Lockyer Valley Regional Council
26 Railway Street, PO Box 82, Gatton Qld 4343
All official correspondence to be addressed to the CEO
Telephone 1300 005 872 | Facsimile (07) 5462 3269
Email mailbox@lvrc.qld.gov.au | www.lockyervalley.qld.gov.au

Application ID: OW2022/0045.01
Enquiries: Tammy Thomas
Contact: 5462 0687

14 June 2023

Robin Russell & Associates Pty Ltd
204/6 Babarra Street
STAFFORD QLD 4053

Attention: Tania Deller

Dear Tania

Amended Electricity Reticulation Design located at 63 Redbank Creek Rd Adare (Stage 1) and described as Lot 95 on CA311434 & Lot 96 on SP225226

Thank you for your correspondence dated 31 May 2023 enclosing your proposed electrical reticulation design for the above development. The drawings submitted are detailed in Table 1 below.

Project Number	Drawing Number	Title	Electrical Consultant	Date
S0107577	D954-01 to D954-07 Revision E	Electricity Reticulation - Residential	Robin Russell & Associates Pty Ltd	30/05/2023

Table 1 – Plans Subject to this Notification

Council acknowledges receipt of your drawing/s referenced in Table 1, and advises that there are no objections to the reticulation design

This correspondence has been issued on the basis that the information on the drawings you supplied are compliant with the associated development approval. The Registered Professional Engineer Queensland (RPEQ) certifying the drawings must ensure that the Public Lighting is designed in accordance with the Australian Standard AS1158 *Lighting for roads and public spaces* series.

Please be aware that unless approved in writing, the Lockyer Valley Regional Council requires the electricity reticulation to be located in the electricity service corridor detailed on the Institute of Public Works Engineering Australasia standard drawing RS-100 *Public Utilities Typical Service Corridors and Alignments*.

It is the responsibility of design engineer for electrical reticulation design to check civil works design drawings to ensure that there are no conflicts with proposed works. Council will accept no responsibility for any errors or omissions made on your behalf.

Upon completion of the works, a copy of the Energex Certificate of Supply must be submitted to Council.

Should you require any additional information please contact Council's, Technical Planning Officer, Tammy Thomas on 5462 0687.

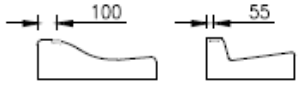
Yours faithfully

Tammee Van Bael
ACTING COORDINATOR DEVELOPMENT ASSESSMENT

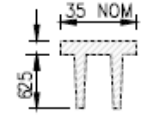
Encl IPWEQ Standard Drawing for Electrical Reticulation
Electricity Reticulation – Residential. Drawings D954-01 to D954-07 Revision E

Service Corridors	
Location from R.P. Boundary	
Electricity, Gas & Telecommunications	0 – 900
Water/Sewerage	901 – 2100
Telecommunications	2101 – 3000
Location from back of kerb	
Lighting Columns/Trees Gds/SW Drainage	0 – 1000

Locate marker discs directly over service conduits



LOCATION OF MARKERS



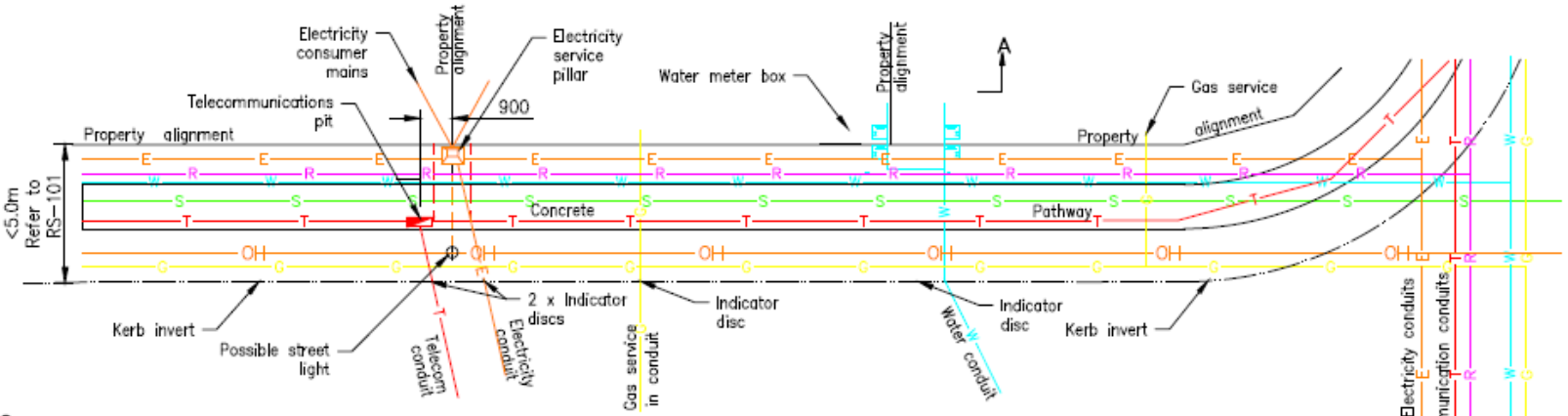
SECTION A–A

PLAN

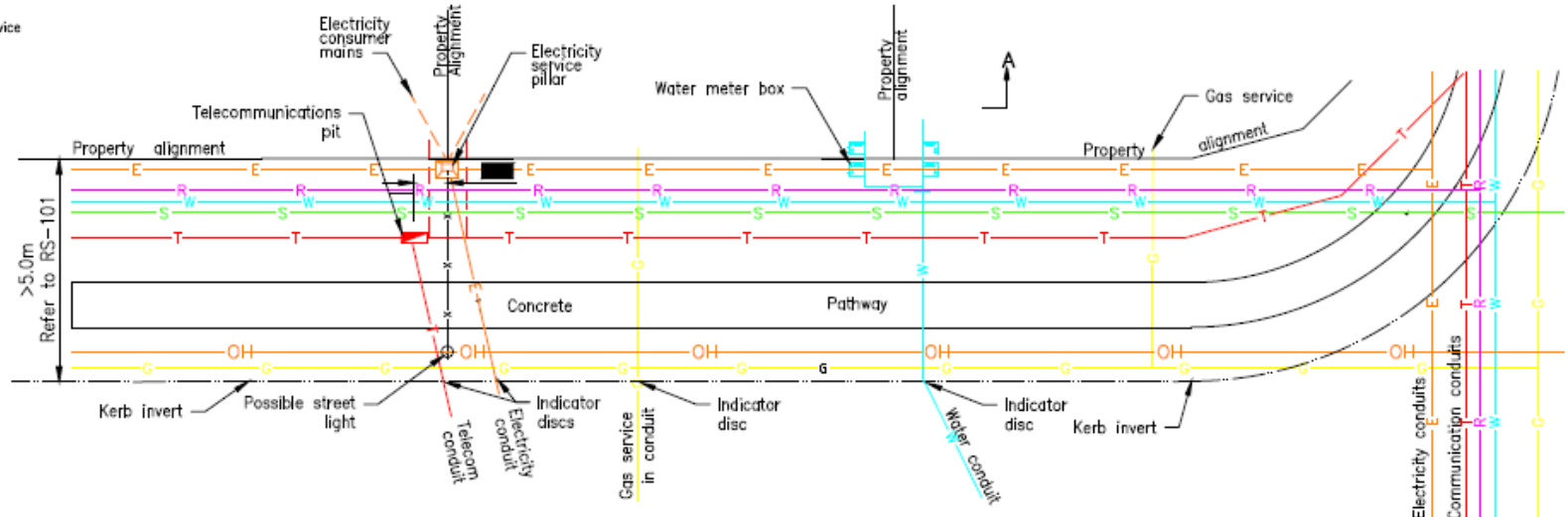
TYPICAL BRASS SERVICE MARKER DISCS

SERVICE MARKERS

W ... Water service
WM ... Water main
E ... Electrical service
T ... Telecommunication service
I ... Irrigation service
G ... Gas
S ... Sewerage main



TYPICAL SERVICE CORRIDOR ALIGNMENT
<5.0m(4.0m Nominal) VERGE WIDTH



TYPICAL SERVICE CORRIDOR ALIGNMENT
>5.0m VERGE WIDTH

Service Corridors	
Location from R.P. Boundary	
Electricity, Gas & Telecommunications	0 – 1000
Water/Sewerage	1001 – 3000
Telecommunications	3001 – 4000
Trees Gas/SW Drainage	4001 – 5000

LEGEND

Road Crossing Conduits Shown by Dashed Lines		
Gas	G	Yellow
Water	W	Blue(light)
Recycled Water	R	Lilac
Sewer	S	Green
Telecommunications	T	Red
Electricity	E	Orange
Electricity Overhead	OH	Orange

These drawings have been developed in consultation between the participating Councils.
BEFORE USE, the user shall confirm that the drawing has been adopted by the appropriate Council.

Rv	DATE	REVISIONS
F	05/17	Review
E	06/16	Review
D	05/14	Review
C	03/14	Amended Drawing Number
B	06/09	Review
A	03/08	ORIGINAL ISSUE

INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA
STANDARD DRAWINGS

PUBLIC UTILITIES
TYPICAL SERVICE CORRIDORS AND ALIGNMENTS

RS–100

ROCK EXCAVATION BY ELECTRICAL CONTRACTOR

The **electrical contractor** shall:
- excavate electricity trenches to the depth required,
- excavate street light foundations to a depth of 1500mm,

ATTN: CIVIL CONTRACTOR

THE COVER ABOVE THE STORM WATER MAIN AND THE SEWER MAIN HAS BEEN REVIEWED AT THE ELECTRICAL CROSSING POINTS. THE ELECTRICAL ROAD CROSSING CONDUITS ARE TO BE INSTALLED WITH 100mm (300mm PREFERRED) SEPARATION TO THE STORM WATER MAIN, 500mm (min) SEPARATION TO THE SEWER MAIN, 600mm COVER (min) ON THE FOOTPATH & 750mm COVER (min) UNDER THE ROAD. CONFLICTS ARE TO BE RESOLVED AS FOLLOWS:

1. STN's 14 to 15 - 200mm COVER ON 375mm STORM WATER PIPE & 215mm COVER ON 2x375mm STORM WATER PIPES. INSTALL ELECTRICAL CONDUITS **UNDER** ALL STORM WATER MAINS.

WHERE THE ELECTRICAL CONDUITS ARE INSTALLED UNDER THE STORM WATER MAINS, THEY SHALL BE GRADUALLY BROUGHT BACK UP TO A MAXIMUM DEPTH OF 1.4m AT THE ENDS.

"AS CONSTRUCTED" DOCUMENTS

The electrical contractor shall email the "as constructed" drawing, test results & closure documents to:
- contestable@energyq.com.au
- as.constructed@robrus.com.au

UNDERGROUND CABLE CERTIFICATION

All cables detailed on this drawing have been checked using the cable locator described below and are, according to measurements taken, on the correct alignment and at correct depths below the finished level, except as marked up. Alignments are subject to the accuracy of survey pegs present at the time of measurement.

