforced concrete bedding with allowance for minimum steel area : 3.4
- Concrete Surround : 4.5



d) Design Flow Velocity

- Minimum : 1 m/s
- Maximum : 3 m/s (desirable)
- : 6 m/s (absolute)

3.3 The return period of 1 in 50 years is to be adopted for the drainage impact assessment.

3.4 Description of Analysis Method

a) Rational method is to be adopted for calculation of the peak runoff. The formula is extracted from Section 7.5.2(a) of Stormwater Drainage Manual (SDM) which is to estimate the stormwater runoff as shown below:

$$Q_p = 0.278 CiA$$

- Where
- Q_p = peak runoff in m^3/s
 - C = runoff coefficient (dimensionless)
 - i = rainfall intensity in mm/hr
 - A = catchment area in km^2

b) 10% reduction of the flow area is allowed taken into account of the decomposition of siltation as per DSD’s SDM 2018.

c) The time of concentration used for determining the duration of the design storm is considered by the time of entry and the time of flow,

$$t_c = t_e + t_f \quad t_f = L/V$$

d) where t_o = inlet time (time taken for flow from the remotest point to reach the most upstream point of the urban drainage system)

- Where
- t_f = flow time
 - L = Length of drain
 - V = flow velocity

e) The time of entry or time of flow in the hinterland is calculated using the Bransby William’s Equation.

$$t_e = \frac{0.14465 L}{A^{0.1} H^{0.2}}$$

- Where
- t_e = time of concentration (min)
 - L = catchment length (m)
 - A = catchment area (m^2)
 - H = average catchment slope (m/100m)



- f) The rainfall intensity is extracted from the Section 4.3.2 of SDM which is to estimate the Intensity-Duration –Frequency (IDF) Relationship.

$$i = a / (t_d + b)^c$$

Where I = extreme mean intensity in mm/hr
 t_d = duration in minutes ($t_d < 240$), and
 a, b, c = storm constants given in table 3 of SDM as below

Table 3-3 Storm Constant of SDM

Return Period T (years)	50
a	505.5
b	3.29
c	0.355

- g) Colebrook-White Equation is used in hydraulic design for pipe flow.

$$V = -\sqrt{(32gRs)} \log \left(\frac{k_s}{14.8R} + \frac{1.255v}{R\sqrt{(32gRs)}} \right)$$

Where:

V = mean velocity (m/s)
 g = gravitational acceleration (m/s^2)
 R = hydraulic radius (m)
 D = pipe diameter (m)
 k_s = equivalent sand roughness (m)
 v = kinematic viscosity of fluid (m^2/s)
 s = frictional slope (energy gradient due to frictional loss)



4.0 Drainage Assessment

- 4.1 The surface runoff within the Site’s area will be collected by the proposed drainage systems and to be discharged into the existing drains. The proposed drainage system consists U-channels and underground pipes. Drainage layout plan and details of drainage are shown in **Drawing Nos. V1094/103 - 105** in **Appendix A**.
- 4.2 The proposed U-channels and drainage pipes are designed to have sufficient capacities for the estimated runoff from the unpaved area and structure roofing in the Site. Details of the calculation are enclosed in **Appendix B**.
- 4.3 The runoff from the roof portion of the Site and the open areas will be collected by the proposed 450mm wide U-channels on the eastern, southern and northern side of the Site. The final discharge is via proposed 675mm dia. drainage pipe to existing 750mm wide U-channel and finally discharge runoff through the existing 750mm dia. outfall pipe into the existing 7.5m wide open channel.
- 4.4 For the existing drainage system, the existing 750m wide U-channel and 750mm dia. outfall pipe located at the south of the Site are checked and they shall provide sufficient capacity to cater for this additional flow upon completion of the proposed development. The estimated runoffs and the capacities after development are summarized in Table 4-1.

Table 4-1 Estimated Runoff and Capacities of Existing Drainage

Existing Drainage	Estimated runoff (m ³ /s)	Capacity (m ³ /s)	Utilization
750mm Wide U-Channel	0.59	0.93	0.63
750mm DIA. Outfall Pipe	0.59	0.82	0.72



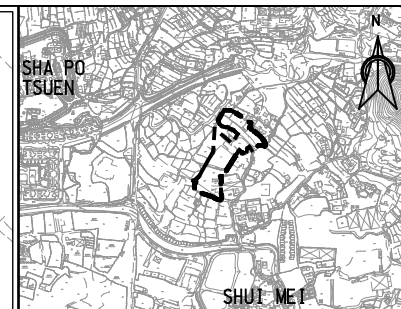
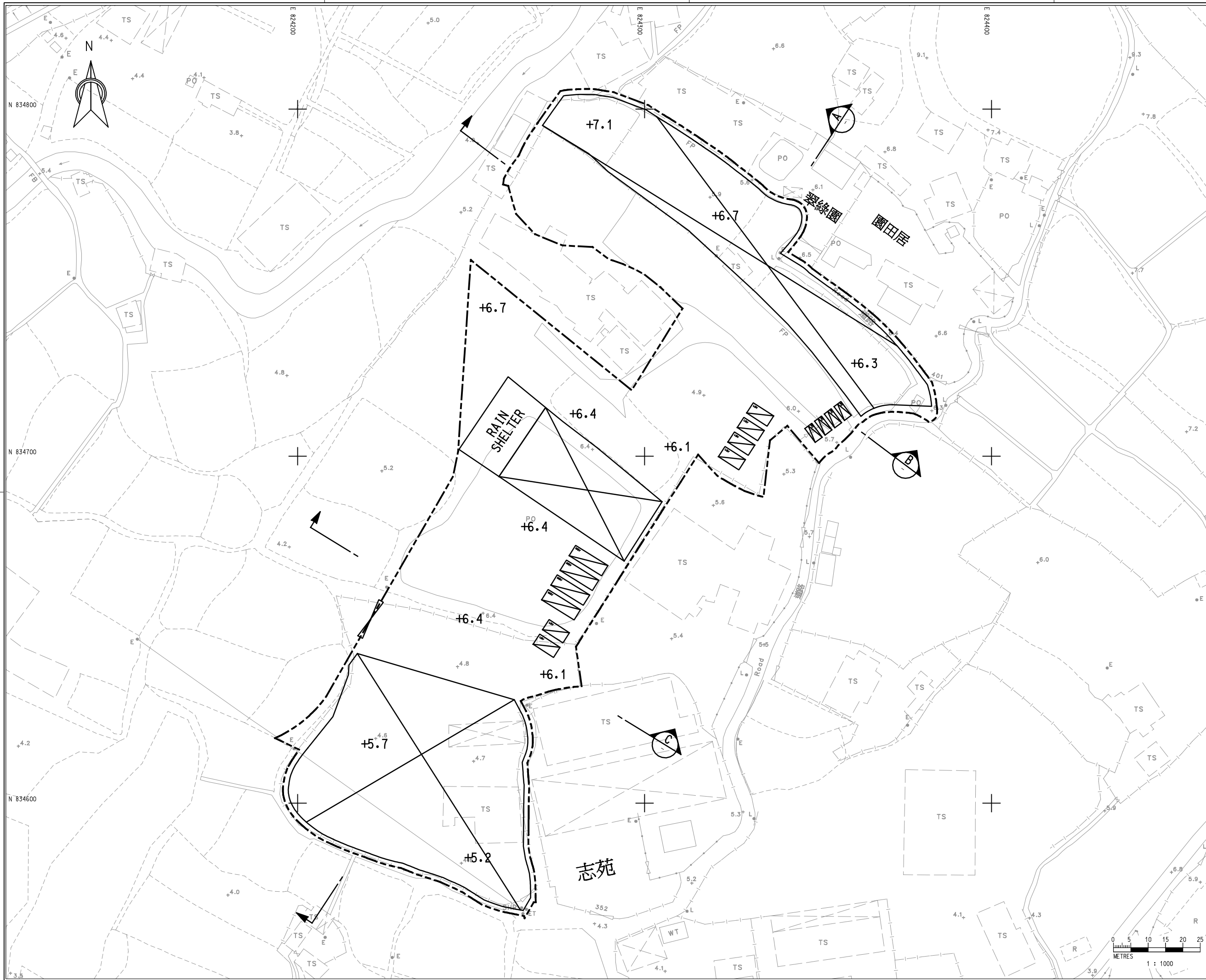
5.0 Conclusion

- 5.1 A Drainage Impact Assessment has been conducted for the proposed land use changes in Fung Kat Heung. The existing drainage system has been checked for the updated runoff from the catchment area and based on our assessment, the existing drainage system would provide sufficient capacity to cater for this additional stormwater. No adverse drainage impact shall be aroused due to the development.



Appendix A

Drawings



KEY PLAN
SCALE 1:20000

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. ALL LEVELS ARE IN MPD METRE ABOVE HONG KONG PRINCIPAL DATUM.

LEGEND :

- STRUCTURE
- PARKING SPACE (PC)
- L/U/L SPACE (LGV)
- L/U/L SPACE (MGV)
- INGRESS / EGRESS
- +6.4** PROPOSED SITE LEVEL

Rev.	Description of Revision	Date	Ckd.

