

# WORKPLAN NOTES

- PRECEDENCE OVER GRID COORDINATES.

- ENERGY STORES IIN. 0157746 AND IIN. 2406222 RESPECTIVELY.
- ERGON STANDARD SPECIFICATIONS RSC07, RSC08, & RSM02.

1. FOR STANDARD UNDERGROUND DUCT SECTIONS REFER TO UNDERGROUND CONSTRUCTION MANUAL DRAWING 5168.

2. POLYMERIC COVER TO BE INSTALLED OVER CONDUITS OUTSIDE NORMAL ERGON ALIGNMENT AS PER ERGON DRAWING. 5022-1 AND

3. STANDARD TRENCH ALIGNMENT IS 0.3 TO 1.2 METRES OFF PROPERTY ALIGNMENT SUBJECT TO LOCATION OF OTHER SERVICES. REFER

4. STREETLIGHT POLE FOOTINGS SHALL BE LOCATED PERPENDICULAR TO THE KERB AND SQUARE FROM THE FRONT BOUNDARY PEG ENSURING NO CONFLICT WITH FUTURE DRIVEWAYS, UNLESS DETAILED OTHERWISE. WHERE DIMENSIONS ARE SHOWN, THEY TAKE

5. ALL CONDUITS SHALL BE CONTINUOUS UNLESS DETAILED OTHERWISE.

6. REFER TO UNDERGROUND CONSTRUCTION MANUAL DRAWING 5162 FOR CONDUIT BEND DETAILS AT PILLARS.

7. FOR STANDARD UDC CONSTRUCTION PRACTICES REFER TO DRAWINGS 5022, 5085 AND 5124.

8. INSTALLATION OF PADMOUNT SUBSTATION REQUIRED IN ROAD RESERVE ADJACENT LOT 10, STATION 1. PADMOUNT SITE IS TO BE 6.0m : 4.0m, REFER TO UNDERGROUND CONSTRUCTION MANUAL DRAWING 5114. REFER TO DETAIL 'A'.

9. DEVELOPER SHALL INSTALL PLINTH AND PAVED CUTOUT AREA. REFER TO UNDERGROUND CONSTRUCTION MANUAL DRAWINGS

10. INSTALL PADMOUNTED SUBSTATION EARTHING - COMMON EARTH ARRANGEMENT. REFER TO UNDERGROUND CONSTRUCTION MANUAL

11. THERE ARE 2 x 17W LED SYLVANIA STREET, AEROSCREEN MINOR ROAD ON RATE 2.

13. MINOR STREETLIGHTS - THE DEVELOPER SHALL SUPPLY AND INSTALL STREETLIGHT BASES. FOUNDATION DEPTH IS 1200mm FOR MINOF STREETLIGHTS.REFER TO LIGHTING CONSTRUCTION MANUAL DRAWING 1-6-4-1 & 2. FOR ALL FOOTPATHS, CENTRELINE OF STREETLIGHT SHALL BE 0.82m FROM THE INVERT OF KERB AND CHANNEL. WHERE THE ROAD IS UN-KERBED OR THERE IS A FLUSH KERB, CENTRELINE OF STREETLIGHT SHALL BE 1.3m FROM THE OUTER EDGE OF THE BITUMEN.

14. THE LIGHTING DESIGN INCLUDES AN ALLOWANCE FOR CONSTRUCTION TOLERANCE OF LIGHT POLES SUCH THAT ANY STREETLIGHT CAN BE POSITIONED UP TO A MAXIMUM OF ±350mm LONGITUDINALLY FROM THE POSITION SHOWN AND UP TO 100mm MAXIMUM FURTHER AWAY FROM KERB EDGE, INCLUDING POLES WITH GRID COORDINATES, AND STILL MAINTAIN COMPLIANCE.

15. CONFIRM ALL CONDUIT AND CABLE LENGTHS PRIOR TO INSTALLATION.

16. WHERE SHOWN, 35mm sq ANNEALED BARE Cu EARTH SHALL BE INSTALLED AT BOTTOM OF TRENCH, IN NATURAL SOIL, BELOW BEDDING SAND, LOCATED A MINIMUM OF 50mm HORIZONTALLY TOWARDS PROPERTY BOUNDARY FROM CONDUITS (HV OR LV) INSTALLED ON PROPERTY BOUNDARY SIDE OF TRENCH. COIL 2m OF CABLE AT SPECIFIED STATIONS IN THE CONDUIT DUCTING SCHEDULE AND ALL REQUIRED JOINTS FOR CONNECTION BY ELECTRICAL CONTRACTOR. THE USE OF THE EARTH ROD CONNECTOR (U-BOLT, IIN. 0719437) NOT ACCEPTABLE FOR CONDUCTOR / CABLE TO CONDUCTOR / CABLE CONNECTIONS. IN ADDITION PARALLEL GROOVE CLAMPS ARE NOT ACCEPTABLE FOR JOINTING OR CONNECTING EARTHS BELOW GROUND LEVEL. ACCEPTABLE METHODS SHALL BE EITHER A CRIMP LINK OR A 'C' TYPE COMPRESSION CONNECTOR. CRIMP LINKS AND 'C' TYPE COMPRESSION CONNECTORS ARE AVAILABLE FROM ERGON

17. IN ACCORDANCE WITH ELECTRICAL SAFETY ACT, A SAFETY OBSERVER MUST BE PRESENT AT ALL TIMES WHEN WORKING IN THE VICINITY OF ENERGISED CABLES. CONTACT ERGON ENERGY ON 131046.

