

ELECTRICAL / STREET LIGHT CERTIFICATION

THIS IS TO CERTIFY THAT THE DESIGN OF ENERGEX RETICULATION IS IN ACCORDANCE WITH ENERGEX DESIGN MANUALS AND WORK CATEGORY SPECIFICATION 47.1.

ROAD LIGHTING CERTIFIED TO COMPLY WITH AS/NZS 1158.3.1:2005 FOR 'V' & 'P' CATEGORY FOR LUMINAIRES AND LAMPS SUPPLIED UNDER ENERGEX CONTRACT. THE LIGHTING DESIGN IS BASED UPON THE FOLLOWING MAINTENANCE SCHEDULE:

* LAMP REPLACEMENT AT 36 MONTH INTERVALS INC. CLEANING & INSPECTION OF LUMINAIRE.
 * VEGETATION TO BE KEPT CLEAR OF LUMINAIRES.
 * INSPECTION PATROLS & SPOT LAMP REPLACEMENT TO MAINTAIN SERVICE AVAILABILITY AT MIN. 95%.
 * LUMINAIRES & LAMPS TO BE REPLACED WITH EXACT EQUIVALENTS.

STREET NAME: CRABAPPLE COURT LIGHTING CATEGORY: P4

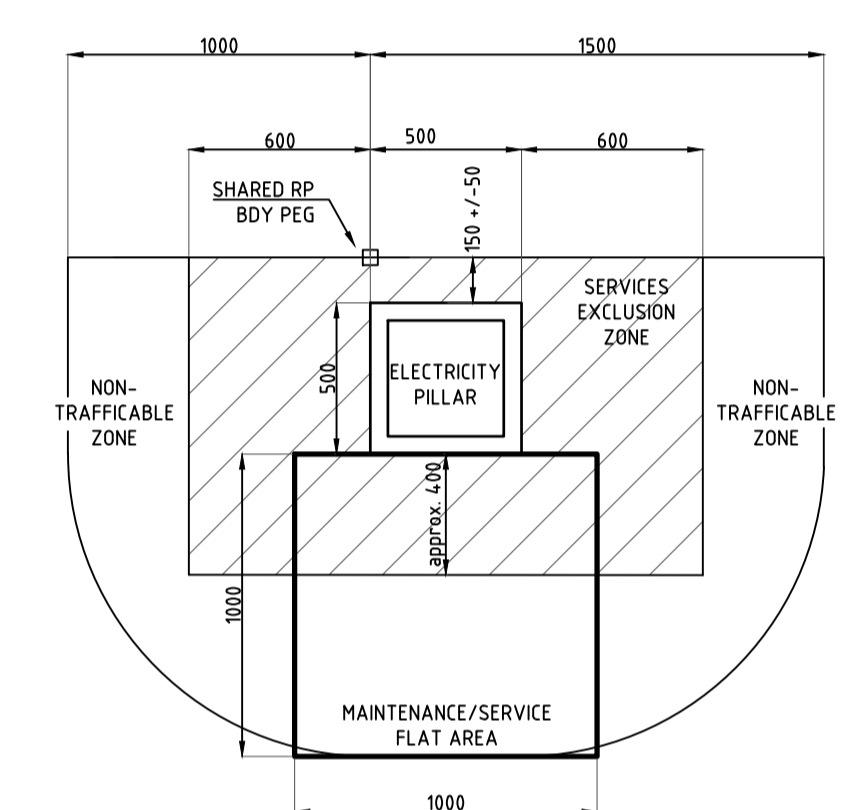
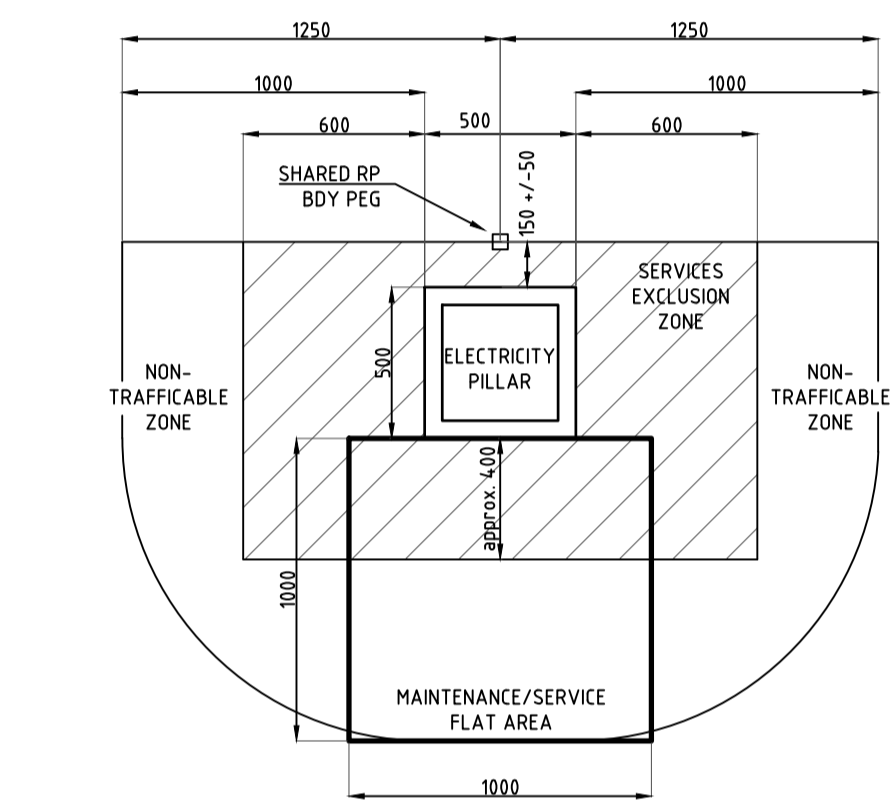
PETER CAUNE (RPEQ 5076) DATE: 05/03/18

