

WORKS INSTRUCTION SHEET

WORK DESCRIPTION:

In order to provide electrical reticulation to Stages 7B, 7C, 9A & 9C, refer to Connetics working drawings 107004, HV, LV & SL schematics

1. Install two full kiosks fitted with 200kVA transformers.
2. Lay 11kV and 400V cables
3. Carry out 11kV & 400V cable thru joints
4. Terminate all cables, complete test certificates & label circuits.
5. Liven all Circuits only after clearance from Orion's Contract Manager.
6. Test earthing to ensure compliance.
7. All Work shall comply with Orion NZ Ltd's Design Standards and Specifications
8. Customer service mains to be connected in accordance with the Electrical Safety Regulations.

PREPARED BY: Brenda Cavalcante
DATE PREPARED: 24/11/2025
ORION CONTRACT MANAGER: M. Williams
ORN NUMBER: ORN1008854
WORK ORDER NUMBER:

Cable lengths are indicative only

SUBSTATION DETAILS

Size	Switchgear	CCT	Cable			Comments
			Cable Size	New/Ex	Circuit Destination	
OFF TRENTS RD LOT 111 - C13/1044						
NEW 3K1T MSU			185AI 3C 11kV 185AI 3C 11kV 185AI 3C 11kV 3-25AI 1C 11kV	New New New New	Insulated end Lot 110 Off Trents Rd, Lot 96 cct.52 Off Trents Rd, Lot 1000 cct.52 Local Transformer	Install new full kiosk in Orion title site. Fit with a 3K1T MSU & 200kVA transformer. Earthing to Orion Technical Spec. NW70.59.01
16A	Links	51				Terminate and connect new cable, trifurcated to singles. Label circuit destination
	Links	52				Terminate and connect new cable, trifurcated to singles. Label circuit destination
	Links	53				Terminate and connect new cable, trifurcated to singles. Label circuit destination
	Fuses	54				Install 25mmAI single HV leads between MSU and TX.
NEW 800A DIN TYPE LV PANEL			6mm - 300AI 3C+1 CuNS LV 300AI 3C+1 CuNS LV 4-185Cu 1C LV 300AI 3C+1 CuNS LV 300AI 3C+1 CuNS LV 300AI 3C+1 CuNS LV 300AI 3C+1 CuNS LV - -	New - New New New New New New New -	- Insulated end Lot 110 DB Lot 110 SW Local Transformer Insulated end Lot 109B Off Trents Rd, Lot 96 cct.3 DB Lot 111 NE - -	Install 800Amp LV DIN panel. Fit with 630A incomer and 6 equipped circuits. Install LV monitoring equipment as per NW72.22.22. Install lighting as per NW72.22.20.
Local service	32A fuse	-				Install local service panel UE2.11.4.
-	-	-				Fit cover kit.
630A	500Amp fuses	2				Terminate and connect new cable, label circuit destination.
630A	500Amp fuses	3				Terminate and connect new cable, label circuit destination.
630A	630Amp Links	Incomer				Fit set of leads between transformer LV bushings and LV panel.
630A	500Amp fuses	4				Terminate and connect new cable, label circuit destination.
630A	500Amp fuses	5				Terminate and connect new cable, label circuit destination.
630A	500Amp fuses	6				Terminate and connect new cable, label circuit destination.
-	Not equipped	-				Fit cover kit.
-	Generator Way	Gen.				Fit Generator spare way cover kit.

Street lighting: Install SL panel as per UE1.1.6. Terminate 5 SL pilots & 1 SL cable

OFF TRENTS RD LOT 138 - C13/1042

NEW 3K1T MSU			185AI 3C 11kV 185AI 3C 11kV 185AI 3C 11kV 3-25AI 1C 11kV	New New New New	Insulated end Lot 403 Off Trents Rd, Lot 1000 cct.53 Insulated end Lot 142 Local Transformer	Install new full kiosk in Orion title site. Fit with a 3K1T MSU & 200kVA transformer. Earthing to Orion Technical Spec. NW70.59.01
16A	Links	51				Terminate and connect new cable, trifurcated to singles. Label circuit destination
	Links	52				Terminate and connect new cable, trifurcated to singles. Label circuit destination
	Links	53				Terminate and connect new cable, trifurcated to singles. Label circuit destination
	Fuses	54				Install 25mmAI single HV leads between MSU and TX.
NEW 800A DIN TYPE LV PANEL			6mm - 300AI 3C+1 CuNS LV 300AI 3C+1 CuNS LV 4-185Cu 1C LV 300AI 3C+1 CuNS LV 300AI 3C+1 CuNS LV - -	New - New New New New New New New -	DB Lot 137 Insulated end Lot 403 Local Transformer Off Trents, Lot 146B cct.2 Insulated end Lot 142 -	Install 800Amp LV DIN panel. Fit with 630A incomer and 4 equipped circuits. Install LV monitoring equipment as per NW72.22.22. Install lighting as per NW72.22.20.
Local service	32A fuse	-				Install local service panel UE2.11.4.
-	Not equipped	-				Fit cover kit.
630A	500Amp fuses	2				Terminate and connect new cable, label circuit destination.
630A	500Amp fuses	3				Terminate and connect new cable, label circuit destination.
630A	630Amp Links	Incomer				Fit set of leads between transformer LV bushings and LV panel.
630A	500Amp fuses	4				Terminate and connect new cable, label circuit destination.
630A	500Amp fuses	5				Terminate and connect new cable, label circuit destination.
630A	Not equipped	-				Fit cover kit.
-	Not equipped	-				Fit cover kit.
-	Generator Way	Gen.				Fit Generator spare way cover kit.

Street lighting: Install SL panel as per UE1.1.6. Terminate 4 SL pilots & 1 SL cable

Notes:

ACCEPTED
by Mark Williams on: 04 06 2026, 11:57 am
 **Orion**

Accepted For Construction

Name:
Position:
Date:



Connetics Ltd.
All Rights Reserved
Unauthorised Use Prohibited

ISSUE
A

232 HAMPTONS RD - STAGE 7B, 7C, 9A
& 9C

50 LOT RESIDENTIAL SUBDIVISION



JOB No.

107004

Sheet

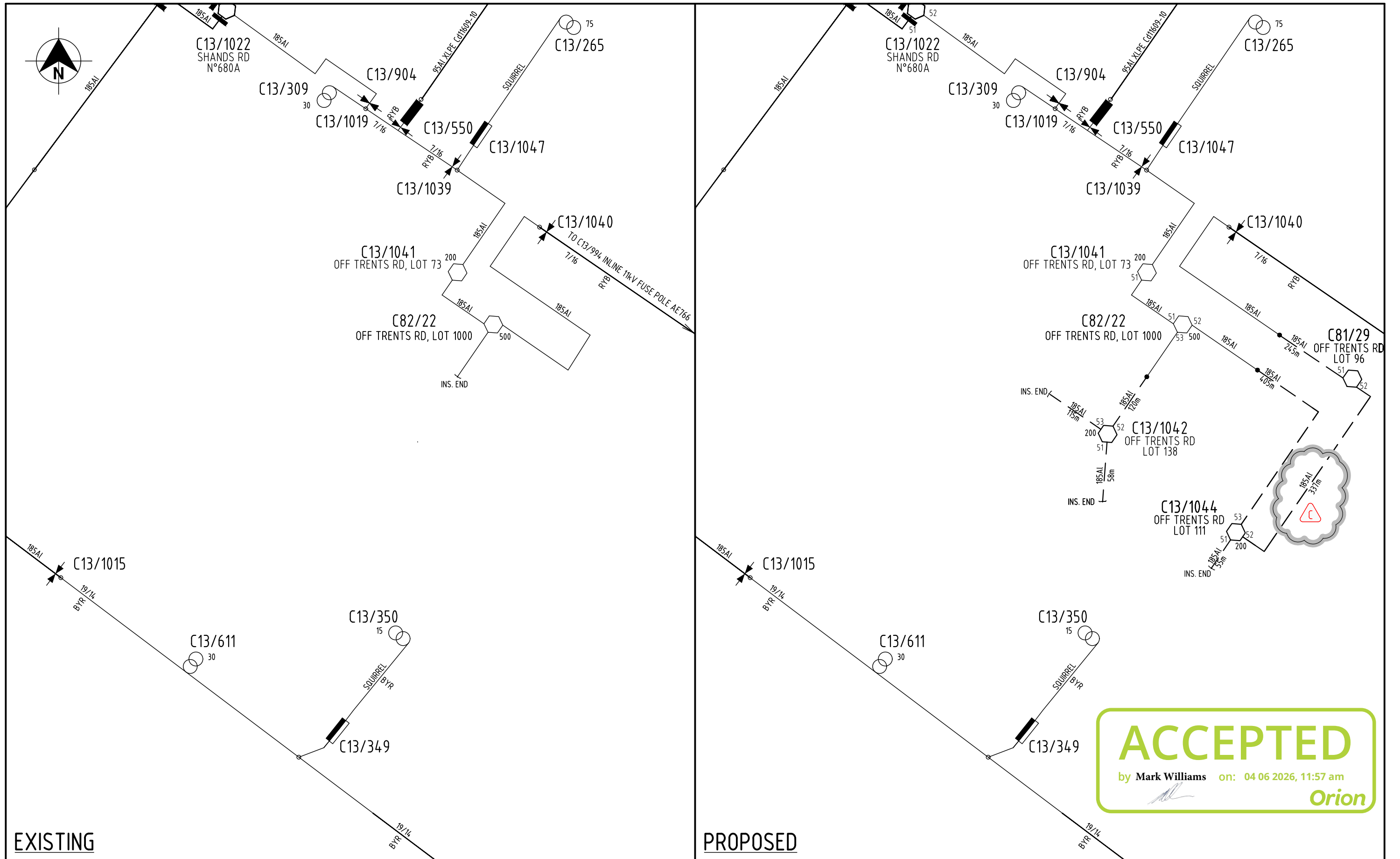
WIS-01

Engineering Design, Connetics Ltd

PO Box 2237 Christchurch New Zealand. Ph. (03) 353 7200

WORKS INSTRUCTION SHEET

OFF TRENTS RD LOT 96 - C81/29										
NEW 2K1T MSU			185AI 3C 11kV 185AI 3C 11kV 3-25AI 1C 11kV	New New New	OH Trents Rd C13/1040 Off Trents Rd, Lot 111 cct.52 Local Transformer	Install new full kiosk in Orion title site. Fit with a 2K1T MSU & 200kVA transformer. Earthing to Orion Technical Spec. NW70.59.01 Terminate and connect new cable, trifurcated to singles. Label circuit destination Terminate and connect new cable, trifurcated to singles. Label circuit destination Install 25mmAI single HV leads between MSU and TX.				
16A	Links	51								
	Links	52								
	Fuses	53								
NEW 800A DIN TYPE LV PANEL			6mm - 300AI 3C+1 CuNS LV 300AI 3C+1 CuNS LV 4-185Cu 1C LV 300AI 3C+1 CuNS LV - - -	New - New New New - - -	Off Trents Rd, Lot 73 cct.4 Off Trents Rd, Lot 111 cct.5 Local Transformer DB Lot 97A - - -	Install 800Amp LV DIN panel. Fit with 630A incomer and 4 equipped circuits. Install LV monitoring Install local service panel UE2.11.4. Fit cover kit. Terminate and connect new cable, label circuit destination. Terminate and connect new cable, label circuit destination. Fit set of leads between transformer LV bushings and LV panel. Terminate and connect new cable, label circuit destination. Spare for future Fit cover kit. Fit cover kit. Fit Generator spare way cover kit.				
Local service	32A fuse	-								
-	Not equipped	-								
630A	Open	2								
630A	Open	3								
630A	630Amp Links	Incomer								
630A	500Amp fuses	4								
630A	Open	5								
630A	Not equipped	-								
-	Not equipped	-								
	Generator Way	Gen.								
Street lighting: Install SL panel as per UE1.1.6. Terminate 4 SL pilots										
OFF TRENTS RD LOT 1000 - C82/22										
EX 3K1T MSU			185AI 3C 11kV 185AI 3C 11kV	Ex Ex	Off Trents Rd, Lot 111 cct.53 Off Trents Rd, Lot 138 cct.52	Ex Kiosk. Relabel circuit destination Relabel circuit destination				
	Links	52								
	Links	53								
EX 800A DIN TYPE LV PANEL						Ex 800Amp LV DIN panel				
630A	500Amp fuses	4	300AI 3C+1 CuNS LV	Ex	Off Trents, Lot 146B cct.3	Relabel circuit destination.				
OFF TRENTS RD LOT 73 - C13/1041										
EX 800A DIN TYPE LV PANEL						Ex 800Amp LV DIN panel				
630A	500Amp fuses	4	300AI 3C+1 CuNS LV	Ex	Off Trents Rd, Lot 96 cct.2	Relabel circuit destination.				
DISTRIBUTION CABINET DETAILS										
Size	Switchgear	CCT	Cable			Comments				
			Cable Size	New/Ex	Circuit Destination					
OFF TRENTS LOT 146B - C81/30										
630A	Links	1	300AI 3C+1 CuNS LV	New	DB Lot 143A	Install new distribution cabinet (M1). Equip 3 ways.				
630A	Links	2	300AI 3C+1 CuNS LV	New	Off Trents Rd Lot 138 cct.4	Terminate and connect new cable, label circuit destination.				
630A	Open	3	300AI 3C+1 CuNS LV	New	Off Trents Rd Lot 1000 cct.4	Terminate and connect new cable, label circuit destination.				
-	Spare	-	-	-	-	Fit cover kit.				
Street lighting: Terminate 3 SL pilots & 1 SL cable										
Notes: ACCEPTED by Mark Williams on: 04 06 2026, 11:57 am Orion				Accepted For Construction			232 HAMPTONS RD - STAGE 7B, 7C, 9A & 9C			
				Name:			50 LOT RESIDENTIAL SUBDIVISION		connetics ALL WAYS CONNECTING	
				Position:						
				Date:			© Connetics Ltd. All Rights Reserved Unauthorised Use Prohibited		ISSUE B	
						JOB No.		Sheet		
						107004		WIS-02		

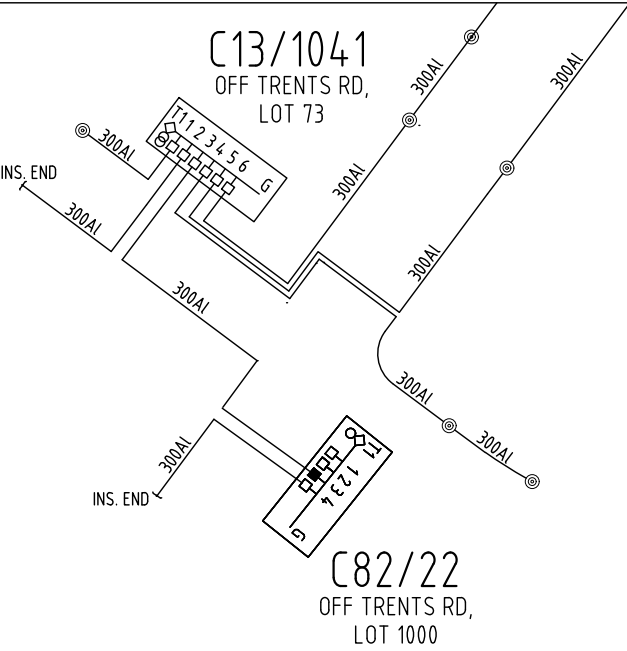


ACCEPTED
by Mark Williams on: 04 06 2026, 11:57 am
Orion

ISSUE	DESCRIPTION	DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED
A	ORIGINAL ISSUE	03/11/25	B.C.	B.C.	M.O	DESIGNED	B. CAVALCANTE		16/06/25
B	KIOSK MOVED TO NORTH OF LOT 96	24/11/25	B.C	B.C	M.O	DRAWN	B. CAVALCANTE		16/06/25
C	HV CABLE RELOCATED	03/06/26	B.C	B.C	M.O	CHECKED	M. OPHUIS		03/11/25
						APPROVED			
						ORN1008854	CONNETICS LIMITED: ALL RIGHTS RESERVED UNAUTHORISED USE PROHIBITED		C

232 HAMPTONS RD-STAGES 7B, 7C, 9A & 9C		 ALL WAYS CONNECTING	
50 LOT RESIDENTIAL SUBDIVISION HV SCHEMATICS - EXISTING/PROPOSED			
SCALE(SIZE)	DRAWING NO.	SHEET	
NTS (A3)	107004	HV-01	

EXISTING



ACCEPTED

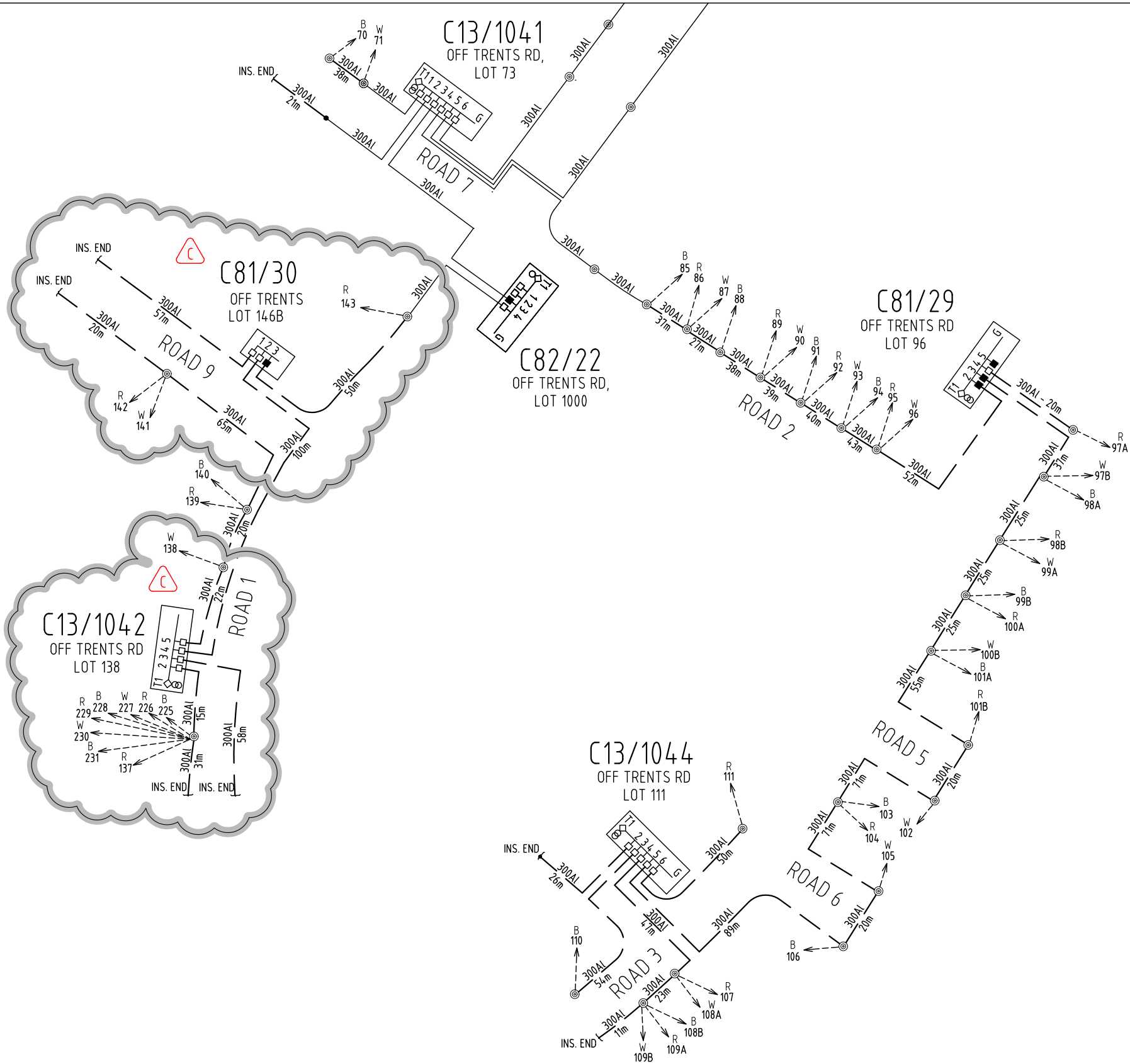
by Mark Williams on: 04 06 2026, 11:57 am

