Lavigne Lonsdale

Truro City Council

Truro WC

Truro WC, The Green, Green Street, Truro, Cornwall TR1 2LH

Tender

16-05-2023

Refurbishment of Existing Public WC

Contents

C20
Demolition

To be read with preliminaries/ general conditions.

5 Desk study/ survey

1. Scope: Before starting deconstruction/ demolition work, examine available information, and carry out a survey of:
   1.1. the structure or structures to be deconstructed/ demolished,
   1.2. the site on which the structure or structures stand, and
   1.3. the surrounding area.
2. Report and method statements: Submit, describing:
   2.1. Form, condition and details of the structure or structures, the site and the surrounding area.
      2.1.1. Extent: within & immediately outside the site boundary shown on the drawings.
   2.2. Proposed programme of work, including sequence and methods of deconstruction/ demolition.
   2.3. Arrangements for protection of personnel and the general public, including exclusion of unauthorized persons.
   2.4. Arrangements for control of site transport and traffic.
   2.5. Special requirements: Site waste management plan development and proposals
3. Format of report: Written with Photographs. Digitally issued via email.

35 Live foul and surface water drains

1. Drains and associated manholes, inspection chambers, gullies, vent pipes and fittings
   1.1. Protect and ensure normal flow during deconstruction/ demolition work.
   1.2. Make good any damage arising from deconstruction/ demolition work.
   1.3. Leave clean and in working order at completion of deconstruction/ demolition work.
2. Other requirements: None

45 Services to be retained

1. Damage to services: Give notice, and notify relevant service authorities and/ or owner/ occupier regarding damage arising from deconstruction/ demolition.
2. Repairs to services: Complete as directed, and to the satisfaction of the service authority or owner.

50 Workmanship

1. Standard: Demolish structures in accordance with BS 6187.
2. Operatives
   2.1. Appropriately skilled and experienced for the type of work.
   2.2. Holding, or in training to obtain, relevant CITB Certificates of Competence.
3. Site staff responsible for supervision and control of work: Experienced in the assessment of risks involved and methods of deconstruction/ demolition to be used.

55 Site hazards

1. Precautions: Prevent fire and/ or explosion caused by gas and/ or vapour from tanks, pipes, etc.
2. Dust: Reduce airborne dust by periodically spraying deconstruction/ demolition works with an appropriate wetting agent. Keep public roadways and footpaths clear of mud and debris.
   2.1. Lead dust: Submit method statement for control, containment and clean-up regimes.

3. Site operatives and general public: Protect from health hazards associated with vibration, dangerous fumes and dust arising during the course of the Works.

65 Structures to be retained

1. Extent: Primary steel structure, surrounding external walls & some internal walls.
2. Parts which are to be kept in place: Protect.
3. Interface between retained structures and deconstruction/ demolition: Cut away and strip out with care to minimize making good.

70 Partly demolished structures

1. General: Leave partly in a stable condition, with adequate temporary support at each stage to prevent risk of uncontrolled collapse. Make secure outside working hours.
2. Temporary works: Prevent overloading due to debris.
3. Access: Prevent access by unauthorized persons.

71 Dangerous openings

1. General: Provide guarding at all times, including outside of working hours. Illuminate during hours of darkness.
2. Access: Prevent access by unauthorized persons.

76 Asbestos-containing materials – unknown occurrences

1. Discovery: Give notice immediately of suspected asbestos-containing materials when discovered during deconstruction/ demolition work. Avoid disturbing such materials.
2. Removal: Submit statutory risk assessments and details of proposed methods for safe removal.

78 Unforeseen hazards

1. Discovery: Give notice immediately when hazards, such as unrecorded voids, tanks, chemicals, are discovered during deconstruction/ demolition.
2. Removal: Submit details of proposed methods for filling, removal, etc.

85 Site condition at completion

1. Debris: Clear away and leave the site in a tidy condition.

90 Contractor's property

1. Components and materials arising from the deconstruction/ demolition work: Property of the Contractor except where otherwise provided.
2. Action: Remove from site as work proceeds where not to be reused or recycled for site use.

