

ER Version 18

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INTRODUCTION

For the purpose of this document, DES contractor will be known as the Contractor. The Employer is Great Places Housing Association (“Great Places”).

This specification is the current (April 2021) standard in place for new Door Entry System (DES) Installations. Contractors will be required to complete a works/pricing schedule for each site. These list the components required for each site upgrade and act as an asset schedule for each site as well as a detailed specification for cost/quality monitoring purposes. These only need to be completed at the time the works required have been identified. This detailed DES specification should be used in conjunction with the more general electrical specifications detailed in appendix G: [FURTHER READING AND LINKED DOCUMENTS](#)

The works/pricing schedule required for each site will list the individual components required and a cost must be attributed to each component part and labour costs identified in order to provide transparency of costs and prove value for money. The works/pricing schedule must be agreed with the GP CA prior to any works being carried out on site.

Further details can be found in section 3 of this document detailing what work streams & in such which colleagues & teams are required to utilise & comply with this specification. Any new DES installed at Great Places under any work stream should comply with these requirements. This specification can be used as a reference guide for colleagues developing any specific specification or used as a specification reference to allow contractors to quote for new/replacement systems.

REQUIREMENTS FOR EQUIPMENT – Abbreviations

- **MED** – Main Entrance Door. (Outer & Inner Doors).
- **SED** – Sub Entrance/Landing Controlled Door.
- **RED** – Rear/residents Entrance Door.
- **EOD** – Exit Only Door
- **FED** – Fire Exit Door
- **VEG** – Vehicle Entry Gate
- **PED** – Pedestrian Entry Door/Gate
- **BIN** – Bin Store Door
- **CYCLE** – Cycle Store Door

1. DEFINITIONS

- 1.1 **Figures:** Figures in descriptions are millimetres unless qualified by a unit of measurement or by a word or phrase indicating a reference, e.g. BS, pipe, grade, or are associated with a dash, e.g. rebates - 2. A figure associated with a dash gives the number of times the condition described occurs.
- 1.2 **Stored:** Existing materials to be refixed in the works are described in the items as “stored” and this description includes selecting, cleaning removing from store to the appropriate location and fixing.
- 1.3 **Included elsewhere:** The term “included elsewhere” qualifying any part of a description means that provision is made elsewhere in this specification for the part so qualified.
- 1.4 **Holes:** The provision of holes is deemed to be included in work described to be fixed with screws.
- 1.5 **Plugging:** The term “plugging” means the provision and fixing of approved proprietary plugs or, at the Contract Administrator’s discretion, fixing by approved mechanical means.
- 1.6 **Preparation of surfaces:** Description of finishing’s applied to new surfaces are deemed to include the preparation of these surfaces to receive the finishing.
- 1.7 **Proprietary brands:** Where materials or articles are specified as proprietary brands or makes, these are to be used and/or fixed in accordance with the manufacturer’s printed or written instructions. The Contractor shall supply the manufacturers with all relevant details and afford them every facility for inspecting the work during progress in order to ascertain that their products are being used correctly and allow them to take samples of materials from the site if so desired.
- 1.8 **British Standards:** Where materials, articles and/or workmanship are specified to be in accordance with a British Standard Specification and/or British Standard Code of Practice, this is to be deemed to mean the latest issue of the British Standard Specification or British Standard Code of Practice together with any amendments.
- 1.9 **Generally, “Remove”:** shall mean demolish and clear away together with all ancillary and incidental items attached hereto.
- 1.10 **“Set aside for later re-use”:** shall mean clean, cover, protect and move about as necessary.
- 1.11 **“Make good”:** shall mean reinstate with materials and workmanship to match in every respect the surrounding work and properly bonded thereto.
- 1.12 **“Cut and form opening”:** shall include cutting opening to required size, quoining of jambs and generally leaving ready to receive new work and all necessary making good on completion.

2. SCOPE & LIMITATIONS

2.1 Scope

2.1.1 The following workstreams have responsibilities under this specification:

- Development – new builds

Door Entry/ Access Control Systems / CCTV

Engagement/ inspection points with GPHG appointed DES/ACS/CCTV maintenance company stage inspections required as defined below;

- Review of designs from contractors or specialist designer pre-commencement – Reviewers - System manufacturer/ Maintenance Company/ Plumlife management/ Electrical Compliance
- Inspection of installation post first fix completion – Inspectors - Maintenance Company/ CoW
- Pre-handover inspection – Inspectors - Maintenance Company/ CoW

2.1.2 General Scope

This document is a performance specification for door entry to cover 2 types of system.

System type 1 = For blocks up to 8 flats shall be functional type door entry systems (a separate call button per flat) with KMS cloud fob access control

System type 2 = For systems 9 flats and above, digital type systems with KMS cloud fob access control

2.1.2.1 For types of installation not covered within this specification, consult Great Places' Contract Administrator (CA) associated with the works being undertaken.

2.1.2.2 This specification does not constitute as a design. However, the design of the electrical installation must conform to this specification and relevant British Standards and other legislation.

2.1.2.3 The specification is intended to be used in line with the pricing structure to form the basis for a tender for agreed works.

2.1.3 Scope of Works

2.1.3.1 The Contractor shall be responsible for the wiring of the whole of the installation to include:

- a) The laying of cables to supply final circuits including any chasing walls, lifting of floors and floor coverings and other associated work.
- b) The adequacy of linked systems & any new power supplies required including installation of any FCUs, additional circuits or panel boards.

- c) Where the system is not fed by an independent supply fed from the landlords distribution board, the installation of new (A2/A3) radial final circuits supplying the equipment with duplicate protective conductors (DPC to be kept close to reduce EMC effects) As a minimum to each habitable floor of the dwelling.
- d) Testing, Inspection and Certification for each installation.
- e) Making good walls and ceilings to a plastered finished ready for decoration by others.
- f) All building work associated with the wiring of domestic dwelling.

2.1.3.2 The Contractor shall include for all necessary, wiring, accessories, fittings, containment, mounting plates/boards and ancillaries etc. associated with the above to provide a complete and operational installation.

2.1.3.3 Any interconnections/signalling to associative systems such as fire alarm systems, gate entry systems & warden call systems shall be included in any works & as such costs/quote/tender submitted. Use of specialist sub-contractors is permitted in this instance however approval of the CA must be sought & the appropriate appointed GP service provider engaged.

2.2 Limitations

Exclusions from this specification

2.2.1 The Specification is intended for all extra low voltage and low voltage circuits, unless otherwise stated and agreed prior to works commencing; the following items are covered in separate specifications:

CCTV installations	TBC
Intruder alarm installations	TBC
Warden calls systems	TBC
Fire alarm installations	see Electrical Technical Specification F
Electrical Installations	see Electrical Technical Specification A & R
Admin Buildings & Independence & Wellbeing (supported Schemes)	These properties are covered under a different specification where Paxton is the designated protocol.
The installation of communal door-sets	TBC

3. GENERAL

3.1 Making Good and Associated Building Work

- 3.1.1 The Contractor is responsible for making good and extending all disturbed finishes and any associated building work such as core holes. All works shall be undertaken by suitably skilled persons.
- 3.1.2 Where a Damp Proof Course (DPC) has been disturbed, the Contractor shall ensure that the affected area is repaired with a suitable finish for example sand and cement with a waterproofing chemical solution.

3.2 Housekeeping

- 3.2.1 The Contractor is responsible for the removal and safe disposal of all waste.

3.3 Interference

- 3.3.1 All the Contractor's equipment shall where necessary be fitted with suppressers to limit radio interference as prescribed in BS800.
- 3.3.2 Radio and Television / Satellite TV / Cable TV Equipment:
 - 3.3.2.1 Aerials, cables and equipment, including satellite dishes, likely to impede or suffer damage as a result of the specified works are to be carefully removed and temporarily re-rigged by the Contractor to maintain the quality of the signal reception to the user's satisfaction.
 - 3.3.2.2 Cables interfering with door and window replacement works are to be carefully unclipped and repositioned so as to pass between the new frame and the masonry opening, sealed and re-clipped internally and externally.
 - 3.3.2.3 The Contractor is to make all arrangements and pay all fees and charges required by British Telecom/British Cable TV/NTL, Sky, their agents, subsidiaries or successors for similarly removing and re-fixing their equipment, cables, wiring, bracket fixtures and fittings as required to facilitate the works.

4. COMPLIANCE AND COMPETANCE

Compliance & Competence for electrical works is covered within **Electrical Technical Document A, Section 2**. Therefore, please refer to that document. However, listed below are some key requirements:

- 4.1 Compliance & Competence for electrical works is covered within **Electrical Technical Document A, Section 2**. Therefore, please refer to that document.
- 4.2 Compliance & Competence for DES installation specifically is covered below in table 4A & 4B

4.2.1.1 Table 2A – Competence of Operatives

Work Type	Minimum standard of certification	Requirement
DES	CSCS/ECS Card	Essential
DES	Asbestos awareness (annually)	Essential
DES	NVQ Level 3 Engineering discipline qualification	Preferable

4.2.2 Table 2B – Competence of Service Provider

Work Type	Minimum standard of certification	Requirement
DES	NSI Gold approved NCP 109, NCP 104, BS 8418, PD 6662, BS 8243, BS 8473, BS 9263,	Essential
DES	BS EN ISO 9001:2015 - Quality Management Systems	Essential
DES	By An SBD member company & hold a SECURED BY DESIGN ACCREDITATION.	Essential
DES	GateSafe Approved Installer	Desirable
DES	BAFE member	Desirable
DES	Full member of the FIA	Desirable
DES	DHF Affiliate member	Preferable
DES	KMS & Entrotec approved installer	Essential

4.3 The Service Provider warrants and represents that all staff assigned to the performance of the Services, inclusive of sub-contractors, shall possess and exercise such qualifications, skill and experience as are necessary for the proper performance of the Services. Competent Person Scheme registration inclusive of Qualified Supervisor assessments where applicable, and engineer qualifications are to be made available upon request by Great Places.

4.4 All electrical work undertaken on Great Places' portfolio must be designed, installed and commissioned in line with the requirements of the BSEN7671 requirements for Electrical Installations as amended & BS5839, unless otherwise stated, it is deemed that the Contractor undertaking the installation of the electrical installation has also taken responsibility for the design.

4.5 Unless otherwise agreed with Great Places' CA, any contractor undertaking any form of electrical work must be a member of the NICEIC or NAPPIT Approved Contractor schemes and is to remain a member for the duration of the works. Proof of enrolment shall be provided to Great Places prior to any work starting.

