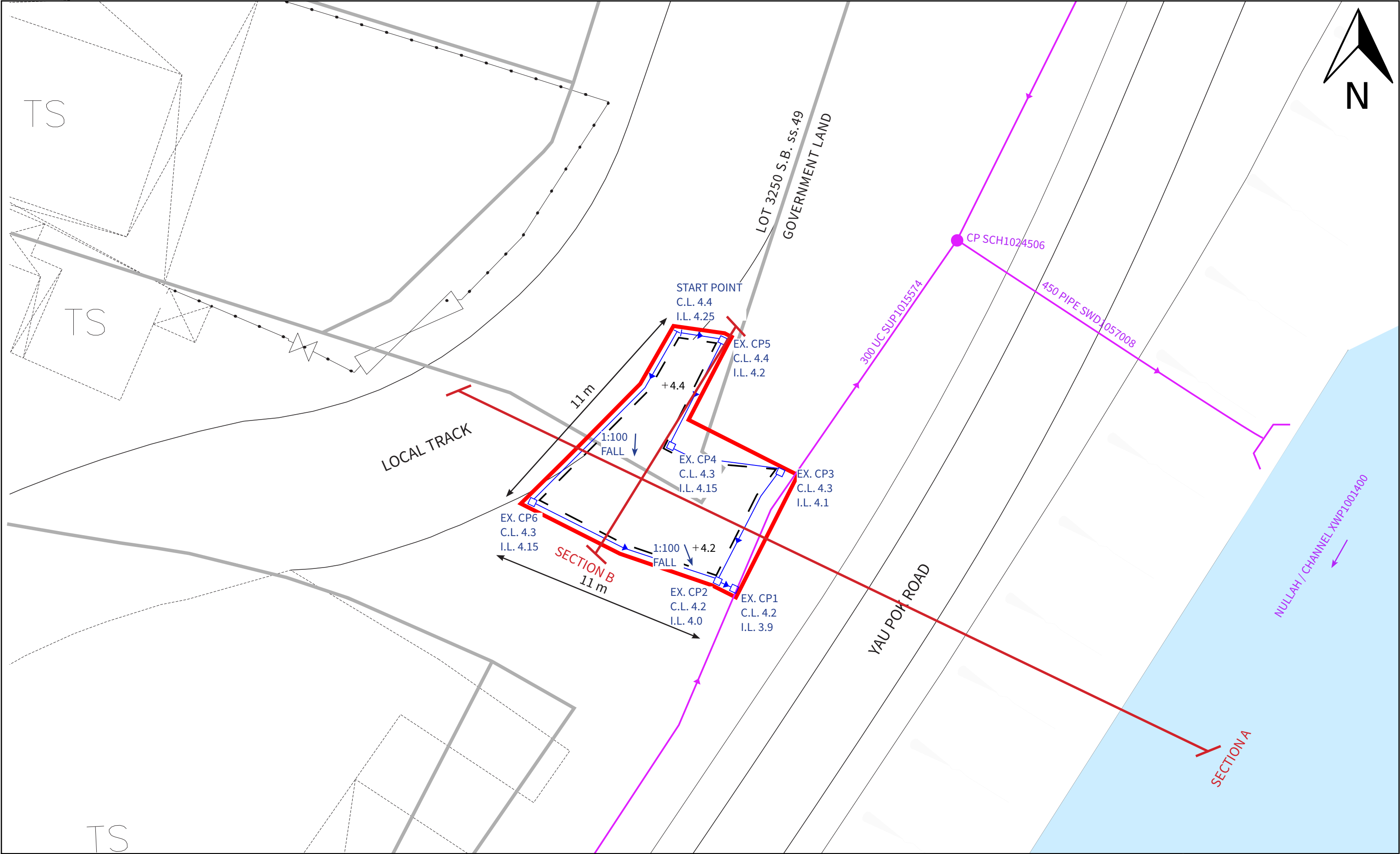
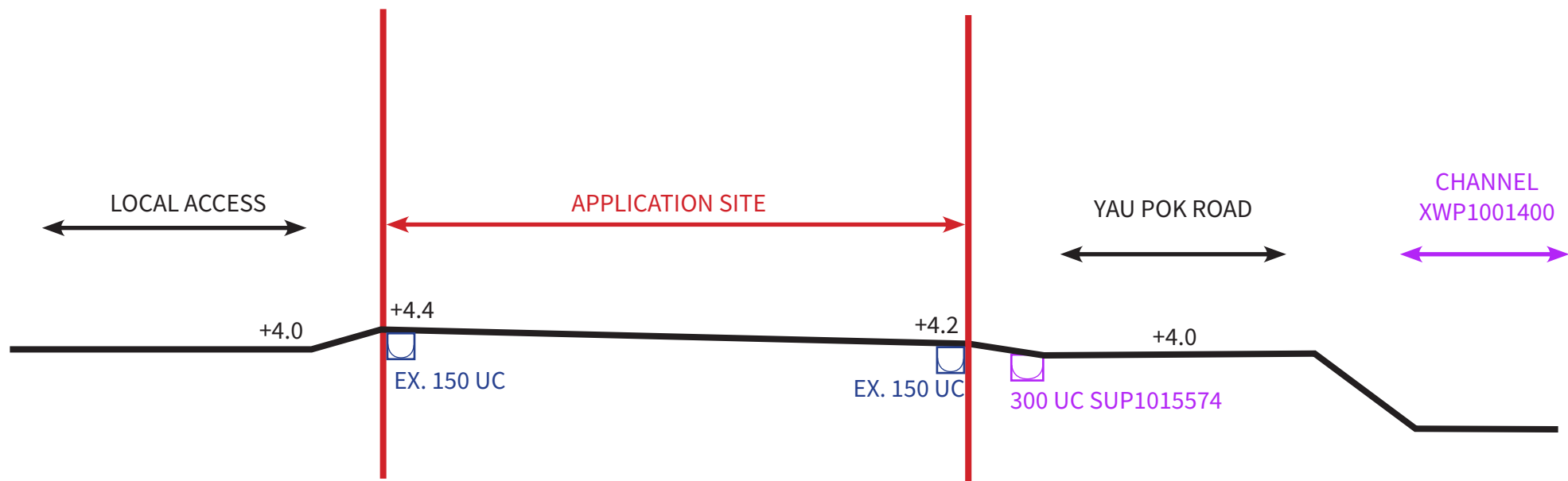


