

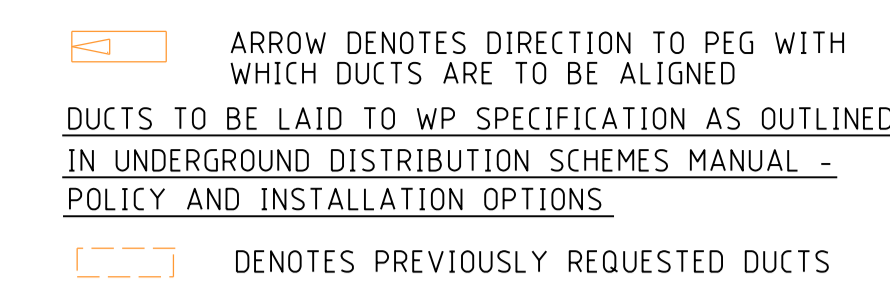
**CONTRACTOR NOTES:**

- DRAWING TO BE READ IN CONJUNCTION WITH CONTRACT DRAWINGS AND SPECIFICATIONS.
- THE REQUIREMENTS HEREIN SHALL BE COMPLIED WITH, WHETHER BY THE HEAD CONTRACTOR OR ELECTRICAL SUB-CONTRACTOR. CONTRACTORS SHOULD BE EXPERIENCED IN THIS WORK AND SHALL MEET LISTED WP QUALIFICATIONS.
- SUPPLY & INSTALL ALL WORKS AS SHOWN ON THESE DRAWINGS, TO PROVIDE A COMPLETE AND WORKING SYSTEM. COMPLETE ALL ASSOCIATED WORKS.
- ALL WORKS SHALL COMPLY WITH WESTERN POWER (WP) POLICIES, INCLUDING THE UDS, WASIR, DDC, DSPM, DCSD, UCIM AND EARTHING FAQ. ALL MATERIALS USED MUST BE APPROVED WESTERN POWER MATERIALS.
- COMPLY WITH ALL REQUIREMENTS OF THE LOCAL GOVERNMENT AUTHORITY (LGA) AND MAIN ROADS WA (MRWA) (IF APPLICABLE).
- VERIFY ALL MATERIAL QUANTITIES AGAINST SITE CONDITIONS PRIOR TO TENDER AND ADVISE THE PRINCIPAL OF ANY VARIATIONS IN TENDER OFFER.
- PREPARE AND COMPLY WITH A SITE SAFETY MANAGEMENT PLAN, INCORPORATING REQUIREMENTS OF WP'S ESSR AND ALL APPLICABLE LAWS & REGULATIONS.
- FOR ALL WORKS IN PROXIMITY OF EX SERVICES AND ASSETS: ACQUIRE CURRENT OBYD DRAWINGS, LOCATE UG SERVICES AS NECESSARY USING APPROPRIATE TECHNIQUES (GROUND PENETRATING RADAR, HAND & VACUUM POT-HOLING ETC). COMPLY WITH THE REQUIREMENTS OF ALL SERVICE PROVIDERS FOR WORKS IN PROXIMITY TO THEIR SERVICES AND ACQUIRE REQUIRED PERMITS FOR WORK. PLAN FOR AND PROTECT EXISTING SERVICES IN THE VICINITY OF ALL WORKS. DO NOT ENCRoACH MINIMUM APPROACH DISTANCES FOR UG OR OH SERVICES.
- LIAISE WITH WP AS REQUIRED. ATTEND PRE-HANDOVER INSPECTION WITH WP AND RECTIFY ALL DEFECTS. COMPLETE HANDOVER PROCESS FOR ALL NETWORK TO WP.
- LIAISE WITH SUPERINTENDENT AND NOMINATED ELECTRICAL INSPECTOR AS REQUIRED. HOST A PRE-START MEETING AND FACILITATE PERIODIC ON SITE WORK PROGRESS QA INSPECTIONS WITH SUPERINTENDENT AND/OR INSPECTOR.
- TRENCH, BACKFILL AND RE-INSTATE (MAKE GOOD) ALL SURFACES.
- LEAVE SUFFICIENT CABLE COILED AT ALL INTERFACE POINTS (INCLUDING JOINTS, PILLAR TERMINATIONS & POLE TERMINATIONS) TO ALLOW WP TO COMPLETE INTERFACE WORKS. INSTALL END CAPS TO PROTECT CABLE. BRING NEW CABLE ADJACENT TO EXISTING CABLE AND POT-HOLE TO EXPOSE EXISTING CABLES FOR WP AT HANDOVER.
