

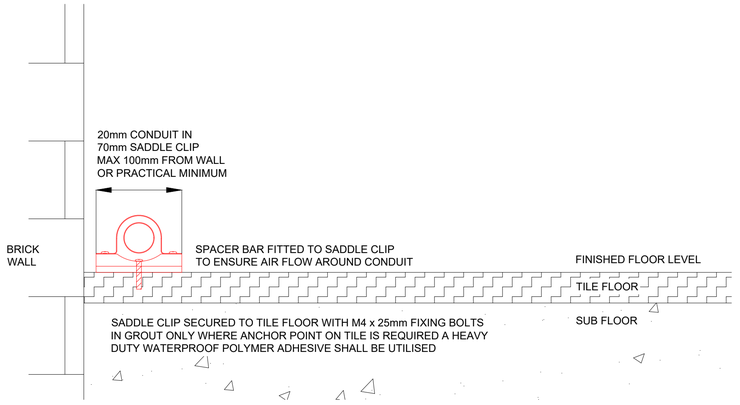
PVAL 1 - PLATFORM 1 - POST MOUNTED
ASSUMED LV SUPPLY FROM LV-SW BOARD BELOW PLATFORM 1 STAIRS
CABLE TO BE ROUTED IN <3m OF NEW 20mm BLACK ENAMEL CONDUIT
4G CONNECTION



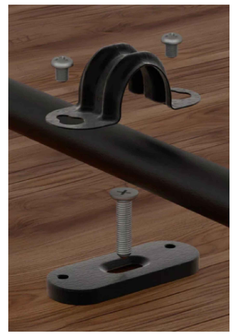
PVAL 2 - PASSENGER FOOTBRIDGE - POLE MOUNTED
ASSUMED LV SUPPLY FROM INFORMATION BOARD CAN BE EXTENDED
CABLE TO BE ROUTED IN NEW 20mm CONDUIT
4G CONNECTION

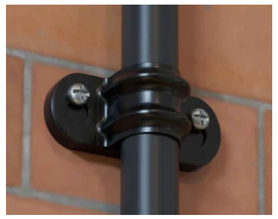


PVAL 3 - PASSENGER FOOTBRIDGE - POLE MOUNTED
ASSUMED LV SUPPLY FROM INFORMATION BOARD CAN BE EXTENDED
CABLE TO BE ROUTED IN NEW 20mm CONDUIT
4G CONNECTION



CONDUIT FIXING DETAIL
(2.5:1)





CONDUIT FIXING DETAIL
(TYPICAL)

SCOPE OF WORKS

1.0 MATERIALS AND WORKMANSHIP

1.1 INTRODUCTION

THE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE FOLLOWING:

- ALL RELEVANT BRITISH STANDARD SPECIFICATIONS AND CODES OF PRACTICE.
- HEALTH AND SAFETY EXECUTIVE DOCUMENTS AND SAFETY CODES.
- CIBSE GUIDES.

IN ANY CASE OF DOUBT AS TO THE INTERPRETATION OF THE DOCUMENTATION THE CONTRACTOR SHALL REFER THE MATTER TO THE CONTRACT ADMINISTRATOR PRIOR TO SUBMISSION OF THE TENDER.

CLAIMS DUE TO WANT OF KNOWLEDGE WILL NOT BE ACCEPTED AFTER RECEIPT OF THE TENDER.

1.2 MATERIALS AND WORKMANSHIP

ALL SPECIFIED MATERIALS AND GOODS SUPPLIED BY THE CONTRACTOR SHALL COMPLY WITH CURRENT BRITISH STANDARD SPECIFICATIONS AND SHALL BE OF APPROVED PATTERN. SPECIFIC MANUFACTURERS, TRADE NAMES OR FIGURE NUMBERS MENTIONED IN THE SPECIFICATION ARE FOR THE PURPOSE OF DEFINING THE REQUIRED CLASS OF MATERIAL, QUALITY, DESIGN OR WORKMANSHIP.

