

HV TRENCH LENGTH 1821 M  
 LV TRENCH LENGTH 2804 M  
 TOTAL TRENCH LENGTH 4625 M

**WORK COMPLETED / FIELD BOOK**

CONSTRUCTED BY .....

WORKS COMPLETED .....

SIGNATURE ..... DATE .....

INSPECTED BY .....

SIGNATURE ..... DATE .....

**ASSET RECORDING**

.....

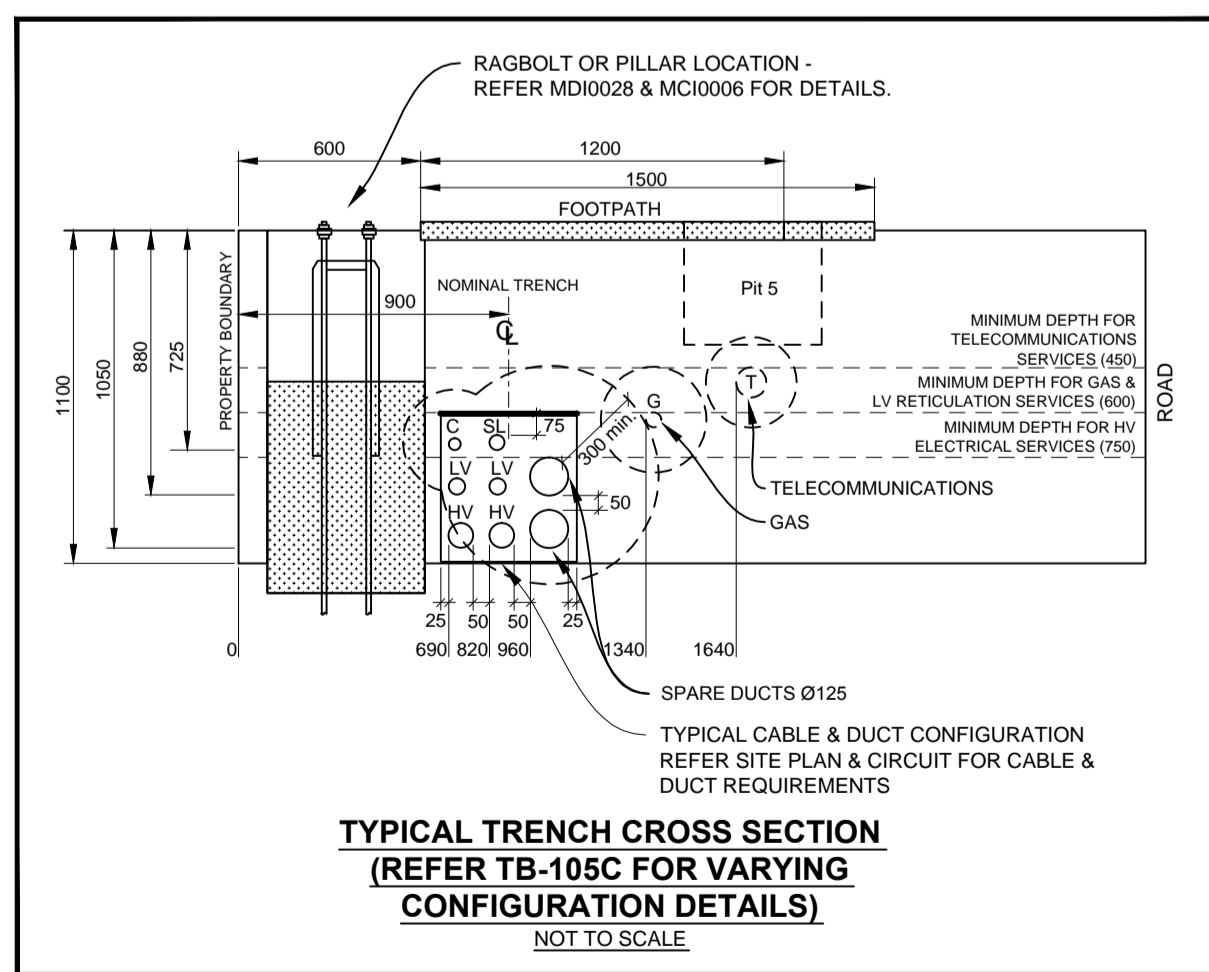
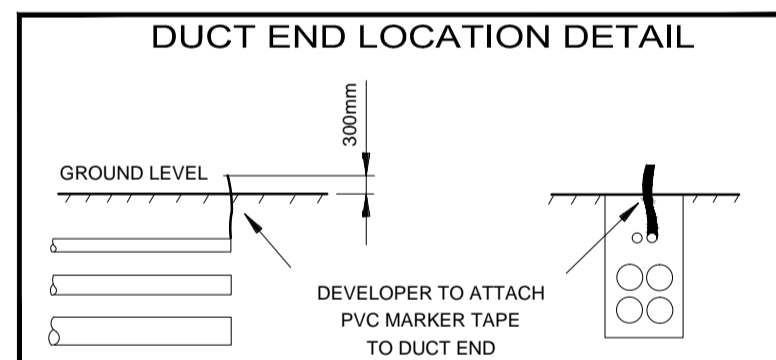
OF .....

CONTACT No .....

HEREBY CERTIFY THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN RECORDED AS PER ENDEAVOUR ENERGY STANDARD SAD 0004.

SIGNATURE ..... DATE .....

- LEGEND**
- PROPOSED PADMOUNT SUBSTATION
  - PROPOSED LV PILLAR LOCATION
  - EXISTING LV PILLAR LOCATION
  - PROPOSED S.L. COLUMN LOCATION
  - EXISTING S.L. COLUMN LOCATION
  - HV CABLE TRENCH
  - LV CABLE TRENCH
  - EXISTING UNDERGROUND CABLE
  - INSTALL 40mm PVC SERVICE CONDUIT
  - PROPOSED DUCT LOCATIONS
  - EXISTING DUCT LOCATIONS
  - DUCT CONFIGURATION - REFER MCI 0006 SECTION 4



**DUCT DECLARATION**

I, .....

OF .....

CONTACT NUMBER .....

HEREBY CERTIFY THAT THE DUCTS SHOWN ON THIS DRAWING HAVE BEEN INSTALLED IN ACCORDANCE WITH THIS DRAWING AND ENDEAVOUR ENERGY STANDARDS MDI 0028 & MCI 0006. THE DUCT DEPTHS AND LOCATIONS AT EACH END HAVE BEEN CORRECTLY MARKED ON THIS DRAWING AS PER ENDEAVOUR ENERGY STANDARD SAD 0004.

THE INSTALLATION OF THE DUCTS WAS

COMMENCED ON .....

& COMPLETED ON .....