 Orion

ISSUE	DESCRIPTION	DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED	232 HAMPTONS RD-STAGE 7B, 7C, 9A & 9C RESIDENTIAL SUBDIVISION LV SCHEMATICS - EXISTING	 ALL WAYS CONNECTING	
A	ORIGINAL ISSUE	03/11/25	B.C	B.C	M.O	DESIGNED	B. CAVALCANTE		18/06/25			
						DRAWN	B.CAVALCANTE		18/06/25			
						CHECKED	M. OPHUIS		03/11/25			
						APPROVED						
						ORN1008854	 CONNETICS LIMITED. ALL RIGHTS RESERVED UNAUTHORISED USE PROHIBITED		A			
										SCALE(SIZE)	DRAWING NO.	SHEET
										NTS(A3)	107004	LV-01

PROPOSED

50 NEW CONNECTIONS



ACCEPTED

by Mark Williams on: 04 06 2026, 11:57 am

Orion

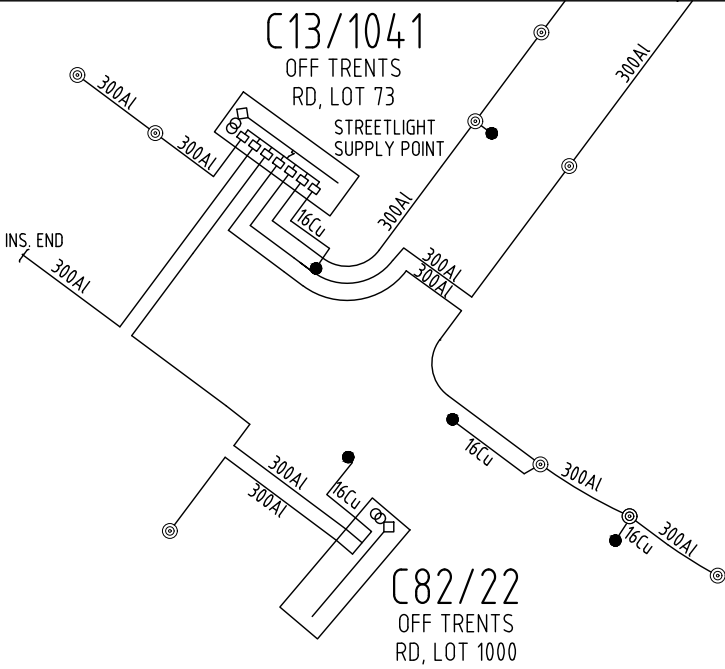
ISSUE	DESCRIPTION	DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED
A	ORIGINAL ISSUE	03/11/25	B.C	B.C	M.O	DESIGNED	B. CAVALCANTE		18/06/25
B	KIOSK MOVED TO NORTH OF LOT 96	24/11/25	B.C	B.C	M.O	DRAWN	B. CAVALCANTE		18/06/25
C	SL LOCATIONS UPDATED, STAGE 9C MODIFIED & STAGE 13 ADDED	03/06/26	B.C	B.C	M.O	CHECKED	M. OPHUIS		03/11/25
						APPROVED			
						ORN1008854	 CONNETICS LIMITED. ALL RIGHTS RESERVED UNAUTHORISED USE PROHIBITED		C

232 HAMPTONS RD-STAGE 7B, 7C, 9A & 9C

RESIDENTIAL SUBDIVISION
LV SCHEMATICS - PROPOSED

 ALL WAYS CONNECTING		
SCALE(SIZE)	DRAWING NO.	SHEET
NTS(A3)	107004	LV-02

EXISTING



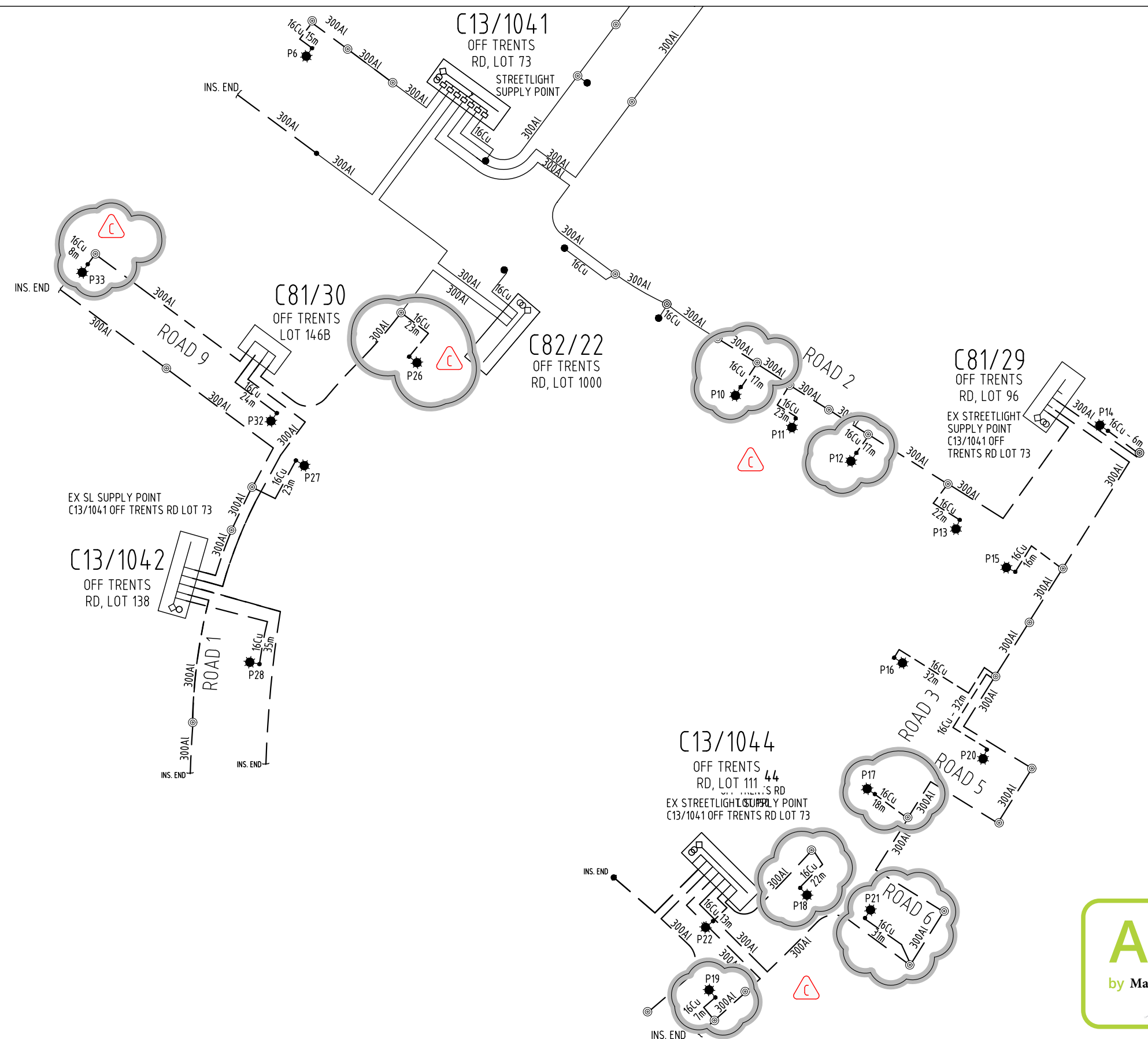
ACCEPTED

by Mark Williams on: 04 06 2026, 11:57 am

Orion

ISSUE	DESCRIPTION	DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED	232 HAMPTONS RD-STAGE 7B, 7C, 9A & 9C	 ALL WAYS CONNECTING	RESIDENCIAL SUBDIVISION SL SCHEMATICS - EXISTING	SCALE(SIZE)	DRAWING NO.	SHEET
A	ORIGINAL ISSUE	03/11/25	B.C	B.C	M.O	DESIGNED	B. CAVALCANTE		18/06/25				NTS(A3)	107004	SL-01
						DRAWN	B.CAVALCANTE		18/06/25						
						CHECKED	M.OPHUIS		03/11/25						
						APPROVED									
						ORN1008854	 CONNETICS LIMITED. ALL RIGHTS RESERVED UNAUTHORISED USE PROHIBITED		A						

PROPOSED

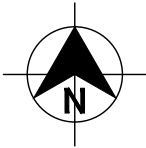
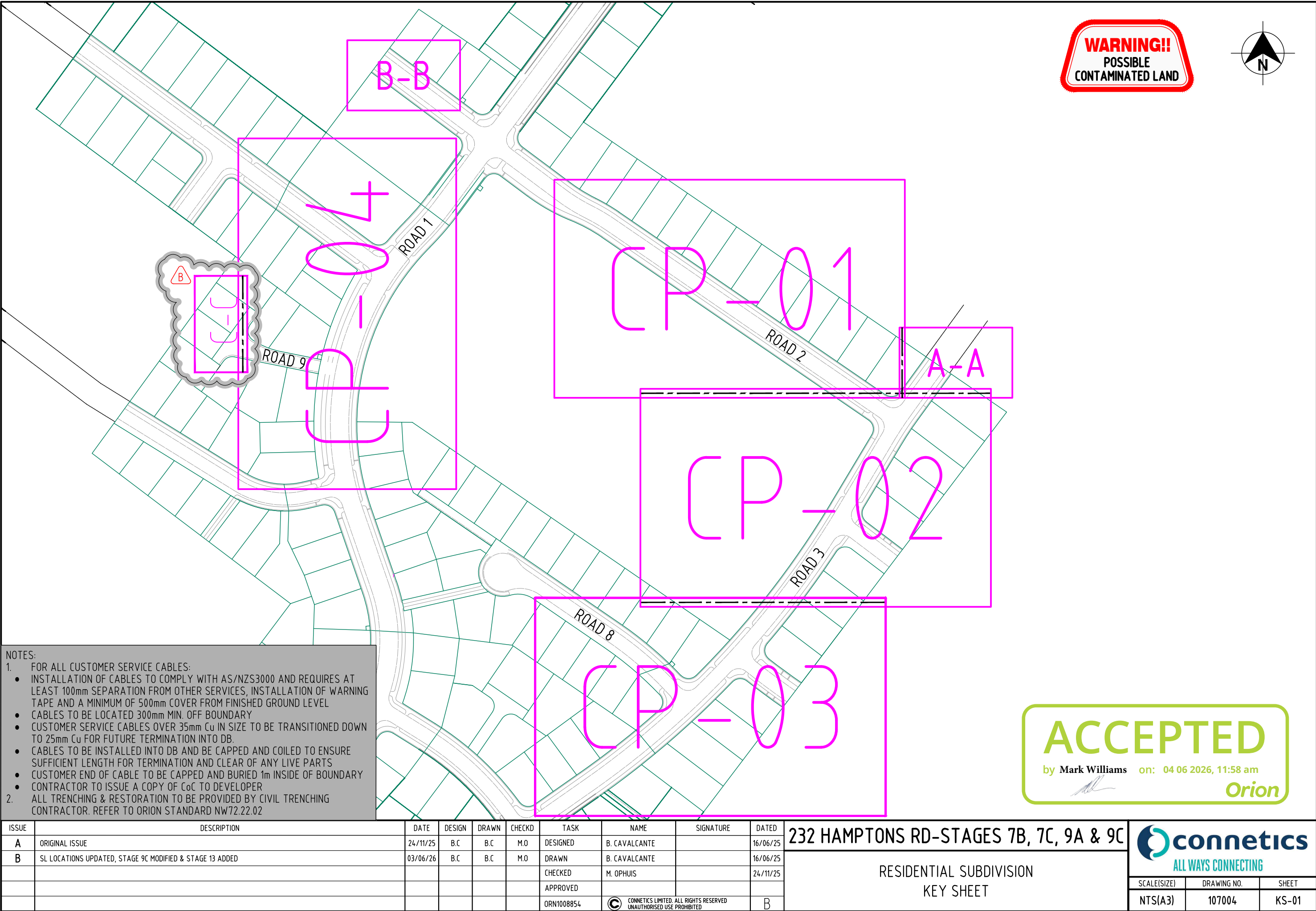


ACCEPTED
by Mark Williams on: 04 06 2026, 11:57 am
Orion

ISSUE	DESCRIPTION	DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED
A	ORIGINAL ISSUE	03/11/25	B.C	B.C	M.O	DESIGNED	B. CAVALCANTE		18/06/25
B	KIOSK MOVED TO NORTH OF LOT 96	24/11/25	B.C	B.C	M.O	DRAWN	B. CAVALCANTE		18/06/25
C	SL LOCATIONS UPDATED, STAGE 9C MODIFIED & STAGE 13 ADDED	03/06/26	B.C	B.C	M.O	CHECKED	M.OPHUIS		03/11/25
						APPROVED			
						ORN1008854	CONNETICS LIMITED. ALL RIGHTS RESERVED UNAUTHORISED USE PROHIBITED		C

232 HAMPTONS RD-STAGE 7B, 7C, 9A & 9C
RESIDENTIAL SUBDIVISION
SL SCHEMATICS - PROPOSED

		
SCALE(SIZE)	DRAWING NO.	SHEET
NTS(A3)	107004	SL-02



NOTES:

1. FOR ALL CUSTOMER SERVICE CABLES:

- INSTALLATION OF CABLES TO COMPLY WITH AS/NZS3000 AND REQUIRES AT LEAST 100mm SEPARATION FROM OTHER SERVICES, INSTALLATION OF WARNING TAPE AND A MINIMUM OF 500mm COVER FROM FINISHED GROUND LEVEL
- CABLES TO BE LOCATED 300mm MIN. OFF BOUNDARY
- CUSTOMER SERVICE CABLES OVER 35mm Cu IN SIZE TO BE TRANSITIONED DOWN TO 25mm Cu FOR FUTURE TERMINATION INTO DB.
- CABLES TO BE INSTALLED INTO DB AND BE CAPPED AND COILED TO ENSURE SUFFICIENT LENGTH FOR TERMINATION AND CLEAR OF ANY LIVE PARTS
- CUSTOMER END OF CABLE TO BE CAPPED AND BURIED 1m INSIDE OF BOUNDARY
- CONTRACTOR TO ISSUE A COPY OF CoC TO DEVELOPER

2. ALL TRENCHING & RESTORATION TO BE PROVIDED BY CIVIL TRENCHING CONTRACTOR. REFER TO ORION STANDARD NW72.22.02

ACCEPTED

by Mark Williams on: 04 06 2026, 11:58 am

Orion

ISSUE	DESCRIPTION	DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED
A	ORIGINAL ISSUE	24/11/25	B.C	B.C	M.O	DESIGNED	B. CAVALCANTE		16/06/25
B	SL LOCATIONS UPDATED, STAGE 9C MODIFIED & STAGE 13 ADDED	03/06/26	B.C	B.C	M.O	DRAWN	B. CAVALCANTE		16/06/25
						CHECKED	M. OPHUIS		24/11/25
						APPROVED			
						ORN1008854	CONNETICS LIMITED. ALL RIGHTS RESERVED UNAUTHORISED USE PROHIBITED		B

232 HAMPTONS RD-STAGES 7B, 7C, 9A & 9C

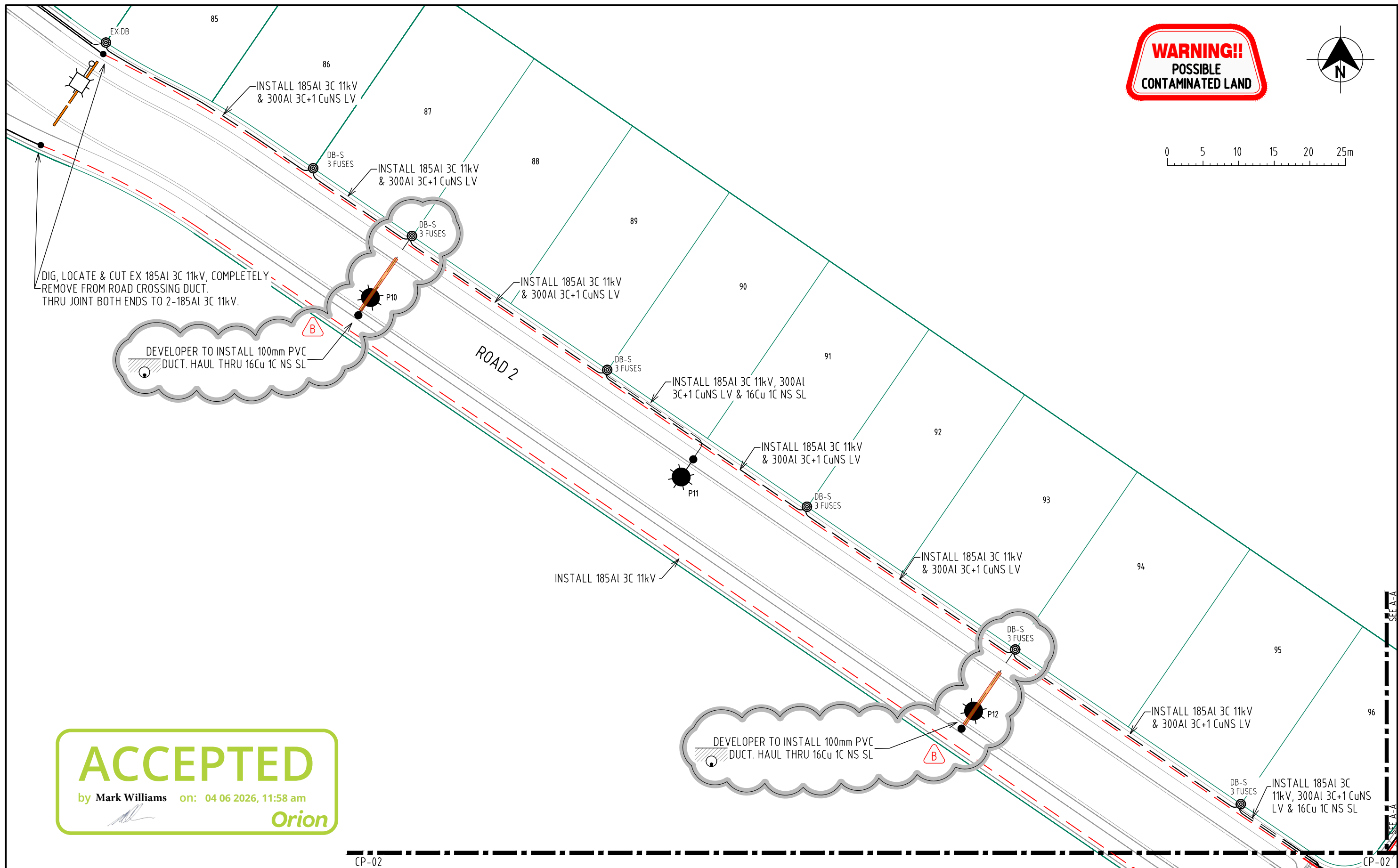
RESIDENTIAL SUBDIVISION

KEY SHEET



ALL WAYS CONNECTING

SCALE(SIZE)	DRAWING NO.	SHEET
NTS(A3)	107004	KS-01



ACCEPTED
by Mark Williams on: 04 06 2026, 11:58 am
Orion

ISSUE	DESCRIPTION	DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED
A	ORIGINAL ISSUE	03/11/25	B.C	B.C	M.O	DESIGNED	B. CAVALCANTE		16/06/25
B	SL LOCATIONS UPDATED	03/06/26	B.C	B.C	M.O	DRAWN	B. CAVALCANTE		16/06/25
						CHECKED	M. OPHUIS		03/11/25
						APPROVED			
						ORN1008854	CONNETICS LIMITED. ALL RIGHTS RESERVED UNAUTHORISED USE PROHIBITED		B