- 4.6 The Contractor is responsible for ensuring that all persons instructed to carry out electrical works on their behalf is suitably skilled to undertake the works requested of them. Prior to the commencement of work, the Contractor shall provide copies of qualifications for all persons undertaking electrical work to Great Places. This information shall remain up to date throughout the duration of works.
- 4.7 Unless otherwise agreed prior to commencement of works, the use of sub-contractors is not permitted.
- 4.8 All works shall be carried out in line with BS7671, Building regulations, EAWR 1989, H&SAWA 1974, industry best working practice (BWP) and underpinned by Great Places' Electrical Technical Document A, B and associative Annexes, Great Places' Best Practice Guidelines (BPGs) and any relevant Great Places Technical specifications and documents, such as Technical Specification F (Fire Detection Systems).
- 4.9 Workmanship: All work shall be installed in a neat and professional manner, with due consideration to the design intention. The tradespersons employed on the work shall have received appropriate training and be a fully qualified to be employed on such work. Where, in the opinion of the Great Places or its representative/agent, any operative is not suitably qualified, the Contractor shall replace them with a tradesperson whose skill and experience is appropriate to the work. If, in the opinion of the Engineer, any member of the Contractors staff is considered undesirable due to conduct or other misdemeanour, the Contractor will be required to remove this person from site immediately.

5. TECHNICAL SPECIFICATION

5.1 Systems

- 5.1.1 All wiring within any enclosures shall have suitable fire rated fixings and supports regardless of location. Complying with BS7671 521.10.202 & BS5839.

5.2 Selection & Erection

5.2.1 Locations/Position

- 5.2.1.1 Fixing heights to the bottom of accessories shall comply with the requirements laid out in this document, in line with the equalities act and in all cases local building control.
- 5.2.1.2 In developments considered to be at risk from flooding, all control equipment shall be mounted a minimum of 600mm above the ground floor.

5.2.2 General

- 5.2.2.1 Fixings: All screws used in conjunction with the electrical installation, other than those used on the panel facia, shall be of a tamper proof type. The Contractor shall allow in their rates for the supply of and handing to the Contract Administrator 1 No. purpose made screwdriver to suit such screws. All conduit box lids, and trunking is to be held in place with security screws.
- 5.2.2.2 Spurring from the main data line is not permitted.

5.2.2.3 The system shall be designed and installed so that in the event of any data line failure or fault no more than 30% of system is affected.

5.2.2.4 Cable joints other than those made within the manufacture's equipment are not permitted.

5.2.3 Cable Routes

5.2.3.1 Straight, vertical or horizontal and parallel to walls unless shown otherwise.

5.2.3.2 In approved locations where exposed to view. When not specified otherwise, conceal cables wherever possible.

5.2.3.3 Concealed horizontal runs in walls, if unavoidable, to be located within 150 mm of ceiling or between 150 and 300 mm of floor.

5.2.3.4 Concealed cable runs to wall switches, outlets, accessories & alike to be vertically in line with the accessory.

5.2.3.5 Installing Cables Generally

5.2.3.6 Do not commence internal cabling until the building is sufficiently enclosed to ensure permanently dry conditions.

5.2.3.7 Install cables neatly and securely, adequately protected against accidental damage, adverse environmental conditions, mechanical stress and deleterious substances.

5.2.3.8 Install cables without joints other than at equipment and terminal fittings.

5.2.3.9 Do not use junction boxes without approval.

5.2.3.10 Sleeve cables passing through masonry walls with conduit bushed at both ends.

5.2.3.11 Do not run cables in spaces where they will be surrounded or covered by insulation. Where this is not practical, size cables accordingly and inform CA.

5.2.3.12 Use cable conductors throughout; do not use conduit or trunking as protective conductors.

5.2.3.13 Handle and install carefully to prevent damage to sheath and armouring.

5.2.3.14 Do not install if cable and ambient temperature are, or have been for the previous 24 hours, below 0 °C

5.2.3.15 All cables shall be run in accordance with the safety zones set out in BS: 7671 The Requirements for Electrical Installations as amended. Where access can be gained from above, either by the removal of floorboards or through a loft space, this is deemed to be the preferred method. The use of any other method such as wiring from below by the removal of sections of ceilings shall be avoided and prior to commencement agreed in full of Great Places.

5.2.3.16 Where cables are installed under a floor or above a ceiling, the Contractor shall ensure that the installation complies with BS: 7671 as amended and the relevant building regulations. As a rule, the Contractor shall ensure a cable passing through a joist or ceiling has a minimum depth of 50mm to the top and bottom of the joist. Where this is not possible, a steel plate is to be fitted to provide mechanical protection from screws and nails.

5.2.4 General Method of Cable Installation

5.2.4.1 Electrical Installation Generally

- The whole of the system wiring shall be in strict accordance with the current addition of the IEE wiring regulations and where possible, be concealed and run in such a manner so as to be as unobtrusive as possible.
- Where wiring is surface fixed cables shall be run in the following manner: Install, test and commission the electrical work in accordance with the current IEE Regulations, ensuring compliance with design and performance requirements, to provide a safe, well insulated, earth protected system capable of supplying the anticipated maximum demand.
- Installation work to be carried out by qualified electricians fully conversant with the current IEE Regulations.
- Fastenings, bushes, glands, terminals, connectors, clips, clamps and all other minor accessories necessary to complete the installation to be types recommended for the purpose by relevant equipment, accessories, and etc.
- In locations where moisture is present or may occur, use corrosion-resisting fastenings and avoid contact between dissimilar metals.

5.2.5 Cables

- As a minimum CW008 6 pair cable shall be used throughout the installation.
- All cables shall incorporate insulation and sheathing materials that do not emit any Halogens and have reduced smoke emission properties. These are termed LSHF (Low Smoke Halogen Free), LSOH, LSZH (Low Smoke Zero Halogen) or sometimes OHLS (Zero Halogen Low Smoke). These products must emit no more than 0.5% HCl and must comply with BS 7211, IEC 60754-1, IEC 60754-2, IEC 61034, BS EN/IEC 60332-1-2, shall be of harmonised colours and consist of XLPE Insulation and LSZH sheath.
- Great Places shall not accept standard PVC cables over-sheathed with an LSHF jacket or cables with PVC insulation.

5.2.5.2 Armoured Cable

- Fit galvanized steel guards where cables are liable to mechanical damage.

- Bond armour to equipment and main earthing system.
- Make moisture proof connections to apparatus using sealed glands and PVC shrouds.
- Armoured PVC insulated cables shall be subjected at the manufacturers works to the routine test, detailed in BS6346. Duplicate copies of the test certificates shall be submitted to the Great Places Electrical Engineer if requested.
- If jointing of cables is required the voltage test detailed in BS6346 clause 16.3 using test voltages to BS6346 table 20, shall be applied to the cable in the presence of the Great Places Electrical Engineer or his appointed representative.
- A visual check of all conductors, bonds and joints of their measured electrical continuity shall be undertaken.
- The method to testing shall be as given in BS 7430.
- Where the building construction steelwork and/or foundation piles are employed as an integral part of the system resistance and continuity test shall be carried out at each stage of the building construction and the results recorded in the logbook.

5.2.5.3 PVC Sheathed Cables

- Do not install cables when the temperature is near or below freezing.
- Do not install in cavities of external walls.
- Fit insulating cable glands at entries to equipment.
- Terminate cable sheaths within boxes.

5.2.5.4 MICC Cables

- Neatly and carefully dress cable into position using tools recommended by cable manufacturer. Avoid corrugating sheath when bending.
- Connect to equipment and boxes with PVC shrouded glands.
- Fix cables with clips recommended by manufacturer ensuring that cable is fixed within 150 mm of bends and connections.
- As soon as a length of cable has been installed, fit permanent seals and immediately carry out an insulation test between conductors or between any conductor and cable sheath. Repeat test between 24 and 48 hours later. Only infinity readings will be accepted. Replace any cable, which fails and repeat tests.

5.2.5.5 Wiring and cables

- The cabling to the Controlled Entry/Access Control System shall be of a conventional system with each one dedicated to its task.

- Provide 6 pair CW1308 to each handset (include 25% spare pairs for future use and maintenance).
- Twisted multi pair PVC insulated cables CW1308 shall be used. (Copper core).
- All Handset cables shall be 6 Pair CW1308. This shall allow for spare pairs to the Great Places spare pair policy and also allow for extra cables for future use/allow spares for future use, and upgrade to video systems using a dedicated twisted pair. 4 Pair is not acceptable Size not less than 0.5mm² CW1308 conforming to BT specifications.
- Ascertain the exact wiring requirement and number of cores (minimum 6 pair) for each situation. Provide a minimum of 30% spare conductors.
- In selection of cables ensure suitability for correct operation of system.
- All cables to be in continuous lengths.
- Intermediate joints not allowed.
- No wiring connections affecting another area or dwelling to be contained within a dwelling.
- Terminations shall not contain any crimped or plug-in type connections.
- Where KMS controllers are interconnected with cable in conduit appropriate multi pair CW1308 cables shall be used. Where controllers are linked with cables in underground ducts appropriate multi pair CW1128 cables or armoured cables in line with the current IEE wiring regulations shall be used.

5.2.5.6 Door Entry System Multi-Core Wiring

- The cabling to the door entry system shall comprise be carried out using standard twisted core PVC insulated and sheathed, screened where necessary,
- cables complying to the British Telecom Specification CW1308 and rated not less than 80V suitable for internal and external conditions. (0.5mm PVC/PVC) (CW1600 where screen cable is necessary) except where larger cables are required for heavy-duty lock releases, magnetic locks or earthing requirements to meet the current statutory electrical regulations. The conductor cross-sectional areas shall be such that the lengths required for the installation shall not affect the system operation.
- All wiring to include 20% spare pairs. (Not spare cores) i.e. 6 pair CW1308 to Handsets.
- A 25% spare factor shall be allowed for all containment.

- The Contractor shall ascertain the exact wiring details required for each situation, including numbers of cores etc., for the correct operation of the system.
- At no time shall any junction boxes be used to join cables Cable lengths shall be continuous lengths from marshalling boards to Handset. Cable junction boxes will not be permitted.
- All multi strand cables should have the appropriately sized ferrules crimped on for termination
- All cables shall be identified with cable markers.
- Type A + B Systems should have 15 pair for Door entry + 6 Pair for reader or future reader, + 1.5mm² 3 core Flex for supply and earth.
- Reader cables shall be installed on all KMS ready systems for future proofing.
- ALL EQUIPMENT IS TO BE EARTHED TO MEET THE CURRENT STATUTORY ELECTRICAL REGULATIONS BS7671 2008 and Amendments.
- The installer shall connect each handset at the dwelling to the colour code and Entrotec wiring details. Entrotec or the Entrotec approved installer shall connect all other supplied door entry equipment and proximity access control equipment.