18. ELECTRONIC CABLE MARKERS (ECM'S) ARE TO BE SUPPLIED AND INSTALLED AT ENDS OF ALL SPARE CONDUITS INCLUDING (SPARE ROA CROSSINGS, CONDUIT STUBS, FOR FUTURE STAGES, SPARE CONDUITS FOR FUTURE HV, ETC) AND AT ALL CABLE JOINTS. REFER TO

19. ALL CONTRACTORS MUST CARRY OUT A DIAL BEFORE YOU DIG ENQUIRY BEFORE COMMENCING ANY EXCAVATION.

20. WARNING: LIVE CABLES AND EXISTING SERVICES IN AREA. CONTRACTOR TO USE POT HOLING, HYDRO-VAC EXCAVATION AND CABLE

- ERGON ENERGY TO CUT INTO EXISITNG LV CABLE AT STN 203 BETWEEN STN 301 (5105085) TO STN 307 (24792) AND CONNECT TO THE

- ERGON ENERGY TO RECOVER EXISTING PILLAR STN 302 (177170). CONNECTING THE EXISTING CABLE AT STN 202 FROM STN 310

- ERGON ENERGY TO RECOVER EXISTING PILLAR AT STN 305 AND CONNECT CABLES VIA A NEW UNDERGROUND CABLE JOINT AT STN - ERGON ENERGY TO RECOVER EXISTING 315kVA POLE MOUNTED TRANSFORMER AT STN 301 (5105085).

- ERGON ENERGY TO RECOVER LV CABLE & TERMINATION BETWEEN STN 301 TO STN 202.

- ERGON ENERGY TO RECOVER LV CABLE & TERMINATION BETWEEN STN 301 TO STN 203.

- ERGON ENERGY TO INSTALL HV CABLE TERMINATION BETWEEN STN 1 TO STN 301.

- ERGON ENERGY TO INSTALL LV CABLE TERMINATION BETWEEN STN 1 TO 301.

IPLIANCE CERTIFICATE			
ENERALLY WITH THE NOMINATED TE 1 AND RATE 2 LUMINAIRES.			
TITLE: SENIOR ELECTRICAL ENGINEER RPEQ: 6863	FOR C	ONSTRUCTIO	ON
CATEGORY P4 DOUGLAS SHIRE COUNCIL 0.75	ON COMPLETION, M CLEARLY WITH ALL F RETURN TO PRO	ARK UP THIS PRIN INAL CHANGES AI JECT MANAGER	IT ND
E FACTORS OF 0.75 FOR MINOR ROAD D LIGHTING. THESE MAINTENANCE FACTORS NTENANCE SCHEDULE, WHICH MIGHT NOT N.	CHANGES: YES/NO	RACTOR	
6- MONTH INTERVALS. LL BE CLEANED, INSPECTED AND	NAME: SIGNATURE:		-
EAR OF STREET LIGHTS. LAMP REPLACEMENT SHALL MAINTAIN SS THAN 95%. BE REPLACED WITH EXACT EQUIVALENTS. AILABLE UPON REQUEST. NGS, MOUNTING HEIGHTS, OUTREACH TURES, REFER TO DRAWING.	DATE:	2	-
Drawing Title	Date	JANUARY 2020	
ANGLEY RD & ANDREW CI STAGE 1	Scale	1:500 @A1	
IDC UG ELECTRICAL RETICULATION SITE PLAN & CONDUIT SCHEMATIC ND DETAIL A	Drawn RPEQ Design Certification Jane Errey 6863	TM	
Project Description ANGLEY ROAD, PORT DOUGLAS, OLD	ERGON Project Number WR1537708	SPA Drawing Number	Revision A