THE CONTRACTOR SHALL INCLUDE FOR SUCH SPECIFIED PLANT, EQUIPMENT AND MATERIALS.

THE CONTRACTOR SHALL PROVIDE WORKMANSHIP TO THE HIGHEST STANDARDS PRODUCED BY EXPERIENCED PEOPLE AND FULLY IN ACCORDANCE WITH THE REQUIREMENTS OF THE REGULATIONS AND CODES OF PRACTICE DETAILED ABOVE.

THE COMPLETE ELECTRICAL INSTALLATION AND BUILDERSWORKS SHALL BE INSTALLED UNDER THE SUPERVISION OF A SUPERVISOR/FOREMAN TO ENSURE THE BEST WORKMANSHIP AND COORDINATION OF ALL PARTIES.

2.0 ELECTRICAL SERVICES AND BUILDERS WORKS

2.1 INTRODUCTION

THIS SPECIFICATION DETAILS THE DESIGN INTENT AND OTHER REQUIREMENTS FOR THE ELECTRICAL ENGINEERING SERVICES AND BUILDERSWORK REQUIREMENTS FOR THE PROJECT.

THE CONTRACTOR SHALL BE ENTIRELY RESPONSIBLE FOR THE ACCURATE AND EFFICIENT INSTALLATION AND PERFORMANCE OF THE WORKS AS DETAILED BELOW AND IN THE CONTRACT DOCUMENTATION.

UNLESS OTHERWISE INDICATED THE WORKS SHALL INCLUDE FOR THE COORDINATION, SUPPLY, DELIVERY TO SITE, INSTALLATION, SETTING TO WORK, TESTING AND COMMISSIONING, THE FOLLOWING WORKS IN ACCORDANCE WITH THE REQUIREMENTS OF THIS SPECIFICATION AND THE ACCOMPANYING DRAWINGS:

- ELECTRICAL POWER SUPPLIES
- IT/DATA SUPPLIES
- BUILDERS WORK IN CONNECTION
- TESTING AND COMMISSIONING
- PROVISION OF O&M MANUALS

THE CONTRACTOR SHALL ALLOW TO FULLY CO-ORDINATE AND DETERMINE THE LOCATION OF ALL SERVICES WITH ANY OTHER SERVICES INSTALLED.

ALL OF THE INSTALLATIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS PERFORMANCE SPECIFICATION IN RESPECT OF STANDARDS OF MATERIALS AND WORKMANSHIP.

2.2 ELECTRICAL SUPPLIES

WHERE THE PVAL UNITS CANNOT BE POWERED BY AN IT CABLE (I.E POWER OVER ETHERNET - POE), NEW 16AMP SINGLE PHASE AND NEUTRAL SUPPLIES SHALL BE PROVIDED FROM THE EXISTING DISTRIBUTION BOARDS TO A 230V/24V 3AMP RATED SUPPLY LOCATED IN A WEATHERPROOF ENCLOSURE THAT IN TURN SHALL SUPPLY THE PVALS VIA A 24V CABLE AND PLUG WHERE INDICATED ON THE DRAWINGS.

THE PVAL UNITS WILL THEN COMMUNICATE WITH THE IT NETWORK VIA 4G DEVICES.

THE ENCLOSURE SHALL BE BOLTED TO THE BASE OF THE PVAL UNIT POST, A 20mm HOLE SHALL BE DRILLED THROUGH THE ENCLOSURE AND PVAL POST THAT SHALL BE FITTED WITH A BRASS BUSH AND LOCKNUT TO ENABLE THE CABLES TO PASS THROUGH.

MAINS POWER CABLES SHALL BE IN 3 CORE PVC/SWA/PVC CABLING, SIZED AS INDICATED IN THE CABLE SCHEDULE AND EITHER RUN WITHIN BURIED CABLE DUCTS OR THROUGH 25MM GALVANISED SURFACE MOUNTED CONDUITS FITTED WITH BRASS BUSHES AT EACH END AND SECURELY FIXED USING DISTANCE SADDLES AS INDICATED.

