

**Application for Permission under Section 16 of
the Town Planning Ordinance (Cap. 131)**

**Proposed Temporary Warehouse with Ancillary Open
Storage of Cables, Wires, Transformers and Spare
Parts and Associated Filling and Excavation of Land
for a Period of 3 Years in “Other Specified Uses”
annotated “Mixed Use” (“OU(MU)”) and “Other
Specified Uses” annotated “Amenity Area” (“OU(A)”)
Zones and Area shown as ‘Road’ at
Lots 733SF(Part), 741(Part), 742RP(Part), 744RP(Part)
in DD99 and Adjoining Government Land,
San Tin, Yuen Long, New Territories**

SUPPLEMENTARY PLANNING STATEMENT

Applicant:

Smart Union Motors (Asia)
Company Limited

Planning Consultant:



Top Bright Consultants Ltd.

June, 2026

Executive Summary

This application is prepared on behalf of the Applicant to seek planning permission from the Town Planning Board (the “Board”) for a proposed temporary warehouse with ancillary open storage of cables, wires, transformers and spare parts and associated filling and excavation of land (the “Proposed Development”) for a period of 3 years at Lots 733SF(Part), 741(Part), 742RP(Part), 744RP(Part) in DD99 and Adjoining Government Land, San Tin, Yuen Long, New Territories (the “Application Site”).

The Application Site was previously used as a temporary shop and services (motor vehicle showroom), for which planning approval had been granted. The last application (No. A/YL-ST/667) for use as a motor vehicle showroom was approved by the Board on 19.4.2024 for a period of 3 years. However, due to an economic downturn, the motor vehicle showroom ceased operation in 2025, leaving the Application Site vacant. The application was subsequently revoked by the Board on 19.1.2026.

Due to the increasing demand for electricity in Northern Metropolis, CLP Power Hong Kong Limited (CLP) currently uses the Application Site for the storage of cables, wires, transformers and spare parts. This application seeks the Board's approval for the proposed warehouse and open storage of these items on the Application Site for a period of 3 years. Compared with the previous application, the proposed use and its development parameters have changed.

The Application Site, which has an area of approximately 5,856 sq.m. (including 315 sq.m. of Government Land), falls within an area that is partly shown as ‘Road’ (about 67%) and partly zoned “Other Specified Uses” annotated “Amenity Area” (“OU(A)”) (about 25%), and partly as “Other Specified Uses” annotated “Mixed Use” (“OU(MU)”) (about 8%) on the approved San Tin Technopole Outline Zoning Plan (OZP) No. S/STT/2. According to the covering Notes of the OZP, temporary use or development of any land or buildings not exceeding a period of three years requires planning permission from the Board.

The Application Site will comprise two single-storey temporary warehouses for storing cables, wires, transformers and spare parts. An open storage area for these items, with a stacking height of not exceeding 3m, will be provided in the middle and eastern portions of the Application Site. A F.S. pump room is located to the west. A total of 2 loading/unloading spaces for medium goods vehicles and 3 private car parking spaces for staff/visitors will also be provided. There is an existing local track connected to Tung Wing On Road and a 8-metre wide ingress and egress will be located at the southern boundary. The operation hours will be from 8:00am to 8:00pm (Mondays to Saturdays, no operation on Sundays and public holidays).

The justifications of this application are: not jeopardize the long-term planning intention of San Tin Technopole; genuine demand for storage and warehouse sites in the New Territories; optimization the use of valuable land resources; compatible with surrounding land uses; site with previous approved compatible uses; and insignificant traffic, environmental or visual, and drainage impacts. The Applicant respectfully requests that the Board approves this application for a period of 3 years.

行政摘要

這宗規劃申請乃代表申請人向城市規劃委員會(“城規會”)呈交，擬議在新界元朗新田丈量約份第 99 約地段第 733 號 F 分段(部份)，第 741 號(部份)，第 742 號餘段(部份)，第 744 號餘段(部份)及毗連政府土地(“申請地點”)，用作臨時貨倉連附屬露天存放電纜、電線、變壓器和備用零件及相關的填土和挖土工程(“擬議發展”)，為期三年。

申請地點先前曾用作臨時商店及服務行業(汽車陳列室)，並已獲規劃許可。上次用作汽車陳列室的規劃申請(編號：A/YL-ST/667)已於 2024 年 4 月 19 日獲城規會批准，有效期為 3 年。然而，受經濟衰退影響，該汽車陳列室於 2025 年停止營運，致使申請地點空置。該申請其後於 2026 年 1 月 19 日被城規會撤銷。

鑑於北部都會區的電力需求不斷增加，中華電力有限公司(中電)目前將申請地點用作貯存電纜、電線、變壓器及備用零件。本申請旨在向城規會申請批准，在申請地點內將上述物品存放於擬建貨倉及露天貯存區，為期三年。與先前申請相比，擬議用途及其發展參數已有所變更。

申請地點面積約為 5,856 平方米(包括 315 平方米的政府土地)，位於新田科技城分區計劃大綱核准圖編號S/STT/2中部分標示為「道路」(約 67%)及部分劃為「其他指定用途」註明「美化市容地帶」(約 25%)及「其他指定用途」註明「混合用途」地帶(約 8%)。根據該分區計劃大綱的註釋，任何土地或建築物的臨時用途或發展，如為期不超過三年，須向城規會申請規劃許可。

申請地點包含兩座單層臨時貨倉，用以存放電纜、電線、變壓器及備用零件。申請地點的中部及東部將設有供存放上述物品的露天貯存區，堆放高度不超過3米。西側設有消防泵房。此外，亦將提供2個供中型貨車使用的裝卸車位，以及3個供員工／訪客使用的私家車泊車位。申請地點將於南面邊界設置一個寬8米的出入口，由一條現有通道連接東永安路。營運時間為上午8時至晚上8時(星期一至星期六，星期日及公眾假期不會運作)。

這宗規劃申請的理由為：不會違背新田科技城的長遠規劃意向；新界地區對貯存及倉儲用地存在切實需求；能優化珍貴土地資源的利用；與周邊土地用途相容；該用地先前已獲批准作相容用途；不會對附近地點構成不良的交通、環境、視覺及排水系統影響。申請人謹此懇請城規會批准此項申請，為期 3 年。

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SUMMARY OF APPLICATION

Applicant:	Smart Union Motors (Asia) Company Limited
Applied Use:	Proposed Temporary Warehouse with Ancillary Open Storage of Cables, Wires, Transformers and Spare Parts and Associated Filling and Excavation of Land for a Period of 3 Years
Location:	Lots 733SF(Part), 741(Part), 742RP(Part), 744RP(Part) in DD99 and Adjoining Government Land, San Tin, Yuen Long, New Territories
Site Area:	About 5,856 sq.m. (including 315 sq.m. of Government Land)
Lease:	Block Government Lease demised for agricultural use
Statutory Plan:	Approved San Tin Technopole Outline Zoning Plan No. S/STT/2 gazetted on 20.9.2024
Zonings:	Area shown as 'Road' (about 3,934 sq.m., 67%) "Other Specified Uses" annotated "Amenity Area" ("OU(A)") (about 1,480 sq.m., 25%) "Other Specified Uses" annotated "Mixed Use" ("OU(MU)") (about 442 sq.m., 8%)
Town Planning Board Guidelines:	TPB Guidelines for "Application for Development within Deep Bay Area" (TPB-PG No. 12C)
Previous Applications:	A/YL-ST/36 (Approved on 19.9.1997 for 3 years) A/YL-ST/192 (Rejected on 15.3.2002) A/YL-ST/262 (Rejected on 14.5.2004) A/YL-ST/445 (Approved on 26.9.2014 for 3 years) A/YL-ST/559 (Approved on 15.11.2019 for 3 years) A/YL-ST/600 (Approved on 24.12.2021 for 3 years) A/YL-ST/667 (Approved on 19.4.2024 for 3 years)

1. INTRODUCTION

- 1.01 This application is prepared by Top Bright Consultants Ltd. on behalf of Smart Union Motors (Asia) Company Limited (the "Applicant") to the Town Planning Board (the "Board") to seek planning permission for a proposed temporary warehouse with ancillary open storage of cables, wires, transformers and spare parts and associated filling and excavation of Land(the "Proposed Development") for a period of 3 years at Lots 733SF(Part), 741(Part), 742RP(Part), 744RP(Part) in DD99 and Adjoining Government Land , San Tin, Yuen Long, New Territories (the "Application Site").
- 1.02 The Application Site was previously used as a temporary shop and services (motor vehicle showroom), for which planning approval had been granted. The last application (No. A/YL-ST/667) for use as a motor vehicle showroom was approved by the Board on 19.4.2024 for a period of 3 years. However, due to an economic downturn, the motor vehicle showroom ceased operation in 2025, leaving the Application Site vacant. The application was subsequently revoked by the Board on 19.1.2026.
- 1.03 Due to the increasing demand for electricity in Northern Metropolis, CLP Power Hong Kong Limited (CLP) currently uses the Application Site for the storage of cables, wires, transformers and spare parts. This application seeks the Board's approval for the proposed warehouse and open storage of these items on the Application Site for a period of 3 years. Compared with the previous application, the proposed use and its development parameters have changed.
- 1.04 The Application Site, which has an area of approximately 5,856 sq.m. (including 315 sq.m. of Government Land), falls within an area that is partly shown as 'Road' (about 67%) and partly zoned "Other Specified Uses" annotated "Amenity Area" ("OU(A)") (about 25%), and partly as "Other Specified Uses" annotated "Mixed Use" ("OU(MU)") (about 8%) on the approved San Tin Technopole Outline Zoning Plan (OZP) No. S/STT/2. According to the covering Notes of the OZP, temporary use or development of any land or buildings not exceeding a period of three years requires planning permission from the Board.
- 1.05 The Application Site is located within the boundaries of the Phase 1, Stage 1 and Phase 1, Stage 2 developments of the San Tin Technopole (STT). The Applicant will liaise closely with the government and agree to vacate the site when it is resumed by the government or developed for its intended use.
- 1.06 The following sections are intended to help facilitate the Board's decision, and will briefly describe the Application Site and its surroundings, give details of the Proposed Development and provide justifications in support of the application.

2. SITE CONTEXT

Location

- 2.01 The Application Site is located to the north of Wing Ping Tsuen, which is a recognized village in San Tin, Yuen Long. It is about 450m to the east of the San Tin interchange and near the Lok Ma Chau/Huangguan Control Point and Lok Ma Chau Spur Line/Futian Control Point in

San Tin, Yuen Long. It is located within the Wetland Buffer Area. **Figure 1** shows the Application Site in its regional context.

Existing Site Conditions

- 2.02 The Application Site covers an area of approximately 5,856 square metres (including 315 sq.m. of Government Land). The Application Site is generally irregular in shape (see Site Plan in **Figure 2**). It is flat and hard-paved, and is partly fenced off by 2-metre high corrugated metal sheets. There are currently three temporary structures and open storage at the Application Site.

Surrounding Land Uses

- 2.03 The surrounding area is predominantly occupied by similar and compatible uses, including public vehicle parks, container storage areas, open storage yards, vehicle repair workshops, shops and services, etc. To the north across San Tin Tsuen Road is a temporary vehicle park (including container vehicles), container storage area, storage of new unlicensed container tractors, storage of construction materials, tyre repair, shop and services (sale of container vehicles and the related parts/accessories), vehicle repair and services, eating place and ancillary offices with a planning approval (Application No: A/YL-ST/664). To the east of the Application Site are temporary training facilities of the Hong Kong Institute of Construction (Application No: A/STT/14). To the south and southwest are Wing Ping Tsuen, Tung Chan Wai, and Yan Shau Wai. Further to the west is On Lung Tsuen. Given its proximity to the boundary control point, a number of public vehicle parks, shop and services and eating places can be found in the vicinity. **Figure 3** shows the Application Site in the context of its local surroundings.

Access

- 2.04 The Application Site is accessible from Tung Wing On Road which provides direct access to Castle Peak Road – San Tin, San Tin Highway and the boundary control point via San Sham Road and San Tin Tsuen Road. There is an ingress and egress point of approximately 8 metres wide to the south.

3. LAND STATUS

- 3.01 According to the Land Registry, the Application Site comprises Lots 733SF(Part), 741(Part), 742RP(Part), 744RP(Part) in DD99 and adjoining Government land, San Tin, Yuen Long, New Territories. The location of the lots is illustrated on the Site Plan in **Figure 2**.
- 3.02 The subject lots are all held under Block Government Lease and demised as agricultural land with a lease term expiring on 30.6.2047. There are no user restrictions in the leases apart from the standard non-offensive trade clause.

- 3.03 A Short Term Waiver (STW) and Short Term Tenancy (STT) were granted by the Lands Department (LandsD) for the previously approved shop and services use. Should this application be approved, the Applicant will apply to the LandsD to modify the STW and STT.

4. PLANNING CONTEXT

San Tin Technopole (STT)

- 4.01 The Application Site is located within the boundaries of the Phase 1, Stage 1 and Phase 1, Stage 2 developments of the STT. Further liaison between the Government and the Applicant will be required for the interface issues related to the applied use and the development of the STT.

Statutory Plan

- 4.02 According to the approved San Tin Technopole OZP No. S/STT/2 gazetted on 20.9.2024, the Application Site falls within an area that is partly shown as 'Road' (about 3,934 sq.m., 67%) and partly zoned "Other Specified Uses" annotated "Amenity Area" ("OU(A)") (about 1,480 sq.m., 25%), and partly as "Other Specified Uses" annotated "Mixed Use" ("OU(MU)") (about 442 sq.m., 8%) on the approved San Tin Technopole Outline Zoning Plan (OZP) No. S/STT/2. According to the covering Notes of the OZP, temporary use or development of any land or buildings not exceeding a period of three years requires planning permission from the Board. An extract of the OZP is in **Figure 4**.
- 4.03 The area shown as 'Road' forms part of the area reserved for future Road L14 of the STT.
- 4.04 The "OU(A)" zone is for the provision of landscaping and planting to enhance the amenity value and to serve as visual buffers between existing villages and new developments.
- 4.05 The "OU(MU)" zone is intended primarily for high-density residential development and commercial development in close proximity to the railway station. Flexibility for the development/redevelopment/conversion of residential or other uses, or a combination of various types of compatible uses including commercial, residential, educational, cultural, recreational and entertainment uses, either vertically within a building or horizontally over a spatial area, is allowed to meet changing market needs. Physical segregation has to be provided between the non-residential and residential portions within a new/converted building to prevent non-residential uses from causing nuisance to the residents.

Town Planning Board Guidelines for Application for Development within Deep Bay Area (TPB PG-No. 12C)

- 4.06 Town Planning Board Guidelines for "Application for Development within Deep Bay Area" (TPB PG-No. 12C) is relevant to this application. The Application Site falls within the Wetland Buffer Area (WBA) in Deep Bay Area. The intention of the WBA is to protect the ecological integrity of the fish ponds and wetland within the Wetland Conservation Area (WCA) and prevent development that would have a negative off-site disturbance impact on the ecological value of

fish ponds. Temporary uses are exempted from the requirement of ecological impact assessment (EcoIA) as part of the submission to the Board.

Previous Planning Applications

- 4.07 Part of the Application Site is the subject of 7 previous planning applications (Nos. A/YL-ST/36, 192, 262, 445, 559, 600 and 667). The details of these applications are shown in **Table 4.1** below:

Table 4.1 Previous Applications

Application No.	Applied Use	TPB's Decision
A/YL-ST/36	Temporary Cross-border Traffic Service Station including Canteen, container Freight Station, Container Repair Workshop, Office and Services Trades	Approved on 19.9.1997 for 3 Years
A/YL-ST/192	Temporary Cross Boundary Traffic Service Station including Carpark, Container Freight Station, Container Storage, Container Tractor/Trailer Park, Tyres Repair Workshop, Office and Service Trades for a Period of 3 Years	Rejected on 15.3.2002
A/YL-ST/262	Temporary Cross-Border Traffic Service Station (including Public Car Park, Container Tractor/Trailer Park, Container Freight Station, Container Storage and Tyre Repair Areas with Ancillary Site Office and Service Trades) for a Period of 3 Years	Rejected on 14.5.2004
A/YL-ST/445	Temporary Cross-Boundary Traffic Service Station (including Public Car Park, Container Freight Station, Container Storage, Container Tractor/Trailer Park, Vehicle Repair Workshop, Office) with Ancillary Services Trades (including Handling In and Out of Container Freight, Arrival and Departure of Goods Vehicles) and Staff Canteen for a Period of 3 Years	Approved on 26.9.2014 for 3 Years
A/YL-ST/559	Temporary Shop and Services (Motor Vehicle Showroom) for a Period of 3 Years	Approved on 15.11.2019 for 3 Years
A/YL-ST/600	Temporary Shop and Services (Motor Vehicle Showroom) for a Period of 3 Years and Associated Filling and Excavation of Land	Approved on 24.12.2021 for 3 Years
A/YL-ST/667	Temporary Shop and Services (Motor Vehicle Showroom) for a Period of 3 Years and Associated Filling and Excavation of Land	Approved on 19.4.2024 for 3 Years

Similar Application

- 4.08 There is a similar application for temporary vehicle park (including container vehicles), container storage area, storage of new unlicensed container tractors, storage of construction materials, tyre repair, shop and services (sale of container vehicles and the related parts/accessories), vehicle repair and services, eating place and ancillary offices with a planning approval (Application No: A/YL-ST/664) within the same "OU(MU)" zone.

5. DEVELOPMENT PROPOSAL

Applied Use

- 5.01 The Applicant seeks the Board's permission for a temporary warehouse with ancillary open storage of cables, wires, transformers and spare parts and associated filling and excavation of land for a period of 3 years.

Site Layout and Design

- 5.02 The Layout Plan in **Figure 5** shows the proposed configuration of the site. The Application Site will comprise two single-storey temporary warehouses for storing cables, wires, transformers and spare parts. An open storage area for these items, with a stacking height of not exceeding 3m, will be provided in the middle and eastern portions of the Application Site. A F.S. pump room is located to the west. A total of 2 loading/unloading spaces for medium goods vehicles and 3 private car parking spaces for staff/visitors will also be provided. There is an existing local track connected to Tung Wing On Road and a 8-metre wide ingress and egress will be located at the southern boundary.
- 5.03 The major development parameters of the proposed development are:

Table 5.1 Development Parameters of the Proposed Development

Applied Use	Proposed temporary warehouse with ancillary open storage of cables, wires, transformers and spare parts and associated filling and excavation of land for a period of 3 years
Site Area	About 5,856 sq.m. (including 315 sq.m. of Government land)
Total Floor Area (Non-domestic)	About 1,830 sq.m.
No. of Structures	3 - 2 warehouses - 1 F. S. pump room
Height of Structures	2.5 - 11.6m (1 storey)
Loading/unloading Spaces	2 (for medium goods vehicles) (3.5m x 11m)
Parking Spaces	3 (for private cars) (2.5m x 5m)
Operation Hours	8:00am to 8:00pm (Mondays to Saturdays, no operation on Sundays and public holidays)

- 5.04 Associated filling and excavation of land is proposed at the Application Site for constructing ancillary drainage facilities. Peripheral channels are proposed to be constructed at the Application Site to prevent surface runoff from the Application Site directly flowing onto the existing adjacent access. It is estimated that the total filling area is about 45m² with a depth ranging from 0.35 to 1.19m and the total excavation area is about 51.89m² with a depth ranging from 0.8 to 1.66m. (see **Appendix A**)

Site Operations

- 5.05 The Application Site will only be used to store cables, wires, transformers and spare parts that are owned by CLP. The wires and spare parts must be properly packed before they arrive at the Application Site. No packing, workshop and repairing activities will be conducted at the Application Site.

Traffic Arrangement

- 5.06 The Application Site is accessible via an existing access route connecting to Tung Wing On Road. The Applicant will retain and maintain the existing 8m-wide ingress/egress at the southern boundary of the Application Site. A total of 2 loading/unloading spaces (3.5m x 11m) for medium goods vehicles and 3 private car parking spaces (2.5m x 5m) for staff/visitors will also be provided. Parking spaces for visitors will be available by appointment only, to help control the amount of traffic. The remaining open areas will be reserved for manoeuvring vehicles. No vehicles will need to tail back or reverse onto any public road or local track.
- 5.07 It is estimated that the trips involving the delivery of the storage materials to and from the Application Site made by medium goods vehicles will not exceed 2 round trips per hour. The estimated traffic flow of the proposed development is as follows:

Time	No. of Trips (Medium Goods Vehicles)		No. of Trips (Private Vehicles)	
	In	Out	In	Out
08:00-9:00 (peak hour)	2	2	2	0
9:00-10:00	2	2	1	0
10:00-11:00	2	2	0	1
11:00-12:00	2	2	0	0
12:00-13:00	2	2	0	2
13:00-14:00	2	2	2	0
15:00-16:00	2	2	0	0
16:00-17:00	2	2	1	0
17:00-18:00 (peak hour)	2	2	0	1
18:00-19:00 (peak hour)	2	2	0	0
19:00-20:00	2	2	0	2

Drainage Proposal

- 5.08 The Applicant has submitted a drainage proposal that meets the requirements of the Drainage Services Department (DSD), in compliance with the approval condition for the previous application (No. A/YL-ST/667), and the Application Site is served by existing drainage facilities. For this application, the Applicant has submitted a revised drainage proposal (see **Appendix B**) and will implement it to the satisfaction of the DSD upon approval of this application.

