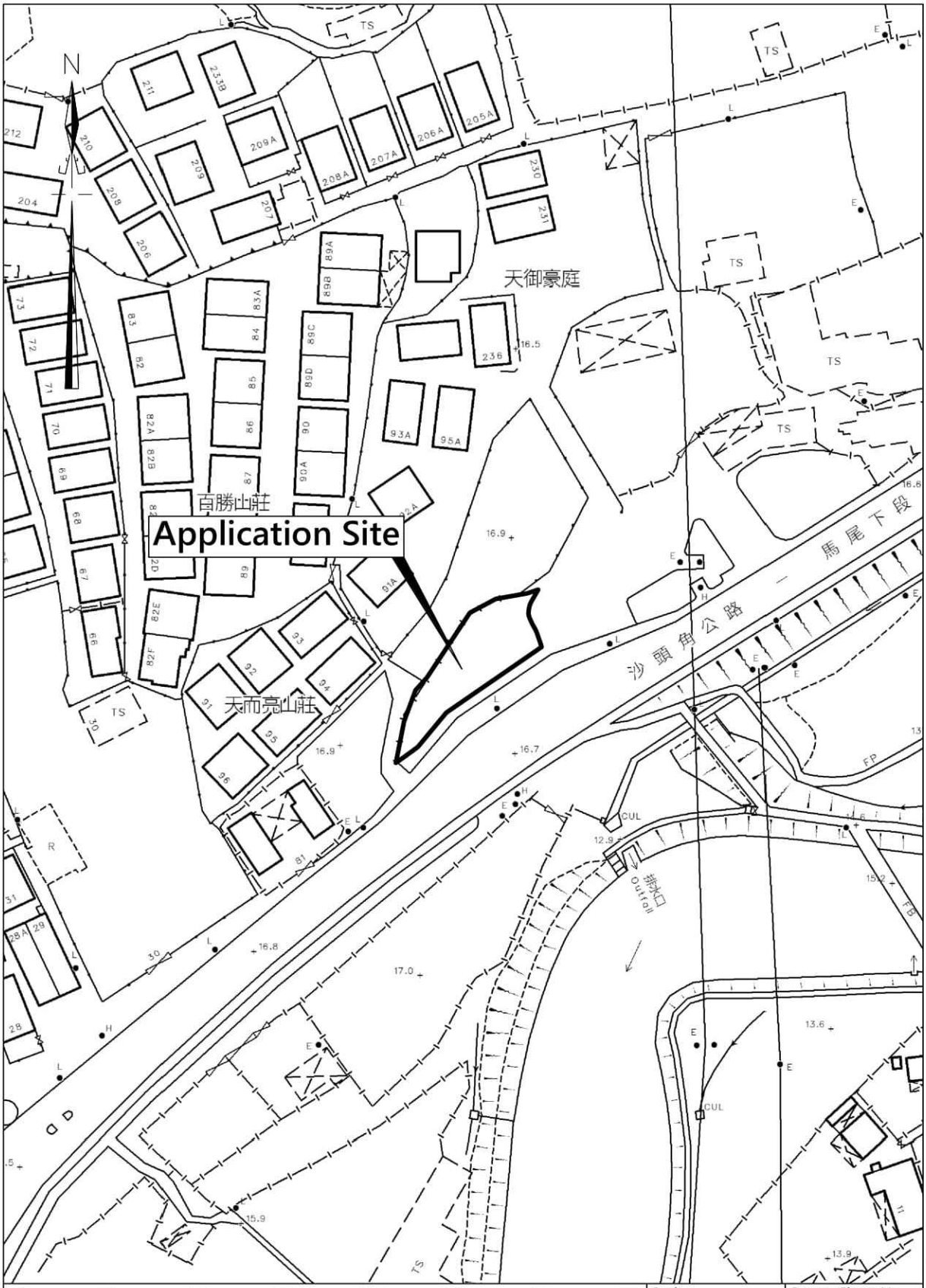
# LOCATION PLAN

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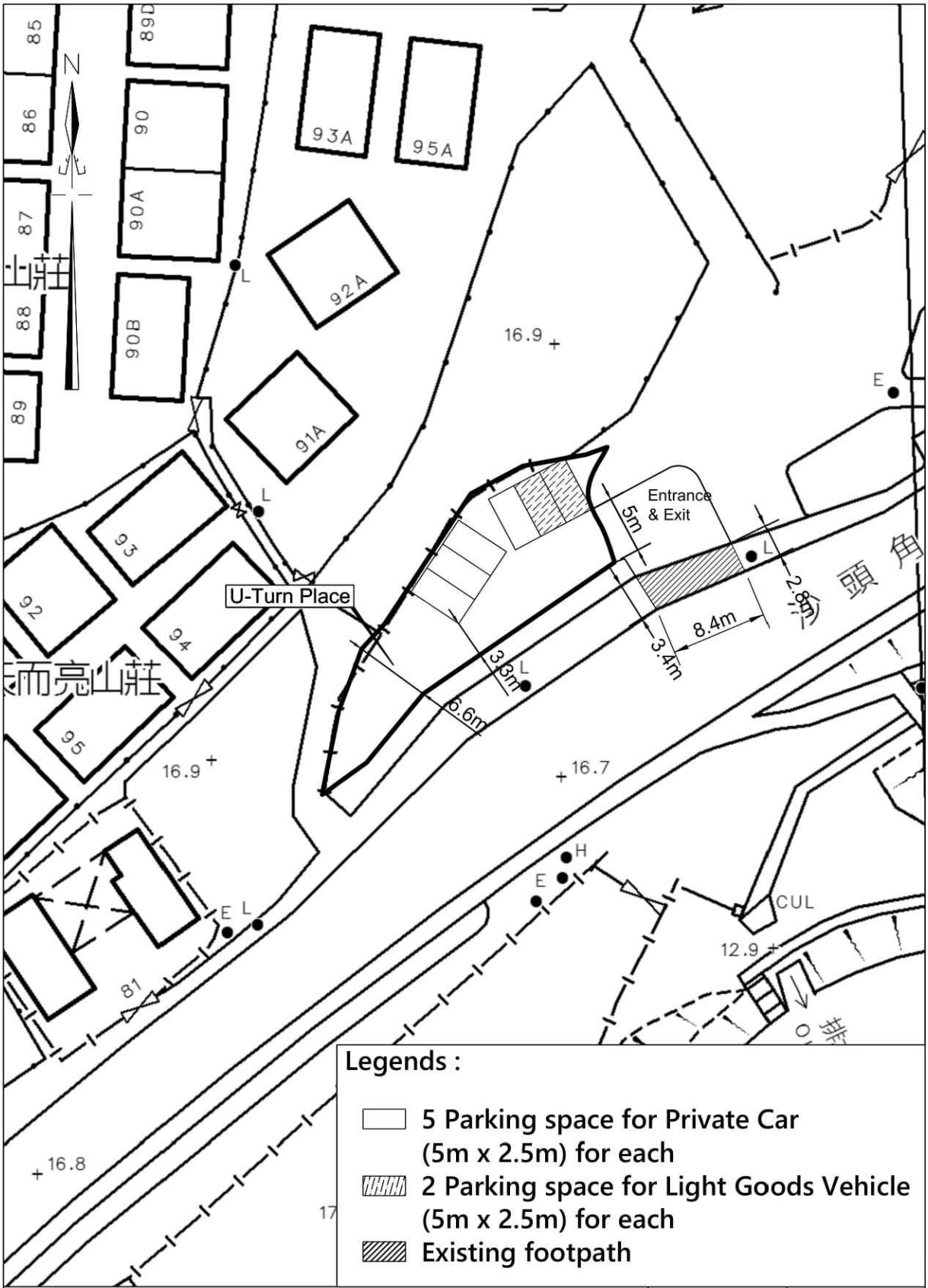
|---|---|---|
| 卓弘測量服務公司<br>CHUO WANG SURVEY SERVICES COMPANY | Scale :<br>1 : 1000 | Survey Sheet No. :<br>3-SW-4B |
| | Date :<br>22-07-2025 | Figure No. :<br>LOP/01 |

# LAYOUT PLAN

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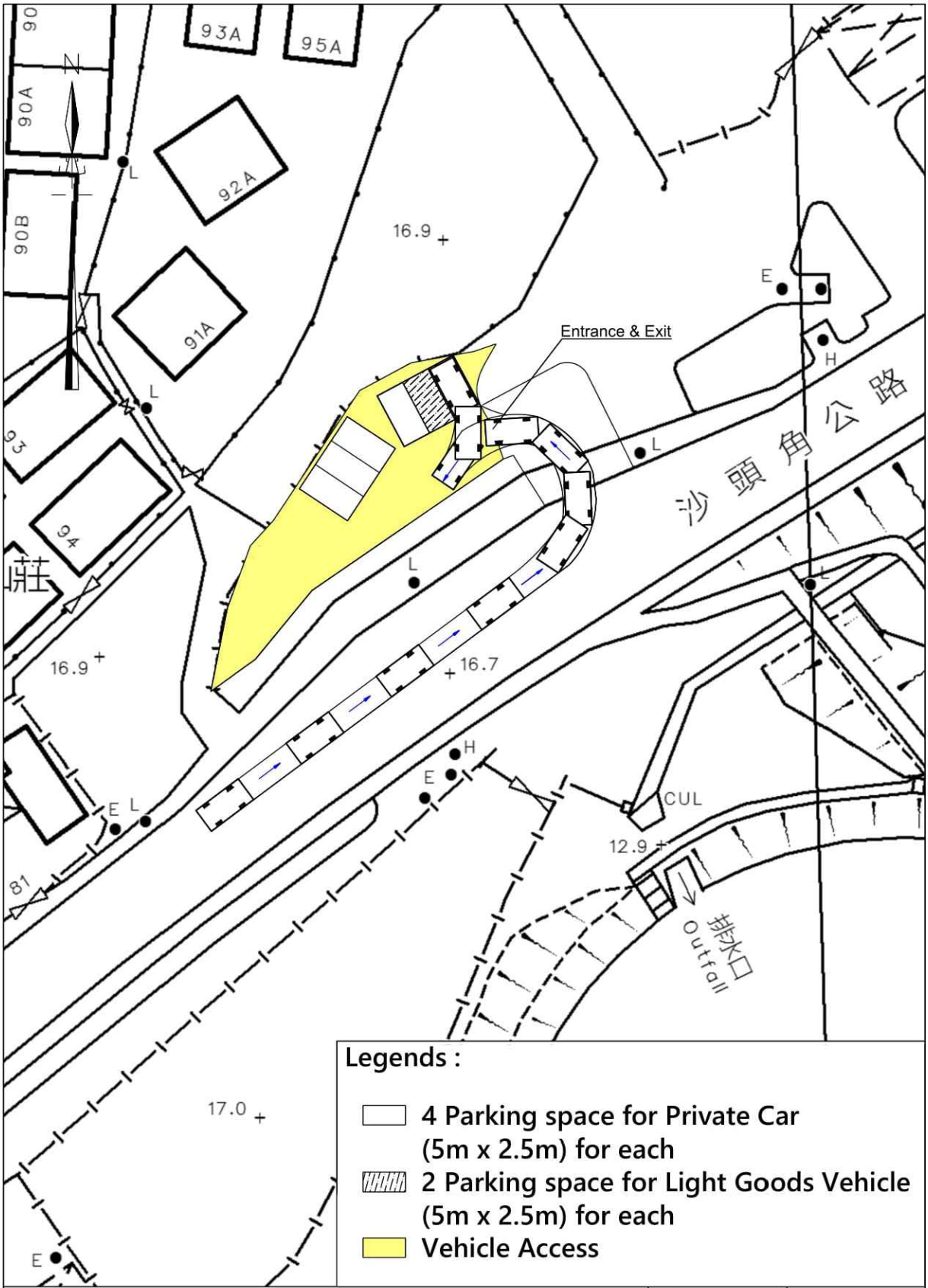
|---|---|---|
| 卓弘測量服務公司<br>CHUO WANG SURVEY SERVICES COMPANY | Scale :<br>1 : 500 | Survey Sheet No. :<br>3-SW-4B |
| | Date :<br>22-07-2025 | Figure No. :<br>LAP/01 |