Rev Date 24-1-18			CONSTRUCT	ION SCHEDULE	· · ·			Rev Date 24-4-19		1		C			DULE		Rev Date 02-07-18	
STN NO	SITE POLE SET LABEL ALIGNMENT DE	OLE ITING ACTION PTH	CONSTRUCTION CLASS	CONSTRUCTION CODE	DRAWING NUMBER	POSITION ON POLE	REMARKS	STN FROM	STN TO	ACTION	CONS	STRUCTION COL	DE LENGTH (m)	No. of LENGTHS / DRUM (D	BENDS egrees/ Radius(mm) :	K No.) Remarks	STN FROM	
1		INSTALL	EARTH	E PM22/COM	5123			1	1	INSTALL - CIVI	IL	C125L	1	0.2	90/1000x3 60/1000	(3	1	
1		INSTALL		22 CTC/DM6/195T	5270		INSTALL HV TERMINATION FOR		1			C100	1	0.2	45/1000x2		1	20
I		INSTALL		22 CTC/RIM0/1051	5279		304.		2	INSTALL - CIVI		C80L	42	7.0	45/1830x3			+
1					5097		INSTALL LV TERMINATION FOR		202	INSTALL - CIVI		C80L	36	6.0	10,1000,10		1	20
I		INSTALL			5067		2.	1	203	INSTALL - CIVI	IL	C80L	40	6.7				
1		INSTALL	LV CABLE TERMINATION	LV CT PM22/240	5087		INSTALL LV TERMINATION FOR CABLE BETWEEN STN 1 TO STN	1	204	INSTALL - CIVI	IL	C80L	44	7.3		CAP CONDUIT AT STN STN 204.	1	30
							202 INSTALL LV TERMINATION FOR	1	204	INSTALL - CIVI	IL	C80L	44	7.3		CAP CONDUIT AT STN STN 204.	1	30
1		INSTALL	LV CABLE TERMINATION	LV CT PM22/240	5087		CABLE BETWEEN STN 1 TO STN 203.	1	204	INSTALL - CIVI	IL	C40H	44	11.0		CAP CONDUIT AT STN 204.	2	3
1		INSTALL	LV CABLE TERMINATION	LV CT PM22/240	5087		INSTALL LV TERMINATION FOR CABLE BETWEEN STN 1 TO STN 301	1	204	INSTALL - CIVI	IL	C125L	45	7.5		CAP CONDUIT AT STN 204.	2	10
1		INSTALL	SUBSTATION FOUNDATION	PMRF 22/41/8	5118		REFER TO NOTE 8.	1	301	INSTALL - CIVI	IL	C80L	40	6.7		CAP CONDUIT 1M FROM	3	4
1		INSTALL	SUBSTATION INC HV SWITCHGEAR	PMR 22/5/41 RM6 21	590		REFER TO DETAIL 'A'									BASE OF STN 301.	301	20
2		INSTALL	PILLAR	LV PN2/6S/240/N	5026				301	INSTALL - CIVI		C125L	45	7.5	45/1830x2	BASE OF STN 301.		
3		INSTALL	PILLAR	LV PN2/6/240/N	5026			2	3	INSTALL - CIVI	IL	C80L	26	4.3	45/1830x2			
4		INSTALL	EARTH	E MEN/PIL	5085			2	4	INSTALL - CIVI	IL   35mm2	2 ANNEALED BA Cu EARTH	RE 52	0.2		COIL 2M OF CABLE AT	301	30
4		INSTALL	PILLAR	LV PN1/6S/240/N	5025											BY ELECTRICAL		
101		INSTALL	POLE	SL BPM/75/1 15 CI	1-6-4-1 & 2											BOTTOM OF TRENCH AT		<u> </u>
102		INSTALL	POLE	SL BPM/75/1 15 CI	1-6-4-1 & 2				101			0.4011			00/000 0	STN 2.		
201		ERGON	- CABLE JOINT	LV-CJS240C4	5073		REFER TO NOTE 21.		101	INSTALL - CIVI		C40H	9	2.3	90/300x2			
202		INSTALL	CABLE JOINT	LV-CJS240C4	5073		REFER TO NOTE 21.		4	INSTALL - CIVI			20	4.3	45/ 183082		Rev Date 29-8-19	,
203		INSTALL	CABLE JOINT	LV-CJS240C4	5073		REFER TO NOTE 21.		102			04011		2.0	30/30022 90/0002	AVOID NBN PIT.	STN	NO E
301		INSTALL ERGON	- HV CABLE TERMINATION	22 CT P/185T/P	5076		ERGON TO INSTALL HV TERMINATION FOR CABLE BETWEEN STN 1, TO STN 301										101	1
							ERGON ENERGY TO RECOVER	Roy Data				_					102	2
301		RECOVE - ERGON	R LV CABLE TERMINATION				EXISTING LV TERMINATION FOR CABLE BETWEEN STN 1 TO STN	24-1-18			POLE	E		RKS SCHEDU	JLE		304 317	1
							301. ERGON ENERGY TO INSTALL LV	STN	SITE		SETTIN	ACTION CON	NSTRUCTION	CONSTRUCTION		N ON REMARKS		
301		INSTALL ERGON	- LV CABLE TERMINATION	LV CT P/240/P/AL	5056		TERMINATION FOR CABLE BETWEEN STN 1 TO STN 301.			ALIGINIMENT	DEPTH		CLASS	CODE	P	OLE		
		RECOVE	5				ERGON ENERGY TO RECOVER	201			-	- ERGON CA	ABLE JOINT	LV-CJS240C4	5073	REFER TO NOTE 21.		
301		- ERGON	LV CABLE TERMINATION				CABLE BETWEEN STN 301 TO STN 302.	202			-	INSTALL CA	ABLE JOINT	LV-CJS240C4	5073	REFER TO NOTE 21.		
301	5105085	EXISTING	G POLE					203			1		ABLE JOINT	LV-CJS240C4	5073	REFER TO NOTE 21.		
301	5105085	RECOVE	R POLE MOUNTED TRANSFORMER				REFER TO NOTE 21.									ERGON TO INSTALL HV		
302	177170	RECOVE - ERGON	R PILLAR				ERGON ENERGY TO RECOVER EXISITNG PILLAR. REFER TO	301			-	- ERGON TE	RMINATION	22 CT P/185T/P	5076	CABLE BETWEEN STN 1 TO STN 301.		
304	5103009	EXISTING	G POLE				NUTE 21.					RECOVE				ERGON ENERGY TO		
304	5103009	EXISTING	G WOOD POLE BRACKET					301				R- TF	LV CABLE RMINATION			TERMINATION FOR		
305		RECOVE - ERGON	R PILLAR				ERGON ENERGY TO RECOVER EXISITNG PILLAR. REFER TO					ERGON				CABLE BETWEEN STN 301 TO STN 302.		
200	24791						NOTE 21.	301			1		LV CABLE	LV CT P/240/P/AI	5056	INSTALL LV TERMINATION		
307	24701	EXISTING									-	- ERGON   TE	RMINATION			FOR CABLE BETWEEN STN 1 TO STN 301.		
308	199414	EXISTING	B PILLAR													ERGON ENERGY TO		
310	177168	EXISTING	G PILLAR					301			F	RECOVE	LV CABLE			RECOVER EXISTING LV TERMINATION FOR		
311	5163111	EXISTING	G POLE									ERGON TE	RIMINATION			CABLE BETWEEN STN 1		
311	5163111	EXISTING	G WOOD POLE BRACKET								F	RECOVE						
312	6077305	EXISTING	G POLE					301	5105085			R- POL	LE MOUNTED			REFER TO NOTE 21.		
313	177169	EXISTING	G PILLAR													ERGON ENERGY TO		
								302	177170		F	RECOVE R - ERGON	PILLAR			RECOVER EXISITNG PILLAR. REFER TO NOTE		
											F	RECOVE				ERGON ENERGY TO RECOVER EXISITNG		
_v SC	HEIVIATIC			HV SCHEN	IANC			305				RGON	PILLAR			PILLAR. REFER TO NOTE 21.		
		STATION 2	STATION 3 STATION 4 LOT 12/13 LOT 14/15				315kVA SUBSTATION											



ADJACENT LOT 8 STATION 301 ADJACENT LOT 10 STATION 301 ADJACENT LOT 10 STATION 1

								CLIENT: SEYMOUR GROUP	
								LEVEL 24, 300 QUEEN STREET BRISBANE, QLD 4000	
								Ph 0438882024 Fax CIVIL ENGINEER GHD PTY LTD (CAIRNS)	
A	20/05/20	FOR CONSTRUCTION	ТМ					85 SPENCE STREET	F
Code	e Date	Description	Revised	Code	Date	Description	Revised	Ph 040442261 Fax	A