SIGNATURE .....

LAND SURVEYOR REGISTERED UNDER SURVEYING AND SPATIAL ACT 2002.

**WARNING**

LIVE ENDEAVOUR ENERGY CABLES AND OTHER SERVICES EXIST IN THIS AREA.  
 PLEASE CONTACT - 'DIAL BEFORE YOU DIG' ON TEL:1100 FOR SEARCH INFORMATION A MINIMUM TWO DAYS PRIOR TO EXCAVATION

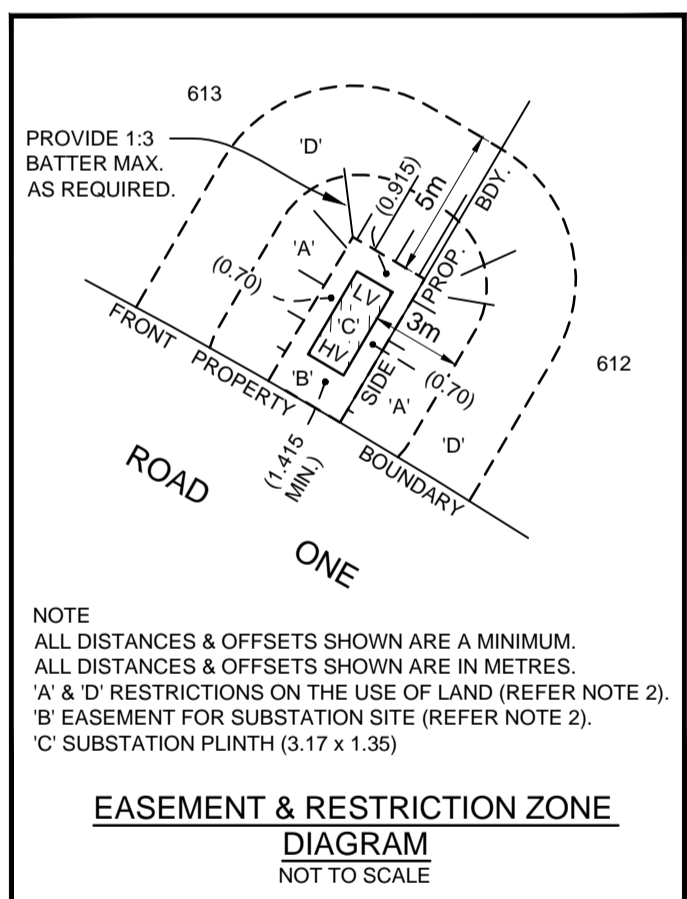
INSTALL SERVICE CONDUIT CLEAR OF PROPOSED EASEMENTS, DRIVEWAYS DRAINAGE LINE ETC. WHERE INDICATED THUS #

PERMANENT SURVEY MARKS MAY EXIST IN THIS AREA. THESE ARE TO BE LOCATED BY SURVEY PRIOR TO COMMENCEMENT OF WORK

- NOTES**
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ENDEAVOUR ENERGY'S MDI 0028 AND MCI 0006.
  - AN EASEMENT FOR SUBSTATION SITE (B) 5.5m & VAR. x 2.75 (THIS IS MINIMUM SIZE ONLY) IS REQUIRED TO BE CREATED BY THE DEVELOPER OVER LOT 613. IN ADDITION TO THE EASEMENT A RESTRICTION ON THE USE OF LAND (A) IS REQUIRED IN RELATION TO THE FIRE RATING OF BUILDINGS MEASURED 3M FROM THE PLINTH OVER LOTS 612 & 613. ALSO A RESTRICTION ON THE USE OF LAND (D) IS REQUIRED IN RELATION TO SWIMMING POOLS MEASURED 5M FROM THE EASEMENT OVER LOTS 612 & 613.
  - REFER TELSTRA/NBN DESIGN LAYOUT FOR DUCTING AND EXCAVATION REQUIREMENTS.
  - ATTENTION - PERMANENT SURVEY MARKS MAY EXIST IN THIS AREA. THESE ARE TO BE LOCATED BY A SURVEYOR PRIOR TO THE COMMENCEMENT OF WORK.
  - WARNING - LIVE ENDEAVOUR ENERGY CABLES AND OTHER SERVICES IN THIS AREA. PLEASE CONTACT - 'DIAL BEFORE YOU DIG' ON TEL:1100 FOR SEARCHES A MINIMUM TWO DAYS PRIOR TO EXCAVATION.
  - ALL THE REQUIREMENTS OF THE ENVIRONMENTAL PROTECTION AUTHORITY POLLUTION CONTROL LEGISLATION IS TO BE STRICTLY ADHERED TO.

ALL WORKS TO BE CONSTRUCTED ARE TO BE COMPLETED IN ACCORDANCE WITH ENDEAVOUR ENERGY'S GENERIC ENVIRONMENTAL PLAN - EMS 0001.

ALL SL. COLUMNS ARE TO BE INSTALLED 350mm FROM THE FRONT PROPERTY BOUNDARIES UNLESS SHOWN OTHERWISE.



**CERTIFIED BY ENDEAVOUR ENERGY**

AMENDMENT ..... A

DATE APPROVED: 05/12/2017

EXAMINER'S SIGNATURE: .....

PRINT NAME: Mala Jayasekara

THIS CERTIFICATION IS ISSUED SUBJECT TO ENDEAVOUR ENERGY'S STANDARD CERT. TERMS.

**DESIGN COMPLIANCE AND INDEMNITY**

This design complies with the Endeavour Energy's relevant standards as current at this time and as listed on the Endeavour Energy Accredited Service Provider's Internet site. These standards include, but are not limited to:

- CP : Connection Policy
- EMS : Environmental Management Standard
- MCI : Mains Construction Instruction
- MDI : Mains Design Instruction
- PDI : Protection Design Instruction
- SDI : Substation Design Instruction
- EDI : Earthing Design Instruction
- SAD 0001 : Design Drawing Standard
- MMI : Mains Maintenance Instruction
- SMI : Substation Maintenance Instruction
- LDI 0001 : Public Lighting Electrical Design Element

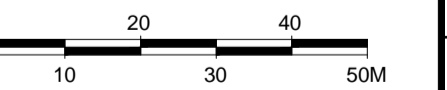
Additionally, where relevant, the design complies with AS/NZS 7000 "Overhead Line Design - Detailed Procedures" published by the Australian Standards.

**ESTATE POWER DESIGN** (Company name)  
 indemnifies Endeavour Energy for any loss or damage resulting from non-compliance of the design with the above standards.

Signed: BRIAN JUDE

Name: .....