Client
EXCEL LINK DEVELOPMENT LIMITED

Consultants
MANNINGS (Asia) Consultants Limited

Scale 1:n A3 AS SHOWN	Date SEP 2024	
Designed EM	Drawn KAM	Checked BLE
Design Team Leader SC	Date SEP 2024	Date SEP 2024
Approved KTC	Date SEP 2024	Date SEP 2024

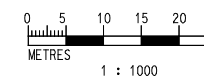
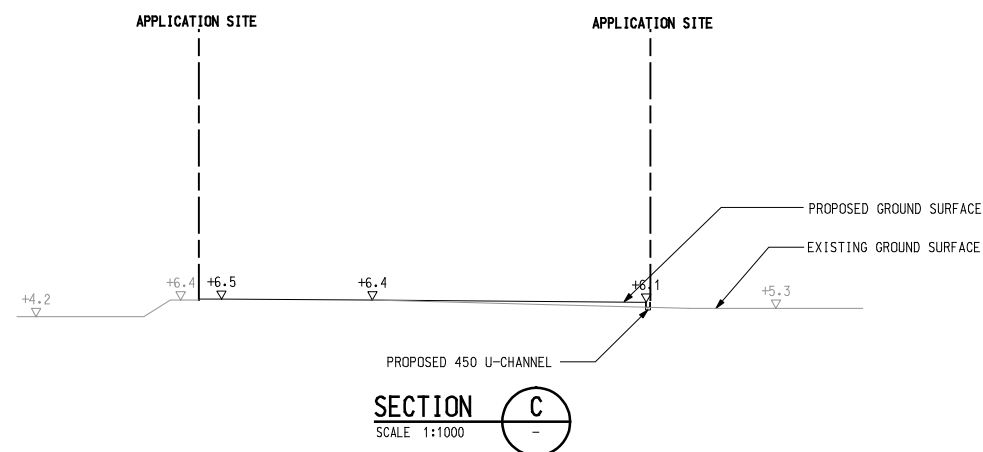
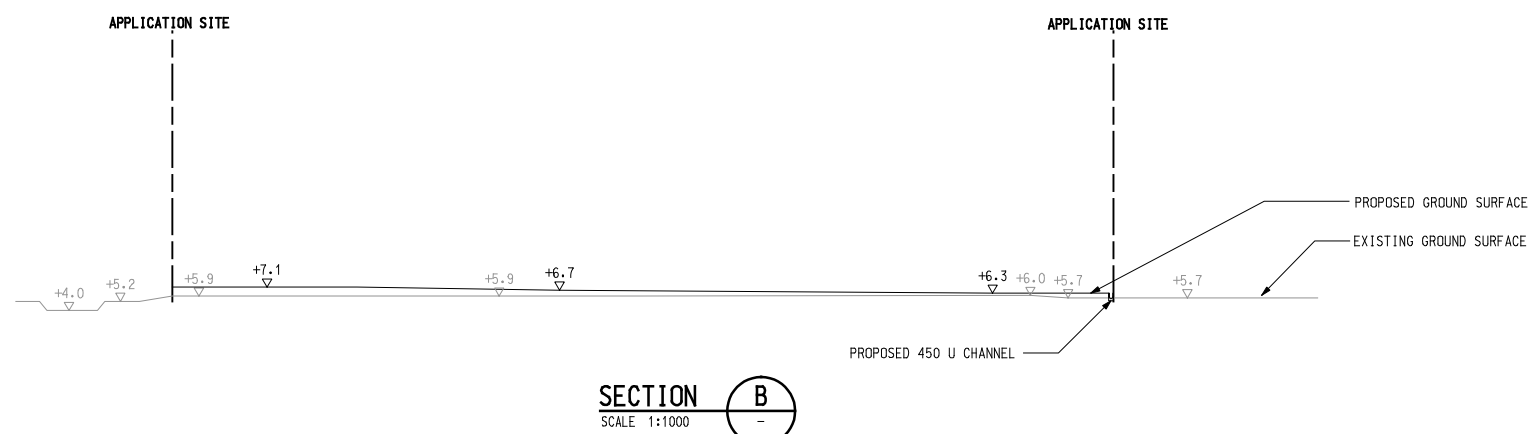
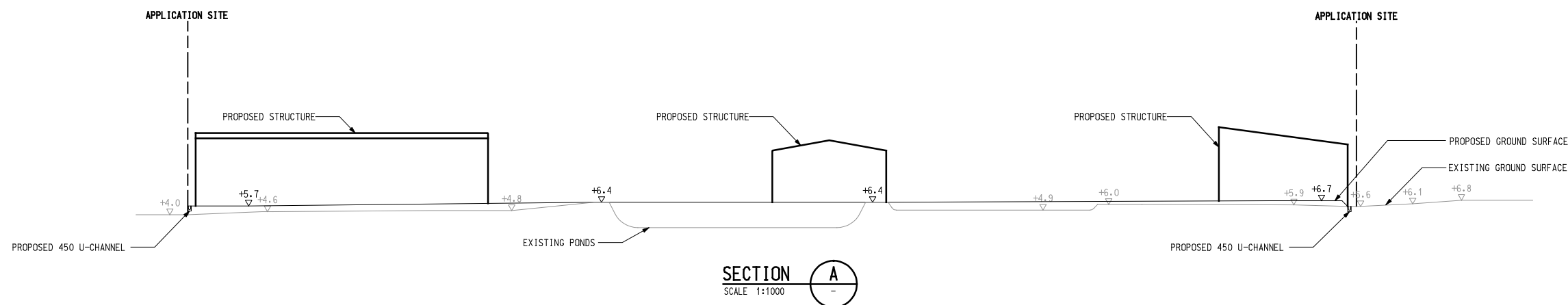
Project
PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND AND POND

Title
LAYOUT PLAN

Drawing No. V1094/101	Stage P	Rev. -
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NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
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Rev.	Description of Revision	Date	Ckd.
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Client
EXCEL LINK DEVELOPMENT LIMITED

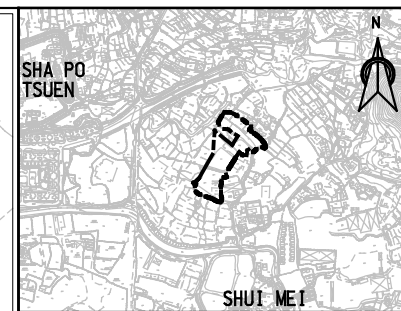
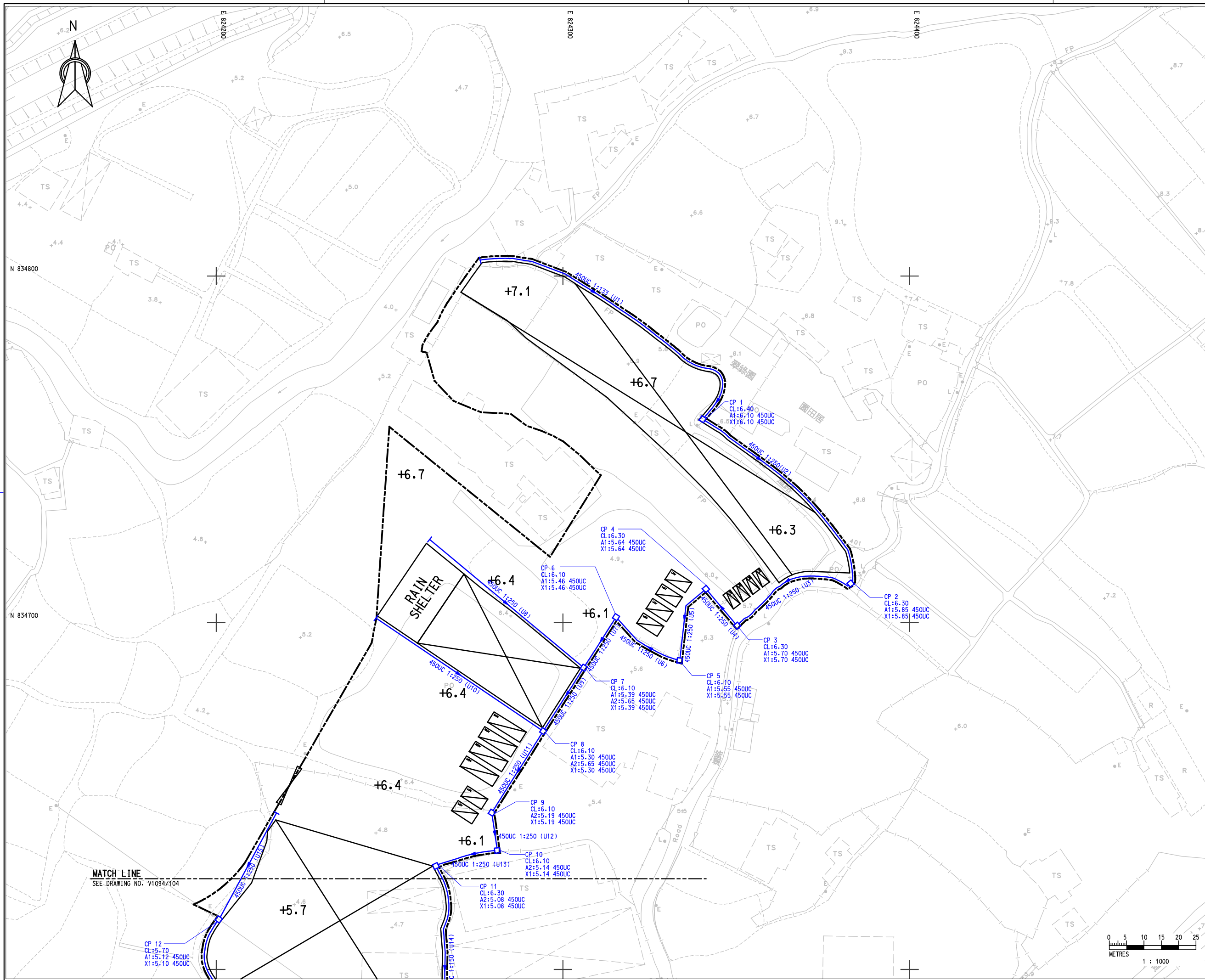
Consultants
MANNINGS (Asia) Consultants Limited

Scale 1m A3 AS SHOWN	Date SEP 2024	
Designed EM	Drawn KAM	Checked BLE
Design Team Leader SC	Date SEP 2024	
Approved KTC	Date SEP 2024	

Project
PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND AND POND

Title
CROSS SECTION

Drawing No. V1094/102	Stage P	Rev. -
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KEY PLAN
SCALE 1:20000

- NOTES :**
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 2. ALL LEVELS ARE IN MPD METRE ABOVE HONG KONG PRINCIPAL DATUM.

