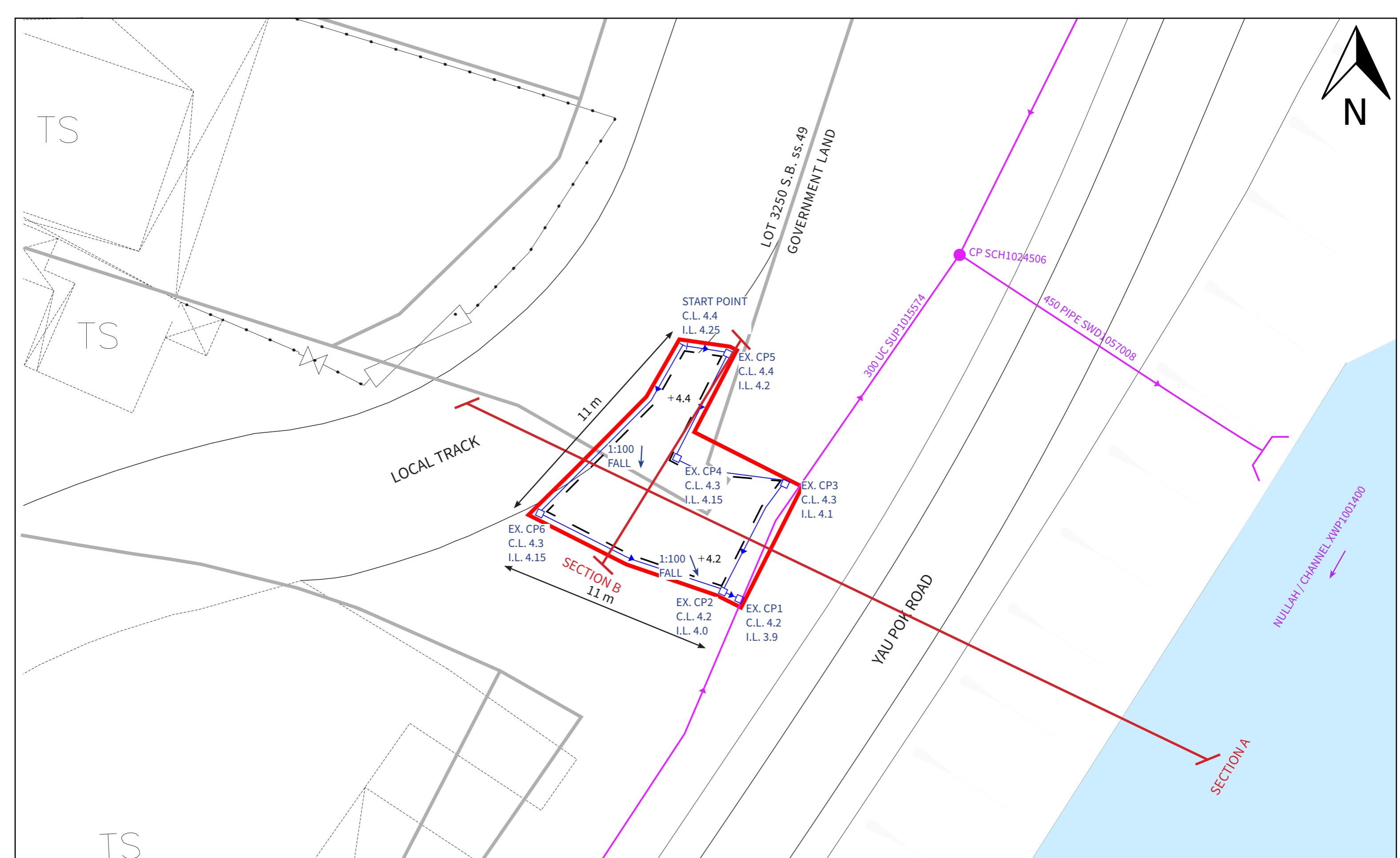