5.2.5.1 Containment

- 6.2.3.1 The use of enclosed floor voids to the ground floor is not permitted and, in such circumstances, shall be wired from above. Where a property is constructed with concrete floors and/or ceilings, trunking shall be used. Where trunking enters a room/area, the trunking shall be extended along the perimeter of the room/area regardless of whether cable is supported within the trunking or not.
- Cable runs to accessories such as readers, PTEs, PSUs, spurs, etc. shall exit the trunking via specialist adaptors.
- **BS7671 521.10.202:** Any supports required shall be suitably fire-rated supports/fire safety clips to comply with BS 5839-1, rated at a minimum fire resistant above 1000°C for up to 120 minutes, they shall be suitably spaced, any cables installed horizontally around a doorframe or accessible window shall have fire-rated supports at maximum 250mm spacings (vertical installations 400mm spacings), all other surface cables to have fire-rated supports spaced at maximum 1 metre apart. 'Suitably spaced' is specific to every installation. All fixings shall be Fire-rated screw-fixings, as proven in fire tests to survive two hours directly installed in structurally sound substrates.

- All cabling shall be installed in accordance with the requirements of BS: 7671 as amended and shall be contained / spaced from other services to avoid disturbances from electromagnetic effects from such services.

5.2.5.2 Steel conduit and trunking installation (communal areas and risers)

- All cables within communal areas and risers shall be installed within surface run steel conduit/trunking to route agreed with CA prior to installation.
- Conduit/trunking shall be of sufficient size to permit easy withdrawal of cables and installation of cables.
- Ends shall be cut clean and square with axis and shall be reamed.
- Bends shall be made so as not to alter the diameter of the conduit.
- Purpose made elbows, bends or tees shall be used.
- All conduits shall be butted inside couplings, boxes and accessories.
- All conduit/trunking shall be galvanized.
- Steel conduit circular locking rings shall be fitted to each entry to every type of screwed fitting and to each of running couplings.
- The method of terminating steel conduit at all untapped entries shall be by means of a smooth bore brass bush, compression washer, couplings and lock ring.
- Exposed conduit threads inside boxes shall not be permitted.
- The conduit/trunking shall be mechanically and electrically continuous throughout so that cables are fully protected and shall be fixed with round head screws in accordance with current IEE regulations (BS 7671 – 2008 and amendments).
- The trunking shall be complete with all purpose-made accessories including end caps, lids and earth continuity links.
- All bends and tees shall be gusseted.
- Site manufactured bends shall not be permitted.
- On horizontal runs of trunking, cable-retaining straps shall be fitted at 1.5m centres.
- On vertical runs of trunking, cable supports shall be fitted at 3m centres.
- Where any cable trunking passes through a fire barrier, a cable support with fire stopping material shall be provided.

- Mounting/support: (Conduit shall be supported at regular intervals not exceeding 1000mm on horizontal and vertical runs using vandal resistant screws).
- All conduit/trunking lids to be secured using security screws.

5.2.5.3 Cables Laid Directly in the Ground

- Before laying cables, ensure that bottom of trench is even and free from sharp stones, roots, etc.
- Lay cables on a 75 mm bed of sand.
- Where two or more cables are laid in the same trench, set 150 mm apart.
- Cover each cable with 75 mm of sand overlaid with cable covers to BS 2484.
- Mark each change in direction of cables with a precast concrete slab, size 300 x 300 x 150 mm thick, impressed with 'LV CABLE' and laid level with finished ground level.

5.2.5.4 Cables in Vertical Trunking/Ducts - Conduit/Trunking/Ducting Generally

- Support with pin racks or cleats at each floor level or at 5 m vertical centres, whichever is the lesser.
- Provide and fix heat barriers at not more than 5 m centres where fire-resisting barriers are not specified.
- Use conduit/trunking/ducting suitable for the location and use, ensuring adequate:
 - ✓ Strength
 - ✓ Tolerance of high and low temperatures
 - ✓ Resistance to ingress of solid objects and water
 - ✓ Electrical properties
 - ✓ Corrosion resistance
 - ✓ Resistance to flame propagation.

5.2.5.5 Steel Conduit and Trunking Installation

- Location/use: [To communal stairwells and corridors]
- To BS 4568: Parts 1 and 2 or BS EN 50086-1 and to Manufacturer and reference: [Davie Burton in plain thread able rigid conduit no less than 20mm internal diameter]
- Jointing: [Screwed] Size: In accordance with BS 7671 – 2008 and Amendments
- Fittings: [Deep boxes, extension rings, expansion coupling should be used at intervals were conduit crosses movement joints]

- Protection class/finish: [Class 2/ Galvanised]
- Other requirements: [All conduit is to be run at least 150mm clear of any plumbing and mechanical services. Cable running adjacent or parallel to heating pipes are to be located under the pipes]
- Mounting/support: [Conduit shall be supported at regular intervals not exceeding 1000mm on horizontal and vertical runs using vandal resistant screws]
- Use maximum practical lengths to minimise number of joints. Remove burrs from cut ends.
- Use elbows or tees and/or junction boxes at changes of direction.
- Fix securely with boxes fixed independently of conduit.
- Tightly screw all joints to ensure electrical continuity, with no thread showing. Use expansion couplings where conduit crosses movement joints in structure.
- Make secure connections to boxes, trunking, etc. with screwed couplings and provide rubber bushes at open ends.

5.2.5.6 Steel Surface Trunking System Generally

- Location/use: [Riser routes]
- To BS 4678: Part 1.
- Manufacturer and reference: [Davies Burton or equal and approved]
- Size: In accordance with BS 7671.
- Fittings: [Screwed couplings and rubber brushes at open ends]
- Protection class/finish: [Class 3 / Zinc coated]
- Other requirements: [Metal partitions inside trunking]
- Mounting/support: [Surface Screwed]
- Use proprietary units to form junctions and changes of direction wherever possible.
- Use mechanical fastenings/fixings; do not weld.
- Fit a copper link at each joint to ensure electrical continuity.
- Fit grommets, bushes or liners into holes, through which cables pass.
- Fit security screws to secure trunking lids.

5.2.5.7 Installing conduit in concrete Drainage of conduit

- Fix securely to reinforcement and fix boxes to formwork to prevent displacement.

- Depth of concrete cover to be not less than specified for reinforcement.
- Provide drainage outlets at lowest points in conduit installed externally and in locations where condensation may occur.

5.2.5.8 PVC Surface Trunking System Generally

- For use in Flat/dwelling only To BS 4678: Part 4.
- The contractor shall install all cabling within each dwelling in white MT1 mini trunking the contractor shall use manufactured bends and ends only.
- Installer to install to CA's requirements.
- Allow 6 meters per dwelling.
- MK Electric Limited, UK Head Office, The Arnold Centre, Paycocke Road, Basildon, Essex, SS14 3EA. Tel: 01268 563 000. Fax: 01268 563 360
- Size: In accordance with BS 7671
- Use maximum practical straight lengths to minimise number of joints.
- Use proprietary units to form junctions, changes of direction and trunking entry to surface boxes.
- Site manufactured changes in direction will not be permitted.
- Strength: [Heavy] duty.
- Colour: [White]

5.3 PRODUCT SPECIFICATION

5.3.1 General

- All products installed shall comply with current British Standards and shall be approved by Great Places before installation.
- Door entry and access control equipment shall comply fully with this specification.
- Product support in the form of replacement components, manufacturers repair service or system upgrade route shall be available for a minimum of 10 years from the date of contract order.
- All door entry and access control equipment shall have, as a minimum, a two-year parts only manufacturer's warranty.
- All door entry, token access control and associated system equipment shall be supplied by the door entry equipment manufacturer.
- The door entry system shall be EQUALITIES ACT 2010 compliant and include requirements for disabled access.

5.3.2 Accessories

- Great Places pre-approved list of electrical accessories and electrical equipment is listed in **Technical Document A Annex P**. Deviation from the approved list must be agreed with Great Places prior to installation with adequate reasoning as to why a deviation is required.
- Products specific to DES are detailed in this specification with equipment requirements in appendix H.

5.3.3 Protocol

- Great Places protocol is Entrotec/KMS

5.3.4 REQUIREMENTS

5.3.4.1 Basic System Requirements

- a) A door entry system shall be provided that allows a visitor at an entrance panel to call to a resident in an apartment, and for that resident to allow or deny access through speech and video confirmation as applicable
- b) Where new installations projects are in excess of 8 residential dwellings, the door entry system shall be functional type systems. For 9 or more dwellings, the system shall be digital type systems.
- c) The system shall comprise a panel at the entrance with buttons to call to the flats; control and switching equipment that connects the speech and video from the door panel to the residents' handsets; and the handset in the apartment that allows the resident to hear the visitor and to release the door.
- d) The system must provide isolation of speech so that only the recipient of the call can hear the visitor at the door panel.
- e) The system must provide isolation of handset so that a fault causing excessive current on one handset does not affect the rest of the system.
- f) It shall be possible to set how long a call may last, how long the handsets ring when being called, and how long residents have to answer a call.
- g) It shall be possible for a resident to activate a privacy feature to stop nuisance calls from being received.
- h) It shall be possible to connect additional handsets in a flat. (Where 6 pair CW1308 cable has been used)
- i) It shall be possible to connect a remote sounder or beacon to the handset for the poor of hearing.
- j) It shall be possible to integrate a token access system into the door entry system to allow residents to enter the building
- k) Selection of circuit protection shall comply with [table 4D](#) below.

6. PERFORMANCE SPECIFICATION FOR INSTALLATION

6.1 Door entry system Installation

6.1.1 The installer shall supply and fit all components and installation materials necessary to complete and make the door entry system work.