CNO		CABLE EXISTING	SUBSTATION	COMMERCIAL/ INDUSTRIAL PILLAR	Drawing Title	Date	JANUARY 2020	
SJE	ዮዮዮ ZERU LUT BOUNDA		→ HV ISOLATING DEVICE	DISTRIBUTION CABINET	LANGLEY RD & ANDREW CI STAGE 1	Scale	NTS	
Simon Perkins & Associates	HV DUCT		LV ISOLATING DEVICE		UDC UG ELECTRICAL RETICULATION	Drawn BPEO Design Certification	TM	
consulting engineers	LV DUCT				AND EDCON MORKS SCHEDULES	Jane Errey 6863	the eng-	
Tel: (07) 4032 3311 Fax: (07) 4032 5633	LIGHTING DUCT					Sheet	2 OF 2	
PO Box 664 North Cairns QLD 4870		EQUIPMENT RECOVER	CROSS ROAD PILLAR	POLE		ERGON Project Number	SPA Drawing Number	Revision
Email Address - admin@spaconsulting.com.au A business unit of SPA Consulting Engineers (QLD) Pty Ltd a.c.n. 0108444416	BARE COPPER EAR	TH ———— EQUIPMENT PLANNED	LINKING PILLAR		PORT DOUGLAS, QLD	WR1537708	3205-E02	A
						any use of this drawing is forbidden	without this company's cons	sent C

	UN	DERGROUND C	CABLE S	CHEDUL	E
ACTION	VOLTAGE	CONSTRUCTION CODE	ROUTE LENGTH	CABLE LENGTH	REMARKS
INSTALL	415V	LV-240C4/673	42	46	
INSTALL	415V	LV-240C4/673	36	48	COIL CABLE AT STN 202 FOR CONNECTION BY ERGON ENERGY. REFER TO NOTE 21.
INSTALL	415V	LV-240C4/673	40	52	COIL CABLE AT STN 203 FOR CONNECTION BY ERGON ENERGY. REFER TO NOTE 21.
INSTALL	22kV	22-185T/1834	45	70	COIL CABLE AT STN 301 FOR CONNECTION BY ERGON ENERGY.
INSTALL	415V	LV-240C4/673	40	65	COIL CABLE AT STN 301 FOR CONNECTION BY ERGON ENERGY.
INSTALL	415V	LV-240C4/673	26	30	
INSTALL	240V	LVI-4CU2NS/1671	9	14	
INSTALL	415V	LV-240C4/673	26	30	
INSTALL	240V	LVI-4CU2NS/1671	9	14	
RECOVER - ERGON	415V	LV-240C4/673	6	23	ERGON ENERGY TO RECOVER CABLE BETWEEN STN 301 & STN 203. REFER TO NOTE 21.
RECOVER - ERGON	415V	LV-240C4/673	6	23	ERGON ENERGY TO RECOVER CABLE BETWEEN STN 301 & STN 302. REFER TO NOTE 21.

PUBLIC LIGHTING	SCHEDULE
	001120022

SITE LABEL	ACTION	CONSTRUCTION CODE	RATE	TARIFF OWNER	MOUNTING HEIGHT (m)	REMARKS
	INSTALL	SLED GL 0167 N	RATE 2	DSC	7.5	
	INSTALL	SLED GL 0167 N	RATE 2	DSC	7.5	
5103009	EXISTING					
5163111	EXISTING					

FOR CONSTRUCTION

ON COMPLETION, MARK UP THIS PRINT CLEARLY WITH ALL FINAL CHANGES AND RETURN TO PROJECT MANAGER

CHANGES: YES/NO

ELECTRICAL CONTRACTOR

NAME:

SIGNATURE:

DATE:\_\_\_\_\_

**CIVIL CONTRACTOR** 

NAME:

SIGNATURE: DATE:

	1 2	3	4	5	6	7	8	9	10	
	STANDARD DESIGN NOTES:									
	<ol> <li>THERE ARE A TOTAL OF 6 SINGLE RESIDENTIAL DWELLINGS.</li> <li>REFER TO SPA DRAWING 3205-E01-E02. FOR COORDINATION WITH THE</li> </ol>									
A	ELECTRICAL DESIGN.									
		S	DU Development Information							
			Development Name:							
	PIT-ID PIT OR SIMILAR ZERO LOT PROPERTY BOUNDARY		leveloper Company:							
	5 NBN CO PIT TYPE 5 PLASTIC PIT OR SIMILAR SHARED TRENCH	S	EYMOUR GROUP							
	6       NBN Co PIT TYPE 6         PLASTIC PIT OR SIMILAR             Image: Construction of the state of t	2	20-30 LANGLEY ROAD, PORT DOUGLAS 4877				19			
В	PIT-ID NBN Co PIT TYPE 8 O END CAP CONDUIT WITH	4	Authorised Rep:				RP737553			
	PLASTIC PIT OR SIMILAR STATION NO.	F	Phone: 07 4728 3026							
	(2,3,4,5,6,7,8,9) PIT ID (2,3,4,5,6,7,8,9) P20=P23 mm NBNCo SERVICE CONDUIT	E	-Mail: TIM@SPACONSULTING.COM.AU		4					
	8 EXISTING NBN Co PIT LOCAL CONDUIT (P100/P50)	Г S	STG - W000114372		RP737553		15			
	EXISTING CONDUIT NBNCo STAGE BOUNDARY		Design Revision: 1		BOUNDARY FOR C TO EXISTING NBN C	ONNECTION • NETWORK				
	CONDUIT CONFIGURATION				BY OTHERS. DO NO TO EXISTING CON	NDUITS / PIT.	P20 14	FUT. 7		
	CONDUITS AND DUCTS ARE IN LAYER:		BILL OF MATERIAL		3 RP73755	53				
	AND TERMINOLOGY CATEGORISED INTO TWO GROUPS IN THE DRAWINGS AS PER BELOW:		PITS DUCTS				13			
	1- DUCT USED WITH LOCAL NETWORK     2-CONDUIT USED WITH LEAD-IN DROPS     ATTRIBUTES ATTACHED TO CONDUITS ARE AS SHOWN		SIZE QTY SIZE QTY MTRS 2 0 P100 5 163			E 4	P20 3.5			
			5         2         P50         0         0           6         0         P20         6         21		RF	2 P737553	P20 12			
	PIT-ID P100 265 PIT-ID		9 0			S EG				
	NOTE:		DTAL NUMBER OF MANHOLES: 0 DTAL NUMBER OF CONDUITS: 11				11			
D	<ul> <li>P100 HAS AN INTERNAL DIAMETER OF 104.9 MILLAND A MINIMOM WALL</li> <li>THICKNESS OF 4.5 mm</li> <li>P50 HAS AN INTERNAL DIAMETER OF 53 mm AND A MIMIMUM WALL</li> </ul>	ΤΟ	DTAL LENGTH OF CONDUITS: 184				P20			
	<ul> <li>THICKNESS OF 3.1 mm</li> <li>P20 HAS AN INTERNAL DIAMETER OF 23.3 mm AND A MINIMUM WALL THICKNESS OF 1.4 mm</li> </ul>					1 RP737553	3.5	10 FUT.	FUT.	
								9 PWR	8	
	<ul> <li>STANDARD CONSTRUCTION NOTES:</li> <li>1. REFER TO NBN C₀ DOCUMENT NO. NBN-TE-CTO-194 (DEPLOYMENT OF THE N<sup>+</sup></li> </ul>	IBN Co CONDUIT AND PIT NE	ETWORK -		—		P100			
	GUIDELINES FOR DEVELOPERS) FOR DETAILED CONSTRUCTION SPECIFICATION	ION. TANDARD TRENCH ALIGNM				EXISTING FOR CONNEC TO EXISTING NETWORK	TIONL	ANGLEY ROAD FUTURE	CAP CONDUIT FOR	
	THE NARROW ENDS OF THE PIT.					BY OTHERS			<u> </u>	
E	3. PITS TO INCLODE LID GASKET TO PREVENT DIRT ENTRY AND SPREADER BAR BACKFILL / GROUND COMPACTION. PIT LIDS TO BE EMBOSSED WITH "NBN" AN ABOVE NBN Co DOCUMENT.	ND COMPLY AS PER CLAUS	E 5.3.2 OF THE				PIT-011			
	4. SERVICE CONDUITS TO EXTEND 1m INSIDE THE FRONT PROPERTY BOUNDAR DETAIL FOR DISTANCES FROM DIVIDING PROPERTY BOUNDARY FOR BOUND/	RY. REFER EXTENDED SER\ ARIES WITHOUT PIT. CONTF	/ICE CONDUIT RACTORS TO TIE			19 RP734535	20 RP734535	50 RP734536		
	TELECOMMUNICATIONS CAUTION TAPE TO END OF SERVICE CONDUITS AND I FUTURE CONDUIT LOCATION.	EXTEND TO ABOVE GROUN	ND LEVEL FOR					RP	49 0 734536 SP174882	
	5. ALL CONDUITS TO ENTER AND EXIT AT NARROW ENDS OF PITS ONLY. LOCAT WALLS AS POSSIBLE. CONDUITS SHALL NOT BE INSTALLED WITHIN 50 mm OF SEPARATION RETWEEN CONDUITS TO BE 25 mm. INSTALL CONDUITS AND CO.	TE CONDUITS AS CENTRALI ANY CORNER OF THE PIT.	LY IN PIT END MINIMUM TO BE SOLIABE							
	AND FLUSH WITH THE PIT END WALL. REFER TO THE PIT END WALL DETAILS I REQUIREMENTS.	IN THIS DESIGN FOR ADDIT	IONAL							
	<ol> <li>MINIMUM COVER TO BE; 300 mm FOR SERVICE DROP CONDUITS, 450 mm IN VE mm UNDER MAIN ROADS.</li> </ol>	ERGE, 600 mm UNDER LOC/	AL ROADS, AND 800				SCALE 1:500 @ A1			
F	7. CONDUITS ARE TO BE CLEANED AND PROVEN USING A MANDREL. AFTER TES ALL CONDUITS AND CAP CONDUIT ENDS. SEAL CONDUITS AT PITS TO PREVE	STING INSTALL A SUITABLE	DRAW ROPE TO DISTURE, SERVICE							
	CONDUIT DRAW ROPES TO BE ADDITIONALLY FITTED WITH A PLASTIC LABEL / DISTANCE / DIRECTION FROM BOUNDARY.	AT PIT END, IDENTIFYING L	OT NUMBER AND							
	8. INSTALL NON CONDUCTIVE (METAL FREE) MARKER TAPE ABOVE ALL NBN Co LEVEL. INSTALL METALLIC KERB MARKERS AT ROAD CROSSINGS.	CONDUITS, 300 mm BELOW	FINISHED GROUND							
	9. REFER TO ERGON ENERGY STANDARD DRAWINGS 5228 AND 5168 SHEETS 1 T	TO 3 FOR SHARED TRENCH	CROSS SECTIONS.							
	<ol> <li>GRADE TOP OF PIT TO MATCH VERGE / FOOTPATH.</li> <li>WHERE REQUIRED, SUPPLY AND INSTALL SERVICE AND ROAD CROSSING CC</li> </ol>	ONDUITS SHOWN IN THE SIT	E PLAN.							
	12. WHERE CONDUIT BURIAL DEPTH IS LESS THAN THAT SPECIFIED IN THE NBN ( NETWORK GUIDELINES, SUPPLY AND INSTALL CONCRETE COVER (FOR VERC	Co DEPLOYMENT OF COND	UIT AND PIT RETE ENCASEMENT							
G	(FOR ROADWAYS) ENSURE THAT MINIMUM SEPARATION TO ALL OTHER SERV	VICES ARE MAINTAINED.								
	NBN Co DEPLOYMENT OF CONDUIT AND PIT NETWORK GUIDELINES FOR THE	MINIMUM CLEARANCES RE								
	14. SUPPLY AND INSTALL ADDITIONAL DEVIATING CONDUIT BENDS TO ACHIEVE T REQUIRED TO AVOID CLASH WITH OTHER SERVICES.	THE INCREASED / DECREAS	SED BURIAL DEPTH							
		-				STRICTLY CONFID	DENTIAL	Australia's	KEY PLAN	
		-						non broadband network		
		-				WD				
H		-				QUALITY RECORD : NBNCO DISCLAIMER		spa		
	www.1100.com.au	-				THIS DOCUMENT HAS BEEN PREPARED SOL NBNCO LIMITED (ABN 86 136 533 741) FOR NBNCO FACILITIES IT HAS NOT BEEN CREA	ELY FOR THE USE OF USE IN MAINTAINING TED FOR ANY OTHER	Simon Perkins & Associates		
		1         20/05/20         TM           REV         DATE	FOR APPROVAL       DRAFTER     DESCRIPTION		JE APPROVED	USE. IT SHOULD NOT BE SCALED TO LOCAT WARRANTY IS GIVEN THAT THE INFORMAT COMPLETE.	TE NBNCO ASSETS. NO ION IS ACCURATE OR	Call IIS : (U/) 4U32 3311 Townsville : (07) 4728 3026 PO Box 664 North Cairns QLD 4870 Email Address - admin@spaconsulting.com.au SPA Consulting Engineers (0LD) Pty Ltd a.c.n. 010844416		
	1 2	3	4	5	6	7	8	9	10	