# ROUTING PLAN

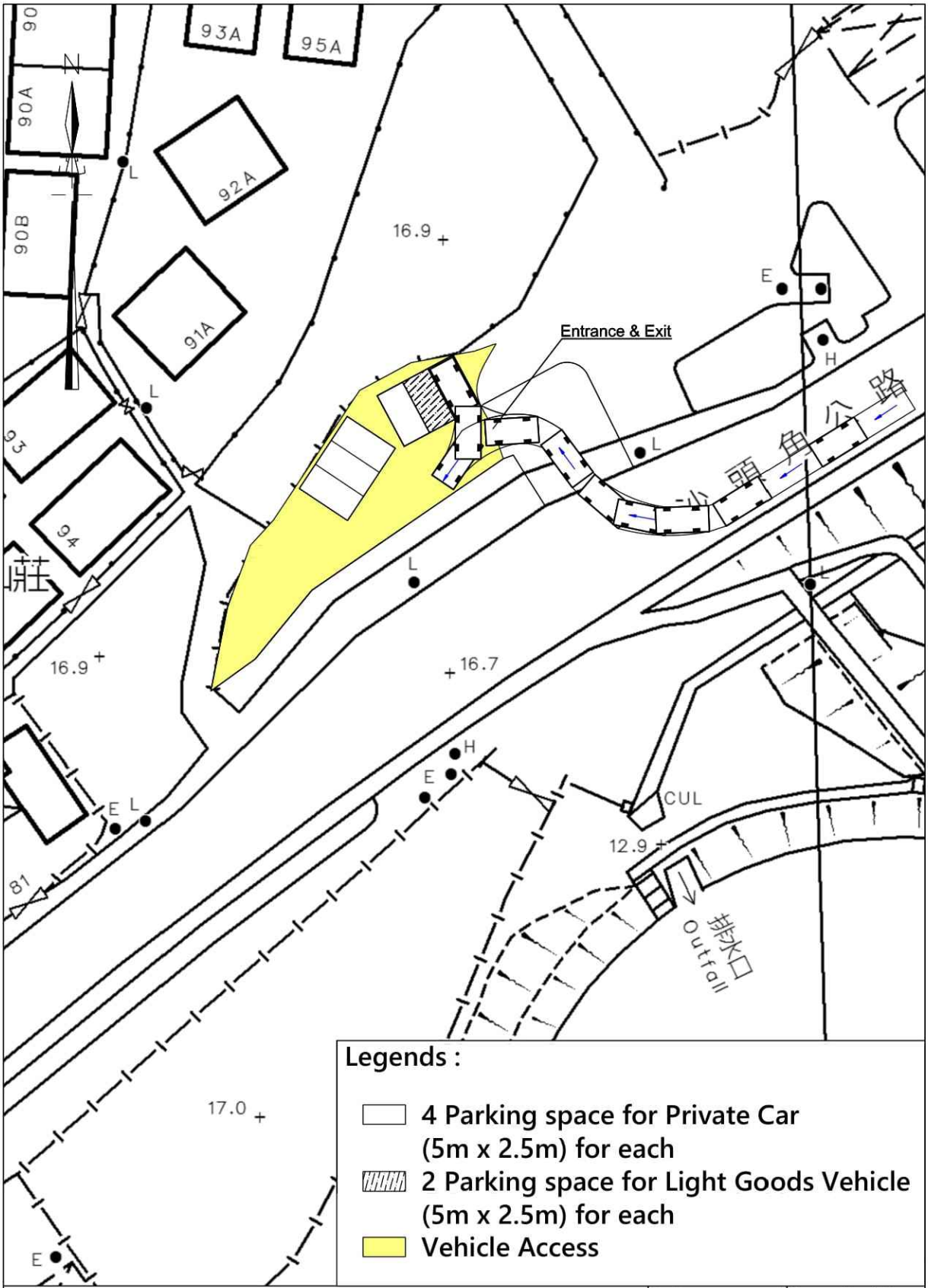



**Legends :**

- 4 Parking space for Private Car (5m x 2.5m) for each
- 2 Parking space for Light Goods Vehicle (5m x 2.5m) for each
- Vehicle Access

| | | |
|---|---|---|
| 卓弘測量服務公司<br>CHUO WANG SURVEY SERVICES COMPANY | Scale :<br>1 : 500 | Survey Sheet No. :<br>3-SW-4B |
| | Date :<br>24-07-2025 | Figure No. :<br>AC/10 |

# ROUTING PLAN

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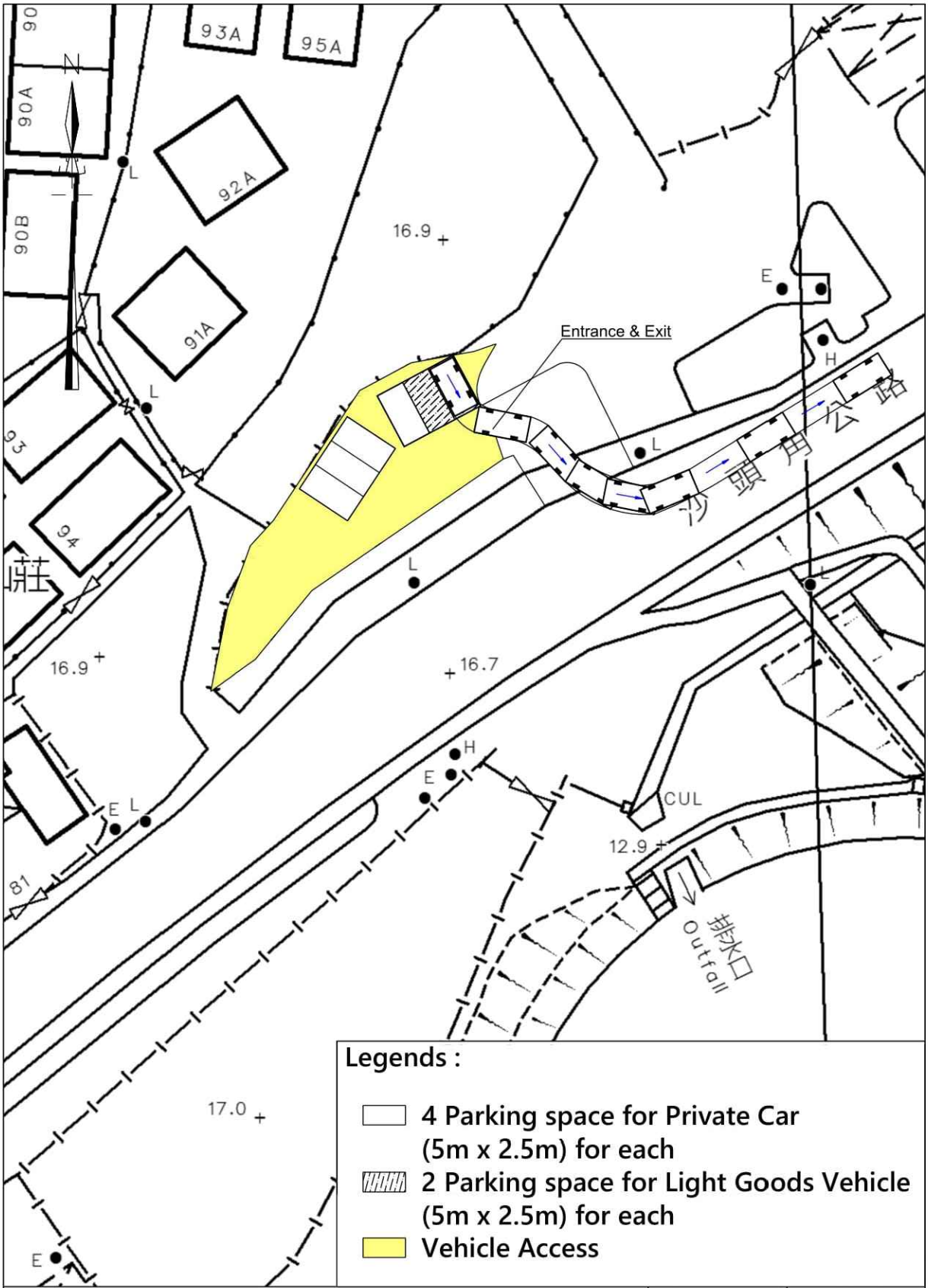
|---|---|---|
| 卓 弘 測 量 服 務 公 司<br>CHUO WANG SURVEY SERVICES COMPANY | Scale :<br>1 : 500 | Survey Sheet No. :<br>3-SW-4B |
| | Date :<br>24-07-2025 | Figure No. :<br>AC/11 |