6.1.2 The proposed door entry systems shall comprise the following:

- High gain room terminal with timed privacy & LED indication. Type ED4+.
- Privacy of speech. Room Terminals are not to become operational until individually called.
- Vandal resistant push button control panel with bevelled back box.
- Vandal resistant Pressure sensitive buttons (not touch sensitive or moving buttons).
- Equipment cabinets IP 66 Sarel cabinets with LK 1242E Sarel lock and chassis plates.
- Each Sarel cabinet shall be fitted with a factory fitted Sarel 10mm hasp and staple. Hasp and staple to be fitted with an IFAM KA1 padlock issued by the client.
- Low voltage power supply.
- Inter-linking multi-core telephone CW type cabling. CW1308 & CW1600.
- Conduit / trunking / mini-trunking system.
- Door monitoring circuit to turn on Green LED on handset when the door is open.
- EMC tested equipment complete with CE mark.
- Full System isolation and exchange principle.
- Proximity access control key system including controllers and PSU
- Residents Colour coded Pre-Programmed KMS tokens (3 per dwelling).
- Double Pole, double throw Fireman's switches (one per main entrance door).
- Installer to provide one year's on-site maintenance for complete installation.
- Entrance door and screen (Where indicated by Multisteel).
- Double pole, double throw push to exit switches (if using magnetic locks).
- Full Duplex Speech.
- Trades Facility with digital automatic summer/wintertime correction time clock.
- Battery backup of Door entry and Proximity Access Control systems.
- Door locking devices (See type of Locking Device).
- Manufactures equipment defects 2-year warranty for parts only. Installer to fit.
- Local connection boxes (if required).
- Entrotec Manufacturers on site connect & commissioning service or commissioned by a current Entrotec approved installer.
- Entrotec Limited manufacturer commissioning certificate or Entrotec approved installers certificate.
- KMS 10,000 pre-programmed GPRS ready Simplekey controller
- KMS GPRS Modem and Vodafone data only SIM card (per block) (SIM Card Provided by Great Places CA).
- Disability Discrimination act friendly system
- Audio/Visual display indication on door panel
- Pictorial systems to indicate functions on handsets for door open, lock release and privacy on.
- Yellow contrasting rings on call buttons to aid the visually impaired.

- 6.1.3 Note: Battery backup complete with batteries shall be provided to all door entry equipment and access control equipment.
- 6.1.4 The Contractor shall contain all door entry control equipment and access control equipment within an IP 66 Sarel cabinet(s) with Sarel a LK1242E key operating a Sarel lock.
- 6.1.5 Equipment fitted on to a purpose made predrilled chassis plates. Each Sarel cabinet shall be fitted with a factory fitted Sarel 10mm hasp and staple. Hasp and staple to be fitted with an IFAM KA1 padlock issued by the client and fitted to each cabinet by the installer. Installer shall request padlocks from the client.
- 6.1.6 It shall be the installing contractor's responsibility to provide a mains supply to the door entry equipment from the landlord's supply. The installation shall be designed to operate from a 230 Volt 50Hz supply. All system functional voltages shall be designed to operate around 12v DC

6.2 New door entry system requirements

- 6.2.1 Where a new door entry system is to be installed;
 - Equipment shall be as manufactured by Entrotec Limited with integrated KMS proximity access control and supplied & installed as a complete working system by the winning installation contractor. All equipment required for the integrated systems shall be purchased from Entrotec with the exception of any magnetic locks that shall be supplied pre fitted in the new door via the door manufacturer Multisteel.
 - The installation contractor shall employ Entrotec Limited to fully connect & commission the entire system. Installer shall purchase, install and fix all the equipment, connecting the room terminal in the dwellings.
 - Great Places insist that all installers if not a current Entrotec approved installer shall employ Entrotec to carry out manufacturers commissioning. If the contractor is a current Entrotec approved installer they may install and commission the entire systems completely themselves. They must prove to Great Places that they are current Entrotec approved installers and this shall be confirmed with Entrotec.
 - All Blocks shall be fitted with an integrated pre-programmed KMS 10,000 capacity Simplekey controller. The KMS controller shall be connected to the KMS Hosting Cloud via a KMS GPRS Modem connected to the controller for administration at: The Building Safety Department

- The KMS controller shall be connected to a GPRS modem and shall use a contract Vodafone data only SIM card (SIM card provide by the client and issue by the CA on request for the contractor to fit and connect on site. The KMS equipment shall be integrated within the Entrotec door entry Sarel enclosure. Where controllers are required as satellite boxes these shall be fitted in Sarel IP66 boxes with a Sarel hasp and staple and fitted with the KA1 IFAM lock. Cabinet shall also be fitted with a trifoliate label “fob Equipment”. All KMS controllers shall be supplied by the door entry equipment manufacturer.
- SIM card free issue to the contractor by Great Places CA for fitting with in the GPRS modem.
- All system controllers shall have new Shark tooth tokens colour coded to the Great Places standard supplied via Entrotec pre-programmed into the controller and on the KMS SimpleKey Web System cloud. – [See table 1D](#)

6.3 Video door entry system

6.3.1 Where specified the door entry system shall be a colour video door entry system;

- A Camera shall not be fitted with in the call panel. A vandal resistant Dome Colour Camera suitable for wall or ceiling mounting shall be fitted to look down at the door and call panel in line with SBD requirements. The Camera shall be purchased via Entrotec and shall be fitted with a 4.0 - 9.0 mm vari-focal lens. The lens shall be adjusted to view the whole door and call panel area.
- Where outer and Inner call panel doors exist to create a secure lobby the system shall have the call panel and dome camera at both positions Outer and inner doors with suitable CCTV switching between doors and cameras.
- The audio handset shall be replaced in all dwellings with a colour 4” LCD TFT colour video handset.
- Each handset shall be wired individually with a separate 6 pair CW1308 (min) up to 50 meters. A 10 pair CW1308 cable shall be used where cable run is up to 100 meters. Coax to handsets not required. Coax to camera and video amp etc RG59B.
- The system shall have fitted with in each marshalling box video distribution amplifiers.
- Each video distribution amp shall have an individual RG59B coax wired from the main video distribution amp.
- When commissioning the system, the commissioning engineer shall set up each monitor.
- When multiply call panels are fitted a camera switcher shall switch the relevant picture from the called door to the handset called.
- All handsets shall be modular in design so as that a screen can replace without having to replace the whole handset.
- The contractor shall ensure that that there are sufficient lighting levels at the door and camera position to allow the colour camera to work to the best ability.

- The camera lens shall be selected so as the residents within the dwelling shall be able to clearly identify the callers face.
- Contractor to supply all necessary BNC connectors. Connectors not supplied by Entrotec commissioning engineers.
- BGU required, resettable type with plastic hinge cover. Positioned away from the PTE NOT NEXT TO IT

6.3.2 Camera:

6.3.2.1 The Dome camera shall be supplied by Entrotec and connected to the video door entry system; -

- 12-volt DC version
- High resolution
- 450 TV lines
- For wall or ceiling mounting as required per block
- Colour
- Auto Iris to automatically adjust to different light levels
- PAL composite video output
- 1 Lux sensitivity
- Vari-focal 4.0 - 9.0 mm Len's to suit the picture required dependent on how far away from the door the camera is positioned.
- The camera should be able to monitor the whole of the door and NOT located direct above the call panel looking directly down.

6.3.3 Video Door Entry System – Secure by Design Requirments

General

6.3.3.1 Where the particular specification requests or on a new build block where Secure by Design (SBD) is required the system shall be a colour video system. The main specification shall be followed in full with the addition with the following, replacing the audio Handset with an LCD TFT colour Video handset and supplying a fitting Security dome camera looking down at the whole door area.

6.3.3.2 The contractor shall allow for all video switching and amplification circuits. All new builds shall be supplied with an Entrotec and KMS system.

6.4 Proximity Access Control Entry Installation

6.4.1 General Requirements

6.4.1.1 The Proximity Access Control entry system shall be as manufactured by: - Key Management Systems.

- Each controlled entry system shall be supported by a proximity access control
- system as manufactured by KMS Key Management Systems utilising FOB
- electronic keys.
- The proximity access control system shall also be used for all other controlled
- access doors that are not directly connected to the Controlled Door Entry

- System, such as Bin and cycle stores.
- The contractor shall use the type KMS 10,000 GPRS enabled controller specified by the CA.
- KMS controller shall be supplied pre-programmed with resident fobs.
- The Contractor shall provide a proximity key reader access system. The access system shall be a non- contact proximity technology where specified.
- Residents' access into controlled areas will be via the use of individually coded electronic keys.
- The system shall comprise of Proximity Access Control system controllers for 2 doors with power supplies, battery backup, readers and fobs.
- The Proximity Access Control controller shall be selected to suit the building being controlled.
- Blocks shall be controlled with the KMS SimpleKey controller with a GPRS modem using a SIM card linked to the Great Places web-based cloud system.

6.4.2 Requirements

- KMS shall only be installed if there are more than 6 dwellings with the exception of blocks using Maglocks on main and rear entrance doors.
- All installs shall use the larger sarel box to allow for the larger controller and modem for future KMS upgrade, should MED/RED be replaced and would incorporate a maglock system.
- All KMS equipment shall be purchased via the door entry manufacturers Entrotec Limited. The contractor shall not provide his own KMS equipment.
- All KMS controllers supplied pre-programmed
- Comply with Great Places standard fob colour coding.
- Grey/Yellow/Green. Fobs pre-programmed into controller.
- Ensure interconnections between systems are interfaced by Controlled Entry Manufacturer's equipment.
- To incorporate a 6-amp double pole MCB for the incoming mains supply.
- Incorporate suitable switch mode power supply Minimum 60 watt with battery backup facility and battery.
- The locks for the main entrance door or for any door with a door entry call panel shall be powered by the door entry controller's power supplies and not via the KMS lock output.
- In every case an audible indication shall be heard when the door has been released generated by the door entry system. All rear entrance doors, shall be powered via the KMS lock outputs.
- GPRS modem power shall be wired to switch on/off via a relay.
- Wherever possible where blocks are physically linked, the installer shall link/network all controllers to a single GPRS modem.

6.4.3 Enclosure

- IP 66 Sarel cabinet fixed to structure of building with non-ferrous screws.
- KMS controller boxes are NOT ACCEPTABLE.
- Cabinet door, reversible to suit cupboard it is fitted with in.

- Cabinet door locked with LK1242E security barrel lock(s).
- Provide engraved Trifoliolate label fitted to Controller cabinet door. Engraved “FOB EQUIPMENT”
- All enclosures shall be fitted with in a suitable lockable cupboard.
- If a suitable cupboard is not available, the contractor shall consult the CA prior to equipment enclosures being fitted in a corridor or an exposed area.
- The enclosure shall be fitted with a hasp and staple in addition to the standard Sarel cabinet lock.
- The installer shall supply padlocks and fit one per cabinet. This shall be an IFAM KA1 padlock suited to Great Places’ Code.

6.4.4 Controllers

- KMS 10,000 SimpleKey controllers. For networked systems with up to two doors, with the capacity to network via hard wired link to slave KMS controllers.
- Up to a maximum of 20 controllers can be networked together and linked via a GPRS SIM and modem to a remote KMS SimpleKey Web System.
- Maximum network cable distance 1 K.
- KMS 1000 controllers shall not be acceptable.
- PAC EasiKey 99, 250, 1000, 512, iPAC & 2000 series controllers shall not be acceptable.

6.4.5 Installation

- Location as indicated on drawing in appropriate room.
- Do not mount in public areas.
- Group together with standby battery units and where appropriate
- Fix to building fabric with non-ferrous screws.
- Agree arrangements with CA.
- Provide complete system of cable trunking to enclose all interconnecting cables.