- WHERE RETAINING WALLS, OR ANY WALL THAT COULD BE A COLLAPSE RISK DURING EXCAVATION, ARE PROPOSED, INSTALL ALL ADJACENT CABLES IN CONDUITS, WHERE SUCH WALLS ARE EXISTING, DRILL CONDUITS PAST WALLS AND HAUL CABLE THROUGH CONDUITS.
- AT ALL POINTS WHERE CABLES ARE NOT IN CONDUIT ADJACENT TO A WALL (BENDS, JOINTS ETC) INSTALL DEEPEMED WALL FOOTINGS TO AT LEAST THE DEPTH OF THE ADJACENT CABLES.
- ALL CABLES INSTALLED OUTSIDE OF 0-0.5m ALIGNMENT TO BE IN CONDUIT, OR WITH CABLE SLABS ABOVE WHERE REQUIRED.
- INSTALL SUITABLE RUST-FREE DRAW WIRES IN ALL SPARE CONDUITS, INCLUDING CONSUMER-MAINS CONDUITS FROM PILLARS UNDER RETAINING WALLS.
- BORER UNDER EXISTING ROADS AND DRIVEWAYS. HAND PLUNK UNDER FOOTPATHS ETC WHERE SUITABLE.
- STREETLIGHT POLES MUST NOT BE INSTALLED IN FOOTPATHS. PEG POLE LOCATIONS PRIOR TO INSTALL AND NOTIFY THE SUPERINTENDENT OF CLASHES IN ADVANCE.
- STREETLIGHT POLES SHALL BE PLUMB VERTICAL AND GROUND AROUND POLES COMPACTED TO CIVIL SPECIFICATION AFTER INSTALL.
- WHERE REQUIRED, ERECT STREETLIGHT POLES ONLY AFTER NEARBY EXISTING OVERHEAD POWERLINES ARE REMOVED.
- COMPLETE CLEARING/TRIMMING OF EXISTING VEGETATION AT WP INTERFACE WORKS LOCATIONS.
- COMPLETE ALL TESTING AS PER WP REQUIREMENTS AND PROVIDE TEST DOCUMENTATION AND HANDOVER CHECKLIST TO THE SUPERINTENDENT OR NOMINATED ELECTRICAL INSPECTOR.
- COMPLETE AS CONSTRUCTED PACKAGE AS PER UDS & PROVIDE TO THE SUPERINTENDENT. ENGAGE 3E TO PREPARE WP COMPLIANT CAD AS CON DRAWINGS. INCLUDE 3E'S COSTS FOR DRAFTING AS CON DRAWINGS IN TENDER PRICE. MAINTAIN AND PROVIDE COMPLETE, CLEAR & LEGIBLE RED-LINE AS CON DRAWING MARK-UPS TO 3E.
- NO CHANGES TO DESIGN PERMITTED WITHOUT 3E APPROVAL. SUBMIT DESIGN CHANGE REQUESTS, RFIs OR TQ'S TO THE SUPERINTENDENT PRIOR TO MAKING ANY DESIGN CHANGES.
- CONTRACTOR TO UTILISE SPARE 50mm CONDUIT IN 0-500mm ALIGNMENT FOR NEW 16SL CABLE. REFER CROSS SECTION
- CONTRACTOR TO INSTALL STREETLIGHTS ON 2.85m ALIGNMENT TO AVOID EXISTING CABLES/CONDUITS. REFER CROSS SECTION

**WESTERN POWER SCOPE OF WORKS**

WP TO COST TO CARRY OUT WORKS DESCRIBED HERE, INCLUDING ALL ASSOCIATED WORKS AND SUPPLY OF ALL MATERIALS.

- (A)** TEE JOINT NEW 25LV CABLE TO EXISTING 240LV CABLE (CCT 4). WP TO EXCAVATE AND BACKFILL JOINT BAY & SUPPLY JOINT
- (B)** CUT EXISTING 240LV CABLE AND JOINT NEW 240LV CABLES. EXCAVATE & BACKFILL JOINT BAYS & SUPPLY JOINTS.