# ROUTING PLAN

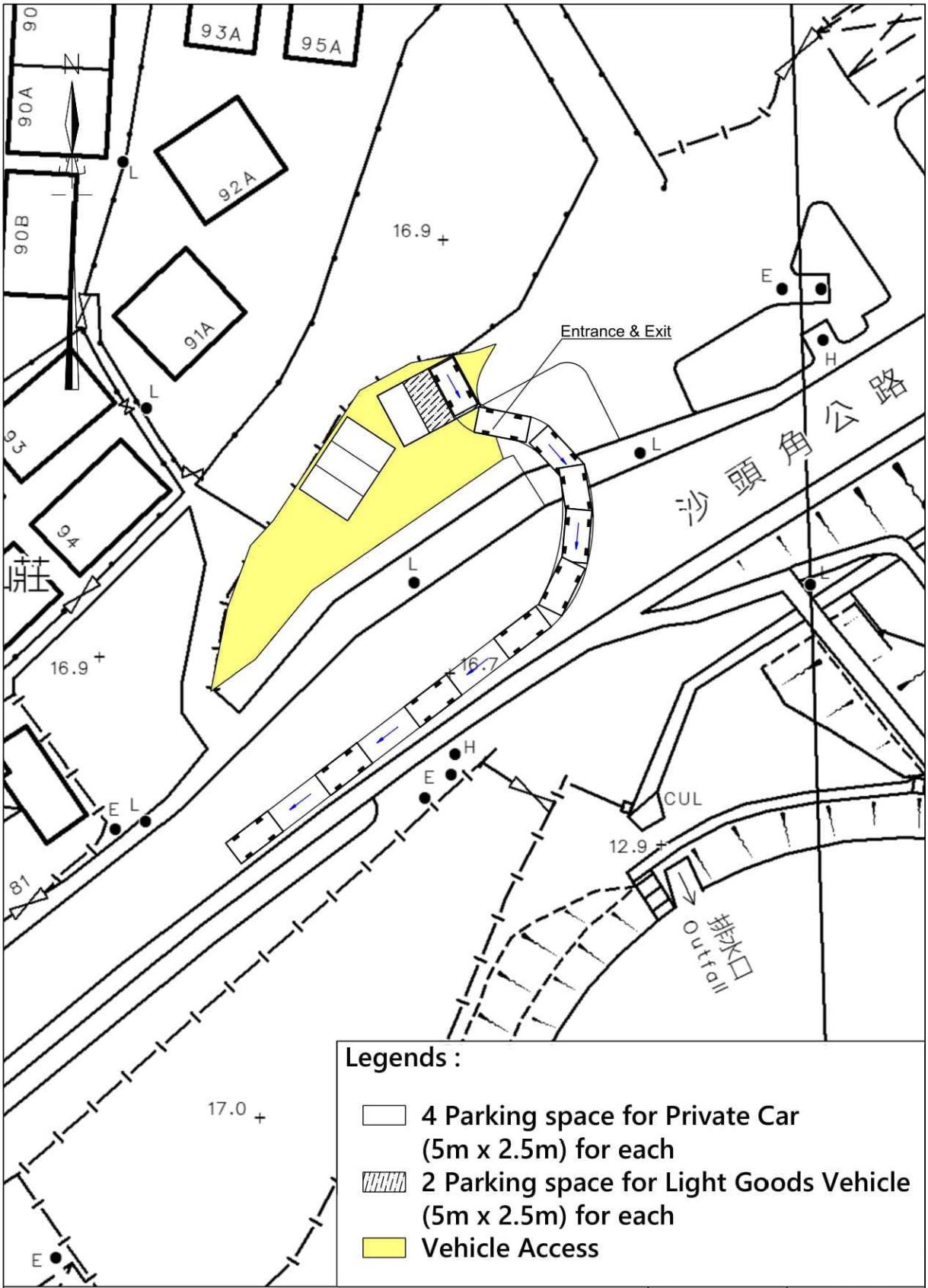



**Legends :**

- 4 Parking space for Private Car (5m x 2.5m) for each
- 2 Parking space for Light Goods Vehicle (5m x 2.5m) for each
- Vehicle Access

| | | |
|---|---|---|
| 卓弘測量服務公司<br>CHUO WANG SURVEY SERVICES COMPANY | Scale :<br>1 : 500 | Survey Sheet No. :<br>3-SW-4B |
| | Date :<br>24-07-2025 | Figure No. :<br>AC/12 |

# ROUTING PLAN

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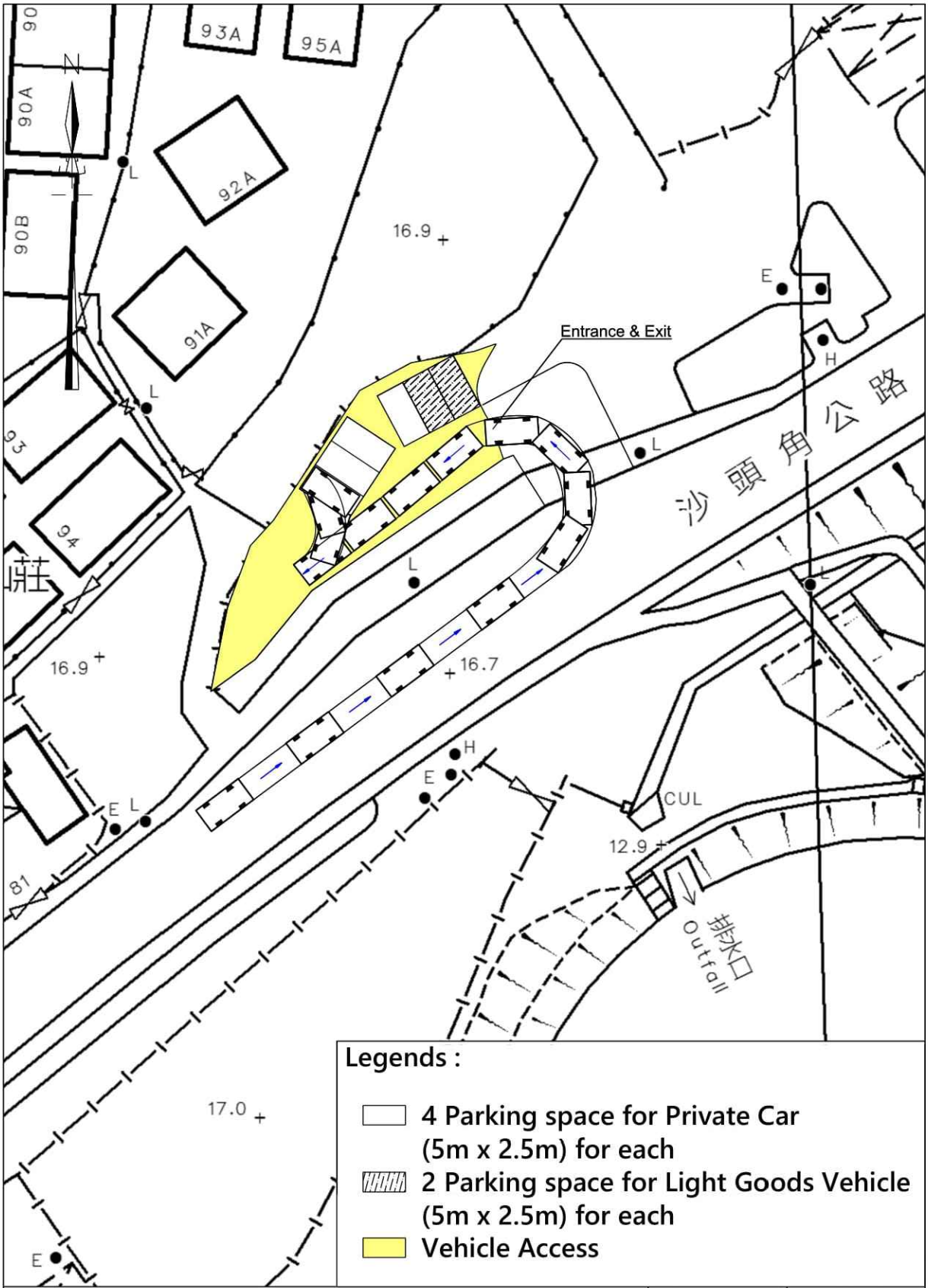
|---|---|---|
| 卓弘測量服務公司<br>CHUO WANG SURVEY SERVICES COMPANY | Scale :<br>1 : 500 | Survey Sheet No. :<br>3-SW-4B |
| | Date :<br>24-07-2025 | Figure No. :<br>AC/13 |

# ROUTING PLAN

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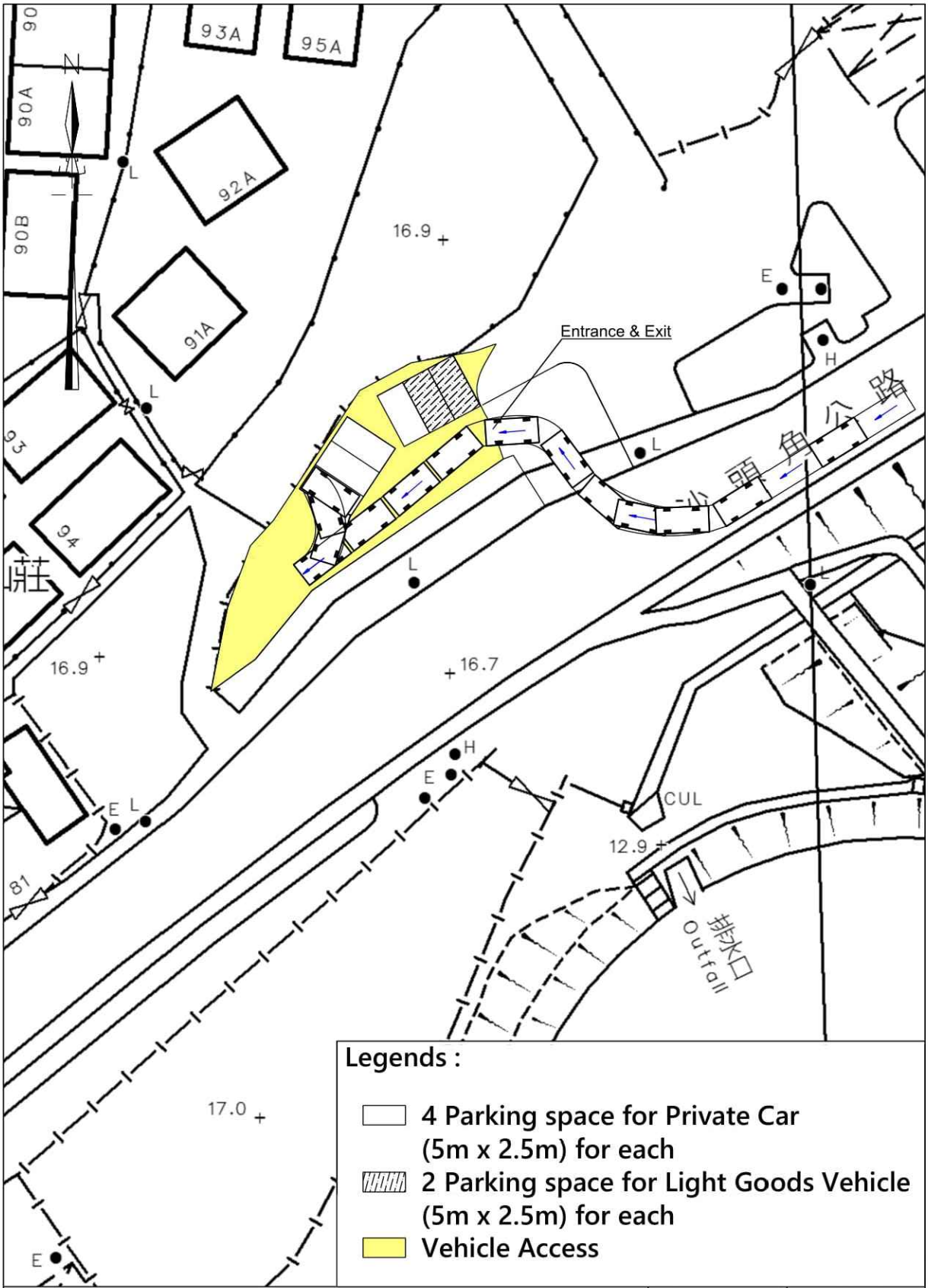
|---|---|---|
| 卓 弘 測 量 服 務 公 司<br>CHUO WANG SURVEY SERVICES COMPANY | Scale :<br>1 : 500 | Survey Sheet No. :<br>3-SW-4B |
| | Date :<br>24-07-2025 | Figure No. :<br>AC/14 |