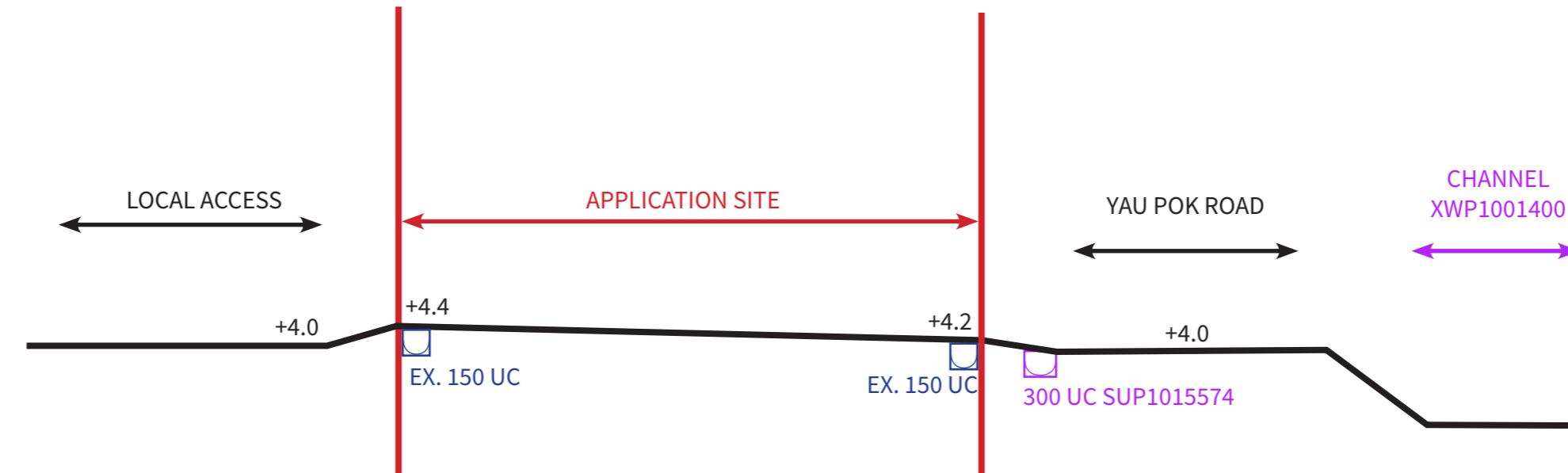