**LEGEND**

**SCHEME BOD.**

- RETAINING WALL
- RETAINING WALL EXTRA FOOTING
- RESTRICTED ZONE
- EASEMENT

**HV CABLES**

- CN53 - 400mm<sup>2</sup> (3X1c)
- CN49 - 240mm<sup>2</sup> (3X1c)
- CN48 - 185mm<sup>2</sup> (3X1c)
- CN50 - 95mm<sup>2</sup> (3X1c)
- CN51 - 50mm<sup>2</sup> (1c)
- CN46 - 35mm<sup>2</sup> (3X1c)
- CN47 - 35mm<sup>2</sup> (1c)
- EXISTING HV CABLES (SIZE AND TYPE INDICATED)

**LV-SL CABLES**

- CN45 - 240mm<sup>2</sup> (1x3c)
- CN44 - 185mm<sup>2</sup> (1x3c)
- CN43 - 120mm<sup>2</sup> (1x3c)
- CN42 - 25mm<sup>2</sup> (1x3c)
- CN41 - 16mm<sup>2</sup> SL (1c)
- 40 C. PILOT
- EXISTING LV CABLES (SIZE AND TYPE INDICATED)

**STREET LIGHTS**

LEGEND DEFINES TYPE & WATTAGE - NOT COLOUR

ROAD FLAIR	ROAD GRADE	DECORATIVE
LED 3000K	LED 4000K	LED 4000K
15W 1E	20W 1L	17W 1A
43W 2E	53W 2L	42W 3A
28W 3E	36W 3L	80W 4C
70W 4E	80W 4L	100W 5C
100W 5E	160W 5L	155W 6C
185W 6E	170W 6L	

**SUPPOSED DISCHARGE LUMINAIRES**

- 42W CFL
- 80W HV
- 125W HV
- EXISTING
- 70W HPS
- 150W HPS
- 250W HPS
- 150W HPS AERODROME
- 70W MH
- 150W MH
- 250W MH