# ROUTING PLAN

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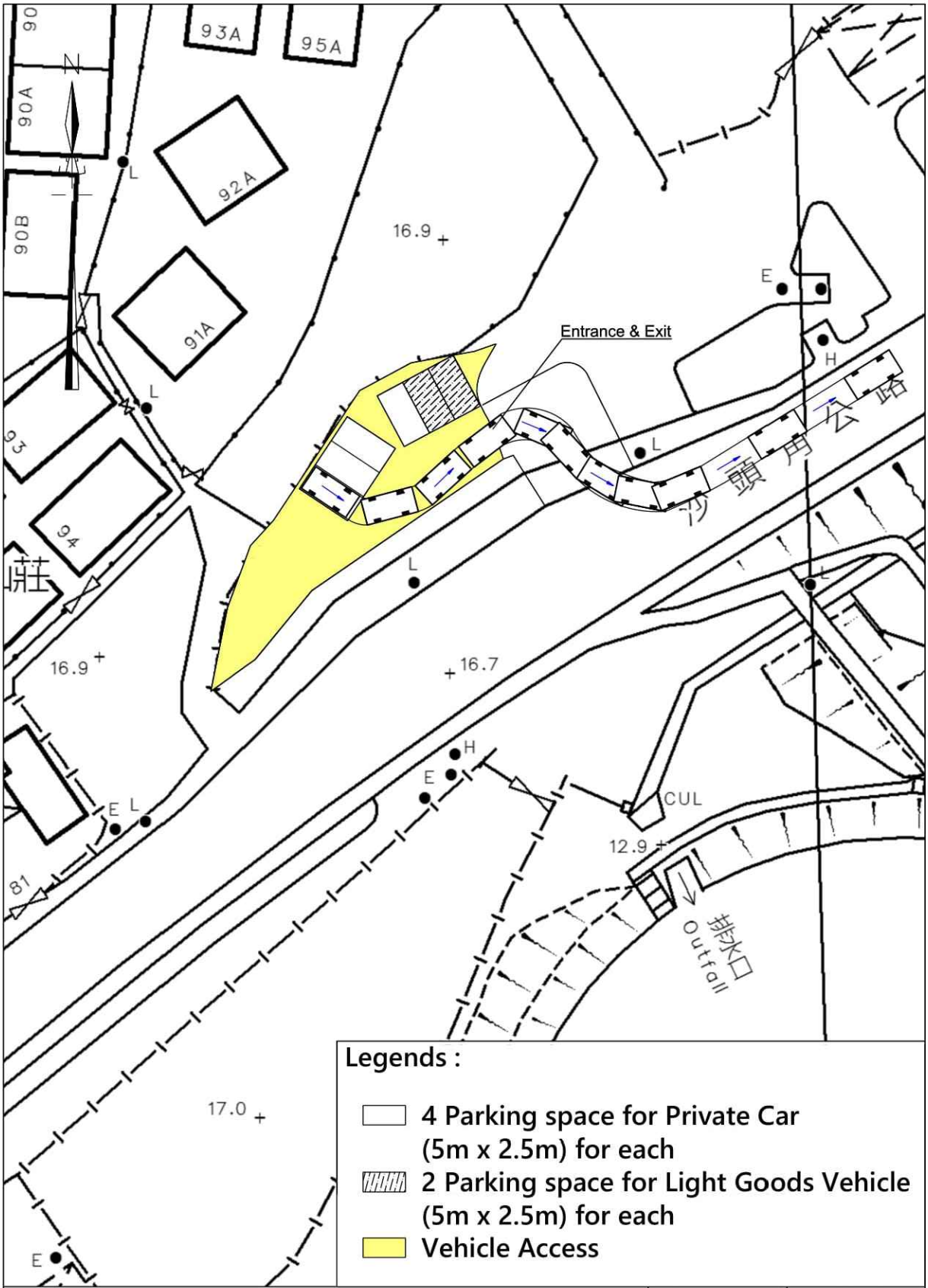
|---|---|---|
| 卓 弘 測 量 服 務 公 司<br>CHUO WANG SURVEY SERVICES COMPANY | Scale :<br>1 : 500 | Survey Sheet No. :<br>3-SW-4B |
| | Date :<br>24-07-2025 | Figure No. :<br>AC/15 |

# ROUTING PLAN

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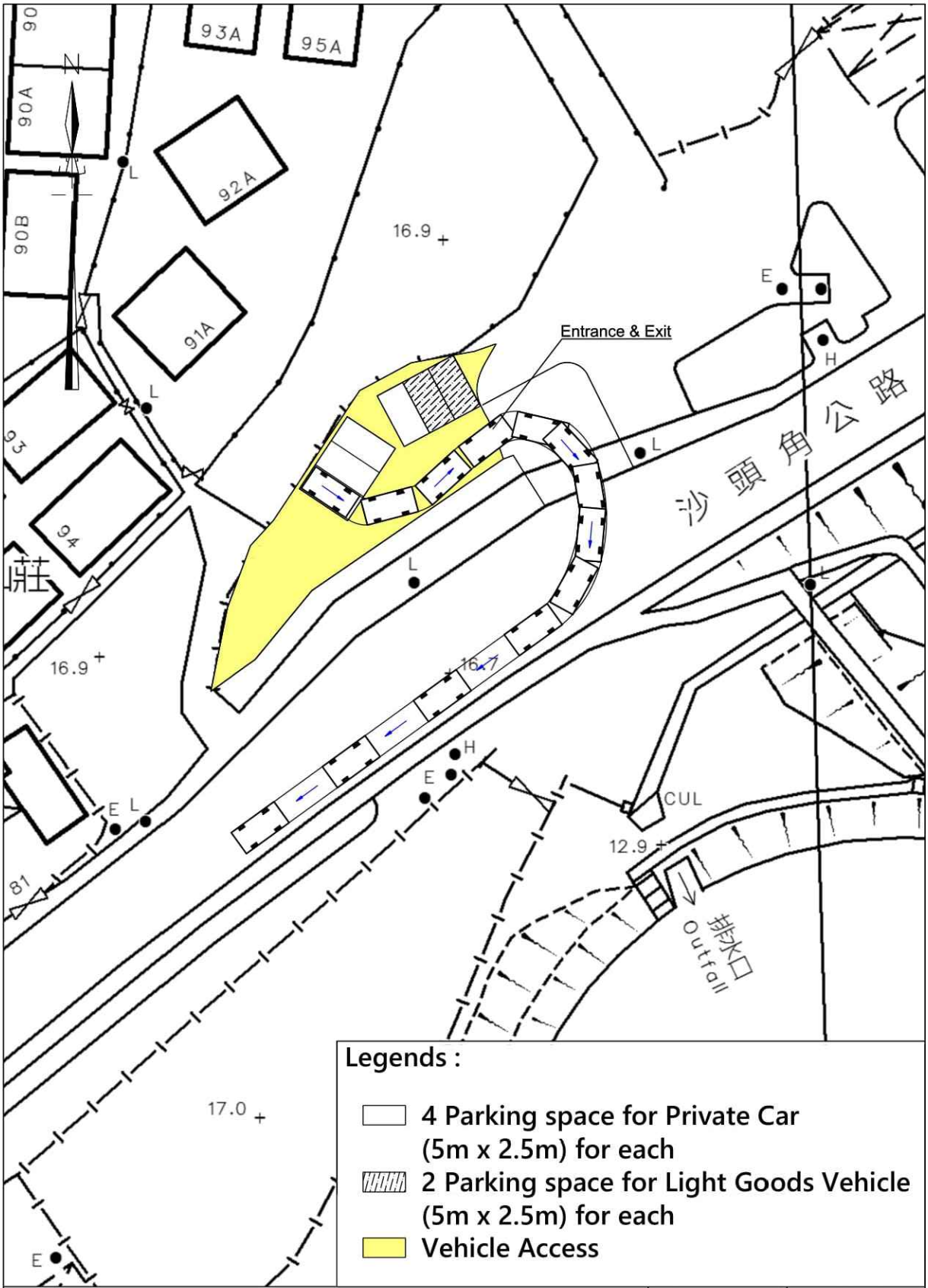
|---|---|---|
| 卓 弘 測 量 服 務 公 司<br>CHUO WANG SURVEY SERVICES COMPANY | Scale :<br>1 : 500 | Survey Sheet No. :<br>3-SW-4B |
| | Date :<br>24-07-2025 | Figure No. :<br>AC/16 |

# ROUTING PLAN

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|---|---|---|
| 卓弘測量服務公司<br>CHUO WANG SURVEY SERVICES COMPANY | Scale :<br>1 : 500 | Survey Sheet No. :<br>3-SW-4B |
| | Date :<br>24-07-2025 | Figure No. :<br>AC/17 |

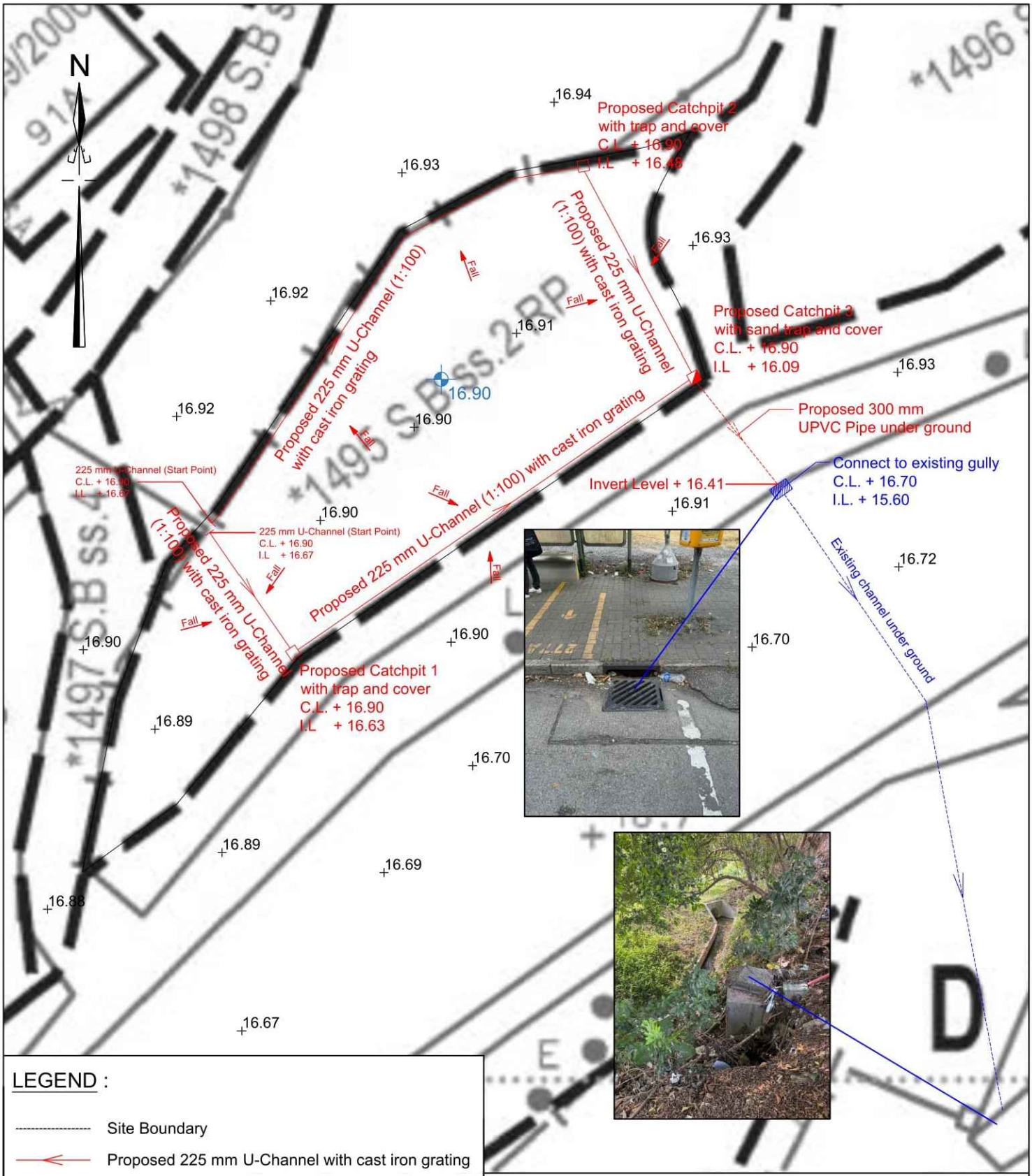
# Design of
# 225 mm U - Channel
# for
# Lot 1495 S.B ss.2 RP
# for use as a Temporary Private Car Park