- LEGEND :**
- APPLICATION SITE
 - EXISTING U-CHANNEL
 - EXISTING PIPE
 - EXISTING MANHOLE
 - EXISTING CATCHPIT
 - ▭ STRUCTURE
 - ▭ PARKING SPACE (PC)
 - ▭ L/UL SPACE (LGV)
 - ▭ L/UL SPACE (MGV)
 - ▭ INGRESS / EGRESS
 - +6.4 PROPOSED SITE LEVEL
 - PROPOSED U-CHANNEL
 - PROPOSED PIPE
 - PROPOSED MANHOLE
 - PROPOSED CATCHPIT

Rev.	Description of Revision	Date	Ckd.

Client
EXCEL LINK DEVELOPMENT LIMITED

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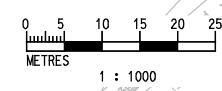
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Designed EM	Drawn KAM	Checked BLE
Design Team Leader SC	Date SEP 2024	
Approved KTC	Date SEP 2024	

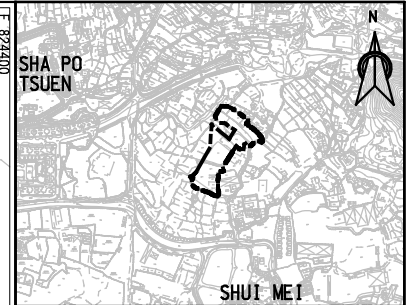
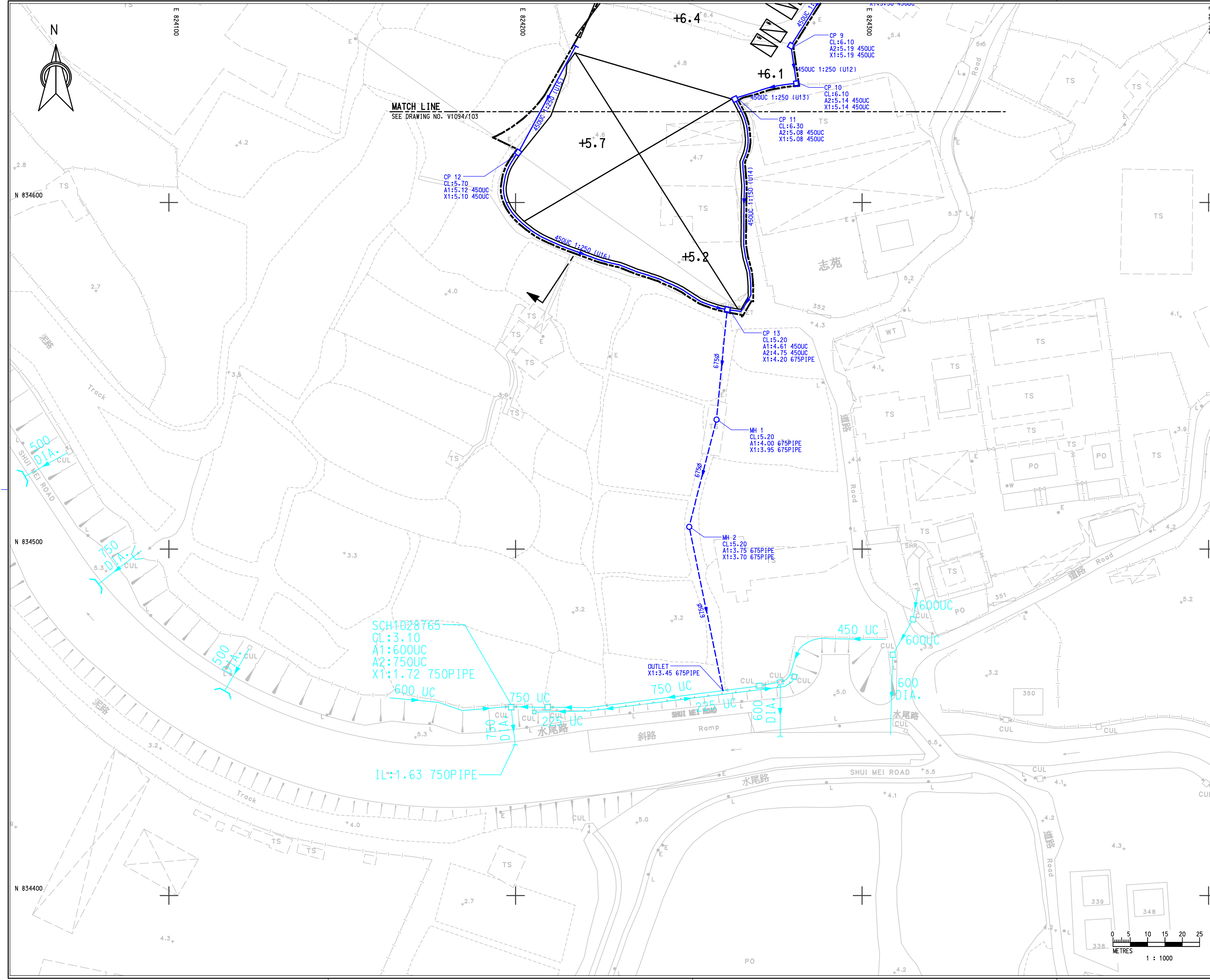
Project
PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND AND POND

Title
DRAINAGE LAYOUT PLAN

Drawing No. V1094/103	Stage Rev. P -
---------------------------------	--------------------------

MATCH LINE
SEE DRAWING NO. V1094/104





KEY PLAN
SCALE 1:20000

- NOTES :**
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 2. ALL LEVELS ARE IN MPD METRE ABOVE HONG KONG PRINCIPAL DATUM.

- LEGEND :**
- APPLICATION SITE
 - EXISTING U-CHANNEL
 - EXISTING PIPE
 - EXISTING MANHOLE
 - EXISTING CATCHPIT
 - ▭ STRUCTURE
 - ▭ PARKING SPACE (PC)
 - ▭ L/UL SPACE (LGV)
 - ▭ L/UL SPACE (MGV)
 - ▭ INGRESS / EGRESS
 - +6.4 PROPOSED SITE LEVEL
 - PROPOSED U-CHANNEL
 - PROPOSED PIPE
 - PROPOSED MANHOLE
 - PROPOSED CATCHPIT

Rev.	Description of Revision	Date	Ckd.

Client
EXCEL LINK DEVELOPMENT LIMITED

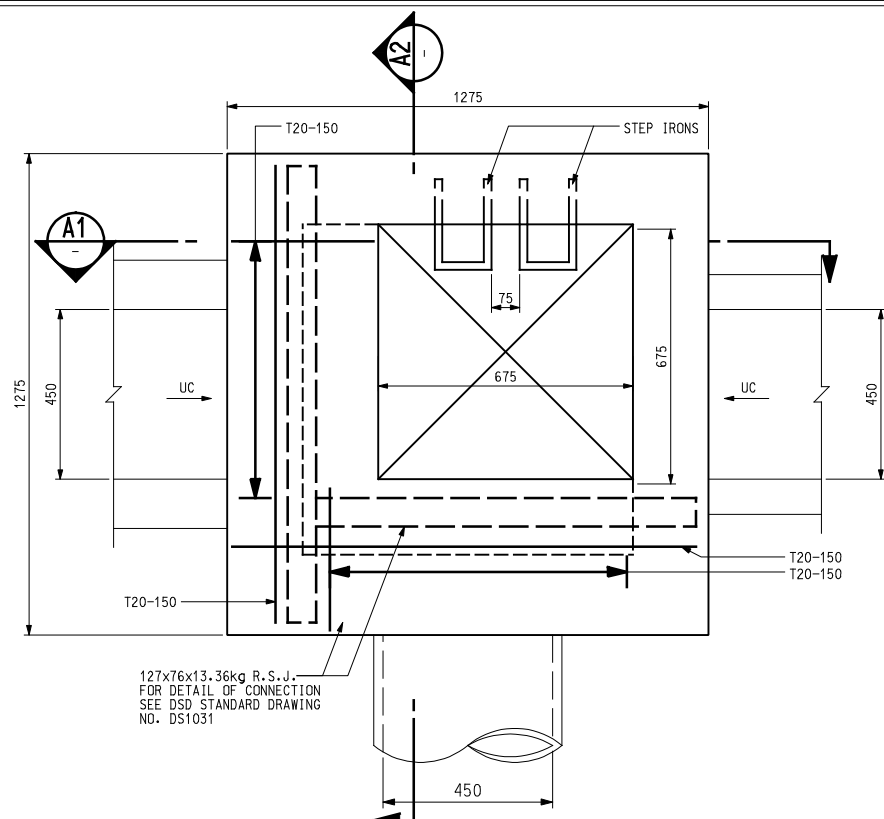
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Scale 1:n A3 AS SHOWN	Date SEP 2024	
Designed EM	Drawn KAM	Checked BLE
Design Team Leader SC	Date SEP 2024	Approved KTC
Approved KTC	Date SEP 2024	