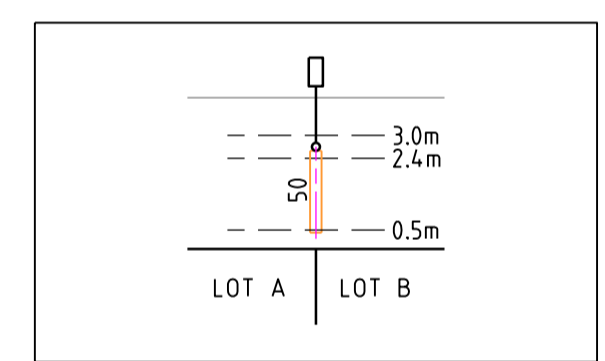
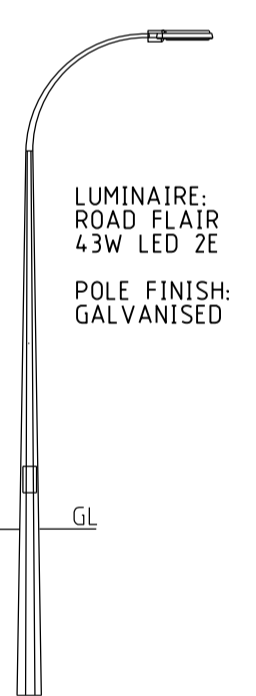