| | | | |
|---|---|---|---|
| 卓 弘 測 量 服 務 公 司<br>CHUO WANG SURVEY SERVICES COMPANY | Project Title<br>Lot No. 1495 S.B ss.2 RP IN D.D. 76,<br>Hung Leng, Fanling, N.T. | Scale<br>-- | Figure No.<br>STDP-01 |
| | Figure Title<br>Proposed Stormwater Drainage Plan | Date<br>22-07-2025 | Revision<br>-- |

## Revision History

| Revision | Submission Date | Reply Date | Section/ Description |
|---|---|---|---|
| 0 | July-2025 | -- | Initial issue |

| | | | |
|---|---|---|---|
| 卓 弘 測 量 服 務 公 司<br>CHUO WANG SURVEY SERVICES COMPANY | Project Title: Lot No. 1495 S.B ss.2 RP IN D.D. 76, Hung Leng, Fanling, N.T. | Scale: -- | Figure No.: STDP-02 |
| | Figure Title: Proposed Stormwater Drainage Plan | Date: 22-07-2025 | Revision: -- |



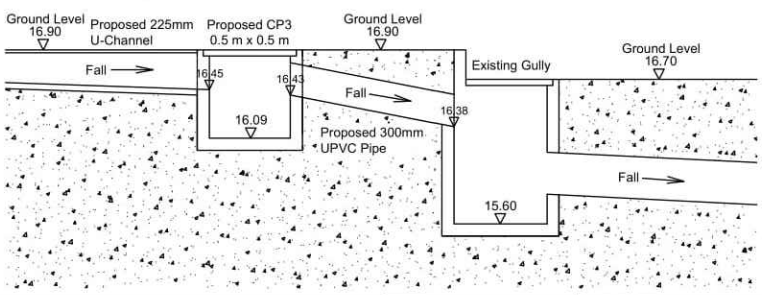





## LEGEND :

- Site Boundary
- Proposed 225 mm U-Channel with cast iron grating
- Proposed Catchpit with trap and iron cover
- Proposed Catchpit with sand trap and iron cover
- Fall — Fall Direction
- Existing Channel under ground
- Existing Catchpit
- 16.90 — Existing Spot Level
- 16.90 — Site Formation Level

### Connect Details

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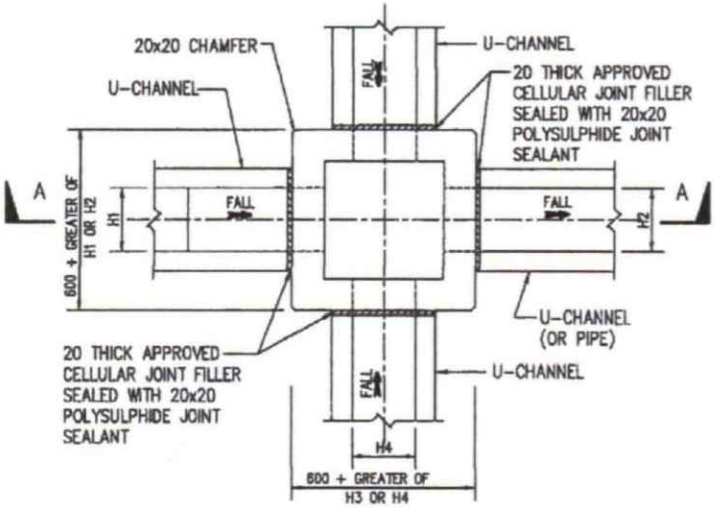
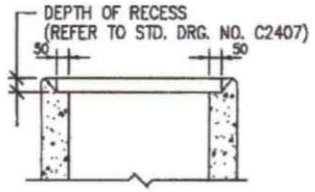
|---|---|---|---|
| 卓 弘 測 量 服 務 公 司<br>CHUO WANG SURVEY SERVICES COMPANY | Project Title: Lot No. 1495 S.B ss.2 RP IN D.D. 76, Hung Leng, Fanling, N.T. | Scale: -- | Figure No.: STDP-03 |
| | Figure Title: Proposed Stormwater Drainage Plan | Date: 22-07-2025 | Revision: -- |

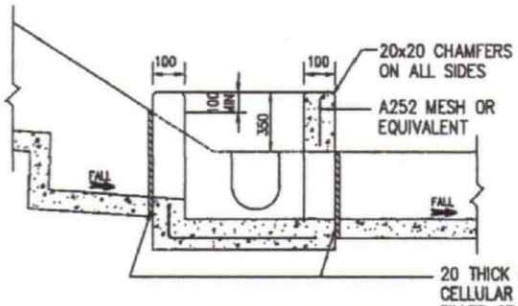



PLAN

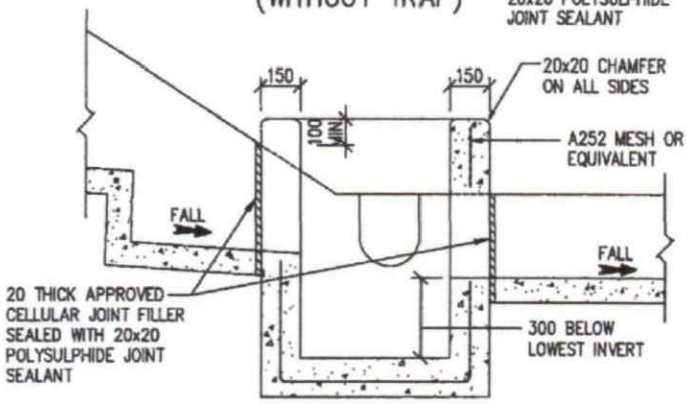



ALTERNATIVE TOP SECTION
FOR PRECAST CONCRETE COVER

STANDARD CATCHPIT DETAILS
(ACCORDING TO CEDD'S DRAWING NO. C2405I & 2406I)




(WITHOUT TRAP)




(WITH TRAP)

NOTES

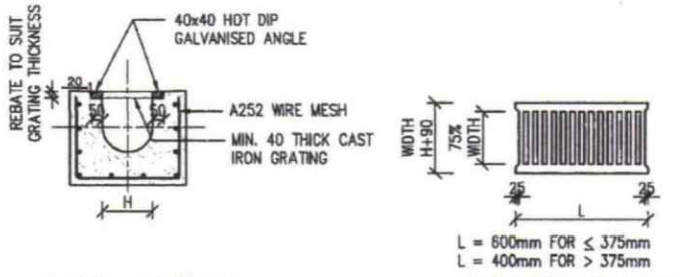
SECTION A – A

(1) ALL DIMENSIONS ARE IN MILLIMETRES.

(2) SIZE – DEPTH : $D \leq 750$
WIDTH : $W \geq 3B$
LENGTH : $L = 4.8D^{0.67} h^{0.5} F^{-0.5} \geq 4B$

(3) GRADED STONE FILTER SHALL BE CRUSHER RUN GRANITE AGGREGATE.

(4) THE SANDTRAP SHALL BE REGULARLY DESILTED TO AVOID BLOCKAGE.

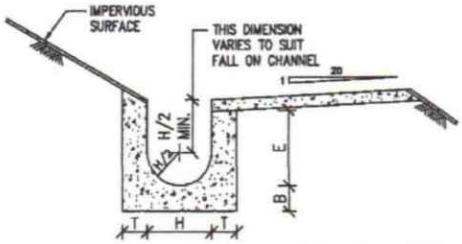



TYPICAL SECTION

CAST IRON GRATING

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

U-CHANNEL WITH CAST IRON GRATING
(UP TO H OF 525)
(ACCORDING TO CEDD'S DRAWING NO. C2412E)




| NOMINAL SIZE (H) | T | B | REINFORCEMENT |
|---|---|---|---|
| 225–300 | 80 | 100 | A252 MESH PLACED CENTRALLY AND T=100 WHEN E>650 |
| 375–600 | 100 | 150 | |
| 675–900 | 100 | 150 | A252 MESH PLACED CENTRALLY |

TYPICAL U-CHANNEL DETAILS
(ACCORDING TO CEDD'S DRAWING NO. C2410G)
N.T.S.