Fire Service Installations Proposal

- 5.09 The Applicant has submitted a FSIs proposal to the satisfaction of the Fire Services Department (FSD) in compliance with the approval condition for the previous application (No.

A/YL-ST/667). For this application, the Applicant has submitted a revised FSIs proposal (see **Appendix C**) and will implement it to the satisfaction of the FSD upon approval of this application.

Environmental Consideration

- 5.10 The proposed storage use is passive in nature and will not have any adverse environmental impact. The following measures will be adopted and maintained to minimize any potential impact on the surrounding areas:
- (a) To maintain the 2-metre high fencing around the Application Site to minimize the dust, noise and visual impacts of the Proposed Development;
 - (b) To maintain hard paving to limit dust emissions;
 - (c) To provide drainage facilities to prevent surface runoff into adjoining areas;
 - (d) Noise-generating activities such as packing, workshops and repairs will not be permitted on the site to avoid disturbance;
 - (e) The stacking height of open storage will not exceed 3m;
 - (f) Good site management will be adopted, including rubbish collection and provision of proper waste management;
 - (g) No handling of dusty materials on the site; and
 - (h) No night-time operations or operations on Sundays and public holidays.

6. JUSTIFICATIONS

Not Jeopardize the Long-Term Planning Intention of San Tin Technopole

- 6.01 The Chief Executive announced the development of San Tin Technopole as part of the Northern Metropolis Development Strategy in 2021, and the STT OZP was gazetted in 2024. The San Tin Technopole aims to transform the Northern Metropolis into a 'new international I&T city'. It is noted that the San Tin Technopole is set to be implemented in two phases, from the fourth quarter of 2024 to 2034. Despite the Application Site falling within the boundaries of the Phase 1, Stage 1 and Phase 1, Stage 2 of the STT developments, clearance and formation of the Application Site will be subject to STT implementation funding. In this regard, the proposed development will be temporary and will not jeopardize the long-term development of the area. The Applicant will liaise closely with the government and agree to vacate the site when it is resumed by the government or developed for its intended use.

Genuine Demand for Storage and Warehouse Sites in the New Territories

- 6.02 Due to the ongoing resumption projects in the Northern Metropolis area, a significant number of brownfield sites in the Northern New Territories have been or will be resumed by the government for the development of New Development Areas (NDAs). Consequently, demand for warehouses and open storage sites is extremely high. The Application Site is ready for immediate use, meeting CLP's genuine storage needs while supporting the electricity supply and utility infrastructure in the Northern Metropolis.

Optimization the Use of Valuable Land Resources

- 6.03 The Application Site has been formed and is currently used for storage. Given the land use in the vicinity, it is a suitable location for storage use. Although the proposed development is not entirely in line with the planning intention, there is still time for the government to resume the land and prepare it for long-term use. The proposed development provides an interim solution that optimises the use of the Application Site, rather than leaving it vacant. Therefore, the proposed development makes ideal use of the land to its maximum potential.

Compatible with Surrounding Land Uses

- 6.04 The proposed development is compatible with the surrounding land uses, which include public vehicle parks, container storage areas, open storage yards, vehicle repair workshops, etc. Taking into account the mitigation measures proposed by the Applicant, including the prohibition of packing, workshops and repair activities within the Application Site, as well as restrictions on operation hours, the proposed development could coexist well with these land uses without having an adverse environmental impact. Given the current physical condition of the site and the prevalence of similar usage in the area, the Application Site is considered suitable for temporary warehouse and open storage use.

Site with Previous Approved Compatible Uses

- 6.05 The Board previously approved a cross-boundary traffic service station in 2014 and a temporary shop and services (motor vehicle showroom) use on the same site from 2019 to 2024. The previous application was revoked mainly because the previous occupier ceased operations. Compared with the previous application (No. A/YL-ST/667), the existing temporary structures will be reused for storage purposes and the proposed development is compatible with the previously approved land use. Should this application be approved, the Applicant commits to complying with the approval conditions.

Insignificant Traffic Impact

- 6.06 The proposed development is solely for passive storage and will not generate a high volume of traffic. Sufficient loading/unloading spaces, as well as parking spaces, will be provided within the Application Site. The frequency of delivery trips to and from the Application Site will be low (see paragraph 5.06), and this can be accommodated by the existing road network. In addition, sufficient space is reserved within the Application Site for manoeuvring of vehicles. No vehicles will queue back to or reverse onto/from the public road.

Insignificant Environmental or Visual Impact

- 6.07 Taking into account the local context surrounding the Application Site and the reuse of the existing temporary structures, the proposed development is compatible with the surrounding land uses. The Application Site will be fenced off to ensure the proposed development is inconspicuous and does not create an eyesore in the surrounding area. Nevertheless, there will be no significant impact on the landscape as there are no significant landscape features within the site.

- 6.08 The proposed development complies with the latest “Code of Practice on Handling the Environmental Aspects of Temporary Uses and Open Storage Sites”, issued by the Environmental Protection Department as follows:

Air

- (a) the entire site has been hard-paved to prevent fugitive dust emissions.

Noise

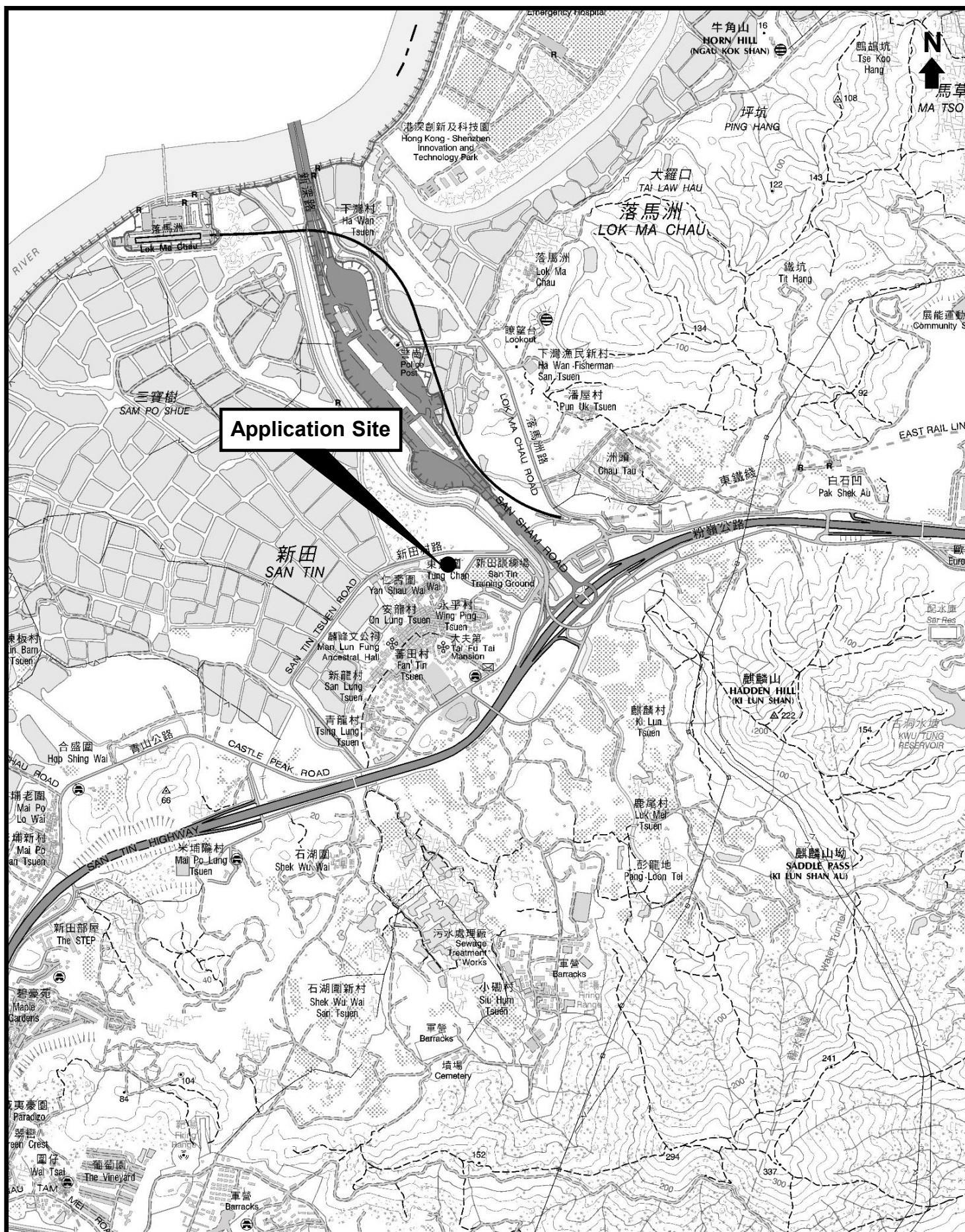
- (a) the erection of 2m corrugated metal fencing would minimize noise nuisance.
(b) Prohibition of any operations during sensitive hours (i.e. 11:00pm to 7:00am). The current application proposes limiting the operating hours of development to 8:00 am to 8:00 p.m.
(c) No packing, workshop and repair activities will be conducted within the Application Site.

Insignificant Drainage Impact

- 6.09 The Application Site is located in close proximity to the existing drains in the area. Drainage facilities have been provided within the Application Site under the previous application. Given the locality of the site, which is not at risk of flooding, and the Applicant's commitment to providing appropriate drainage facilities to the satisfaction of DSD, no adverse drainage impact is anticipated.

7. CONCLUSION

- 7.01 The Applicant is seeking the Board's permission to use the Application Site for temporary warehouse and open storage use. With various development projects underway in the Northern Metropolis, there is a high demand for warehouse and open storage sites. The proposed development will play an important role in providing storage space in the Northern New Territories.
- 7.02 The Application Site will be resumed by the government for the development of STT. Although the proposed development does not entirely in line with the planning intentions, there is still time for the government to resume the land and prepare it for long-term use. The proposed development offers a temporary solution to the demand for storage space in the Northern Metropolis.
- 7.03 The proposed development only involves passive storage. It does not involve any activities that generate noise, are visually intrusive or are environmentally detrimental. It would not have an adverse impact on local traffic. The implementation of the mitigation measures proposed by the Applicant is expected to prevent any adverse impact on the local area. The proposed development is also compatible with the surrounding land uses.
- 7.04 In view of the above, the Board is kindly requested to consider the application favourably.



Top Bright Consultants Ltd.

Extract Plan Based on Map
Series HM20C of Sheet 2

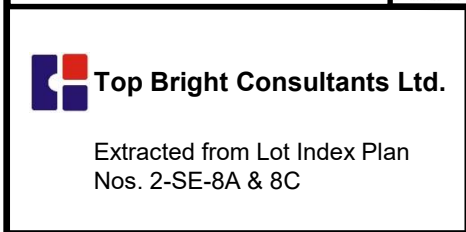
Location Plan

Scale 1 : 20 000

FIGURE 1

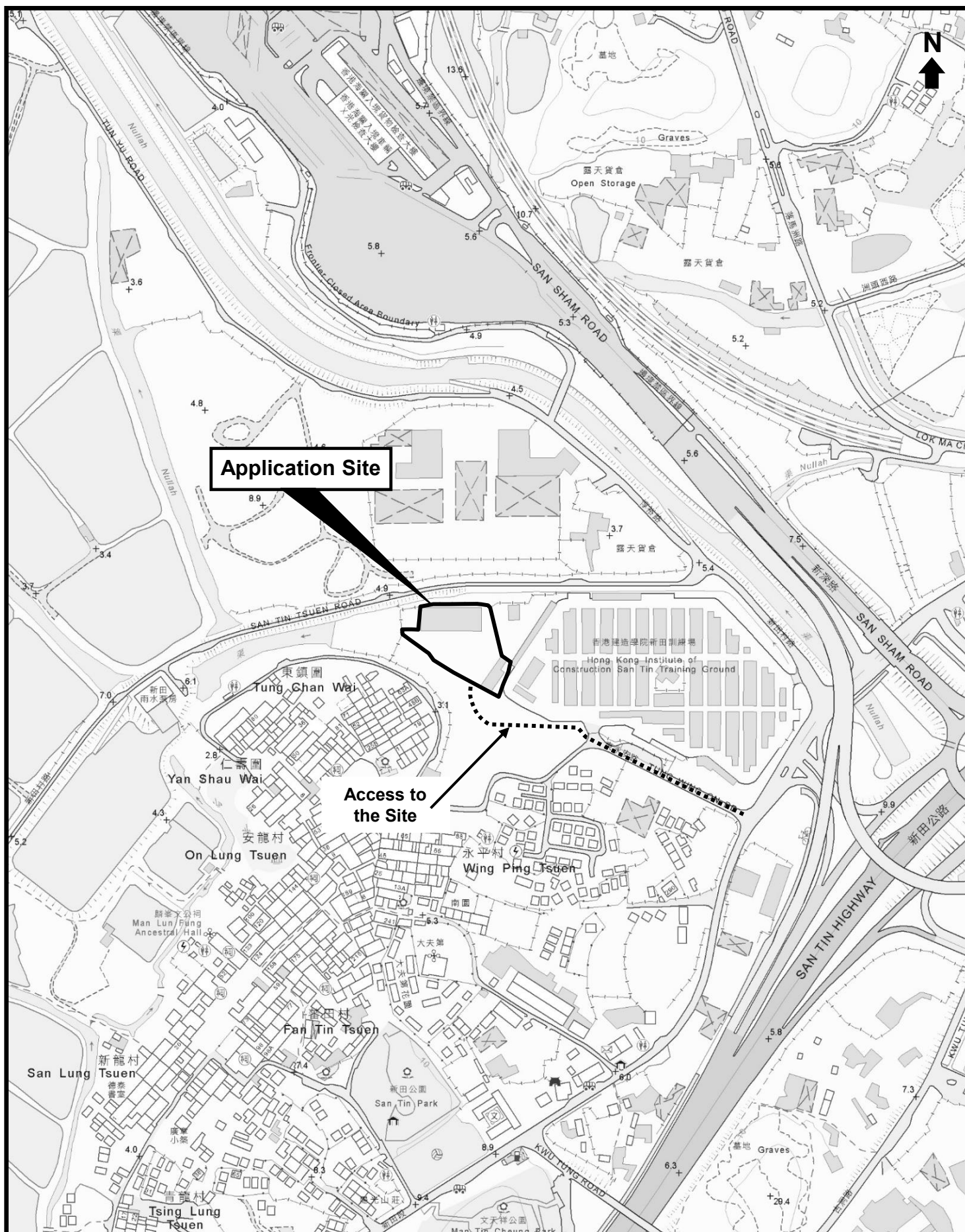
For Identification Purpose

Date: 13.5.2026



Scale 1 : 1 000

Date: 13.5.2026



Top Bright Consultants Ltd.

Extracted Plan Based on Map
Series HP5C of Sheet Nos.
2-SE-A & B

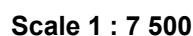
Plan Showing the General Area

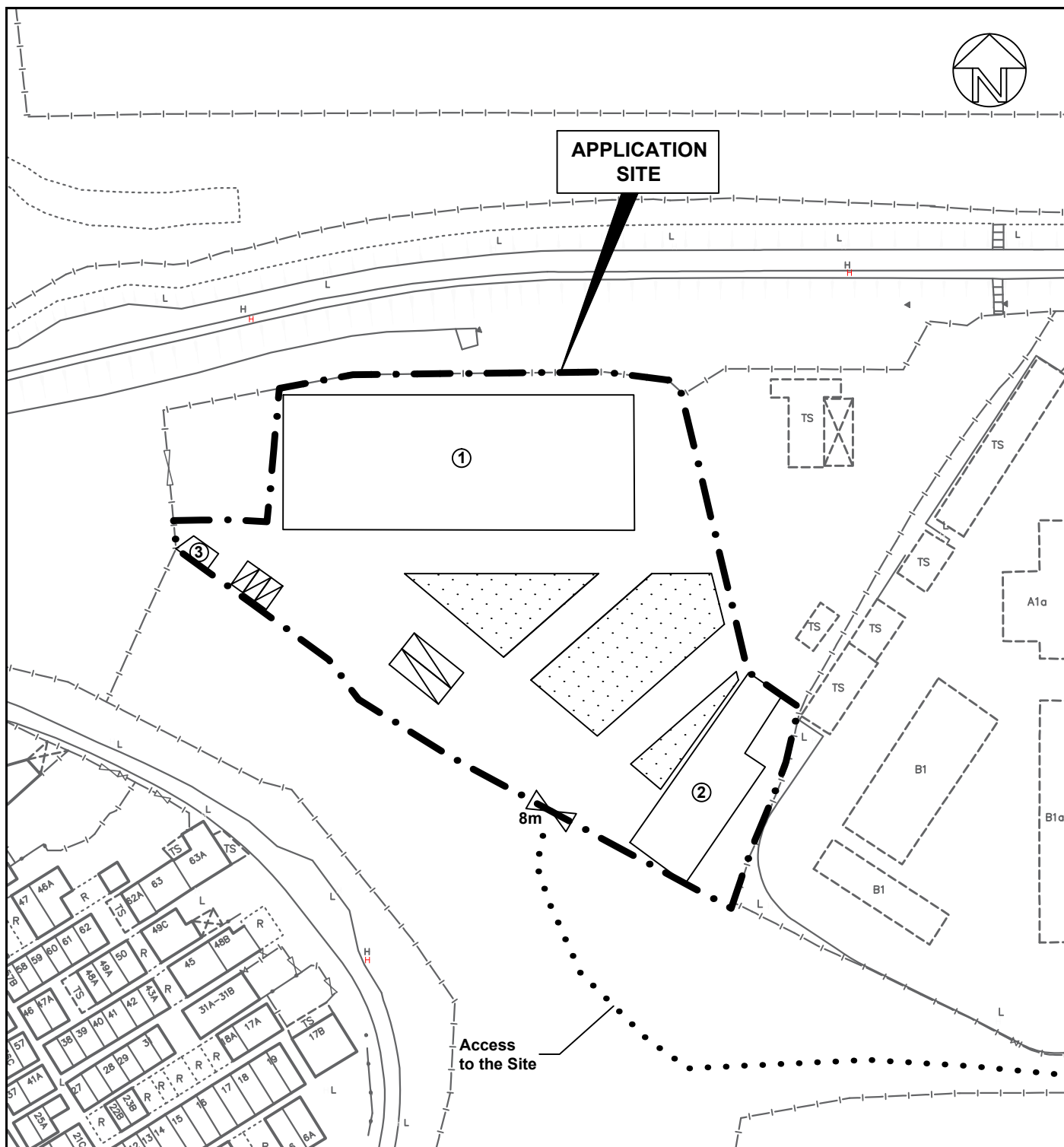
Scale 1 : 5 000

FIGURE 3

For Identification Purpose

Date: 13.5.2026





Details of Structures:

Structure No.	Uses	No. of Storey	Height (m)	Floor Area (m ²)
1	Warehouse for Storage of Cables, Wires, Transformers and Spare Parts	1	9.3-11.6	1,433
2	Warehouse for Storage of Cables, Wires, Transformers and Spare Parts	1	9.9-11.6	376
3	F.S. Pump Room	1	2.5	21

Legend:

- Application Site (Area = about 5,856m²)
- Open Storage of Cables, Wires, Transformers and Spare Parts (Area: about 816m²; Stacking Height: not exceeding 3m)
- Loading/Unloading Spaces for Medium Goods Vehicles (3.5m x 11m) (2 nos.)
- Private Car Parking Spaces for Staff/Visitors (2.5m x 5m) (3 nos.)



Top Bright Consultants Ltd.

Drawing No. :TB/26/880/05

Layout Plan

Lots 733SF(Part), 741(Part), 742RP(Part),
744RP(Part) and Adjoining Government Land in
DD99, San Tin, Yuen Long, N.T.