6.4.6 GPRS installation for networked controllers

Where requested that the proximity controller shall be network to a remote cloud-based PC using a GPRS modem and Data SIM card the contractor shall supply the following.

- Master KMS controller connected to GPRS modem to remote program and manage key fob database.
- Provide KMS GPRS modem fitted next to KMS controller in Entrotec Sarel door entry enclosure.
- Where the Master KMS controller is to be connected to a GPRS modem. The contractor shall liaise with Great Places for system synchronisation.
- The KMS SimpleKey controller is to be networked to a KMS SimpleKey Web System
- The KMS Controller shall be connected to a GPRS modem.
- The contractor shall fit a Vodafone data SIM within the modems.
- Data SIM card to be Free issued by Great Places CA.

- Where a Vodafone signal is not possible the contractor shall liaise with Great Places to provide a suitable SIM card by a provider that produces a good signal for the area.
- To provide KMS GPRS modem, fitted with in the Entrotec.

6.4.7 High Gain Aerial

- The installer shall provide and install a high gain aerial fitted to the outside of the building if using a GPRS modem. Not required on PSTN or hard-wired systems.
- The installer shall carry out site surveys and carry out a signal strength test to find the best position for the aerial to gain maximum signal strength. This shall be done in conjunction by consulting Vodafone mobile and by using a signal strength test meter.
- Test results shall be provided to the CA before a final position to fit the aerial is agreed and completed.
- Fitted in a high level and secure location.

6.4.8 KMS GPRS Installation

- The KMS controllers shall be networked to a KMS SimpleKey Web System, controlling several blocks connected to the KMS SimpleKey Web System.
- The contractor shall prepare the systems to have the KMS pre – programmed tokens synchronised with the KMS SimpleKey Web System.
- Where instructed in the particular specification a GPRS modems cannot be used. The Installation contractor shall liaise with Great Places CA to arrange a dedicated PSTN phone line installation at the required block and office location.
- Generally, where GPRS signal are not available. The Installation contractor shall liaise with Great Places CA to have the KMS system networked to the KMS SimpleKey Web System for controlling the fob access.
- The Installation contractor shall provide pre-programed KMS Controllers for use with the KMS SimpleKey Web System. The contractor shall discuss this process with the client and agree a format and procedure to issue tokens to the client prior to commencing work.

6.4.9 Access Control

- The main contractor shall install the proximity access control system to the manufactures recommendations. The reader cabling shall use multi-stranded

6.4.10 Cables

- 6.4.10.1 Unscreened six-core cable and the reader shall be capable of operating up to 1,000 metres from its control unit without the need of an additional power supply. Cable from the reader shall be permitted to run next to mains carrying conductors without adverse effect.

6.4.11 Readers

- Up to 200 metres: 0.22 mm²
- Up to 500 metres: 0.5 mm²
- Up to 1000 metres: 1.0 mm²

6.4.11.1 Notes:

1. All cable is 7/0.2 unscreened multi-stranded (intruder alarm style)
2. If screened cable is used, then reduce distances quoted by 1/3 third.

6.4.12 Disabled, visually impaired, blind, elderly or tenant with special needs (DDA 2004)

- In the case of disabled tenants, elderly, visually impaired or blind tenants, the contractor must provide adequate instruction as to how the tenant is to use the access reader.
- The contractor shall explain the raised tactile key symbol and its meaning.
- The tenant shall be instructed as to how to show their token and gain successful entry.
- The lights and sounder functionality of the reader shall be fully explained to the tenant.
- The contractor shall ensure that this additional door open time is suitable for these tenants by means of a live test using wheelchairs/walking frames etc and adjust accordingly.

6.4.13 PC & KMS SimpleKey Web System

- The KMS SimpleKey controllers shall be networked to the KMS SimpleKey Web System.
- The Installation contractor shall liaise with Great Places CA to have the KMS system networked to the KMS SimpleKey Web System
- The contractor shall allow for having the KMS tokens pre-programmed via the SimpleKey Web System Connection SimpleKey Web System remote PC.

6.4.14 Notes for issuing keys to estate officers

- All Proximity keys issued should be identified per flat and grouped together and placed in a polythene bag detailing the flat they are issued to with a copy of a user guide to both the key fob access control system and door entry system.
- The address of each block should be clearly written on the front of the bag.
- Non-residential keys should be placed in a polythene bag and passed to the nominated CA.
- The system uses “Common Access” Fobs that have been issued to GP Staff & Partners that have common access across the stock these fobs are colour coded for ease of identification.

- See table 1D
- All "Master" or "Staff" fobs for the system should be clearly identified and handed over to the nominated Project Manager, unless written permission to hold onto an editor key after commissioning is granted.

6.5 KMS FOB ELECTRONIC KEYS

6.5.1 General

- Provide per block 2 pre-programmed Fob Keys per dwelling complete with solid coloured ID (KMS Shark Tooth Fobs). - see table 1D
- All Residents' fobs shall be colour coded to easily identify each fob issued to the same apartment.
- Each Fob Key to be colour coded – see table 1D
- All keys to be programmed and issued to Housing Management as required during the contract period.
- Each set to be separately packaged.
- All KMS tokens to be pre-programmed by KMS, downloaded to the KMS controller pre supply, numbered and enter on the SimpleKey Web Cloud System.

6.5.2 Key Fobs and Programming

- The key fobs shall be identified and entered onto the system programming residents issue list as flat number and a coloured fob.
- All key fobs supplied by the Contractor shall be pre-programmed into the controller labelled and bagged to the flat number.
- Each key fob given to the same property must be easily identified from each other by coloured fobs. A separate colour for each fob issued to the same dwelling.
- The fobs shall be given to the Resident of each property and a signed receipt obtained.
- All key fobs supplied by the Contractor shall be identified and entered into the system and be allocated to relative readers and controlled doors as required.
- No system shall be put into operation or the doors locked unless all fobs have been issued and all Residents instructed on their use.
- The Contractor shall in addition ensure that every Resident is made aware of the function and operation of the door entry installation before the system is put into operation.
- All the fobs will be entered onto the system / programmed prior to handover to ensure that at the time of handover the system will be fully operational.

- The contractor shall at time of order provide Entrotec a programming list strategy that shall be provided in advance to show which fob shall be allowed to open which door or combination of doors. This shall be in the format of the example spread sheet [Appendix D](#)

6.6 Commissioning

- 6.6.1 The contractor whilst on site shall contact KMS and provide them with the DATA number and confirm with KMS the Sim + Block are online

7. COMMISSIONING, HANDOVER & AFTERCARE

7.1 Testing and Commissioning

- 7.1.1 On completion of the works and before the installation is energized, the Contractor shall undertake a full inspection and test of the installation to ensure that it is safe to put into service.
- 7.1.2 The contractor shall on completion provide any appropriate Electrical Installation Certificate, Minor Works Certificate or EICR to Great Places no later than seven (7) working days after completion. It is Great Places' policy not to accept handwritten certification and all certificates shall be issued in PDF format. All certification shall be completed in full – blank/ empty fields will not be accepted.
- 7.1.3 The contractor shall complete & submit all documentation as per Annexes C,D,E & F of this specification.
- 7.1.4 Where applicable it is per Part P of the Building Regulations, it is the Contractor's responsibility to inform the local authorities/ building control of the new installation and to provide a certification to confirm this has taken place.
- 7.1.5 For the purpose of all certification, the Employer's details will be as follows:
 - Great Places Housing Group
2a Derwent Avenue,
Manchester,
M21 7QP
- 7.1.6 On completion of the works, the Contractor shall ensure that each item of equipment both new and equipment reinstated is in working order.
- 7.1.7 All documentation shall be completed as per Great Places' Electrical Technical Document A and associative BPGs.

7.2 Defects Liability Period

The Contractor shall provide a 12-month defects liability from the date the property is handed back to Great Places; this shall include the provision of an out-of-hours emergency service. Where this provision is not provided the contractor shall agree that the Great Places in-house repairs team will attend to make safe – any required follow on works shall be completed by the contractor responsible for the installation. The contractor will agree to pay for any cost incurred by Great Places for the provision of this service at agreed rates.

8. VARIATION OF SPECIFICATION

Any variation to this specification must be made in writing and agreed with Great Places using Appendix B of this specification.

Appendix A – Tables

9. Table 1A – Locations & Mounting Heights

Type	Fixing Height/Locations
Call Panels	<ul style="list-style-type: none"> ○ Mount panel to BS 8300:2009+A1:2010 sit within a zone of 900mm and 1050mm above FFL as part M and BS8300:2009 +A1:2010 with in 200mm of the doorframe or aperture, where there is a glazed facade, and adequately illuminated. ○ Call panels shall be located on the latch side of the door.
Proximity Access Control (fob) Standalone Readers. Rear/Residents Entrance Doors (RED's)	<ul style="list-style-type: none"> ○ Mount reader to BS8300:2009+A1:2010 between 900mm and 1050mm to FFL as part M ○ More Details
MARSHALLING BOX	<ul style="list-style-type: none"> ○ Locate in concealed areas e.g. Storeroom / risers / false ceilings (relative to floor served where possible). ○ Not in public areas.
Apartment Station / Remote control	<ul style="list-style-type: none"> ○ Generally positioned within 5 meters within Hallway, in close proximity to lounge and kitchen where possible in a position where the handset shall not be damaged by moving furniture in and out of the flat. ○ Positions to be confirmed by CA on site. ○ Sited to prevent injury to user and unit from damage. ○ Close proximity where possible to Lounge and Kitchen. ○ Mounted at 1200 FFL to top of handset as per part M, BS8300:2005 and DDA requirements. ○ Provide PVC mini trunking installation to enclose cables. ○ Allow complying with any individual tenant's needs in sighting the handset, i.e. elderly or infirm tenants may require lowering of mounting height and a different location from the norm.
Fire Switch	<ul style="list-style-type: none"> ○ High level with top of door, above the call panel or reader fitted between 1900mm - 2000mm from FFL. ○ Positioned directly above the door entry call panel. ○ Position as if the timed circuit fails the button can be depressed and held depress while opening the door.
PTE	<ul style="list-style-type: none"> ○ Mount PTE at 900 to underside to 1200 to the top from FFL to underside. ○ To be agreed by CA on site. ○ To BS8300:2009+A1:2010 & Part M.