NOTES FOR U-CHANNEL

1. THE COVER OF PROPOSED U-CHANNEL SHALL BE FLUSH WITH THE PATH SURFACE AND ANY HOLE IN SUCH COVER SHALL NOT EXCEED 20mm IN ONE DIMENSION.
2. CAST IRON GRATINGS TO BE USED SHALL BE COMPLIANCE WITH BS 437:2008.

| | | | | |
|---|---|---|---|---|
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| | Figure Title | Proposed Stormwater Drainage Plan | Date<br>22-07-2025 | Revision<br>-- |

# Appendix A -

# Design for 225 mm Drainage Pipe

| | | | |
|---|---|---|---|
| 卓 弘 測 量 服 務 公 司<br>CHUO WANG SURVEY SERVICES COMPANY | Project Title<br>Lot No. 1495 S.B ss.2 RP IN D.D. 76,<br>Hung Leng, Fanling, N.T. | Scale<br>-- | Figure No.<br>STDP-05 |
| | Figure Title<br>Proposed Stormwater Drainage Plan | Date<br>22-07-2025 | Revision<br>-- |

| | Project | Computed by | Checked by | Sheet no. |
|---|---|---|---|---|
| | D.D. 76 Lot 1495 S.B ss.2 RP | | | 1 |
| | Subject | Date | Date | |
| | Design flow for this Site | | | |

**Design flow for Part A**

Return Period : 200 Years

Assume flow velocity : (m/s) **1.5**

| Return Period T (years) | | Rainfull Intensity: | $I = a / (T_c + b)^{c}$ |
|---|---|---|---|
| 200 | (from Table 3 of DSD Practice Note No. 1/2017) | | |
| a | **1074.8** | | |
| b | **12.47** | | |
| c | **0.523** | | |

Rational Method:

$T_o$ =0.14465*L / (H^0.2)(A^0.1)

Q = 0.278*C*I*A

Tf =L/v

$Tc = T_o + T_f$

Catchment Area of Part A

| | | | | |
|---|---|---|---|---|
| Area( $m^2$) | **107.75** | $T_o$= | 3.62 | min |
| C-value | **0.8** | Tf = | 0.47 | min |
| Max. Elev. (mPD) | **16.63** | Tc = | 4.08 | min |
| Min. Elev.(mPD) | **16.09** | I = | 247.66 | mm/hr |
| Max. flow path,L (m) | **41.98** | Q= | 0.0059 | $m^3/s$) |
| Gradient, H (m in 100m) | **1.3** | Q= | 356 | (l/min) |
| Total Length of Channel, L (m) | **41.98** | | | |

Flow capacity checking

| | | | |
|---|---|---|---|
| Design flow rate = | 356 l/min | | |
| Flow capacity of proposed 225mm open channel = | 1008 l/min | > | 356 l/min |

OK

| | | | |
|---|---|---|---|
| 卓弘測量服務公司 CHUO WANG SURVEY SERVICES COMPANY | Project Title: Lot No. 1495 S.B ss.2 RP IN D.D. 76, Hung Leng, Fanling, N.T. | Scale: -- | Figure No.: STDP-06 |
| | Figure Title: Proposed Stormwater Drainage Plan | Date: 22-07-2025 | Revision: -- |

# Appendix B -

# Reference Clause from Hong Kong Code

| | | | |
|---|---|---|---|
| 卓 弘 測 量 服 務 公 司<br>CHUO WANG SURVEY SERVICES COMPANY | Project Title<br>Lot No. 1495 S.B ss.2 RP IN D.D. 76,<br>Hung Leng, Fanling, N.T. | Scale<br>-- | Figure No.<br>STDP-07 |
| | Figure Title<br>Proposed Stormwater Drainage Plan | Date<br>22-07-2025 | Revision<br>-- |

## Estimated Flow Capacity of the proposed 225mm dia. Open channel

According to Colebrook-White Equation in Table 12 of Stormwater Drainage Manual)

Length = 41.98 m

Inlet I.L. = 16.63 mPD

Outlet I.L. = 16.09 mPD

Gradient = 0.01286 (for conservative; fall is taken 1:100 )

$k_s$ = 14.0000 mm (Table 14 of Stormwater Drainage Mannual) normal classification

Colebrook-White

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

| Drain Size Dia | Gradient $S_f$ | Drain Capacity Area x $\overline{V}$ | Velolcity $\overline{V}$ | Hydraulic. radius R (D/4 for circular pipe) | Coeff. $\sqrt{32gRS_f}$ | Viscosity v | Roughness $k_s$ |
|---|---|---|---|---|---|---|---|
| (mm) | | ($m^3/s$) | (m/s) | (m) | | ($m^2/s$) | (m) |
| 225 | 0.01286 | 0.017 | 0.845 | 0.0563 | 0.48 | 1.14E-06 | 0.0140 |

Pipe capacity = 0.017 $m^3/s$

= 1008 l/min

| | | | |
|---|---|---|---|
| 卓弘測量服務公司 CHUO WANG SURVEY SERVICES COMPANY | Project Title: Lot No. 1495 S.B ss.2 RP IN D.D. 76, Hung Leng, Fanling, N.T. | Scale: -- | Figure No.: STDP-08 |
| | Figure Title: Proposed Stormwater Drainage Plan | Date: 22-07-2025 | Revision: -- |

routing through drainage channels. The same consideration shall also be applied when ground gradients vary greatly within the catchment.

(b) *Runoff Coefficient.* C is the least precisely known variable in the Rational Method. Proper selection of the runoff coefficient requires judgement and experience on the part of the designer. The value of C depends on the impermeability, slope and retention characteristics of the ground surface. It also depends on the characteristics and conditions of the soil, vegetation cover, the duration and intensity of rainfall, and the antecedent moisture conditions, etc. In Hong Kong, a value of C = 1.0 is commonly used in developed urban areas.

In less developed areas, the following C values may be used but it should be checked that the pertinent catchment area will not be changed to a developed area in the foreseeable future. Particular care should be taken when choosing a C value for unpaved surface as the uncertainties and variability of surface characteristics associated with this type of ground are known to be large. It is important for designer to investigate and ascertain the ground conditions before adopting an appropriate runoff coefficient. Designers may consider it appropriate to adopt a more conservative approach in estimation of C values for smaller catchments where any consequent increase in cost may not be significant. However, for larger catchments, the designers should exercise due care in the selection of appropriate C values in order to ensure that the design would be fully cost-effective.

| *Surface Characteristics* | *Runoff coefficient, C** |
|---|---|
| Asphalt | 0.70 - 0.95 |
| Concrete | 0.80 - 0.95 |
| Brick | 0.70 - 0.85 |
| Grassland (heavy soil**) | |
| Flat | 0.13 - 0.25 |
| Steep | 0.25 - 0.35 |
| Grassland (sandy soil) | |
| Flat | 0.05 - 0.15 |
| Steep | 0.15 - 0.20 |

* For steep natural slopes or areas where a shallow soil surface is underlain by an impervious rock layer, a higher C value of 0.4 - 0.9 may be applicable.

** Heavy soil refers to fine grain soil composed largely of silt and clay

(c) *Rainfall intensity*. i is the average rainfall intensity selected on the basis of the design rainfall duration and return period. The design rainfall duration is taken as the time of concentration, $t_c$. The Intensity-Duration-Frequency Relationship is given in Section 4.3.2.

(d) *Time of concentration.* $t_c$ is the time for a drop of water to flow from the remotest point in the catchment to its outlet. For an urban drainage system,

$$t_c = t_o + t_f \qquad t_f = \sum_{j=1}^{n} \frac{L_j}{V_j}$$

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

Table 3a – Storm Constants for Different Return Periods of HKO Headquarters

| Return Period T (years) | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 500 | 1000 |
|---|---|---|---|---|---|---|---|---|---|
| a | 499.8 | 480.2 | 471.9 | 463.6 | 451.3 | 440.8 | 429.5 | 414.0 | 402.1 |
| b | 4.26 | 3.36 | 3.02 | 2.76 | 2.46 | 2.26 | 2.05 | 1.77 | 1.55 |
| c | 0.494 | 0.429 | 0.397 | 0.369 | 0.337 | 0.316 | 0.295 | 0.269 | 0.251 |

Table 3b – Storm Constants for Different Return Periods of Tai Mo Shan Area

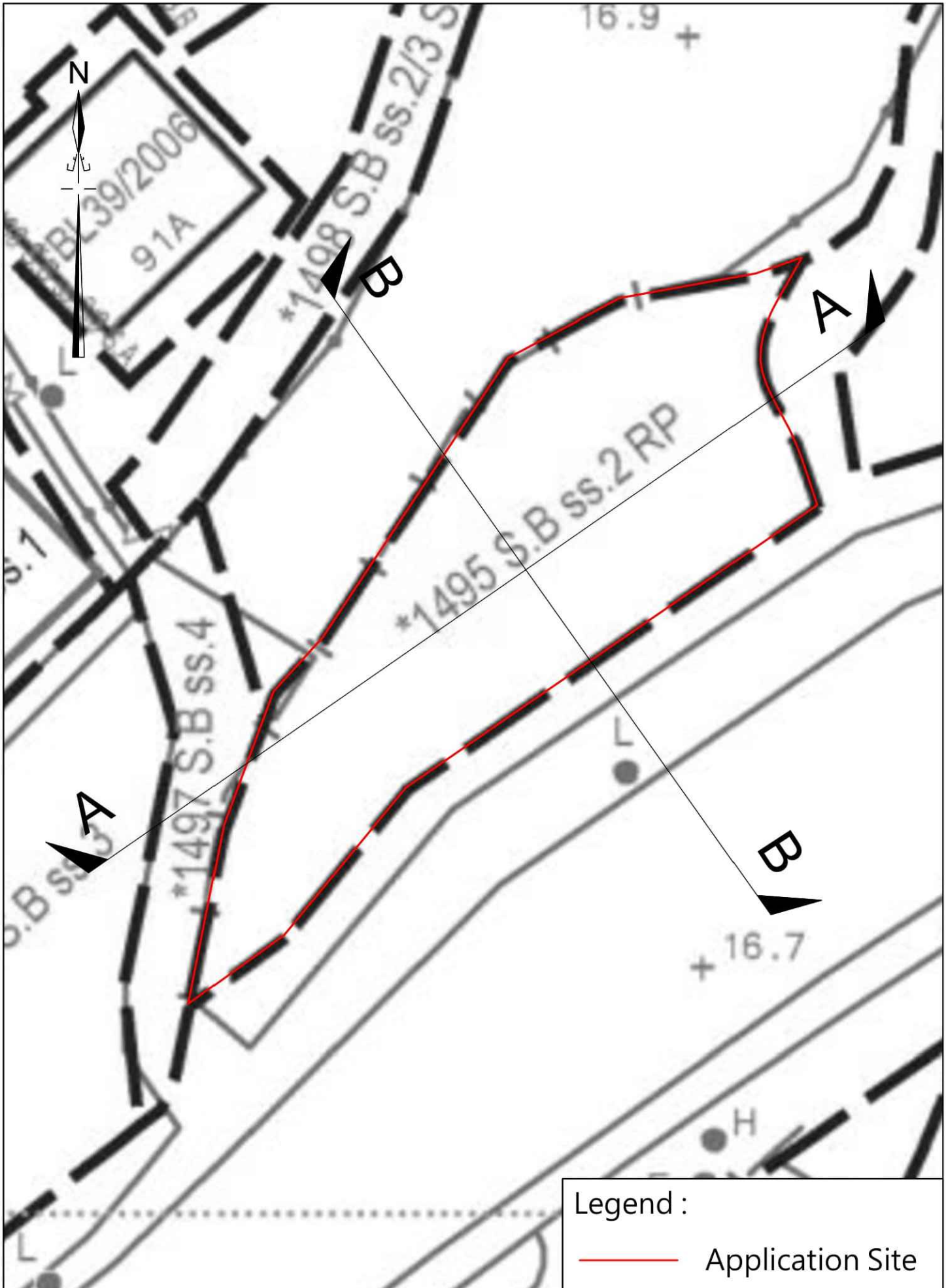
| Return Period T (years) | 2 | 5 | 10 | 20 | 50 | 100 | 200 |
|---|---|---|---|---|---|---|---|
| a | 1743.9 | 2183.2 | 2251.3 | 2159.2 | 1740.1 | 1307.3 | 1005.0 |
| b | 22.12 | 27.12 | 27.46 | 25.79 | 19.78 | 12.85 | 7.01 |
| c | 0.694 | 0.682 | 0.661 | 0.633 | 0.570 | 0.501 | 0.434 |