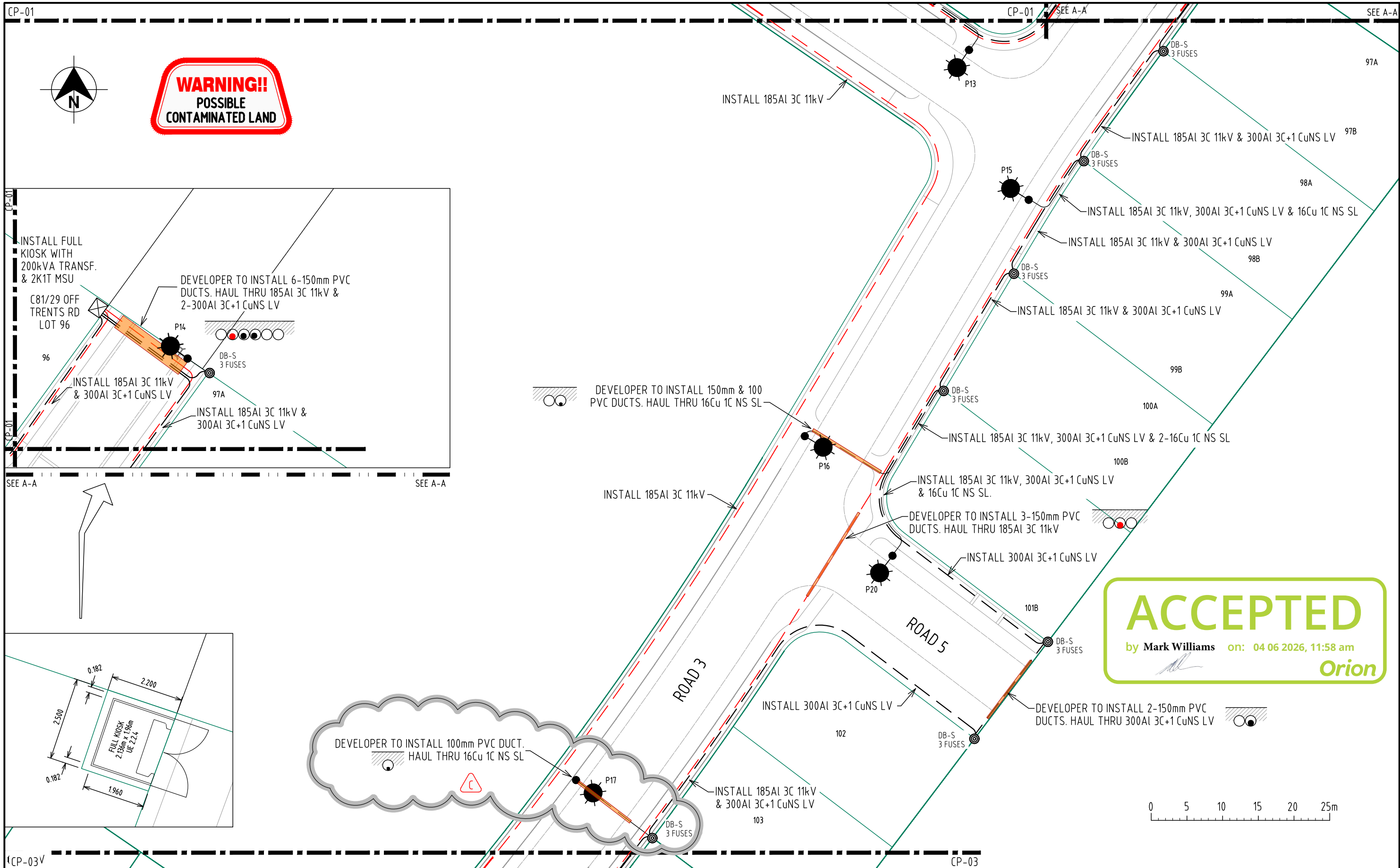
232 HAMPTONS RD-STAGES 7B, 7C, 9A, 9C

RESIDENTIAL SUBDIVISION
CABLE PLAN



ALL WAYS CONNECTING

SCALE(SIZE)	DRAWING NO.	SHEET
1:500(A3)	107004	CP-01



ISSUE	DESCRIPTION	DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED
A	ORIGINAL ISSUE	03/11/25	B.C	B.C	M.O	DESIGNED	B. CAVALCANTE		16/06/25
B	KIOSK MOVED TO NORTH OF LOT 96	24/11/25	B.C	B.C	M.O	DRAWN	B. CAVALCANTE		16/06/25
C	SL LOCATIONS UPDATED	03/06/26	B.C	B.C	M.O	CHECKED	M. OPHUIS		24/11/25
						APPROVED			
						ORN1008854			

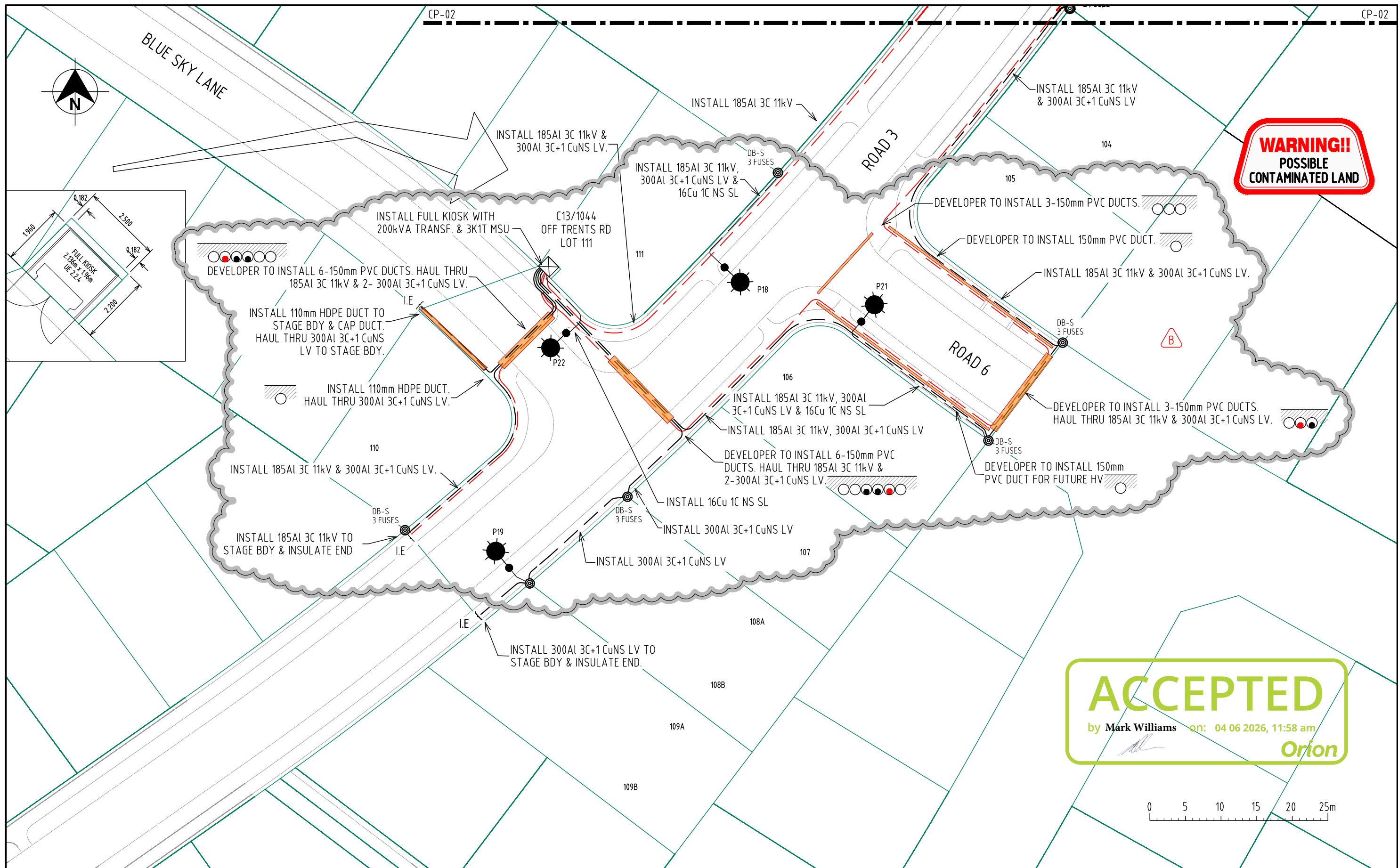
232 HAMPTONS RD-STAGE 7B, 7C, 9A & 9C

RESIDENTIAL SUBDIVISION
CABLE PLAN



ALL WAYS CONNECTING

SCALE(SIZE)	DRAWING NO.	SHEET
1:500(A3)	107004	CP-02



ISSUE	DESCRIPTION	DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED	232 HAMPTONS RD-STAGE 7B, 7C, 9A & 9C	 ALL WAYS CONNECTING			
A	ORIGINAL ISSUE	03/11/25	B.C	B.C	M.O	DESIGNED	B. CAVALCANTE		16/06/25					
B	SL LOCATIONS UPDATED & HV CABLE RELOCATED	03/06/26	B.C	B.C	M.O	DRAWN	B. CAVALCANTE		16/06/25					
						CHECKED	M. OPHUIS		03/11/25					
						APPROVED								
						ORN1008854	 CONNETICS LIMITED. ALL RIGHTS RESERVED UNAUTHORISED USE PROHIBITED		B	RESIDENTIAL SUBDIVISION CABLE PLAN				
												SCALE(SIZE)	DRAWING NO.	SHEET
												1:500(A3)	107004	CP-03

Hazard Register

 Design Hazard Assessment Register (HAZID)					Prepared By: Brenda Cavalcante		Date: 3 November 2025 Document: HAR-1 Status: Design REV A						
					Reviewed By: Mark Ophuis								
					HAZID Phase: Detailed Design (Includes Modifications)								
Project: 107004 - 232 Hamptons Rd - Stage 7B, 7C, 9A & 9C													
Identified Hazards, Causes & Risks Associated with Design/Redesign of new or existing Assets and/or Introduction of New Asset Types, or a change to the Operating Conditions of Assets					Proposed Risk Treatment/Mitigation Measures & Residual Risk Ratings							Notes to Residual Risk (Which Must be So Far As Is Reasonably Practicable and Manageable)	
ID	Risk/Hazard & Cause - Inherent & Without Any Form of Mitigation	Inherent Consequence	Inherent Likelihood	Inherent Risk Rating	Risk Owner	Proposed Mitigation (Eliminate or Minimise/Control) - Include Existing & Proposed Mitigation Measures	Revised Consequence	Revised Likelihood	Residual Risk Rating	Estimated Cost of Mitigation (\$)	Cost of Mitigation Disproportionate to Risk?	Risk Owner	Notes to Residual Risk
A - Planning & Conceptual Design													
A1		Minor	Rare	Low	N/A		Minor	Rare	Low	N/A	N/A	N/A	
B - Detailed Design (Includes Modifications)													
B1	Possible contaminated ground within work area	Moderate	Possible	Medium	Consultant	Consultant to note on drawings	Moderate	Rare	Low	N/A	No	Consultant	
C - Construction & Commissioning													
C1	Possible contaminated ground within work area	Moderate	Possible	Medium	Contractor	Contractor to take appropriate measures to ensure appropriate precautions are taken. i.e. PPE	Minor	Possible	Low	N/A	No	Contractor	
D - Operation & Maintenance													
D1	Possible contaminated ground within work area	Moderate	Possible	Medium	Contractor	Contractor to take appropriate measures to ensure appropriate precautions are taken. i.e. PPE	Minor	Possible	Low	N/A	No	Contractor	
E - Decommission & Disposal													
E1		Minor	Rare	Low	N/A		Minor	Rare	Low	N/A	N/A	N/A	
Notepad - Use this space to describe the Project, any further information that cannot be described in the hazards above, and any other information that is important to document as part of the Safety in Design assessment													



APPENDIX A: DESIGN STATEMENT OF ENVIRONMENTAL COMPLIANCE

Work Order:		
Work Title:	107004 - 232 Hamptons Rd - Stage 7B, 7C, 9A & 9C	
Are the proposed earthworks:	Yes/No (circle one)	
1. Excluded under the global earthworks consent (refer section 4.1 and 4.2)?	Yes / No	
2. In a Ground Contamination Risk Area?	Yes / No	
3. In an Archaeology Area?	Yes / No	
4. In a Cultural Significance Area?	Yes / No	
5. Within 10m to the bed of a waterway identified as a Critical Habitat?	Yes / No	
Where any of the above questions 2 – 5 have been ticked 'yes', has the proposed management / controls to proceed with works been accepted by Orion?	Yes / No	
The design submitted to Orion complies with the Global Earthworks Consents requirements.		
Name:	Brenda Cavalcante	
Signed:	<i>Brenda Cavalcante</i>	
Company:	Connetics Ltd	
Date:	03/11/2025	

Issue Date 26.06.2020 NW70.10.31 Next Review 26.06.2025 24 of 39 Amendment 0



Build Quotation for electrical reticulation at:
232 Hamptons Rd Stage 7B, 7C, 9A & 9C
Urban Estates
c/o Ben Fox (DLS)
email: Ben.Fox@dls.co.nz

FROM ORION AUTHORISED ELECTRICAL CONTRACTOR:

Refer to the Orion accepted Connetics design dwg 107004 shts CP-01, CP-02, CP-03 & CP-04 Work instruction sheets and schematics.

Quotation required by: _____

Schedule of prices:

1) 11kV CABLES & JOINTING

Supply and install 11kV cable, jointing and terminations
HV programs, cable tests, certification and livening

2) LV RETICULATION, CABLES & JOINTING

Supply and install cables, distribution cabinets and distribution boxes
Cable terminations and jointing (include all SL cables)
Test and LVA

3) STREET LIGHTS

Refer to Spunlite street light design dwg 400332
Install 19 street lights, including livening and associated documentation

4) SUBSTATIONS

Install three full kiosks, refer to WIS. Include earthing.
Test earthing to ensure compliance.

5) CUSTOMER SERVICE CABLES

Lay in customer service cables (25Cu 1C, 35Cu 1C & 70Al 1C) into new DB and terminate.

TOTAL (EXCLUDES GST)

NOTES:
Allow for as built cable recording, to be sent directly to Orion.
All trenching and restoration provided by the Developer except where identified.
Assume Temporary Traffic Management is the responsibility of others□

Designer:	Brenda Cavalcante	Date:	03/06/2026
Design number:	107004	Job name:	232 HAMPTONS RD-STAGE 7B, 7C, 9A & 9C
Approx. start date:		Developer:	
Orions Contract	ORN1008854	Design/Build:	
Orion Contact	Mark Williams	Design Only:	Yes

These quantity estimations are based on the CAD file and are for pricing purposes only. Actual quantities may vary on site.

Stock number	Description	Quantity (m)	Special requirements
1003401	6mm Cu 2ph NS LV	0	
1003402	16mm Cu 1ph NS LV	386	
1003403	16mm Cu 2ph NS LV	0	
1003404	16mm Cu 3ph NS LV	0	
1003405	25mm Cu 1ph NS LV	118	
1003406	25mm Cu 3ph NS LV	0	
1001995	35mm Cu 1ph NS LV	46	
1003407	35mm Cu 3ph NS LV	0	
1008940	70mm Al 1C NS LV	279	
1002009	95mm Al 1C NS LV	0	
1003397	120mm Ali 3ph NS +10mm LV	0	
1003398	185mm Ali 3ph NS +10mm LV	0	
1003399	300mm Ali 3ph NS +10mm LV	1442	
1003400	400mm 1c Cu XLPE	0	
1003383	25mm 1c XLPE 11KV	0	
1003384	35mm Ali 3ph XLPE 11KV	0	
1003386	95mm Ali 3ph XLPE 11KV	0	
1003387	185mm Ali 3ph XLPE 11KV	1335	
1003390	300mm Ali 3ph XLPE 11KV	0	
1009939	400mm Cu 3ph XLPE 11KV	0	
1003389	185mm 1c Cu 11KV	0	
1006345	95mm 1c AL XLPE 11KV	0	
1003394	300Al 1c 33kV	0	
1003423	25pr 0.9mm PAC PE SWA	0	
1003422	7pr 0.9mm PAC PE SWA	0	
1007115	Distribution Box S - 6 way	25	
1007156	Distribution Box T - 9 way	1	
1012372	DB-U (replaces DB-S & DB-T)	0	
1012376	DB-V (replaces DB-T1)	0	
1001152	Multi Box DC	1	
1000128	Full kiosk	3	
1000129	Half kiosk	0	
1000130	Quarter kiosk	0	

Engineering Design, Connetics Ltd				DOCUMENT TRANSMITTAL SHEET							
PO Box 2237 Christchurch New Zealand. Ph. (03) 353 7200										ORN1008855	
DRAWING ISSUE DETAILS											
				DATE	2/06/26						
DWG No.	SHEET	DRAWING DETAIL	ISSUE								
108016	WIS-1	Work Instruction Sheet	A								
108016	HV-1	HV Schematics - Existing/ Proposed	A								
108016	LV-1	LV Schematics - Existing/ Proposed	A								
108016	SL-1	SL Schematics - Existing/ Proposed	A								
108016	CP-1	Cable Plan	A								
108016	CP-2	Cable Plan	A								
		Pricing Sheet									
	HAR-1	HAZID	A								
		Design Statement of Environmental Compliance									
	400332	SL Design	E								
Notes:				232 HAMPTONS RD - STAGES 8 & 9B							
ACCEPTED by Peter Johnson on: 05 08 2026, 07:39 am  Orion											
				RESIDENTIAL SUBDIVISION				JOB No.	SHEET		
				108016				1 OF 1			

WORKS INSTRUCTION SHEET

PO Box 2237 Christchurch New Zealand. Ph. (03) 353 7200

WORK DESCRIPTION:

In order to provide electrical reticulation to 232 Hamptons Rd, refer to Connetics working drawings 108016, HV, LV & SL schematics

1. Install a 1 kiosk fitted with a 200kVA transformer
2. Lay 11kV and 400V cables
3. Carry out 11kV & 400V cable thru joints
4. Terminate all cables, complete test certificates & label circuits.
5. Liven all Circuits only after clearance from Orion's Contract Manager.
6. Test earthing to ensure compliance.
7. All Work shall comply with Orion NZ Ltd's Design Standards and Specifications
8. Customer service mains to be connected in accordance with the Electrical Safety Regulations.