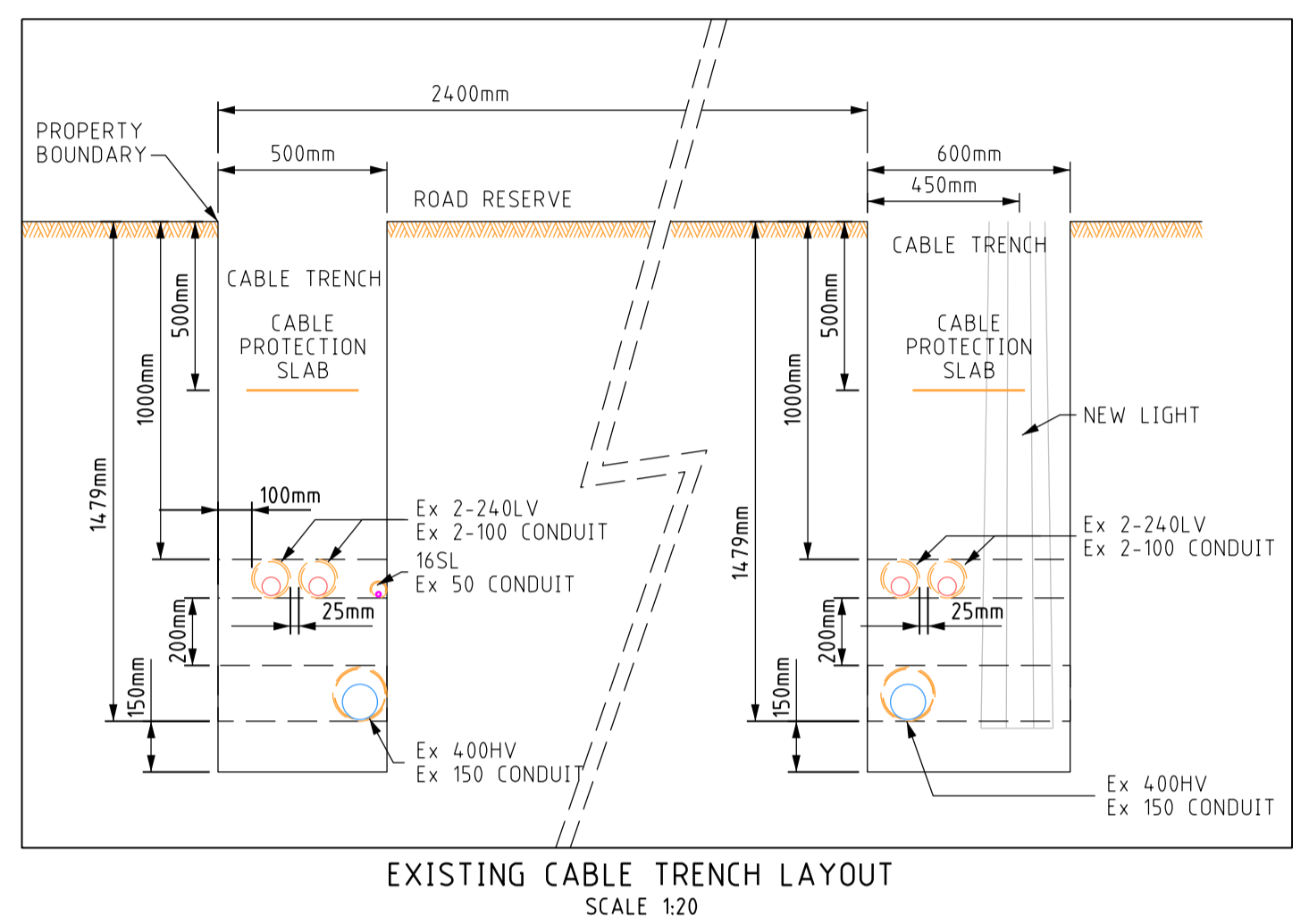
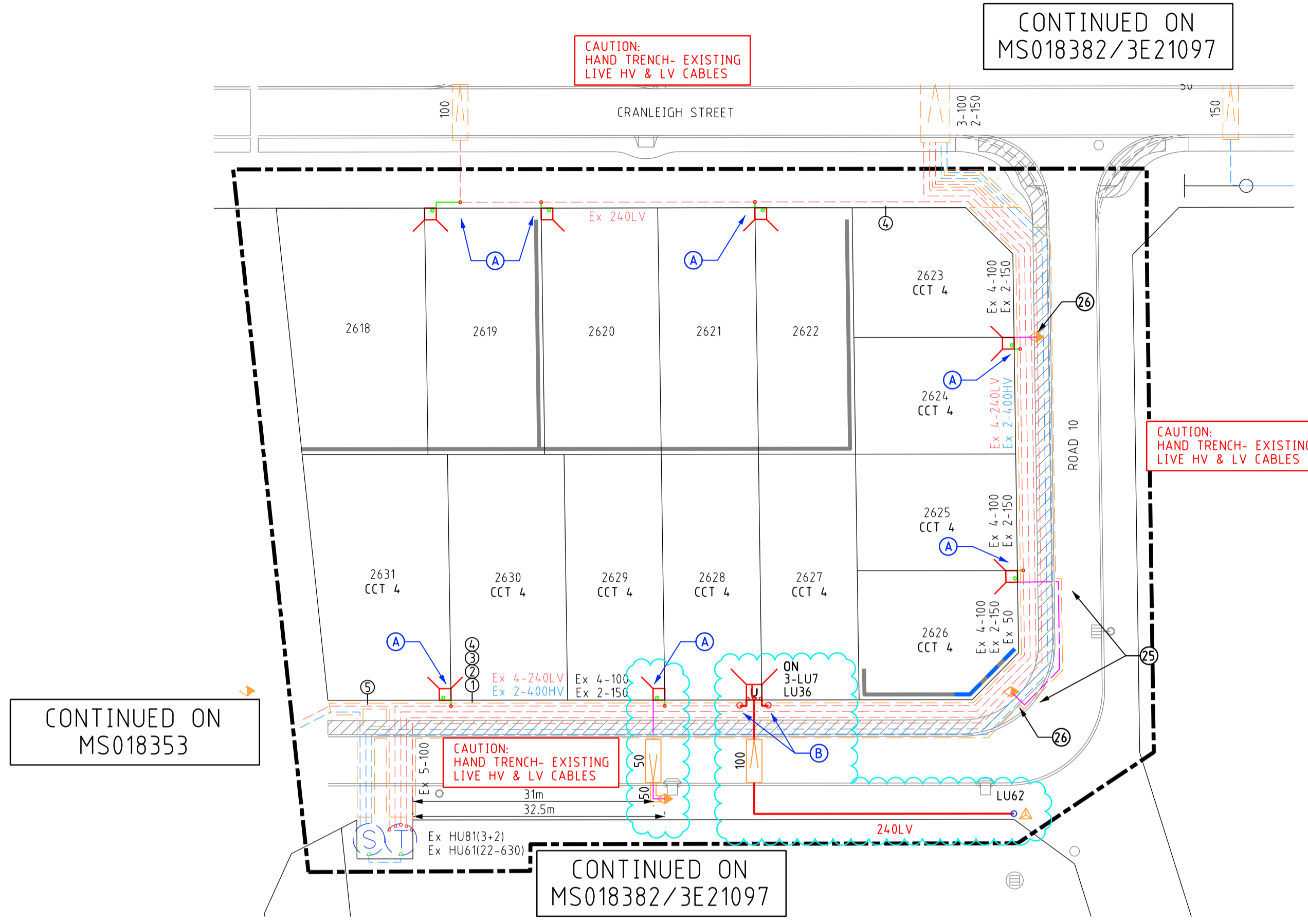
**PILLARS / PITS / ETC**