CERTIFICATE OF COMPLIANCE

DESIGN DOCUMENTATION IN ACCORDANCE WITH THE REQUIREMENTS OF AS 1158.1.1:2005 APPENDIX D

* Refer AS1158.1.1:2005 for information regarding V category
 * Refer AS1158.3.1:2005 for information regarding P category
 * Perfect.Lite 5.06 computer software used

ITEM	PROJECT SPECIFICATION
LIGHTING CATEGORY	
Road Name	CRABAPPLE COURT
Nominated Lighting Category	P4
Road Surface Reflection Characteristic	R3
INSTALLATION GEOMETRY	
Road Reserve Lighting Design Width	14m - 16m
Mounting Height	5.1
Overhang	0
Lighting Arrangement	ARR1
Pole Setback	0.850K
Upcast Angle	0
LUMINAIRE/LAMP 1 DETAILS	
Lamp Type / Wattage	LED17
Luminaire Identification	Sylvania Modular 15W LED
Lamp Flux (Lumens)	2200
I-Table Number (.cie)	216059-D
Lighting Tariff	3
Power Factor	HPF (>0.95)
Start/Run Currents (Amps)	0.1
CATEGORY P4 LUMINAIRE/LAMP 1 MAXIMUM SPACING CALCCS	
Average Horizontal Illuminance (E _a)	≥0.85 lx
Minimum Point Horizontal Illuminance (E _p)	≥0.14 lx
Illuminance Uniformity (U ₀)	≥10
Upward wasted light ratio (UWLRL) %	≤10%
Road Reserve Lighting Design Width (m)	Maximum Spacing (m)
14	61.5
16	60.4



- NOTES**
- PILLARS MAY BE SET CENTRED ON BDY PEG OR OFFSET TO ONE SIDE AS INDICATED ON THE WORKS PLANS.
 - PILLARS TO BE OFFSET 150 (+/-50) FROM RP BDY.
 - SERVICES EXCLUSION ZONE IS FOR ABOVE GROUND SERVICES ONLY (PITS, MANHOLES ETC). UNDERGROUND PIPES MAY PASS THROUGH THIS AREA AS LONG AS THEY DO NOT CONFLICT WITH ELECTRICITY ASSETS.
 - IF ROADS/DRIVEWAYS ARE WITHIN 1000 OF PILLAR 2 X PROTECTION BOLLARDS WILL BE REQUIRED.
 - FLAT AREA IN FRONT OF PILLAR TO BE MAINTAINED FOR ACCESS AND MAINTENANCE.
 - STREETLIGHTS TO BE OFFSET FROM RPBODY AS INDICATED ON WORKS PLANS.

MAINTENANCE REGIME

Maintenance Factor Assumed: The maintenance factor assumed in the calculations is as follows:
 * Luminaire Maintenance Factor (refer AS 1158.1.1:2005 APPENDIX E).
 * Lamp Lumen Depreciation Factor (Refer Lamp Manufacturer's "Lamp Lumen Depreciation Curves").