PREPARED BY: B. Cavalcante
DATE PREPARED: 2/06/2026
ORION CONTRACT MANAGER: Peter Johnson
ORN NUMBER: ORN1008855
WORK ORDER NUMBER: -

SUBSTATION DETAILS

Size	Switchgear	CCT	Cable Cable Size	New/Ex	Circuit Destination	Comments
MAINHAMPTON RD LOT 131- C82/35						
NEW 3K1T MSU						Install new full kiosk in Orion tittle site. Fit with a 3K1T MSU, a 200kVA transformer. Earthing to Orion Technical Spec. NW70.59.01
	Open	51	-	-	-	Install tubes and retainers
	Open	52	-	-	-	Install tubes and retainers
	Links	53	185Al 3C 11kV	New	Off trents Rd Lot 138 cct.51	Terminate and connect new cable, trifurcated to singles. Label circuit destination
16A	Fuses	54	3-25Al 1C 11kV	New	Local Transformer	Install 25mmAl single HV leads between MSU and TX.
NEW 800A DIN TYPE LV PANEL						Install 800Amp LV DIN panel. Fit with 630A incomer and 4 outgoing circuits. Install LV monitoring equipment as per NW72.22.22. Install lighting as per NW72.22.20
Local service	32A fuse		6mm	New		Install local service panel UE2.11.4.
-	Not equipped	-	-	-	-	Fit cover kit.
630A	Open	2	-	-	-	Spare for future..
630A	355Amp fuses	3	185Al 3C+1 CuNS LV	New	DB at lot 153	Terminate and connect new cable, label circuit destination.
630A	630Amp Links	Incomer	4-185Cu 1C LV	New	Local Transformer	Fit set of leads between transformer LV bushings and LV panel.
630A	Open	4	185Al 3C+1 CuNS LV	New	Off trents Rd Lot 138 cct.3	Terminate and connect new cable, label circuit destination.
630A	Open	5	185Al 3C+1 CuNS LV	New	Off trents Rd Lot 138 cct.2	Terminate and connect new cable, label circuit destination.
-	Not equipped	-	-	-	-	Fit cover kit.
-	Not equipped	-	-	-	-	Fit cover kit.
	Generator Way	Gen.				Fit Generator spare way cover kit.

Street lighting: Install SL panel as per UE1.1.6 & terminate 1 SL cable & 2 5th cores.

OFF TRENTS RD 138 - C13/1042

Existing MSU						Ex MSU and 200kVA transformer
	Links	51	185Al 3C 11kV	Ex	Mainhamptons Rd lot 131 cct.51	Relabel circuit destination
Existing LV PANEL						Existing LV DIN panel.
630A	355Amp fuses	2	300Al 3C+1 CuNS LV	Ex	Mainhamptons Rd lot 131 cct.5	Relabel circuit destination. Note: Fused for 185Al cable.
630A	355Amp fuses	3	300Al 3C+1 CuNS LV	Ex	Mainhamptons Rd lot 131 cct.4	Relabel circuit destination. Note: Fused for 185Al cable.

OFF TRENTS RD 111 - C13/1044

Existing LV PANEL						Existing LV DIN panel.
630A	Open	1	185Al 3C+1 CuNS LV	New	Off Trents Rd cct.111 cct.2	Relabel circuit destination
630A	355Amp fuses	2	300Al 3C+1 CuNS LV	Ex	Off Trents Rd cct.111 cct.1	Relabel circuit destination. Note: Fused for 185Al cable.

Notes:

ACCEPTED

by Peter Johnson on: 05 08 2026, 07:39 am

Peter Johnson

Orion

Accepted For Construction

Name:

Position:

Date:



Connetics Ltd.
All Rights Reserved
Unauthorised Use Prohibited

ISSUE
A

232 HAMPTONS RD - STAGES 8 & 9B

RESIDENTIAL SUBDIVISION

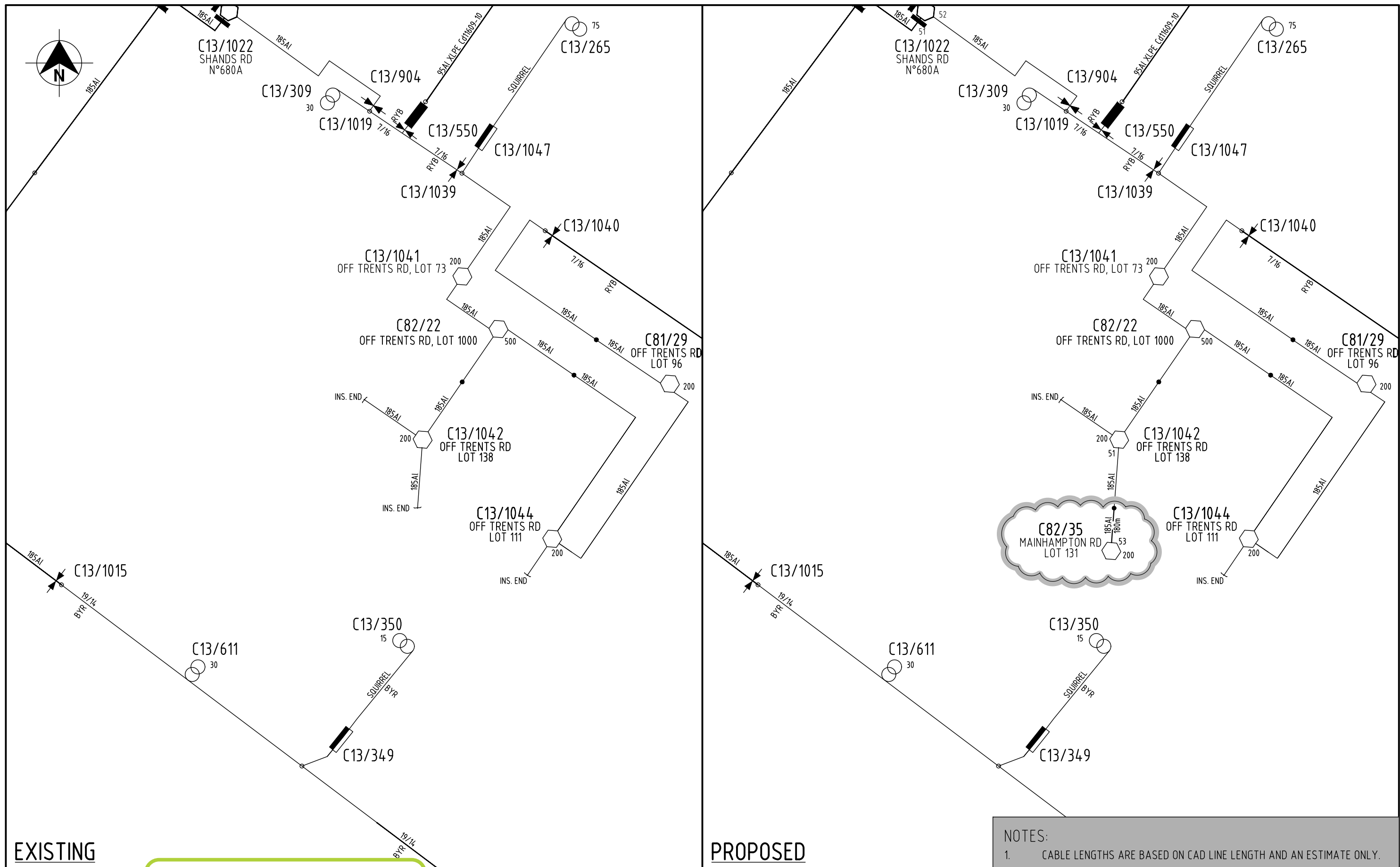


JOB No.

108016

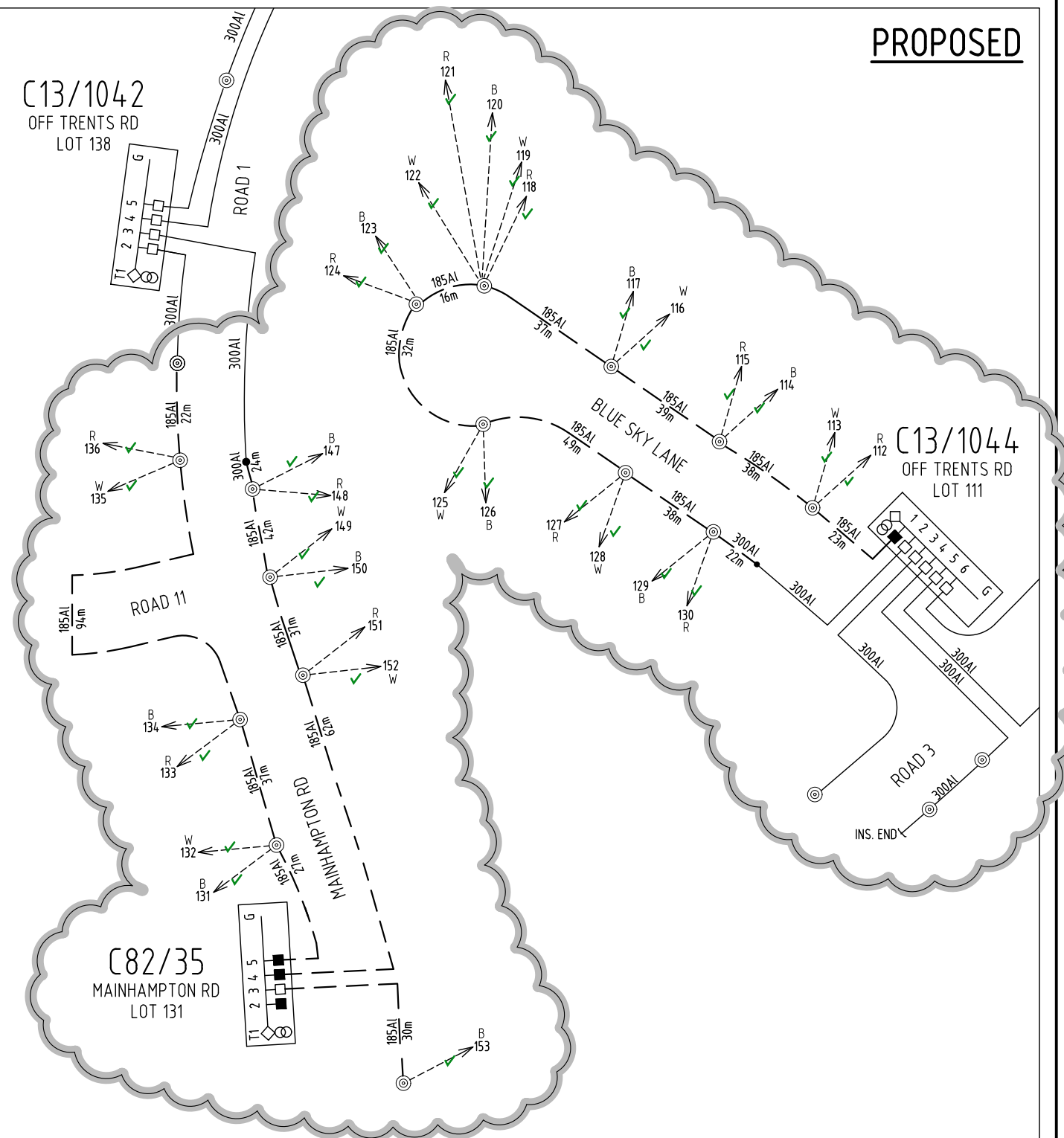
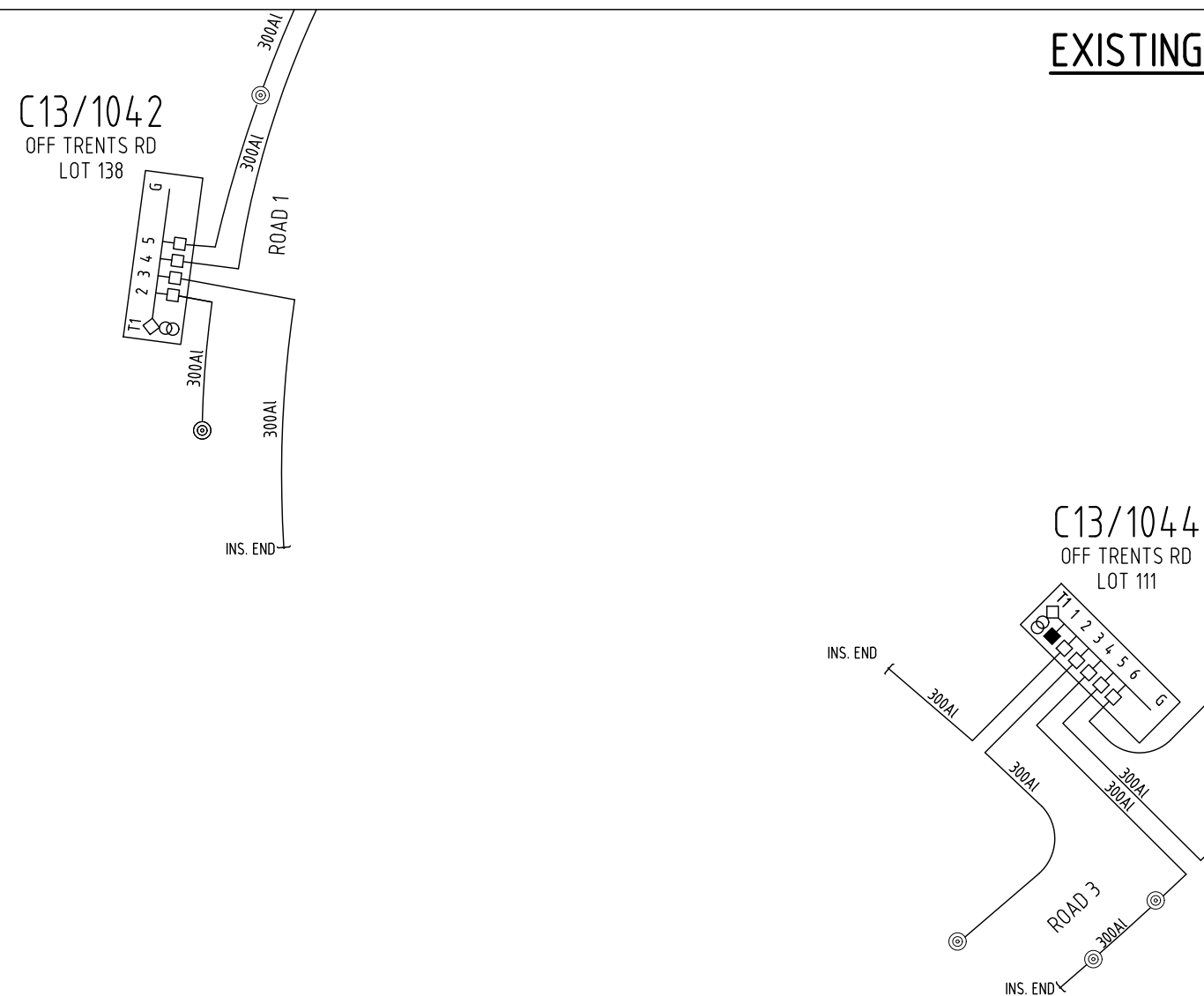
Sheet

WIS-1



NOTES:
1. CABLE LENGTHS ARE BASED ON CAD LINE LENGTH AND AN ESTIMATE ONLY.

ISSUE		DESCRIPTION		DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED	232 HAMPTONS RD - STAGES 8 & 9B			connetics ALL WAYS CONNECTING		
A	ORIGINAL ISSUE	ACCEPTED by Peter Johnson on: 05 08 2026, 07:39 am Orion		02/06/26	B.C.	B.C.	R.P.	DESIGNED	B. CAVALCANTE		25/05/26	RESIDENTIAL SUBDIVISION HV SCHEMATICS - EXISTING/PROPOSED					
								DRAWN	B. CAVALCANTE		25/05/26				NTS (A3)	108016	HV-01
								CHECKED	R. PARKES		02/06/26						
								APPROVED									
								ORN1008855		 CONNETICS LIMITED: ALL RIGHTS RESERVED UNAUTHORISED USE PROHIBITED		A					



32 NEW CONNECTIONS

NOTES:

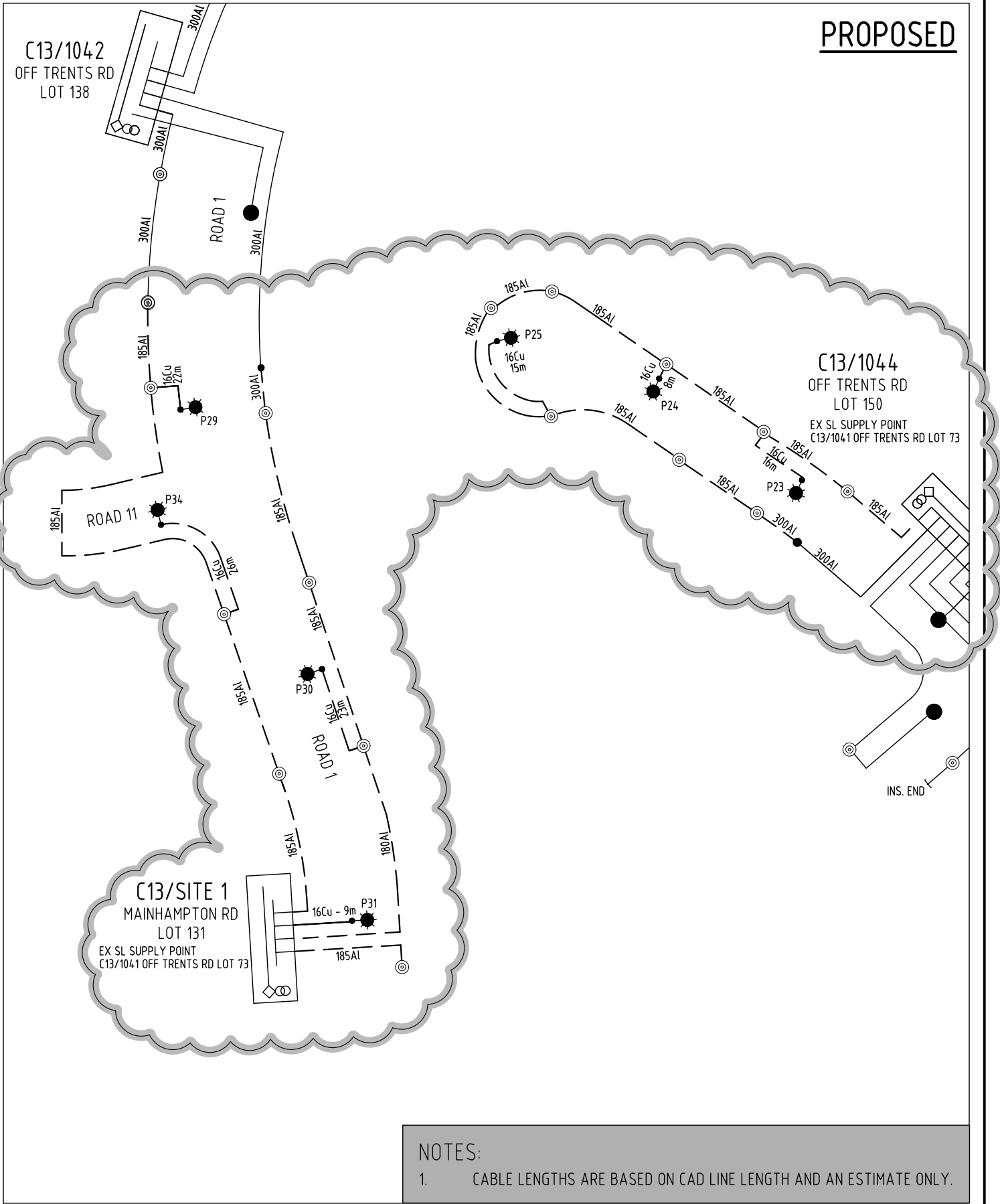
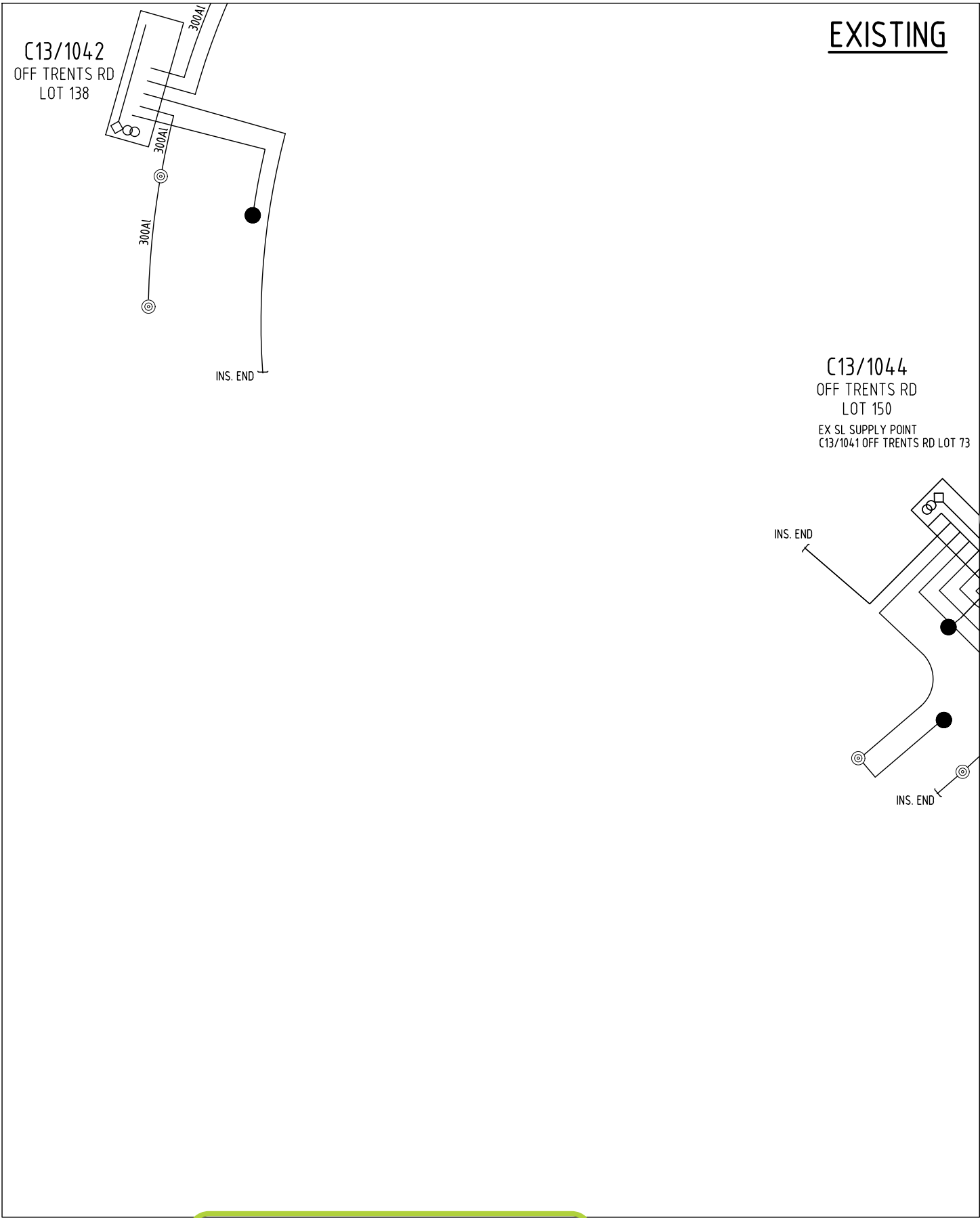
1. CABLE LENGTHS ARE BASED ON CAD LINE LENGTH AND AN ESTIMATE ONLY.