Service Provider Number: 1033 Date: 20/11/2017



EPD REFERENCE No.  
 10/233/ED11NB

**ESTATE POWER DESIGN PTY LIMITED**

ABN 69 002 331 142  
 ELECTRICAL RETICULATION CONSULTANTS  
 P.O. BOX 1872, PENRITH BC, 2751  
 TEL: (02) 4731-8333 FAX: (02) 4731-1594  
 EMAIL: brian@estatepower.com.au

THIS DRAWING AND THE COPYRIGHT THEREIN IS THE PROPERTY OF ENDEAVOUR ENERGY AND MAY NOT BE COPIED, REPRODUCED, DISTRIBUTED, LOANED OR USED WITHOUT THE WRITTEN CONSENT OF ENDEAVOUR ENERGY

REFERENCE DRAWINGS	WORK ORDERS	CAP / SAMP No.	URS 20169	ORIGINAL SCALE	DO NOT SCALE
507483	ELECTRICAL RETICULATION	AM PROJ. No.		1:1000	DIMENSIONS IN METRES
	GENERAL	HV SWITCHING			
	OVERHEAD	UBD/PENGUIN REF	MAP 63 REF.G13	DRAWN	E.C.
	UNDERGROUND	GIS MAP No	6482.94	DATE	20.11.17
	SUBSTATIONS	HV OP DIAGRAM	NORTH RICHMOND.J4	CHD	B.H.
		LOCAL GOV AREA	HAWKESBURY		

**REDBANK ESTATE - 'YEOMANS'**  
 STAGE 11 - NORTH 'B'  
 PROPOSED ROAD ONE  
 NORTH RICHMOND  
 URS 20169  
 DUCT, EASEMENT & TRENCH REQUIREMENTS

**A1 507482 A**

SHEET No 1 OF 1 SHEETS

**WORK COMPLETED / FIELD BOOK**

CONSTRUCTED BY .....

WORKS COMPLETED .....

SIGNATURE ..... DATE .....

INSPECTED BY .....

SIGNATURE ..... DATE .....

**ASSET RECORDING**

OF .....

CONTACT No. ....

HEREBY CERTIFY THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN RECORDED AS PER ENDEAVOUR ENERGY STANDARD SAD 0004.

SIGNATURE ..... DATE .....

**THE CERTIFICATION OF THIS PRODUCT IS SUPPORTED BY THE FOLLOWING KEY DOCUMENTS -**

DOCUMENT NAME	NOTATION DATE
SUMMARY ENVIRONMENTAL REPORT (EMS 0001) - FAT0038	27.10.17
AGREEMENT FOR ENTRY, GRANT AND CREATION OF EASEMENT - FPJ5013.	-
EQUIPMENT TO BE RETURNED TO ENDEAVOUR ENERGY - FPJ4252 (SWITCH GEAR TRANSFORMERS & BARE COPPER CONDUCTOR).	-
EQUIPMENT TO BE RETURNED TO ENDEAVOUR ENERGY - FPJ4253 (TREATED TIMBER POLES AND CONCRETE POLES).	-
TELECOMMUNICATION ASSET AGREEMENT - FPJ4184.	-
PROJECT DEFINITION.	-
ESTATE POWER DESIGN SAFETY REPORT.	27.10.17

**WARNING**

LIVE ENDEAVOUR ENERGY CABLES AND OTHER SERVICES EXIST IN THIS AREA.

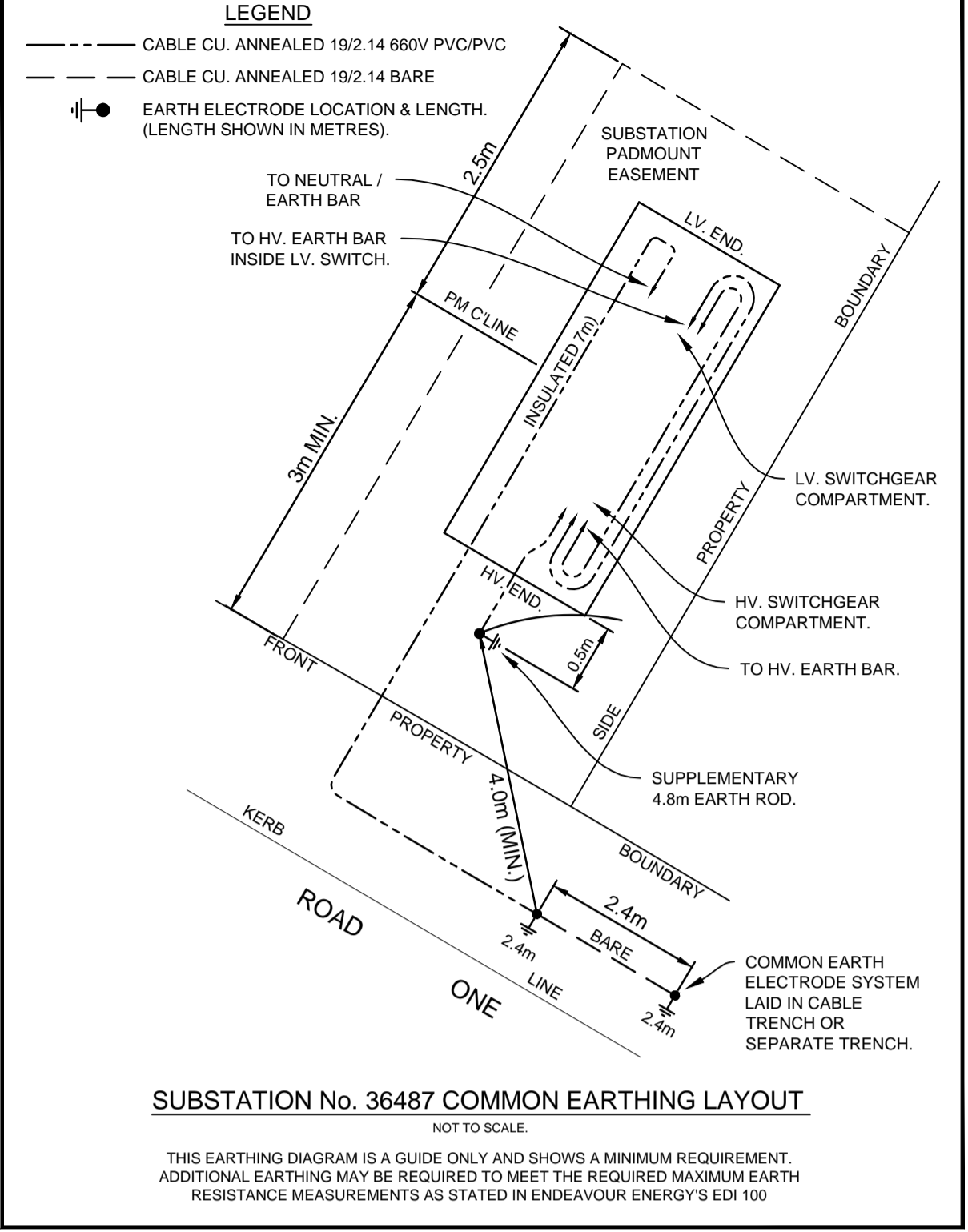
PLEASE CONTACT - DIAL BEFORE YOU DIG ON TEL:-1100 FOR SEARCH INFORMATION A MINIMUM TWO DAYS PRIOR TO EXCAVATION.

