

1 INTRODUCTION & GUIDE

- 1.1 INTRODUCTION..... 2
- 1.2 SCOPE OF MANUAL..... 2
- 1.3 MANUAL USERS..... 3
- 1.4 MANUAL CONTENTS..... 3
- 1.5 PROJECT DIRECTORY..... 4
- 1.6 ELECTRICAL SUB-CONTRACTORS..... 5
- 1.7 CONTRACTUAL & LEGAL INFORMATION..... 5
- 1.8 EMERGENCY CONTACTS..... 5
- 1.9 USERS OWN EMERGENCY CONTACTS 6
- 1.10 DOCUMENT HISTORY..... 7
- 1.11 AMENDMENT HISTORY..... 7
- 1.12 DISTRIBUTION LIST..... 8
- 1.13 ABBREVIATIONS & ACRONYMS 9

1.1 Introduction

This manual describes the Electrical Services installation carried out by Paine Manwaring Ltd to the new 3 storey units at Southern Gate in Chichester. The project was completed in March 2018.

The mechanical installation was carried out on a Design and Build basis with the design of the system and the installation and commissioning being carried out by Paine Manwaring Ltd and its specialist subcontractors.

This manual must be read in conjunction with other related documentation, which forms part of the overall Health and Safety File prepared by the Principal Designer under the Construction (Design and Management) Regulations 2015 (CDM Regulations).

The health and safety file is a set of record documentation, (a suite of manuals and drawings), for the client/end user focused primarily on health and safety when dealing with maintenance, repair or construction works carried out to the premises.

This file and other relevant manuals should be made available for any persons who need to work on or operate any building related tasks and, any future works carried out to the building or its services should be documented and recorded in the health and safety file.

The law imposes a responsibility on the employer to ensure safety at work for all employees and much of the law regarding safety at work can be found in the Health & Safety at Work Act 1974. It is essential that all aspects of Health and Safety, relating to the task, be understood prior to carrying out maintenance works. Refer to Section 2 of this manual for further details.

1.2 Scope of Manual

This Operating and Maintenance Manual has been prepared to provide guidance and recommendations to 'Manual Users' in the understanding, running and maintenance of the electrical services installed under this contract. We define 'manual users' as:

- Users of the building
- Managers of the building and services
- Employees, (both directly employed staff and contractors), who carry out maintenance, repair or new works within the building.

This manual is not intended to supersede or conflict with any standard maintenance programme or inspection routine already in use. It is also not intended to provide a detailed maintenance programme of activities since such a document would pre-suppose resources in terms of personnel, equipment, spares and in-house technical expertise.

It shall remain the building owner's responsibility to formulate a planned maintenance and inspection programme using this manual as a 'base document'.

1.3 Manual Users

As stated above it is assumed that the users of this manual will fall into one of the categories listed below. It is further assumed that the Client or its appointed representative has provided the correct instruction and training necessary to the users of this manual.

Users of the building – trained designated personnel who can operate appropriate end user controls e.g. timeclocks, lighting controls, fire alarm panels, system overrides. Additionally they can contact appropriate personnel in the event of an emergency. It is not expected that these personnel will have access to controls that require passcodes to access control set points etc.

Managers of the building and services – technically qualified senior personnel who have an understanding of the systems and their operation and relation to other systems. It is assumed managers know how to operate plant and systems and deal with emergency and other out of control situations. Personnel will usually have full access enabling them to alter engineering settings.

Employees, (both directly employed staff and contractors), who carry out maintenance, repair or new works within the building. Usually qualified Building Services Maintenance Engineers with in depth knowledge of systems employed to run and maintain plant. They will usually be working under the guidance of a manager.

1.4 Manual Contents

The manual has been produced in 9 sections detailing the different aspects of the operation and maintenance requirements. These sections are as follows:

Section 1	Introduction and Guide
Section 2	Health & Safety
Section 3	General Description of Electrical Installation
Section 4	Operating Procedures
Section 5	Maintenance Procedures
Section 6	Equipment & Supplier Schedule
Section 7	Commissioning Data & Test Certificates
Section 8	As-Fitted Drawings
Section 9	Manufacturers Technical Literature

To obtain the most benefit from this manual, it must be read in conjunction with all related documents located in the other related Sections of the manual as well as the Health and Safety File to ensure a comprehensive understanding of the service or plant in question and its possible effect on other services and areas of the building.

1.5 Project Directory

Below is a list of those involved in the design and installation of the electrical services. A full project directory of the whole Design and Construction Team is located in the Building Health and Safety File.