ISSUE	DESCRIPTION	DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED
A	ORIGINAL ISSUE	02/06/26	B.C	B.C	R.P	DESIGNED	B. CAVALCANTE		26/02/2
						DRAWN	B. CAVALCANTE		26/02/2
						CHECKED	R. PARKES		02/06/2
						APPROVED			
						ORN1008855	 CONNETICS LIMITED. ALL RIGHTS RESERVED UNAUTHORISED USE PROHIBITED		A

232 HAMPTONS RD - STAGES 8 & 9B

RESIDENTIAL SUBDIVISION
LV SCHEMATICS - EXISTING/PROPOSED

SCALE(SIZE)	DRAWING NO.	SHEET
NTS(A3)	108016	LV-01



NOTES:
1. CABLE LENGTHS ARE BASED ON CAD LINE LENGTH AND AN ESTIMATE ONLY.

ISSUE	DESCRIPTION	DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED
A	ORIGINAL ISSUE	02/06/25	B.C	B.C	R.P	DESIGNED	B. CAVALCANTE		18/06/25
						DRAWN	B. CAVALCANTE		18/06/25
						CHECKED	R. PARKES		02/06/26
						APPROVED			
						ORN1008855	CONNETICS LIMITED. ALL RIGHTS RESERVED UNAUTHORISED USE PROHIBITED		A

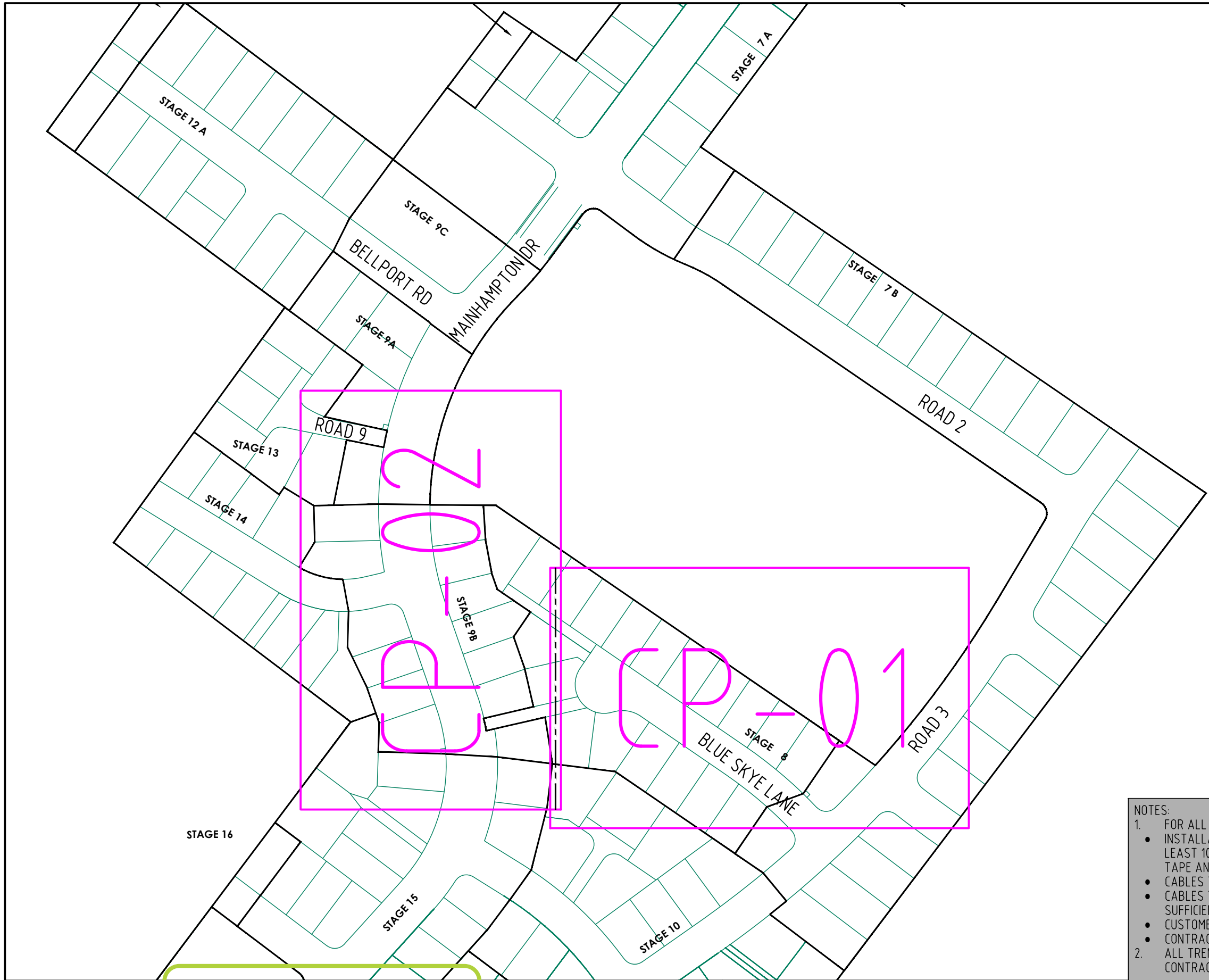
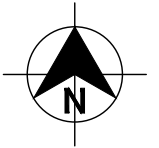
ACCEPTED
by Peter Johnson on: 05 08 2026, 07:39 am
Orion

232 HAMPTONS RD - STAGES 8 & 9B

RESIDENTIAL SUBDIVISION
SL SCHEMATICS - EXISTING/PROPOSED



SCALE(SIZE)	DRAWING NO.	SHEET
NTS(A3)	108016	SL-01



- NOTES:
- FOR ALL CUSTOMER SERVICE CABLES:
 - INSTALLATION OF CABLES TO COMPLY WITH AS/NZS3000 AND REQUIRES AT LEAST 100mm SEPARATION FROM OTHER SERVICES, INSTALLATION OF WARNING TAPE AND A MINIMUM OF 500mm COVER FROM FINISHED GROUND LEVEL
 - CABLES TO BE LOCATED 300mm MIN. OFF BOUNDARY
 - CABLES TO BE INSTALLED INTO DB AND BE CAPPED AND COILED TO ENSURE SUFFICIENT LENGTH FOR TERMINATION AND CLEAR OF ANY LIVE PARTS
 - CUSTOMER END OF CABLE TO BE CAPPED AND BURIED 1m INSIDE OF BOUNDARY
 - CONTRACTOR TO ISSUE A COPY OF CoC TO DEVELOPER
 - ALL TRENCHING & RESTORATION TO BE PROVIDED BY CIVIL TRENCHING CONTRACTOR. REFER TO ORION STANDARD NW72.22.02

ISSUE	DESCRIPTION	DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED
A	ORIGINAL ISSUE	02/06/26	B.C	B.C	R.P	DESIGNED	B. CAVALCANTE		25/05/26
						DRAWN	B. CAVALCANTE		25/05/26
						CHECKED	R. PARKES		02/06/26
						APPROVED			
						ORN1008855	CONNETICS LIMITED. ALL RIGHTS RESERVED UNAUTHORISED USE PROHIBITED		A

ACCEPTED

by Peter Johnson on: 05 08 2026, 07:39 am

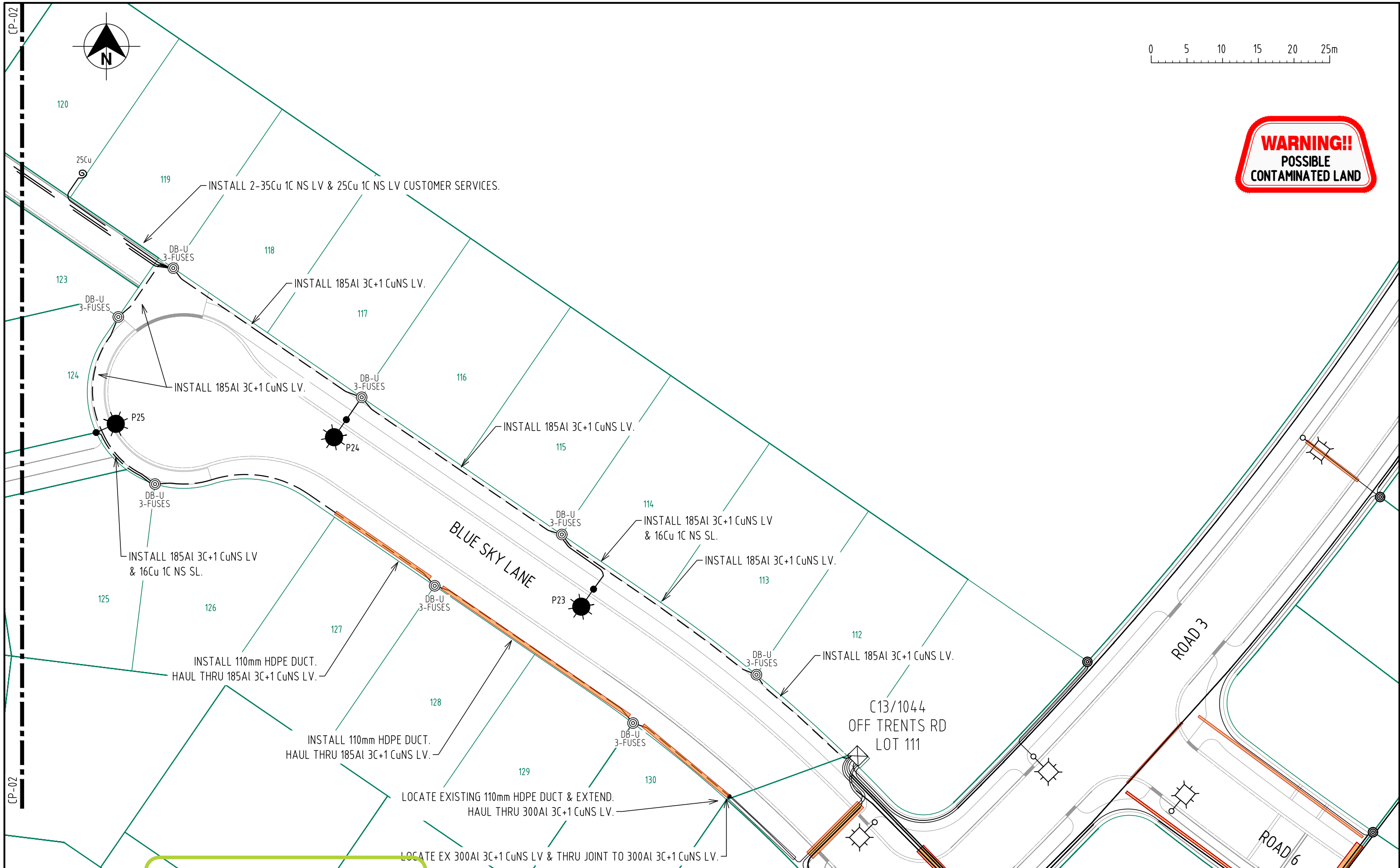
Orion

232 HAMPTONS RD - STAGE 8 & 9B

RESIDENTIAL SUBDIVISION
KEY SHEET

ALL WAYS CONNECTING

SCALE(SIZE)	DRAWING NO.	SHEET
NTS(A3)	108016	KS-01

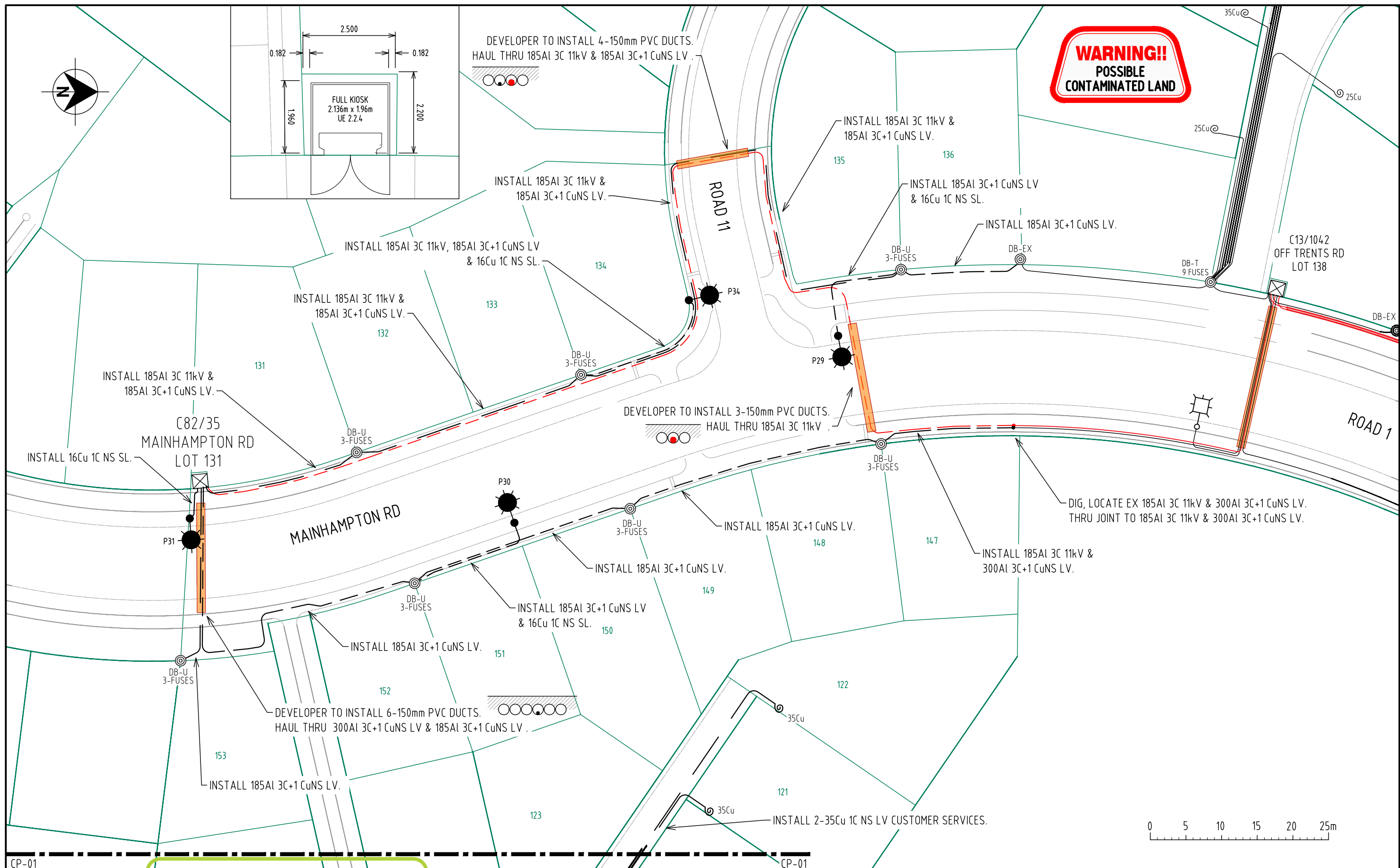


ISSUE	DESCRIPTION	DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED
A	ORIGINAL ISSUE	01/06/26	B.C	B.C	R.P	DESIGNED	B. CAVALCANTE		25/05/26
						DRAWN	B. CAVALCANTE		25/05/26
						CHECKED	R. PARKES		01/06/26
						APPROVED			
						ORN1008855			A

ACCEPTED
by **Peter Johnson** on: **05 08 2026, 07:39 am**
Peter Johnson
Orion

232 HAMPTONS RD-STAGE 8 & 9B
RESIDENTIAL SUBDIVISION
CABLE PLAN

connetics ALL WAYS CONNECTING		
SCALE(SIZE)	DRAWING NO.	SHEET
1:500(A3)	108016	CP-01



CP-01		DATE		DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED
ISSUE	DESCRIPTION	02/06/26		B.C	B.C	R.P	DESIGNED	B. CAVALCANTE		25/05/26
A	ORIGINAL ISSUE						DRAWN	B. CAVALCANTE		25/05/26
							CHECKED	R. PARKES		02/06/26
							APPROVED			
							ORN1008855			A