- MINI (WORKING END)
- UNIVERSAL
- MINI
- LINK
- STANDARD WP MARKER POST
- CUSTOM FOOTPATH CABLE MARKER PLATE
- CONDUIT / POLY PIPE
- UMS PIT
- CONCRETE HV CABLE PIT
- P4 - TYPE B/D - TRAFFICABLE
- LID RATING
- 100/200AMP CUTOFF
- SERVED UNCLEARED DE-ENERGISED LOT
- EXISTING SUD. LOT TO BE ENERGISED NOW

**TRANSFORMER EXISTING SWITCHGEAR**

**AERIAL CONDUCTORS AND POLES**

- NEW POLE (ANY TYPE AS INDICATED)
- EXISTING POLE (ANY TYPE AS INDICATED)
- EXISTING AERIAL CONDUCTORS (SIZE AND TYPE INDICATED)

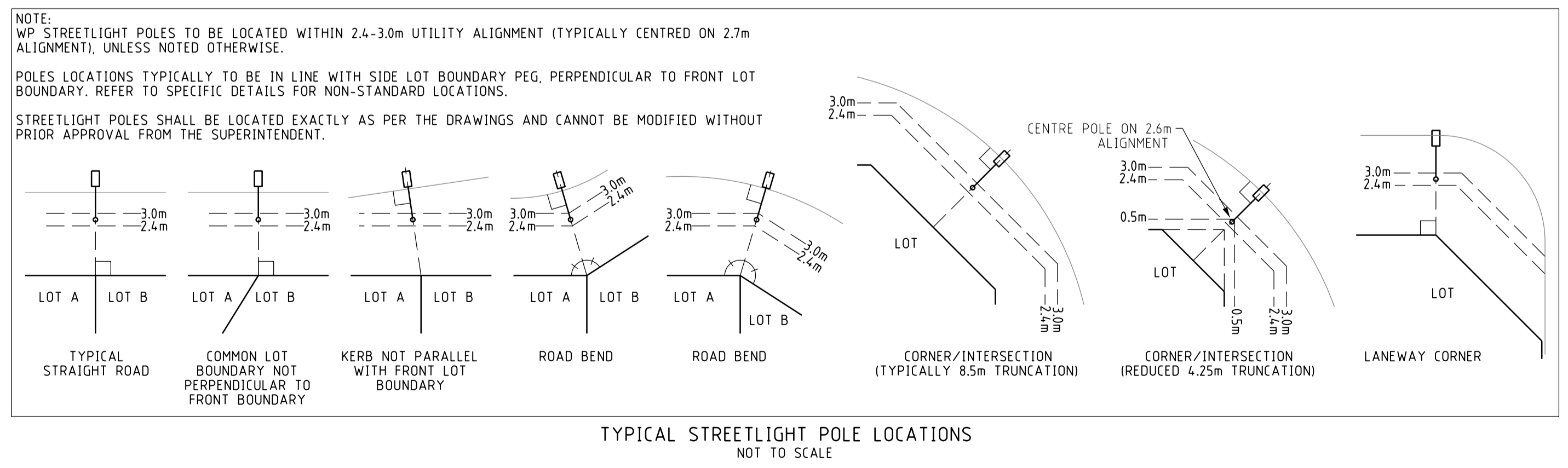
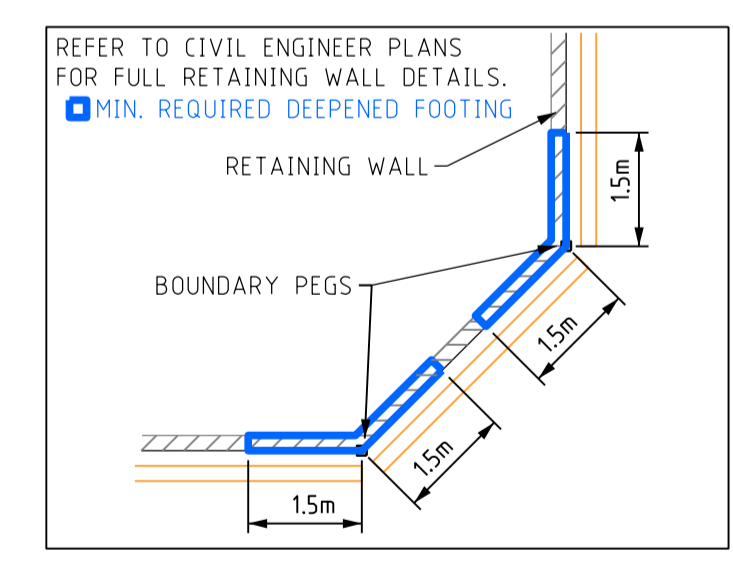
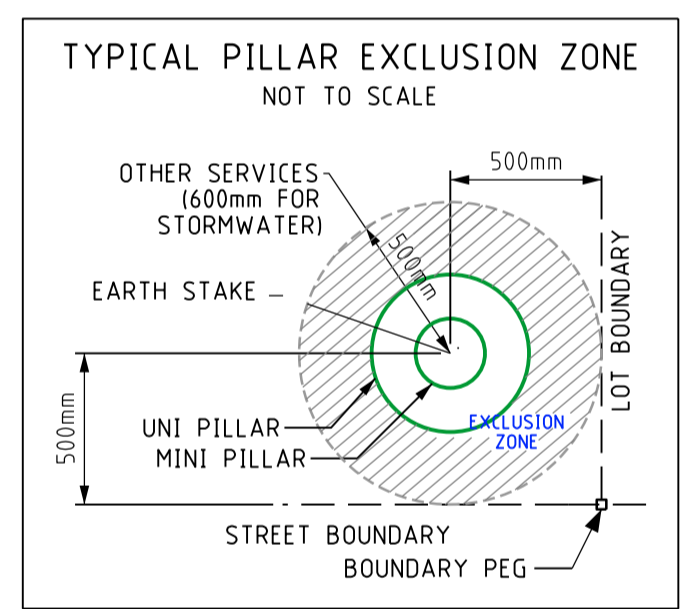