Make: _____ Model: _____

Serial No: _____ Date Cables Checked: ____/____/____

Name of Person Who Conducted Checks: _____

Certified (signature of checker): _____

Phone No. of checker: _____

CAUTION: TREE PROTECTION ZONE

The **CIVIL contractor** shall install the footpath conduits through the tree protection zone under the supervision of the developers arborist.

EXISTING HOUSE, OVERHEAD CONSUMERS POWERLINE & ENERGEX SERVICE TO BE ABOLISHED BY OTHERS AS PART OF THE HOUSE DEMOLITION.

REDBANK CREEK RD FRONTAGE REPOSITIONED 4.0m NORTH TO LOCATE EXISTING TELSTRA ON THE ROAD RESERVE. EXISTING & PROPOSED ENERGEX POLES TO BE ON A 7.0m ALIGNMENT

REDBANK CREEK RD FRONTAGE REPOSITIONED 4.0m NORTH TO LOCATE EXISTING TELSTRA ON THE ROAD RESERVE. EXISTING & PROPOSED ENERGEX POLES TO BE ON A 7.0m ALIGNMENT

DANGER LIVE LV CABLES

DANGER LIVE LV & HV CABLES

DANGER LIVE LV & HV CABLES

NEWLAND PLACE

AXFORD WAY

REDBANK CREEK ROAD

REDBANK CREEK ROAD

PLAN VIEW
SCALE 1:1000

-20m 0 20 40 60m

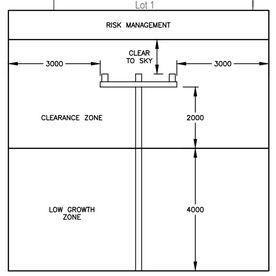
1 : 1000 (A1 - NOT REDUCED)

ATTN: CIVIL CONTRACTOR

THE CIVIL WORKS SHALL BE CONSTRUCTED TO CONFORM TO ENERGEX SPECIFICATIONS, AS FOLLOWS:

- MAXIMUM CROSS SLOPE OF UNDERGROUND CABLE ALIGNMENT IS 1:4 & IS TO EXTEND A MINIMUM OF 1.6m FROM THE BOUNDARY.
- MAXIMUM GRADE AT PILLAR LOCATIONS IS 1:4 & IS TO EXTEND A MINIMUM OF 1.6M FROM THE BOUNDARY.
- FINISHED LEVELS AT ALL STREET LIGHT LOCATIONS SHALL BE AT THE SAME GRADE AS THE KERB WITH CONCRETE REINFORCEMENT WITHIN THE SWALE DRAIN, AS PER THE "TYPICAL LIGHT POLE PROTECTION DETAIL" SHOWN ON THE CIVIL DESIGN.
- ELECTRICITY PILLAR LOCATIONS SHALL BE SHAPED TO ACHIEVE A PAD 1.6m WIDE X 1.6m DEEP, AT A MAXIMUM GRADE OF 1:4 WITH CONCRETE REINFORCEMENT WITHIN THE SWALE DRAIN, AS PER THE "TYPICAL ELECTRICAL PILLAR PROTECTION DETAIL" SHOWN ON THE CIVIL DESIGN.

THE ABOVE ITEMS HAVE ENERGEX APPROVAL & SHALL NOT BE ALTERED WITHOUT PRIOR ENERGEX APPROVAL.



TREE CLEARING PROFILE FOR OVERHEAD POWERLINE REDBANK CREEK RD FRONTAGE.
THE DEVELOPER SHALL CLEAR THE TREES 4.50m FROM THE CENTRELINE OF THE POWERLINE, CLEAR TO SKY.

SWALE ALERT

PILLARS, PITS & STREET LIGHTS MAY **NOT** BE INSTALLED IN A SWALE/DRAIN WHERE THEY WILL BE SUBJECT TO INUNDATION AT ANY TIME. IF A PROPOSED SITE IS NON-COMPLIANT, REFER TO RRA CONSTRUCTION COORDINATOR.

FOR CONSTRUCTION

CONSTRUCTION CONTACTS

ELECTRICAL ENGINEER
ROBIN RUSSELL & ASSOCIATES PTY LTD
DESIGNER
WILLIAM SCHARDT Ph: 0419 778 552
CONSTRUCTION COORDINATOR
SHANE HYDE Ph: 0419 021 772

CIVIL ENGINEER
van der Meer Consulting
CALVIN KIRK Ph: (07) 3021 6600

SURVEYOR
BPLANNED & SURVEYED
JIM GOODWIN Ph: (07) 3161 1501

GENERAL NOTES

IN THE EVENT OF CONFLICT BETWEEN THIS WORKS PLAN AND DRAWINGS AND SPECIFICATIONS OF THE RELEVANT FUTURE ASSET OWNER, I.E. ENERGEX, ERGON, LOCAL AUTHORITY, DEPARTMENT OF TRANSPORT & MAIN ROADS, NBN™, ETC., THE DRAWINGS AND SPECIFICATIONS OF THE FUTURE ASSET OWNER SHALL TAKE PRECEDENCE. EXCEPTIONS APPLY WHERE RRA DESIGN DOCUMENTATION SPECIFY CLEARANCES, DEPTHS & SEPARATIONS GREATER THAN THE MINIMUM REQUIRED BY THE AUTHORITIES.

THE CONTRACTOR SHALL NOT ACCEPT A VERBAL INSTRUCTION FROM ANY PERSON TO DEPART FROM THE REQUIREMENTS OF THIS WORKS PLAN OR RRA GENERAL SPECIFICATION. ANY DEPARTURE FROM THE WORKS PLAN OR SPECIFICATION MUST FIRST BE AUTHORISED IN WRITING BY THE CONTRACT SUPERINTENDENT.

ELECTRICAL CONTRACTOR

THE WORKS DETAILED ON THIS DRAWING SHALL BE CONSTRUCTED IN ACCORDANCE WITH ROBIN RUSSELL & ASSOCIATES' GENERAL SPECIFICATION FOR INSTALLATION OF ELECTRICITY RETICULATION AND STREET LIGHTING - ISSUE 'AA'.

CIVIL CONTRACTOR

THE INSTALLATION OF ALL ELECTRICAL CONDUITS SHALL BE SUPERVISED BY THE HOLDER OF AN ELECTRICAL WORK LICENCE - ELECTRICAL SAFETY ACT 2002.

ENERGEX CONDUITS AND TRANSFORMER SITE RETAINING WALLS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH ENERGEX'S SPECIFICATIONS (SEE BELOW). THEY WILL BE INSPECTED FOR COMPLIANCE UPON COMPLETION.

WHERE ROAD-CROSSING CONDUITS ARE INSTALLED DEEPER THAN USUAL (UNDER CULVERTS OR PIPES) THEY MUST RISE TO A DEPTH OF NOT MORE THAN 1200mm AT EACH END. IF UNCERTAIN, SEEK ADVICE FROM RRA CONSTRUCTION COORDINATOR.

THE CIVIL CONTRACTOR SHALL INSTALL ENVELOPING CONDUITS UNDER RETAINING WALLS BEHIND PILLARS - TWO 100mm CONDUITS INTO EACH LOT (ONE FOR ELECTRICITY, ONE FOR COMMUNICATIONS), 500mm DEEP BEHIND THE PILLAR, NEAR GROUND LEVEL INSIDE THE LOT.

RELEVANT SPECIFICATIONS IN ENERGEX'S UNDERGROUND DISTRIBUTION CONSTRUCTION MANUAL ARE FOUND AT -

SECTION C1: CONDUITS
SECTION C2: EXCAVATION
SECTION C3: TRANSFORMER SITES

THESE SECTIONS OF THE MANUAL CAN BE DOWNLOADED FROM THE FOLLOWING ENERGEX WEB SITE:
https://swp.energex.com.au/service_providers/technical_docs/asp/technical_documents.asp

CIVIL ENGINEERS WHO HAVE REGISTERED FOR ACCESS TO THE FOLLOWING RRA WEBSITE MAY DOWNLOAD EXTRACTS FROM ENERGEX'S MANUAL AT:
http://www.robrus.com.au

THE CIVIL CONTRACTOR SHALL ENSURE THAT ALL CONDUITS HAVE BEEN INSTALLED BEFORE CONSTRUCTING RETAINING WALLS, PATHS, DRIVEWAYS & WATER SERVICES. THE CIVIL CONTRACTOR SHALL PLEASE INFORM THE ELECTRICAL CONTRACTOR OF ANY 'AS CONSTRUCTED' DEPARTURES FROM THE CIVIL DESIGN.

CARE: EXISTING STREET LIGHTS SHALL NOT BE RECOVERED UNLESS REPLACEMENT STREET LIGHTS WILL BE COMMISSIONED BEFORE NIGHTFALL. LIGHTING OF NEW OR ALTERED EXISTING ROADS MIGHT NOT COMPLY WITH SPECIFIED STANDARDS UNTIL NEW ROAD LIGHTING HAS BEEN COMMISSIONED. THE CIVIL CONTRACTOR SHALL APPLY APPROPRIATE RISK MANAGEMENT. E.G. WARNING SIGNS, SPEED RESTRICTIONS, TEMPORARY LIGHTING, ETC.

ON-SITE SERVICES CHECKS

ROBIN RUSSELL & ASSOCIATES GIVES NO WARRANTY REGARDING THE PRESENCE OR LOCATION OF BURIED SERVICES, INCLUDING NEWLY-INSTALLED SERVICES. "AS CONSTRUCTED" LOCATIONS MAY DIFFER FROM WHAT IS DRAWN ON THIS WORKS PLAN. CONTRACTORS SHALL BE RESPONSIBLE TO IDENTIFY AND LOCATE ALL BURIED SERVICES. INITIAL IDENTIFICATION CAN BE OBTAINED FROM:

DIAL BEFORE YOU DIG SERVICE
TELEPHONE 1100
FAX 1300 652 077
ON-LINE ENQUIRIES CAN BE MADE AT: *http://www.1100.com.au.*

HAVING DETERMINED WHICH SERVICES MAY BE PRESENT, ON-SITE LOCATIONS SHOULD THEN BE ARRANGED WITH RELEVANT SERVICE AUTHORITIES.

SEWERAGE AND WATER PLANS FOR THE SUBDIVISION MAY BE OBTAINED ON REQUEST FROM THE SUPERINTENDENT.

INSTALLATION OF RRA DESIGNED TELECOMMUNICATIONS CONDUITS

TELECOMS CONDUITS AND PITS SHALL BE SUPPLIED AND INSTALLED BY THE CIVIL AND ELECTRICAL CONTRACTORS AS SPECIFIED ON THE ASSOCIATED RRA WORKS PLAN.

IN *RESIDENTIAL* SUBDIVISIONS, TELECOMMUNICATIONS CONDUITS SHALL BE INSTALLED GENERALLY IN SHARED TRENCHES, DIRECTLY ABOVE THE ELECTRICAL CONDUITS.

IN *COMMERCIAL* SUBDIVISIONS OR OTHER SITUATIONS WHERE THIS IS NOT POSSIBLE, TELECOMMUNICATIONS CONDUITS SHALL BE INSTALLED IN A SEPARATE TRENCH ON THE SPECIFIED COMMUNICATIONS ALIGNMENT.