ACCEPTED
by **Peter Johnson** on: **05 08 2026, 07:39 am**
Peter Johnson
Orion

232 HAMPTONS RD-STAGES 8 & 9B

RESIDENTIAL SUBDIVISION
CABLE PLAN

connetics ALL WAYS CONNECTING		
SCALE(SIZE)	DRAWING NO.	SHEET
1:500(A3)	108016	CP-02

DOCUMENT TRANSMITTAL NOTICE



Project 232 Hamptons Road Subdivision

Project No 4013669

Discipline Lighting Design

Page 1 of 1

Year
Month
Day

Date of Issue									
24	25	25	25	25	26	26			
7	6	8	10	11	2	2			
15	4	27	27	27	17	23			

Doc. No.	Document Title	Rev	Issue									
400332	232 Hamptons Road Subdivision - Sheet 1	E	A	B	C	D	D	E	E			
400332	232 Hamptons Road Subdivision - Sheet 2	E	A	B	C	D	D	E	E			
400332	232 Hamptons Road Subdivision - Sheet 3	E	A	B	C	D	D	E	E			
400332	232 Hamptons Road Subdivision - Sheet 4	E	A	B	C	D	D	E	E			
400332	232 Hamptons Road Subdivision - Sheet 5	E	A	B	C	D	D	E	E			
	Pole Offset drawing	B						E				
400332	Autocad DWG Format	E	A	B	C	D	D	E	E			
	Producer Statement Design	A				A						
	Design Report	A				A						
	Street Lighting Specification	A				A	A		E			
	15.0m Road - Road 11 - 1.0m Offset - Single Sided	B				A		E				
	15.0m Road - Road 11 - 1.0m Offset - Staggered	B				A		E				
	15.0m Road - Road 11 - 4.8m Offset - Single Sided	A				A						
	16.0m Road - Road 8 - 4.8m Offset - Single Sided	A				A						
	16.0m Road - Road 8 - 4.8m Offset - Staggered	A				A						
	16.0m Road - Road 8 - 3.8m Offset - Single Sided	A				A						
	16.0m Road - Road 8 - 3.8m Offset - Staggered	A				A						
	17.0m Road - Road 2-3-5-6-7 & 9 - Single Sided	A				A						
	17.0m Road - Road 2-3-5-6-7 & 9 - Staggered	A				A						
	20.0m Road - Road 1 - 4.4m Offset - Single Sided	A				A						
	20.0m Road - Road 1 - 4.4m Offset - Staggered	A				A						
	20.0m Road - Road 1 - 5.1m Offset - Single Sided	A				A						
	20.0m Road - Road 1 - 5.1m Offset - Staggered	A				A						
	AGI Compliance Plot	B				A		E				
	Windsor Urban - Poles Drawing - Pole L1, L2, L3	A				A						
	Windsor Urban - Pole Producer Statement	A				A						
	Pole Structural Compliance Certificate - Windsor Urban	A				A						
224	Lighting Completion Form (Windsor Urban)											
	Lighting Completion Form (Installer)											
	Orion Test Certificate											
	Certificate of Compliance											
	As-Built Drawings											
	Earth Test Certificate											

DELIVERY - Company Name	Attention	COPIES									
Davie Lovell-Smith	Matt Couper	#	#	#	#	#	#	#	#		
Windsor Urban Ltd.	Marcus Brandrick	#	#		#	#	#	#			
Selwyn District Council (Representative)	Brendan Hayman				#	#					
Connetics Ltd.	RAMM Data Entry										
Davie Lovell-Smith	Ben Fox			#							
Reason For Issue		P	P	P	A	C	C	C			

P - Preliminary / A - Approval / T - Tender / C - Construction / X - 224 / RQ - Requested

Document Type Symbol

PDF #
A4 Copy *
A3 Copy **
A1 Copy ***

ACCEPTED

by **Peter Johnson** on: **05 08 2026, 07:40 am**

Peter Johnson

Orion

Connetics Ltd

11 Islington Avenue
Islington
Christchurch 8042

P: (03) 353 7200
F: (03) 353 7201

E: www.connetics.co.nz

LIGHTING SCHEDULE

- L1 Supply and install new luminaire on new column. (See Luminaire & Column Notes 1 to 5)
Luminaire: Philips Roadgrace 18W LED luminaire (BRP711 LED23NW 18W DWP) 4000K, Color: Black
Column: 7.5m SDC Hobsonville Ground planted column c/w a 1.0m Single outreach arm, Color: Traffic Black.
Connection: Connect to U/G SLN.
- L2 Supply and install new luminaire on new column. (See Luminaire & Column Notes 1 to 5)
Luminaire: Philips Roadgrace 20W LED luminaire (BRP711 LED26NW 20W DWP) 4000K, Color: Black
Column: 7.5m SDC Hobsonville Ground planted column c/w a 1.0m Single outreach arm, Color: Traffic Black.
Connection: Connect to U/G SLN.
- L3 Supply and install new luminaire on new column. (See Luminaire & Column Notes 1 to 5)
Luminaire: Philips Roadgrace 26W LED luminaire (BRP711 LED40NW 26W DWP) 4000K, Color: Black
Column: 7.5m SDC Hobsonville Ground planted column c/w a 1.0m Single outreach arm, Color: Traffic Black.
Connection: Connect to U/G SLN.

MAXIMUM DESIGN SPACING

Street Name	Width	Arrangement Type*	Max Spacing
Road 11 - 1.0m Offset	15.0m	Single Sided	55.8m
Road 11 - 3.3m Offset	15.0m	Staggered	55.8m
Road 11 - 4.8m Offset	15.0m	Staggered	64.8m
Road 8 - 4.8m Offset	16.0m	Single Sided	62.5m
Road 8 - 4.8m Offset	16.0m	Staggered	62.5m
Road 8 - 3.8m Offset	16.0m	Single Sided	61.1m
Road 8 - 3.8m Offset	16.0m	Staggered	61.1m
Road 2-3-5-6-7 & 9	17.0m	Single Sided	59.8m
Road 2-3-5-6-7 & 9	17.0m	Staggered	59.8m
Road 1 - 4.4m Offset	20.0m	Single Sided	52.8m
Road 1 - 4.4m Offset	20.0m	Staggered	52.8m
Road 1 - 5.1m Offset	20.0m	Single Sided	53.9m
Road 1 - 5.1m Offset	20.0m	Staggered	53.9m

* = Arrangement type as per AS/NZS 1158.2:2020 Fig. 5.1

SYMBOLS LEGEND:

LX

XXW

P1

0.0m-XX

X°

Lighting Schedule Reference

Luminaire Wattage

Column Identification

Column offset

Luminaire Tilt from the horizontal

(See Adjustment Table)

Offset Descriptions

B

At Boundary

BK

Behind Kerb

For Sectional Octagonal Column

With Mitred Arms and 5° Spigot*

With Elliptical Arms and 5° Spigot*

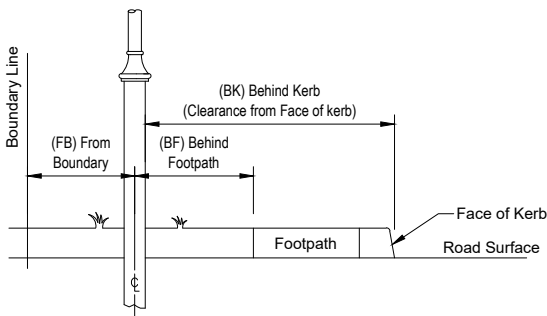
With Curved Arms and 5° Spigot*

Subdivisional with 5° Spigot*

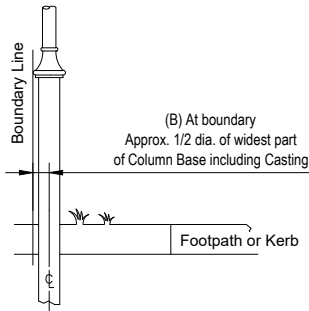
Value Shown on Plan	Adjustment on Luminaire
10°	5°
5°	0°
0°	-5°
-5°	-10°

* As per CCC and SDC Standard Column Requirements

TYPICAL COLUMN POSITION:



Column to be installed from Boundary Line, Behind Footpath or from Face of Kerb

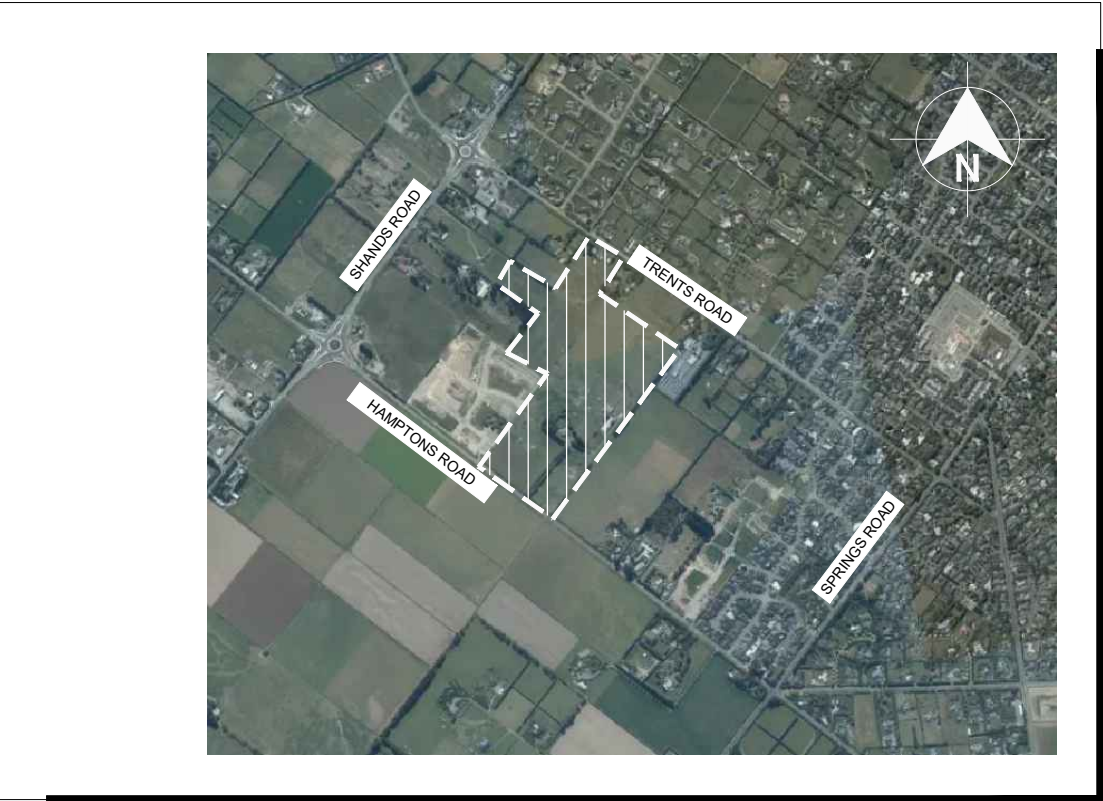


Column to be installed at Boundary Line

SYMBOLS:

- E Existing column, outreach arm and luminaire to remain.
- Lx New column, Single outreach arm and luminaire.

KEY PLAN



NOTES:

- Road illumination is designed to comply with AS/NZS 1158; subcategory PR4, SDC "Code of Practice Part 11" and NZTA M30.
- Alternative lighting equipment to that specified in the schedule (columns, outreach arms, luminaires etc) can be provided with the tender or quotation submission, provided all requirements are met and the performance of all alternatives are equal or superior to those indicated on this drawing and within the associated documents.
- Key driver for lighting upgrade was : New Sub-division
- Consult the designer for any lighting installation works that conflict on site. eg. recorded or unrecorded services.
- On completion documentation, record GPS location of all new Lighting columns.
- All connections part of the lighting installation work carried out, MUST be by an Orion approved contractor.
- All redundant recovered streetlight poles and lanterns shall be removed to the store of the SDC Maintenance Contractor (Connetics Ltd, 11 Islington Avenue, Islington - Contact: Scott Millar).
- New column location to be marked by the main contractor and verified by lighting designer prior to lighting installation.
- Existing Services Identified in this design are indicative only and it is the contractor responsibility to locate any existing services by contacting BeforeUdig at <https://www.beforeudig.co.nz> before the start of any underground work.

LUMINAIRE & COLUMN NOTES:

- Luminaire are to be fitted with mounting bracket to fit 42mm spigot.
- Luminaire to be supplied with an integral TMS compatible dimmable DALI driver suitable for operating at the specified load and a prewired 7 pin Nema Socket and complete with shorting cap.
- Luminaire to have an IP rating of IP66 unless stated otherwise.
- Luminaire colour temperature to be 4000K
- Luminaire to have Identification label applied at time of installation.

SPUNLITE NOTE:

The use of this **FREE** Lighting design, is authorised by Windsor Urban Ltd and Spunlite Poles Ltd, and is conditional upon the specified lighting items(columns and luminaires), being purchased directly from Windsor Urban Ltd and Spunlite Poles Ltd, or our nominated agents. All nominated installing agents are to contact Windsor Urban Ltd and Spunlite Poles Ltd, to obtain product prices related to this project.

Any use of alternative manufacturer's products, differing from those listed in this design, and installed by any contractor, will automatically forfeit the right to use this intellectual property (lighting design).

Windsor Urban Ltd and Spunlite Poles Ltd hold all copyrights to any of our designs and manufactured products in accordance with the Berne Convention.

The lighting designer reserves the right to request that any alternative products, sourced from a non-listed manufacturer, be removed and replaced with the specified products, prior to any audit being conducted.



SPUNLITE POLES LTD.
ALL RIGHTS RESERVED.
UNAUTHORISED USE PROHIBITED

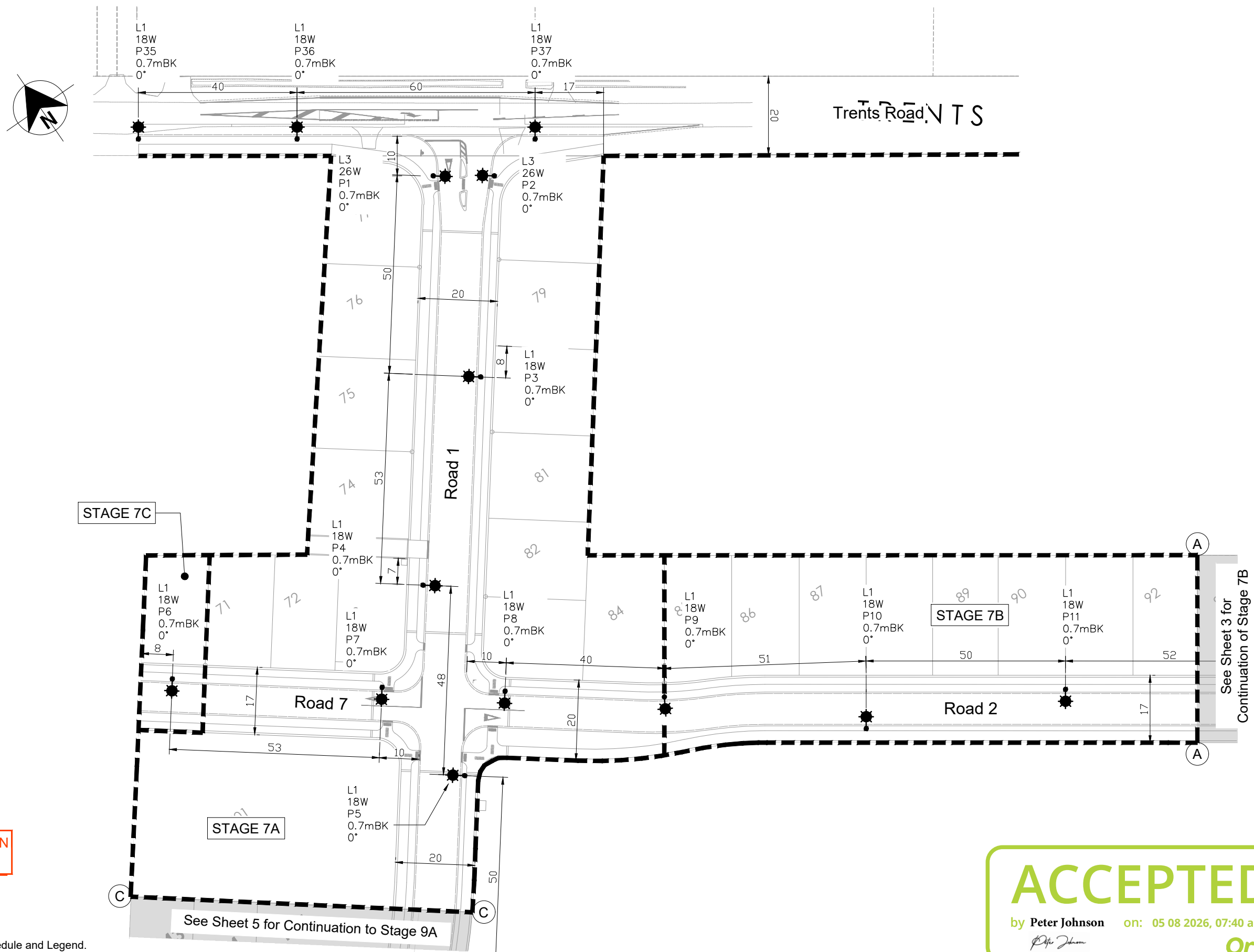
Rev	Description	Date	Des	Dn	Chk	Apd	Or Apc	Contractor	Designed	R. St-Denis / Conn	July 24	Scale
B	Issued to Client for Approval	04/06/25	RSD	RSD	-	-	-	-	Drawn	R. St-Denis / Conn	July 24	1:1000
C	Issued to Client for Approval	27/08/25	RSD	RSD	-	-	-	-	Checked	J. Lim / Conn	Sept 25	
D	Issued to SDC for Approval	15/10/25	RSD	RSD	-	-	-	-	Approved	B. Hayman for SDC	20/02/26	
D	SDC Approved Issue to Client	27/11/25	RSD	RSD	-	-	-	-				Revision
E	Lot layout updated with new P15, P26, P32-34 location	17/02/26	RSD	RSD	-	-	-	-				E

STREETLIGHTING LAYOUT

232 Hamptons Road Sub-Division
Stage 7 to 9
Prebbleton

611 Halswell Junction Rd, Hornby, Christchurch, NZ
(03) 349-7853 fax (03) 349-6529 freeph (0800) 845-845
inet: www.spunlite.co.nz

Size	Drawing Number	Sheet
A3	400332	1/5



ISSUED FOR CONSTRUCTION
Monday, 23 February 2026 11:29:25 am

- NOTES:
- 1. Refer to Sheet 1 for Lighting Schedule and Legend.