Project
PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND AND POND

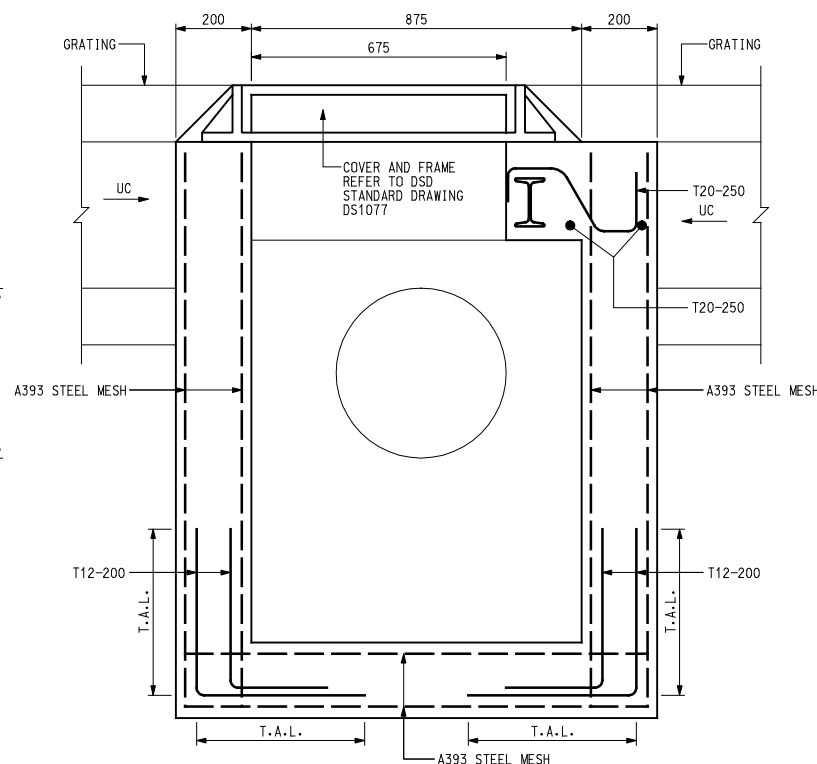
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Drawing No. V1094/104	Stage P	Rev. -
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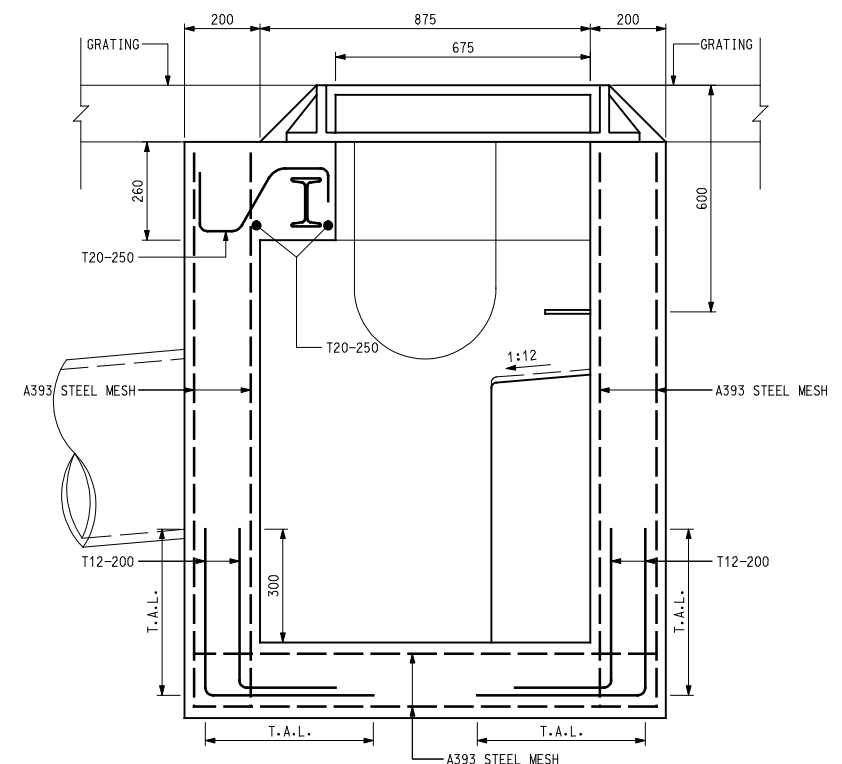


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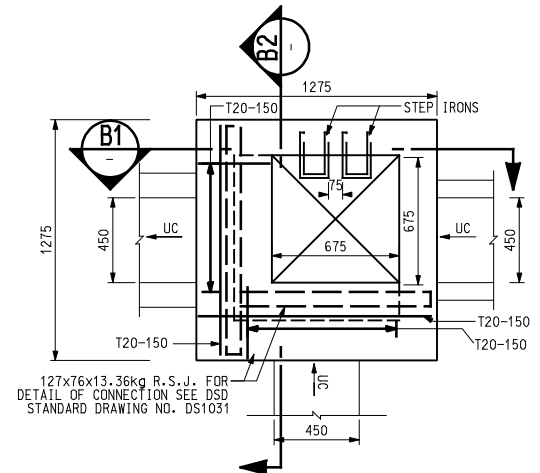
TYPICAL DETAILS OF CATCHPIT TYPE A
SCALE 1:20



SECTION A1
SCALE 1:20

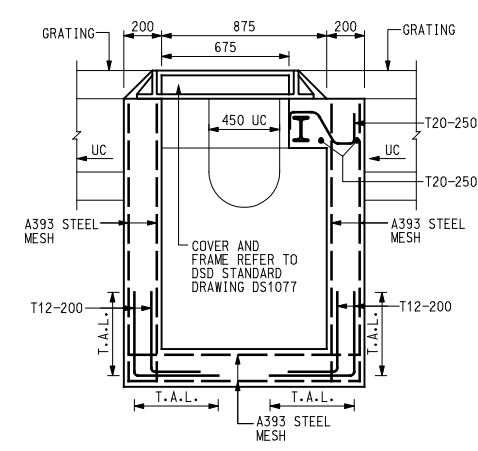


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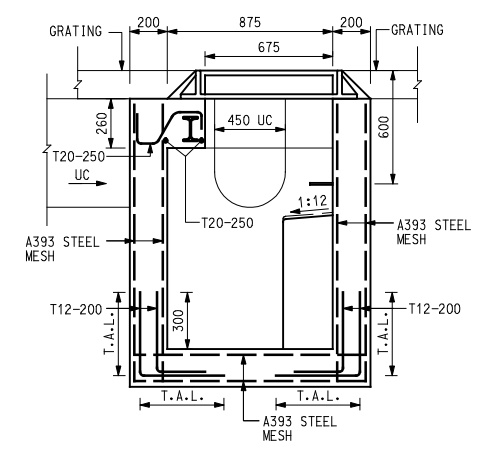


127x76x13.36kg R.S.J. FOR DETAIL OF CONNECTION SEE DSD STANDARD DRAWING NO. DS1031

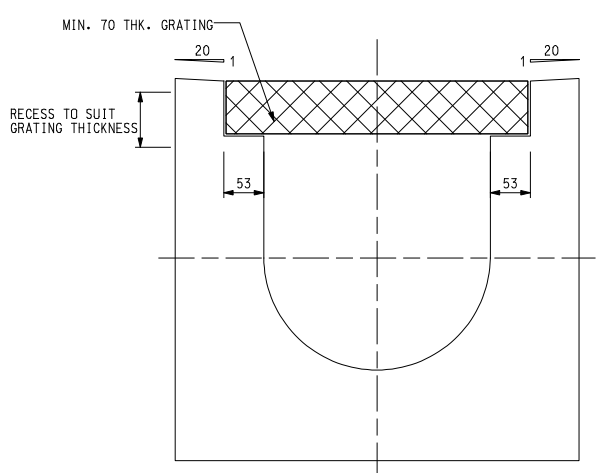
TYPICAL DETAILS OF CATCHPIT TYPE B
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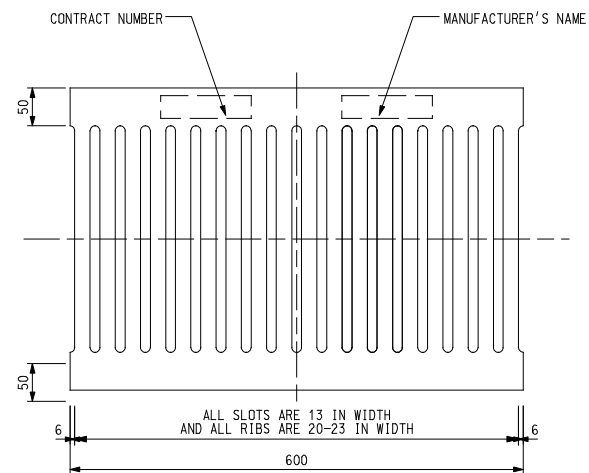
SECTION B1
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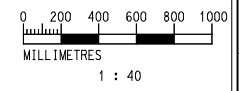
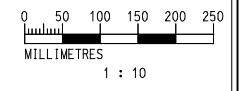
SECTION B2
SCALE 1:40