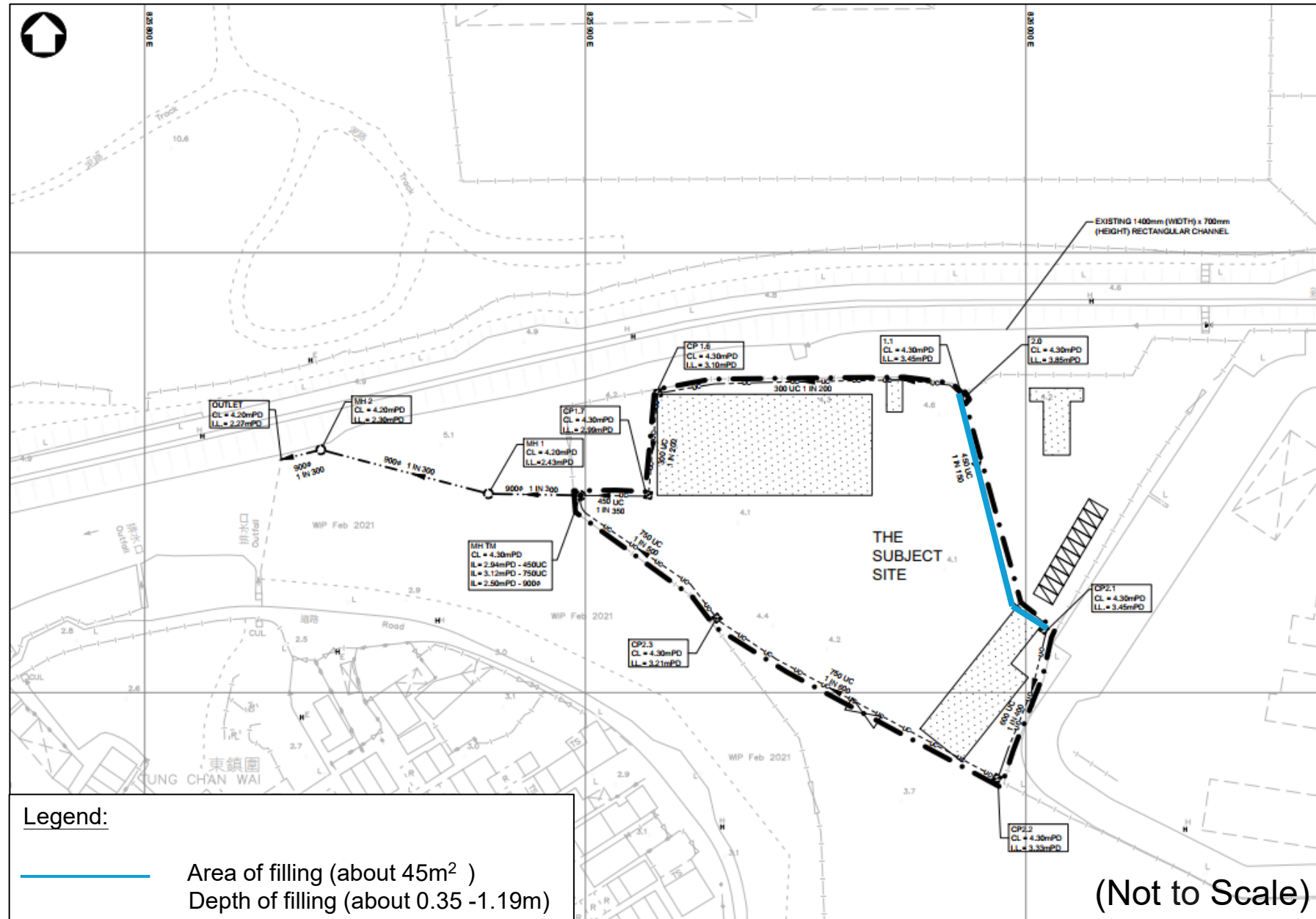
FIGURE 5

FOR IDENTIFICATION PURPOSE

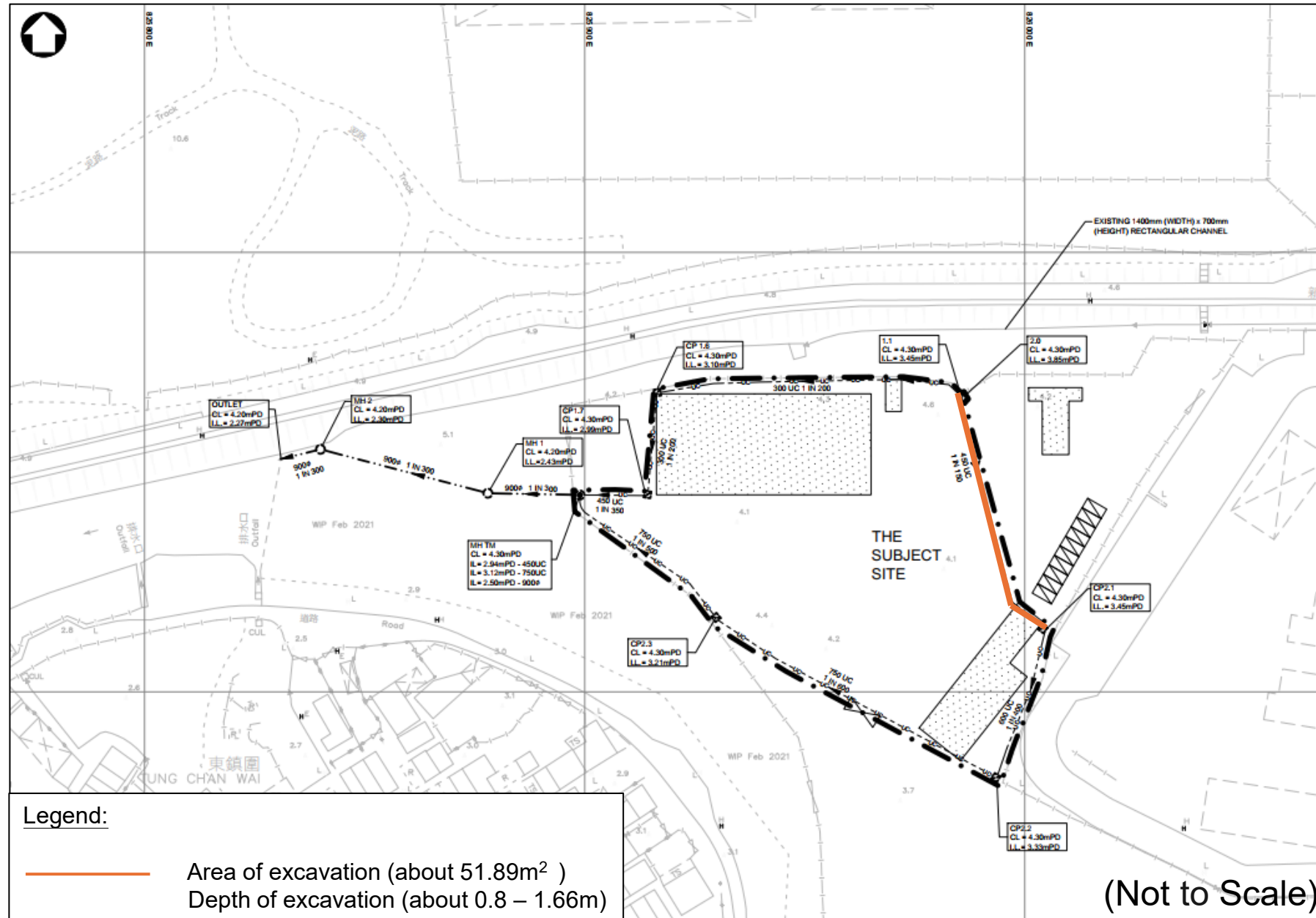
Date: 13.5.2026

Scale: 1 : 1 000

Plan showing the location of the Filling of Land and Excavation of Land for constructing ancillary drainage facilities



Plan showing the location of the Filling of Land and Excavation of Land for constructing ancillary drainage facilities



Drainage Proposal

in support of

Section 16 Planning Application for

**Proposed Temporary Warehouse and Open Storage of Cables,
Wires, Transformers and Spare Parts and Associated Filling
and Excavation of Land for a Period of 3 Years at Lots 733 S.F
(Part), 741 (Part), 742 RP (Part) and 744 RP (Part) in D.D. 99
and adjoining Government Land, San Tin, Yuen Long, New
Territories**

(HT 26086)

June 2026

何田顧問工程師有限公司

HO TIN & ASSOCIATES

CONSULTING ENGINEERS LIMITED



Prepared & Approved by:	LEE Kwok Cheung <i>MICE, MHKIE(Civil), RPE(CVL, ENV, GEL)(Registration No. RP0159301)</i> Signature: 
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1. Background

1.1 Ho Tin & Associates Consulting Engineers Limited (HTA) was appointed by the applicant to prepare a Drainage Proposal in support of a Section 16 Planning Application for a Proposed Temporary Warehouse and Open Storage of Cables, Wires, Transformers and Spare Parts and Associated Filling and Excavation of Land for a Period of 3 Years at Lots 733 S.F (Part), 741 (Part), 742 RP (Part) and 744 RP (Part) in D.D. 99 and adjoining Government Land, San Tin, Yuen Long, New Territories (the subject site).

2. Objectives and Scope of this Report

2.1 The scope of this report includes:

- (i) identifying existing drainage conditions of the subject area;
- (ii) evaluating flooding susceptibility and potential drainage impacts on the subject area; and
- (iii) proposing necessary drainage works.

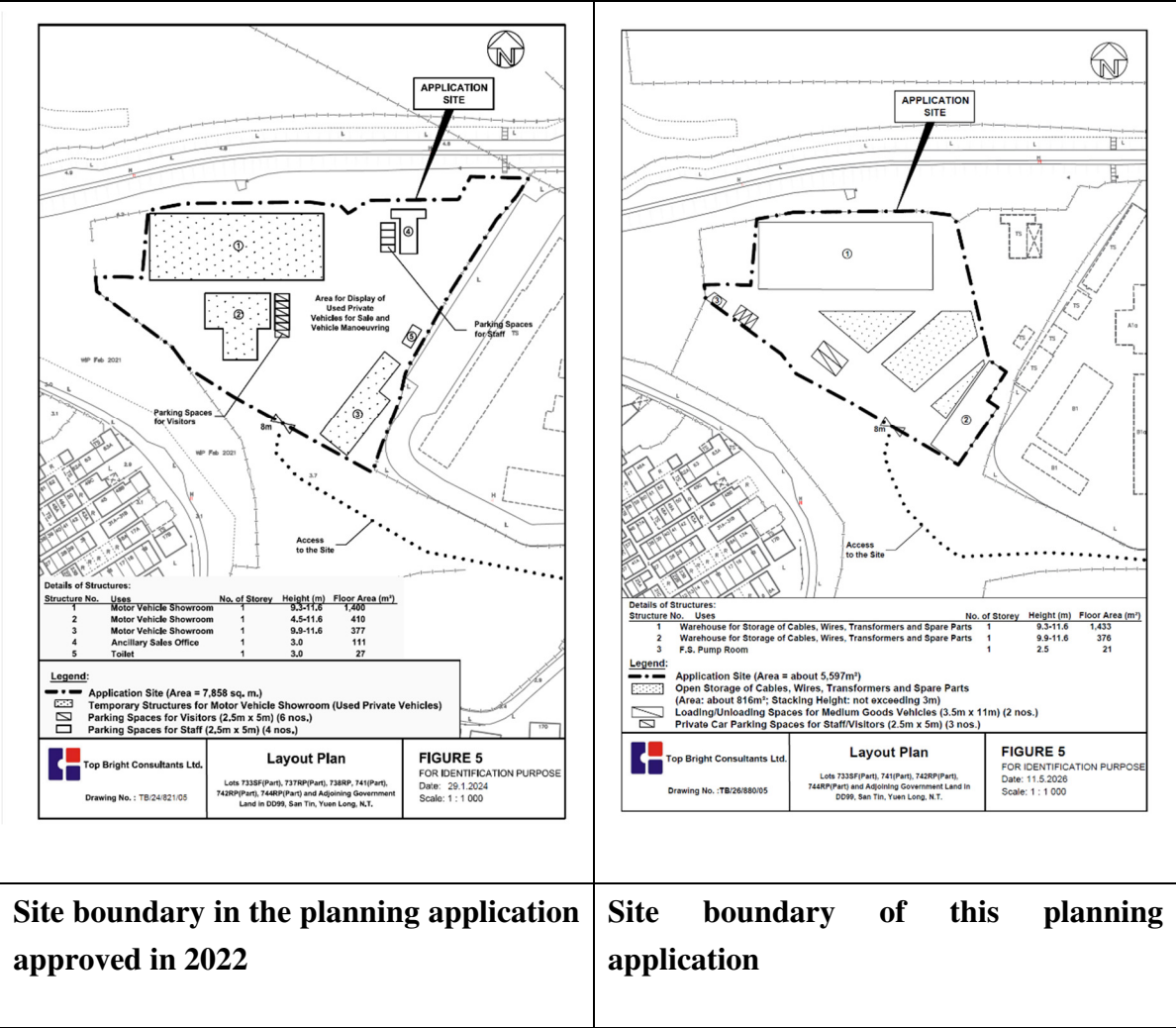
3. The Subject Site

3.1 The subject site of an area of about 5,856m² is located on the southern side of San Tin Tsuen Road and adjacent to an existing access road in front of Tung Chun Wai. It comprises of Lots 733 S.F (Part), 741 (Part), 742 RP (Part) and 744 RP (Part) in DD99, and adjoining Government land, San Tin, Yuen Long, N.T. San Tin Stormwater Pumping Station is at about 200m to the west of the subject site. A Site Location Plan is shown on **Figure 1**.

3.2 It is part of the site of a previously approved planning application which comprised of Lots 733 SF (Part), 737 RP (Part), 738 RP (Part), 741 (Part), 742 RP (Part) and 744 RP (Part) in DD99 and adjoining Government land with a total site area of about 7,858m², stipulated in the Town Planning Board's letter ref. TPB/A/YL-ST/600 dated 14 January 2022 for a Proposed Temporary Shop and Services and associated Filling and Excavation of Land for a Period of 3 Years in "Other Specified Uses" annotated "Service Stations" Zone. Besides, a Drainage Proposal for the previously approved planning application was accepted by the Drainage Services Department in

compliance with the condition of the Planning Approval as recorded in the Planning Department's letter dated 12 May 2022.

3.3 Comparison of the site boundary between the previously approved planning application and this application is illustrated in the below figures:

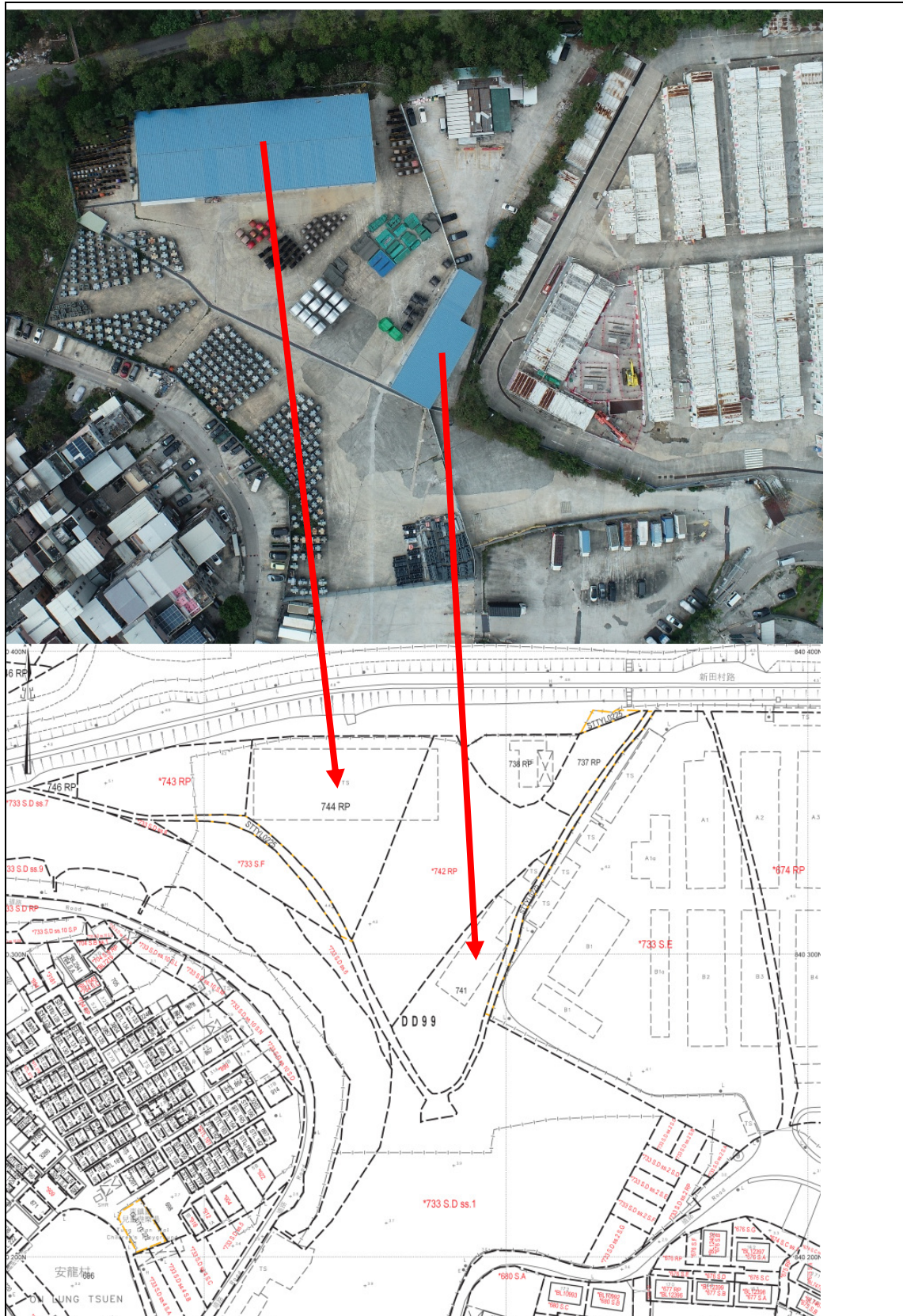


3.4 At present, part of the drainage proposed in the previously accepted Drainage Proposal have already been constructed as shown in **Figure 2**.

4. Existing Drainage Conditions of the Subject Site

4.1 There is generally no change in the drainage conditions, i.e. flow directions and patterns, etc., of the concerned area since the acceptance of the Drainage Proposal of

the previous planning application on 12 May 2022. The current site conditions are shown in the aerial photo below:



5. Approach and Methodology

5.1 Approach

5.1.1 Since there is generally no change in the drainage conditions of the concerned area since the acceptance of the Drainage Proposal of the previously approved planning application and parts of the proposed drainage in the accepted Drainage Proposal have already been constructed, the as-constructed drainage within the subject site would be adopted and their appropriateness would be checked against the current design criteria as stipulated in the latest version of ‘Stormwater Drainage Manual’ and its corrigenda issued by Drainage Services Department. The as-constructed drainage will be modified and additional drainage will be proposed where necessary.

5.1.2 Delineation of the catchment areas in the previously accepted Drainage Proposal is also adopted.

5.2 Hydraulic Calculation

5.2.1 Assessment criteria is based on the recommendation set out in the Stormwater Drainage Manual (Fifth edition, Jan 2018) (SDM) and its Corrigendum No. 1/2022, 1/2024 and 2/2024 issued by DSD. Design Return Period of 50 years (recommended for ‘Main Rural Catchment Drainage Channel’ in SDM) is adopted.

5.2.2 The corresponding runoffs under rainfall intensity for various return period are worked out with reference to Rational Method. Brandy-Williams method is used in calculation of the time of concentration. A uniformly distributed rainfall with an intensity is determined by the Intensity-Duration-Frequency. With reference to Table 3d - Storm Constants for different return periods of North District Area from SDM (Corrigendum No. 1/2024 (26 March 2024)), the rainfall profiles are derived based on the following equation:

$$i = \frac{a}{(t + b)^c}$$

where i = mean rainfall intensity (mm/hr)
 t = duration time of concentration (min)
 a, b and c = storm constants given in Table below

Table : Storm Constants

Return Period (years)	50
a	474.6
b	2.90
c	0.371

A 16.0% rainfall increase is adopted in the hydraulic calculation to cater for effects due to climate change in accordance with the table 28 with projection to End of 21st Century as stipulated in the item (e) and (k) of the SDM - Corrigendum No. 1/2022. Besides, taking into consideration of design allowance in End of 21st Century, a further 12.1% rainfall increase is incorporated into the hydraulic assessment.

- 5.2.3 10% reduction in flow area has been incorporated to cater for potential deposition of sediment in stormwater channels and pipes as recommended in the SDM. The proposed channels and underground drainage are designed to cater for the estimated runoff under the designed rainstorms. With respect to the calculation, the proposed stormwater drainage system is capable to cater for the surface runoff without causing any adverse drainage impacts on the Application Site and its surroundings.
- 5.2.4 Hydraulic assessment is enclosed in the **Appendix**. Appropriateness of the as-constructed channels/drains under the current criteria are checked. Modification of the as-constructed drainage and construction of new peripheral channels along the northeastern site boundary are proposed to avoid overland flow across the subject site boundary. Since all drainage would have sufficient spare capacity, no water backup will occur at the upstream under rainstorms of 50-year (or lower) return periods.

6. Proposed Drainage Works

- 6.1 In order to prevent surface runoff from the subject site directly flowing across the site boundary onto the existing adjacent access road, peripheral channels will be maintained/modified/constructed within the subject site. Besides, in order to ensure no surface runoff from the surroundings flowing towards the subject site, if occurs, would be obstructed, 100mm high x 200mm wide openings at 3m centre to centre

will be formed at the bottom of solid security hoarding/fence, when erected, along the subject site boundary. The surface runoff collected in the channels will be discharged via a terminal manhole into underground drain which will convey the flow into an existing watercourse to the west of the subject site.