PERMANENT SURVEY MARKS MAY EXIST IN THIS AREA. THESE ARE TO BE LOCATED BY SURVEY PRIOR TO COMMENCEMENT OF WORK.

**THIS PROJECT TO BE CONSTRUCTED AFTER THE COMPLETION OF URS 18621 DRG. 505307.**

**EARTHING DATA TO BE CAPTURED TO GIS**

SUBSTATION NO.	36487
INSTALLATION TYPE	UNDERGROUND
EARTHING SYSTEM TYPE	COMMON
SOIL RESISTIVITY AVERAGE IN OHMS	71.365 OHM METRES
HV SEPARATE EARTHING GRID RESISTANCE (SEPARATE EARTHING ONLY)	N/A
SIZE/NO. OF HV ELECTRODES (SEPARATE EARTHING ONLY)	N/A
LV SEPARATE EARTHING GRID RESISTANCE (SEPARATE EARTHING ONLY)	N/A
SIZE/NO. OF LV ELECTRODES (SEPARATE EARTHING ONLY)	N/A
COMBINED EARTH RESISTANCE IN OHMS (FOR COMMON EARTHING)	16.94 OHMS
SIZE/NO. OF COMBINED ELECTRODES (COMMON EARTHING)	2 x 2.4m
SIZE/NO. OF THE SUPPLEMENTARY ELECTRODE	1 x 4.8m
BONDING CONDUCTOR SIZE IN MM2 (INSULATED/BARE)	70 SQMM CU
CONNECTION TYPE (CAD OR CRIMP)	CRIMP
AMBIENT TEMPERATURE/WEATHER CONDITION	18°C
DATE OF SOIL TEST	10.05.17
INSULATED DEPTH FROM GROUND LEVEL (IN METRES)	0m
LENGTH OF MEN CONNECTION CABLE (IN METRES)	N/A
TOTAL LENGTH OF EARTH ELECTRODE SYSTEM CABLE (INCL. INSULATED & BARE IN METRES)	APPROX. 10m
MEASURED EARTH RESISTANCE IN OHMS (TO BE MEASURED BY L1 ASP ON COMMISSIONING)	



- NOTES**
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ENDEAVOUR ENERGY'S MCI 0006, MDI 0026, THE RELEVANT SDI & EDI 100 & THE DUCT, EASEMENT AND TRENCH REQUIREMENTS DRAWING.
  - ENDEAVOUR ENERGY CONTACT PHONE No. 131081.
  - DESIGN CERTIFICATION SHALL LAPSE WHERE -  
(i) NOTICE OF INTENT HAS NOT BEEN RECEIVED WITHIN SIX (6) MONTHS OF THIS CERTIFICATION, OR  
(ii) CONSTRUCTION HAS BEEN INTERRUPTED FOR MORE THAN SIX (6) MONTHS. WHERE DESIGN CERTIFICATION HAS LAPSED, THE DESIGN MUST BE RESUBMITTED FOR CERTIFICATION BY THE ACCREDITED DESIGNER.
  - ATTENTION - PERMANENT SURVEY MARKS MAY EXIST IN THIS AREA. THESE ARE TO BE LOCATED BY A SURVEYOR PRIOR TO THE COMMENCEMENT OF WORK.
  - ATTENTION - ALL SERVICES SEARCHES MUST BE CHECKED BEFORE CONSTRUCTION.
  - WARNING - LIVE ENDEAVOUR ENERGY CABLES AND OTHER SERVICES IN THIS AREA. PLEASE CONTACT - DIAL BEFORE YOU DIG ON TEL:-1100 FOR SEARCHES A MINIMUM TWO DAYS PRIOR TO EXCAVATION.
  - ATTENTION - SERVICE PROVIDER TO NOTIFY ENDEAVOUR ENERGY'S ASSET DATA CUSTOMER DEPT. DAILY WHEN CABLE WORKS IS IN PROGRESS. TELEPHONE 131 081.
  - OPERATIONAL LIMITS - UNLESS APPROVED OTHERWISE, INTERRUPTIONS TO ANY CUSTOMER'S SUPPLY MUST BE AVOIDED. THE FOLLOWING ALTERNATIVES SHOULD BE CONSIDERED:  
- MOBILE GENERATORS OR SUBSTATIONS.  
- LIVE LINERWORK.  
- DESIGN ALTERNATIVES.  
- LOW VOLTAGE PARALLELS.  
- WORK PRACTICES / STANDARDS.
  - THE COST IS TO BE FUNDED BY THE CUSTOMER / DEVELOPER.
  - REIMBURSEMENTS WILL BE CREDITED TO THE DEVELOPER ONLY FOR LENGTHS AND QUANTITIES SHOWN IN THE SCOPE OF WORKS. ANY DISCREPANCIES SHOULD BE RESOLVED PRIOR TO THE CONTRACT AGREEMENT.
  - HAVE ALL THE EXISTING ASSETS BEEN FIELD CHECKED AND ARE ACCURATE AT THE TIME OF DESIGN: YES / NO.
  - ALL NEW LANTERNS TO BE CONTROLLED BY PHOTO ELECTRIC CELLS.

**ALL SL. COLUMNS ARE TO BE INSTALLED 350mm FROM THE FRONT PROPERTY BOUNDARIES UNLESS SHOWN OTHERWISE.**

**ALL WORKS TO BE CONSTRUCTED ARE TO BE COMPLETED IN ACCORDANCE WITH ENDEAVOUR ENERGY'S GENERIC ENVIRONMENTAL PLAN - EMS 0001.**

**PIONEER COST SHARE REIMBURSEMENT SCHEME - EXPIRY DATE: N/A**  
PRO-RATA REIMBURSEMENT FOR CUSTOMER'S LOAD OVER 50kVA

ASSET	ASSET COST ESTIMATE (\$)	UNIT QUANTITY	NET ASSET CAPACITY (kVA)	ORIGINAL CUSTOMER UTILISATION (kVA)	MAXIMUM REIMBURSEMENT (\$)
HV. MAINS		(km)			
LV. MAINS		(km)			
SUBSTATION					N/A

**CERTIFIED BY ENDEAVOUR ENERGY**

AMENDMENT: A

DATE APPROVED: 05/12/2017

EXAMINER'S SIGNATURE: *[Signature]*

PRINT NAME: Mala Jayasekara

THIS CERTIFICATION IS ISSUED SUBJECT TO ENDEAVOUR ENERGY'S STANDARD CERT. TERMS.