Table 3c – Storm Constants for Different Return Periods of West Lantau Area

| Return Period T (years) | 2 | 5 | 10 | 20 | 50 | 100 | 200 |
|---|---|---|---|---|---|---|---|
| a | 2047.9 | 1994.1 | 1735.2 | 1445.6 | 1107.2 | 909.1 | 761.8 |
| b | 24.27 | 24.23 | 21.82 | 18.36 | 13.01 | 8.98 | 5.40 |
| c | 0.733 | 0.673 | 0.619 | 0.561 | 0.484 | 0.428 | 0.377 |

Table 3d – Storm Constants for Different Return Periods of North District Area

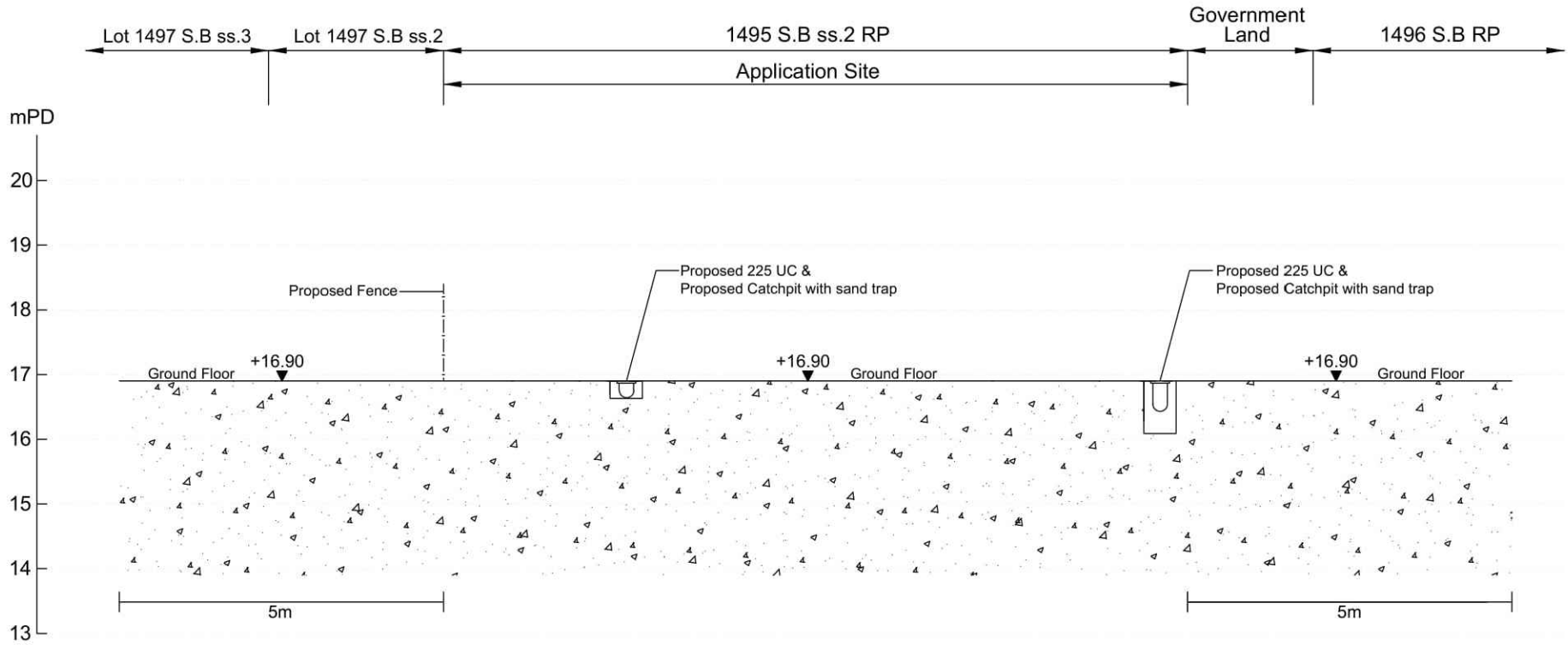
| Return Period T (years) | 2 | 5 | 10 | 20 | 50 | 100 | 200 |
|---|---|---|---|---|---|---|---|
| a | 1004.5 | 1112.2 | 1157.7 | 1178.6 | 1167.6 | 1131.2 | 1074.8 |
| b | 17.24 | 18.86 | 19.04 | 18.49 | 16.76 | 14.82 | 12.47 |
| c | 0.644 | 0.614 | 0.597 | 0.582 | 0.561 | 0.543 | 0.523 |



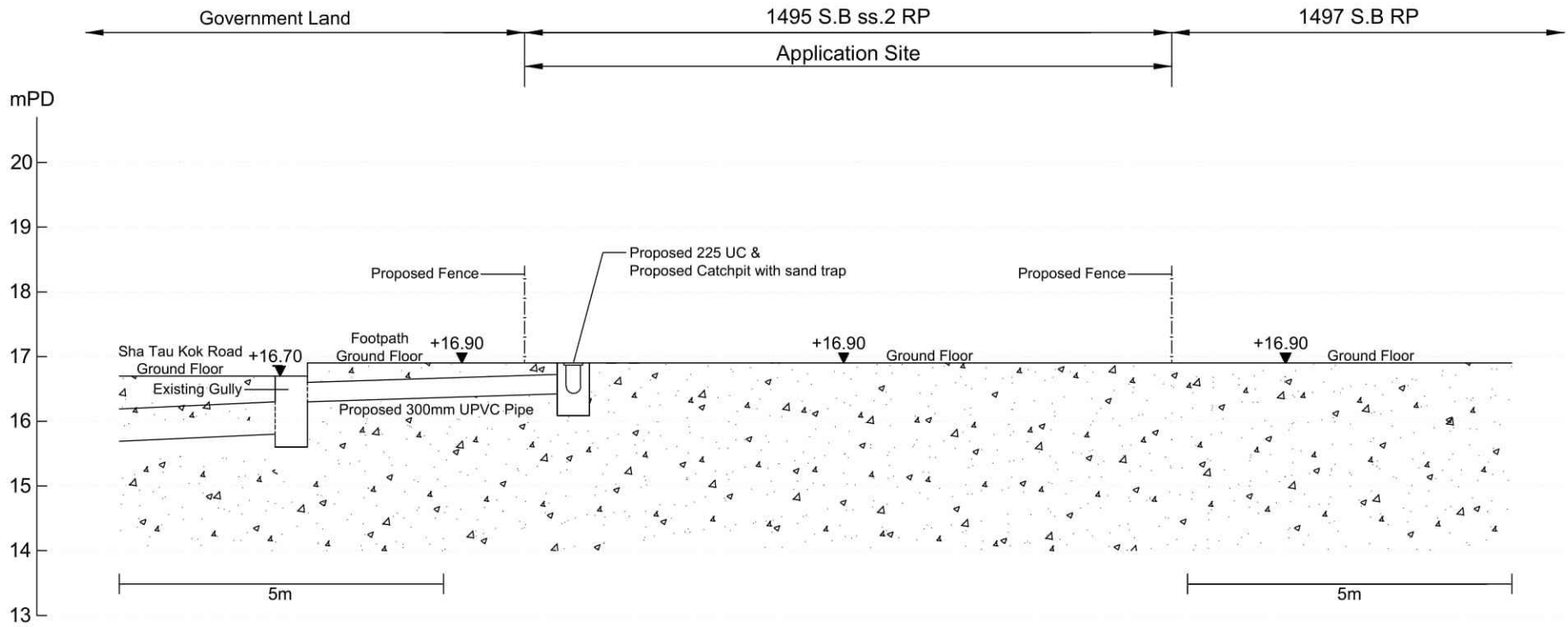

Legend :

Application Site

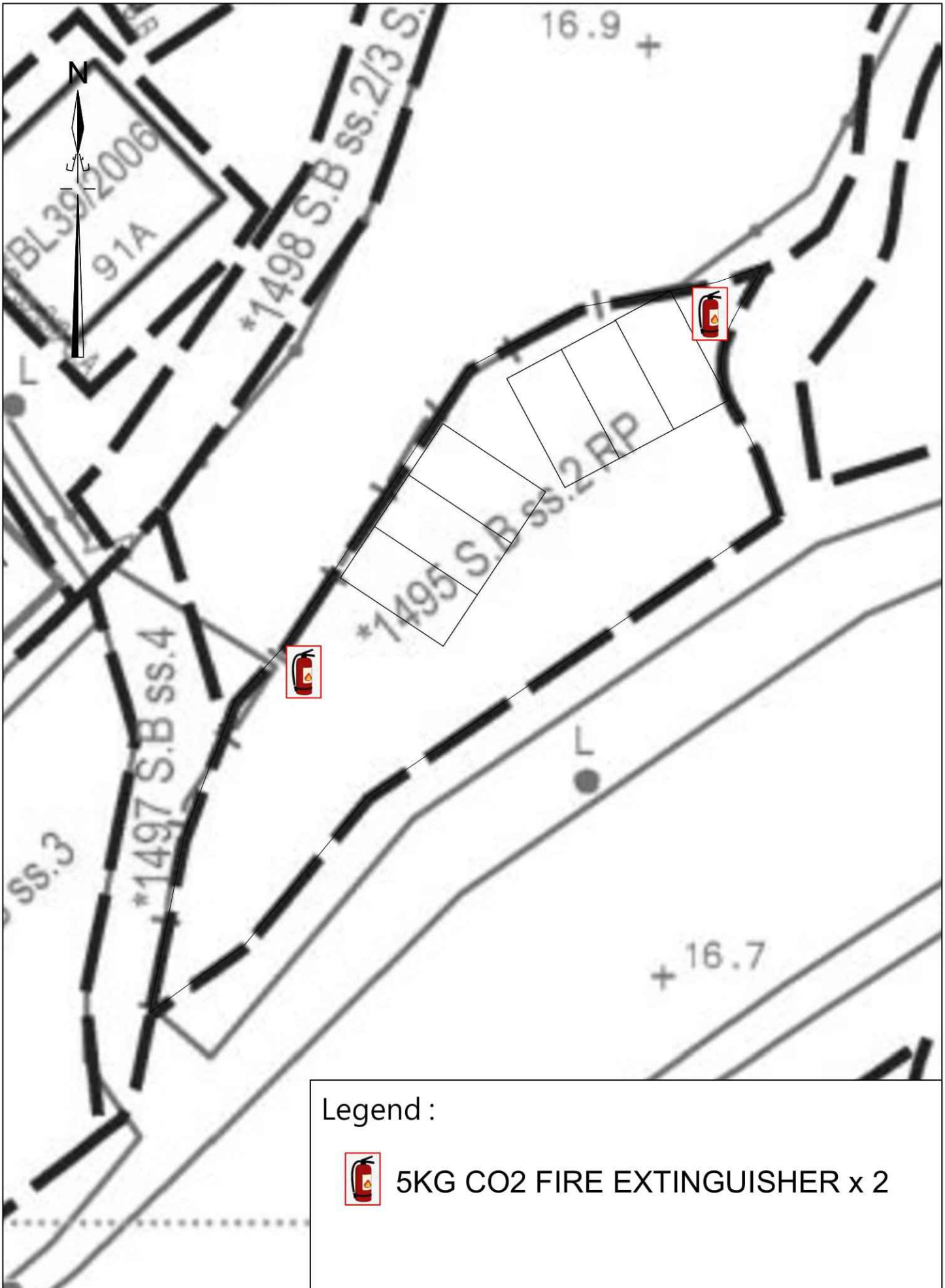
| | | | |
|---|---|---|---|
| 卓弘測量服務公司<br>CHUO WANG SURVEY SERVICES COMPANY | Project Title: Lot No. 1495 S.B ss.2 RP IN D.D. 76, Hung Leng, Fanling, N.T. | Scale: -- | Figure No.: CS-D1 |
| | Figure Title: Cross Section | Date: 22-07-2025 | Revision: -- |