- 6.2 The owners of the subject site is committed to obtain consents from relevant Government departments and/or owners of adjacent relevant land/lots prior to commencement of any proposed drainage works outside the subject site and to maintain regularly to avoid blockage of the drainage system to the satisfaction of relevant Government departments.
- 6.3 Sizes of the existing/ proposed U-channels and underground drainage of the subject site are shown in **Figure 3**. Details of proposed drainage provisions shall follow relevant details shown in Government departments' Standard Drawings as follows:

<i>Proposed Drainage Provisions</i>	<i>Standard Drawings</i>	<i>Drawing No. & Title</i>
Stormwater Manhole	DSD Standard Drawings	DS 1082C – Standard Manhole Type G1 (without Desilting Opening)
Catchpit	CEDD Standard Drawings	C 2405/1 to /5 – Standard Catchpit Details
Catchpit with trap		C 2406/1 to /2A – Catchpit with Trap
Catchpit precast concrete cover		C 2407B – Precast Concrete Covers for Catchpit and Sand Trap
U-channel		C 2409J – Details of Half-round and U-channels
Channel cover		C 2412E – Cover Slab and Cast Iron Grating for Channels

7. Conclusion and Recommendations

- 7.1 The as-constructed drainage within the subject site is checked against the assessment criteria as set out in the Stormwater Drainage Manual (Fifth edition, Jan 2018) (SDM) and its Corrigendum No. 1/2022, 1/2024 and 2/2024 issued by DSD. The as-constructed drainage will be modified and additional drainage will be proposed where necessary to safeguard the subject site as well as the surrounding areas.
- 7.2 The subject development would consist of an internal drainage system consisting of peripheral 300mm to 750mm U channels and a terminal manhole which will discharge its flow into a 900mm dia. underground drain which will discharge its flow into an existing watercourse to the further west. The owners of the subject site is committed to obtain consents from relevant Government departments and/or owners of adjacent relevant land/lots prior to commencement of any proposed drainage works outside the subject site and to maintain regularly to avoid blockage of the drainage system to the satisfaction of relevant Government departments. In addition, the owners of the subject site would bear the costs of maintenance/construction of the drainage works including those outside the subject site.
- 7.3 In conclusion, the proposed development with implementation of the drainage works will not cause any adverse drainage impacts onto the concerned area.

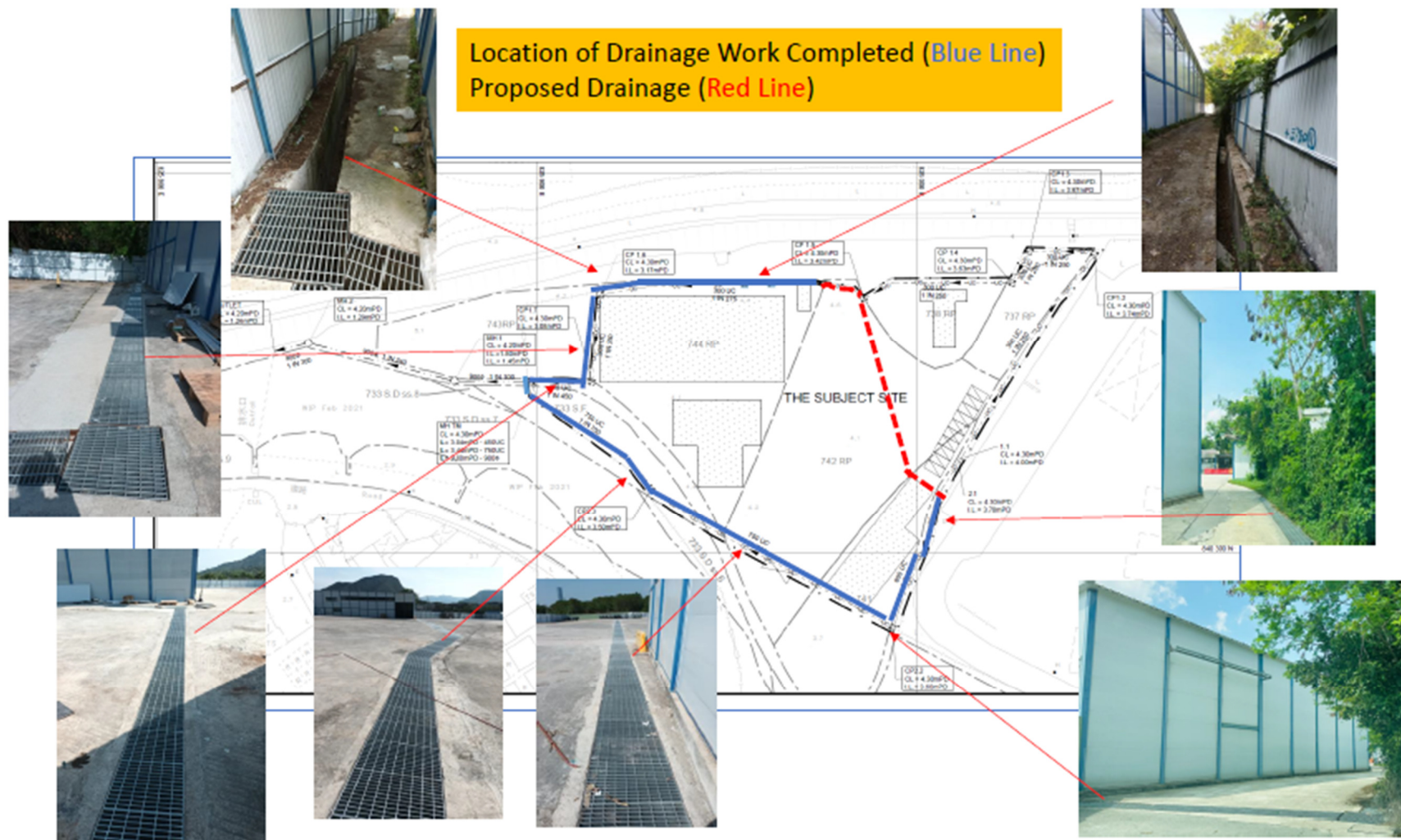
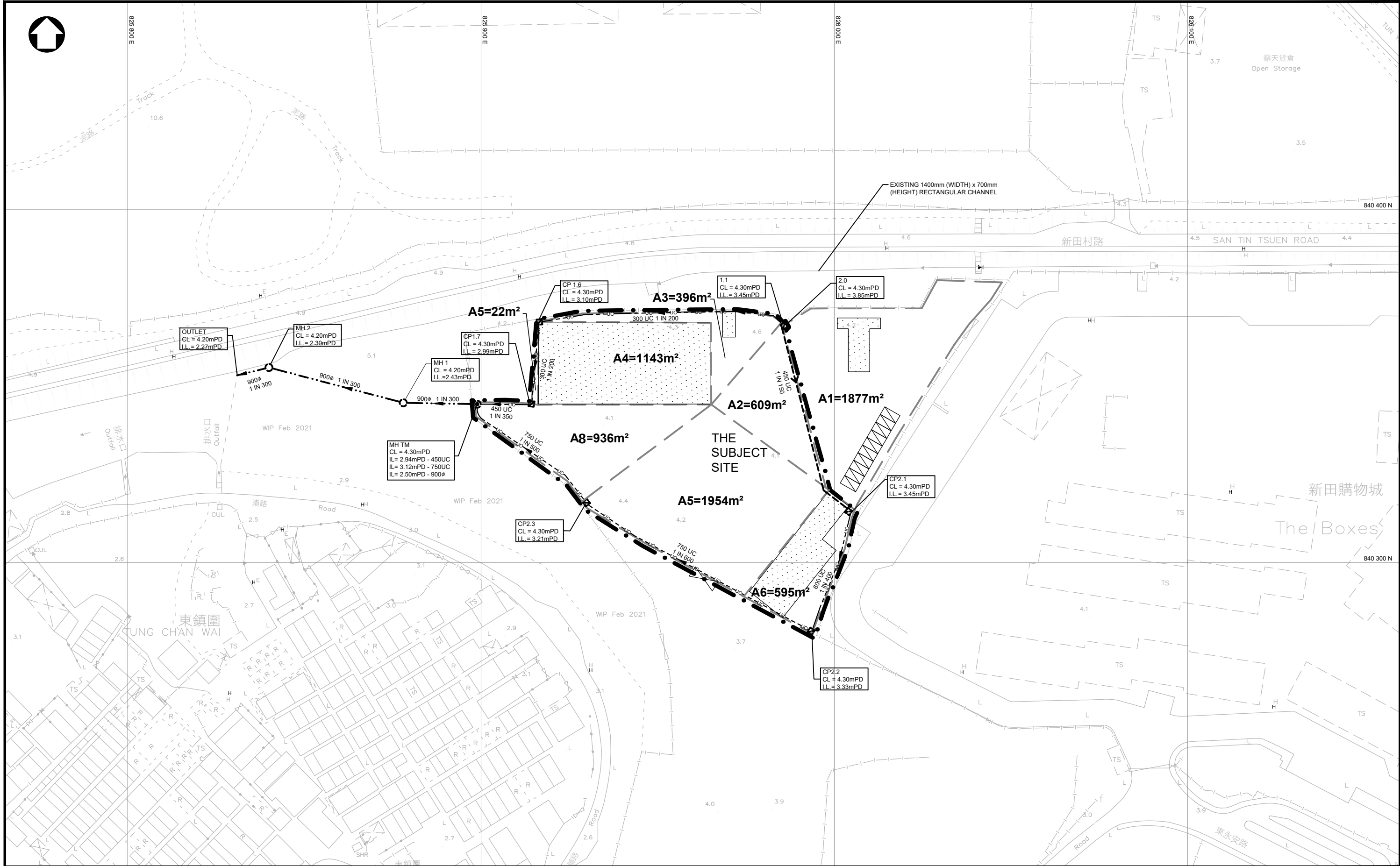
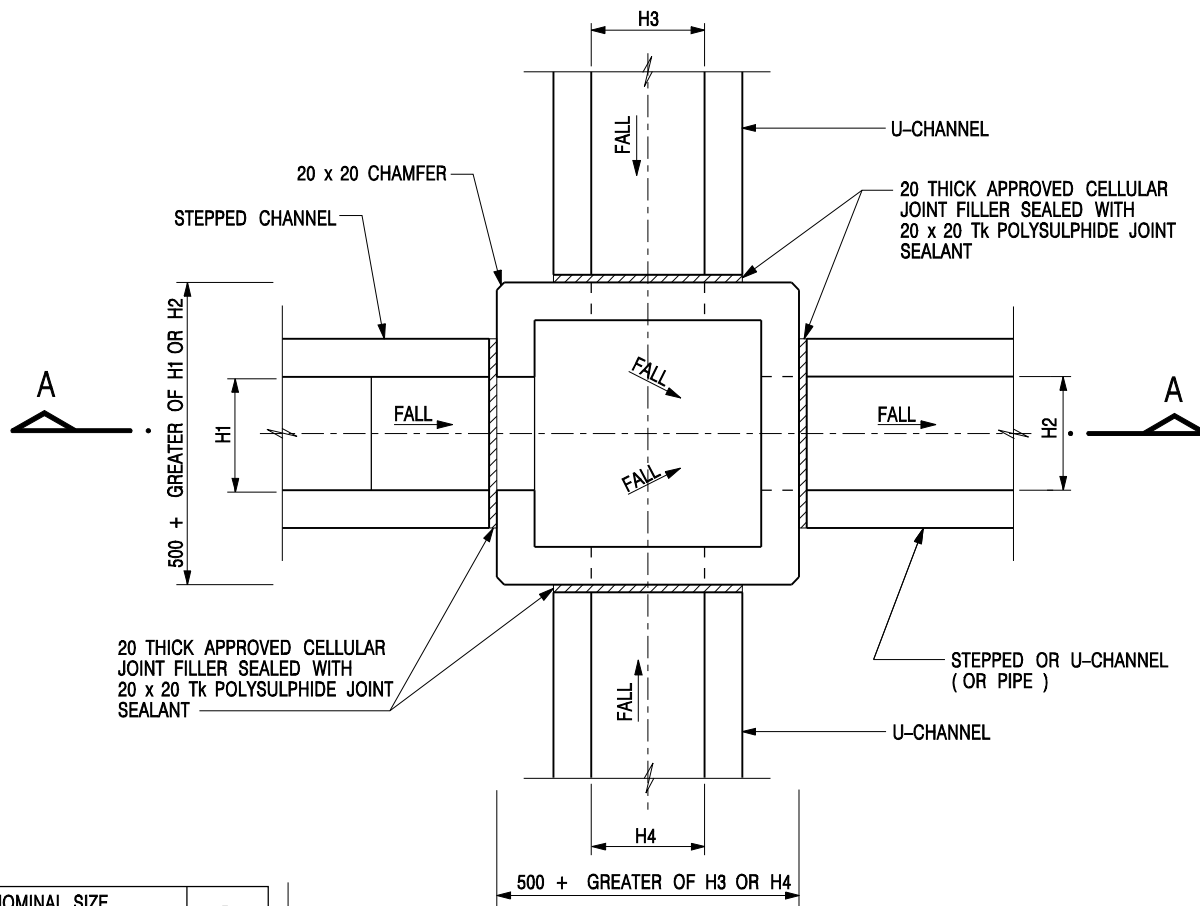


Figure 2 – Extent of Completed Drainage which was proposed in the Drainage Proposal accepted on 12 May 2022

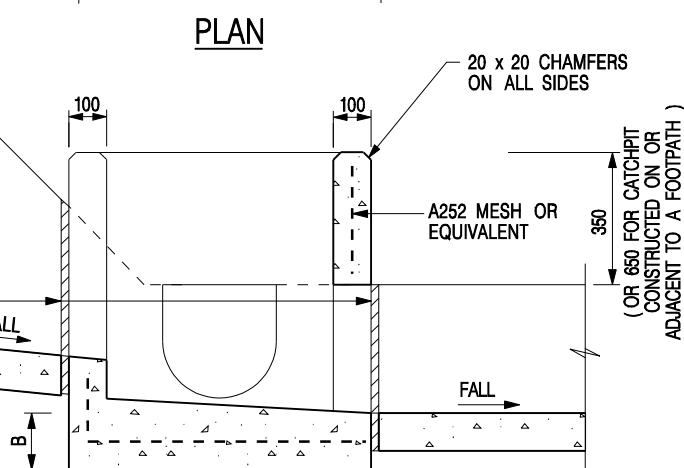


LEGEND: SUBJECT SITE BOUNDARY LINE PROPOSED SURFACE CHANNEL WITH COVER CATCHMENT AREA PROPOSED STORMWATER DRAIN PROPOSED MODIFIED EXISTING SURFACE CHANNEL WITH COVER PROPOSED CATCHPIT WITH COVER PROPOSED STORMWATER MANHOLE PROPOSED STORMWATER CATCHPIT WITH TRAP			PROJECT		何田顧問工程師有限公司 HO TIN & ASSOCIATES CONSULTING ENGINEERS LIMITED	
TITLE			PROPOSED DRAINAGE LAYOUT PLAN		SCALE 1 : 1000 - A3	DRAWING No. FIGURE 3

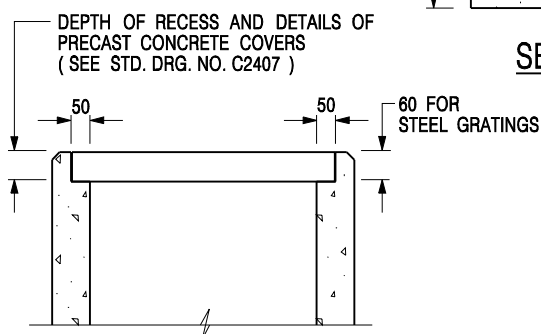


NOMINAL SIZE (LARGEST OF H1, H2, H3 & H4)	B
300 - 600	150
675 - 900	175

20 THICK APPROVED CELLULAR JOINT FILLER SEALED WITH 20 x 20 Tk POLYSULPHIDE JOINT SEALANT



SECTION A - A



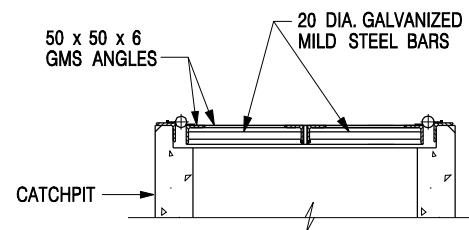
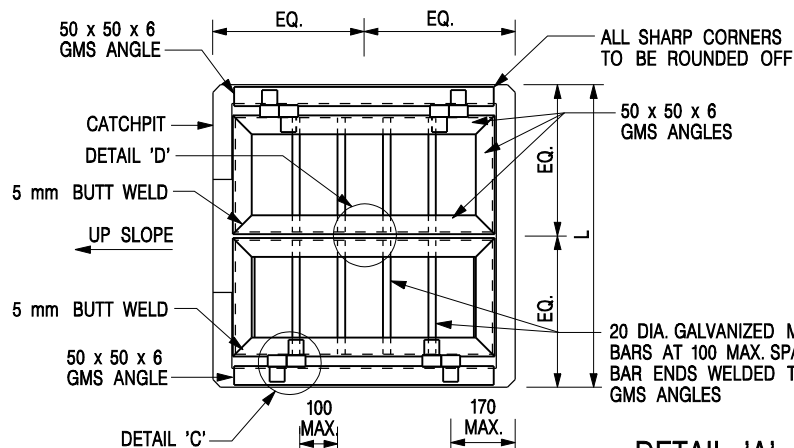
ALTERNATIVE TOP SECTION FOR PRECAST CONCRETE COVERS / GRATINGS

NOTES:

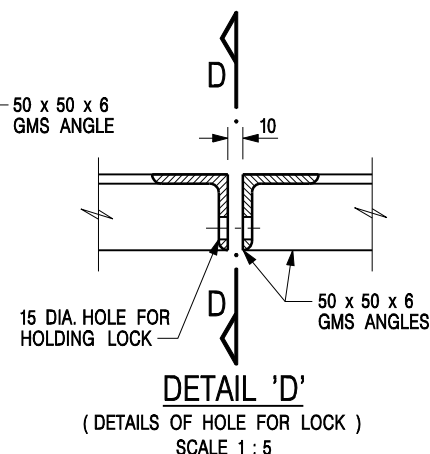
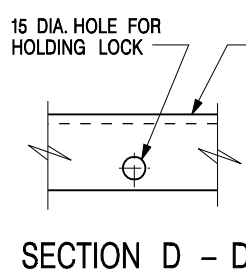
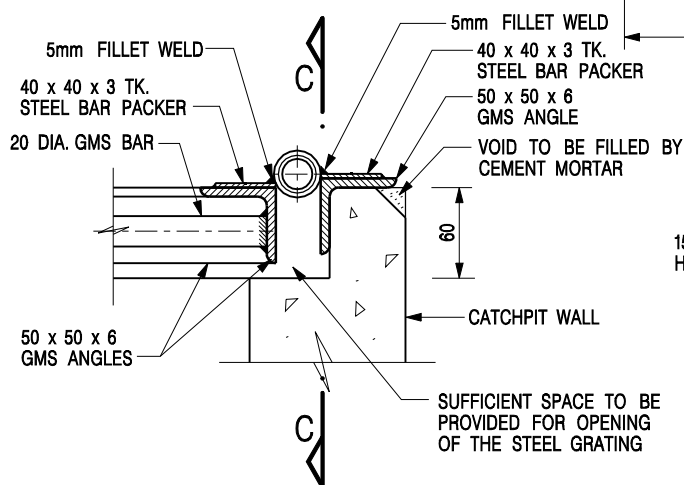
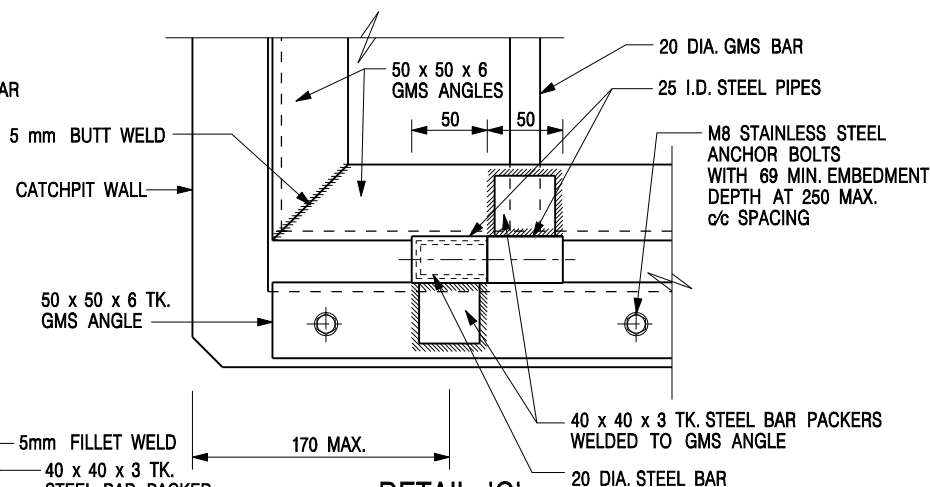
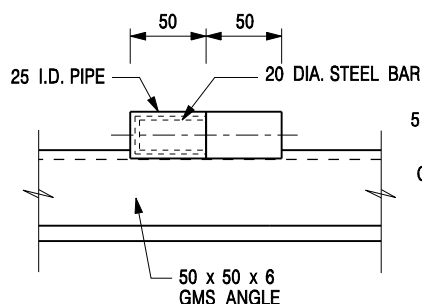
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 5 FOR OTHER NOTES.