**AUTHORISATION OF ESTIMATED VALUE OF ENDEAVOUR ENERGY FUNDED ASSETS**

SIGNED: .....

PRINT NAME: Mala Jayasekara

SERVICE NUMBER: 38193

FUNDING AMOUNT \$: 93,768

DATE: 05/12/2017

**APPROVAL TO CONNECT TO PUBLIC LIGHTING**

Date Approved: 06/11/2017

Reviewers Name: David Castro

Reviewers Signature: *[Signature]*

This approval is issued subject Endeavour Energy's General Terms & Conditions for connection of Public Lighting and is specifically for Drawing number: 507483 amendment A. Project Cap No: URS20169

**DESIGN COMPLIANCE AND INDEMNITY**

This design complies with the Endeavour Energy's relevant standards as current at this time and as listed on the Endeavour Energy Accredited Service Provider's internet site. These standards include, but are not limited to:

- CP : Connection Policy
- EMS : Environmental Management Standard
- MCI : Mains Construction Instruction
- MDI : Mains Design Instruction
- PDI : Protection Design Instruction
- SDI : Substation Design Instruction
- EDI : Earthing Design Instruction
- SAD 0001 : Design Drawing Standard
- MMI : Mains Maintenance Instruction
- SMI : Substation Maintenance Instruction
- LDI 0001 : Public Lighting Electrical Design Element

Additionally, where relevant, the design complies with AS/NZS 7000 'Overhead Line Design - Detailed Procedures' published by the Australian Standards.

ESTATE POWER DESIGN (Company name) indemnifies Endeavour Energy for any loss or damage resulting from non-compliance of the design with the above standards.

Signed: *[Signature]*

Name: BRIAN JUDE

Service Provider Number: 1033. Date: 29.11.2017

- LEGEND**
- PROPOSED PADMOUNT SUBSTATION
  - PROPOSED LV PILLAR
  - EXISTING LV PILLAR
  - PROPOSED S.L. COLUMN (REFER TO SCHEDULE)
  - EXISTING S.L. COLUMN
  - HV CABLE TRENCH
  - LV CABLE TRENCH
  - EXISTING SERVICE CONDUIT
  - INSTALL 40mm PVC SERVICE CONDUIT
  - EXISTING UNDERGROUND CABLE
  - PROPOSED ROAD CROSSING DUCT LOCATIONS (INSTALLED UNDER CIVIL WORKS)
  - EXISTING DUCT LOCATIONS
  - PILLAR EARTHING LOCATIONS
  - LV ISOLATION SWITCH (CLOSED)
  - LV ISOLATION SWITCH (OPEN)

- PLAN SYMBOLS**
- DIRECT BURIED CABLE
  - SPARE 50mm DUCT
  - SPARE 125mm DUCT
  - DUCT WITH EXISTING CABLE
  - DUCT WITH NEW CABLE

**FUNDING ARRANGEMENTS FOR SCOPE OF WORKS**

ASP LEVEL 1 ELECTRICAL WORKS		CUSTOMER
<b>ENDEAVOUR ENERGY SUPPLIED MATERIALS</b>	<b>CUSTOMER FUNDED NON-CONTESTABLE WORKS</b>	<b>CUSTOMER FUNDED</b>
NIL	SWITCHING, INSPECTION AND COMMISSIONING COSTS	INCLUDES BUT NOT LIMITED TO: - PEGGING OF EASEMENT, PROPERTY BOUNDARIES AND INFRASTRUCTURE LOCATIONS. - REGISTRATION OF EASEMENT. - PROVIDING ACCESS. - OWN SERVICE & SERVICE CONNECTION. - CONFIRM FINISHED GROUND LEVELS. - EXISTING DUCT USAGE CHARGE
<b>ENDEAVOUR ENERGY FUNDED &amp; CONSTRUCTED</b>	<b>CUSTOMER FUNDED - CONTESTABLE</b>	NIL
WORKS REQUIRED PRIOR TO COMPLETION OF CUSTOMER CONTESTABLE PROJECT.	ALL OTHER WORKS & MATERIALS INCLUDING BUT NOT LIMITED TO: - INSTALLATION & ESTABLISHMENT OF THE PM SUBSTATION. - TRENCHING. - DUCT INSTALLATIONS. - CABLE LAYING AND / OR INSTALLATIONS. - JOINTING.	EX. DUCTS UTILISED ON THIS PROJECT WERE DEVELOPER FUNDED AND INSTALLED UNDER URS 18621 DRG. 505307
NIL	NIL	COORDINATION SUPPLY REQUIRED DATE (TO BE CONFIRMED WITH PROJECT MANAGER)
<b>ENDEAVOUR ENERGY FUNDED &amp; ASP L1 CONSTRUCTED - REIMBURSED</b>		DAY: 22 MONTH: 01 YEAR: 2018
<b>TRENCHING &amp; DUCTS:</b> - (T&R) HV LIGHT TRENCHING & REINSTATEMENT - 50m = \$6,560 - (LD) LAY HV. 125mm DUCTS IN TRENCH - 87m = \$522 - (D) LAY HV. DUCTS IN SL/LV TRENCH - 420m = \$9,660		ASSETS TO BE RETURNED TO THE NEAREST ENDEAVOUR ENERGY DEPOT BY LEVEL 1 ASP.
<b>LAY CABLE:</b> - (PC) LAY CABLE PULL CONDUCTOR THROUGH DUCTS - 120m = \$504 - (LC) LAY HV CABLE (DIRECTLY BURIED) IN TRENCH - 298m = \$2,980 - (C) 11kV 240mm <sup>2</sup> AL 3C XLPE - 424m = \$13,992		
<b>JOINTS:</b> - 2 x STJ IN TRENCH (HV) = \$2,954 - 2 x PM SUB TERMINATION (HV) = \$6,102		
<b>PADMOUNT SUBSTATION:</b> - INSTALL 1 x NEW PM SUBSTATION = \$2,860 - INSTALL 1 x SUB CULVERT = \$2,320 - 1 x VALUE OF 500kVA 11kV TRANSFORMER ONLY = \$13,597 - 1 x SIEMENS RTR HV SWITCHGEAR = \$10,745 - 1 x CAT 1 FRF = \$6,797 - 1 x SIZE 14 FIBREGLASS CUBICLE = \$3,928 - 1 x PM SUBSTATION CULVERT = \$1,223 - 1 x SIZE 14-16 CONCRETE PLINTH = \$1,233		
TOTAL EE CAPITAL CONTRIBUTION = \$85,477 (EXCLUDING PM & DESIGN)		
TOTAL EE CAPITAL CONTRIBUTION = \$93,768 (HV REIMBURSED)		

**ESTABLISH NEW PADMOUNT SUBSTATION 36487.**  
TRANSFORMER SIZE: 11KV 433V, 500 KVA.  
HV. SWITCHGEAR: RTR (SIEMENS).  
HV. FUSES: 12KV, 63A IIRC.  
LV. SWITCHGEAR: 4 FEEDER CAT. 1  
LV. FUSE SIZES: LV 250A (DIN).  
SUBSTATION CUBICLE: FIBREGLASS SIZE 14.  
EARTHING: COMMON EARTHING TO EDI 100.