CIRCUITS SHALL BE PROTECTED BY 16AMP RCBO'S THAT SHALL BE FITTED TO THE EXISTING DISTRIBUTION BOARDS AND SHALL MATCH THE EXISTING MANUFACTURERS DEVICES.

ALL RCBO'S SHALL FULLY COMPLY WITH BS EN 60898 FOR 10KA AND BS EN 60947-2 FOR 15KA. ALL RCBO'S INSTALLED SHALL BE 15KA RATED.

EACH DISTRIBUTION BOARD SHALL BE COMPLETE WITH AN UPDATED INTERNAL CIRCUIT CHART CLEARLY DETAILING THE CIRCUIT NUMBERS, ITEM SERVED AND MCB/RCBO SIZES. THE CHART SHALL BE TYPEWRITTEN AND ENCASED WITHIN A CLEAR PERSPEX FOLDER, SECURELY FIXED TO THE INSIDE FACE OF THE DOOR.

WHERE FEASIBLE LV POWER SUPPLIES WILL BE EXTENDED FROM LOCAL ASSETS I.E. FROM EXISTING CIS, PHPs AND/OR ADVERTISING PANEL VIA SUITABLE FUSED SPUR.

2.3 POE SUPPLIES

WHERE THE PVAL UNITS CAN BE POWERED FROM A LOCAL DATA CABINET VIA AN IT CABLE, NEW CAT 6E DATA CABLES SHALL BE PROVIDED. DATA CABLES SHALL BE PRE-TERMINATED WITH RJ45 PLUG CONNECTORS.

DATA CABLES SHALL BE INSTALLED IN DEDICATED DUCTS OR DEDICATED CONDUITS SO THAT CABLES ARE NOT MIXED WITH ANY OTHER CABLES SUCH AS BT CABLES, POWER CABLES OR SIGNALLING.

WHERE CONDUITS ARE PROVIDED THEY SHALL BE 25MM GALVANISED SURFACE MOUNTED CONDUITS FITTED WITH BRASS BUSHES AND COUPLINGS AT EACH END AND SECURELY FIXED USING DISTANCE SADDLES AS INDICATED.

2.4 BUILDERS WORKS

THE CONTRACTOR SHALL ALLOW FOR ALL BUILDERS WORKS AS NECESSARY TO FORM A COMPLETE SYSTEM. INCLUDING ALL MAKING GOOD OF SURFACES TO MATCH THE EXISTING AND INCLUDING (BUT NOT LIMITED TO) BASES FOR THE PVAL UNITS, HOLES THROUGH ANY BASE OR STRUCTURE, AND TRENCHES. CABLE DUCTS, TURNING CHAMBERS, TEMPORARY SITE POWER AND LIGHTING ETC.

ALL NEW CABLE DUCTS SHALL BE A MINIMUM OF 63mmØ AND AT LEAST 600mm DEEP.

ALL SURFACES INCLUDING ANY TARMAC SURFACES SHALL BE MADE GOOD TO MATCH THE EXISTING.

ALL HOLES SHALL BE SUITABLE SEALED TO PREVENT THE INGRESS OF MOISTURE AND TO RETAIN ANY FIRE RATINGS.

2.5 TESTING AND COMMISSIONING

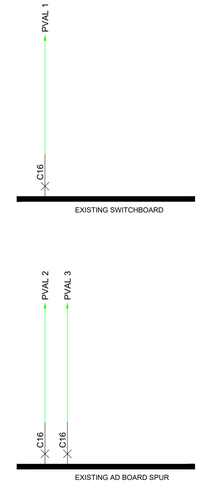
TESTING AND COMMISSIONING OF ALL SYSTEMS TO COMPLY WITH BRITISH STANDARD GUIDELINES SHALL BE CARRIED OUT BY THE CONTRACTOR.

FULL CERTIFICATES SHALL BE PRODUCED AND BOUND AS PART OF THE OPERATING AND MAINTENANCE MANUALS.