Appendix A

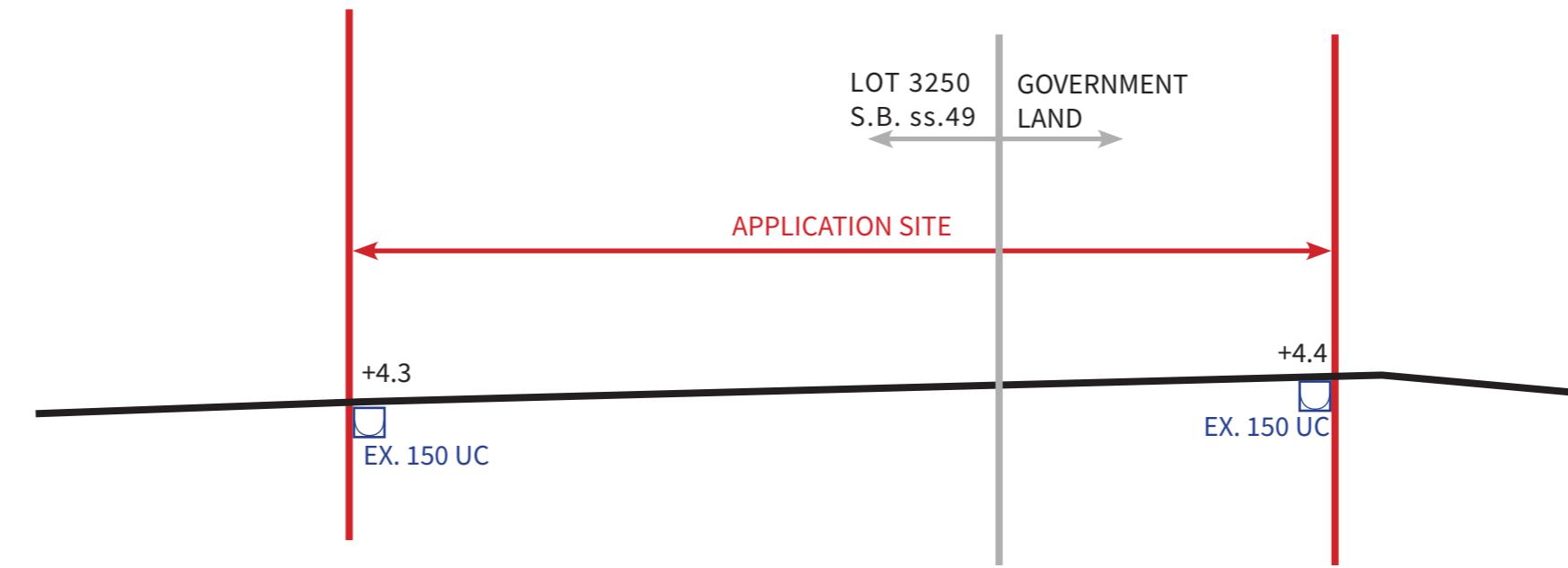
Drainage Proposal



DRAWING TITLE:	LEGEND:					SCALE:	PREPARED BY:
DRAINAGE PLAN	APPLICATION BOUNDARY ENCLOSED STRUCTURE					NOT TO SCALE	DeSPACE (International) Limited
DRAWING NO.:	EXISTING 150MM U-CHANNEL WITH GRADIENT 1:100 CATCHPIT WITH SAND TRAP EXISTING PUBLIC DRAINAGE					DATE:	DECEMBER 2025
FIGURE 1							



SECTION A



SECTION B

DRAWING TITLE:	SECTIONAL DIAGRAMS
DRAWING NO.:	
FIGURE 2	DESPACE (International) Limited

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NOT TO SCALE

DATE:
DECEMBER 2025

PREPARED BY:
 DeSPACE (International) Limited

Design Data

1. Design follows the Rational Method in accordance with Stormwater Drainage Manual 2018 (DSD)
2. For conservative, runoff coefficient for paved / unpaved land is 1.
3. Design return period is 50 years
4. For Manning's equation coefficient n is 0.016.

Runoff estimation

Average slope H	= 1 / 100 m
Catchment area A	= 80 m ²
Distance between summit and point under consideration L	= 11 m
Time of concentration of natural catchment t_o	= $0.14465 \times L / (H^{0.2} \times A^{0.1})$
	= 1.03 min
Length of drain L_j	= 22 m
Velocity V_j	= 0.616 m/s
Flow time t_f	= $\Sigma (L_j / V_j)$
	= 0.59486803 min
Time of concentration t_c	= $t_o + t_f$
	= 1.62 min
Storm constants for 50-year return period	 a = 1167.6 b = 16.76 c = 0.561
Extreme mean intensity $i_{50\text{yr}}$	= $a / (t^d + b)c$ = 221.174962 mm/hr = 405.000 mm/hr
Design flow Q	= $0.278 i \Sigma k A$ = 0.005 m ³ /s

150mm u-channel capacity

Diameter	= 150 mm
Cross-sectional area of 150mm U-channel	= $(\pi \times R^2 / 2) + R \times R / 2$ = 0.0201 m ²
Gradient	= 0.01
Flow velocity	= 0.616 m/s
Design capacity	= 0.012 m ³ /s > 0.005 m ³ /s
Reserve capacity	= 60%

DRAWING TITLE: DESIGN STATEMENT	DATE: DECEMBER 2025	PREPARED BY:  DeSPACE (International) Limited
DRAWING NO.: FIGURE 3		