Maintenance Factor Calculated: **0.8**

Schedule of Maintenance: This road lighting design is based on the following maintenance schedule:
 Bulk lamp replacement carried out at 36 month intervals. At this time the following shall also occur:
 * All optical surfaces, both internal and external, of the luminaire shall be cleaned.
 * All gaskets shall be checked for deterioration and replaced where necessary.
 * Damaged/weathered visors shall be replaced.
 * All accessible screws, nuts etc. shall be checked for tightness.
 * A visual check shall be made of the electrical components and wiring for signs of overheating.
 * If required, the luminaire shall be realigned/adjusted to the design specification.

URD CIVIL WORKS SCHEDULE (ROAD CROSSINGS)

LOCATION	STATIONS FROM-TO	CONDUIT LENGTH (m)						BENDS (°/No)						X-SECTION (m)			DRAW WIRE	KERB MARK	REMARKS			
		40	No	100C	No	100	No	125	No	40	No	100C	No	100	No	125				No	EXCAV/ TAPE	COVER STRIP
CRABAPPLE COURT	3 - 4				20	1												20	D	15	2	
	5 - 7				15	1												15	D	15	2	
	8 - 9				15	1												15	D	15	2	
	10 - 12				15	1												15	D	15	2	
	14 - 15				15	1												15	D	15	2	
	16 - 17				15	1												15	D	15	2	
TOTALS					95												95	D	90	12		

URD CIVIL WORKS SCHEDULE (ALONG FOOTPATHS)

LOCATION	STATIONS FROM-TO	CONDUIT LENGTH (m)						BENDS (°/No)						X-SECTION (m)			DRAW WIRE	KERB MARK	REMARKS		
		40	No	100C	No	100	No	125	No	40	No	100C	No	100	No	125				No	EXCAV/ TAPE
CRABAPPLE COURT	2 - 4				30	1												15	D	30	
	3 - 3A				15	2												20	E	30	
	4 - 5				15	2												30	E	30	
	5 - 6				20	1												20	D	20	
	7 - 11				80	1												80	D	80	
	11 - 13				15	1												15	P	30	
	13 - 16				40	1												40	D	40	
	16 - 18				15	1												15	P	30	
	18 - 20				40	1												40	D	40	
	2 - 2L				5	1												5	O	5	
	7 - 7L				5	1												5	O	5	
	10 - 10L				5	1												5	O	5	
13 - 11L				5	1												5	O	5		
18 - 16L				5	1												5	O	5		
20 - 20L				15	1												10	5	O	15	
TOTALS				70			300										285	30	370		

RATE 2 STREETLIGHT SCHEDULE

LOCATION	STN No	SITE ID (POLE No)	POLE or COMPONENTS						LANTERN				OUTREACH BRACKET			MOUNT HEIGHT (m)	REMARKS			
			COMP	EXIST (m)	REC (m)	ERECT (m)	SLM or IIN	ALIGN ID	COMP ID	EXIST	RECOVER LUMIN	DATE DE-ENERG	ERECT LUMIN	DATE ENERG	SLM or IIN			EXIST (m)	ERECT (m)	SLM or IIN
CRABAPPLE COURT	2L	P2129927	PO1				4.5BPM	SLNOS2C1	0.8ROK	SL1				L17L2	MBAY				5.1	
	7L	P2129928	PO1				4.5BPM	SLNOS2C1	0.8ROK	SL1				L17L2	MBAY				5.1	
	10L	P2129929	PO1				4.5BPM	SLNOS2C1	0.8ROK	SL1				L17L2	MBAY				5.1	
	11L	P2129930	PO1				4.5BPM	SLNOS2C1	0.8ROK	SL1				L17L2	MBAY				5.1	
	16L	P2129931	PO1				4.5BPM	SLNOS2C1	0.8ROK	SL1				L17L2	MBAY				5.1	
	20L	P2129932	PO1				4.5BPM	SLNOS2C1	0.8ROK	SL1				L17L2	MBAY				5.1	