STANDARD CATCHPIT DETAILS (SHEET 1 OF 5)

-	FORMER DRG. NO. C2405J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE
 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT		SCALE 1 : 20 DATE JAN 1991	
		DRAWING NO. C2405 /1	



DETAIL 'A'
(DETAILS OF DOUBLE SIDE OPENING STEEL GRATING FOR L > 900mm)
SCALE 1 : 20

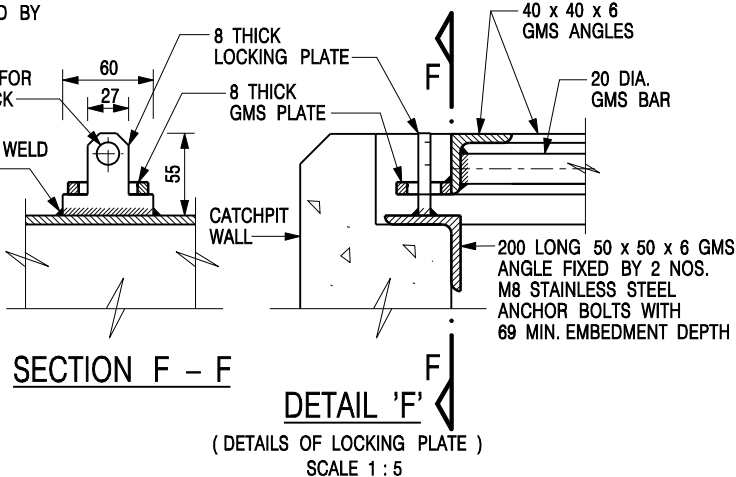
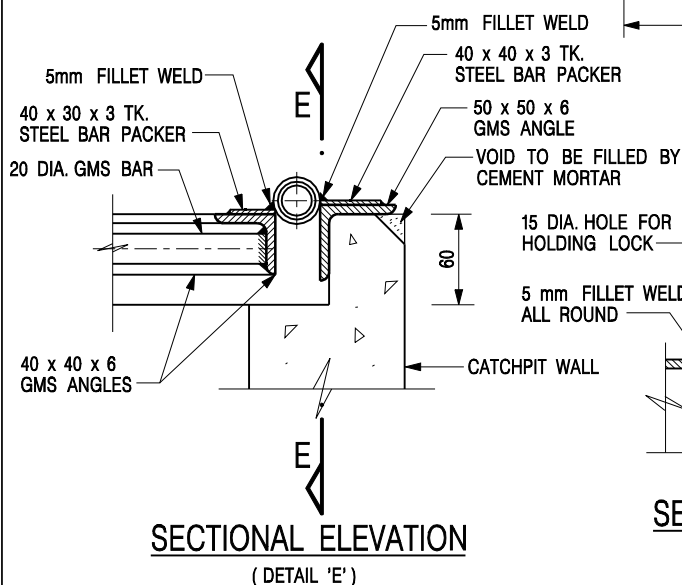
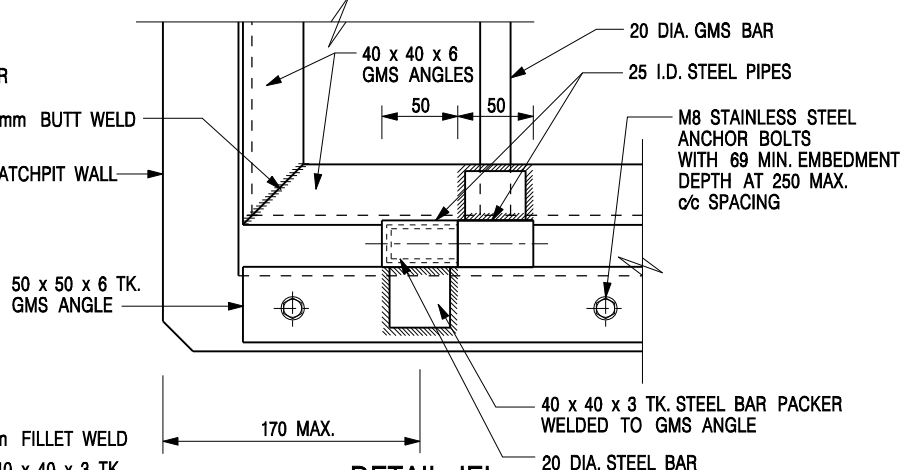
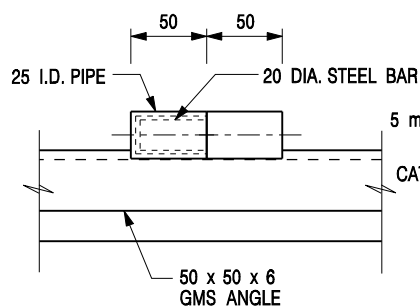
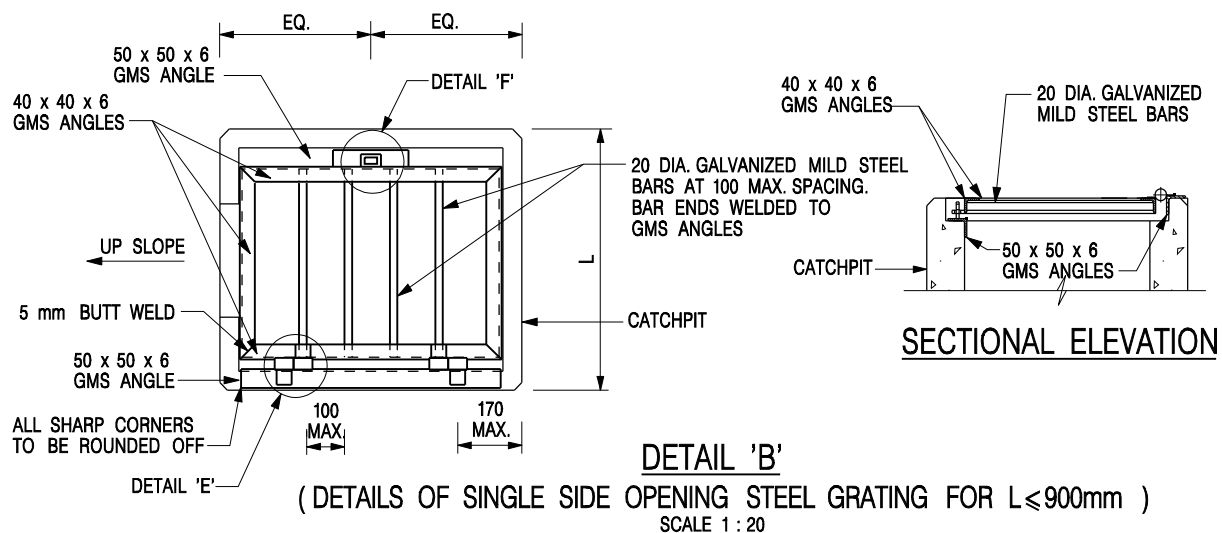


NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 5 FOR OTHER NOTES.

STANDARD CATCHPIT DETAILS
(SHEET 2 OF 5)

-	FORMER DRG. NO. C2405J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE
 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT		SCALE AS SHOWN DATE JAN 1991	
		DRAWING NO. C2405 /2	

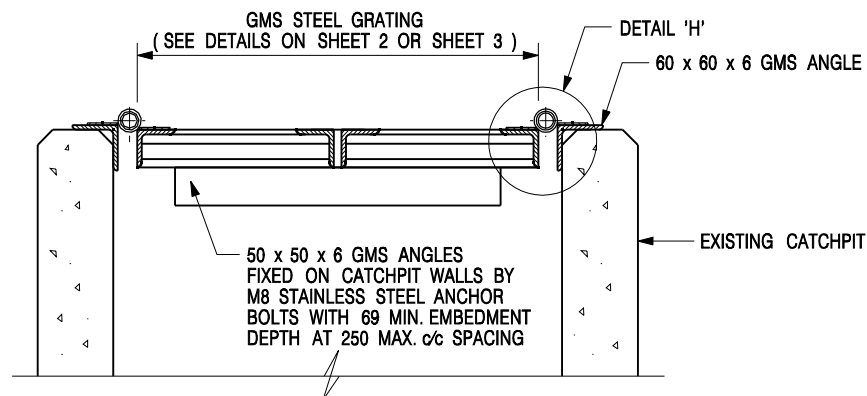


NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 5 FOR OTHER NOTES.

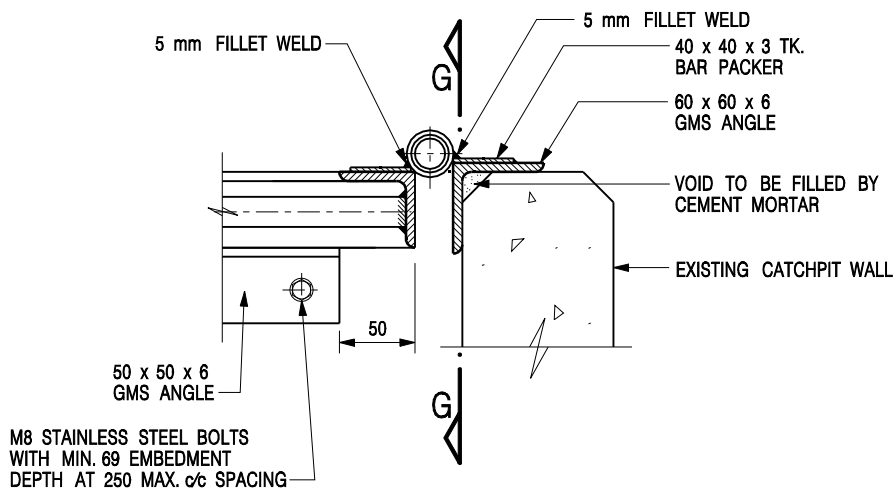
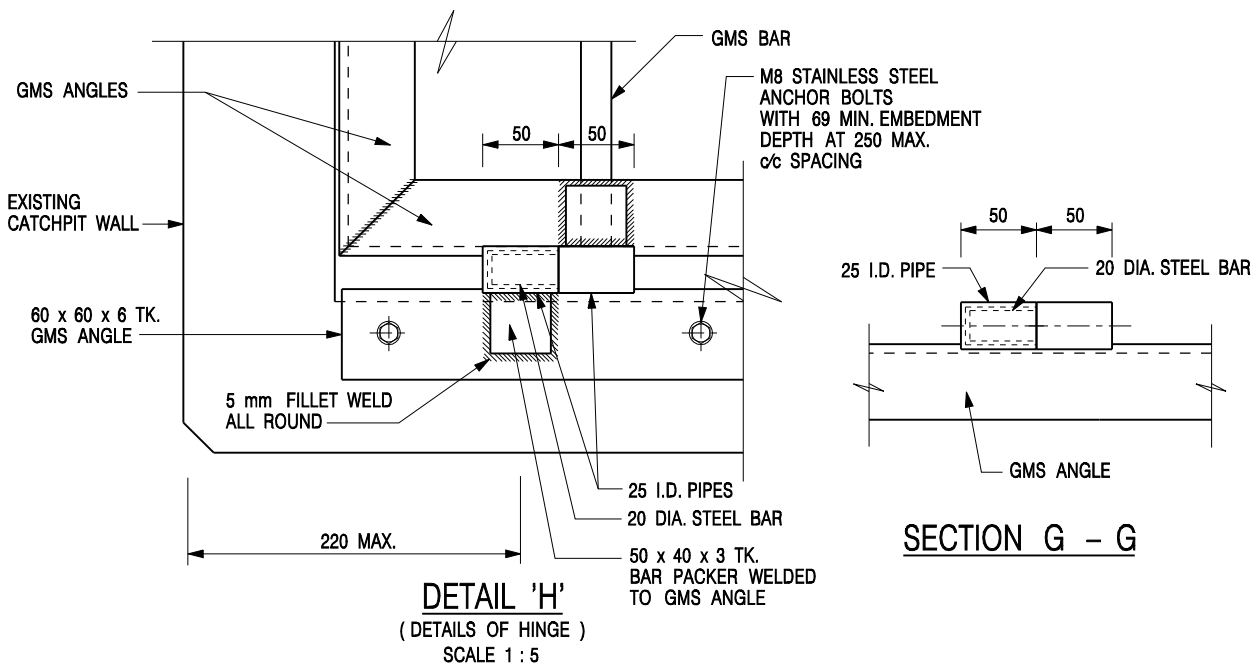
STANDARD CATCHPIT DETAILS
(SHEET 3 OF 5)

-	FORMER DRG. NO. C2405J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE
 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT		SCALE AS SHOWN DATE JAN 1991	
		DRAWING NO. C2405 /3	



DETAIL 'G' - DETAILS OF STEEL GRATING CONSTRUCTED ON EXISTING CATCHPIT

SCALE 1 : 10

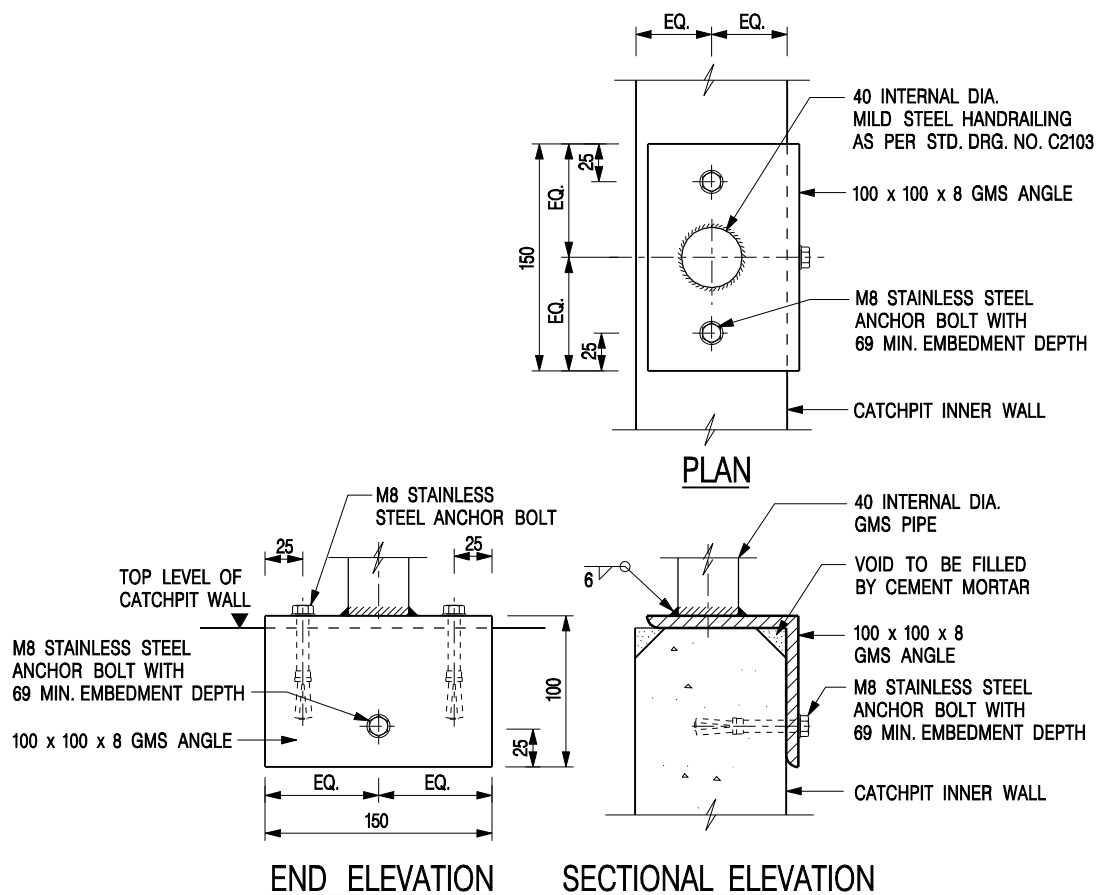


NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 5 FOR OTHER NOTES.

STANDARD CATCHPIT DETAILS
(SHEET 4 OF 5)

-	FORMER DRG. NO. C2405J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE
 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT			
SCALE AS SHOWN		DRAWING NO. C2405 /4	
DATE JAN 1991			



DETAIL 'J' – FIXING DETAILS FOR HANDRAILING ON TOP OF CATCHPIT WALL

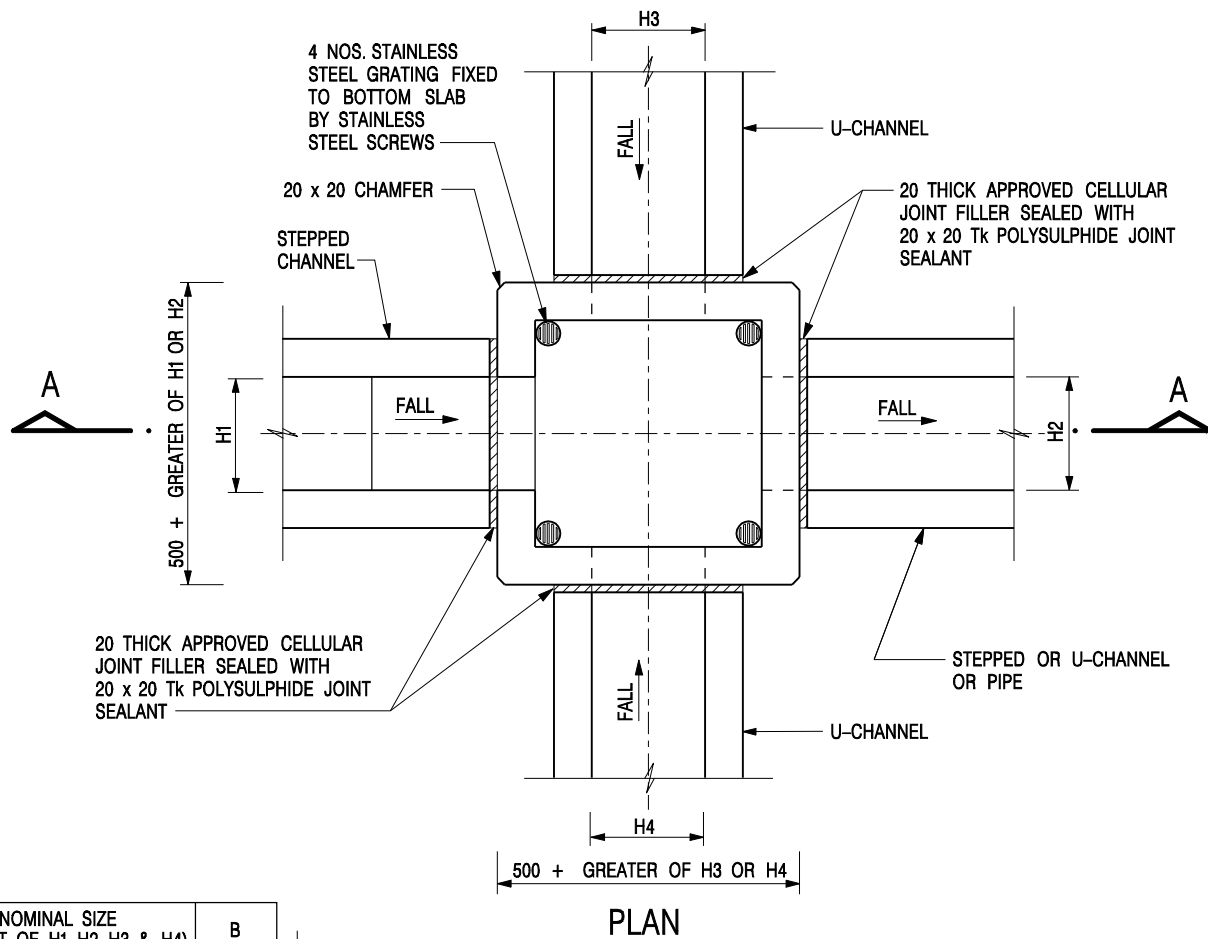
SCALE 1 : 5

NOTES:

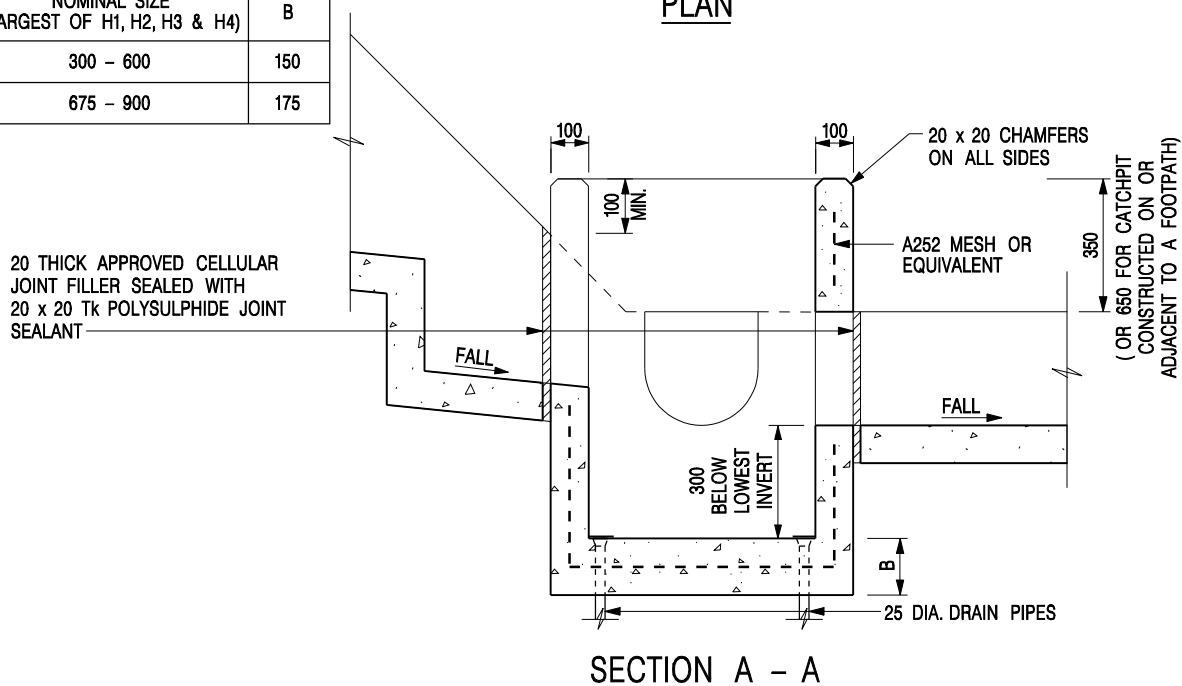
- ALL DIMENSIONS ARE IN MILLIMETRES.
- ALL CONCRETE SHALL BE GRADE 20 /20.
- CONCRETE SURFACE FINISH SHALL BE CLASS U2 OR F2 AS APPROPRIATE.
- FOR DETAILS OF JOINT, REFER TO STD. DRG. NO. C2413.
- CONCRETE TO BE COLOURED AS SPECIFIED.
- FOR CATCHPITS CONSTRUCTED ON OR ADJACENT TO A FOOTPATH, STEEL GRATINGS (SEE DETAILS ON SHEET 2 OR SHEET 3) OR CONCRETE COVERS (SEE STD. DRG. NO. C2407) SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER.
- IF INSTRUCTED BY THE ENGINEER, HANDRAILING (SEE DETAIL 'J' ON SHEET 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.
- 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 mm c/c STAGGERED SHALL BE PROVIDED. THICKNESS OF CATCHPIT WALL FOR INSTALLATION OF STEP IRONS SHALL BE INCREASED TO 150 mm.
- FOR RETROFITTING AN EXISTING CATCHPIT WITH STEEL GRATING, SEE DETAIL 'G' ON SHEET 4.
- ALL STEEL ANGLES SHALL COMPLY WITH BS EN 10025 AND BS EN 10056.
- UNLESS OTHERWISE SPECIFIED, ALL WELDS SHALL BE 5 mm CONTINUOUS FILLET WELDS.
- ALL WELDS SHALL BE CHIPPED, GROUND SMOOTH, BRUSHED TO REMOVE SLAG PRIOR TO HOT-DIP GALVANIZATION.
- ALL STEELWORK SHALL BE HOT-DIP GALVANIZED TO BS EN ISO 1461. ALL EXPOSED STEELWORK SURFACES SHALL BE TREATED AND PAINTED IN ACCORDANCE WITH THE GENERAL SPECIFICATION.
- SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

STANDARD CATCHPIT DETAILS
(SHEET 5 OF 5)

-	FORMER DRG. NO. C2405J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE
 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT			
SCALE AS SHOWN		DRAWING NO. C2405 /5	
DATE JAN 1991			



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

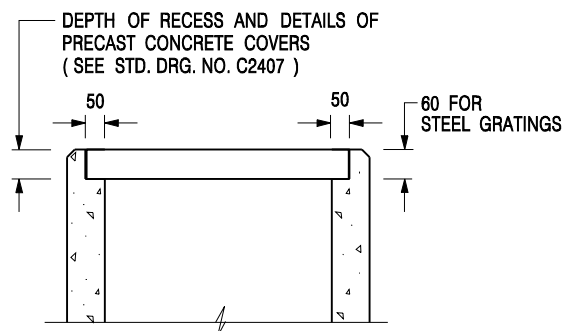


NOTES:

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

CATCHPIT WITH TRAP
(SHEET 1 OF 2)

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

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

**CATCHPIT WITH TRAP
(SHEET 2 OF 2)**



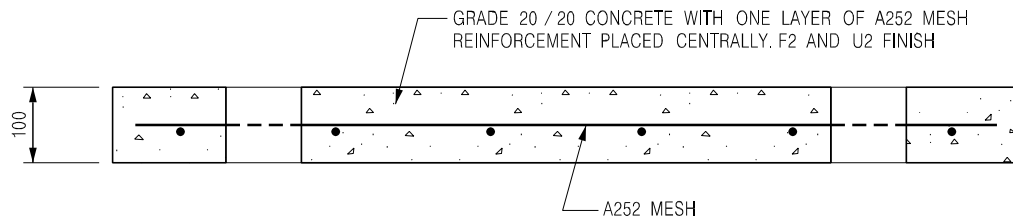
**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE 1 : 20

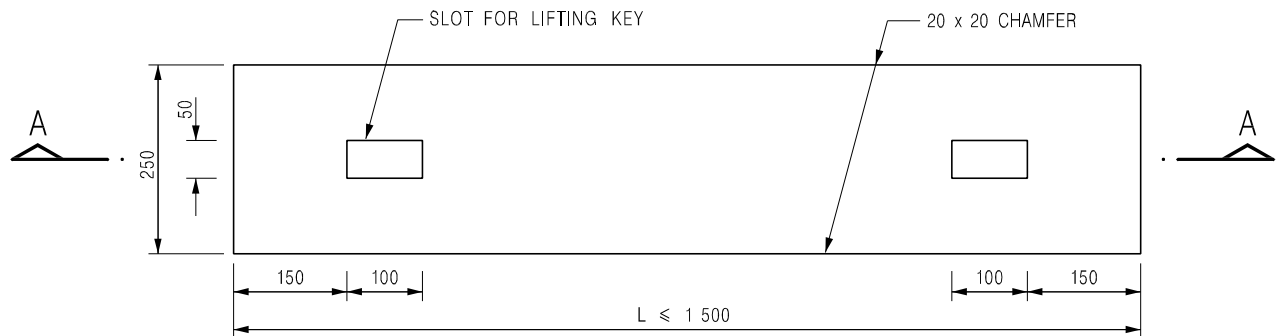
DATE JAN 1991

DRAWING NO.

C2406 /2A

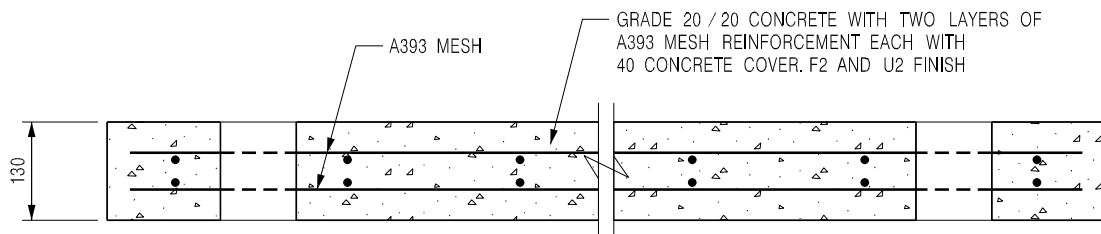


SECTION A - A

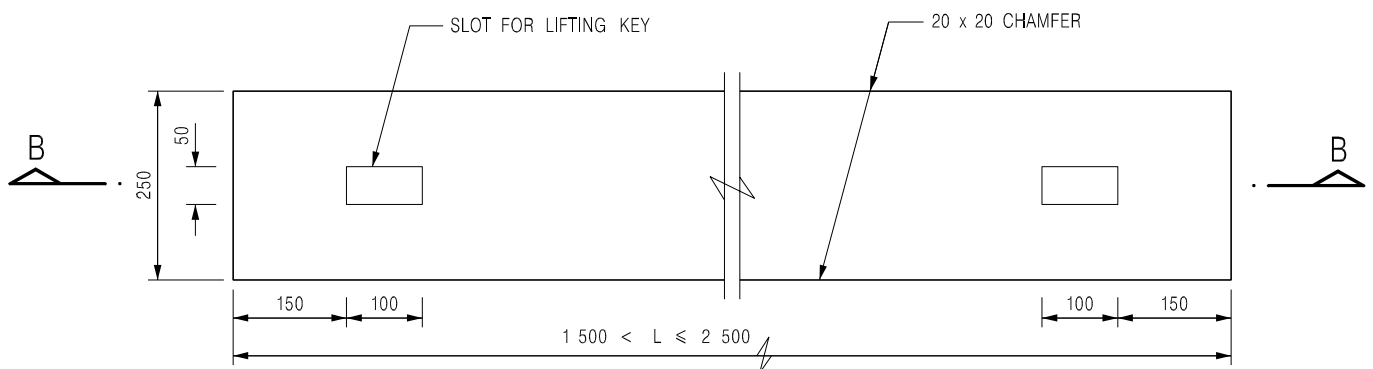


PLAN

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.

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

**PRECAST CONCRETE COVERS
FOR CATCHPIT AND SAND TRAP**

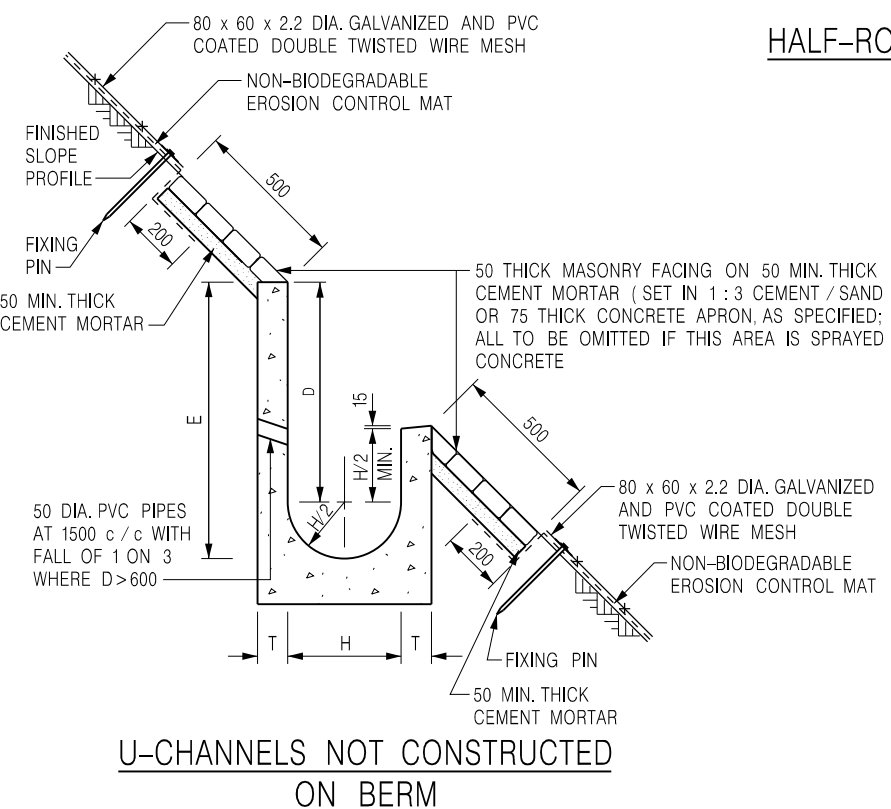
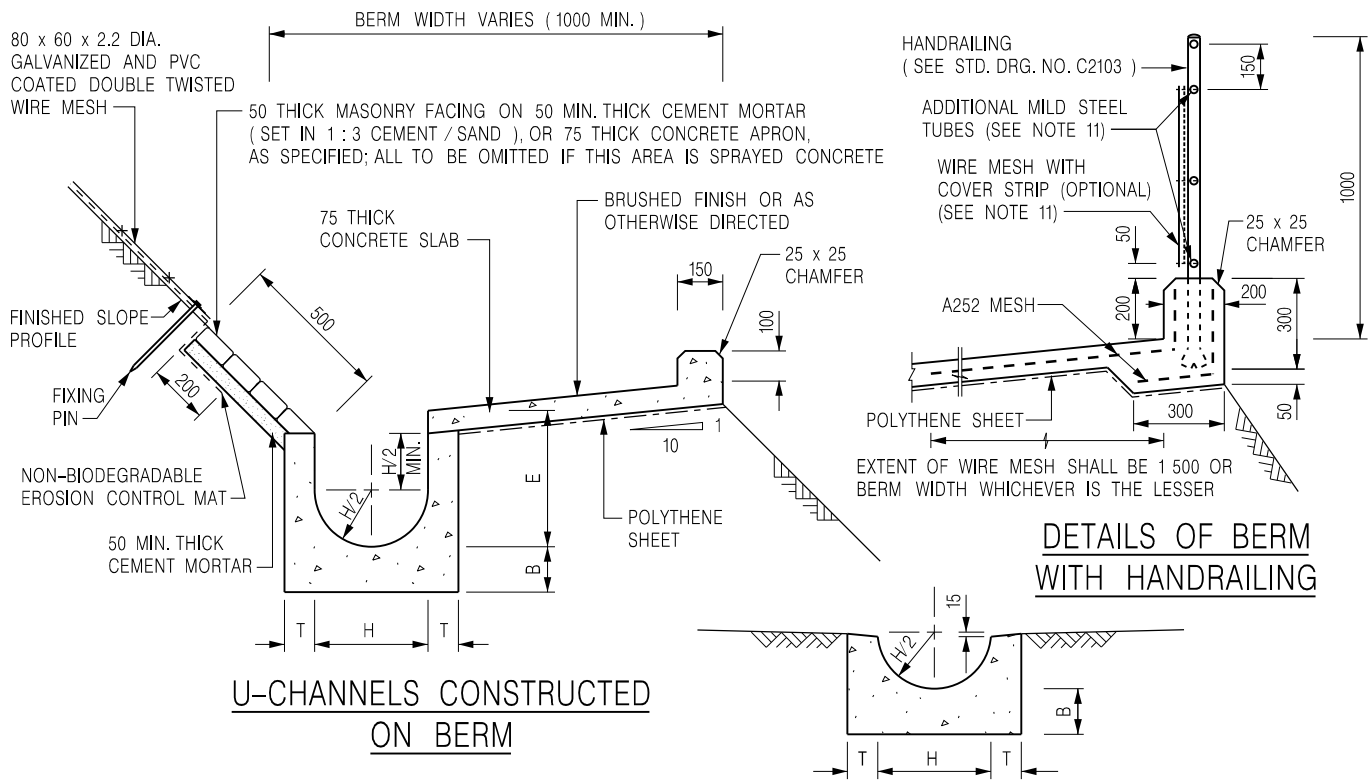


**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE 1 : 10

DATE JAN 1991

DRAWING NO.
C2407B



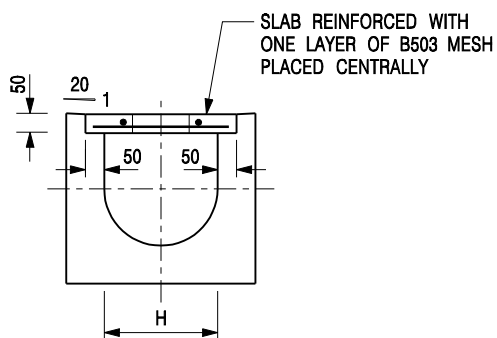
- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. ALL CONCRETE TO BE GRADE 20 / 20.
 3. CONCRETE SURFACE FINISH SHALL BE CLASS U2, F2 OR BRUSHED FINISH AS DIRECTED.
 4. SPACING OF EXPANSION JOINT IN CHANNELS, BERM SLABS AND APRONS TO BE 10 METRES MAXIMUM, SEE STD. DRG. NO. C2413 FOR DETAILS.
 5. JOINTS FOR CHANNELS, BERM SLABS, APRONS AND WALLS, ETC. TO BE ON THE SAME ALIGNMENT.
 6. FOR DIMENSIONS T, H, & B, SEE TABLE BELOW.
 7. BIODEGRADABLE EROSION CONTROL MAT IF REQUIRED, SEE STD. DRG. NO. C2511/E.
 8. CONCRETE TO BE COLOURED AS SPECIFIED.
 9. CONCRETE U-CHANNEL CAN BE CAST IN-SITU OR PRECAST CONCRETE SUBJECT TO THE ENGINEER'S AGREEMENT ON THE DETAILS.
 10. DETAILS OF EROSION CONTROL MAT AND WESH MESH ON BERM. (SEE STD. DRG. NO. C2511/E)
 11. THE WIRE MESH ON HANDRAILING IS OPTIONAL. THE COVER STRIP AND ADDITIONAL MILD STEEL TUBES ARE NEEDED ONLY IF WIRE MESH IS PROVIDED. (SEE STD. DRG. NO. C2103)

NOMINAL SIZE H	T	B	REINFORCEMENT
300	80	100	A252 MESH PLACED CENTRALLY AND T=100 WHEN E>650
375 - 600	100	150	
675 - 900	125	175	A252 MESH PLACED CENTRALLY

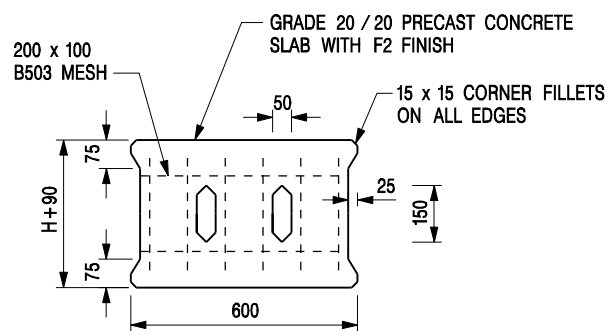
J	DETAILS OF HANDRAILING AMENDED.	Original Signed	08.2024
I	MINOR AMENDMENT.	Original Signed	07.2018
H	THICKNESS OF MASONRY FACING AMENDED.	Original Signed	01.2005
G	MINOR AMENDMENT.	Original Signed	01.2004
F	GENERAL REVISION.	Original Signed	12.2002
REF.	REVISION	SIGNATURE	DATE

DETAILS OF HALF-ROUND AND U-CHANNELS (TYPE A – WITH MASONRY APRON)

 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	
SCALE 1 : 25 DATE JAN 1991	DRAWING NO. C2409J



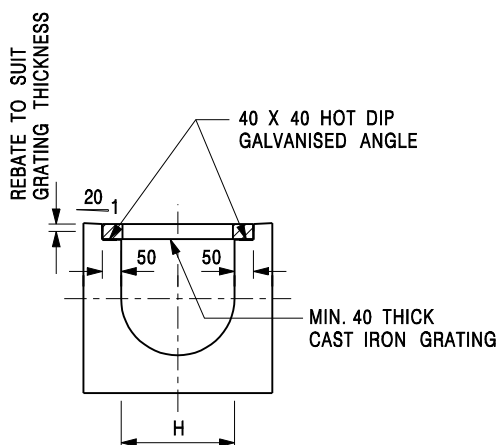
TYPICAL SECTION



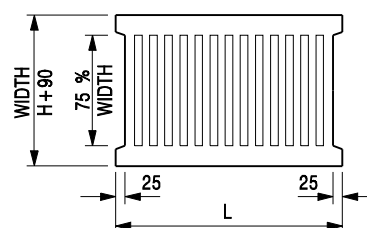
PLAN OF SLAB

U-CHANNELS WITH PRECAST CONCRETE SLABS

(UP TO H OF 525)



TYPICAL SECTION



L = 600mm FOR H ≤ 375mm
L = 400mm FOR H > 375mm

CAST IRON GRATING

(DIMENSIONS ARE FOR GUIDANCE ONLY, CONTRACTOR MAY SUBMIT EQUIVALENT TYPE)

U-CHANNEL WITH CAST IRON GRATING

(UP TO H OF 525)

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- H=NOMINAL CHANNEL SIZE.
- ALL CAST IRON FOR GRATINGS SHALL BE GRADE EN-GJL-150 COMPLYING WITH BS EN 1561.
- FOR COVERED CHANNELS TO BE HANDED OVER TO HIGHWAYS DEPARTMENT FOR MAINTENANCE, THE GRATING DETAILS SHALL FOLLOW THOSE AS SHOWN ON HyD STD. DRG. NO. H3156.