ACCEPTED

by Peter Johnson on: 05 08 2026, 07:40 am

Peter Johnson

Orion

SPUNLITE POLES LTD.
ALL RIGHTS RESERVED.
UNAUTHORISED USE PROHIBITED

Rev	Description	Date	Des	Dn	Chk	Apd	Or Apc	Contractor	Designed	R. St-Denis / Conn	July 24	Scale
B	Issued to Client for Approval	04/06/25	RSD	RSD	-	-	-	-	Drawn	R. St-Denis / Conn	July 24	1:1000
C	Issued to Client for Approval	27/08/25	RSD	RSD	-	-	-	-	Checked	J. Lim / Conn	Sept 25	
D	Issued to SDC for Approval	15/10/25	RSD	RSD	-	-	-	-	Approved	B. Hayman for SDC	20/02/26	
D	SDC Approved Issue to Client	27/11/25	RSD	RSD	-	-	-	-				Revision
E	Lot layout updated with new P15, P26, P32-34 location	17/02/26	RSD	RSD	-	-	-	-				E

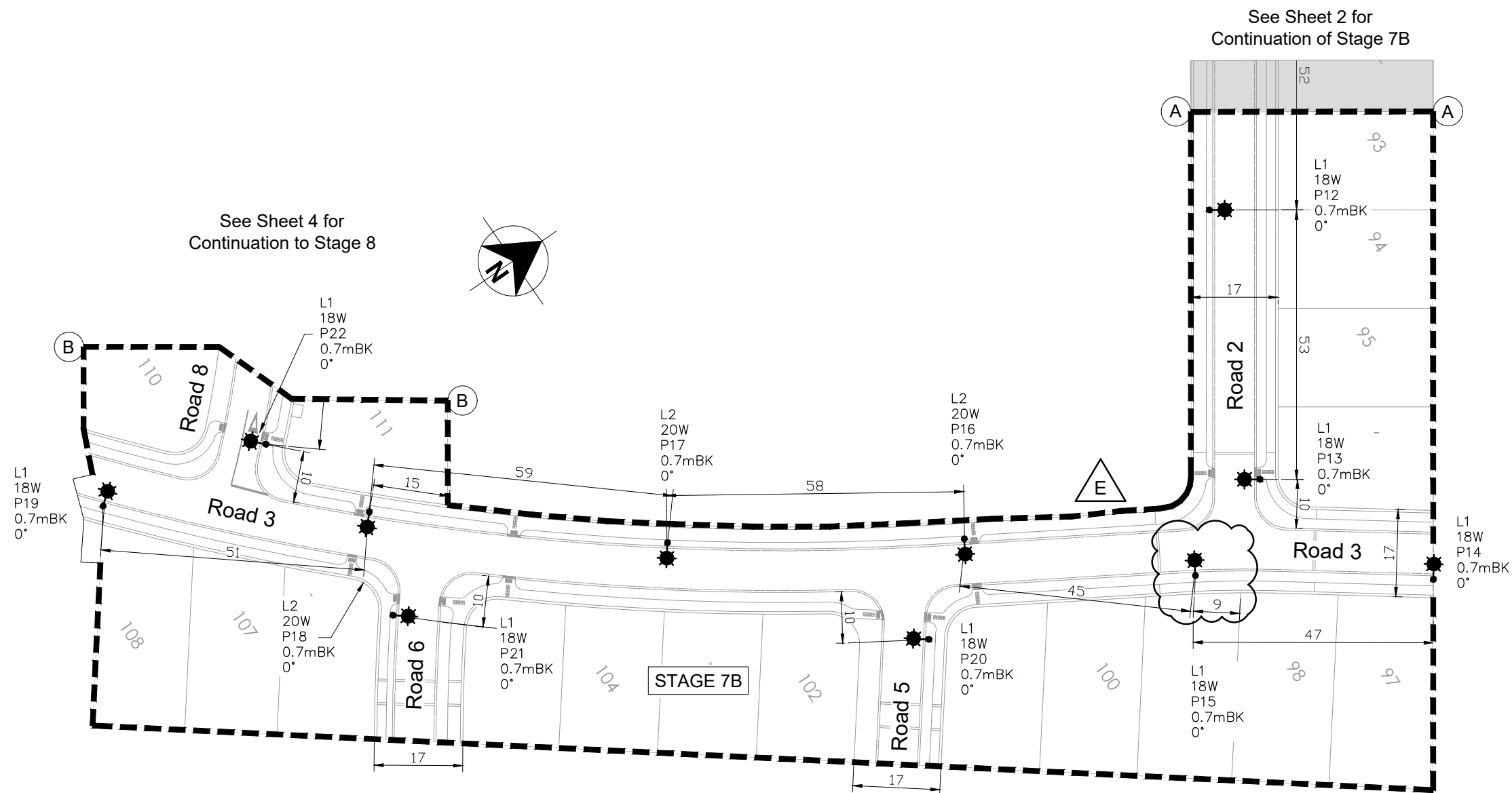
STREETLIGHTING LAYOUT

232 Hamptons Road Sub-Division
Stage 7A-7B-7C
Prebbleton

SPINLITE POLES LIMITED

611 Halswell Junction Rd, Hornby, Christchurch, NZ
(03) 349-7853 fax (03) 349-6529 freeph (0800) 845-845
inet: www.spinlite.co.nz

Size	Drawing Number	Sheet
A3	400332	2 / 5



ISSUED FOR CONSTRUCTION
Monday, 23 February 2026 11:29:37 am

NOTES:

1. Refer to Sheet 1 for Lighting Schedule and Legend.

ACCEPTED

by Peter Johnson on: 05 08 2026, 07:40 am

Peter Johnson

Orion



SPUNLITE POLES LTD.
ALL RIGHTS RESERVED.
UNAUTHORISED USE PROHIBITED

Rev	Description	Date	Des	Dn	Chk	Apd	Or Acp	Contractor	Designed	R. St-Denis / Conn	July 24	Scale
B	Issued to Client for Approval	04/06/25	RSD	RSD	-	-	-	-	Drawn	R. St-Denis / Conn	July 24	1:1000
C	Issued to Client for Approval	27/08/25	RSD	RSD	-	-	-	-	Checked	J. Lim / Conn	Sept 25	
D	Issued to SDC for Approval	15/10/25	RSD	RSD	-	-	-	-	Approved	B. Hayman for SDC	20/02/26	
D	SDC Approved Issue to Client	27/11/25	RSD	RSD	-	-	-	-				Revision
E	Lot layout updated with new P15, P26, P32-34 location	17/02/26	RSD	RSD	-	-	-	-				E

STREETLIGHTING LAYOUT

232 Hamptons Road Sub-Division
Stage 7B
Prebbleton

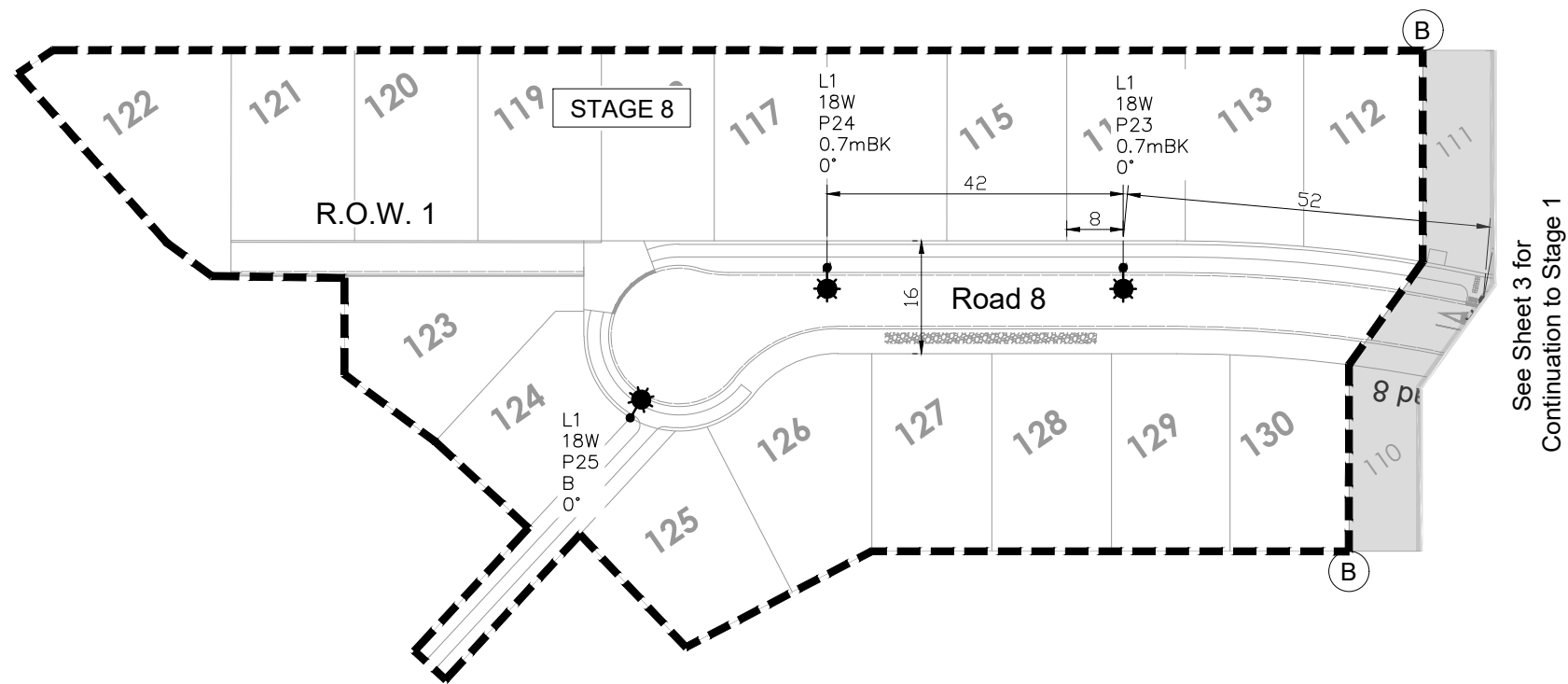
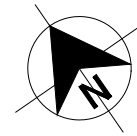


SPINLITE POLES
LIMITED
611 Halswell Junction Rd, Hornby, Christchurch, NZ
(03) 349-7853 fax (03) 349-6529 freeph (0800) 845-845
inet: www.spinlite.co.nz

Size	Drawing Number	Sheet
A3	400332	3 / 5

1 : 1500

1 : 1000



See Sheet 3 for Continuation to Stage 1

ISSUED FOR CONSTRUCTION
Monday, 23 February 2026 11:29:56 am

- NOTES:
1. Refer to Sheet 1 for Lighting Schedule and Legend.

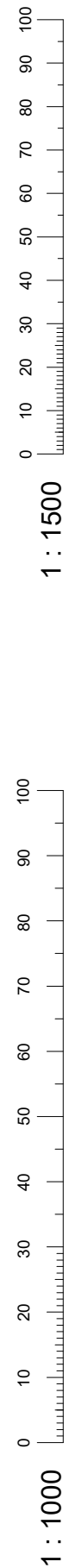
ACCEPTED
by Peter Johnson on: 05 08 2026, 07:40 am
Orion

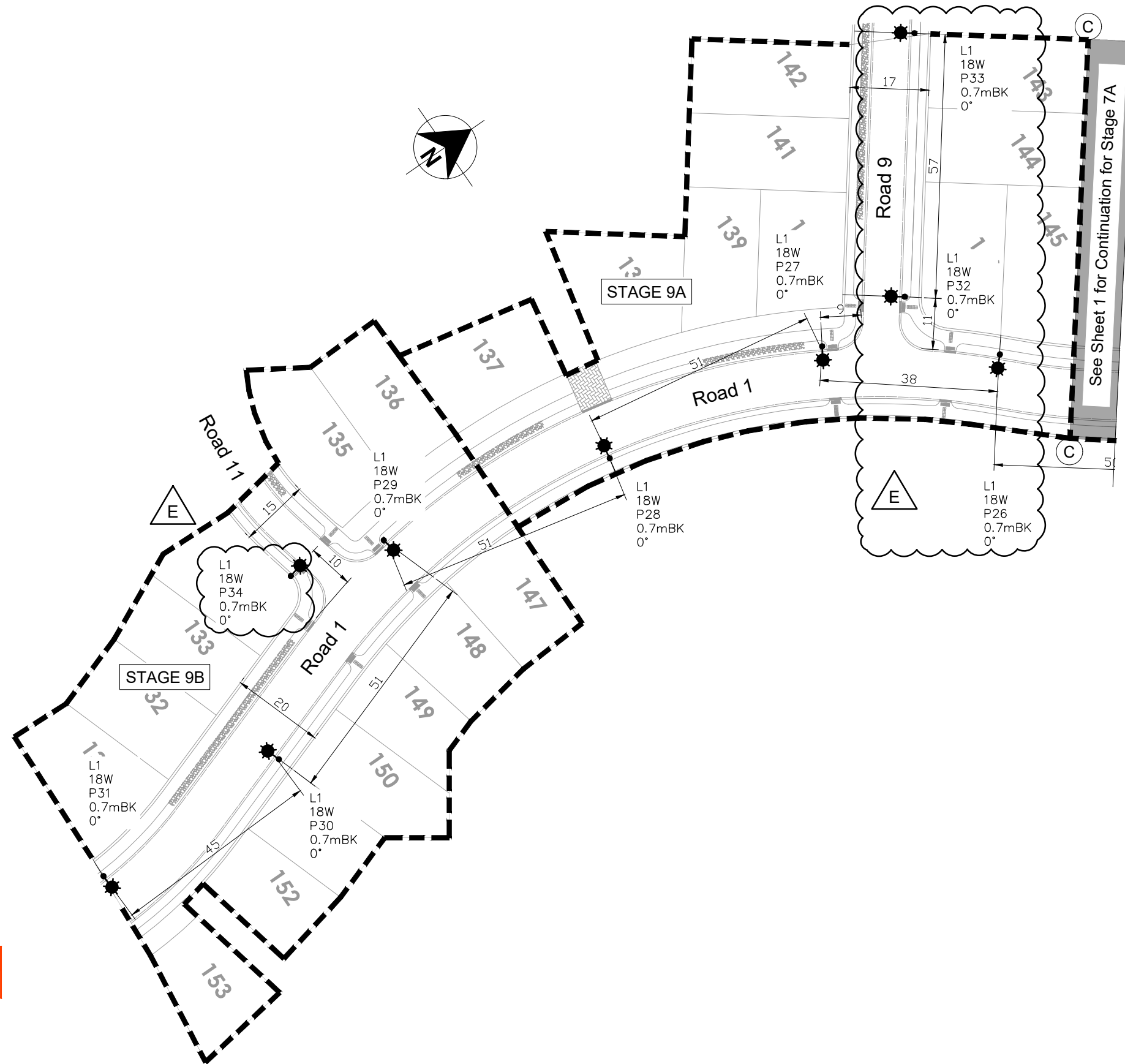
SPUNLITE POLES LTD.
ALL RIGHTS RESERVED.
UNAUTHORISED USE PROHIBITED

Rev	Description	Date	Des	Dn	Chk	Apd	Or Acp	Contractor	Designed	R. St-Denis / Conn	July 24	Scale
B	Issued to Client for Approval	04/06/25	RSD	RSD	-	-	-	-	Drawn	R. St-Denis / Conn	July 24	1:1000
C	Issued to Client for Approval	27/08/25	RSD	RSD	-	-	-	-	Checked	J. Lim / Conn	Sept 25	
D	Issued to SDC for Approval	15/10/25	RSD	RSD	-	-	-	-	Approved	B. Hayman for SDC	20/02/26	
D	SDC Approved Issue to Client	27/11/25	RSD	RSD	-	-	-	-				Revision
E	Lot layout updated with new P15, P26, P32-34 location	17/02/26	RSD	RSD	-	-	-	-				E

STREETLIGHTING LAYOUT
232 Hamptons Road Sub-Division
Stage 8
Prebbleton

 SPUNLITE POLES LIMITED 611 Halswell Junction Rd, Hornby, Christchurch, NZ (03) 349-7853 fax (03) 349-6529 freeph (0800) 845-845 inet: www.spunlite.co.nz		
Size	Drawing Number	Sheet
A3	400332	4 / 5





ISSUED FOR CONSTRUCTION
Monday, 23 February 2026 11:30:12 am

- NOTES:
- 1. Refer to Sheet 1 for Lighting Schedule and Legend.

ACCEPTED

by Peter Johnson on: 05 08 2026, 07:40 am

Orion

 SPUNLITE POLES LTD. ALL RIGHTS RESERVED. UNAUTHORISED USE PROHIBITED	Rev	Description	Date	Des	Dn	Chk	Apd	Or Acp	Contractor	Designed	R. St-Denis / Conn	July 24	Scale	STREETLIGHTING LAYOUT	 SPUNLITE POLES LIMITED 611 Halswell Junction Rd, Hornby, Christchurch, NZ (03) 349-7853 fax (03) 349-6529 freeph (0800) 845-845 inet: www.spunlite.co.nz	
	B	Issued to Client for Approval	04/06/25	RSD	RSD	-	-	-	-	Drawn	R. St-Denis / Conn	July 24	1:1000			
	C	Issued to Client for Approval	27/08/25	RSD	RSD	-	-	-	-	Checked	J. Lim / Conn	Sept 25				
	D	Issued to SDC for Approval	15/10/25	RSD	RSD	-	-	-	-	Approved	B. Hayman for SDC	20/02/26		232 Hamptons Road Sub-Division Stage 9A-9B Prebbleton		
	D	SDC Approved Issue to Client	27/11/25	RSD	RSD	-	-	-	-				Revision			
	E	Lot layout updated with new P15, P26, P32-34 location	17/02/26	RSD	RSD	-	-	-	-				E			
																Size
													A3	400332	5 / 5	

SPECIFICATION FOR ROAD LIGHTING

ROAD LIGHTING DESIGN AT:

232 Hamptons Road Subdivision

Prebbleton

Selwyn District Council

Connetics Ltd
Design + Engineering
11 Islington Avenue
Islington
Christchurch
(03) 353 7320

Contents

1. PRELIMINARY AND GENERAL	1
2. SCOPE OF WORK.....	1
3. DRAWINGS AND DOCUMENTS	1
4. STANDARDS, SPECIFICATIONS AND CODES.....	2
5. COMPETENT PERSONNEL	2
6. START WORK NOTICES (FOR COUNCIL WORK ONLY).....	2
7. REMOVAL OF EXISTING ROAD LIGHTNG EQUIPMENT – (IF REQUIRED).....	2
8. NEW ROAD LIGHTING COLUMNS AND OUTREACH ARMS	3
9. LUMINAIRES AND LAMPS	4
10. CONTROL GEAR	4
11. CONDUCTORS, WIRES AND CABLES	4
12. TEMPORARY LIGHTING – (AS REQUIRED).....	5
13. TESTING, COMMISSIONING AND DOCUMENTATION.....	5
14. MAINTENANCE AND GUARANTEES	6
15. HEALTH AND SAFETY	6
16. AS BUILT DRAWING, MAINTENANCE AND WARRANTIES.....	6
APPENDIX 1: Road Lighting Construction Completion Form.....	8
APPENDIX 2: Asset Code Summary and Schedule of Prices	9

1. PRELIMINARY AND GENERAL

The Principal for this project is Windsor Urban Ltd.

The Engineer's representative for this project is Robert St-Denis, Connetics Ltd., Design and Engineering.

Telephone: N/A

E-mail: Robert.St-Denis@connetics.co.nz

Facsimile: 353 7201

2. SCOPE OF WORK

A complete and fully functional road lighting system is required and the work shall include:

- Supply, installation, testing and commissioning of new Road Lighting equipment, including new columns, arms, fuse panels, luminaires and cables, etc. as detailed on the drawings and specified herein.
- Liaison with Orion including application for any permissions or approvals, etc. as detailed in Orion's Network Standards.
- Liaison with the Engineer's representative throughout.
- Preparation and supply to the Engineer's representative of Test Certificates for individual road lights and "M" or "EL" Type Certificates of Compliance as detailed in Orion Network Standard NW 21 72 01.
- Preparation and supply to the Engineer's representative of all "As Built" documentation including drawing(s). (see Appendix 1)
- Record GPS location of all new, removed and existing lighting poles / columns.
- Preparation and supply of Road Lighting Valuation schedules for all new and removed equipment. These schedules shall be submitted with all other completion paperwork requirements.
- Preparation and supply of a completed Schedule of Prices using the Asset code summary. This asset code summary shall be submitted with the tender / quotation.