9		10	11		12	
						А
						В
						С
WR	FUT. 9	FUT. 8				D
50 2734536	CAP CONDU FUTURE NBNCo PRO	IT FOR- VISION				E
			r SA		APPROVAL ISTRUCTION	F
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stralia's baciband work	IN KEY PLAN		LANGLEY ROAD & NBNCo PIT AND PI LAYOUT PLAN ENABLE#: STATE: QLD FSA: PROJECT No: CADREF No: SCALE AS SHOWN	ANDREW CLOSE SUBDI PE DESIGN REGION: SAM: STG - W00011433 3205-T01 HEET No. 1 OF 2	VISION DSC ADA: 72 REV. 1	H
9		10	11	. 01 2	12	



	NBN	l Co PIT	SIZES				
	NAME	NOMIN DIME	NAL EXTEI INSIONS (I	RNAL mm)	MINIMUM INTERNAL DIMENSIONS (mm)		
		LENGTH	WIDTH	DEPTH	LENGTH	WIDTH	DEPTH
SERVICE DROP ACCESS PIT	TYPE 2	650	280	565	490	150	500
SERVICE DROP ACCESS PIT or BOUNDARY PIT or FJL PIT	TYPE 5	700	450	650	510	290	540
SERVICE DROP ACCESS PIT or LN PIT or FJL PIT	TYPE 6	1360	555	650	1130	340	600
DISTRIBUTION PIT or LN CONNECTION PIT	TYPE 8	1360	555	860	1130	390	820



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1	20/05/20	ТМ		FOR APPROVAL	
REV	DATE	l	DRAFTER	DESCRIPTION	1
3				4	

		5						IN K	EY PLAN
		NBNCO APPF	ROVAL RECORD:           SIGNATURE	DATE	nb		Australia's broadband network		
	JE APPROVED	NBNCO DISC THIS DOCUME NBNCO LIMITI NBNCO FACIL USE. IT SHOL WARRANTY COMPLETE.	CLAIMER ENT HAS BEEN PREPARED SOLEL TED (ABN 86 136 533 741) FOR US LITIES. IT HAS NOT BEEN CREATE ULD NOT BE SCALED TO LOCATE IS GIVEN THAT THE INFORMATIO	Y FOR THE USE OF SE IN MAINTAINING ED FOR ANY OTHER NBNCO ASSETS. NO N IS ACCURATE OR	Cons Cairns Towns PO Bo Email J SPA Consu	Simon I (07) 4032 33 ville : (07) 4728 30 x 664 North Cairns Address - admin@ difing Engineers (0LD) Pty Ltd	Perkins & Associates <b>Ogineers</b> 311 026 Is QLD 4870 gepaconsulting.com.au d acr. 010844416		
5	6		7		8		9		



TOWNSVILLE OFFICE

PO Box 4706 KIRWAN Q 4817 8/286 Ross River Road AITKENVALE Q 4814 p 07 4728 3026

www.spaconsulting.com.au

PO Box 664 NORTH CAIRNS Q 4870 144 Pease St MANOORA Q 4870 p 07 4032 3311 admin@spaconsulting.com.au

28/05/2020

Chief Executive Officer

The Manager PO Box 723 MOSSMAN QLD 4873

Dear Sir/Madam,

# APPROVAL FOR UNDERGROUND WORKS, ELECTRICITY SUPPLY AND STREET LIGHTING - OUR PROJECT No: 3205

We are writing on behalf of Ergon Energy to advise of the following works at the above location.

Ergon Energy proposes to conduct underground works in accordance with the enclosed Plans, Drawing No. 3205 – E01, 3205 – E02.

Could you please advise whether you have any objection to these works, in your capacity as the Statutory Body having control or management of the roadway.

We advise that negotiations with the subdivider, KS5 Pty Ltd, are finalised for the provision of underground electricity reticulation to Langley Rd & Andrew CI Subdivision Stage 1.

An agreement has been entered into with the subdivider, whereby Ergon Energy will provide underground electricity reticulation for residential purposes to the 6 lots being developed.

Under one of the terms of this agreement, an undertaking has been given that, upon application made in accordance with usual requirements, an underground electricity supply will be made available to the owner or occupier of any allotment forming part of the said land within a reasonable period after receiving such application for supply subject to the availability of materials and other resources.

Connection shall be to a new substation Located in Lot 10 of Stage 1.

The point of supply for each lot would be at a pillar box on the road boundary.

The Subdivider has made arrangements for the installation of 2 x 17W LED Sylvania street aeroscreen minor light fittings.

Could you please advise your acceptance of the Rate 2 tariff for each light fitting and in addition provide Acknowledgement to Written Agreement – Works on Roads as it is now an Ergon requirement at the design submission stage.

Your reply within fourteen days would be appreciated to avoid unnecessary delays in the construction of the above works.