**INSTALL SERVICE CONDUIT CLEAR OF PROPOSED EASEMENTS, DRIVEWAYS DRAINAGE LINE ETC. WHERE INDICATED THIS #**

TO HV SW. E8062 SUB. 36106.  
TO HV SW. E8053 SUB. 36105.  
TO HV SW. E8061 SUB. 36106.  
TO HV SW. B9842 SUB. 34266.

**JOINT / TERMINATION TYPE:**  
NETWORK ACCESS AUTHORISATION:  
JOINT / TERMINATION KIT #:  
JOINT / TERMINATION BATCH #:  
DATE OF MANUFACTURE:

**JOINT / TERMINATION TYPE:**  
NETWORK ACCESS AUTHORISATION:  
JOINT / TERMINATION KIT #:  
JOINT / TERMINATION BATCH #:  
DATE OF MANUFACTURE:

**JOINT / TERMINATION TYPE:**  
NETWORK ACCESS AUTHORISATION:  
JOINT / TERMINATION KIT #:  
JOINT / TERMINATION BATCH #:  
DATE OF MANUFACTURE:

**JOINT / TERMINATION TYPE:**  
NETWORK ACCESS AUTHORISATION:  
JOINT / TERMINATION KIT #:  
JOINT / TERMINATION BATCH #:  
DATE OF MANUFACTURE:

**FINAL HV. CIRCUIT**

LAY 240 SQmm 3 CORE 11KV AL XLPE/COMPOSITE SHEATHED CABLE - RL. 215m CL. 435m

EXISTING UG. CABLE

THIS DRAWING SUPPLIES 47 LOTS LOTS & 3 EX. LOTS

CAP No.	FILE No.	LOT No.	No OF LOTS	DEVELOPER	DEVELOPER'S REP.	TEL. No.
URS 20169	2017/04224/001	605 - 654	50 LOTS	NORTH RICHMOND JOINT VENTURE	ANDREW FLAHERTY	4780 1502

**ESTATE POWER DESIGN PTY LIMITED**  
ABN 69 002 331 142  
ELECTRICAL RETICULATION CONSULTANTS  
P.O. BOX 1872, PENRITH BC, 2751  
TEL: (02) 4731-8333 FAX: (02) 4731-1594  
EMAIL: brian@estatepower.com.au

EPD 1.6

REFERENCE DRAWING'S	WORK ORDERS	CAP / SAMP No.	URS 20169	ORIGINAL SCALE	DO NOT SCALE
507482	DUCT, EASEMENT & TRENCH REQ'S	AM PROJ. No.		1:1000	
	GENERAL	HV SWITCHING			
	OVERHEAD	UBD/PENGUIN REF	MAP 63 REF.G13		
	UNDERGROUND	GIS MAP No	6482.94		
	SUBSTATIONS	HV OP DIAGRAM	NORTH RICHMOND.J4		
		LOCAL GOV AREA	HAWKESBURY		

**REDBANK ESTATE - 'YEOMANS' STAGE 11 - NORTH 'B' PROPOSED ROAD ONE NORTH RICHMOND URS 20169 ELECTRICAL RETICULATION**

EPD REFERENCE No. 10/233/ER11NB

**Endeavour Energy**

A1 507483 A

SHEET No. 1 OF 2 SHEETS

**URBAN SUBDIVISION RELATED REIMBURSEMENT - DUCT & HV. CABLE SCHEDULE**  
 NOTE - ALL TRENCH SECTIONS ARE TO BE READ & VIEWED FROM NODE TO NODE AS NOMINATED.

**DUCT & CABLE SCHEDULE CODE**  
 T & R - HV LIGHT TRENCHING & REINSTATEMENT  
 LC - LAY HV. CABLE - DIRECTLY BURIED IN TRENCH  
 C - CABLE - MATERIALS  
 LD - LAY HV. 125mm DUCTS IN TRENCH  
 PC - LAY CABLE - PULL CABLE THROUGH DUCTS  
 D - LAY HV. DUCT IN SLV TRENCH

\* ALL LENGTHS ENTERED IN METRES (m)

NODES	DUCT CONFIG.	ROUTE LENGTH (m)	CUSTOMER FUNDED DUCTS	CAPITAL CONTRIBUTION - HV CABLE & DUCT CONSTRUCTION IN URBAN SUBDIVISIONS (m)						OTHER DUCT REIMBURSEMENT (m) x (\$)	EXISTING DUCT USAGE (m) x (\$)
				T & R	LD	LC	PC	C (AL)	C (CU)		
B2 - B3	LV [S]	28m	2 x 125mm	-	-	-	-	-	-	-	
B3 - B4	SL [S]	20m	1 x 50mm 2 x 125mm	-	-	-	-	-	-	-	
B4 - B5	SL [S]	20m	1 x 50mm 1 x 125mm	-	-	-	-	-	-	-	
B5 - B6	LV [S]	55m	1 x 125mm	-	-	-	-	-	-	-	
B6 - B7	SL [S]	5m	1 x 50mm 1 x 125mm	-	-	-	-	-	-	-	
B7 - B8	LV [S]	40m	1 x 125mm	-	-	-	-	-	-	-	
B8 - B9	SL [S]	20m	1 x 50mm 1 x 125mm	-	-	-	-	-	-	-	
B9 - C1	LV [S]	20m	1 x 125mm	-	-	-	-	-	-	-	
C1 - C2	SL [S]	40m	1 x 50mm 1 x 125mm	-	-	-	-	-	-	-	
C2 - C3	LV [S]	40m	1 x 125mm	-	-	-	-	-	-	-	
C3 - C4	SL [S]	40m	1 x 50mm 1 x 125mm	-	-	-	-	-	-	-	
C4 - C5	LV [S]	21m	1 x 125mm	-	-	-	-	-	-	-	
Z2 - F9	LV [S]	20m	INSTALLED UNDER CIVIL WORKS	-	-	-	-	-	-	-	
C6 - F1	LV [S]	-	-	-	-	-	-	-	-	NIL DEV. FUNDED UNDER URS 18621 DRG. 505307	
F1 - F2	LV [S]	-	-	-	-	-	-	-	-	NIL DEV. FUNDED UNDER URS 18621 DRG. 505307	
F2 - F3	LV [S]	30m	1 x 125mm	-	-	-	-	-	-	-	
F3 - F4	SL [S]	10m	1 x 50mm 1 x 125mm	-	-	-	-	-	-	-	
F4 - F5	LV [S]	29m	1 x 125mm	-	-	-	-	-	-	-	
F5 - F6	SL [S]	7m	1 x 50mm 1 x 125mm	-	-	-	-	-	-	-	
F6 - F7	LV [S]	35m	1 x 125mm	-	-	-	-	-	-	-	
F7 - F8	SL [S]	16m	1 x 50mm 1 x 125mm	-	-	-	-	-	-	-	
F8 - F9	LV [S]	17m	1 x 125mm	-	-	-	-	-	-	-	
F9 - G1	LV [S]	15m	1 x 125mm	-	-	30m	-	30m	-	15m	
G1 - G2	SL [S]	16m	1 x 50mm 1 x 125mm	-	-	32m	-	32m	-	16m	
G2 - G3	LV [S]	25m	1 x 125mm	-	-	50m	-	50m	-	25m	
G3 - G4	SL [S]	53m	1 x 50mm 1 x 125mm	-	-	106m	-	106m	-	53m	
G4 - G5	SL [S]	7m	1 x 50mm	-	-	14m	-	14m	-	7m	
G5 - J4	HV [S]	33m	-	33m	33m	66m	-	66m	-	-	
J4 - J5	HV [S]	32m	EXIST.	-	-	64m	64m	-	-	NIL E.E. DUCTS	