THE CONTRACTOR SHALL PROVIDE DEMONSTRATION/ACCEPTANCE CERTIFICATES FOR THE SYSTEMS REQUIRING A DEMONSTRATION, WHICH SHALL BE SIGNED BY THE CLIENT FOLLOWING THE COMPLETION OF THE DEMONSTRATIONS TO HIS SATISFACTION, FOR INCLUSION WITHIN THE OPERATING AND MAINTENANCE MANUAL.

MAINS POWER CABLE SCHEDULE

PVAL NUMBER	SUPPLIED FROM DISTRIBUTION BOARD	CIRCUIT REF/WAY	RCBO SIZE / TYPE	CABLE SIZE / TYPE
1	LV SB	1	16A (EXISTING)	2.5mm² 3CORE PVC/SWA
2	AD BOARD	1	16A (EXISTING)	2.5mm² 3CORE PVC/SWA
3	AD BOARD	1	16A (EXISTING)	2.5mm² 3CORE PVC/SWA



POWER SCHEMATIC (NTS)

NOTES - GENERAL

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

2. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT PROJECT DESIGN AND RECORD DRAWINGS AND DOCUMENTATION.

3. THIS DRAWING HAS BEEN DEVELOPED USING SUPPLIED LEASE PLANS. LOCATIONS OF EQUIPMENT AND SERVICE ROUTES ARE INDICATIVE AND SHALL BE VERIFIED AT CONSTRUCTION.

4. ALL ELECTRICAL INSTALLATION WORKS SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS OF BS7671:2018+A3:2024 18th EDITION.

5. ALL NEW BURIED PLATFORM DUCT ROUTES SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS OF NR/GN/TEL/30139 CLAUSE 4.8.2 ROUTES THROUGH STATION PLATFORMS.

PLATFORM VALIDATOR CHECKLIST

PVAL NO.	PLATFORM EDGE CLEARANCE (1500mm)	PLATFORM FIXTURE CLEARANCE (500mm)	LOCATION DESCRIPTION
PV 1	✓	✓	POSITIONED BY PLATFORM ACCESS
PV 2	✓	✓	POSITIONED BY PLATFORM ACCESS
PV 3	✓	✓	POSITIONED BY PLATFORM ACCESS

LEGEND:

- LEASE AREA (ADJACENT LAND OWNED OR CONTROLLED BY APPLICANT)
- PV — PROPOSED PLATFORM VALIDATOR
- DB — DISTRIBUTION BOARD
- CAB — DATA CABINET
- TVM — TICKET VENDING MACHINE
- PROPOSED CABLE RUN (BURIED CABLE DUCTING OR CONDUIT AS INDICATED).
- 230V / 24V — 230V/24V, 3Amp TRANSFORMER IN WEATHERPROOF ENCLOSURE TO PROVIDE 24V, 3 AMP DC SUPPLY TO PVAL MACHINE
- TC — TURNING CHAMBER

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
P03	04/08/26	P1 Moved to <3m from Cabinet	GC	CC	MH
P02	20/05/26	Fixing Detail Added	GC	CC	MH
P01	06/03/26	Draft for Comment	GC	CC	MH

Status: Suitable for Review and Comment
Suitability: S3

FORTE ENGINEERING LTD

Authorised		Signed	Date
Contractor(s)	Forte Engineering		
Location			
Type		Sub-type	
Role		Sub-Role	
Zone			
Phasing		Grip Stage	
Project			
Contract No.			
Contract Title	PLATFORM VALIDATORS		
Drawing Title	PICCADILLY STATION PROPOSED GA		
Designed	G. COCHRANE	Signed	Date 04/08/26
Drawn	G. COCHRANE	Signed	Date 04/08/26
Checked	C. CONACHY	Signed	Date 04/08/26
Approved	M. HORNE	Signed	Date 04/08/26
Scale(s)	AS SHOWN	ELR & Mileage	MAN / CMP to 188mi 71ch
Alternative Reference		Sheet	of
Drawing Number	2026-FRT-DWG-EPT-000015	Revision	P03

Sheet Size A1 594 x 841