3. DRAWINGS AND DOCUMENTS

The following drawings and documents form part of this specification:

Connetics Drawings numbered 400332 sheets 1 to 5, Rev-E.

Appendix 1: Lighting Construction Completion Form

Appendix 2: Asset Code Summary & Schedule of Prices

4. STANDARDS, SPECIFICATIONS AND CODES

All parts of the installation shall comply with the following:

- Selwyn District Council (SDC) Infrastructure Design Standards and SDC Construction Standard Specifications (CSS);
- Electricity act, the Electricity Regulations and Codes of Practice (current edition);
- Orion Standard "Connecting Equipment to Orion's Street Lighting Network" - NW21.72.0;
- Health and Safety in Employment Act.
- Code of Practice for Temporary Traffic Management.
- Utility Access Act 2010 (National Code of Practice for Utilities Access to Corridors)

5. COMPETENT PERSONNEL

The specified work is to be undertaken by Orion and/or SDC competent / approved contractors. Any and all Subcontractors employed on this project must work under the supervision of a competent (approved) person.

Works on the Orion Network can only be carried out by or under the direct supervision of Orion's approved personnel.

The contractor is responsible for ALL safety procedures throughout the work site(s) and must use and maintain appropriate safety barriers, warning signs etc. to protect all workers and the public from all hazards and hazardous situations.

An onsite Management Plan and record sheet must be available to all personnel at all times

6. START WORK NOTICES (FOR COUNCIL WORK ONLY)

If required, a Start Work Notice for the intended work shall be distributed to the affected area. An electronic copy of the master Start Work Notice can be requested from the design engineer. This form shall be filled by the Contractor or simply to the successful contractor for them to copy and deliver to ALL residents, business and SDC representatives affected by the new lighting.

The Start Work Notices are to be delivered (by the successful contractor) two weeks prior to the commencement of any work on site

7. REMOVAL OF EXISTING ROAD LIGHTING EQUIPMENT – (IF REQUIRED)

Disconnect and carefully remove from Orion Network; columns, luminaires, outreach arms, mounting hardware, cables, etc. as detailed on the drawings.

All of the disconnected and removed materials and equipment remain the property of the Principal. They must be handled carefully so as to avoid damage, vandalism or contamination.

An inventory of the removed materials and equipment shall be made by using the SDC's standard document - "Road lighting Valuation – Removed equipment" (see Appendix 1).

All of the disconnected and removed materials and equipment shall be temporarily stored at a suitable location at the Contractor's cost pending inspection by the Engineer's representative. An inspection request will require at least 2 working days' notice.

On satisfactory completion of the inspection (to the Engineer's representative's satisfaction) all of the inspected materials and equipment suitable for reuse shall, as soon as practicable, be delivered to the local authority nominated Street Lighting Maintenance Depot.

All transport costs to be allowed for by the Contractor. Materials and equipment shall NOT be delivered to the depot until the Engineer's representative has inspected them.

Materials and equipment not suitable for reuse shall be correctly disposed of at the contractor's cost.

Attention is drawn to various publications (Ministry of Health, etc.) regarding the identification, safe handling and storage of equipment containing polychlorinated biphenyls (PCBs). All removed equipment shall be examined. If any equipment is found that contains (or is suspected of containing) PCBs, the Engineer's representative shall be notified immediately.

All lamp disposals are to be carried out in accordance with SDC and/or NZ Ministry of Health recommendations.

8. NEW ROAD LIGHTING COLUMNS AND OUTREACH ARMS

The columns and outreach arms shall be as specified on the drawings and guaranteed by the columns manufacturer (and/or supplier).

Columns shall be fitted with a standard SDC fuse panel and installed to meet all requirements specified in CSS. (Refer to Appendix 5 for clarification of behind kerb and at boundary).

Base compartment door must face towards the footpath, or any other appropriate direction that allows clear and safe access. Door shall be secured by at least one mushroom head, stainless steel, 6mm Allen Key bolt. The bolt(s) threads shall be coated with a suitable (long life) grease to prevent seizing.

Proposed locations of all columns shall be clearly marked on the ground by the project surveyor. It is the contractor responsibility to contact the project surveyor. Excavations must not be made in the ground, nor columns installed, until the surveyor has approved the proposed location of each column. A minimum of three working days' notice is required for the surveyor to mark new column locations. Column mark out to be completed 2 weeks prior to any construction commencement.

Supply and install all equipment necessary to complete the installation and/or as documented on the drawings.

Columns shall be installed as documented in accordance with the manufacturer's instructions and recommendations. They shall be vertical (+ or - 1° from vertical) after compacting, and shall remain so (except for fair wear and tear) until the end of the defects liability period. The disturbed ground around the

column shall be reinstated to match the (undisturbed) surrounding ground. The ground line identification mark shall be +/- 100mm from the finished ground level.

If any outreach arms being recovered for relocation or identified as suitable for reuse within the works are to be checked and confirmed as being suitable for reuse. The Engineer's representative is to be advised of any item identified for recovery that is not suitable for relocation/reuse.

9. LUMINAIRES AND LAMPS

Road lighting luminaires and lamps/LEDs shall be as specified on the drawings and guaranteed by the luminaire manufacturer's (and/or supplier). All luminaires shall be installed in accordance with the manufactures instructions and recommendations. They shall be of an approved type as indicated in NZTA M30 luminaire approved list.

The luminaire label must be permanent, remain on the luminaire throughout its life and identify the type and wattage of lamp used. LEDs should be labelled as per AS/NZS1158 Part 6.

If any luminaire being recovered for relocation or identified as suitable for reuse within the works are to be checked and confirmed as being suitable for reuse. The Engineer's representative is to be advised of any item identified for recovery that is not suitable for relocation/reuse.

10.CONTROL GEAR

New control gear/electronic drivers used shall be supplied and guaranteed by manufacturer (and/or supplier).

The electronic Control Gear/Driver shall be matched to the LEDs to provide reliable and efficient operation (i.e. Driver current, system wattage etc.)

The power factor of each luminaire (when stable operation at a supply voltage of 230V is established) shall be greater than 0.90 lagging.

If any Control Gear being recovered for relocation or identified as suitable for reuse within the works is to be checked and confirmed as being suitable for reuse. The Engineer's representative is to be advised of any item identified for recovery that is not suitable for relocation/reuse.

11.CONDUCTORS, WIRES AND CABLES

A new switchboard is to be installed within the base compartment of every new column.

To maintain the IP rating of all luminaires all internal cabling from the switchboard protection device to the luminaire shall be either a minimum of 1.5mm² circular 3 core TPS cable or a minimum of 1.5mm² 2C neutral screen cable, continuous throughout the entire length.

If flat 1.5mm² 2C+E TPS cable is used from the switchboard to the luminaire, the termination to the luminaire shall occur within a suitable IP65 (or higher) connector within 300mm of entering the luminaire. The IP rating of the luminaire is not to be compromised in any way.

Flat TPS cable is **NOT** to be used for direct connection into an IP rated luminaire unless an IP66 gland suitable for flat TPS cable is used. Particular care shall be taken to ensure that the TPS cable is not damaged as it is drawn into the column or outreach arm.

All terminations in the base compartment shall be in accordance with Orion standard and Selwyn District Council Construction Standards.

12. TEMPORARY LIGHTING – (AS REQUIRED)

Existing lighting levels (at a minimum) must be maintained at all time. If existing luminaires must be disconnected or removed before adjacent new lighting has been commissioned, then temporary lighting shall be provided.

If temporary lighting is required, the Engineer's representative shall approve the temporary lighting proposals. Existing lighting arrangements must not be altered or disconnected until the approval has been obtained, and the temporary lighting is fully operational.

Any temporary lighting is to comply with AS/NZS1158 and any Local Authority lighting requirements.

Temporary asymmetrical floodlights mounted on low height columns attached to mobile trailers are unacceptable.

All costs associated with temporary lighting is to be included within the tender sum.

13. TESTING, COMMISSIONING AND DOCUMENTATION

All equipment shall be tested and the road lighting system commissioned in accordance with Orion Network Standard.

Originals of Test Certificates for Individual Road Lights shall be supplied to the Engineer's representative within 48 hours of commissioning or livening of the road light. All certificates shall be completely filled out (all fields completed) in a legible manner. Copies of certificates will not be accepted. Refer to Orion Network Standard for details of the Test Certificate for Individual Road Lights.

The original of the Certificate of Compliance ("M" or "EL" Type) shall be supplied to the Engineer's representative within 48 hours of commissioning or livening of the last luminaire.

Records of the installation shall be maintained as the work proceeds, and copies of "as built" drawings shall be supplied to the Engineer's representative within 48 hours of commissioning the last of the works. Data shall be recorded in accordance with Orion's standards & SDC's construction standards.

The completed Road Lighting Valuation - New Equipment schedule shall be supplied to the Engineer's representative together with the tender documents at time of tender.

The completion certificate and approval to the Council for all new subdivision lighting is subject to the completion of ALL paperwork and the livening of all lighting.

14. MAINTENANCE AND GUARANTEES

All work, materials and equipment shall be guaranteed against defect or failure of any kind (excepting fair wear and tear) for a period of twelve months starting from the installation is lived. Refer to NZS 3910 for details of liability with respect to defects arising during this period. The maintenance and guarantee liabilities shall be vested in the SDC as owners of the road lighting system for all SDC owned equipment.

15. HEALTH AND SAFETY

- The requirements of Health and Safety in Employment Act plus and amendments shall be met at all times;
- A site safety management plan is to be implemented and a record sheet kept on site at all times
- Any accidents, near miss and remedial actions are to be reported in writing to the Engineer's representative as soon as possible;
- The Transit NZ Code of Practice for Temporary Traffic Management (COPTTM) are to apply to all activities within the road reserve or adjacent to and affecting the road reserve users;

During the design phase we have assessed the safety levels

-
-
-
-

16. AS BUILT DRAWING, MAINTENANCE AND WARRANTIES

The contractor shall provide clear marked up drawings of the completed installation along with Test Certificates and Certificates of Compliance for all lights/columns/cable as the installation progresses and is lived.

As more column location are marked by the principal surveyor it is the responsibility of the Surveyor to advise the design engineer if the marking doesn't reflect the column location shown on the construction drawings.

The contractor shall provide a 12 months warranty on the street lighting installation. Any defects shall be rectified within 1 week of notification. The warranty shall commence on the date the full (or part) installation is connected to the Orion network and commissioned.

Following completion of the installation the contractor shall supply completed as-built information, including marked up drawings, all information required for updating the SDC database and a Lighting Construction Completion Form.

The information required for the database is as follows:

Type	Inventory Data	Location (incl GPS)	Property Address	Other Fields
Streetlight	Wattage, material, surface treatment, supply, type, bulk circuit	Yes	Yes	Height, offset from kerb, date tested, date completed
Column	Type, mount			Owner, purpose

APPENDIX 1: Road Lighting Construction Completion Form

CONSTRUCTION COMPLETION FORM

To: The Engineer's Representative
Connetics Design & Engineering
P O Box 2237
CHRISTCHURCH

Attention: Robert St-Denis

From: _____ (Contractor's Name)
_____ (Address)

Dear Sir,

Road Lighting Works at: 232 Hamptons Road Subdivision

has been completed. All work has been carried out in accordance with the Project Specifications

After all the tests were successfully completed, the entire lighting project was commissioned on _____ and the Defects Liability Period should commence from this date.

The following documentation is enclosed:

- ☐ Test Certificate for each Lighting Column
- ☐ Certificate of Compliance for the complete Installation
- ☐ As Built Drawings

Print Name

Signed

Date: _____

APPENDIX 2: Asset Code Summary and Schedule of Prices

Asset Codes, Categories and the Descriptions for Selwyn District Council are summarised below.

Asset Code	Code Description	Asset Category	Category Description
CE	Column and Arm Existing	66	Road Lighting - Columns and Arms
CIE	Column and Arm Install Existing	66	Road Lighting - Columns and Arms
CIN	Column and Arm Install New	66	Road Lighting - Columns and Arms
CN	Column and Arm Supply New	66	Road Lighting - Columns and Arms
LE	Luminaire Supply Existing	79	Road Lighting - Luminaires
LIE	Luminaire Install Existing	79	Road Lighting - Luminaires
LIN	Luminaire Install New	79	Road Lighting - Luminaires
LN	Luminaire Supply New	79	Road Lighting - Luminaires
OPC	Orion Pole Replacement	66	
CTC	Cable & Trenching & O/H Parts	66	
TMC-60%	Traffic Management	66 - 60%	60% to Columns and Arms
TML-40%		79 - 40%	40% to Luminaires
TCC-60%	Test, Commission and Documentation	66 - 60%	60% to Columns and Arms
TCL-40%		79 - 40%	40% to Luminaires
GPC-60%	GPS Record and Document	66 - 60%	60% to Columns and Arms
GPL-40%		79 - 40%	40% to Luminaires

All tenders and quotations for this project MUST prepare a 'SCHEDULE OF PRICES' using the above asset codes and categories for all the equipment priced in the format given on the following page.

ALL invoices being claimed for this project MUST be presented using the asset code reference and asset code category as per this "Schedule of Prices".

Page | 10

APPENDIX A: DESIGN STATEMENT OF ENVIRONMENTAL COMPLIANCE

Work Order:	-	
Work Title:	232 HAMPTONS RD - STAGES 8 & 9B	
Are the proposed earthworks:	Yes/No (circle one)	
1. Excluded under the global earthworks consent (refer section 4.1 and 4.2)?	Yes / No	
2. In a Ground Contamination Risk Area?	Yes / No	
3. In an Archaeology Area?	Yes / No	
4. In a Cultural Significance Area?	Yes / No	
5. Within 10m to the bed of a waterway identified as a Critical Habitat?	Yes / No	
Where any of the above questions 2 – 5 have been ticked 'yes', has the proposed management / controls to proceed with works been accepted by Orion?	Yes / No	
The design submitted to Orion complies with the Global Earthworks Consents requirements.		
Name:	B. Cavalcante	
Signed:	<i>Brenda Cavalcante</i>	
Company:	Connetics	
Date:	02/06/2026	

	Design Hazard Assessment Register (HAZID)					Prepared By: B. Cavalcante				Date: 2 June 2026			
						Reviewed By: R. Parkes				Document: HAR-1			
	Project: 232 HAMPTONS RD - STAGES 8 & 9B ORN1008855					HAZID Phase: Detailed Design (Includes Modifications)				Status: Design REV A			
Identified Hazards, Causes & Risks Associated with Design/Redesign of new or existing Assets and/or Introduction of New Asset Types, or a change to the Operating Conditions of Assets					Proposed Risk Treatment/Mitigation Measures & Residual Risk Ratings							Notes to Residual Risk (Which Must be So Far As Is Reasonably Practicable and Manageable)	
ID	Risk/Hazard & Cause - Inherent & Without Any Form of Mitigation	Inherent Consequence	Inherent Likelihood	Inherent Risk Rating	Risk Owner	Proposed Mitigation (Eliminate or Minimise/Control) - Include Existing & Proposed Mitigation Measures	Revised Consequence	Revised Likelihood	Residual Risk Rating	Estimated Cost of Mitigation (\$)	Cost of Mitigation Disproportionate to Risk?	Risk Owner	Notes to Residual Risk
A - Planning & Conceptual Design													
A1		Minor	Rare	Low	N/A		Minor	Rare	Low	N/A	No	N/A	
B - Detailed Design (Includes Modifications)													
B1	Possible contaminated ground within work area	Minor	Rare	Low	N/A	Consultant note added on drawings	Minor	Rare	Low	N/A	No	N/A	
C - Construction & Commissioning													
C1		Minor	Rare	Low	N/A		Minor	Rare	Low	N/A	No	N/A	
D - Operation & Maintenance													
D1		Minor	Rare	Low	N/A		Minor	Rare	Low	N/A	No	N/A	
E - Decommission & Disposal													
E1		Minor	Rare	Low	N/A		Minor	Rare	Low	N/A	No	N/A	
Notepad - Use this space to describe the Project, any further information that cannot be described in the hazards above, and any other information that is important to document as part of the Safety in Design assessment													

Underground Design

Designer:	B. Cavalcante	Date:	02/06/2026
Design number:	108016	Job name:	232 HAMPTONS RD - STAGES 8 & 9B
Approx. start date:		Developer:	
Orions Contract	-	Design/Build:	
Orion Contact	-	Design Only:	Yes

These quantity estimations are based on the CAD file and are for pricing purposes only. Actual quantities may vary on site.

Stock number	Description	Quantity (m)	Special requirements
1003401	6mm Cu 2ph NS LV	0	
1003402	16mm Cu 1ph NS LV	118	
1003403	16mm Cu 2ph NS LV	0	
1003404	16mm Cu 3ph NS LV	0	
1003405	25mm Cu 1ph NS LV	24	
1003406	25mm Cu 3ph NS LV	0	
1001995	35mm Cu 1ph NS LV	104	
1003407	35mm Cu 3ph NS LV	0	
1008940	70mm Al 1C NS LV	0	
1002009	95mm Al 1C NS LV	0	
1003397	120mm Ali 3ph NS +10mm LV	0	
1003398	185mm Ali 3ph NS +10mm LV	653	
1003399	300mm Ali 3ph NS +10mm LV	16	
1003400	400mm 1c Cu XLPE	0	
1003383	25mm 1c XLPE 11KV	0	
1003384	35mm Ali 3ph XLPE 11KV	0	
1003386	95mm Ali 3ph XLPE 11KV	0	
1003387	185mm Ali 3ph XLPE 11KV	180	
1003390	300mm Ali 3ph XLPE 11KV	0	
1009939	400mm Cu 3ph XLPE 11KV	0	
1003389	185mm 1c Cu 11KV	0	
1006345	95mm 1c AL XLPE 11KV	0	
1003394	300Al 1c 33kV	0	
1003423	25pr 0.9mm PAC PE SWA	0	
1003422	7pr 0.9mm PAC PE SWA	0	
1007115	Distribution Box S - 6 way	0	
1007156	Distribution Box T - 6 way	0	
1012372	DB-U (replaces DB-S & DB-T)	15	
1012376	DB-V (replaces DB-T1)	0	
1001152	Multi Box DC	0	
1000128	Full kiosk	1	
1000129	Half kiosk	0	
1000130	Quarter kiosk	0	

Build Quotation for electrical reticulation at:
232 HAMPTONS RD - STAGES 8 & 9B
Hamptons Holdings Ltd.
Davie Lovell- Smith
email: ben.fox@dls.co.nz

FROM ORION AUTHORISED ELECTRICAL CONTRACTOR:

Refer to Orion accepted Connetics design dwg 108016, Work instruction sheets, schematics and working drawings.

Quotation required by:

Schedule of prices:

1) 11kV CABLES & JOINTING

Supply and install 11kV cable, jointing and terminations
HV programs, Cable tests, certification and livening

2) LV RETICULATION, CABLES & JOINTING

Supply and install cables and boundary boxes
cable terminations and jointing (include all S/L cables)
Test and LVA

3) STREET LIGHTS

Refer to 232 Hamptons Rd Subdivision street light design dwg 400332.
Install 7 street light, including livening and associated documentation

4) SUBSTATIONS

Install 1 full kiosks and Earthing.

5) CUSTOMER SERVICE CABLES

Lay in customer service cables (25Cu 1C & 35Cu 1C) into new DB and terminate.

TOTAL (EXCLUDES GST)

NOTES:

Allow for as built cable recording, to be sent directly to Orion.

All trenching and restoration provided by the Developer except where identified.