**URBAN SUBDIVISION RELATED REIMBURSEMENT - DUCT & HV. CABLE SCHEDULE**  
 NOTE - ALL TRENCH SECTIONS ARE TO BE READ & VIEWED FROM NODE TO NODE AS NOMINATED.

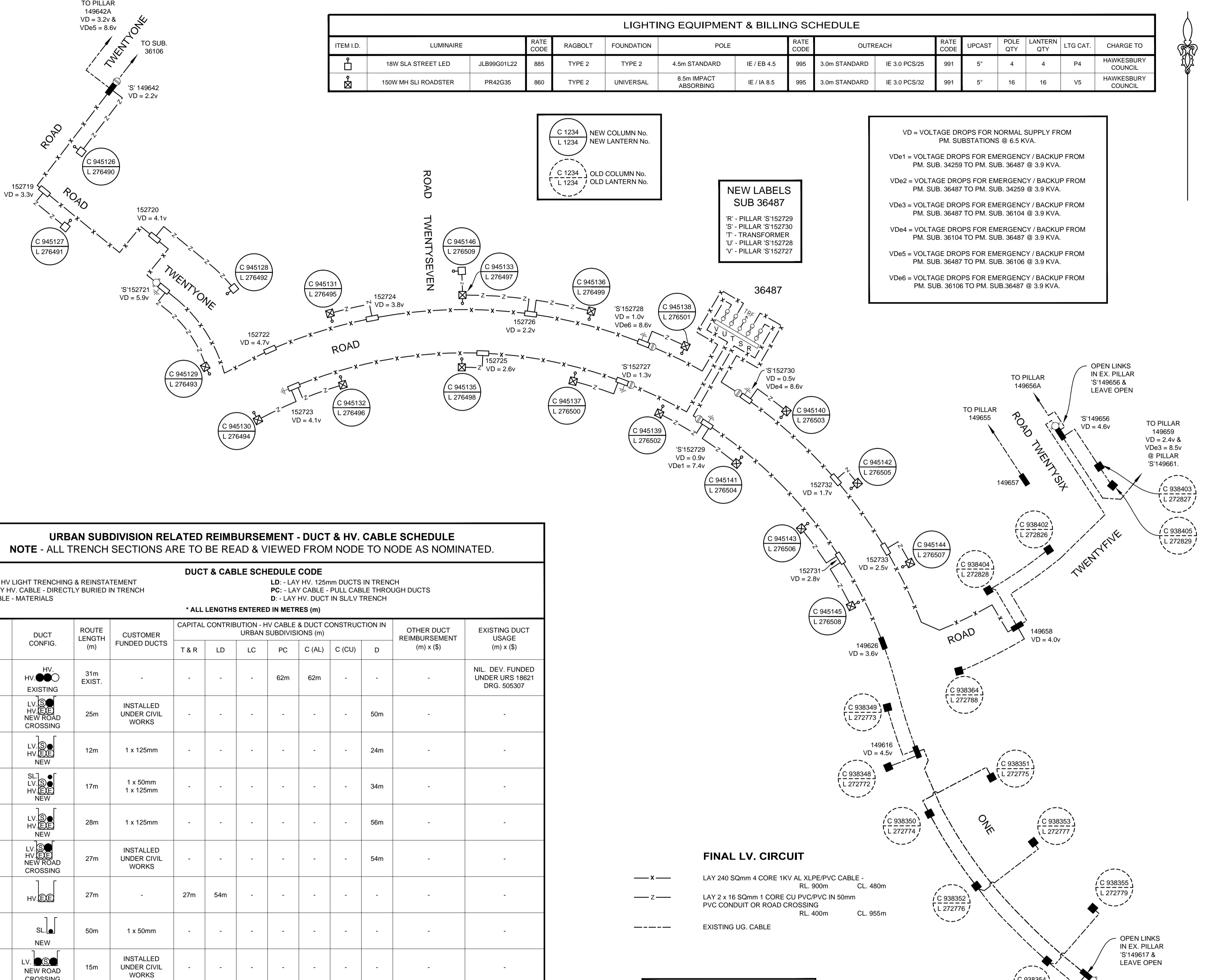
**DUCT & CABLE SCHEDULE CODE**  
 T & R - HV LIGHT TRENCHING & REINSTATEMENT  
 LC - LAY HV. CABLE - DIRECTLY BURIED IN TRENCH  
 C - CABLE - MATERIALS  
 LD - LAY HV. 125mm DUCTS IN TRENCH  
 PC - LAY CABLE - PULL CABLE THROUGH DUCTS  
 D - LAY HV. DUCT IN SLV TRENCH

\* ALL LENGTHS ENTERED IN METRES (m)