Addendum G: Door Entry System Specification



	<ul style="list-style-type: none"> ○ Position the push to exit so as it is protected and cannot be depress from the insecure side of the door or gate. It cannot be reached easily by using a coat hanger or stick. ○ Positioned below or to the side of the door entry call panel back box to minimise the side screen depth. ○ Position as if the timed circuit fails the button can be depressed and held depress while opening the door.
Controllers/Enclosers	<ul style="list-style-type: none"> ○ Do not mount in public areas. ○ Group together with standby battery units and where appropriate

10. Table 1B

Circuit Type / Use of Cable	Min CSA
<p>NB: In all cases, consideration shall be given to BS7671 tables with reference to current carrying capacities of cables. Where cables are installed in void spaces, regardless of current reference method, the Contractor shall assume that insulation is/will be installed above 100mm thick and therefore apply ref 101 unless the insulation in situ is already above 100mm thick and does not impact the installation (e.g. all wiring in the loft is clipped to timber above the insulation).</p>	

11. Table 1C - TBC

TBC

12. Table 1D – Sharktooth KMS fobs

Qty	Colour	Description	Issued to
Upon Request	Clear	Issued by GP for staff	Staff
Upon Request	Grey	Issued by GP to contractors	Contractors
Upon Request by CA	Red	MASTER FOB (other)	GP CA
Provide per block 1 pre-programmed Fob Keys per dwelling complete with solid coloured ID	Yellow	Key 1 Issued	Resident/Customer
Provide per block 1 pre-programmed Fob Keys per dwelling complete with solid coloured ID	Blue	Key 2 Issued	Resident/Customer
Upon Request	Orange	Key 3: 1st, 2nd & 3rd issued fobs.	Resident/Customer
Upon Request	Purple	Where a 4th fob is required this	Resident/Customer
Upon Request	Black	Where a 5th fob is required this	Resident/Customer

13. Table 1E - TBC

Appendix B - Variation Request – Electrical

Variation Request – Electrical

Contractor Name:	
Site Address:	
Date Received:	

Description of Variation:
Purpose of Variation:
Cost Implications:

To be completed by Great Places Housing Group.

Person ordering the works:

Name:	Position:
Request: Accepted / Rejected	Date:

Electrical Compliance Team:

Name:	Position:
Request: Accepted / Rejected	Date:

Appendix C – ENTROTEC SYSTEMS COMMISSIONING TEST RESULT AND COMMENT SHEET

Appendix D - ENTROTEC - PAC/KMS KEY MANAGEMENT RESIDENTS ISSUING LIST

Appendix E - PRE-CONTRACT & ENTROTEC CLERK OF WORKS PRE INSTALLATION CHECK LIST

PRE-CONTRACT & ENTROTEC CLERK OF WORKS PRE INSTALLATION CHECK LIST			
No	ITEM	Y	N
1	Entrotec Equipment Fitted		
2	Systems commissioned by Entrotec or Current Entrotec approved installer. Engineer carrying out commissioning has Entrotec training certificate. Test & Commissioning sheets completed and issued to CA. Engineer's certificate of carried out commissioning has been seen and verified.		
3	Equipment has DDA features, Yellow rings, Audio and visual indications.		
4	Battery backup door entry equipment.		
5	Battery backup KMS equipment.		
6	Sarel IP 66 enclosures installed and fitted with lock LK1242E on all cabinets including marshalling and KMS controllers		
7	Sarel cabinet fitted with factory fitted hasp and Staple and fitted with free issued B&HCC KA1 IPAN padlocks		
8	Cabinets not fitted in exposed valuable area such as corridor without approval of CA. (if fitted with approval enclosure fitted with hasp & staple and Great Places padlock. KA1 IFAM Lock.		
9	Cabinets cabled accordingly with screw fixed Trifoliate Label's for "Door Entry System" & "Fob Equipment" and mains voltage warning stickers.		
10	Power supply output set and adjusted to 13.8 volts when battery fitted.		
11	Digital Automatic summer/wintertime correction time clock set to CA's Approval.		
12	ED4+ Handset fitted & Privacy switch individually timed and set to 8 hour time period.		
13	Block name engraved on entrance panels in Title Case or on LCD Display.		
14	Green LED on all handsets to indicate door open working.		
15	Audio and visual reassurance heard when door released on MED and RED's.		
16	Lock release timer adjusted to suitable time.		
17	Adjustable call tone time period set to CA requirements (Adjustable per Handset).		
18	Timed re-assurance tone on door panel adjusted to suitable sound level to suit area		
19	Adjustable speech time set to CA requirements.		
20	Handset cables installed in 6 Pair CW1308.		
21	System cabled in CW1308 with 3 core flex to call panel.		

Addendum G: Door Entry System Specification

22	20% spare pairs allowed for in all cabling		
23	Handset cover min. 2 screw fixings (top and bottom)		
24	Handset operating instructions left with occupier		
25	Cables marked clearly identifying destination and usage using cable markers. Handwritten markings on cables is not acceptable.		
26	Fireman's double pole override switch installed at every main entrance controlled door and any other doors deemed necessary where fire brigade access would be required.		
27	Push to Exit Double pole Switch installed at every controlled door using magnetic locks. Switch with 2 commons wired to break power and also provide timed release.		
28	Push to exit switch fitted with 25mm button with DDA yellow ring. Engraved "Push to Exit" in Green. Engraved "In emergency press and hold button while opening door"		
29	Fire switch and Push to exit Double pole type with 2 commons wired to break positive supply to magnetic locks or fail-safe lock release and also connected to provide a timed release.		
30	MED/RED Maglocks powered by door entry controller.		
31	System and top magnetic lock or Monitoring devise connected to handset monitoring system.		
32	Door monitoring circuits tested and demonstrated.		
33	Door panels, Fireman Switch, Push to Exit, System controllers etc all Earthed and bonded to common 0v Earth to IEE Regulations		
34	Security screws fitted on all containment, stop end boxes and equipment in common areas		
35	KMS controller is 10,000 controller and not 1000 controller.		
36	KMS controller supplied pre-programmed with fobs.		
37	Fobs programmed and working and programmed to GP Key Fob access Strategy. Strategy sheeted issued to CA.		
38	Fobs issue to CA with Appendix F. Programming issue sheet.		
39	Pre-programmed KMS Fobs supplied bagged and labelled with flat number to correct B&HCC colour code. Grey 1 st issued Token. Yellow 2 nd issued Token. Green 3 rd issued Token.		
40	Common access Master fob for Mears staff - Solid Red.		
41	GPRS modem installed SIM CARD Communicating with remote PC Established and systems networked.		
42	Data number of SIM issued to KMS		

Addendum G: Door Entry System Specification



43	Door closing correctly (LCN closer adjusted for correct speed and alignment)		
44	2 No. Securitron Magnetic Locks fitted. Top fitted magnetic locks Monitored.		
45	Magnetic lock armature plates secured with security allen key screw with centre pin.		
46	ASSA Lock release Monitored. If used for MED secondary VR door contact fitted to head of door.		
47	System Manuals, drawings and engineers log sheet fitted in cabinet pocket.		
48	Maintenance contact telephone numbers left with CA.		
49	System demonstrated as working to CA.		
50	Appendix C Commissioning test results sheets and residents tick sheets issued to CA.		
51	All Containment entry points filed and free from any sharp edges		
52	25% spare spacing factor allowed for all containment		

Appendix F - ENTROTEC - KMS GPRS Cloud Fob Programming and Door Name Assignment

Appendix G - FURTHER READING AND LINKED DOCUMENTS

- F Spec: Requirements and Guidance for (Part 6) Fire Detection systems
- B Spec: Generic electrical best working practice guidance
- V Spec: Electrical Specification in void properties
- R Spec: Requirements and Guidance for General Needs, Rewires & electrical upgrades
- Great Places BPG series: various Best Practice Guides on specific topics
- D Spec: Electrical Specification for Development programme installations
- I Spec: Electrical Specification for Investment Programme works.

Appendix H - EQUIPMENT REQUIREMENTS

CALL PANELS
Construction
<ul style="list-style-type: none">○ Call panels shall be manufactured from 316 “Marine” grade 2K finish stainless steel○ Panels shall be nominally 2.5mm thick (12SWG)○ All internal components shall be mounted on stainless steel threaded studs welded to the plate.○ Cut-outs and mounting studs shall be provided for Call Progress display, Access Control reader and panel mounted camera within the either LCD or OLED display to meet the requirement of the client. All internal components shall be of a modular design to permit easy maintenance.○ Panels shall be mounted onto a galvanised steel back box incorporating a 316 “Marine” grade 2K finish stainless steel, 2.5mm thick (12 SWG) bezel.○ Panels shall be secured to the back box using stainless steel security screws.○ The back box shall house “captive” nuts that can be replaced by installers in the event of cross-threading.○ The panel shall be designed with apertures no greater than 3mm to reduce attack by screwdrivers etc. There shall be a stainless-steel mesh between components and the panel for additional protection.○ Where a video system is required a colour camera shall be incorporated within the call panel. If requested by the GP, a separate dome camera shall be installed at a suitable position to allow for clear visitor image.
Panel Buttons
<ul style="list-style-type: none">○ The functional panel (one button calls one flat) flat number shall be inscribed onto the panel. Functional systems shall be supplied with a back-lit LCD display with Vandal resistant Pressure Sensitive buttons

- Digital systems shall be supplied with Vandal resistant Pressure Sensitive buttons. For digital panels (dial the flat number like a telephone) the number shall be inscribed onto the button using a laser etching process. There shall be a pip on the 5 button to aid visitors with visual disability.

Panel Inscription

- Inscription of numbers on the functional call panels shall be undertaken using a laser etching process.
- Block names shall be included within the LCD screen on the call panel for functional systems and OLED screen on digital systems.
- Operating instructions shall be shown within the Call Progress display (LCD on functional systems and OLED on digital systems).

Panel Format – Functional

- The button arrangement shall have a maximum of three columns (up to 4 rows) with a separate button for tradesman access, for new build design projects, this button would be unmarked and inactive to confirm to Secure by Design.
- The panel shall include an EQUALITIES ACT 2010 yellow & black proximity reader with a key symbol (ETR/KMS).
- The flat number shall be laser etched onto the panel
- **SCROLL BUTTON FORMAT IS NOT PERMITTED. SINGLE BUTTON PER FLAT IS REQUIRED SO THAT BRAILLE NUMBERING CAN BE PROVIDED IF REQUIRED**
- Braille numbering shall be included below the associated button.

The panel shall be provided with an electronic Call Progress text display, visible through a 5mm thick lexan window. This shall display the following messages:

- The block name when there is no call on the system
- system instructions
- the flat number being called
- call answered
- call hung up
- no reply
- system busy
- Privacy feature activated in the flat
- Door open (with countdown timer)

Panel format – digital keypad

- The panel(s) shall have keypad numbered 0 – 9, Call and Cancel to allow the visitor to enter the flat number.
- The number 5 button shall have a pip to provide a reference point for the visually impaired.