E	NOTES 3 & 4 AMENDED.	Original Signed	12.2014
D	NOTE 4 ADDED.	Original Signed	06.2008
C	MINOR AMENDMENT. NOTE 3 ADDED.	Original Signed	12.2005
B	NAME OF DEPARTMENT AMENDED.	Original Signed	01.2005
A	CAST IRON GRATING AMENDED.	Original Signed	12.2002
REF.	REVISION	SIGNATURE	DATE

**COVER SLAB AND CAST IRON
GRATING FOR CHANNELS**

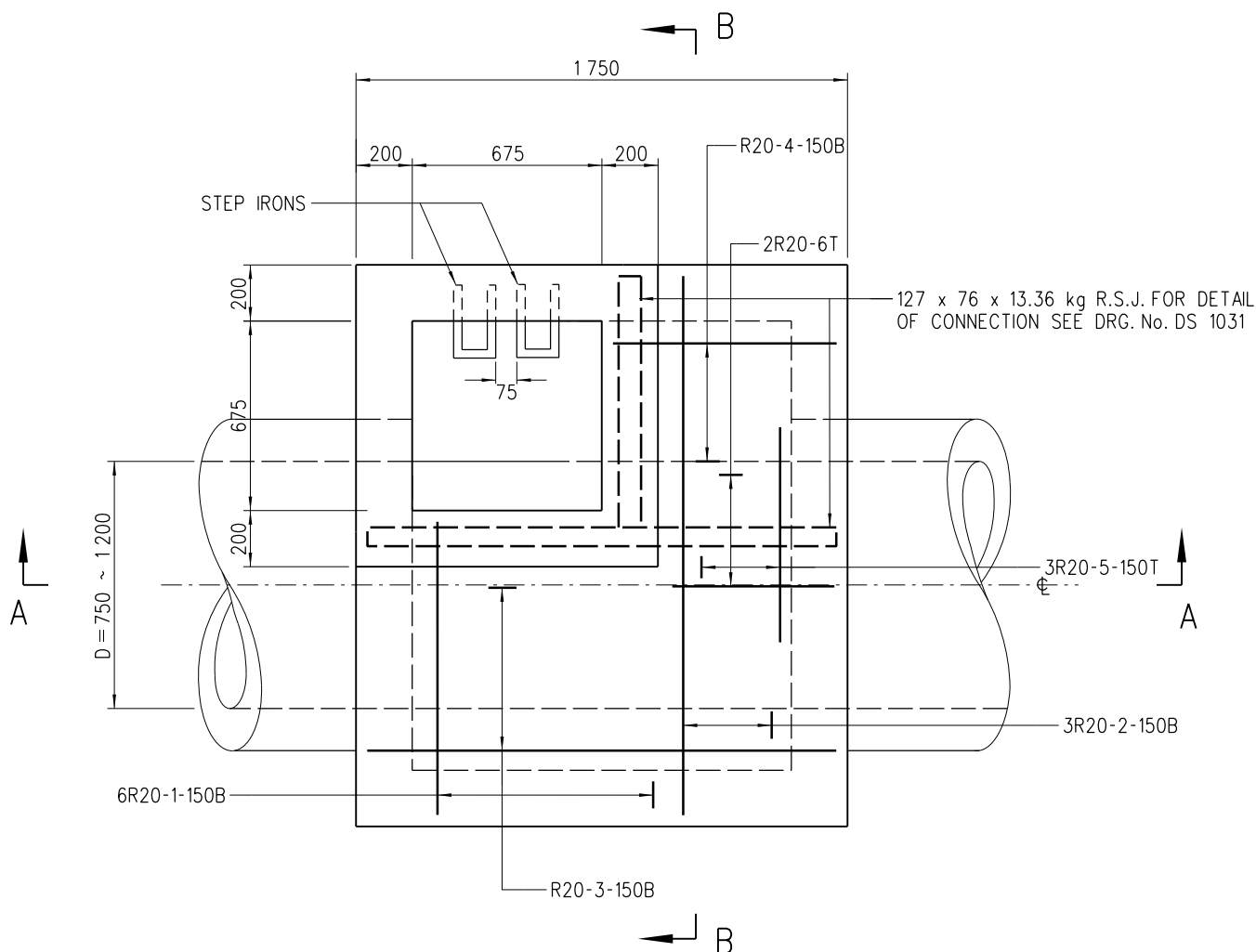


**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE 1 : 20

DATE JAN 1991

DRAWING NO.
C2412E



PLAN

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- NOTATION OF REINFORCEMENT : THE SEQUENCE OF DESCRIPTION OF IDENTIFICATION MARKS ON DRAWINGS FOR STEEL REINFORCING BARS FOR CONCRETE WORK IS AS FOLLOWS (NUMBER, TYPE, SIZE, MARK, SPACING, LOCATION OR COMMENT)
- B DENOTES GRADE 500B RIBBED REINFORCEMENT.
- R DENOTES GRADE 250 PLAIN REINFORCEMENT.
- PIPE DIAMETER : 750 TO 1200 mm
- NORMAL RANGE OF DEPTH : 1750 TO 2250 mm (MEASURED FROM ROAD LEVEL TO LOWEST INVERT)
- USED IN : STORMWATER DRAIN AND SEWER
- JUNCTION : POSITION OF JUNCTION TO BE DETERMINED IN EACH INDIVIDUAL CASE. CHANNELS IMMEDIATELY UNDER ACCESS TO MANHOLE SHOULD BE AVOIDED.
- TOP TREATMENT : SEE DRG. No. DS 1032
- FOUNDATION : FOUNDATION OF MANHOLE VARIES WITH SITE CONDITION. THEREFORE, IT SHOULD BE DETERMINED ON SITE BY THE ENGINEER.
- CONCRETE : GRADE 30/20
- ALL BAR MARKS APPEARED HEREON ARE USED FOR REFERENCE IN THIS DRAWING ONLY.
- MINIMUM COVER AT END OF BARS 40 mm
- COVER AND FRAME NOT SHOWN ON PLAN FOR CLARITY.
- RECESS WITH SQUARE STEEL ROD SHALL BE PROVIDED AT TOP OF MANHOLE CHAMBER FOR INSTALLING MONITORING DEVICE(S). DETAILS REFER TO DSD STANDARD DRAWING NO. DS 1099.

C	NOTE 15 ADDED	ORIGINAL SIGNED	2.8.2022
B	NOTE 11 DELETED NOTES 2, 3 & 4 ADDED	ORIGINAL SIGNED	29.4.2015
A	NOTE 11 REVISED	ORIGINAL SIGNED	24.11.2014
	NEW ISSUE	ORIGINAL SIGNED	15.8.2007
REV.	DESCRIPTION	SIGNATURE	DATE

STANDARD MANHOLE

TYPE G1

(WITHOUT DESILTING OPENING)

DRAINAGE SERVICES DEPARTMENT

REFERENCE

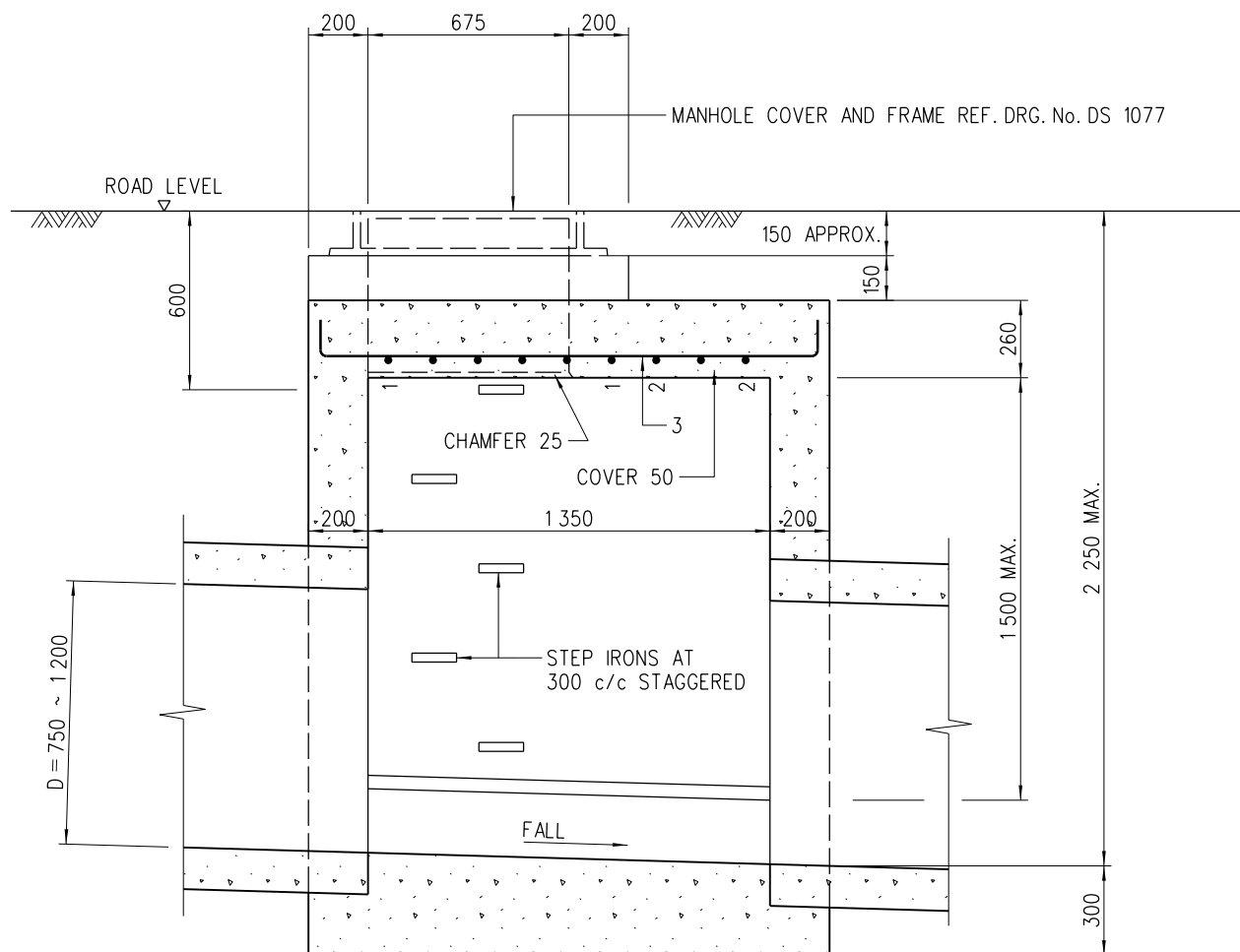
DRAWING No.

SCALE

1 : 25

DS 1082C

(SHEET 1 OF 3)



SECTION A-A

BAR MARK	SHAPE CODE ○
5 & 6	(33)
2 & 3	(20)
1 & 4	(99)

C	NOTE 15 ADDED	ORIGINAL SIGNED	2.8.2022
B	NOTE 11 DELETED NOTES 2, 3 & 4 ADDED	ORIGINAL SIGNED	29.4.2015
A	NOTE 11 REVISED	ORIGINAL SIGNED	24.11.2014
	NEW ISSUE	ORIGINAL SIGNED	15.8.2007
REV.	DESCRIPTION	SIGNATURE	DATE

STANDARD MANHOLE
TYPE G1

(WITHOUT DESILTING OPENING)

DRAINAGE SERVICES DEPARTMENT

REFERENCE

DRAWING No.

SCALE

1 : 25

DS 1082C

(SHEET 2 OF 3)



(SHEET 3 OF 3)

Assessment of Hydraulic Capacities of the Proposed Drainage System for 1 in 50 year design return period

Using Rational Method
Design Flow = 0.278CiA m³/s for grassland (heavy soil) - steep, C = 0.35 for grassland (heavy soil) - flat, C = 0.25
for concrete surface, C = 0.95

Using Manning Equation (for channel flow)
Design Mean Velocity = R^{1/6}/n(RS)^{1/2} where n = 0.016 for concrete-lined open channel with fair surface
(ref. Table13 in SDM) 0.045 for natural stream channels, winding some pools and shoals with some weeds and stones with fair surface

Using GEV distribution model in frequency analysis
Rainfall intensity = a / (t_p+b)^c where a = 474.6 , b= 2.90 and c= 0.371 in 50 year design return period (for 'Main Rural Catchment Drainage Channel' in SDM is adopted)
referenced from Table 3a in SDM Corrigendum No. 1/2022 - Storm Constants for Different Return Periods of North District Area

Using Bransby William's Equation
Inlet time t₀ = 0.14465L / (H^{0.2}A^{0.1}) or 2 when the distance is too short

Using Colebrook's White Equation (for pipe flow)
V = - Sq((8gDs) x log [(k_s / 3.7D) + (2.51v / D x Sq((2gDs))])
For precast concrete pipes with 'O' ring joints with poor condition,
k_s (mm) = 0.6 k_s (m) = 0.0006
v (m²/s) = 1.00E-06
g (m²/s) = 9.81

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	
USCP/USMH	DSCP/DSMH	Collected Runoff from Catchment (refer to Figure 3)	USGL (mPD)	DSGL (mPD)	USIL (mPD)	DSIL (mPD)	INVERT DIFF. (m)	LENGTH OF CHANNEL / DRAIN l (m)	SLOPE s	SLOPE 1 IN	LENGTH FOR CALCULATION OF INLET TIME L (m)	AVERAGE SLOPE OF GROUND FOR CALCULATION OF INLET TIME H (m per 100m)	INLET TIME t_0 (min) = $0.14465 \times \frac{L}{[H^{0.2} \times A^{0.1}]}$	TIME OF FLOW INSIDE CHANNEL/ DRAIN t_i (min) = l/v (i.e. Column (9) ÷ Column (26) ÷ 60)	TIME OF CONCENTRATION t_c (min) = $t_0 + t_i$	RAINFALL INTENSITY i (mm/hr)	RAINFALL INTENSITY INCLUDING EFFECT OF CLIMATE CHANGE (+16.0%) (mm/hr) [refer to item (e) and (k) in SDM Corrigendum No. 1/2022]	ADOPTED RAINFALL INTENSITY INCLUDING EFFECT OF CLIMATE CHANGE (+16.0%) & DESIGN ALLOWANCE (12.1%) (mm/hr) [refer to item (e), (k) and (n) in SDM Corrigendum No. 1/2022]	RUNOFF COEFF. C	SUB-CATCHMENT AREA A (m ²)	EFFECTIVE CATCHMENT AREA (m ²)	CUM. EFFECTIVE CATCHMENT AREA (m ²)	DESIGN FLOW (m ³ /s)	SIZE (mm)	CHANNEL TYPE	VELOCITY (m/s)	FLOW CAPACITY (m ³ /s)	90% FLOW CAPACITY (m ³ /s) (to cater for potential deposition of sediment)	SPARE CAPACITY (m ³ /s)	Occupancy of the Proposed Pipe / Channel	
1.1	CP1.6	A3	4.30	4.30	3.45	3.10	0.35	70.00	0.005	200	-	-	2.68	1.19	3.87	233.47	270.83	303.60	0.95	396	376	376	0.032	300	UC	0.98	0.08	0.07	0.039	44.9%	OK!
CP1.6	CP1.7	A3+A5	4.30	4.30	3.10	2.99	0.12	23.00	0.005	200	-	-	3.87	0.39	4.26	228.65	265.23	297.32	0.95	22	21	397	0.033	300	UC	0.98	0.08	0.07	0.038	46.4%	OK!
CP1.7	MH TM	A3+A4+A5	4.30	4.30	2.99	2.94	0.04	15.00	0.003	350	-	-	4.26	0.26	4.52	225.66	261.77	293.44	0.95	1,143	0	397	0.032	450	UC	0.97	0.18	0.16	0.125	20.5%	OK!
2.0	CP2.1	A1+A2	4.30	4.30	3.85	3.45	0.40	60.00	0.007	150	-	-	2.00	0.68	2.68	250.88	291.02	326.23	0.95	2,486	2,362	2,362	0.214	450	UC	1.48	0.27	0.24	0.027	88.9%	OK!
CP2.1	CP2.2	A1+A2+A6	4.30	4.30	3.45	3.33	0.12	48.00	0.003	400	-	-	2.00	0.73	2.73	250.00	290.00	325.09	0.95	595	565	2,927	0.265	600	UC	1.10	0.35	0.32	0.053	83.3%	OK!
CP2.2	CP2.3	A1+A2+A6+A7	4.30	4.30	3.33	3.21	0.12	73.00	0.002	600	-	-	2.73	1.17	3.90	233.09	270.38	303.10	0.95	1,954	1,856	4,783	0.403	750	UC	1.04	0.52	0.47	0.067	85.7%	OK!
CP2.3	MH TM	A1+A2+A6+A7+A8	4.30	4.30	3.21	3.12	0.08	42.00	0.002	500	-	-	3.90	0.61	4.51	225.73	261.85	293.53	0.95	936	889	5,672	0.463	750	UC	1.14	0.57	0.52	0.052	89.9%	OK!
Discharge Point																															
MH TM	MH1	A1+A2+A3+A4+A5+A6+A7+A8	4.30	4.20	2.50	2.43	0.07	20.00	0.003	300	-	-	4.52	0.18	4.70	223.61	259.39	290.78	0.95	0	0	6070	0.438	900	concrete pipe	1.80	1.15	1.03	0.595	42.4%	OK!
MH1	MH2	ditto	4.20	4.20	2.43	2.30	0.13	39.00	0.003	300	-	-	4.70	0.36	5.06	219.80	254.97	285.82	0.95	0	0	6070	0.430	900	concrete pipe	1.80	1.15	1.03	0.603	41.7%	OK!
MH2	Outall	ditto	4.20	4.20	2.30	2.27	0.03	9.00	0.003	300	-	-	5.06	0.08	5.15	218.96	253.99	284.72	0.95	0	0	6070	0.429	900	concrete pipe	1.80	1.15	1.03	0.604	41.5%	OK!

7,532

catchment m²

A1 1,877 hardpaved

A2 609 hardpaved

A3 396 hardpaved

A4 1,143 hardpaved

A5 22 hardpaved

A6 595 hardpaved

A7 1,954 hardpaved

A8 936 hardpaved

total = 7,532

FIRE SERVICES NOTES:

1. HOSE REEL SYSTEM

- 1.1 HOSE REEL SHALL BE PROVIDED AT POSITIONS AS INDICATED ON PLANS.
- 1.2 THERE SHALL BE SUFFICIENT HOSE REELS TO ENSURE THAT EVERY PART OF THE BUILDING CAN BE REACHED BY A LENGTH OF NOT MORE THAN 30M OF HOSE REEL TUBING. ONE ACTUATING POINT AND ONE AUDIO WARNING DEVICE TO BE LOCATED AT EACH HR POINT. THE ACTUATING POINT SHOULD INCLUDE FACILITIES FOR THE FIRE PUMP START DEVICE INITIATION.
- 1.3 A MODIFIED HOSE REEL SYSTEM OF 2000 LITRES WATER TANK TO BE PROVIDED FOR THE ENTIRE BUILDING AS INDICATED ON PLAN.
- 1.4 NO FIRE SERVICES INLET TO BE PROVIDED FOR THE MODIFIED HOSE REEL SYSTEM.
- 1.5 TWO FIXED FIRE PUMPS (DUTY/STANDBY) TO BE PROVIDED AT SPR. & FS. PUMP ROOM.
- 1.6 THE HR SYSTEM INSTALLED SHOULD BE IN ACCORDANCE WITH THE "CODE OF PRACTICE FOR MINIMUM FIRE SERVICE INSTALLATIONS AND EQUIPMENT [SEPTEMBER 2022 REVISION]".
- 1.7 AN INSTRUCTION PLATE SHALL BE PROVIDED NEXT TO THE BREAK GLASS UNIT FOR OPERATION OF HOSE REEL.

2. AUTOMATIC SPRINKLER SYSTEM

- 2.1 AUTOMATIC SPRINKLER SYSTEM SUPPLIED BY A 135,000L SPRINKLER WATER TANK AND HAZARD CLASS OH3 SHALL BE PROVIDED TO THE ENTIRE BUILDING/STRUCTURE IN ACCORDANCE WITH LPC RULES INCORPORATING BS EN12845 : 2015 AND FSD CIRCULAR LETTER 5/2020. THE SPRINKLER TANK, SPRINKLER PUMP ROOM, SPRINKLER INLET AND SPRINKLER CONTROL VALVE GROUP SHALL BE CLEARLY MARKED ON PLANS.
- 2.2 THE CLASSIFICATION OF THE AUTOMATIC SPRINKLER INSTALLATION TO BE ORDINARY HAZARD GROUP 3.
- 2.3 ONE NUMBER 135,000 LITRES SPRINKLER WATER TANK TO BE PROVIDED AS INDICATED ON PLANS.
- 2.4 ALL INSTALLED SPRINKLER SHOULD BE PENDENT TYPE AND THE TEMPERATURE RATING OF SPRINKLER HEAD SHALL BE 68°C UNLESS OTHERWISE SPECIFIED.
- 2.5 SPRINKLER CONTROL VALVE SET AND SPRINKLER INLET TO BE PROVIDED AS INDICATED ON PLANS.
- 2.6 ALL SPRINKLER PIPE SIZE SHOULD BE ø32mm UNLESS SPECIFY.
- 2.7 TYPE OF STORAGE METHOD FOR THE BUILDING IS AS FOLLOWS:
(A) STORAGE CATEGORY : CATEGORY (I)
(B) STORAGE HEIGHT : NOT EXCEEDING 4M
(C) STORAGE : ST1
- 2.8 STORAGE BLOCK SHOULD BE SEPARATED BY AISLES NO LESS THAN 2.4m WIDE.
- 2.9 STORAGE SHOULD BE CONFINED TO BLOCKS NOT EXCEEDING 50m² IN PLAN AREA FOR CATEGORY I.