TELECOMMUNICATIONS INFRASTRUCTURE

CONDUITS & PITS	to be designed by:	Robin Russell & Associates
	to be installed by:	civil & electrical contractors
	to be owned by:	
TELECOMMUNICATIONS INFRASTRUCTURE	to be provided by:	NBNCo Limited

SOURCE DOCUMENTS

CREATOR	DRAWING	DWG No.	REV	DATE
van der Meer Consulting	17/07/2022	X-BASE.dwg	-	22/08/2022
bplanned & surveyed	SURVEY	001762_Lot Calcs_ALL - MGA94	-	14/07/2022

SITE INFORMATION

TOTAL NUMBER OF LOTS
23

PROPERTY DESCRIPTION
PROPOSED LOTS 108 - 111, 116 - 132, 144 - 145
CANCELLING LOTS Lot 95 on CA311434 & Lot 96 on SP225226

LEGEND: ELECTRICAL

- EXISTING UNDERGROUND CABLE / CONDUIT
- PROPOSED UNDERGROUND CABLE / CONDUIT
- FUTURE UNDERGROUND CABLE / CONDUIT
- END OF CONDUIT POINT / CONDUIT CAP
- BORED CONDUIT
- STATION NUMBERS
- PADMOUNT TRANSFORMER, EXISTING / PROPOSED / FUTURE
- RING MAIN UNIT, EXISTING / PROPOSED / FUTURE
- POLE TRANSFORMER, EXISTING / PROPOSED / FUTURE
- CABLE FAULT INDICATOR
- SERVICE PILLAR, EXISTING / PROPOSED / FUTURE
- LINK PILLAR, EXISTING / PROPOSED / FUTURE
- LV LINKS (OPEN), EXISTING / PROPOSED / FUTURE
- LV LINKS (CLOSED), EXISTING / PROPOSED / FUTURE
- EXISTING OVERHEAD ELECTRICITY MAINS
- PROPOSED OVERHEAD ELECTRICITY MAINS
- FUTURE OVERHEAD ELECTRICITY MAINS
- HV POLE, EXISTING / PROPOSED / FUTURE
- HV + LV POLE, EXISTING / PROPOSED / FUTURE
- LV POLE, EXISTING / PROPOSED / FUTURE
- EARTH, EXISTING / PROPOSED / FUTURE
- STREET LIGHT, EXISTING / PROPOSED / FUTURE
- EXISTING RATE 3 STREETLIGHT CABLE
- PROPOSED RATE 3 STREETLIGHT CABLE
- FUTURE RATE 3 STREETLIGHT CABLE
- RATE 3 STREET LIGHT, EXISTING / PROPOSED / FUTURE
- RATE 3 SWITCHBOARD, EXISTING / PROPOSED
- EXISTING CONSUMERS UNDERGROUND CABLE
- PROPOSED CONSUMERS UNDERGROUND CABLE
- TO BE RECOVERED
- CABLE, EXISTING / PROPOSED
- 32 - 50mm HD CONDUIT
- 80/100mm LD CONDUIT
- 100mm WHITE ENERGEX COMMS. CONDUIT
- 125mm LD CONDUIT
- ELECTRIC CABLE MARKER PLATE

ROAD LIGHTING CERTIFICATE

(Design documentation in accordance with the requirements of AS/NZS 1158.3.1 Appendix E)

ELEMENT DETAILS
Flag Lighting, as per Gatton planning Scheme V2, Outcome P40 Street Lighting and Signs, Solution A40.1, provided at intersections, cul-de-sac heads, bends and pedestrian crossings.

INSTALLATION ARRANGEMENT / GEOMETRY

Arrangement	-	varies (refer drawing)
Mounting Height	-	5.1m
Outreach	-	Integral
Upcast Angle	-	0°
Spacing	-	N/A

LUMINAIRE / LAMP DETAILS

Luminaire Type	-	Avenue L14 (IP66)
Lamp Type	-	13.7W LED
Design Lumens	-	1969
I Table No.	-	AVENUE II 4K 14W V2 210729PH.cie

LUMINAIRE / LAMP DETAILS

Origin of Luminaire Data	-	Sylvania Schreder

LIGHT TECHNICAL PARAMETERS
As per Lockyer Valley Regional Council specifications, as detailed in the Gatton Planning Scheme V2.

ROAD SURFACE REFLECTION CHARACTERISTICS
R3

COMPUTER PROGRAM DETAILS

Name of Computer Program	-	Perfect Lite
Source of program	-	Constant Energy
Compliance	-	N/A

ROAD LIGHTING MAINTENANCE SCHEDULE
The maintenance factor and maintenance regime are the responsibility of the Asset Owner (Energy Queensland).

This design utilises the following maintenance factors:

0.7 for IP5x and **0.75** for IP6x luminaires as specified by Energy Queensland.

Note: Luminaires and lamps shall be replaced with exact equivalents.

Robin Russell RPEQ 1546

DATE	REV	REVISION	APP.
26/08/2022	A	PRELIMINARY ISSUE	RR
21/11/2022	B	FOR CONSTRUCTION	RR
31/01/2023	C	ADDITIONAL CONDUITS	RR
07/02/2023	D	LV CIRCUIT RECONFIGURED	RR
30/5/2023	E	REFER REVISION NOTES	RR

CURRENT REVISION CHANGES:
Rev D: lv circuit reconfigured. Rev E: boundary along Redbank Creek Rd moved 4.0m north to ensure existing Telstra is located in road reserve. existing & proposed Energex power poles to remain on a 7.0m alignment. Swale caution block & safety in design report added.

Robin Russell & ASSOCIATES PTY. LTD.
CONSULTING ENGINEERS - ELECTRICAL
SUBDIVISION ELECTRICAL SERVICES
204/6 Babarra Street, Stafford, QLD 4053
Tel: (07) 3872 5555
Fax: (07) 3872 5566
Email: rr@robrus.com.au
www.robrus.com.au
A.B.N. 78 010 589 661

COUNCIL	LOCKYER VALLEY	DWT REV.	V53-3 20210504
COUNCIL REF			
DESIGNED	B.Hyland	DRAWN	B.Hyland
CHECKED	W.Schardt	APPROVED	ROBIN RUSSELL RPEQ 1546
DATE	26/08/2022	SIGNED	

DESCRIPTION
ELECTRICITY RETICULATION - RESIDENTIAL

CLIENT
Parklands at Adare Pty Ltd

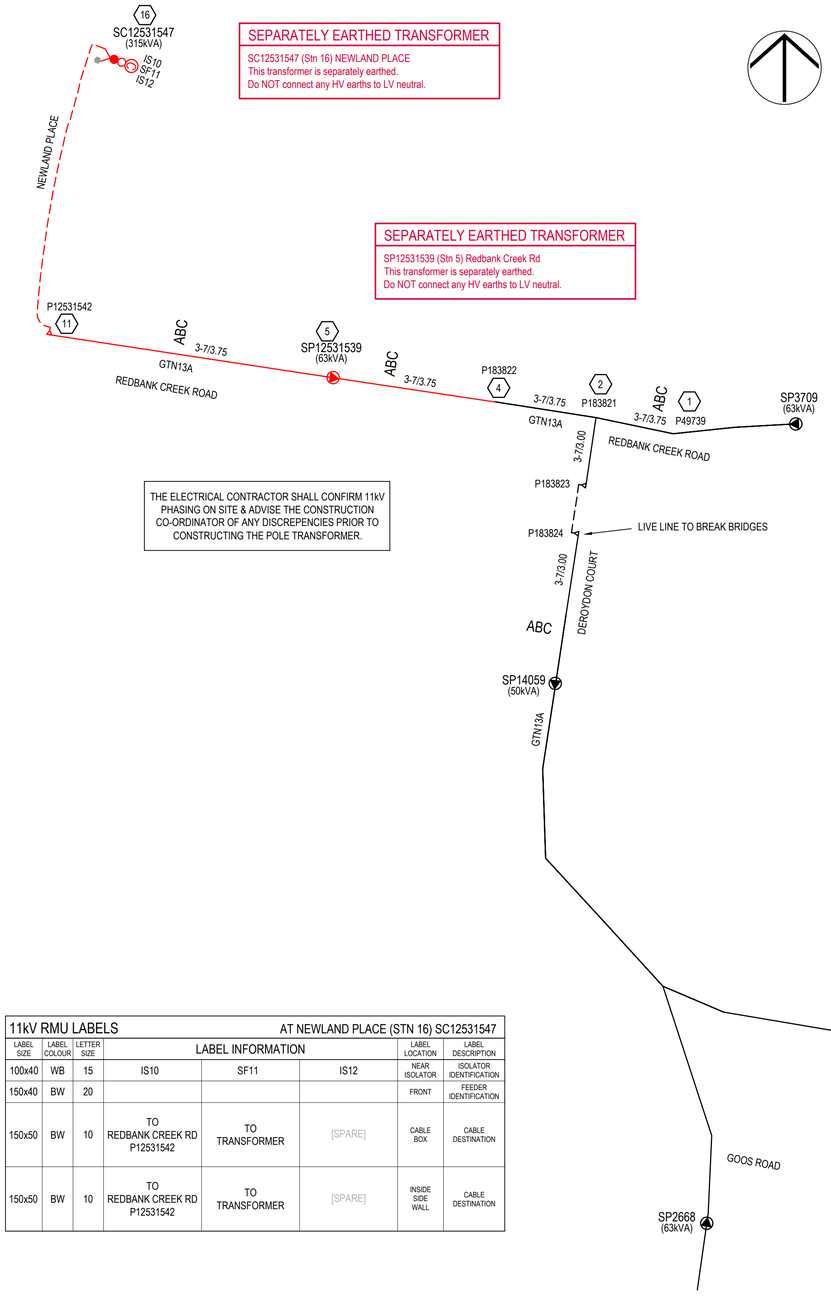
LOCATION
PARK LAKE ADARE - STAGE 1
REDBANK CREEK ROAD
ADARE

A1

DRAWING No. **D954-01** REVISION **E**

ENERGEX PROJECT No. **S0107577**

SHEET No. 1 OF 7



EXISTING AND PROPOSED 11kV SCHEMATIC

SCALE 1:2500

ALL NEW HV CABLES TO BE 3 x 1c 240mm Al TRIPLEX
(UNLESS NOTED OTHERWISE)