TYPICAL CROSS SECTION OF CHANNEL
SCALE 1:10



TYPICAL GRATING
SCALE 1:10



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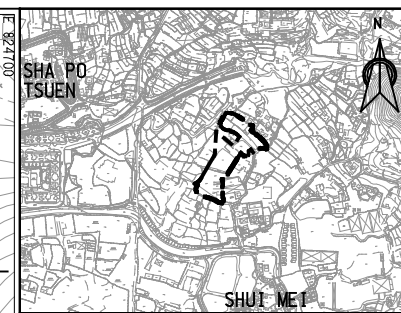
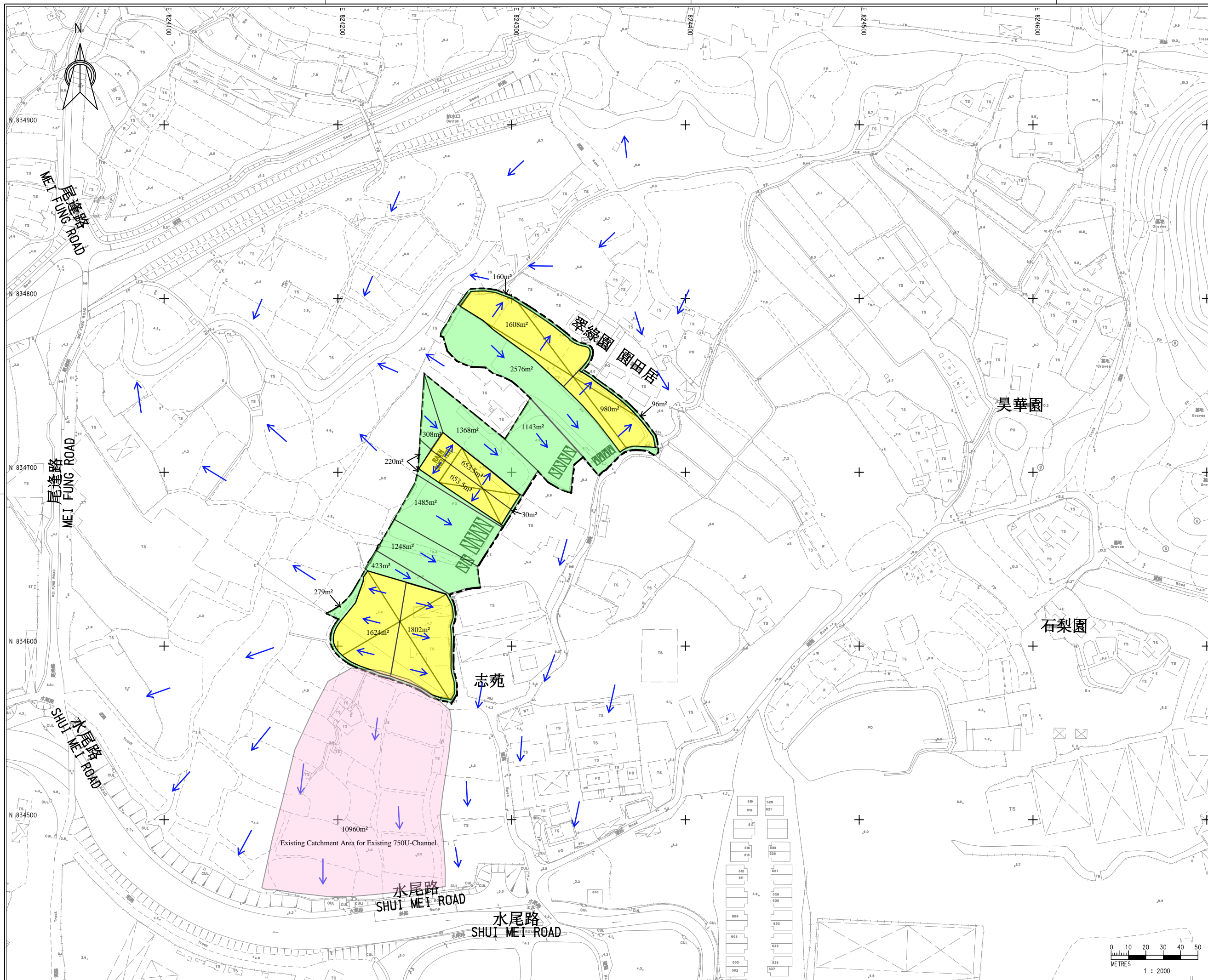
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Scale 1:n AS SHOWN	Date AUG 2024	
Designed EM	Drawn KAM	Checked BLE
Design Team Leader SC	Date AUG 2024	
Approved KTC	Date AUG 2024	

Project
PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND AND POND

Title
TYPICAL DETAILS OF DRAINAGE

Drawing No. V1094/105	Stage P	Rev. -
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KEY PLAN
SCALE 1:20000

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. ALL LEVELS ARE IN MPD METRE ABOVE HONG KONG PRINCIPAL DATUM.

LEGEND :

- APPLICATION SITE
- ☒ STRUCTURE
- ☐ PARKING SPACE (PC)
- ☐ L/U/L SPACE (LGV)
- ☐ L/U/L SPACE (MGV)
- ☐ INGRESS / EGRESS
- ➡ RUNOFF DIRECTION
- PAVED AREA
- UNPAVED AREA

Rev.	Description of Revision	Date	Ckd.

Client
EXCEL LINK DEVELOPMENT LIMITED

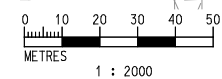
Consultants
MANNINGS (Asia) Consultants Limited

Scale 1/A3 AS SHOWN	Date SEP 2024	
Designed EM	Drawn KAM	Checked BLE
Design Team Leader SC	Date SEP 2024	
Approved KTC	Date SEP 2024	

Project
PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND AND POND

Title
CATCHMENT PLAN

Drawing No. V1094/106	Stage P	Rev. -
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MANNINGS

Proposed Temporary Warehouse(Excluding Dangerous Goods Godown) with Ancillary Facilities for A Period of 3 Years and Associated Filling of Land and Pond and in “Agriculture” Zone, Various Lots in D.D. 107 and Adjoining Government Land, Fung Kat Heung, Kam Tin Yuen Long, New Territories

Appendix B

Design Calculations

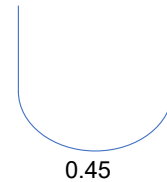
Mannings (Asia) Consultants Ltd.				Job No.	V1094	Sheet No.		Rev.			
Calculation Sheet				Member / Location							
Job Title: Proposed Temporary Warehouse(Excluding Dangerous Goods Godown) with Ancillary Facilities for A Period of 3 Years and Associated Filling of Land and Pond and in "Agriculture" Zone, Various Lots in D.D. 107 and Adjoining Government Land, Fung Kat Heung, Kam Tin Yuen Long, New Territories				Drg. Ref.							
				Made By		NHL	Date		Chd.		
The drainage design is referring to DSD's SDM 2018 & Corrigendum No. 1/2022 and Corrigendum No. 1/2024 1 in 50 year design return period is taken.											
Rational method is used for calculation of the peak runoff. The formula is extracted from Section 7.5.2 (a) of SDM. $Q_p = 0.278 C i A$ Where Q_p = peak runoff in m^3/s i = rainfall intensity in mm/hr A = catchment area in km^2											
U Channel Runoff Estimation											
Location	Natural Catch. (m ²)	Longest flow path (m)	Gradient (m per 100m)	t_o (min) = $0.14465L / (H^{0.2}A^{0.1})$	$t_f = L/v$ (min)	$t_c = t_o + t_f$ (min)	Runoff coeff.	Total Catch. Area (m ²)	50 year Intensity (mm/hr)	50 year design runoff = $0.278CiA$ (m ³ /s)	Total Flow(m ³ /s)
U1	160	93.7	0.75	6.80	0.97	7.78	0.25	160	215.32	0.00	0.10
	1608						1.00	1608		0.10	
U2	256	156.5	0.61	11.29	1.99	13.28	0.25	256	186.58	0.00	0.14
	2588						1.00	2588		0.13	
U3 and U4	2832	208.8	0.56	14.38	2.30	16.68	0.25	2832	174.63	0.03	0.16
	2588						1.00	2588		0.13	
U5 and U6	3975	254.5	0.53	17.37	0.51	17.88	0.25	3975	171.04	0.05	0.17
	2588						1.00	2588		0.12	
U7	5343	272.1	0.52	18.28	0.19	18.47	0.25	5343	169.37	0.06	0.18
	2588						1.00	2588		0.12	
U8	308	100	0.40	9.80	0.22	10.01	0.25	308	201.71	0.00	0.04
	653.5						1.00	653.5		0.04	
U9	5681	293.9	0.50	19.66	0.43	20.09	0.25	5681	165.11	0.07	0.21
	3242						1.00	3241.5		0.15	
U10	220	100	0.40	10.13	0.64	10.77	0.25	220	197.80	0.00	0.04
	653.5						1.00	653.5		0.04	
U11	7386	322.4	0.50	21.06	0.80	21.86	0.25	7386	160.88	0.08	0.26
	3895						1.00	3895		0.17	
U12 and U13	8634	348.1	0.49	22.57	1.16	23.73	0.25	8634	156.85	0.09	0.26
	3895						1.00	3895		0.17	
U14	9057	419.3	0.52	26.44	0.85	27.29	0.25	9057	150.10	0.09	0.33
	5697						1.00	5697		0.24	
U15 and U16	279	122	0.40	12.07	1.55	13.62	0.25	279	185.23	0.00	0.09
	1624						1.00	1624		0.08	
Check Existing U-Channel											
750 UC	20296	125	0.02	14.44	3.37	17.81	0.25	20296	171.25	0.24	0.59
	7321						1.00	7321		0.35	

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Calculation Sheet	Member / Location			
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	Made By	NHL	Date	Chd.

