# INTRODUCTION & GUIDE

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## Introduction

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

## 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’.

## 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.

## 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 Mechanical 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.

## Project Directory

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

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

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| **MAIN CONTRACTOR** |
| NAME | W Stirland Ltd |
| ADDRESS | Redmoor Estate |
|  | Main Road |
|  | Birdham |
|  | ChichesterWest Sussex |
| POST CODE | PO20 7HT |
| TELEPHONE | 01243 512381 |
| CONTACT |  |

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| **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](http://www.painemanwaring.com) |

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| **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](http://www.painemanwaring.com) |

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## Mechanical Sub-Contractors

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **THERMAL INSULATION & IDENTIFICATION** |
| NAME | Amstech Contracts Ltd |
| ADDRESS | Unit F, The Rich Industrial Estate |
|  | Avis Way |
|  | Newhaven |
|  | East Sussex |
| POST CODE | BN9 0DU |
| TELEPHONE | 01273 510 011 |
| CONTACT | Martin Phillips |
| WEB | [www.amstech.co.uk](http://www.amstech.co.uk) |

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| **WATER TREATMENT / CHLORINATION** |
| NAME | HM&V Utilities |
| ADDRESS | Knowle Farm |
|  | Mayles Lane |
|  | Fareham |
|  | Hampshire |
| POST CODE | PO17 5PN |
| TELEPHONE | 01329 848 144 |
| CONTACT | Richard Shrubb |
| WEB | [www.hmv-water-management.co.uk](http://www.hmv-water-management.co.uk) |

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## Contractual & Legal Information

Main Contract Start date: TBC

Practical Completion date: TBC

End of Defects Liability Period: 12 months from PC date

## 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)

## Users Own Emergency Contacts

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## Document History

Document Origin Date: 20th February 2018

This Version Date: 20th February 2018

PML Project and version number: CH035043 DRAFT ISSUE

PML Author: James Cannom

Approved for issue by: Mark Langdell (Operations Director)

Approval Date:

## Amendment History

|  |  |  |  |
| --- | --- | --- | --- |
| DATE | SECTION/CLAUSE | DESCRIPTION | AUTHOR |
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## Distribution List

\*Media - P – Paper copy E – Electronic Media

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| DATE | NAME/ COMPANY | VERSION | MEDIA\* |
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## 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 |  |  |
|  |  |  |  |