Yours sincerely

Tim Matthews SPA Consulting Engineers (QLD)



Project Name: LANGLEY RD & ANDREW CI SUBDIVISION Drawing No: 3205-E01,E02 REV A

Council: Douglas Shire Council

consulting engineers (QLD)

I certify this design meets the	the Engry
compliance requirements of AS/NZS	
1158.3.1:2005	Jane Errey RPEQ 6863 🔹 🔻

LUMINAIRE / POLE / PHOTOMETRIC INFORMATION TABLE							
Category	P4 🔻		Luminaire Type	IV			
Luminaire Type	Sylvania Street - Single	▼	Luminaire Wattage	LED A 17W	•		
Pole Height (m)		5.5	Luminaire Outreach (m)		0.3		
Foundation Depth (mm)		1200	Outreach (m)	Standard 1.5m	•		
Upcast		5	Uplift (m)		2		
Mounting Height			Cleaning /				
(m)		7.5	Replacement	36 N	/lonths		
Lamp	LED 17	w	Pollution Level	М	edium		
	StreetLED3 17	W 4K					
Photometric File	AERO 1808	05PH	IP Rating		IP6x		
Lamp Type		LED	LLMF		0.8		
Lumens		2009	MF		0.75		
Ergon Construction Code			SLEDGL0167A	1			

•

LIMITING LTPs					
Min Av E <sub>H</sub>	0.85	Min E <sub>H</sub> Maint	0.14		
Lamp Type	4	U <sub>p</sub> Maint	10		

HAS COMPLIANCE WITH	THE FOLLOWING E	ELEMENTS	BEEN MET	?	
Is compliance with the maximum permissible spacing achieved on all straights and curves?					
For curved sections, does a straight line joining successive luminaries lie within the road reserve or is at least one luminaire located within the hatched area, as shown in figure 3.1?					
Has a luminaire associated with one of the hatched area shown in figure 3.1, and whe provided, the luminaire is a type that comp	e intersecting roads be ere differing levels of C blies with the higher lig	en located w Category P lig hting catego	ithin the ghting are ry?	YES 🔻	
For Tee-intersections, has the first luminaire in the joining road been located no more than 50% of the maximum spacing detailed in clause 3.2.1 from the limits of the junction defined by the prolongation of the property lines? $$YES$$					
Where pedestrian refuges are located on maintained horizontal illuminance over the shown in figure 3.3, not less than 3.5 Lu	roads requiring catego surface of the refuge, x?	ry P lighting, within the d	is the esign area	N/A 🔻	
Do maximum spacing for luminaries in cul-de-sacs comply with Clause 3.2.1.and are the provisions of Clauses 3.2.5.2, 3.2.5.3 or 3.2.5.4 met?					
Lighting design compliance is condition	nal on all lights being	operationa	I		
Is the maintained horizontal illuminance over the surface not be less Modelling than 3.5 lux for the design areas defined below:					
Roundabouts N/A	LATMDs	N/A 🔻	PlePcat	-	

	ROAD INFORM	ATION TABLE			RESULT	'S TABLE		ELEMENTS FOR THIS ROAD							
Road Name	Road Reserve Width (m)	Distance to Kerb (m)	Offset (m)	Spacing Value from PlePal S	Min Av E <sub>H</sub>	Min E <sub>H</sub> Maint	U <sub>p</sub> Maint	Straights Single Sided	Straights Staggered	Curves (Single or Staggered)	T-Inter sections	Pedestrian Refuges	LATMDs	Cul-de- sacs	Round abouts
ANDREWS CI	17	4.5	5.48	67.6	0.98	0.14	5	V			V				

Additional

Comments: EXISITNG LIGHTING TO LANGLEY ROAD.



ergon.com.au to obtain access application and privacy complaint forms. If you have provided personal information of another individual, please ensure that you advise the person about this privacy statement. Our privacy policy is available at ergon.com.au.



## DO YOU HAVE THE RIGHT APPLICATION?

This application is for:

- Developers that have already submitted an online Developer Enquiry;
- Developers undertaking Underground Distribution Construction (UDC) Projects;
- Developers or Street Lighting Customers undertaking design and construction for street lighting premises;
- Customers undertaking the subdivision of two or more lots, small developers.

This application does not apply to:

- a new connection or connection alteration. For these connections you will need to complete the Network Connection Application Form.
- the removal of an unmetered supply device. For these applications you will need to complete a Request for the Abolishment of Supply and Removal of Ergon Energy Electrical Assets Form.
- an unmetered supply device to be mounted on an Ergon Energy pole such as CCTV. For these connections you will need to complete a Network Connection for Watchman Lights and Pole Mounted Unmetered Supply Devices Application Form.
- an unmetered supply device to be mounted on an Ergon Energy pole such as CCTV. For these connections. For these connections you will need to complete a Network Connection of Watchman Lights and Pole Mounted Unmetered Supply Devices Application Form.
- \* an unmetered supply device that is not mounted an Ergon Energy pole. For these connections you will need to complete an Application for Network Connection of an Unmetered Supply Device Form.
- a load that exceeds 1500kVA/1.5MVA or where power usage is typically above 4GWh per annum at a single site or generation over 30kVA. For these connections go to www.ergon.com.au/network/connections/major-business-connections/major-connections.
- \* the connection of a Micro Embedded Generating (micro EG) Unit to an existing supply on the Ergon Energy Network. Please complete the Application for Network Connection of a Micro Embedded Generating (micro EG) Unit 30kVA and Under form. For these connections go to www.ergon.com.au/network/contractors-and-industry/solar-pv-installers/ies-network-connection-form.