Checking of Capacity (U1)

Input Data

Width of UC = 0.45 m 0.075
 Height of UC = 0.30 m
 Design Runoff = 0.10 m³/s 0.225
 (Q_{after, uncov.})



Flow capacity, Q

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

where A = cross sectional area of flow (m²) = 0.113272 m²
 r = hydraulic radius (m)
 s = slope of the water surface or the linear hydraulic head loss (m/m)
 n = Manning coefficient of roughness

Hydraulic radius

$r = \frac{A}{P}$
 p = wetted perimeter (m) = 0.86 m
 r = 0.13 m

Slope

s = 0.007 m/m

Manning coefficient of roughness

n = 0.014

Therefore,

Q = 0.18 m³/s > Design runoff, OK!
 V = Q/A = 1.60 m/s

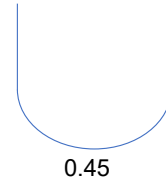
Mannings (Asia) Consultants Ltd.	Job No.	V1094	Sheet No.	Rev.
Calculation Sheet	Member / Location			
Job Title: Proposed Temporary Warehouse(Excluding Dangerous Goods Godown) with Ancillary Facilities for A Period of 3 Years and Associated Filling of Land and Pond and in "Agriculture" Zone, Various Lots in D.D. 107 and Adjoining Government Land, Fung Kat Heung, Kam Tin Yuen Long, New Territories	Drg. Ref.			
	Made By	NHL	Date	Chd.

Checking of Capacity (U2)

Input Data

Width of UC = 0.45 m
 Height of UC = 0.45 m
 Design Runoff = 0.10 m³/s
 (Q_{after, uncov.})

0.225
 0.225



Flow capacity, Q

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

where A = cross sectional area of flow (m²) = 0.180862 m²
 r = hydraulic radius (m)
 s = slope of the water surface or the linear hydraulic head loss (m/m)
 n = Manning coefficient of roughness

Hydraulic radius

$r = \frac{A}{P}$
 p = wetted perimeter (m) = 1.16 m
 r = 0.16 m

Slope

s = 0.004 m/m

Manning coefficient of roughness

n = 0.014

Therefore,

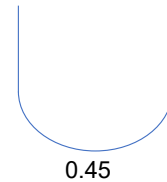
Q = 0.24 m³/s > Design runoff, OK!
 V = Q/A = 1.31 m/s

Mannings (Asia) Consultants Ltd.	Job No.	V1094	Sheet No.	Rev.
Calculation Sheet	Member / Location			
Job Title: Proposed Temporary Warehouse(Excluding Dangerous Goods Godown) with Ancillary Facilities for A Period of 3 Years and Associated Filling of Land and Pond and in "Agriculture" Zone, Various Lots in D.D. 107 and Adjoining Government Land, Fung Kat Heung, Kam Tin Yuen Long, New Territories	Drg. Ref.			
	Made By	NHL	Date	Chd.

Checking of Capacity (U3 and U4)

Input Data

Width of UC = 0.45 m 0.435
 Height of UC = 0.66 m
 Design Runoff = 0.16 m³/s 0.225
 (Q_{after, uncov.})



Flow capacity, Q

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

where A = cross sectional area of flow (m²) = 0.275452 m²
 r = hydraulic radius (m)
 s = slope of the water surface or the linear hydraulic head loss (m/m)
 n = Manning coefficient of roughness

Hydraulic radius

$r = \frac{A}{P}$
 p = wetted perimeter (m) = 1.58 m
 r = 0.17 m

Slope

s = 0.004 m/m

Manning coefficient of roughness

n = 0.014

Therefore,

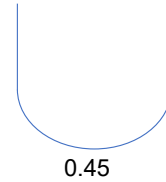
Q = 0.39 m³/s > Design runoff, OK!
 V = Q/A = 1.41 m/s

Mannings (Asia) Consultants Ltd.	Job No.	V1094	Sheet No.	Rev.
	Calculation Sheet			
Job Title: Proposed Temporary Warehouse(Excluding Dangerous Goods Godown) with Ancillary Facilities for A Period of 3 Years and Associated Filling of Land and Pond and in "Agriculture" Zone, Various Lots in D.D. 107 and Adjoining Government Land, Fung Kat Heung, Kam Tin Yuen Long, New Territories	Member / Location			
	Drg. Ref.			
	Made By	NHL	Date	Chd.

Checking of Capacity (U5 and U6)

Input Data

Width of UC = 0.45 m 0.418
 Height of UC = 0.64 m
 Design Runoff = 0.17 m³/s 0.225
 (Q_{after, uncov.})



Flow capacity, Q

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

where A = cross sectional area of flow (m²) = 0.267712 m²
 r = hydraulic radius (m)
 s = slope of the water surface or the linear hydraulic head loss (m/m)
 n = Manning coefficient of roughness

Hydraulic radius

$$r = \frac{A}{P}$$

p = wetted perimeter (m) = 1.54 m
 r = 0.17 m

Slope

s = 0.004 m/m

Manning coefficient of roughness

n = 0.014

Therefore,

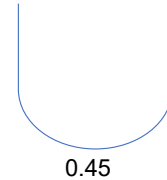
Q = 0.38 m³/s > Design runoff, OK!
 V = Q/A = 1.41 m/s

Mannings (Asia) Consultants Ltd.	Job No.	V1094	Sheet No.	Rev.
	Calculation Sheet			
Job Title:	Proposed Temporary Warehouse(Excluding Dangerous Goods Godown) with Ancillary Facilities for A Period of 3 Years and Associated Filling of Land and Pond and in "Agriculture" Zone, Various Lots in D.D. 107 and Adjoining Government Land, Fung Kat Heung, Kam Tin Yuen Long, New Territories			Member / Location
	Drg. Ref.			
	Made By	NHL	Date	Chd.

Checking of Capacity (U7)

Input Data

Width of UC = 0.45 m 0.489
Height of UC = 0.71 m
Design Runoff = 0.18 m³/s 0.225
(Q_{after, uncov.})



Flow capacity, Q

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

where A = cross sectional area of flow (m²) = 0.299392 m²
r = hydraulic radius (m)
s = slope of the water surface or the linear hydraulic head loss (m/m)
n = Manning coefficient of roughness

Hydraulic radius

$$r = \frac{A}{P}$$

p = wetted perimeter (m) = 1.68 m

r = 0.18 m

Slope

s = 0.004 m/m

Manning coefficient of roughness

n = 0.014

Therefore,

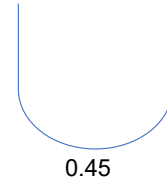
Q = 0.43 m³/s > Design runoff, OK!
V = Q/A = 1.43 m/s

Mannings (Asia) Consultants Ltd.	Job No.	V1094	Sheet No.	Rev.
	Calculation Sheet			
Job Title: Proposed Temporary Warehouse(Excluding Dangerous Goods Godown) with Ancillary Facilities for A Period of 3 Years and Associated Filling of Land and Pond and in "Agriculture" Zone, Various Lots in D.D. 107 and Adjoining Government Land, Fung Kat Heung, Kam Tin Yuen Long, New Territories	Member / Location			
	Drg. Ref.			
	Made By	NHL	Date	Chd.

Checking of Capacity (U9)

Input Data

Width of UC = 0.45 m 0.5758
 Height of UC = 0.80 m
 Design Runoff = 0.21 m³/s 0.225
 (Q_{after, uncov.})



Flow capacity, Q

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

where A = cross sectional area of flow (m²) = 0.338632 m²
 r = hydraulic radius (m)
 s = slope of the water surface or the linear hydraulic head loss (m/m)
 n = Manning coefficient of roughness

Hydraulic radius

$r = \frac{A}{P}$
 p = wetted perimeter (m) = 1.86 m
 r = 0.18 m

Slope

s = 0.004 m/m

Manning coefficient of roughness

n = 0.014

Therefore,

Q = 0.49 m³/s > Design runoff, OK!
 V = Q/A = 1.45 m/s

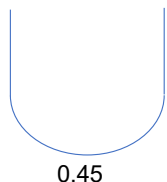
Mannings (Asia) Consultants Ltd.	Job No.	V1094	Sheet No.	Rev.
Calculation Sheet	Member / Location			
Job Title: Proposed Temporary Warehouse(Excluding Dangerous Goods Godown) with Ancillary Facilities for A Period of 3 Years and Associated Filling of Land and Pond and in "Agriculture" Zone, Various Lots in D.D. 107 and Adjoining Government Land, Fung Kat Heung, Kam Tin Yuen Long, New Territories	Drg. Ref.			
	Made By	NHL	Date	Chd.