- The panel shall include an EQUALITIES ACT 2010 yellow & black proximity reader with a key symbol.
- Buttons will be vandal resistant pressure sensitive buttons

Call Progress Display – OLED

- The panel shall be provided with an electronic Call Progress text display, visible through a 5mm thick lexan window.
- It shall be able to display at least 2 rows of 16 characters. Each character shall be formed on a 7x5 pixel matrix (minimum). 7 segment LED displays shall not be used.
- Character height shall be nominally 5mm or greater.
- Display technology shall be OLED (organic light emitting diode) white text on a black background providing superior viewing angles, contrast, brightness and sunlight readability on digital systems.

The following messages shall be displayed:

- Block name when there is no call on the system
- system instructions
- the flat number being called
- call answered
- call hung up
- call cancelled
- no reply
- system busy
- Privacy feature activated in the flat
- Door open (with countdown timer)

NB: A suitable voice over module shall be included for speech annunciation of call progress messages.

Braille Characters

Braille numbering shall be included below the associated button on functional call panels as an option

Extension Sounder and Beacon

Where suitable, extension sounder/beacons shall be attached to handsets to aid residents that have a hearing impairment.

Fob reader

- There shall be a cut out in the panel for a key fob reader. The reader shall have a EQUALITIES ACT 2010 compliant yellow background with a contrasting key-shaped logo.

- The surface of the reader shall have a raised key shape to allow it to be located by the visually impaired

Readers

Fob reader

The following requirements apply to any readers installed to locations where no panel is located;

- TBC

Audio

Speaker Amplifier Unit and Microphone

- The speaker amplifier unit (speaker amp) shall be designed to achieve maximum volume with minimal feedback (sometimes referred to as the “Larsen Effect”).
- The speaker amp shall be mounted using stainless steel studs welded to the rear face of the panel.
- It shall be possible to adjust both the microphone gain and the loudspeaker volume.
- The audio circuits shall provide clear operation over the frequency range 200Hz to 8kHz.
- The panel shall provide audible feedback of system activity through the speaker.

Door Circuitry

Door Control Circuitry – functional

- It shall be possible to control 2 main entrance doors with the Entrotec Elite system. If more than 2 main entrance doors are required, then Entrotec APEX system shall be used.
- The door control circuit board shall contain separate protection fuses for the control circuitry and the door lock supply.
- It shall be possible to configure the lock release time between 1 – 60 seconds either via an on-board adjuster.
- A powered output shall be provided for both “Fail Safe” and “Fail Secure” electric locking mechanisms. Suppression shall be provided to protect the circuitry from high voltages from unsuppressed electromagnetic locks.
- Inputs shall be provided for Push To Exit button and Fire Switch.
- A door contact input shall be provided for an Anti-Tailgate feature. When set, this overrides the door release timer so that the door locks as soon as it closes.

- Where video systems are required, all video marshalling, switchers and amplifiers will be included.

Door Control Circuitry – digital

- It shall be possible to network up to 16 doors on a single door controller. Each door board shall be addressable.
- The door control circuit board shall contain separate protection fuses for the control circuitry and the door lock supply.
- It shall be possible to configure the lock release time between 1 – 60 seconds either via an on-board adjuster or via remote set-up software.
- A voice over module board shall be added for speech annunciation of call progress messages.
- A powered output shall be provided for both “Fail Safe” and “Fail Secure” electric locking mechanisms. Suppression shall be provided to protect the circuitry from high voltages from unsuppressed electromagnetic locks.
- Inputs shall be provided for Push To Exit button and Fire Switch.
- A door contact input shall be provided for an Anti-Tailgate feature. When set, this overrides the door release timer so that the door locks as soon as it closes.
- The door contact input may also act as a “soft close” feature so that the door only locks when it is closed, i.e. you do not get the heavy “thump” when magnetic locks are used to secure a door.
- There shall be an output to control other equipment, e.g. a CCTV camera switch, when there is a call at the door.
- Where video systems are required, all video marshalling, switchers and amplifiers will be included.

CONTROL EQUIPMENT

Cabinets

- All control equipment shall be housed in powder coated, fully welded “Sarel” style steel cabinets.
- Cabinets shall be fitted with LK1242E security barrel lock(s).
- Cabinets may be fitted with hasp and staples and secured with padlocks if they are not going to be mounted in secure cupboards (To be agreed as a variation with GP).
- The cabinet door seal shall be rated to at least IP66.
- Control equipment shall be mounted onto a metal chassis plate that is bolted into the cabinet.
- The cabinet door shall be earth bonded to the cabinet body.
- The cabinet chassis plate shall be earth bonded to the cabinet body.
- Every cabinet shall be bonded to a local earthing point within the building.
- The cabinet door hinge shall be reversible to suit the mounting location.

PSU

Power Supply Unit

- The door entry and access control system shall be powered by a PSU specifically designed to cater for the current requirement of the system.
- Where necessary, additional PSUs may be installed within the system to ensure required current is provided to all areas.
- The PSU shall be fed from a 240VAC supply, wiring to be in accordance with the latest edition of the BS7671 wiring regulations.
- There shall be a minimum 6A double pole RCBO/AFDD for the incoming mains supply.
- Battery backup shall be available to power the system for 4 hours in the event of a mains failure.
- The battery circuit shall automatically switch in on loss of mains supply to ensure unbroken service. The battery circuit shall automatically switch out when mains supply is restored.
- The batteries shall be maintained under trickle charge conditions suitable for the battery technology.

Timers

Trades Timer

Trade Timers shall be recorded as a variation & must be approved by GP CA.

- It shall be possible to release the door to allow trades access at set times during the day. The timer for this may be either a discrete digital time clock, the door entry systems integrated real time clock or the access control system's integrated time clock.
- The time clock shall automatically adjust for GMT/BST daylight saving.
- There shall be at least 6 on/off time periods per day.
- It shall be possible to have different on/off periods for each day of the week.
- **In the case of Secured by Design new build properties trades buttons are not permitted.**

Residents Equipment

General

- Each dwelling shall be provided with a unit to allow the resident to accept calls from the entry control panel and release the appropriate entry door.
- All resident equipment shall be manufactured from white ABS plastic.

Residents Equipment

- Equipment shall be designed to be securely fastened to resist damage caused by attack and impact.
- A User Guide shall be provided for each unit.

Audio Handsets

- Privacy timing shall be adjustable between 5 minutes and 8 hours by means of jumper links. The default setting shall be 8 hours.
- The handset shall provide full duplex two-way speech with the door panel.
- It shall be possible to adjust the ring call tone volume on each handset at installation.
- There shall be a large button to release the door.
- There shall be a button to operate the Privacy feature.
- There shall be an optional additional button used for other features such as Concierge Call.
- A red LED shall be provided to indicate the Privacy feature is enabled.
- A green LED shall be provided to indicate the entrance door is open.
- There shall be printed icons associated with feature buttons and indicators.
- There shall be knockouts in the handset base to allow cable entry via mini trunking on any side.
- The handset shall be easy to remove and replace in the cradle.
- It shall be possible to attach an extension sounder or beacon.
- It shall be possible to attach an extension handset.
- It shall only be possible to release the door once the flat has been called and the handset picked up.

Video Handsets

- Privacy timing shall be adjustable between 5 minutes and 8 hours by means of jumper links. The default setting shall be 8 hours.
- The handset shall provide full duplex two-way speech with the door panel.
- The handset shall provide colour video image via a 4.3" screen from main entrance panel and sub entrance panels.
- It shall be possible to adjust the ring call tone volume on each handset at installation.
- There shall be a large button to release the door.
- There shall be a button to operate the Privacy feature.
- There shall be an optional additional button used for other features such as Concierge Call.
- A red LED shall be provided to indicate the Privacy feature is enabled.
- A green LED shall be provided to indicate the entrance door is open.
- There shall be printed icons associated with feature buttons and indicators.
- There shall be knockouts in the handset base to allow cable entry via mini trunking on any side.
- The handset shall be easy to remove and replace in the cradle.

Residents Equipment

- It shall be possible to attach an extension sounder or beacon.
- It shall be possible to attach an extension handset.
- It shall only be possible to release the door once the flat has been called and the handset picked up.

TOKEN ACCESS CONTROL – KMS Protocol

Proximity Access Control System Minimum Functionality

- The residential access control system shall have a permanent 4G (or equivalent hard wired) connection to site to ensure effectively live communications to and from site. (GSM not acceptable) control and monitor up to 10,000 tokens from each controller.
- On site access control events shall be retrieved and available to view within a maximum of 5 minutes of the event.
- Predesignated high priority access control security alarms shall be reported, with the ability to alert predetermined staff/contractors automatically via email or text message.
- The residential access control administration software shall be accessible via a web interface from any internet enabled device.
- Authorised resident/contractor/staff fobs shall be able to be added/administered/deleted from any web enable device without the need for an administration fob reader
- When any fob (be it resident/contractor/staff) is deleted/disabled from the system, this shall effectively be immediate with the fob being locked out of ALL connected blocks within 5 mins.
- When adding contractor/staff fobs to the system they must be downloaded to all applicable connected blocks within 5 minutes enabling access into these blocks.
- Each and every connected block/site shall be displayed on an interactive map showing the geographic location and current state including latest 4G signal strength (were appropriate).

Each residential access control system controller shall have the ability to: -

- Monitor the door for being forced or left open.
- Monitor the usage of the emergency override (fireman' switch)
- Monitor and control operational times of a trades button (where used)
- Monitor and control additional doors and/or third-party equipment.
- Allow for two monitored override inputs to release the local door and to release all doors on the system.
- Signal a door entry system to release the door and/or control the lock using a resettable fuse.
- Allow authorised users to open doors remotely via any web enabled device.

TOKEN ACCESS CONTROL – KMS Protocol

- When using 4G communication the system controller shall have control over the modem to enable signal monitoring and modem re-sets (as and when required).
- The system will have the ability to carry out automatic modem resets periodically to ensure communication integrity.
- The system should allow the user to allocate pre-determined doors to be opened at set times/dates by a member of staff/contractor/third party using a mobile device and 2 factor authentications.
- It must be possible to connect remote digital screens to the system to allow the client to send information/alerts/messages to the screen/s from any web enabled device.
- The system controller shall have the capability of controlling and monitoring two doors and be expandable on a door by door basis up to 32 doors maximum before a secondary 4G SIM is required.