3. FIRE ALARM SYSTEM

- 3.1 FIRE ALARM SYSTEM SHALL BE PROVIDED THROUGHOUT THE ENTIRE BUILDING IN ACCORDANCE WITH BS 5839-1 : 2017 AND FSD CIRCULAR LETTER NO. 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 FIRE PUMP START AND AUDIO / VISUAL WARNING DEVICE INITIATION.
- 3.2 AN ADDRESSABLE TYPE FIRE ALARM PANEL TO BE PROVIDED AND LOCATED INSIDE G/F SPR. & F.S. PUMP ROOM.

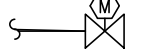
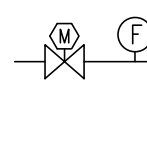
4. STAND-ALONE FIRE DETECTOR

- 4.1 **STAND-ALONE SMOKE DETECTOR SHALL BE PROVIDE IN ACCORDANCE WITH THE "STAND-ALONE FIRE DETECTOR GENERAL GUIDELINES ON PURCHASE, INSTALLATION & MAINTENANCE [SEPTEMBER 2021].**
- 4.2 **ALL DETECTORS SHALL BE INTERCONNECTED SUCH THAT WHEN ONE OF THE DETECTORS IS TRIGGERED, ALL CONNECTED DETECTORS SHALL SOUND AN ALARM SIMULTANEOUSLY.**

5. MISCELLANEOUS F.S. INSTALLATION

- 5.1 PORTABLE FIRE EXTINGUISHER WITH SPECIFIED TYPE AND CAPACITY TO BE PROVIDED AT LOCATIONS AS INDICATED ON PLANS.
- 5.2 SUFFICIENT EMERGENCY LIGHTING SHALL BE PROVIDED THROUGHOUT THE ENTIRE BUILDINGS/STRUCTURES IN ACCORDANCE WITH BS 5266-1:2016, BS EN 1838:2013 AND FSD CIRCULAR LETTER NO. 4/2021.
- 5.3 SUFFICIENT DIRECTIONAL AND EXIT SIGN SHALL BE PROVIDED IN ACCORDANCE WITH BS 5266-1:2016 AND FSD CIRCULAR LETTER 5/2008.
- 5.4 NO EMERGENCY GENERATOR TO BE PROVIDED FOR SERVING THE EMERGENCY POWER. DUPICATED POWER SUPPLIES FOR ALL FIRE SERVICES INSTALLATIONS COMPRISING A CABLE CONNECTED FROM ELECTRICITY MAINS DIRECTLY BEFORE THE MAIN SWITCH.
- 5.5 WHEN A VENTILATION/AIR CONDITIONING CONTROL IS PROVIDED, IT SHALL STOP MECHANICALLY INDUCED AIR MOVEMENT WITHIN A DESIGNATED FIR COMPARTMENT.
- 5.6 NO DYNAMIC SMOKE EXTRACTION SYSTEM SHALL BE PROVIDED SINCE EITHER THERE BE NO FIRE COMPARTMENT EXCEEDING 7000 CUBIC METRES OR THE AGGREGATE AREA OF OPENABLE WINDOWS OF THE RESPECTIVE COMPARTMENT EXCEEDS 6.25% OF THE FLOOR AREA OF THAT COMPARTMENT.
- 5.7 THE AGGREGATE AREA OF OPENABLE WINDOWS ABOUT 387 SQUARE METRES EXCEEDING 6.25% OF THE FLOOR AREA OF THE STRUCTURE B1
- 5.8 THE AGGREGATE AREA OF OPENABLE WINDOWS ABOUT 90 SQUARE METRES EXCEEDING 6.25% OF THE FLOOR AREA OF THE STRUCTURE B2
- 5.9 FOR ENCLOSED STRUCTURE WITH A GROSS FLOOR AREA EXCEEDING 230M², A 20-35KG WHEELED TYPE DRY CHEMICAL FIRE EXTINGUISHER SHALL BE PROVIDED IN EVERY 500M² ON EVERY FLOOR INSIDE THE PREMISES AND SHALL ENSURE EVERY PART OF THE PREMISES CAN BE REACHED FROM A DISTANCE OF NOT MORE THAN 30M.

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 / 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
	ADDRESSABLE TYPE FIRE ALARM PANEL
	PUMP CONTROL PANEL
	EMERGENCY LIGHT
	EXIT SIGN

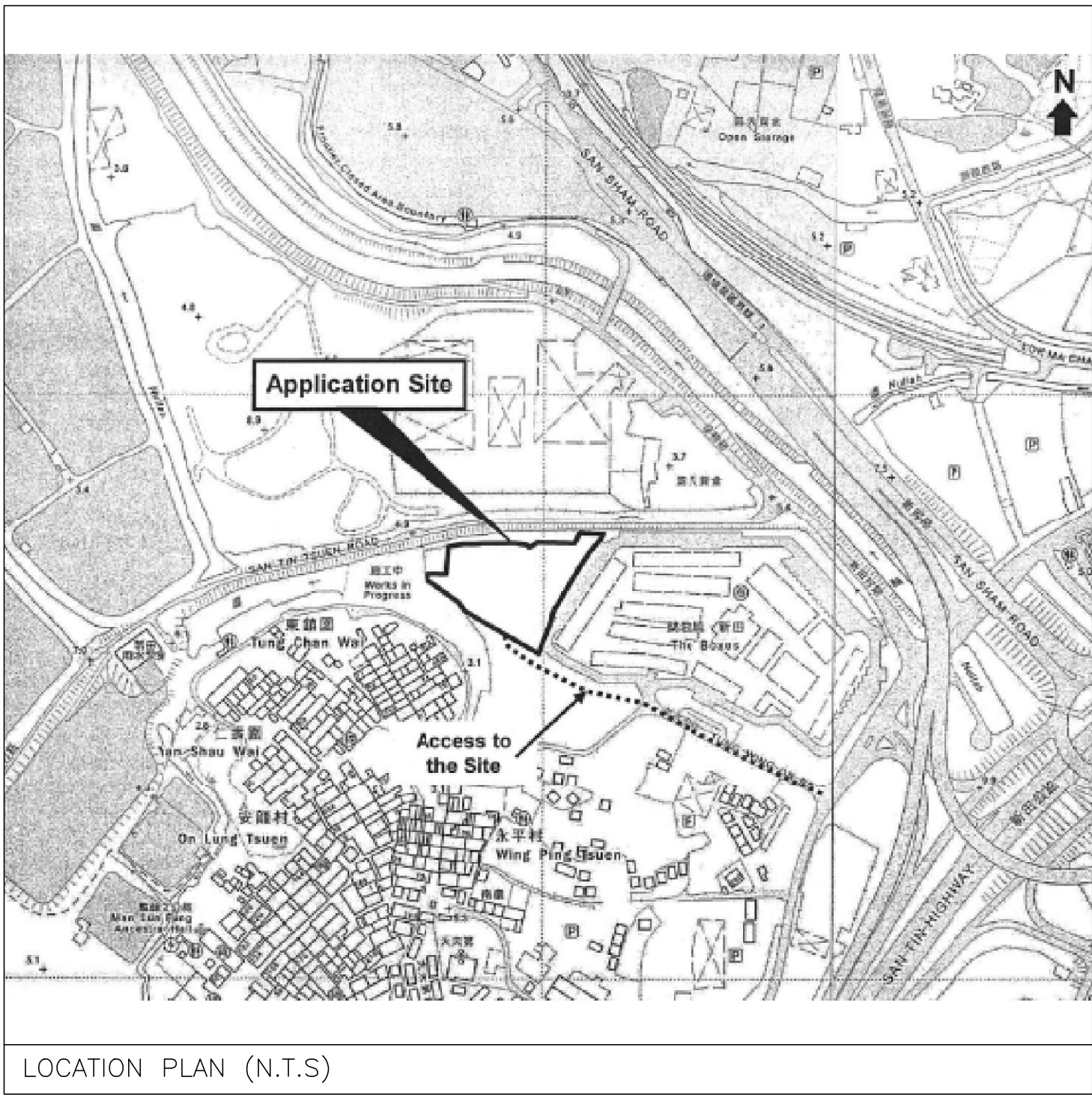
ABBREVIATION

SPR.	SPRINKLER
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

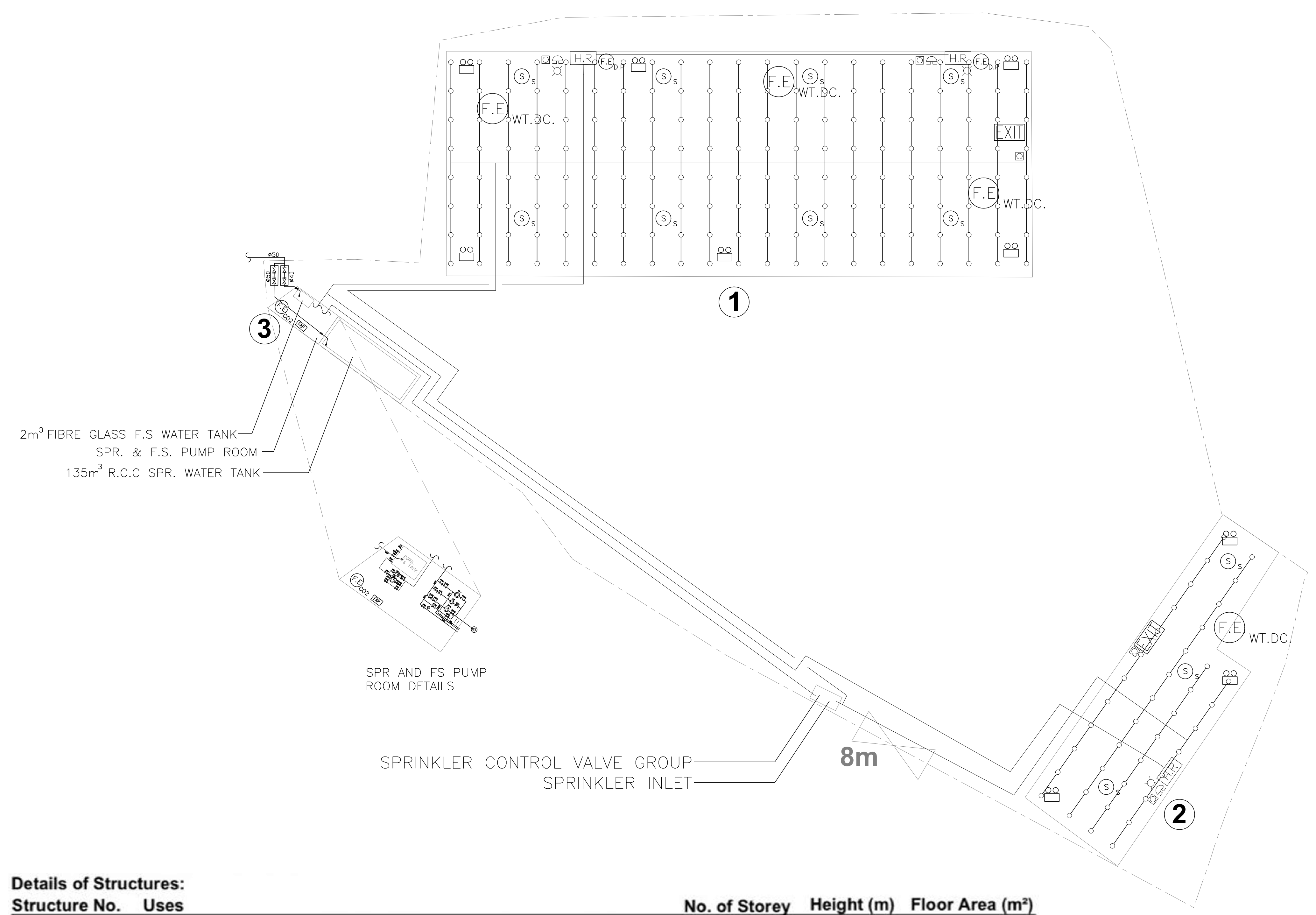
DRAWING LIST:

DRAWING NO.	REVISION	DRAWING TITLE
FS-01	A	F.S. NOTES., BLOCK PLAN, LEGEND, ABBREVIATION, DRAWING LIST, PIPE MATERIAL SCHEDULE, PUMP SCHEDULE. VERTICAL LINE DIAGRAM,
FS-02	A	FIRE SERVICES INSTALLATION LAYOUT PLAN
FS-03	A	WINDOW DETAILS

Appendix C



A	P.D SUBMISSION	10-6-2026	WC
REV	DESCRIPTION	DATE	BY
FSI CONTRACTOR			
East Power Engineering Limited			
			
PROJECT FIRE SERVICES INSTALLATION WORK AT LOTS 733SP(PART), 741(PART), 742RP(PART), 744RP(PART) AND ADJOINING GOVERNMENT LAND IN DD99, SAN TIN, YUEN LONG, N.T.			
DRAWING TITLE F.S. NOTES, ABBREVIATION, DRAWING LIST, PIPE MATERIAL SCHEDULE, PUMP SCHEMATIC DIAGRAM FOR SPRINKLER AND HOSE REEL SYSTEM, SPRINKLER PIPE LOSS CALCULATION.			
	INITIAL	DESIGNATION	DATE
DRAWN BY	CAD	CAD	27-2-2022
DESIGN BY	WINKLE	SENG	27-2-2022
CHECK BY	CM	PM	27-2-2022
APPROVED BY	-	-	-
PROJECT NO.	21001		
PAPER SIZE	A1	PLOT SCALE	1 : 1
DRAWING NO. EP-21001-FS01			
SCALE	N. T. S.	REVISION	A



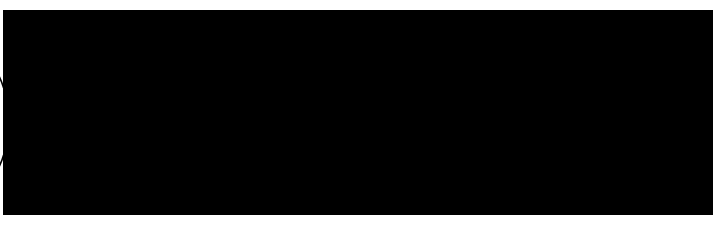
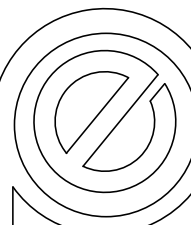
Details of Structures:				
Structure No.	Uses	No. of Storey	Height (m)	Floor Area (m²)
1	Warehouse for Storage of Cables, Wires, Transformers and Spare Parts	1	9.3-11.6	1,433
2	Warehouse for Storage of Cables, Wires, Transformers and Spare Parts	1	9.9-11.6	376
3	F.S. Pump Room	1	2.5	21

Appendix C

A	P.D SUBMISSION	10-6-2026	WC
REV	DESCRIPTION	DATE	BY

FSI CONTRACTOR

East Power Engineering Limited



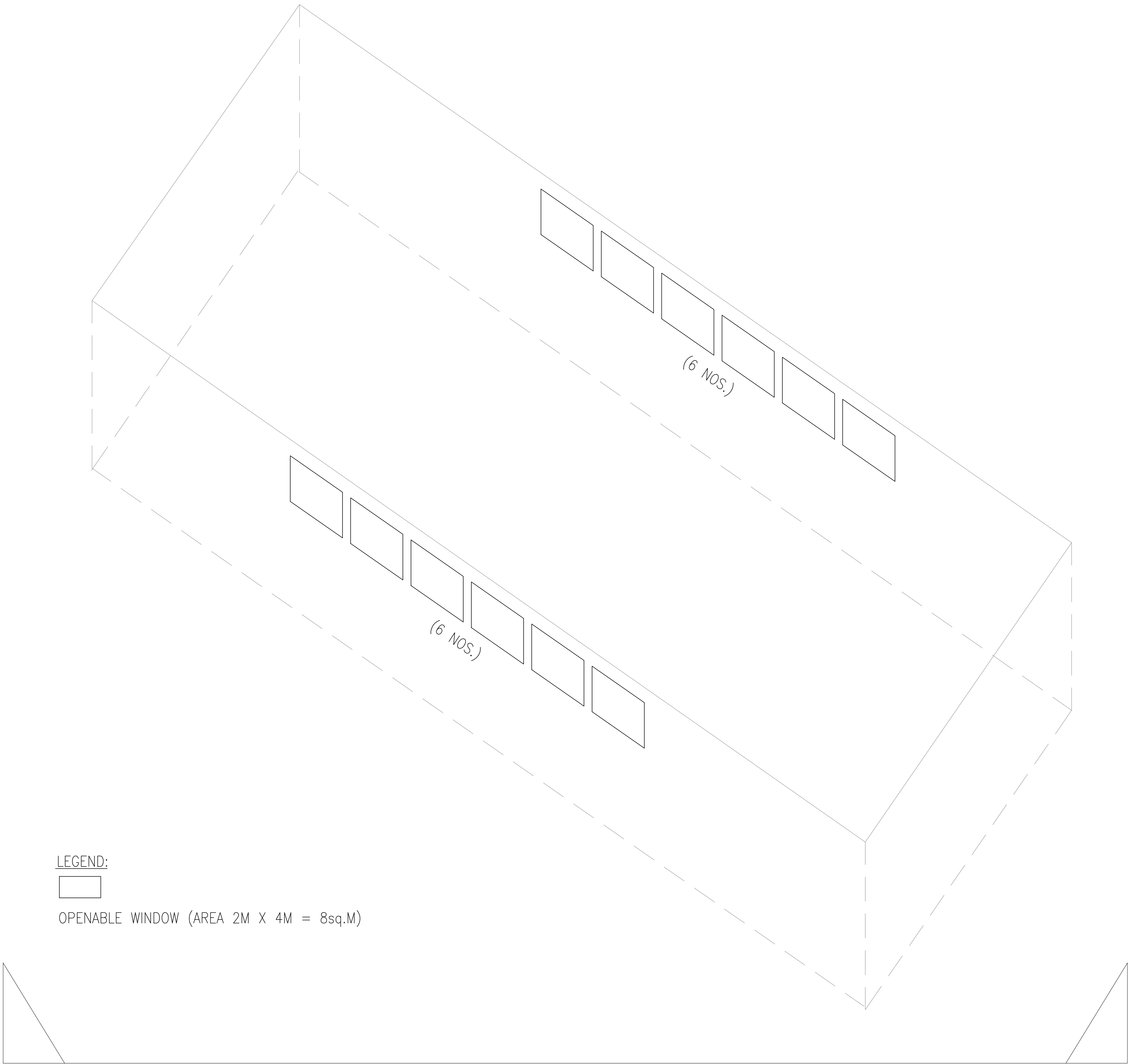
PROJECT

FIRE SERVICES INSTALLATION WORK AT LOTS 733SF(PART), 741(PART), 742RP(PART), 744RP(PART) AND ADJOINING GOVERNMENT LAND IN DD99, SAN TIN, YUEN LONG, N.T.

DRAWING TITLE

FIRE SERVICE INSTALLATION LAYOUT PLAN

	INITIAL	DESIGNATION	DATE
DRAWN BY	CAD	CAD	07-12-2020
DESIGNED BY	JACKIE	S.ENG	07-12-2020
CHECKED BY	CM	PM	08-12-2020
APPROVED BY	-	-	-
PROJECT NO.	21001		
PAPER SIZE	A3	PLOT SCALE	1 : 1
DRAWING NO. EP-21001-FS02			
SCALE	1 : 500	REVISION	A



LEGEND:

OPENABLE WINDOW (AREA 2M X 4M = 8sq.M)

SECTION A-A

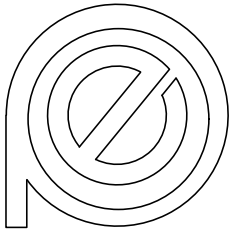
OPENABLE WINDOW AREA CALCULATION UNDER F.S.D. REQUIREMENT FOR COMPARTMENT EXCEEDING 7000m ³					
LOCATION	USABLE FL. AREA (m ²) PER FLOOR	OPENABLE WINDOW AREA REQUIRED	NOS. OF WINDOW PROVIDED (8M ² PER WINDOW)	OPENABLE WINDOW AREA PROVIDED	
STRUCTURE 1	<u>1,433</u>	<u>1,433 X 6.25% = 89.563</u>	12	REFER TO ELEVATION-(A-A) = 96	TOTAL = <u>96</u> > <u>89.563</u>

Appendix C

A	P.D SUBMISSION	10-6-2026	WC
REV	DESCRIPTION	DATE	BY

FSI CONTRACTOR

East Power Engineering Limited



PROJECT

FIRE SERVICES INSTALLATION WORK AT LOTS 733SF(PART), 741(PART), 742RP(PART), 744RP(PART) AND ADJOINING GOVERNMENT LAND IN DD99, SAN TIN, YUEN LONG, N.T.

DRAWING TITLE

WINDOWS DETAILS

	INITIAL	DESIGNATION	DATE
DRAWN BY	CAD	CAD	07-12-2020
DESIGNED BY	JACKIE	S.ENG	07-12-2020
CHECKED BY	CM	PM	08-12-2020
APPROVED BY	-	-	-
PROJECT NO.	21001		
PAPER SIZE	A3	PLOT SCALE	1 : 1
DRAWING NO. EP-21001-FS03			
SCALE	N.T.S.	REVISION	A