OVERHEAD WORKS SCHEDULE

LOCATION	STN No.	SITE ID (POLE No.)	POLES											CONSTRUCTION						REMARKS
			EDT ANG	EDT kN	SST kN	LST kN	EXISTING	RECOVER	ERECT	SINK	FOOT	COMP ID	ALIGN	EXISTING	RECOVER	ERECT	No.	KBS	ANG	
REDBANK CREEK ROAD	2	P183821	178°	0.57	2.57	4.11	P14/8			EX	EX	P01	7.0	11P/N 11T/S LVP	 LVP	 LVS LVTMA 8797 MARS IS95 MEN ADE	1 1 1 8 4 16 3 1 2	150* 850 2000	0° T 0°	 7/3.75 HELICAL TERMS 7/3.75 COMPRESSION SLEEVES 7/3.75 CABLE LV LINKS (OPEN)
	3	P12531538	90°	0	1.47	2.40			P14/8-14	2.4	NAEF	P01	7.0			11TD/N LVP	1 1	150* 2000	0°	
	4	P183822	268°	0.42	2.07	3.58	P14/12			EX	EX	P01	7.0	11T/S GSE37 LVP	11T/S GSE37	11SC/S HVTMA	1 6 1 1	150* 500 1500	0°	 7/3.75 HELICAL TERMS RECOVER EXIST GROUND STAY
	5	SP12531539	89°	0	1.71	2.80			P14/12-22	2.2	MDCF	P01	7.0			11TD/N 11BP PAGE7-53-4 PAGE7-53-3 11EDO3 11PT/63 S22443 LVPTU PTSEP ADE	1 1 1 2 1 1 1 1 1 2	150* 1000 2150 1200 	 	 BRIDGE POST TO POLE 63KVA POLE MOUNTED TFMR TRANSPOSE LV BRIDGING
	6	P184911					P12.5/8	P12.5/8						LVP	LVP		1			
	7	P12531540	94°	0	1.96	3.20			P14/8-14	2.4	NAEF	P01	7.0			11TD/N LVP	1 1	150* 2000	0° 0°	
	8	P184912	268°	1.51	2.38	3.86	P12.5/12	P12.5/12	P14/8-14	2.4	NAEF	P01	7.0	 LVT	 LVT	11TD/N LVT SET101-3 LVABC/T MEN ADE	1 1 1 1 1 2	150* 1800 	0° T 	REPLACE POLE 1.0m EAST EYEBOLT FOR X-ARM MOUNT ON EYEBOLT
	10	P12531541	88°	0	2.55	4.18			P14/8-14	2.4	NAEF	P01	7.0			11TD/N LVABC/SU4	1 1	150* 1600	0° 0°	
	11	P12531542	88°	4.88	9.58	19.14			P14/12-22	2.2	MDCF	P01	7.0			11TC/S HVTMA 11PTTRIPXW 11BRAL/240XL LVABC/T LVT4C240/HV LVABC/DS2 CGES MEN ADE	1 3 1 3 1 1 1 1 1 2	150* 1400 1800 300 	T T 	 7/3.75 HELICAL TERMS LVABC FUSE LINKS (CLOSED)

NOTES:
1. THE CONTRACTOR SHALL ENSURE THAT FINISHED LEVELS ARE COMPLETE OR PROVIDED BY SURVEY PRIOR TO THE INSTALLATION OF ANY POLES.
2. THE CONTRACTOR SHALL KEEP RECORDS OF ANY FINISHED LEVELS PROVIDED BY THE SURVEYOR OR CIVIL CONTRACTOR.

OVERHEAD CONDUCTOR SCHEDULE

LOCATION	STATION FROM	STATION TO	VOLTS	EXISTING	TRANSFER	RECOVER	ERECT	No OF SPANS	DIST (m)	STRING TABLE	M.E.S.	SAG SPAN FROM	SAG SPAN TO	SAG (m) 15°	SAG (m) 30°	CONDUCTOR LENGTH (m) NEW	CONDUCTOR LENGTH (m) REC	REMARKS
REDBANK CREEK ROAD	1	2	LV	4-7/3.75	4-7/3.75			1	67	T498	52.3	1	2	2.24	2.37			SAG TO EXISTING TENSION
	2	4	11kV	3-7/3.75	3-7/3.75			3	126	T564	42.00	2	4	1.04	1.15			SAG TO EXISTING TENSION
	2	4	LV	4-7/3.75	4-7/3.75			2	84	T498	42.00	2	4	0.92	1.04			SAG TO EXISTING TENSION
	4	8	LV	4-7/3.75	4-7/3.75			3	151	T498	51.00	4	5	1.25	1.37			SAG TO EXISTING TENSION
	4	11	11kV				3-7/3.75	5	294	T440	63.93	10	11	2.22	2.36	908		
	8	11	LV				1-LVABC95	2	143	T440	72.02	10	11	2.22	2.36	147		

NOTES:
1. OVERHEAD CABLES SHALL BE SUPPLIED BY THE ELECTRICAL CONTRACTOR.
2. FOR EVERY SPAN WHICH IS RECONDUCTORED OR RETENSIONED, THE ELECTRICAL CONTRACTOR SHALL RECORD THE SPAN HEIGHT AND AMBIENT TEMPERATURE IN THE REMARKS COLUMN.

11kV RMU LABELS — AT NEWLAND PLACE (STN 16) SC12531547

LABEL SIZE	LABEL COLOUR	LETTER SIZE	LABEL INFORMATION			LABEL LOCATION	LABEL DESCRIPTION
100x40	WB	15	IS10	SF11	IS12	NEAR ISOLATOR	ISOLATOR IDENTIFICATION
150x40	BW	20				FRONT	FEEDER IDENTIFICATION
150x50	BW	10	TO REDBANK CREEK RD P12531542	TO TRANSFORMER	[SPARE]	CABLE BOX	CABLE DESTINATION
150x50	BW	10	TO REDBANK CREEK RD P12531542	TO TRANSFORMER	[SPARE]	INSIDE SIDE WALL	CABLE DESTINATION

11kV / LV POLE LABEL — AT REDBANK CREEK ROAD (STN 11) P12531542

CIRCUIT DIRECTION	LABEL SIZE	LABEL COLOUR	LETTER COLOUR	LETTER SIZE	LABEL INFORMATION
CABLE TOWARDS STN 16	300x100	KOLANA BRONZE	SILVER	AS PER LABELING MANUAL 6450-A4	11kV CABLE - TO NEWLAND PLACE SC12531547 - IS10
CABLE TOWARDS STN 13	300x100	KOLANA BRONZE	SILVER	AS PER LABELING MANUAL 6450-A4	LV CABLE - TO NEWLAND PLACE LP12531544 AND SERVICES

OVERHEAD SERVICE SCHEDULE

LOCATION	STN No.	HOUSE # / STN No.	EXISTING	TRANSFER	RECOVER	ERECT	No. OF SPANS	DIST (m)	SAG SPAN	SAG (m) 25°	TOTAL CONDUCTOR LENGTH (m)	FITTINGS MAINS BOX	FITTINGS CHANGE P.O.A	FITTINGS FUSE SIZE	FITTINGS Ø	FITTINGS SERVICE FITTING CODE OR IIN	REMARKS
REDBANK CREEK ROAD	8	#62	2B25	2B25			1	37	37	1.32	37	N	N	80A	B	T2B25WAN80	
	8	#66	4TT16		4TT16	4B25	1	37	37	1.71	41	N	N	80A	ABC	N4B25WAN80	

NOTES:
1. OVERHEAD SERVICE CABLES SHALL BE SUPPLIED BY THE ELECTRICAL CONTRACTOR.

FOR CONSTRUCTION

DATE	REV	REVISION	APP.	DATE	REV	REVISION	APP.
26/08/2022	A	PRELIMINARY ISSUE	RR				
21/11/2022	B	FOR CONSTRUCTION	RR				
31/01/2023	C	ADDITIONAL CONDUITS	RR				
07/02/2023	D	LV CIRCUIT RECONFIGURED	RR				
30/5/2023	E	REFER REVISION NOTES	RR				

CURRENT REVISION CHANGES:
Rev D: lv circuit reconfigured. Rev E: boundary along Redbank Creek Rd moved 4.0m north to ensure existing Telstra is located in road reserve. existing & proposed Energex power poles to remain on a 7.0m alignment. Swale caution block & safety in design report added.

Robin Russell & ASSOCIATES PTY. LTD.
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COUNCIL	LOCKYER VALLEY	DWT REV.	V53-3 20210504
COUNCIL REF			
DESIGNED	B.Hyland	DRAWN	B.Hyland
CHECKED	W.Schardt	APPROVED	ROBIN RUSSELL RPEQ 1546
DATE	26/08/2022	SIGNED	

DESCRIPTION: ELECTRICITY RETICULATION - RESIDENTIAL
CLIENT: Parklands at Adare Pty Ltd

LOCATION: PARK LAKE ADARE - STAGE 1
REDBANK CREEK ROAD
ADARE

A1

DRAWING No. D954-02
REVISION E
ENERGEX PROJECT No. S0107577
SHEET No. 2 OF 7

PROPOSED COMMISSIONING PLAN

Tentative only; subject to amendment by ENERGEX outage coordinator.

SWITCHING ONE

- 1 x **LIVE** LINE, HV & LV Switching; 1 x Generator.
- Install Generator at SP3709 Redbank Creek Rd.
- Open LV Fuses and remove load from SP3709.
- Live Line to break bridges at P183824 Delroyden St.
- Erect new poles, transfer existing 11kV & LV Overhead, Erect new 11kV & LV overhead, install 11kV & LV pole terminations.
- Carry out commissioning checks and reverse switching.
- Commission SP12531539 and SC12531547.

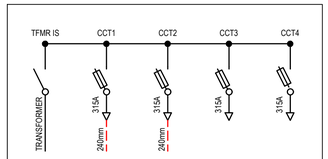
SWITCHING TWO

- 1 x LV Switching
- Following a satisfactory site specific risk assessment by the Electrical Contractor terminate the new 240mm LV cables on the spare LV switch-fuse in the **LIVE** LV Switchboard at Stn 16 .
- Commission LV underground.
- Carry out commissioning checks and reverse switching.
- Commission LV Circuit 1 of SC12531547.

SWITCHING THREE

- 1 x LV Switching
- Following a satisfactory site specific risk assessment by the Electrical Contractor terminate the new 240mm LV cable on the spare LV switch-fuse in the **LIVE** LV Switchboard at Stn 16 & at the **LIVE** LV pole at Stn 11 (P12531542).
- Commission LV underground.
- Carry out commissioning checks and reverse switching.
- Commission LV Circuit 2 of SC12531547.

Where interruptions to existing consumers are required, they shall be notified in line with ENERGEX policies.