- SYMBOL LEGEND**
- PROPOSED 40mm S/L
 - ⊙ PROPOSED ENERGEX 100mm COMMS
 - ⊙ PROPOSED 100mm
 - ⊙ PROPOSED 125mm
 - EXISTING 40mm S/L
 - ⊙ EXISTING ENERGEX 100mm COMMS
 - ⊙ EXISTING 100mm
 - ⊙ EXISTING 125mm
 - PROPOSED CABLE (AS MARKED)
 - EXISTING CABLE (AS MARKED)
 - PROPOSED UNDERGROUND HV/LV ROUTE
 - EXISTING UNDERGROUND HV/LV ROUTE
 - PROPOSED OVERHEAD HV/LV ROUTE
 - EXISTING OVERHEAD HV/LV ROUTE
 - PROPOSED S/L CABLE
 - EXISTING S/L CABLE
 - ⊙ PADMOUNT TRANSFORMER
 - ⊙ PMT LV GEOGRAPHIC
 - ⊙ PMT HV GEOGRAPHIC
 - ⊙ RING MAIN UNIT
 - ⊙ RMU HV SCHEMATIC
 - ⊙ PROPOSED SUPPLY PILLAR
 - ⊙ EXISTING SUPPLY PILLAR
 - ⊙ PROPOSED LINK PILLAR
 - ⊙ EXISTING LINK PILLAR
 - ⊙ COMMERCIAL PILLAR
 - ⊙ EARTH
 - ⊙ PROPOSED TYPE 4 PIT
 - ⊙ EXISTING TYPE 4 PIT
 - ⊙ RECOVER EQUIPMENT
 - ⊙ 11kV STRAIGHT JOINT
 - ⊙ OVERHEAD POLE TRANSFORMER
 - ⊙ OVERHEAD POLE (HV ONLY)
 - ⊙ OVERHEAD POLE (LV ONLY)
 - ⊙ OVERHEAD POLE (HV & LV)
 - ⊙ OVERHEAD HV TERMINATION
 - ⊙ OVERHEAD LV TERMINATION
 - ⊙ AIR BREAK SWITCH (OPEN)
 - ⊙ AIR BREAK SWITCH (CLOSED)
 - ⊙ DISCONNECT LINKS (OPEN)
 - ⊙ DISCONNECT LINKS (CLOSED)
 - ⊙ WATER METER
 - ⊙ SURVEY PEG
- STREET LIGHT SYMBOL LEGEND**
- ⊙ PROPOSED 17W LED (RATE 2)
 - ⊙ EXISTING 32CFL (RATE 2)

CONSTRUCTION ISSUE

DATE	DESCRIPTION
22.09.17	ISSUE FOR COUNCIL ACCEPTANCE ONLY. NOT FOR CONSTRUCTION.
22.11.17	ISSUE FOR ENERGEX ACCEPTANCE ONLY. NOT FOR CONSTRUCTION.
23.01.18	ISSUE FOR CONSTRUCTION.
02.03.18	RESCALE FOR CONSTRUCTION. STN 4 - 3A REVISED.

PETER EUSTACE & ASSOCIATES
 ELECTRICAL & MECHANICAL & FIRE & LIFTS

STREET ADDRESS: Unit 14, 39/41 Inverness Dr, Norring QLD 4211
 POSTAL ADDRESS: PO Box 2833, Norring QLD 4211
 TELEPHONE: (07) 5596 1425
 EMAIL: mail@petereustace.com.au

PE2862-01

SITE CONTACT DETAILS	ALIGNMENTS	WORKS COORDINATOR	PETER EUSTACE & ASSOCIATES	APPROVED	PETER CAUNE
NAME: Energex OH	3.2m RP	PARENT PROJECT NO.:	N/A		
COMPANY: NBNC	0-0.9m RP	WORK REQUEST NO.:	N/A		
PHONE: -	HP GAS: NIL	CANCELLING LOTS:	102 - 103, 1101 - 1128	CHECKED:	DAVID CRUSE
MOBILE: -	WATER: AS SHOWN	LOCAL AUTHORITY:	MORETON BAY REGIONAL COUNCIL	DESIGNER PHONE:	KRIS BOVEINIS (07) 5596 1425
FAX: -	STORMWATER: AS SHOWN	LOCAL AUTHORITY:	MORETON BAY REGIONAL COUNCIL	PLANNER PHONE:	DAVID VAN GENT (07) 5596 1425
	SEWERAGE: AS SHOWN	UBD REF:	-	ISSUE DATE:	22 NOVEMBER 2017
	OTHER: AS SHOWN	PEGGED?:	-		

Peter Eustace & Associates
 INSTALL LV CONDUITS, LV CABLES, PILLARS AND STREET LIGHTS

28 LOT RESIDENTIAL SUBDIVISION
 RIVERPARKS STAGE 11 & 11A
 CRABAPPLE COURT, UPPER CABOOLTURE

WORKSPLAN VERSION 5.1
 SCALE: 1:500@A1
 PROJECT / SUB PROJECT NO. **S1300614**

Sheet 1 of 2
 ISSUE NO: D