Electronic Keys (Tokens/Fob)

- Each electronic key known as a Token/Fobs shall have a unique random code, with sufficient different random combinations to ensure system integrity. The system/s will be supplied with all necessary tokens pre-programmed for all flats. Any additional tokens for spares or staff/contractors will be programmed to the client's cloud database ready to be activated when required. The number of spare/service/admin tokens should be agreed with the client. All controllers shall have a minimum capacity of at least 10,000 tokens
- The token shall be capable of attachment to a key ring (via a fixed eyelet) and shall be read when held amongst mechanical keys.
- The manufacturer shall provide the contractor the correct (client specified) number of access control tokens for each address. Where multiple tokens are supplied to any flat, they will be of different colours for ease of identification and minimise the number of future replacement tokens (Client to select colour). These tokens shall be pre-programmed by the manufacturer in line with the client's requirements. The pre-programmed tokens will be supplied to the contractor as part of the full access control system. There are generally 10 different token colours available and the contractor should ensure any project/site-specific colour requirement specified by the client is adhered to. The identification of the token should be via an alpha-numeric code. Via the web-based software, the codes should relate to the address to which each token is issued, giving as a minimum, the flat number they are issued to and the issue number.
- KMS fobs come in a range of 10 fixed colours either in standard frequency or high frequency, the fobs are covered by a lifetime guarantee against electrical failure.

Residents Fobs

- Fobs required for Great Places Housing Group are as follows...
- Two fobs per dwelling, which shall be coloured, Yellow and Blue
- Where additional fobs are required per dwelling they will be issued as per table 4D

TOKEN ACCESS CONTROL – KMS Protocol

Staff and Contractor Fob

- Staff fobs will be Clear, and contractor's fobs will be Grey (or as specified by the client).
- All key fobs supplied to the contractor shall have been identified and entered into the web-based software by the manufacturer and be allocated to the relative readers and controlled doors as required. Additional fobs can be added by the client at any time after the system has been commissioned and handed over.

PTEs

PUSH TO EXIT BUTTON

- A push to exit button shall be used to release doors fitted with magnetic and "fail safe" electro-mechanical locks.
- The PTE shall have a double pole switch. A Normally Closed pole shall be used to break the lock supply. A Normally Open pole shall be used to trigger the door release timer.
- Options shall be available for flush fit or surface mount in a green powder coated steel backbox.
- The faceplate shall be made from 1.5mm 10SWG 316 Marine grade brushed stainless steel.
- All PTEs shall be of a contact-less type: infrared no touch button with adjustable proximity range. They shall have illuminated red and green changing LED & be of a stainless-steel construction.
- All PTEs shall have Adjustable proximity range, Adjustable door opening time & Adjustable LED colour change capable of control on 12/24vDC circuits.

Firefighters Switch

- Each main entrance door shall be fitted with a firefighter's switch to allow the door to be released in an emergency. Rear entrance/side entrance doors with access control shall also be fitted with a firefighter's switch
- The Firefighter's Switch shall be an FS4 type, with a double pole switch. A Normally Closed pole shall be used to break the lock supply. A Normally Open pole shall be used to trigger the door release timer. The switch shall be operated by an articulated drop key.
- The Firefighter's switch shall comprise three parts; 2.5mm 316 stainless steel faceplate, bezel back box and removable switch assembly.
- When assembled, the drop key's insertion tube shall protrude from the faceplate to ensure that the drop key does not scratch the faceplate.

Firefighters Switch

- The faceplate shall be engraved “Fire Switch” in 12mm high characters, with red backfill enamel paint.
- The faceplate shall be secured with 4 vandal resistant screws.

MARSHALLING BOX

General: The individual cabling to each dwelling telephone location shall emanate from a Marshalling Box/Hub Distribution Unit.

Enclosure

- IP 66 Sarel cabinet fixed to structure of building with non-ferrous screws.
- Cabinet door, reversible to suit cupboard it is fitted with in.
- Cabinet door locked with LK1242E security barrel lock(s).
- All enclosures shall be fitted with in a suitable lockable cupboard.
- If a suitable cupboard is not available the contractor shall consult the CA priory to equipment enclosures being fitted in a corridor or an exposed area.
- The enclosure shall be fitted with a hasp and staple in addition to the standard Sarel cabinet lock.
- The installer shall obtain suitable padlocks from GREAT PLACES Neighbourhoods Department and fit one per cabinet.
- ALL boxes are to be fitted with a hasp and staple and locked with a padlock.

(IFAM KA1)

- Provide engraved Trifoliate label fitted to cabinet door.

Engraved “Door Entry System”

Requirements

- Whole unit to consist of detachable modular printed circuit boards fitted to removable steel chassis plates.
- Each circuit to be individually isolated and fuse protected.
- Ensure breakdown from any individual dwelling does not affect any other sector of system.
- Complete LED status and fault indicators.

MARSHALLING BOX

- Ensure complete secrecy of conversation so that all conversations are private.
- Ensure all connections are of a plug-in connector type.
- The cabinet shall be fitted with a hasp and staple
- Provide written label fitted to the inside cabinet door. Detailing the dwellings connected and the related marshalling port the dwelling cable is connected to.
- THE CHASSIS PLATE MUST BE REMOVED PRIOR TO DRILLING ANY HOLES TO THE CABINET.

Locations for installations

- Locate in concealed areas e.g. Storeroom / risers / false ceilings (relative to floor served where possible).
- Not in public areas.

Locking Devices

General

Magnetic Lock Type

- Flush galvanised steel box. (120 x 120 including welding)
- Fix box through back with non-ferrous screws.
- Provide concealed conduit installation.
- Fire switch shall not have conduit or cabling leaving the bottom of the fireman's back box to enter the top of the call panel or standalone reader back box.
- All conduit and cable entry shall be from the side to avoid any water being able to run down conduit or cabling and entering the call panel.
- All conduit and cabling shall be side entry.
- The door entry control panel back box and the fireman's switch shall be linked using flush mounted 20mm galvanised conduit with no junction boxes or inspection elbows along the route.
- The fireman's switch back box shall be solely for this purpose and shall not be used as a through box.
- The installation contractor shall NOT directly link the cables from the bottom of the fireman switch to the top of the call panel. The cables shall leave the bottom
- Each entry door wherever possible shall be outward opening, except those for those indicated in the schedule or where the opening width will not allow for the use of magnetic locks.

These locks shall be supplied by the door entry manufacturer and handed/free issued to the door manufacturers as described elsewhere for construction into the door frames or by Multisteel and shall be: -

- ✓ Securitron Maglock M32 series

Locking Devices

- ✓ Two Per door
- ✓ MED's & SED's - 1 No. M32SC – 12NM fitted with an internal monitoring switch and 1 No. M32-12NM per door. RED's - 2 No. M32-12NM per door.

Lock Release Type

- Where the structural opening does not provide for a clear door opening of 900mm or doors are inward opening the following may be incorporated in lieu of magnets or on inward opening doors.
- Where the doors are not controlled using Proximity access control then Bell 208 high security lock releases shall be fitted with all associated lock cases and half set lever furniture. The installer shall also supply suited mastered cylinders with three keys per flat.
- In the event the bell208 lock applications won't work due to fitment, the use of An ASSA high security monitored 5331A/ lock release shall be fitted with an ASSA 8761 emergency night latch with dead locking latch, ASSA 640 lever ASSA 20A half set and blind rose shall be used, or where a pull knob is required ASSA8561 half set with pull knob (ASSA496).
- No 16-face plate for timber doors
- No. 24 face plate for steel doors
- Where indicated on smaller blocks in the block's appendixes showing a particular spec the ASSA Medium Security lock release shall be used. MED's fitted 5114A/ and RED's fitted with together with suitable face plate to suit lock case either 5,10, 510 or 505.

Magnetic lock Installation

- Provide one monitored & one unmonitored Securitron magnetic locks per MED door.
- Provide two unmonitored Securitron magnetic locks per RED door.
- Contractor to fit the top monitored magnetic lock and wire the door contact to door entry monitoring circuit.
- Contractor to fit the unmonitored magnetic lock to the bottom. Outward opening door (unless agreed with CA). Outward opening door (unless agreed with CA).
- Ensure magnet built into vertical jamb ¼ distance from floor ¼ distance from top of frame.
- Locate strike plates onto door and align with magnets (front fix with vandal resistant security Allen key screw with centre pin and retaining box).
- Install in accordance with wiring manufacturer's recommendation.
- MED Locks to be powered from Door Entry System, SED & RED Locks powered from KMS controller.
- Minimum cable size to serve locks to be 1.5mm to 2.5mm max if long runs.

Secure By Design Locking Devices

Locking Devices

- Where Secure By Design accreditation is required the door manufacturer shall
- ideally provide the locking devices as named above. Where this is no possible
- they shall provide the lock that the SBD door has been tested with. Details shall
- be provided to the door entry manufacturer.
- Multipoint locking devices shall NOT BE ACCEPTABLE on any communal
- entrance doors. Except on individual flats entrance doors installation where
- SBD PAS24 Wink Haus AV2E locks shall be fitted to the flat entrance door.
- The Locking devices shall be:
 1. Fail Safe
 2. 12 Volts DC – Maximum Current 1 amp
 3. Monitored

Operation Requirements for Door Release

- Actuation of door button on tenant's handset.
- Operation of Access Control System.
- Actuation of Push to Exit button.
- Operation of Fireman's Switch.

Emergency Break Glass

- Only where indicated shall a green break glass unit be fitted.
- Generally, these are not fitted on a on general housing blocks of flats.
- As agreed, on individual project & doors by the CA.
- Where any BGU is deemed as required, it shall be a resettable type with plastic hinge cover. Positioned away from the PTE NOT NEXT TO IT.
- Any BGU installed shall be monitored via the KMS system so in the event of an activation the system shall notify GP.
- Any BGU installed shall have an integral adjustable LED & Sounder such as the CP3-LSRC.

IRS/COMMUNAL ARIAL SYSTEMS

General

- When the building has a need for the residents to receive CCTV images via the IRS system on the residents TV, the contractor shall supply a Entrotec Dome camera that shall either be wall or ceiling fixed to look down & across at the MED to see both the caller and area around the door.
- Camera signal linked to buildings CCTV system and recording equipment.
- Image only to be sent to the IRS/communal aerial system on activation of the door entry system.
- Door entry equipment shall be interfaced so that the signal from the camera is switched via a timer relay and only active when the door entry system is in use, limiting the time the image is being shown on the residence television set.

IRS/COMMUNAL ARIAL SYSTEMS

- An interface relay shall close a contact and allow the CCTV image to be sent to the IRS/communal aerial system allowing the image to be viewed on the residents TV. This shall only occur when the door entry system is in use.
- Final connections to the IRS/ communal aerial system to be carried out by the IRS maintenance or installation company.

TBC

TBC

END.