LV SWITCHBOARD
LAYOUT FOR SC12531547

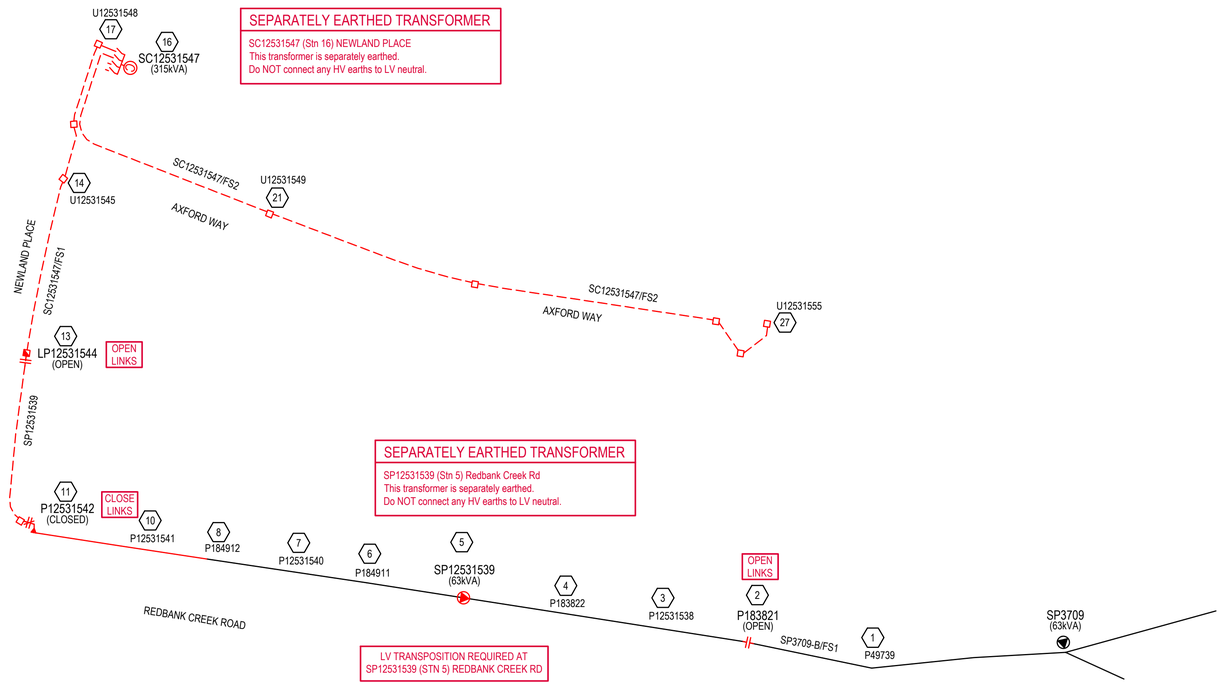
PHASING

Transformer - FS#	A	B	C
SC12531547 - FS1	2	2	1
SC12531547 - FS2	3	4	4
SC12531547 (16)	5	6	5
SP12531539 - FS1	2	3	2
SP12531539 (7)	2	3	2

Calculation may include adjacent stages and may not equal final PMT Count.

EQUIPMENT SCHEDULE

LOCATION	STN No.	SITE I.D.	EX	REC	IN	SIZE AND DESCRIPTION	COMP ID	CU CODE	QTY	REMARKS
REDBANK CREEK ROAD	12	U12531543			*	2 WAY PILLAR + SL	PI1	LVSP4-6SL	1	2x240LV, 1x4SL
NEWLAND PLACE	13	LP12531544			*	2 WAY LINK PILLAR	PI3	LVSP14-6	1	2x240LV
					*	LINK PILLAR MEN EARTHING		LV4CMENLINK	1	
	14	U12531545			*	2 WAY PILLAR + SL	PI1	LVSP4-6SL	1	2x240LV, 1x4SL
	15	U12531546			*	2 WAY PILLAR	PI1	LVSP4-6	1	2x240LV
	16	SC12531547			*	PADMOUNT TRANSFORMER - 315kVA CFC	TR1	S2475036	1	
					*	BASE SLAB		SC0019960	1	CONTRACTOR SUPPLIED
					*	UNICULVERT		SC0019959	1	CONTRACTOR SUPPLIED
					*	CONCRETE SURROUND			1	CONTRACTOR SUPPLIED
					*	SEPARATE EARTH GRID FOR SQUARE PMT		DSPMSEGS	1	
					*	ADDITIONAL EARTH		DSPMTEGSA	1	
					*	HV FUSE SET FOR 315kVA SWITCHGEAR		DSHVF3SLK	1	
					*	240mm² 11kV CFC TERM IN PADMOUNT		1CFC9524XLG	1	KIT CONTAINS 3x ELBOWS
					*	HEATSHRINK CAP 25-55mm		SC0006614	3	
					*	315A LV FUSE LINK FOR LV BOARD		DSLVF31	2	
					*	LV TERMINATION		LVPT4C240	2	
	17	U12531548			*	2 WAY PILLAR + SL	PI1	LVSP4-6SL	1	2x240LV, 1x4SL
					*	PILLAR MEN EARTHING		LV4CMEN	1	
AXFORD WAY	21	U12531549			*	2 WAY PILLAR + SL	PI1	LVSP4-6SL	1	2x240LV, 1x16LV, 1x4SL
					*	PILLAR MEN EARTHING		LV4CMEN	1	
	22	U12531550			*	CROSS-ROAD PILLAR	PI1	LVSP12-6	1	1x16LV
	23	U12531551			*	2 WAY PILLAR	PI1	LVSP4-6	1	2x240LV, 1x16LV
	24	U12531552			*	CROSS-ROAD PILLAR	PI1	LVSP12-6	1	1x16LV
	25	U12531553			*	2 WAY PILLAR + SL	PI1	LVSP4-6SL	1	2x240LV, 1x4SL
					*	PILLAR MEN EARTHING		LV4CMEN	1	
	26	U12531554			*	2 WAY PILLAR	PI1	LVSP4-6	1	2x240LV
	27	U12531555			*	1 WAY PILLAR	PI1	LVSP2-6	1	1x240LV
					*	PILLAR MEN EARTHING		LV4CMEN	1	



SEPARATELY EARTHED TRANSFORMER

SC12531547 (Stn 16) NEWLAND PLACE
This transformer is separately earthed.
Do NOT connect any HV earths to LV neutral.

SEPARATELY EARTHED TRANSFORMER

SP12531539 (Stn 5) Redbank Creek Rd
This transformer is separately earthed.
Do NOT connect any HV earths to LV neutral.

LV TRANSPOSITION REQUIRED AT
SP12531539 (STN 5) REDBANK CREEK RD

EXISTING AND PROPOSED LV SCHEMATIC

SCALE 1:1500

ALL NEW LV CABLES TO BE 4c 240mm Al XLPE
(UNLESS NOTED OTHERWISE)

LV SWITCHBOARD LABELS — AT NEWLAND PLACE (STN 16) SC12531547

CIRCUIT No.	LABEL SIZE	LABEL COLOUR	LETTER SIZE	LABEL INFORMATION
TRANSF. ISOLATOR	80x35	WB	6	TRANSFORMER ISOLATOR
1	80x35	WB	5	TO NEWLAND PLACE LP12531544 AND SERVICES
2	80x35	WB	5	TO AXFORD WAY U12531549 DIRECT THEN AXFORD WAY U12531555 AND SERVICES
3	80x35	WB	5	[SPARE]
4	80x35	WB	5	[SPARE]

LV LINK PILLAR LABELS — AT NEWLAND PLACE (STN 13) LP12531544

CIRCUIT DIRECTION	LABEL SIZE	LABEL COLOUR	LETTER SIZE	LABEL INFORMATION
LHS	150x50	WB	5	TO NEWLAND PLACE SC12531547 AND SERVICES
RHS	150x50	WB	5	TO REDBANK CREEK ROAD P12531542 AND SERVICES

LHS & RHS AS VIEWED FROM ROAD TO PILLAR

MATERIALS SUMMARY - S0107577

UNDERGROUND

MODEL No.	QTY	MODEL No.	QTY
1CFC9524XLG	1	LVSP12-6	2
ADE	5	LVSP14-6	1
DSHVF3SLK	1	LVSP2-6	1
DSLVF31	2	LVSP4-6	3
DSPMSEGS	1	LVSP4-6SL	5
DSPMTEGSA	1	S2475036	1
LV4CMEN	4	SC0006614	3
LV4CMENLINK	1	SC0019959	1
LVPT4C240	2	SC0019960	1
		SCS820363	267
TOTAL		SCS820364	768
TRENCH LENGTH	682	SCS820365	41

STREET LIGHTING

MODEL No.	QTY	MODEL No.	QTY
SLEDSY01375	5	SUGSLPIL	5
SLNOS3CI	5		
		LVC24PVPV	139

OVERHEAD

MODEL No.	QTY	MODEL No.	QTY
11BP	1	LVABC95	147
11BRAL/240XL	3	LVP	2
11EDO3	1	LVPTU	1
11PT/63	1	LVS	1
11PTTRIPXW	1	LVT	1
11SC/S	1	LVT4C240/HV	1
11TC/S	1	LVTMA	8
11TD/N	5	MARS	16
4B25	37	MEN	3
7/3.75	908	N4B25WAN80	1
8797	4	P14/12-22	2
ADE	8	P14/8-14	4
CGES	1	PAGE7-53-3	2
HVTMA	9	PAGE7-53-4	1
IS95	3	PTSEP	1
LVABC/DS2	1	S22443	1
LVABC/SU4	1	SET101-3	1
LVABC/T	2	T2B25WAN80	1

FOR CONSTRUCTION

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CONSULTING ENGINEERS - ELECTRICAL

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www.robrus.com.au
A.B.N. 78 010 589 661

COUNCIL	LOCKYER VALLEY	DWT REV.	V53-3 20210504
COUNCIL REF			
DESIGNED	B.Hyland	DRAWN	B.Hyland
CHECKED	W.Schardt	APPROVED	ROBIN RUSSELL RPEQ 1546
DATE	26/08/2022	SIGNED	

DESCRIPTION
ELECTRICITY RETICULATION - RESIDENTIAL

CLIENT
Parklands at Adare Pty Ltd

LOCATION
PARK LAKE ADARE - STAGE 1
REDBANK CREEK ROAD
ADARE

A1

DRAWING No. **D954-03**
REVISION **E**
ENERGEX PROJECT No. **S0107577**
SHEET No. 3 OF 7

URD CONDUIT SCHEDULE - FOOTPATHS - BY ELECTRICAL CONTRACTOR

LOCATION	STATIONS FROM	STATIONS TO	CONDUIT LENGTH (m) 50mm HD	No.	100mm LD	No.	125mm LD	No.	EQL 100mm COMMS MD	X-SECTION (m) PVC CABLE PROTECTION (m)	EXCAV /TAPE	TRENCH DETAIL	DRAW WIRE	KERB MARKERS	REMARKS
REDBANK CREEK ROAD	11	12			8	1	8	2	8		8	L	40		
	12	12L	28	1						28	28	O	30		
	12	13			85	1	85	2	85		85	L	348		
NEWLAND PLACE	13	14			88	1	88	2	88		88	L	360		
	14	14L	6	1						6	6	O	8		
	15	16			38	2	38	2	38		38	N	200		
	15	20A			52	1					52	D	54		
	16	17			5	4	5	2	5		5	E+N	49		
	16	17			3	5	3	2	3		3	M3	40		
	17	18	4	1	4	4	4	2	4		4	Q+N	48		
	18	17L	6	1						6	6	O	8		
	18	19			34	4	34	2	34		34	E+N	252		
AXFORD WAY	20	21	25	1	25	1					25	P	54		
	21	23			107	1					107	D	109		
	23	25			120	1					120	D	122		
	25	25L	13	1						13	13	O	15		
	26	27			22	1					22	D	24		
	27	28			43	1					43	D	45		
TOTAL			82m		813m		530m		265m	53m	687m		1806m		

NOTES:
1. CONDUITS SHALL BE INSTALLED WITHIN A CORRIDOR 300-900mm FROM PROPERTY ALIGNMENT, IN ACCORDANCE WITH ENERGEX UNDERGROUND DISTRIBUTION CONSTRUCTION (UDC) MANUAL.
2. FOOTPATH CONDUITS SHALL HAVE MINIMUM 700mm COVER, REGARDLESS OF ENERGEX'S REQUIREMENTS.
3. CONNECT EXISTING CONDUITS, INCLUDING ROAD CROSSING CONDUITS, TO NEW FOOTPATH CONDUITS
4. TELECOMMUNICATION CONDUITS SHALL BE INSTALLED ABOVE THE ENERGEX CONDUITS IN A JOINT USE TRENCH ARRANGEMENT.