Appendix A

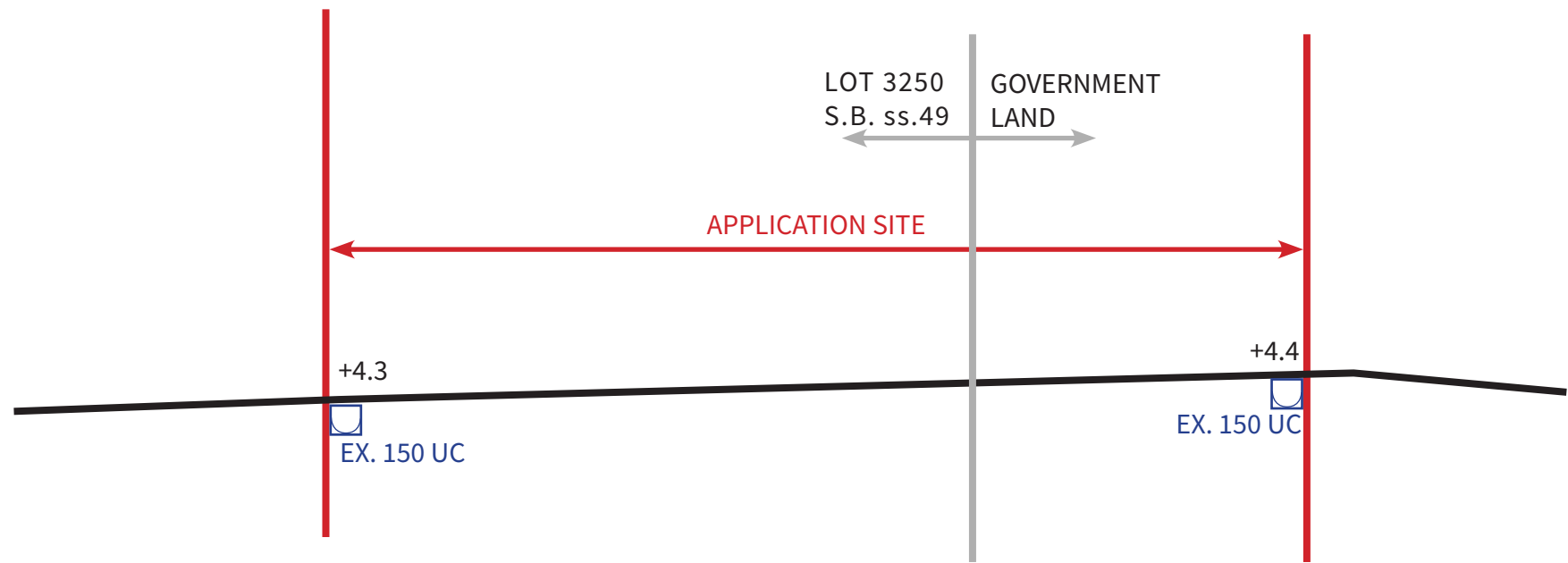
Drainage Proposal




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



SECTION A



SECTION B

DRAWING TITLE: SECTIONAL DIAGRAMS		SCALE: NOT TO SCALE	PREPARED BY:  DeSPACE (International) Limited
DRAWING NO.: FIGURE 2		DATE: DECEMBER 2025	

- 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 m²

Distance between summit and point under consideration L

= 11 m

Time of concertation of natural catchment t_o

= 0.14465 x L / (H^{0.2} x A^{0.1})

= 1.03 min

Length of drain L_j

= 22 m

Velocity V_j

= 0.616 m/s

Flow time t_f

= Σ (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_{50yr}

= a / (t^d + b)c

= 221.174962 mm/hr

= 405.000 mm/hr

Design flow Q

= 0.278 i Σ k A

= 0.005 m³/s

150mm u-channel capacity

Diameter

= 150 mm

Cross-sectional area of 150mm U-channel

= (π x R² / 2) + R x R / 2

= 0.0201 m²

Gradient

= 0.01

Flow velocity

= 0.616 m/s


Design capacity

= 0.012 m³/s

> 0.005 m³/s

Reserve capacity

= 60%

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