NODES	DUCT CONFIG.	ROUTE LENGTH (m)	CUSTOMER FUNDED DUCTS	CAPITAL CONTRIBUTION - HV CABLE & DUCT CONSTRUCTION IN URBAN SUBDIVISIONS (m)						OTHER DUCT REIMBURSEMENT (m) x (\$)	EXISTING DUCT USAGE (m) x (\$)
				T & R	LD	LC	PC	C (AL)	C (CU)		
J5 - P8	HV [S]	31m	EXIST.	-	-	-	62m	62m	-	-	NIL DEV. FUNDED UNDER URS 18621 DRG. 505307
G4 - G6	LV [S]	25m	INSTALLED UNDER CIVIL WORKS	-	-	-	-	-	50m	-	-
G6 - G7	LV [S]	12m	1 x 125mm	-	-	-	-	-	24m	-	-
G7 - G8	SL [S]	17m	1 x 50mm 1 x 125mm	-	-	-	-	-	34m	-	-
G8 - G9	LV [S]	28m	1 x 125mm	-	-	-	-	-	56m	-	-
G9 - U7	LV [S]	27m	INSTALLED UNDER CIVIL WORKS	-	-	-	-	-	54m	-	-
U7 - U8	HV [S]	27m	-	27m	54m	-	-	-	-	-	-
H1 - H2	SL [S]	50m	1 x 50mm	-	-	-	-	-	-	-	-
H2 - U5	LV [S]	15m	INSTALLED UNDER CIVIL WORKS	-	-	-	-	-	-	-	-
H4 - H6	SL [S]	20m	1 x 50mm 1 x 125mm	-	-	-	-	-	40m	-	-
U4 - H4	LV [S]	23m	INSTALLED UNDER CIVIL WORKS	-	-	-	-	-	-	-	-
U4 - H3	SL [S]	15m	1 x 50mm 1 x 125mm	-	-	-	-	-	-	-	-
H3 - U6	LV [S]	55m	1 x 125mm	-	-	-	-	-	-	-	-
U6 - U7	SL [S]	44m	1 x 50mm 1 x 125mm	-	-	-	-	-	-	-	-
TOTAL NEW (m)		1020m	50mm = 400m 125mm = 861m	60m	87m	298m	126m	424m	-	420m	-
TOTAL (\$)				\$6,060	\$522	\$2,980	\$504	\$13,992	-	\$9,660	-

**LIGHTING EQUIPMENT & BILLING SCHEDULE**

ITEM I.D.	LUMINAIRE	RATE CODE	RAGBOLT	FOUNDATION	POLE	RATE CODE	OUTREACH	RATE CODE	UPCAST	POLE QTY	LANTERN QTY	LTG CAT.	CHARGE TO			
1	18W SLA STREET LED	JLB99G01L22	885	TYPE 2	TYPE 2	4.5m STANDARD	IE / EB 4.5	995	3.0m STANDARD	IE 3.0 PCS/25	991	5'	4	4	P4	HAWKESBURY COUNCIL
2	150W MH SLI ROADSTER	PR42G35	860	TYPE 2	UNIVERSAL	8.5m IMPACT ABSORBING	IE / IA 8.5	995	3.0m STANDARD	IE 3.0 PCS/32	991	5'	16	16	V5	HAWKESBURY COUNCIL



VD = VOLTAGE DROPS FOR NORMAL SUPPLY FROM PM. SUBSTATIONS @ 6.5 KVA.  
 VDe1 = VOLTAGE DROPS FOR EMERGENCY / BACKUP FROM PM. SUB. 36487 TO PM. SUB. 34259 @ 3.9 KVA.  
 VDe2 = VOLTAGE DROPS FOR EMERGENCY / BACKUP FROM PM. SUB. 36487 TO PM. SUB. 36104 @ 3.9 KVA.  
 VDe3 = VOLTAGE DROPS FOR EMERGENCY / BACKUP FROM PM. SUB. 36104 TO PM. SUB. 36487 @ 3.9 KVA.  
 VDe4 = VOLTAGE DROPS FOR EMERGENCY / BACKUP FROM PM. SUB. 36104 TO PM. SUB. 36487 @ 3.9 KVA.  
 VDe5 = VOLTAGE DROPS FOR EMERGENCY / BACKUP FROM PM. SUB. 36487 TO PM. SUB. 36106 @ 3.9 KVA.  
 VDe6 = VOLTAGE DROPS FOR EMERGENCY / BACKUP FROM PM. SUB. 36106 TO PM. SUB. 36487 @ 3.9 KVA.

**NEW LABELS SUB 36487**  
 R - PILLAR 'S'152729  
 S - PILLAR 'S'152730  
 T - TRANSFORMER  
 U - PILLAR 'S'152728  
 V - PILLAR 'S'152727

**FINAL LV. CIRCUIT**  
 --- X --- LAY 240 SQmm 4 CORE 1KV AL XLPE/PVC CABLE - RL 900m CL 480m  
 --- Z --- LAY 2 x 16 SQmm 1 CORE CU PVC/PVC IN 50mm PVC CONDUIT OR ROAD CROSSING RL 400m CL 955m  
 - - - - - EXISTING UG. CABLE

**WORK COMPLETED / FIELD BOOK**

CONSTRUCTED BY .....

WORKS COMPLETED .....

SIGNATURE ..... DATE .....

INSPECTED BY .....

SIGNATURE ..... DATE .....

**ASSET RECORDING**

I .....

OF .....

CONTACT No .....

HEREBY CERTIFY THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN RECORDED AS PER ENDEAVOUR ENERGY STANDARD SAD 0004.

SIGNATURE ..... DATE .....

**CERTIFIED BY ENDEAVOUR ENERGY**  
 AMENDMENT A  
 DATE APPROVED: 05/12/2017  
 EXAMINER'S SIGNATURE: *Mala Jayasekara*  
 PRINT NAME: Mala Jayasekara  
 THIS CERTIFICATION IS ISSUED SUBJECT TO ENDEAVOUR ENERGY'S STANDARD CERT. TERMS.

EPD REFERENCE No.  
**10/233/ER11NB**

AMENDMENTS ORIGINAL ISSUE	ESTATE POWER DESIGN PTY LIMITED ABN 69 002 331 142 ELECTRICAL RETICULATION CONSULTANTS P.O. BOX 1872, PENRITH BC, 2751 TEL: (02) 4731-8333 FAX (02) 4731-1594 EMAIL: brian@estatepower.com.au		REFERENCE DRAWING'S	WORK ORDERS	CAP / SAMP No.	URS 20169	ORIGINAL SCALE 1:1000	DO NOT SCALE DIMENSIONS IN METRES	REDBANK ESTATE - 'YEOMANS' STAGE 11 - NORTH 'B' PROPOSED ROAD ONE NORTH RICHMOND URS 20169 ELECTRICAL RETICULATION	
			507482	DUCT, EASEMENT & TRENCH REQ'S	GENERAL OVERHEAD UNDERGROUND SUBSTATIONS	AM PROJ. No.				
A										