URD CONDUIT SCHEDULE - ROADWAYS - BY CIVIL CONTRACTOR

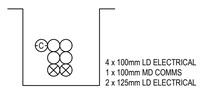
LOCATION	STATIONS FROM	STATIONS TO	CONDUIT LENGTH (m) 50mm HD	No.	100mm LD	No.	125mm LD	No.	EQL 100mm COMMS MD	X-SECTION (m) PVC CABLE PROTECTION (m)	EXCAV /TAPE	TRENCH DETAIL	DRAW WIRE	KERB MARKERS	REMARKS
NEWLAND PLACE	14	15			28	1	28	2	28	28	28	L	120	2	INSTALL UNDER STORM WATER PIPES
AXFORD WAY	20	21L	21	1						21	21	O	23	2	
	21	22			15	1				15	15	D	17	2	
	23	24			16	1				16	16	D	18	2	
	25	26			20	1				20	20	D	22	2	
TOTAL			21m		79m		56m		28m	100m	100m		200m	10	

NOTES:
1. ROAD CROSSING CONDUITS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH THE ENERGEX UNDERGROUND DISTRIBUTION CONSTRUCTION (UDC) MANUAL.
2. ROAD CROSSING CONDUITS SHALL HAVE A MINIMUM COVER OF 800mm AT ALL PLACES UNDER THE ROAD, EXCEPT UNDER STATE-CONTROLLED "MAIN" ROADS, WHERE CONDUITS SHALL HAVE A MINIMUM COVER OF 1200mm.
3. CONDUITS SHALL EXTEND TO WITHIN 900mm OF PROPERTY ALIGNMENT; PVC PROTECTIVE COVER STRIPS SHALL BE LAID ABOVE ALL ROAD-CROSSING CONDUITS.
4. REFER ENERGEX UDC MANUAL SECT. C2 FOR CROSS-SECTION DETAILS.
5. BRASS "E" MARKERS SHALL BE INSTALLED IN KERBS DIRECTLY ABOVE ELECTRICITY CONDUITS.

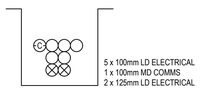
CONSUMER CONDUIT SCHEDULE - BY CIVIL CONTRACTOR

LOCATION	STATIONS FROM	STATIONS TO	ELECTRICAL (m) 32HD	40HD	50HD	63HD	No.	TRENCH DETAIL	REMARKS
AXFORD WAY	27	27A			53		1	CM1	
TOTAL					53m				

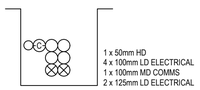
NOTES:
1. CONSUMER'S CONDUITS SHALL BE INSTALLED PRIOR TO CONSTRUCTION OF DRIVEWAYS TO REAR LOTS.
2. ELECTRICAL CONDUIT SHALL BE ORANGE, HEAVY DUTY TO AS/NZS 2053:2001, AT MINIMUM DEPTH OF 500mm.
3. COMMUNICATIONS CONDUIT SHALL BE WHITE, MEDIUM DUTY TO AS/NZS 1477:2017, LABELLED: "COMMUNICATIONS", MINIMUM BEND RADIUS 300mm, AT MINIMUM DEPTH OF 300mm.
4. MINIMUM CLEARANCE OF 100MM SHALL BE MAINTAINED BETWEEN ALL SERVICES.
5. MARK THE END OF ALL CONSUMER'S CONDUITS, BY EXTENDING THE WARNING TAPE UP TO GROUND LEVEL.
6. ALL CONDUITS TO BE MANDREL-TESTED, SEALED, AND HAVE DRAW ROPES INSTALLED.
7. CONDUITS TO EXTEND TO FRONT PROPERTY ALIGNMENT.
8. ELECTRICAL CONTRACTOR SHALL EXTEND CONDUITS THROUGH FROM BOUNDARY TO PILLAR
9. REFER TO TELECOMMUNICATIONS CONDUIT PLAN FOR DETAILS OF TELECOMMUNICATIONS CONDUIT TO BE INSTALLED.



TRENCH DETAIL
'E+N'
(N.T.S)



TRENCH DETAIL
'M3'
(N.T.S)



TRENCH DETAIL
'Q+N'
(N.T.S)

PROJECT SPECIFIC
NON-STANDARD ENERGEX
TRENCH DETAILS

UNDERGROUND CABLE SCHEDULE

LOCATION	STATIONS FROM	STATIONS TO	VOLTS	EX	REC	IN	CABLE SIZE/TYPE	CU CODE	CABLE LENGTH (m) NEW	CABLE LENGTH (m) REC	REMARKS
REDBANK CREEK ROAD	11	12	LV			•	240mm² Al 4C XLPE/PVC	SCS820364	23		INCLUDES LENGTH UP POLE
	11	16	11kV			•	240mm² Al 3X1C TR XLPE/SCREEN/HDPE	SCS820363	267		INCLUDES LENGTH UP POLE
	12	12L	SL			•	4mm² Cu 2C PVC/PVC	LVC24PVPV	35		
	12	13	LV			•	240mm² Al 4C XLPE/PVC	SCS820364	90		
NEWLAND PLACE	13	14	LV			•	240mm² Al 4C XLPE/PVC	SCS820364	97		
	14	14L	SL			•	4mm² Cu 2C PVC/PVC	LVC24PVPV	12		
	14	15	LV			•	240mm² Al 4C XLPE/PVC	SCS820364	36		
	15	17	LV			•	240mm² Al 4C XLPE/PVC	SCS820364	48		
	16	17	LV			•	240mm² Al 4C XLPE/PVC	SCS820364	14		
	16	21	LV			•	240mm² Al 4C XLPE/PVC	SCS820364	161		
	17	17L	SL			•	4mm² Cu 2C PVC/PVC	LVC24PVPV	15		
AXFORD WAY	21	21L	SL			•	4mm² Cu 2C PVC/PVC	LVC24PVPV	58		
	21	22	LV			•	16mm² Cu 4C XLPE/PVC	SCS820365	20		
	21	23	LV			•	240mm² Al 4C XLPE/PVC	SCS820364	117		
	23	24	LV			•	16mm² Cu 4C XLPE/PVC	SCS820365	21		
	23	25	LV			•	240mm² Al 4C XLPE/PVC	SCS820364	130		
	25	25L	SL			•	4mm² Cu 2C PVC/PVC	LVC24PVPV	19		
	25	26	LV			•	240mm² Al 4C XLPE/PVC	SCS820364	25		
	26	27	LV			•	240mm² Al 4C XLPE/PVC	SCS820364	27		
TOTALS (Variance 5%)							240mm² Al 3X1C TR XLPE/SCREEN/HDPE	SCS820363	267		
							240mm² Al 4C XLPE/PVC	SCS820364	768		
							16mm² Cu 4C XLPE/PVC	SCS820365	41		
							4mm² Cu 2C PVC/PVC	LVC24PVPV	139		

NOTES:
1. THE CONTRACTOR SHALL MEASURE ACTUAL CABLE LENGTHS REQUIRED, AFTER INSTALLATION OF CONDUITS, THEN ORDER CABLE ACCORDINGLY.

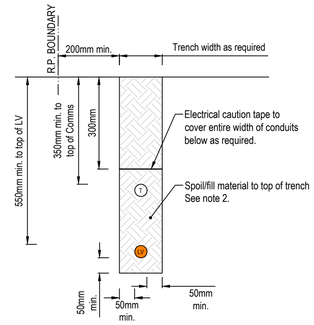
URD CONDUIT SCHEDULE - FOOTPATHS - BY CIVIL CONTRACTOR

LOCATION	STATIONS FROM	STATIONS TO	CONDUIT LENGTH (m) 50mm HD	No.	100mm LD	No.	125mm LD	No.	EQL 100mm COMMS MD	X-SECTION (m) PVC CABLE PROTECTION (m)	EXCAV /TAPE	TRENCH DETAIL	DRAW WIRE	KERB MARKERS	REMARKS
AXFORD WAY	20	20A			29	1					29	D	31		
TOTAL					29m						29m		31m		

NOTES:
1. CONDUITS SHALL BE INSTALLED WITHIN A CORRIDOR 300-900mm FROM PROPERTY ALIGNMENT, IN ACCORDANCE WITH ENERGEX UNDERGROUND DISTRIBUTION CONSTRUCTION (UDC) MANUAL.
2. FOOTPATH CONDUITS SHALL HAVE MINIMUM 700mm COVER, REGARDLESS OF ENERGEX'S REQUIREMENTS.
3. TELECOMMUNICATION CONDUITS SHALL BE INSTALLED ABOVE THE ENERGEX CONDUITS IN A JOINT USE TRENCH ARRANGEMENT.

NOTES:
1. Minimum 100mm separation required between **all** services in trench
2. Excavated material from the trench may be suitable for final backfill, provided it is free from rock, hard matter and organic material, and broken up so that it contains no soil lumps large then 75mm

LEGEND
- (T) Telecomms conduit
- (LV) LV conduit

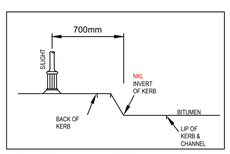


JOINT USE CONSUMERS TRENCH - CM1
NOT TO SCALE

RATE 2 - STREETLIGHT SCHEDULE

LOCATION	STN No.	POLE OR COMPONENTS SITE ID (POLE No.)	COMP ID	EX (m)	REC (m)	ER (m)	POLE CODE	ALIGN (mm)	NORTH	EAST	LANTERN COMP ID	EX	RECOVER LUMIN	RECOVER CUST	DATE DE-ENERG	ERECT LUMIN	ERECT CUST	DATE ENERG	LUMINAIRE CODE	OUTREACH BRACKET EX (m)	REC (m)	ER (m)	CU ID	UPCAST ANGLE	MOUNT HT (m)	REMARKS
REDBANK CREEK ROAD	12L	P12531556	P01			4.5m BPM	SLNOS3CI	700 NKL	6,954,021.526	429,890.326	SL1					L14L2	LOCK		SLEDSY01375					0°	5.1	BLACK AVENUE
NEWLAND PLACE	14L	P12531557	P01			4.5m BPM	SLNOS3CI	700 NKL	6,954,216.183	429,908.196	SL1					L14L2	LOCK		SLEDSY01375					0°	5.1	BLACK AVENUE
	17L	P12531558	P01			4.5m BPM	SLNOS3CI	700 NKL	6,954,285.845	429,930.782	SL1					L14L2	LOCK		SLEDSY01375					0°	5.1	BLACK AVENUE
AXFORD WAY	21L	P12531559	P01			4.5m BPM	SLNOS3CI	700 NKL	6,954,196.457	429,974.730	SL1					L14L2	LOCK		SLEDSY01375					0°	5.1	BLACK AVENUE
	25L	P12531560	P01			4.5m BPM	SLNOS3CI	700 NKL	6,954,143.885	430,243.987	SL1					L14L2	LOCK		SLEDSY01375					0°	5.1	BLACK AVENUE

NOTES:
1. ALL LIGHTS TO BE CONNECTED ON EQL RATE 2.
2. CHECK CLEAR OF ALL SERVICES BEFORE EXCAVATING.