Checking of Capacity (U10)

Input Data

Width of UC	=	0.45 m	0.225
Height of UC	=	0.45 m	
Design Runoff	=	0.04 m ³ /s	0.225

(Q_{after, uncov.})



Flow capacity, Q

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

where

A	=	cross sectional area of flow (m ²)	=	0.180772 m ²
r	=	hydraulic radius (m)		
s	=	slope of the water surface or the linear hydraulic head loss (m/m)		
n	=	Manning coefficient of roughness		

Hydraulic radius

r	=	$\frac{A}{P}$	
p	=	wetted perimeter (m)	= 1.16 m
r	=	0.16 m	

Slope

s	=	0.004 m/m
---	---	-----------

Manning coefficient of roughness

n	=	0.014
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Therefore,

Q	=	0.24 m ³ /s	> Design runoff, OK!
V	=	Q/A =	1.31 m/s

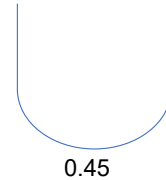
Mannings (Asia) Consultants Ltd.		Job No.	V1094	Sheet No.	Rev.
Calculation Sheet		Member / Location			
Job Title: Proposed Temporary Warehouse(Excluding Dangerous Goods Godown) with Ancillary Facilities for A Period of 3 Years and Associated Filling of Land and Pond and in "Agriculture" Zone, Various Lots in D.D. 107 and Adjoining Government Land, Fung Kat Heung, Kam Tin Yuen Long, New Territories		Drg. Ref.			
		Made By	NHL	Date	Chd.
Checking of Capacity (U11)					
Input Data					
Width of UC	=	0.45 m	0.690		
Height of UC	=	0.91 m			
Design Runoff	=	0.26 m ³ /s	0.225		
		(Q _{after, uncov.})			
Flow capacity, Q					
$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$					
where	A	= cross sectional area of flow (m ²)	=	0.389932 m ²	
	r	= hydraulic radius (m)			
	s	= slope of the water surface or the linear hydraulic head loss (m/m)			
	n	= Manning coefficient of roughness			
Hydraulic radius					
	r	=	$\frac{A}{P}$		
	p	= wetted perimeter (m)	=	2.09 m	
	r	=	0.19 m		
Slope					
	s	=	0.004 m/m		
Manning coefficient of roughness					
	n	=	0.014		
Therefore,					
Q	=	0.58 m ³ /s	>	Design runoff, OK!	
V	=	Q/A	=	1.48 m/s	

Mannings (Asia) Consultants Ltd.	Job No.	V1094	Sheet No.	Rev.
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	Made By	NHL	Date	Chd.

Checking of Capacity (U12 and U13)

Input Data

Width of UC = 0.45 m 0.993
 Height of UC = 1.22 m
 Design Runoff = 0.26 m³/s 0.225
 (Q_{after, uncov.})



Flow capacity, Q

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

where A = cross sectional area of flow (m²) = 0.526192 m²
 r = hydraulic radius (m)
 s = slope of the water surface or the linear hydraulic head loss (m/m)
 n = Manning coefficient of roughness

Hydraulic radius

$r = \frac{A}{P}$
 p = wetted perimeter (m) = 2.69 m
 r = 0.20 m

Slope

s = 0.004 m/m

Manning coefficient of roughness

n = 0.014

Therefore,

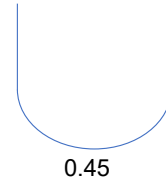
Q = 0.80 m³/s > Design runoff, OK!
 V = Q/A = 1.52 m/s

Mannings (Asia) Consultants Ltd.	Job No.	V1094	Sheet No.	Rev.
	Calculation Sheet			
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	Drg. Ref.			
	Made By	NHL	Date	Chd.

Checking of Capacity (U14)

Input Data

Width of UC = 0.45 m 0.367
 Height of UC = 0.59 m
 Design Runoff = 0.33 m³/s 0.225
 (Q_{after, uncov.})



Flow capacity, Q

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

where A = cross sectional area of flow (m²) = 0.244792 m²
 r = hydraulic radius (m)
 s = slope of the water surface or the linear hydraulic head loss (m/m)
 n = Manning coefficient of roughness

Hydraulic radius

$r = \frac{A}{P}$
 p = wetted perimeter (m) = 1.44 m
 r = 0.17 m

Slope

s = 0.007 m/m

Manning coefficient of roughness

n = 0.014

Therefore,

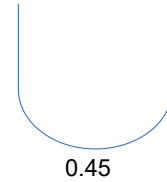
Q = 0.44 m³/s > Design runoff, OK!
 V = Q/A = 1.79 m/s

Mannings (Asia) Consultants Ltd.	Job No.	V1094	Sheet No.	Rev.
	Calculation Sheet			
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	Drg. Ref.			
	Made By	NHL	Date	Chd.

Checking of Capacity (U15 and U16)

Input Data

Width of UC = 0.45 m 0.725
Height of UC = 0.95 m
Design Runoff = 0.09 m³/s 0.225
(Q_{after, uncov.})



Flow capacity, Q

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

where A = cross sectional area of flow (m²) = 0.405772 m²
r = hydraulic radius (m)
s = slope of the water surface or the linear hydraulic head loss (m/m)
n = Manning coefficient of roughness

Hydraulic radius

$r = \frac{A}{P}$
p = wetted perimeter (m) = 2.16 m
r = 0.19 m

Slope

s = 0.007 m/m

Manning coefficient of roughness

n = 0.014

Therefore,

Q = 0.78 m³/s > Design runoff, OK!
V = Q/A = 1.91 m/s

Stormwater Drainage Design

Manhole		Catchment Area		Length (m)	Nominal Diameter (mm)	Gradient, S _f		Roughness Coefficient (m)	Velocity (m/s)	Time of Flow (min)	Time of Conc. (min)	Rainfall Duration (min)	50 year Intensity (mm/hr)	Runoff Coeff.	50 year Runoff (m ³ /s)	Total Flow (m ³ /s)	Capacity (m ³ /s)	Adjusted Capacity > Total Flow ?	Cover Level		Invert Level	
From	To	Increment (m ²)	Accu. (m ²)			(%)	1 in												From (mPD)	To (mPD)	From (mPD)	To (mPD)
CP 13	MH1	9336	9336	30	675	0.7	150.0	3.0	1.648	20.55	20.55	20.55	163.98	0.25	0.106	0.440	0.531	Yes	5.20	5.20	4.20	4.00
		7321	7321											1.00	0.334							
MH 1	MH 2	9336	9336	33	675	0.6	165.0	3.0	1.571	20.99	20.99	20.99	162.91	0.25	0.106	0.437	0.506	Yes	5.20	5.20	3.95	3.75
		7321	7321											1.00	0.332							
MH 2	Outlet	9336	9336	46	675	0.5	184.0	3.0	1.487	21.61	21.61	21.61	161.46	0.25	0.105	0.433	0.479	Yes	5.20	5.20	3.70	3.45
		7321	7321											1.00	0.329							
Check Existing Pipe																						
SCH1028765	Existing Open Channel	20296	20296	10	750	0.9	111.1	3.0	2.051	17.81	17.81	17.81	171.25	0.25	0.242	0.590	0.815	Yes	3.10	3.10	1.72	1.63
		7321	7321											1.00	0.349							

Mean Velocity is calculated by Colebrook- White equation

Where:

\bar{V} =Mean Velocity (m/s)

R =Hydraulic Diameter (m)

Ks =Surface Roughness (m)

ν =Kinematic viscosity (kg/ms)

Sf =Slope of Hydraulic Gradient

g =Gravity (m/s²)

The Roughness Coefficient Ks is assumed to be 3 for concrete.

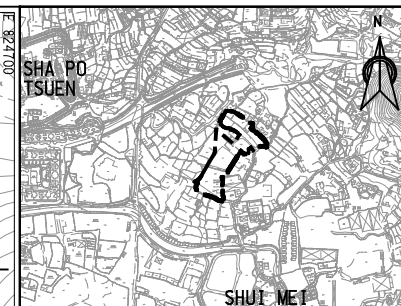
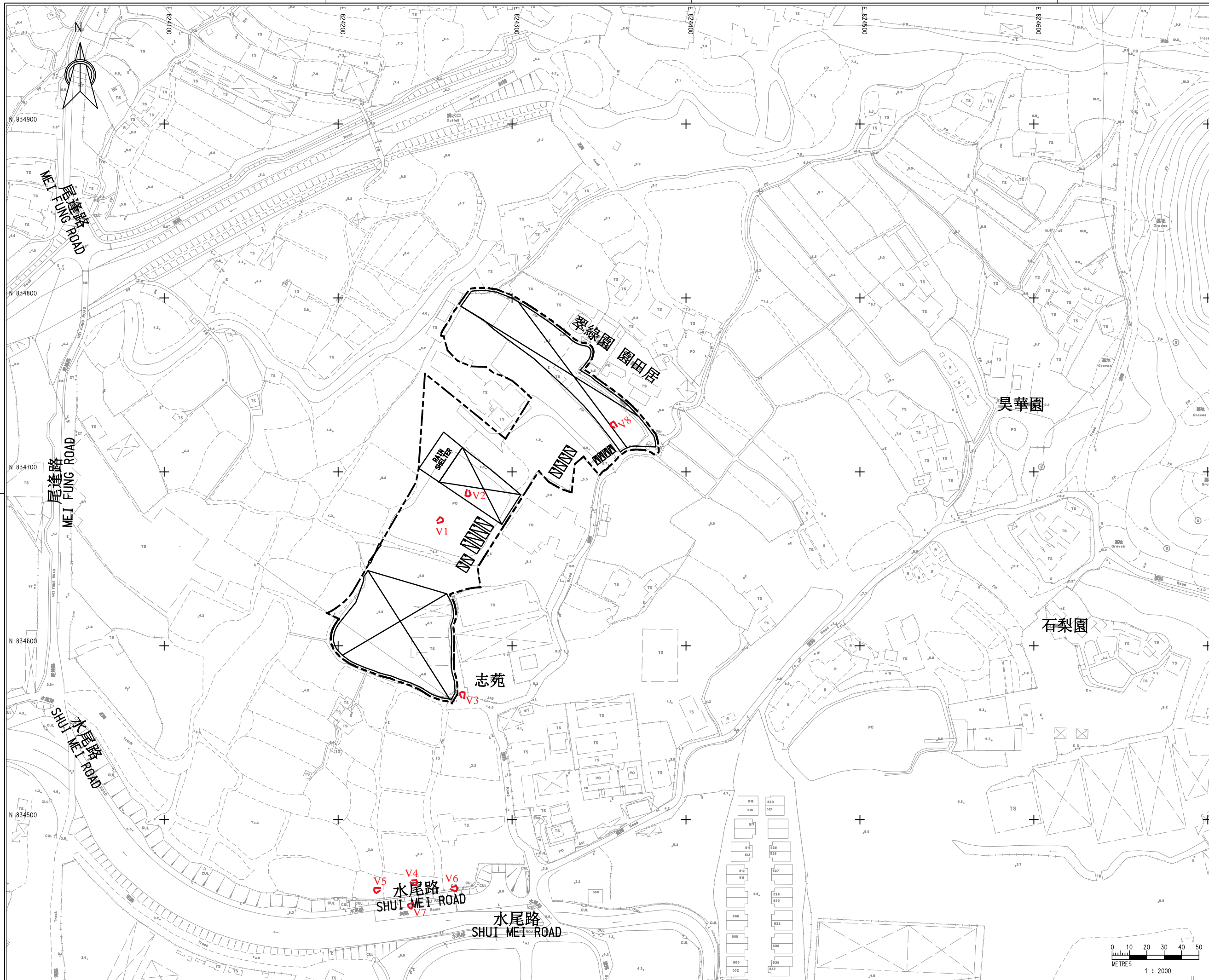
Peak Runoff is estimated using rational method according to SDM.