\*ASTERISK DENOTES CHANGE IN LOAD ON AN EXISTING CIRCUIT

TRANSFORMER SPECIFICATIONS AND LOCATION	FUSEWAY NO.	CIRCUIT NO.	FUSE AMPS	CABLE mm <sup>2</sup>	CIRCUIT NAME	VOLT DROP	AMPS	TOTAL AMPS
EXISTING 630kVA TX PDS 8030 (827A) ADM: 4.7kVA	1	1	315	240	UNI LOT 2547 & L.E.S LOT 2545	11.78V	98A	627A
	2	2	315	240	UNIS LOTS 2572 (OFF) & 2547 (OFF)	14.19V	176A	
	3	3	315	240	UNIS LOTS 2549 (OFF) & 2584 (OFF)	14.02V	176A	
	4	x4	315	240	UNI LOT 2598 (OFF)	11.96V	235A	
	5	5	315	240	UNI LOT 114 (OFF)	-	-	

NOTE: ALL UNMETERED SUPPLIES (Including CUSTOMER AND WESTERN POWER STREETLIGHTING ASSETS) CONNECTED TO UNDERGROUND SYSTEM IN CONTRACTOR'S SCOPE. FOR ANY UMS LIGHTS WITHIN WP'S SCOPE, REFER TO WP DRAWINGS FOR UMS LOAD DETAILS.

TYPE OF EQUIPMENT	SYMBOL	NO OF UNITS	UNIT WATTAGE	TOTAL WATTAGE	DAILY HRS OPERATION	WP Asset Yes / No
6.5m STANDARD POLE + ROAD FLAIR 43W 2E		3	43W	129W	DUSK/DAWN	YES



NOTE: ENERGISATION OF SUBDIVISION IS SUBJECT TO THE SUCCESSFUL COMPLETION OF MS018382

REV	DESCRIPTION	DATE	DRWN	CHKD
	ISSUED TO CLIENT FOR CONSTRUCTION	09.02.23	DA	JH
0	LIGHT RELOCATED PER COMMENTS, WP SCOPE UPDATED. ISSUED TO WP FOR DCR	09.09.22	DA	JH
A	ISSUED TO CLIENT FOR COMMENT	08.04.22	DA	JH

**3E CONSULTING ENGINEERS PTY LTD**  
Electrical Engineering Excellence

Suite 1, Level 2, Condor Tower  
22 St George's Tce, Perth WA 6000  
PO Box 3184, East Perth WA 6892  
Tel: 08 6314 9000 Email: admin@3ecee.com.au

This document is the property of 3E Consulting Engineers Pty Ltd and may only be used in accordance with the terms of engagement for which it was commissioned. Unauthorised use of this document is prohibited. Any modification to this drawing will be subject to further technical input.

**FOR CONSTRUCTION**

**WORKING IN THE VICINITY OF EXISTING OVERHEAD TRANSMISSION LINES**

REFER TO 'WORKSAFE' REGULATION 34A

**THE LOCATION OF EXISTING SERVICES IS APPROXIMATE ONLY. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. ALWAYS REFER TO CURRENT UTILITIES ON SITE BEFORE COMMENCEMENT OF WORK.**

REFER TO 'WORKSAFE' REGULATION 321

Scale: 1:500 @ A1 Original Paper Size

Base File Date: 01-04-2022 H. Datum: PCG94

Designed: DA Drawn: DA Checked: JH Appr: JH

Western Power Reference No: MS018815 WAPC No: 162288

Local Authority: CITY OF SWAN

Civil Consultant: TABEC

**ST LEONARDS ESTATE, WEST SWAN - STAGE 1U**

14 RESIDENTIAL LOTS ELECTRICAL NETWORK

Sheet Of: 3E Drawing Number: 3E22029-01

Revision: 0