LOCKYER VALLEY REGIONAL COUNCIL
STREETLIGHT ALIGNMENT DETAIL
NTS

CONDUIT BENDING RADIUS (mm)			
LOCATION	50mm Ø	100mm Ø	125mm Ø
HORIZONTAL BEND	600	1830	1830
PILLAR - MAIN CABLE	-	1200	-
PILLAR - X-ROAD CABLE	-	450	-
PILLAR - STREET LIGHT CABLE	600	-	-
STREET LIGHT	300	-	-
POLE TERMINATION	300	1200	1830
TRANSFORMER	no bends required		

FOR CONSTRUCTION

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CURRENT REVISION CHANGES:
Rev D: lv circuit reconfigured. Rev E: boundary along Redbank Creek Rd moved 4.0m north to ensure existing Telstra is located in road reserve. existing & proposed Energex power poles to remain on a 7.0m alignment. Swale caution block & safety in design report added.

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SUBDIVISION ELECTRICAL SERVICES
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A.B.N. 78 010 589 661

COUNCIL	LOCKYER VALLEY	DWT REV.	V53-3 20210504
COUNCIL REF			
DESIGNED	B.Hyland	DRAWN	B.Hyland
CHECKED	W.Schardt	APPROVED	ROBIN RUSSELL RPEQ 1546
DATE	26/08/2022	SIGNED	

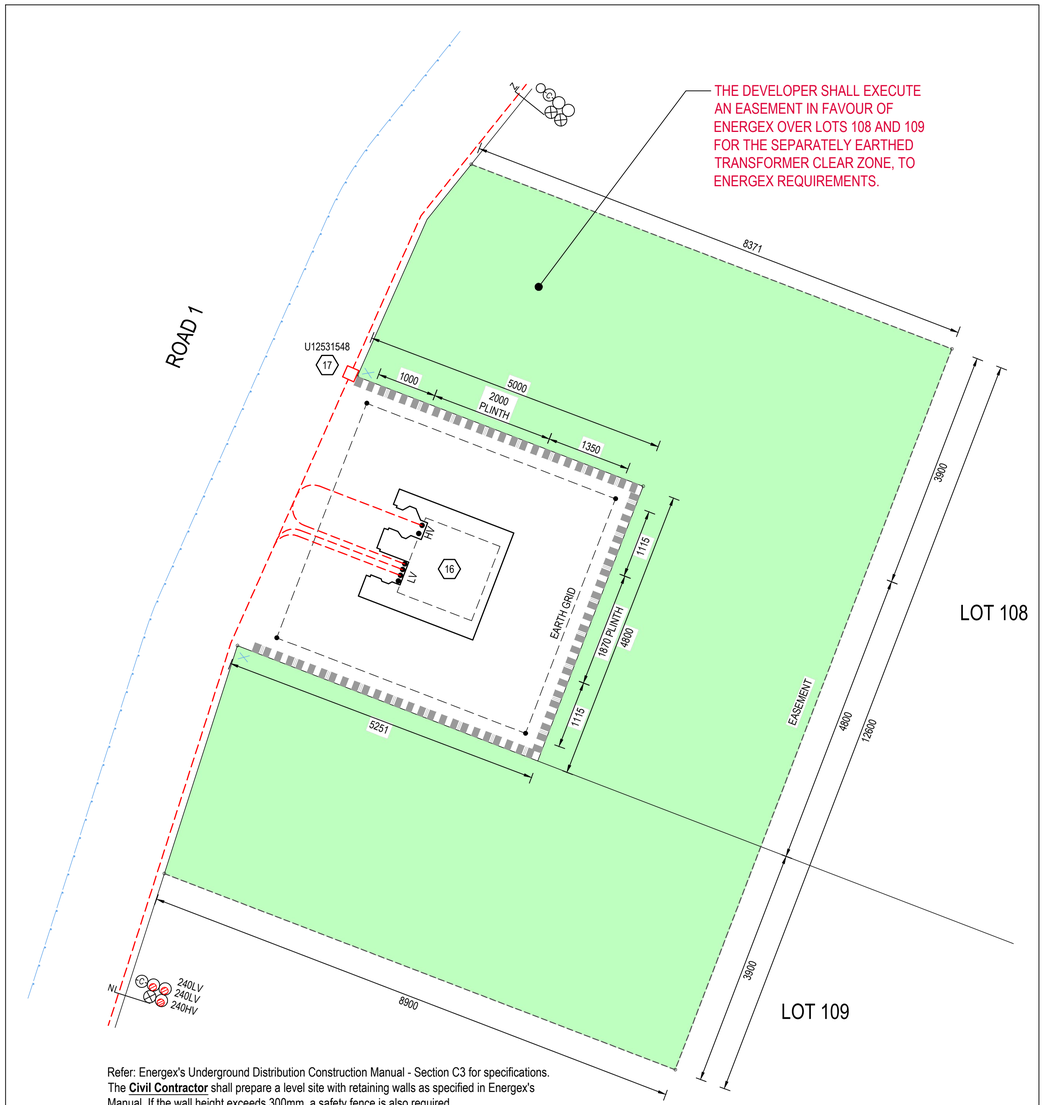
DESCRIPTION: ELECTRICITY RETICULATION - RESIDENTIAL

CLIENT: Parklands at Adare Pty Ltd

LOCATION: PARK LAKE ADARE - STAGE 1
REDBANK CREEK ROAD
ADARE

A1

DRAWING No. D954-04
REVISION E
ENERGEX PROJECT No. S0107577
SHEET No. 4 OF 7



Refer: Energex's Underground Distribution Construction Manual - Section C3 for specifications.
The **Civil Contractor** shall prepare a level site with retaining walls as specified in Energex's Manual. If the wall height exceeds 300mm, a safety fence is also required.

The preferred subcontractor for design/construction of PMT retaining walls is MSC Construction. If construction will be by a different contractor, please contact RRA for further instructions.

The **Electrical Contractor** shall construct the transformer foundations.

The **Electrical Contractor** shall arrange for a test of the bearing capacity of the excavated ground at the transformer site. If it appears to be less than 50 kPa (i.e. easily penetrated by thumb), cease construction and notify the Contract Superintendent immediately. A new foundation design may be required.

The **Electrical Contractor** shall concrete the PMT site including the additional area to the boundary.

PROPOSED SC12531547 (Stn 16)
SCALE 1:50 (AT A1 SIZE)

FOR CONSTRUCTION

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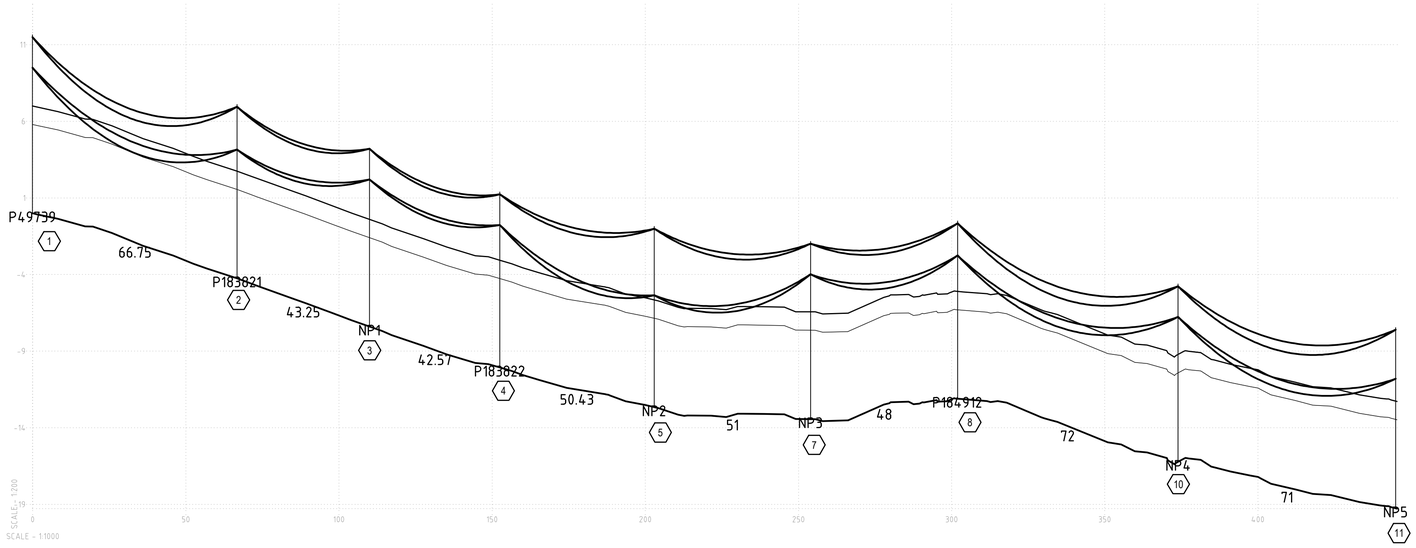
COUNCIL REF			
DESIGNED	B.Hyland	DRAWN	B.Hyland
CHECKED	W.Schardt	APPROVED	ROBIN RUSSELL RPEQ 1546
DATE	26/08/2022	SIGNED	

DESCRIPTION: **ELECTRICITY RETICULATION - RESIDENTIAL**
CLIENT: Parklands at Adare Pty Ltd