$$\bar{V} = -\sqrt{32gRS_f} \log \left[\frac{k_s}{14.8R} + \frac{1.255\nu}{R\sqrt{32gRS_f}} \right]$$



Appendix C

Site Photo



KEY PLAN
SCALE 1:20000

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. ALL LEVELS ARE IN MPD METRE ABOVE HONG KONG PRINCIPAL DATUM.

LEGEND :

- APPLICATION SITE
- ☒ STRUCTURE
- ☐ PARKING SPACE (PC)
- ▨ L/U/L SPACE (LGV)
- ▨ L/U/L SPACE (MGV)
- INGRESS / EGRESS

Rev.	Description of Revision	Date	Ckd.

Client
EXCEL LINK DEVELOPMENT LIMITED

Consultants
MANNINGS (Asia) Consultants Limited

Scale 1/A3 AS SHOWN	Date SEP 2024	
Designed EM	Drawn KAM	Checked BLE
Design Team Leader SC	Date SEP 2024	
Approved KTC	Date SEP 2024	

Project
PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND AND POND

Title
SITE PHOTO PLAN

Drawing No. V1094/107	Stage P	Rev. -
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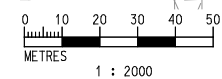


Photo V1



Photo V2



Photo V3



Photo V4





Photo V5



Photo V6



Photo V7



Photo V8

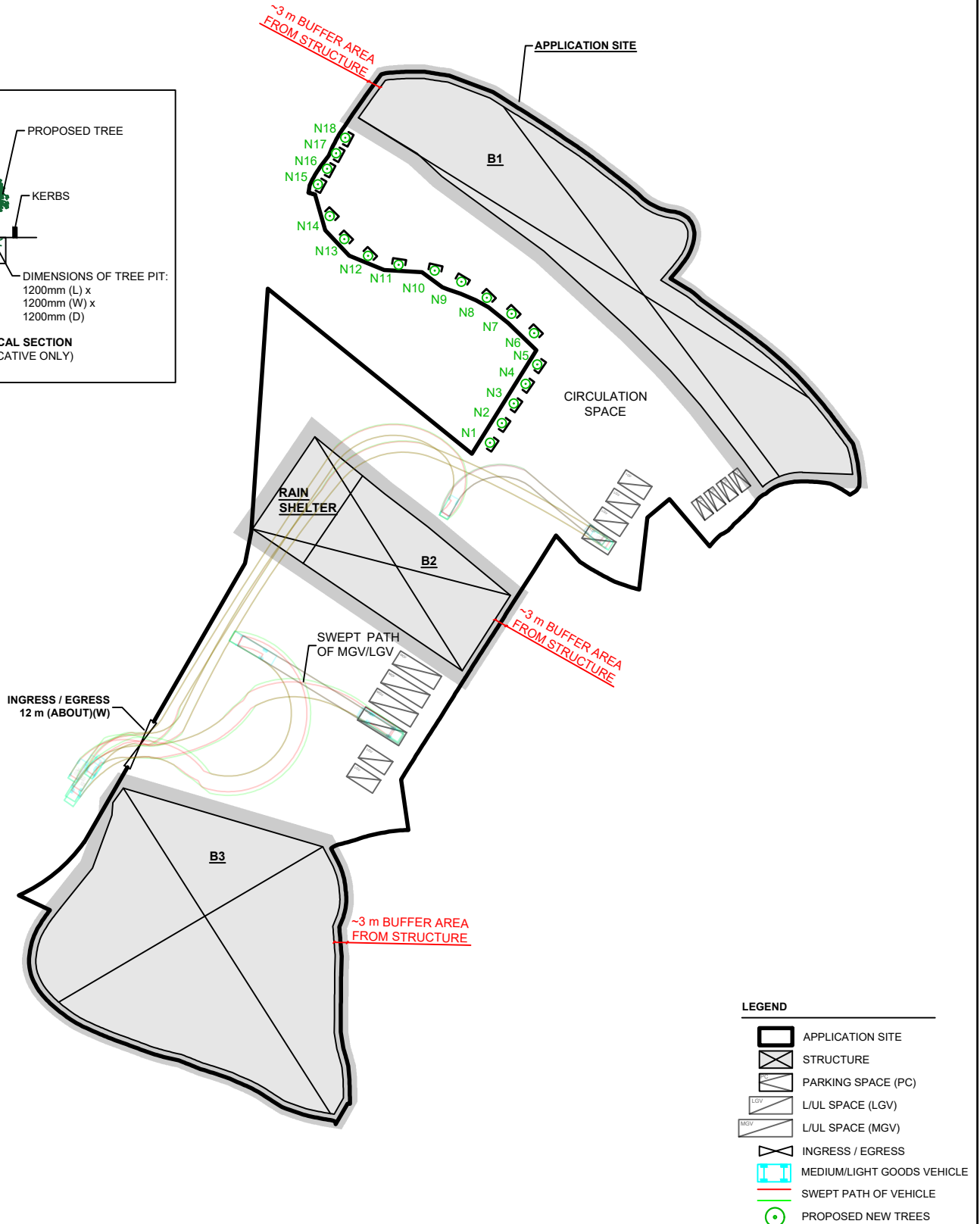
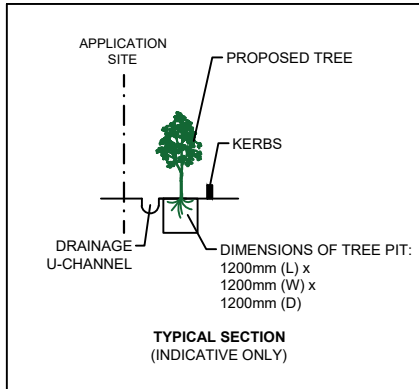


LANDSCAPE PROPOSAL

APPLICATION SITE AREA	: 16,657 m ²	(ABOUT)
COVERED AREA	: 7,321 m ²	(ABOUT)
UNCOVERED AREA	: 9,336 m ²	(ABOUT)

NO. OF NEW TREES WILL BE PLANTED : 18 (N1 TO N18)
 SPECIES OF NEW TREES : *FICUS MICROCARPA*
 HEIGHT OF NEW TREES : NO LESS THAN 2.75 m
 SPACING OF NEW TREES : NOT LESS THAN 4 m
 DIMENSION OF TREE PITS : 1.2 m (W) X 1.2 m (L) X 1.2 m (D)

STRUCTURE	USE	COVERED AREA	GFA	BUILDING HEIGHT
B1	WAREHOUSE (EXCLUDING D.G.G.) SITE OFFICE AND WASHROOM	2,588 m ² (ABOUT)	2,588 m ² (ABOUT)	13 m (ABOUT)(1-STOREY)
B2	WAREHOUSE (EXCLUDING D.G.G.) AND RAIN SHELTER	1,307 m ² (ABOUT)	1,307 m ² (ABOUT)	13 m (ABOUT)(1-STOREY)
B3	WAREHOUSE (EXCLUDING D.G.G.)	3,426 m ² (ABOUT)	3,426 m ² (ABOUT)	13 m (ABOUT)(1-STOREY)
TOTAL		7,321 m² (ABOUT)	7,321 m² (ABOUT)	



PLANNING CONSULTANT 	PROJECT PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND AND POND	ADDRESS VARIOUS LOTS IN D.D. 107 AND ADJOINING GOVERNMENT LAND, FUNG KAT HEUNG, KAM TIN, YUEN LONG, NEW TERRITORIES	SCALE 1 : 1300 @ A4	TITLE LANDSCAPE PROPOSAL	
			DRAWN BY LT	DATE 15.7.2024	DWG NO. ANNEX IV
			REVISED BY	DATE	