THE CLIENT

NAME Newman Developments Ltd
 ADDRESS 195 Tanbridge Park
 Horsham
 West Sussex
 POST CODE RH12 1SU
 TELEPHONE 01403 249331
 CONTACT

MAIN CONTRACTOR

NAME W Stirland Ltd
 ADDRESS Redmoor Estate
 Main Road
 Birdham
 Chichester
 West Sussex
 POST CODE PO20 7HT
 TELEPHONE 01243 512381
 CONTACT

MECHANICAL SERVICES CONTRACTOR

NAME Paine Manwaring Ltd
 ADDRESS Unit D, Easting Trading Estate
 Dominion Way
 Worthing
 West Sussex
 POST CODE BN14 7RW
 TELEPHONE 01903 237 522
 CONTACT Mark Langdell
 WEB www.painemanwaring.com

ELECTRICAL SERVICES CONTRACTOR

NAME Paine Manwaring Ltd
 ADDRESS Leigh Road
 Chichester
 West Sussex
 POST CODE PO19 8TS
 TELEPHONE 01243 533845
 CONTACT David Rowley
 WEB www.painemanwaring.com

1.6 Electrical Sub-Contractors

FIRE ALARMS

NAME Southern Fire Alarms
ADDRESS 2 Argyle Circus
 Bognor Regis
 West Sussex

POST CODE PO21 1DS
TELEPHONE 01243 870851
CONTACT
WEB www.southernfirealarms.co.uk/

LIGHTNING PROTECTION

NAME Orion Lightning Protection Ltd
ADDRESS Wickham Business Centre
 Harwood Road
 Wick
 Littlehampton

POST CODE BN17 7AU
TELEPHONE 01903 724218
CONTACT
WEB www.orionlp.co.uk/

PHOTOVOLTAIC INSTALLATION

NAME Solstice Energy
ADDRESS 14 Gladwyn Road
 London

POST CODE SW15 1JY
TELEPHONE 020 8789 4717
CONTACT
WEB www.solsticeenergy.co.uk

1.7 Contractual & Legal Information

Main Contract Start date:	TBC
Practical Completion date:	TBC
End of Defects Liability Period:	12 months from PC date

1.8 Emergency Contacts

Gas Emergency	0800 111 999	(National Gas Emergency Service)
Electricity Emergency	0800 404 090	(National Grid)
Power Cut	0800 072 7282	(Scottish & Southern Energy)
Water Leak	0800 820 999	(Southern Water - Leakline)
Water Emergencies	0330 303 0368	(Southern Water - Emergencies)
Building Services Failure	01903 237 522	(Paine Manwaring Ltd)

1.9 Users Own Emergency Contacts

1.10 Document History

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Approved for issue by: David Rowley
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1.11 Amendment History

DATE	SECTION/CLAUSE	DESCRIPTION	AUTHOR

1.13 Abbreviations & Acronyms

A	AMPERE	M	METRE
AAV	AUTOMATIC AIR VENT	MM	MILLI-METRE(S)
		MPHW	MEDIUM PRESSURE HOT WATER
BCWS	BOOSTED COLD WATER SERVICE	MWS	MAINS WATER SERVICE
BEMS	BUILDING ENERGY MANAGEMENT SYSTEM		
BHWS	BOOSTED HOT WATER SERVICE	NRV	NON-RETURN VALVE
CDM	CONSTRUCTION, DESIGN AND MANAGEMENT	OEL	OCCUPATIONAL EXPOSURE LEVEL
CFC	CHLOROFLUOROCARBON	OV	OPEN VENT
CORGI	COUNCIL FOR REGISTERED GAS FITTERS		
COSHH	CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH	PA	PASCAL
CPU	CENTRAL PROCESSING UNIT	PCB	POLYCHLORINATED BIPHENYL
CT	CONSTANT TEMPERATURE	PE	POLYETHYLENE
CWS	COLD WATER SERVICE	PP	POLYPROPYLENE
CMDS	COLD WATER DOWN SERVICE	PTFE	POLYTETRAFLUOROETHYLENE
		PVC	POLYVINYLCHLORIDE
DB	DECIBEL		
DCV	DOUBLE CHECK VALVE	R	RETURN
DRV	DOUBLE REGULATING VALVE	RH	RELATIVE HUMIDITY
		RPM	REVOLUTIONS PER MINUTE
F	FLOW		
F&E	FEED AND EXPANSION	SV	SAFETY VALVE
FA	FROM ABOVE		
FB	FROM BELOW	TA	TO ABOVE
FD	FIRE DAMPER	TB	TO BELOW
FFL	FINISHED FLOOR LEVEL	TP	TEST POINT
FMV	FLOW MEASUREMENT VALVE	TRV	THERMOSTATIC RADIATOR VALVE
FODRV	FIXED ORIFICE DOUBLE REGULATING VALVE		
		uPVC	UNPLASTICISED POLYVINYLCHLORIDE
HCFC	HYDROCHLOROFLUOROCARBON	UV	ULTRA VIOLET
HL	HIGH LEVEL		
HTG	HEATING	V	VOLT
HV	HIGH VOLTAGE	VAV	VARIABLE AIR VOLUME
HWS	HOT WATER SERVICE	VCD	VOLUME CONTROL DAMPER
HZ	HERTZ (CYCLES PER SECOND)	VRV	VARIABLE REFRIGERANT VOLUME
IV	ISOLATING VALVE	W	WATT
KWH	KILO WATT HOURS		
LL	LOW LEVEL		
LPHW	LOW PRESSURE HOT WATER		
LPV	LUBRICATED PLUG VALVE		
LSV	LOCK SHIELD VALVE		