LOCATION: **PARK LAKE ADARE - STAGE 1**
REDBANK CREEK ROAD
ADARE

A1

DRAWING No. **D954-05** REVISION **E**
ENERGEX PROJECT No. **S0107577**
SHEET No. 5 OF 7



Circuit ID	L pole	L att ht	R pole	R att ht	Conductor	Sag	Span	Temperature	MES/RS	Tension	Tension Units	Segment	Actual no wind tens	Min clearance @ Ch	Blowout
standard	P49739	9.5	P183821	8.4	MA	2.23	66.75	15	54.64	564	Table	SS2	0.519	6.5 @ 33	2.359
hot	P49739	9.5	P183821	8.4	MA	2.9	66.75	75	54.64	498	Table	SS2	0.4	5.83 @ 33	2.359
standard	P183821	8.4	NP1	9.6	MA	0.93	43.25	15	54.64	498	Table	SS2	0.519	7.97 @ 81.75	0.985
hot	P183821	8.4	NP1	9.6	MA	1.21	43.25	75	54.64	498	Table	SS2	0.4	7.71 @ 82.75	0.985
standard	NP1	9.6	P183822	9.3	MA	0.91	42.57	15	54.64	498	Table	SS2	0.519	8.74 @ 131	0.956
hot	NP1	9.6	P183822	9.3	MA	1.18	42.57	75	54.64	498	Table	SS2	0.4	8.47 @ 131	0.956
standard	P183822	9.3	NP2	7.3	MA	1.27	50.43	15	49.86	498	Table	SS3	0.519	6.81 @ 187.57	1.374
hot	P183822	9.3	NP2	7.3	MA	1.72	50.43	75	49.86	498	Table	SS3	0.385	6.43 @ 186.57	1.374
standard	NP2	7.3	NP3	9.45	MA	1.3	51	15	49.86	498	Table	SS3	0.519	7.15 @ 221	1.395
hot	NP2	7.3	NP3	9.45	MA	1.75	51	75	49.86	498	Table	SS3	0.385	6.72 @ 230	1.395
standard	NP3	9.45	P184912	9.35	MA	1.15	48	15	49.86	498	Table	SS3	0.519	7.89 @ 280	1.235
hot	NP3	9.45	P184912	9.35	MA	1.55	48	75	49.86	498	Table	SS3	0.385	7.49 @ 280	1.235
standard	P183822	11.3	NP2	11.65	MA	1.12	50.43	15	61.41	440	Table	SS4	0.588	10.49 @ 181.57	1.189
hot	P183822	11.3	NP2	11.65	MA	1.46	50.43	75	61.41	440	Table	SS4	0.452	10.15 @ 180.57	1.189
standard	NP2	11.65	NP3	11.45	MA	1.15	51	15	61.41	440	Table	SS4	0.588	10.39 @ 233	1.213
hot	NP2	11.65	NP3	11.45	MA	1.49	51	75	61.41	440	Table	SS4	0.452	10.06 @ 232	1.213
standard	NP3	11.45	P184912	11.45	MA	1.01	48	15	61.41	440	Table	SS4	0.588	10.08 @ 280	1.076
hot	NP3	11.45	P184912	11.45	MA	1.32	48	75	61.41	440	Table	SS4	0.452	9.78 @ 280	1.076
standard	P184912	11.45	NP4	11.45	MA	2.29	72	15	61.41	440	Table	SS4	0.588	8.83 @ 335	2.428
hot	P184912	11.45	NP4	11.45	MA	2.98	72	75	61.41	440	Table	SS4	0.452	8.15 @ 335	2.428
standard	NP4	11.45	NP5	11.65	MA	2.22	71	15	61.41	440	Table	SS4	0.588	9.34 @ 400	2.357
hot	NP4	11.45	NP5	11.65	MA	2.89	71	75	61.41	440	Table	SS4	0.452	8.72 @ 400	2.357
standard	P184912	9.35	NP4	9.45	LVABC95	2.29	72	15	71.51	440	Table	SS5	3.761	6.78 @ 335	2.043
hot	P184912	9.35	NP4	9.45	LVABC95	2.85	72	80	71.51	440	Table	SS5	3.018	6.22 @ 335	2.043
standard	NP4	9.45	NP5	8.45	LVABC95	2.22	71	15	71.51	440	Table	SS5	3.761	6.88 @ 412	1.986
hot	NP4	9.45	NP5	8.45	LVABC95	2.77	71	80	71.51	440	Table	SS5	3.018	6.33 @ 411	1.986

ID	Conductor	RS	Tension	Temperatures	Poles
SS1	3 x MA - Mars	54.64	564 (Table)	uplift (5); standard (15); warm (35); hot (75)	P49739, P183821, NP1, P183822
SS2	4 x MA - Mars	54.64	498 (Table)	uplift (5); standard (15); warm (35); hot (75)	P49739, P183821, NP1, P183822
SS3	4 x MA - Mars	49.86	498 (Table)	uplift (5); standard (15); warm (35); hot (75)	P183822, NP2, NP3, P184912
SS4	3 x MA - Mars	61.41	440 (Table)	uplift (5); standard (15); warm (35); hot (75)	P183822, NP2, NP3, P184912, NP4, NP5
SS5	1 x LVABC95 - LVABC95	70.51	440 (Table)	uplift (5); standard (15); warm (35); hot (80)	P184912, NP4, NP5

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COUNCIL	LOCKYER VALLEY	DWT REV.	V53-3 20210504
COUNCIL REF			
DESIGNED	B.Hyland	DRAWN	B.Hyland
CHECKED	W.Schardt	APPROVED	ROBIN RUSSELL RPEQ 1546
DATE	26/08/2022	SIGNED	

DESCRIPTION: ELECTRICITY RETICULATION - RESIDENTIAL

CLIENT: Parklands at Adare Pty Ltd

LOCATION: PARK LAKE ADARE - STAGE 1 REDBANK CREEK ROAD ADARE

A1

DRAWING No. D954-06

REVISION E

ENERGEX PROJECT No. S0107577

SHEET No. 6 OF 7

SAFETY REPORT - F101

Activity	Hazard	Risk reduction measure considered during design phase. *Consider hierarchy of controls.*	Proposed risk reduction measures to be considered during construction.
CONSTRUCTION PHASE			
Critical Site Hazards These are the Critical Site Specific hazards considered in the design phase of the project that need to be highlighted to the Construction workgroup/Principal Contractor. These are design features that present hazards and risks that are **unique** to the particular design and not covered off by established practices for Energex Construction workgroups, or are reasonably expected to be managed by the Construction Workgroup/Principal contractor carrying out this type of work.			
Swale / Drain located on the electrical infrastructure (e.g. Street Light Poles, Pillars, Pits, etc.) alignment.	*Electrical Infrastructure (Street Light Poles, Pillars, Pits, etc.) located in swales are subject to inundation & foundation erosion.* *Swale/ drains present an unacceptable operating environment for Energex staff to access the poles in all weather events.*	*1. Swale / drain designed to achieve Energy Queensland requirements through design modification or replacement with an engineered solution.* *- Water volume, flow rates & water levels determined, foundations (including potential swale scouring) assessed against industry standards for erosion certified compliant by an appropriately qualified RPEQ.* *- Level operational platform provided for each pole location above the 10%AEP (Annual Exceedance Probability) water level consistent with Energy Queensland Requirements as documented in the civil design.* *2. Provision of a **Civil Engineering Design Concept** submitted to Energy Queensland & Concept **Acceptance Obtained**.* *3. Provision of a **Civil Engineering Design, Swale/Foundation Certification & Form 15,** submitted to Energy Queensland consistent with the Civil Engineering Design Concept & **Acceptance Obtained**.* *4. Provision of a **Form 12 & photographic evidence of Completed Construction** consistent with the Civil Engineering Design **submitted to Energy Queensland prior to acceptance audit undertaken**.*	Electrical Constructors shall ensure they understand the Energy Queensland Accepted Civil Engineering Design & **DO NOT PROCEED** with electrical construction until they have confirmed the swale treatments have been/will be constructed by the civil constructor consistent with the Energy Queensland Accepted Civil Engineering Design. Civil Engineer/Civil Constructor/Electrical Contractor/Others (as applicable) to discuss ANY changes to the civil construction impacting the electrical infrastructure relating to the Energy Queensland Accepted Civil Engineering Design with the **RRA Construction Coordinator.** Implications to be assessed & re-submission to be made to Energy Queensland for re-acceptance as determined in consultation with Energy Queensland.
Electrical Infrastructure (e.g. Street Light, Pillar, Pit, etc.) is installed to finished surface levels with an appropriate operating platform.	*Electrical infrastructure installed at incorrect finished surface level &/or inadequate operating platform (slope/size).*	*Existing & finished surface levels plus operation platform requirements reviewed as part of electrical and civil design development.*	Electrical Contractor shall have finished levels provided by survey prior to commencing installation. Electrical Contractor shall keep physical records of finished levels provided by survey. Electrical Contractor shall ensure swale treatments documented in the Civil Engineering Design are constructed prior to installing electrical infrastructure.
Telecommunications Infrastructure (e.g. NBN pit, etc.) is installed to finished surface levels with an appropriate operating platform.	*Telecommunications infrastructure installed at incorrect finished surface level &/or inadequate operating platform (slope/size).*	*Existing & finished surface levels plus operation platform requirements reviewed as part of telecommunications and civil design development.*	Electrical Contractor shall have finished levels provided by survey prior to commencing installation. Electrical Contractor shall keep physical records of finished levels provided by survey. Electrical Contractor shall ensure swale treatments documented in the Civil Engineering Design are constructed prior to installing electrical infrastructure.

The Work Health and Safety Act 2011 and Work Health and Safety Regulation 2011 requires designers to consult with end users (or their nominated representatives) when identifying hazards or assessing risks to health & safety, and to pass on information to end users relating to the safety hazard aspects of their designs (in the form of a Safety Report).

A hazard assessment has been carried out to identify site specific hazards that were considered during the design. The risks identified are limited to those that are considered to be of a unique nature i.e. not covered off by established practises or those that could not be reasonably expected to be managed by a worker experienced in the construction work involved. Specifically, subdivisions electrical reticulation & street light designing is typically rules based through the application of prescriptive standards (such as the Energex design and construction manuals), utilising standard "building block" plant & materials in the main procured by Energex. The professional engineering service is provided through the development & approvals of these standards and through technical specifications/assessment of plant & materials by the standards owners (e.g. Energex). As such, any deviation from these established standards will require appropriate approvals. If associated with provision of a professional engineering service, that means an appropriately qualified Registered Professional Engineer Queensland (RPEQ).

To ensure compliance, controls and to manage risk, Energex employs a service provider rating system that requires assessment of knowledge & competence in these standards to attain and maintain service provider rating as well as other requirements including minimum professional qualifications for staff and quality systems. Additionally, there is an acceptance and audit process associated with designs produced by Energex. Only rated service providers undertake these design and construction activities, providing a high degree of certainty and control over the design and construction outcomes.

This Safety Report documents residual risks that require management by the end user (e.g. construction) that are considered to be of a unique nature. Proposed risk reduction measures and controls to be considered in managing this risk during construction are noted.

This safety report in no way relieves the principal, contractor or any other party of their obligations and responsibilities under the Work Health and Safety Regulation 2011 Qld, including (but not limited to) consultation with the designer under section 294 of the regulation, the preparation of safe work method statements and duties of care. Specifically, consultation with the designer is required prior to any construction variation from the design.

Hierarchy of controls

Eliminate the Hazard	E.g.: repair damaged equipment, dispose of unwanted chemicals.
If this is not practicable, then ↓	
Substitute the Hazard	E.g.: lift smaller packages, use a less toxic chemical.
If this is not practicable, then ↓	
Isolate the Hazard	E.g.: place barriers around a spill until cleaned up, locate the photocopier in a separate, well ventilated room, enclose machinery.
If this is not practicable, then ↓	
Use engineering controls	E.g.: provide a trolley to move heavy loads, place guards on moving machinery parts.
If this is not practicable, then ↓	
Use administrative controls	E.g.: introduce job rotation, ensure equipment is regularly maintained.
If this is not practicable, then ↓	
Use personal protective clothing and equipment	E.g.: provide hearing and eye protection, hard hats, gloves, masks.

Until you have a better method of control.

FOR CONSTRUCTION

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COUNCIL	LOCKYER VALLEY	DWT REV.	V53-3 20210504
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CHECKED	W.Schardt	APPROVED	ROBIN RUSSELL RPEQ 1546
DATE	26/08/2022	SIGNED	

DESCRIPTION: ELECTRICITY RETICULATION - RESIDENTIAL
CLIENT: Parklands at Adare Pty Ltd
LOCATION: PARK LAKE ADARE - STAGE 1 REDBANK CREEK ROAD ADARE

A1

DRAWING No. D954-07
REVISION E
ENERGEX PROJECT No. S0107577
SHEET No. 7 OF 7