| | | | |
|---|---|---|---|
| 卓 弘 測 量 服 務 公 司<br>CHUO WANG SURVEY SERVICES COMPANY | Project Title<br>Lot No. 1495 S.B ss.2 RP IN D.D. 76,<br>Hung Leng, Fanling, N.T. | Sacle<br>Not to scale | Figure No.<br>CS/D2 |
| | Figure Title<br>SECTION A - A | Date<br>22-07-2025 | Revision<br>-- |




| | | | |
|---|---|---|---|
| 卓 弘 測 量 服 務 公 司<br>CHUO WANG SURVEY SERVICES COMPANY | Project Title<br>Lot No. 1495 S.B ss.2 RP IN D.D. 76,<br>Hung Leng, Fanling, N.T. | Sacle<br>Not to scale | Figure No.<br>CS/D3 |
| | Figure Title<br>SECTION A - A | Date<br>22-07-2025 | Revision<br>-- |




Legend :

5KG CO2 FIRE EXTINGUISHER x 2

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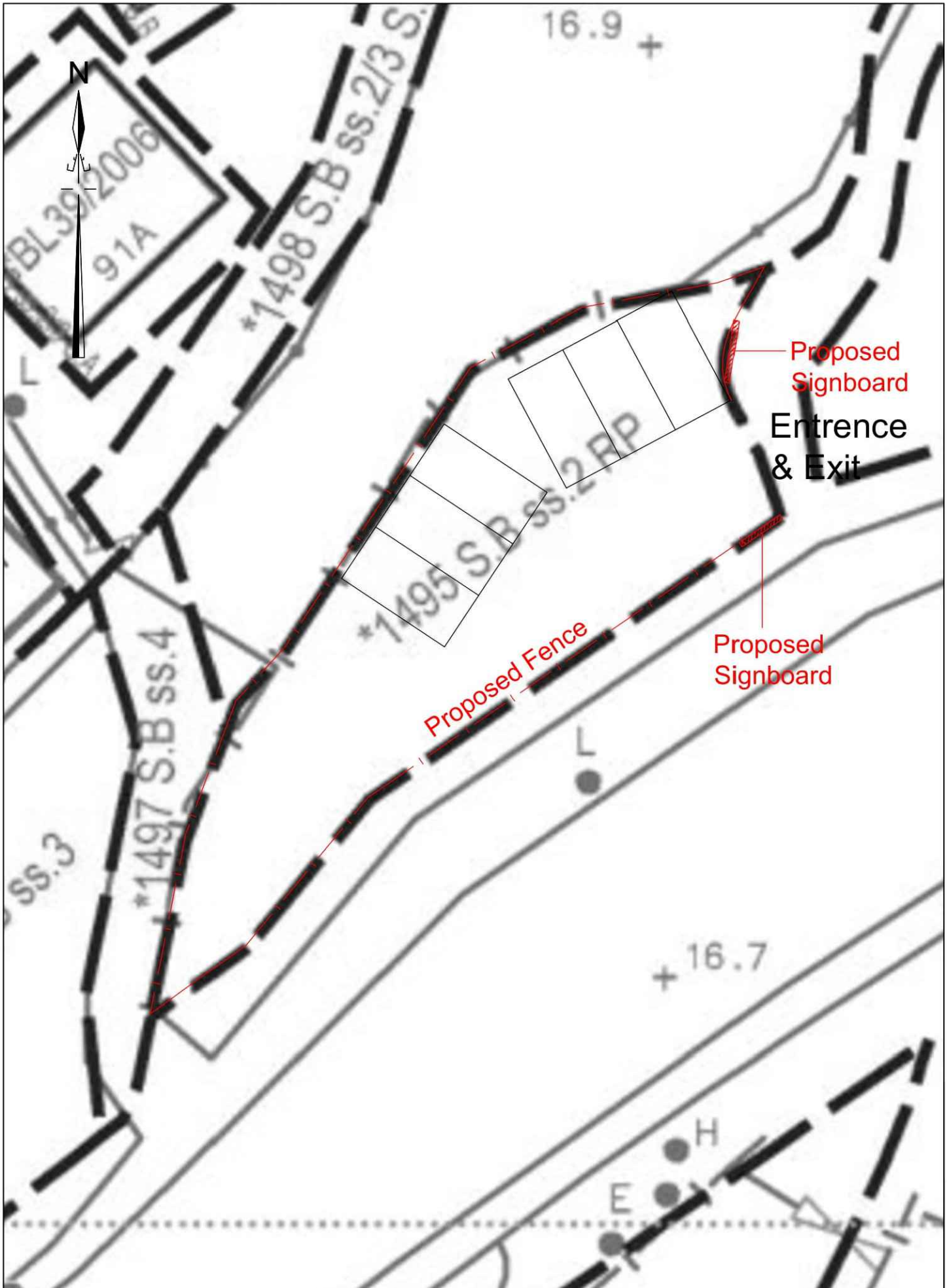
|---|---|---|---|
| 卓 弘 測 量 服 務 公 司<br>CHUO WANG SURVEY SERVICES COMPANY | Project Title: Lot No. 1495 S.B ss.2 RP IN D.D. 76, Hung Leng, Fanling, N.T. | Scale: -- | Figure No.: FSI-01 |
| | Figure Title: Proposed Fire Service Installation | Date: 22-07-2025 | Revision: -- |

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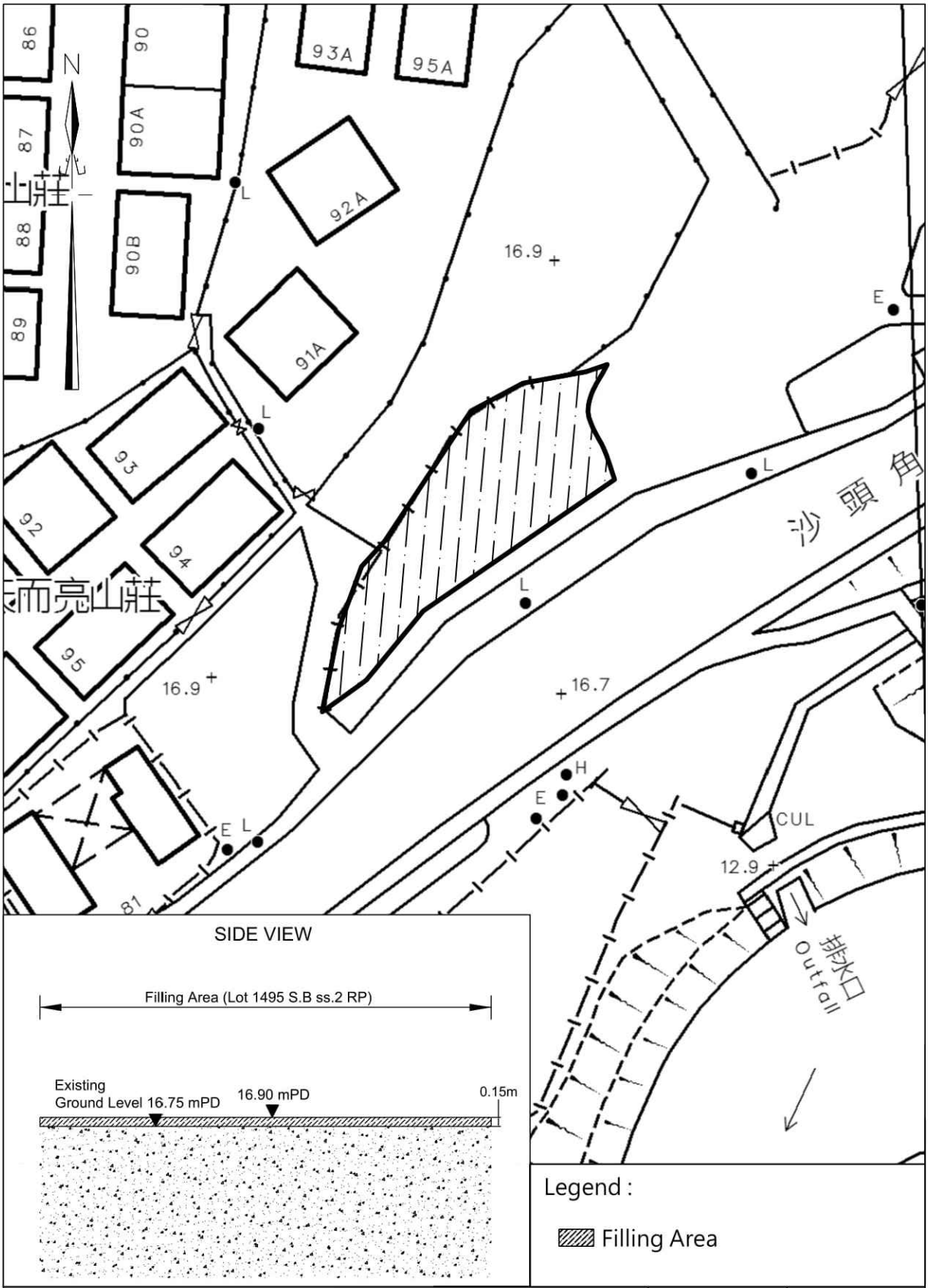
| 卓 弘 測 量 服 務 公 司<br>CHUO WANG SURVEY SERVICES COMPANY | Project Title: Lot No. 1495 S.B ss.2 RP IN D.D. 76, Hung Leng, Fanling, N.T. | Scale: -- | Figure No.: TMM-01 |
| | Figure Title: Proposed Traffic Management Measures | Date: 22-07-2025 | Revision: -- |

# FILLING PLAN

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|---|---|---|
| 卓弘測量服務公司<br>CHUO WANG SURVEY SERVICES COMPANY | Scale :<br>1 : 500 | Survey Sheet No. :<br>3-SW-4B |
| | Date :<br>22-07-2025 | Figure No. :<br>FLP/01 |