HOW	TO COMPLETE THE APPLICATION?				
SECTION		TO BE COMPLETED BY			
A	Ergon Energy Work Request No	All Applicants			
В	Developer/ Street Lighting Customers	All Applicants			
С	Design and Construction Details	All Applicants			
D	Documents to Supplied with the Application	All Applicants			
Е	Application Fee	For the information of the Applicant			
F	Authority to Sign	All Applicants			

# **Network Connection Application Form**





## Section A

# Ergon Energy Work Request No:

# SECTION B

# Developer/Street Lighting Customers Please use BLOCK LETTERS

1. State the full name(s) of the 2. If a registered business, sta 3. If a registered company or c	person(s) making this application. te the full name(s) of the proprietor(s) and the business na ther incorporated body, state the registered name in the b	ame in the box below. ox provided.		
Mr / Mrs / Ms	Given Names	Surname		
Mr	Daniel	Farquhar		
Mr / Mrs / Ms	Given Names	Surname		
Name of business, comp	any or other incorporated body		ACN/ABN	
KS5 Pty Ltd			97 110 280 405	
Postal Address			Postcode	
C/ SPA Consulting Eng	gineers (Qld) Pty Ltd, PO Box 4706, Kirwar	n, Qld	4817	
Phone No.	Mobile No.	E-mail	· · · · · · · · · · · · · · · · · · ·	
07 3226 8799		dfarquhar@seymourgroup.com.au		
Property Address Nun	nber/Name of Street		Postcode	
Langley Road, Port Do	uglas			
Real Property Description	n Number	Subdivision Plan Reference		
Lot 5 RP804926				
Designated Developer	Representative for this application Name	Company Name		
Consultant 🔳 / Other [		SPA Consulting Engineers (Qld) Pty Ltd		
Address			Postcode	
PO Box 4706, Kirwan,	Qld		4817	
Phone No.	Mobile No.	Email		
07 4728 3026		tim@spaconsulting.com.au		

# **Project Details**

Project Name Langley Rd & Andrew CI Subdivision Port Douglas	Stage 1	No. of Lots 6
Reference Information		
Project Description		
Project Drawing Number(s) 3205	Average Lot Size (m <sup>2</sup> )	Average Lot Frontage (m)
Lighting Category (Ergon Owned and Operated, Gifted and Ergon Operated or Customer Owned and Operated)	Number of Lights	<ul> <li>Underground</li> <li>Overhead</li> </ul>

## IMPORTANT INFORMATION FOR CUSTOMERS:

Applications for Customer Owned and Maintained lighting must have CAD drawings of the installation attached together with the GPS coordinates. (Note: format of GPS coordinate schedule below)

Source	GPS Location	Orientation	Loading Details	Reason

□ I have attached the CAD drawing for the Customer Owned and Maintained Street Lighting.

Subdivision / Street Lighting



# SECTION C

Design and Designedian Ordinan						
Design and Construction Options						
Will you use your own contractors, or Ergon Energy, to carry out this project?						
Developer Design and Construct (DD&C): Please tick the box if you are using contractors approved by Ergon Energy to design and construct your project. This option is available if you are developing an underground subdivision and/or public lighting project.						
Ergon Energy Design and Construct: Please tick this box if you require Ergon Ener to design and construct.	gу	Erg	on Energy			
SECTION D						
Documents that must be Supplied with the Application						
Plan Requirements:	Yes	No	If "No" indicat information wi	e date when ill be supplied.		
<ul><li>(2) Electronic copies of the completed Electrical Design.</li><li>(1) pdf. and (1) dwg. format (For ASR Contractor Projects Only)</li></ul>			1	1		
Copy of Lot Layout for subdivision in dwg. format (For Ergon Energy Projects Only)			1	1		
Copy of Local Government Decision Notice. (For ASR Contractors and Ergon Energy Projects)			1	1		
SECTION E Application Fee				-		

Ergon Energy is entitled to charge you for the costs it incurs in assessing a connection application under the negotiated process, negotiating with you and preparing a connection offer. Ergon Energy may issue you a tax invoice for these costs.

### SECTION F

### Authority to Sign

# I/We sign this application for Network Connection Services and confirm I/we are authorised to make this application.

SIGNED FOR AND ON BEHALF OF – Developer's Company Name or Individual/s (as applicable)				
Signature of authorises representative	Signature of authorised representative			
Name of authorized representative (print)	Name of authorised representative (print)			
Date: 2015120	Date: / /			

**Easements** If Ergon Energy requires any easements, the landowner acknowledges it is the responsibility of the landowner to provide these.

		/	
Signature	frent	Print Name Daniel F	Torquhar

Consultant Details (If not identified in Section B)

Business Name		Contact Person	
SPA Consulting Engineers (Qld) Pty Ltd		Timothy Matthews	
Phone No. 07 4728 3026	Mobile No.	<sup>Email.</sup> Tim@spaconsulting.com.au	

### Electrical Construction Contractor Details (if known)

Business Name TBC		Contact Person	
Phone No.	Mobile No.	Email.	

Ergon Energy Corporation Limited ABN 50 087 646 062

## FNQROC DEVELOPMENT MANUAL

## Council: ......Douglas Shire Council..... STATEMENT OF COMPLIANCE OPERATIONAL WORKS DESIGN

This form duly completed and signed by an authorised agent of the Designer shall be submitted with the Operational Works Application for Council Approval.

Name of Development: Langley Rd and Andrews Cl subdivision Stage 1

Location of Development: Cnr of Langley Road & Andrews Circuit, Port Douglas

Applicant: KS5 Pty Ltd

**Designer:** SPA Consulting Engineers (Qld)

It is hereby certified that the Calculations, Drawings, Specifications and related documents submitted herewith have been prepared, checked and amended in accordance with the requirements of the FNQROC Development Manual and that the competed works comply with the requirements therein, except as noted below.

Compliance with the requirements of the Operational Works Design Guidelines	Compliance Yes/No	Non-Compliance refer to non-compliance report / drawing number
Plan Presentation	N/A	
Geometric Road Design	N/A	
Pavements	N/A	
Structures / Bridges	N/A	
Subsurface Drainage	N/A	
Stormwater Drainage	N/A	
Site Re-grading	N/A	
Erosion Control and Stormwater Management	N/A	
Pest Plant Management	N/A	
Cycleway / Pathways	N/A	
Landscaping	N/A	
Water Reticulation	N/A	
Electrical Reticulation and Street Lighting	Yes	
Associated Documentation/ Specification	N/A	
Priced Schedule of Quantities	N/A	

Conscientiously believing the above statements to be true and correct, signed on behalf of:

Designer: SPA Consulting Engineers (Qld)...... RPEQ No:..6863......

Name in Full: Boronia Jane Errey

for Eng Signature: ...

Date:28-05-2020