Ω End of Section

F10
Brick/ block walling

Clauses

36 Concrete common blockwork

1. Description: TO INTERNAL WALLS
2. Blocks: To BS EN 771-3.
   - 2.1. Manufacturer: Contractor's choice
   - 2.2. Product reference: Contractor's choice
   - 2.3. Configuration: Group 1
   - 2.4. Compressive strength: 7.3 N/mm²
   - 2.5. Category: I
   - 2.6. Freeze/ thaw resistance: Not applicable
   - 2.7. Thermal properties: Not applicable
   - 2.8. Recycled content: 50% (minimum) to BS EN ISO 14021
   - 2.9. Work sizes (length x width x height): 440 x 100 x 215 mm & 440 x 140 x 215 mm
     - 2.9.1. Tolerance category: D2
   - 2.10. Special shapes: None
   - 2.11. Additional requirements: None
3. Mortar: As section Z21.
   - 3.1. Standard: To BS EN 998-2
   - 3.2. Mix: 1:1:6 cement:lime:sand
4. Bond: Half lap stretcher

51 Basic workmanship

1. Bond where not specified: Half lap stretcher.
2. Mortar joints: Fill all vertical joints. Lay bricks, solid and cellular blocks on a full bed.
3. Daily lift height (maximum) for walling using cement gauged or hydraulic lime mortar: 1.5 m for any one leaf.

60 Alterations/ Extensions

1. Coursing: Line up with existing work.
2. Block bonding new walls to existing: Unless agreed otherwise cut pocket requirements as follows:
   - 2.1. Width: Full thickness of new wall.
   - 2.2. Depth (minimum): 100 mm.
   - 2.3. Vertical spacing: As follows:
   - 2.4. Brick to brick: 4 courses high at 8 course centres.
   - 2.5. Block to block: Every other course.
   - 2.6. Pocket joints: Fully filled with mortar.
3. New and existing facework in the same plane: Bonded together at every course to achieve continuity of bond and coursing.
4. Support of existing work: Fully consolidate joint above inserted lintel or masonry with semidry mortar to support existing structure.

Ω End of Section

F30
Accessories/ sundry items for brick/ block/ stone walling

To be read with preliminaries/ general conditions.

18 Cavity closers

1. Description: Rigid type to suit cavity width found once new door openings are formed & proposed drawn detail.
2. Manufacturer: Contractor's choice
   2.1. Product reference: Submit proposals
3. Accessories: Product specific: To include integral dpc, integral fixing cramp(s) & insulation

39 Wall starters and connectors

1. Manufacturer: Leviat
   1.1. Contact details
      1.1.1. Address: President Way
      President Park,
      Sheffield
      South Yorkshire
      S4 7UR
      1.1.2. Telephone: +44 (0) 114 275 5224
      1.1.3. Web: www.leviat.com
      1.1.4. Email: info.uk@leviat.com
   1.2. Product reference: Ancon 36/8 Wall Extension System
2. Material: Stainless steel grade 1.4301 (304).
3. Tie type: Channel and ties.
4. Sizes
   4.1. Channel length: 2400 mm long channel section.
5. Accessories: SP36 ties complete with plugs and screws.

48 Damp-proof course

1. Description: Width & type to match existing
2. Manufacturer: Contractor's choice
   2.1. Product reference: Contractor's choice

66 Installation of horizontal dpcs

1. Placement: In continuous lengths on full even bed of fresh mortar, with 100 mm laps at joints and full laps at angles.
2. Width: At least full width of masonry leaf. Edges of dpc not covered with mortar or projecting into cavity.
3. Overlying construction: Immediately cover with full even bed of mortar to receive next masonry course.
4. Overall finished joint thickness: As close to normal as practicable.
5. Ground level dpcs joint with damp-proof membrane: Continuous and effectively sealed.
6. Low level dpcs in external walls: Install not less than 150 mm above adjoining finished ground level.
7. Sill dpcs form and placement: In one piece and turned up at the back when the sill is in contact with inner leaf.

8. Dpcs crossing cavity: Provide support to prevent sagging.

74 Installation of vertical dpcs

1. Form: In one piece wherever possible.
   1.1. Joints: Upper part overlapping lower not less than 100 mm.
2. Dpcs to jambs of openings: Fully lap behind cavity tray/ lintel at head and over horizontal dpc at sill. Project not less than 25 mm into cavity and maintain full contact with frames.
3. Fixing of jamb dpcs to back of built-in timber frames: Secure using galvanized clout nails or staples.

Ω End of Section

K10
Gypsum board dry linings/ partitions/ ceilings

To be read with preliminaries/ general conditions.

25 Ceiling lining on timber

1. Description: Replace existing ceiling in each space
2. Substrate: Expect timber joists
3. Metal resilient (acoustic) bars: Not required
4. Fire performance
   - 4.1. Reaction to fire: Not required
   - 4.2. Fire resistance of complete ceiling assembly: Not required
5. Linings: 12.5 mm Gyroc MR Plasterboard
   - 5.1. Fixing: Screws at 225 mm centres
6. Finishing: Skim coat plaster
   - 6.1. Primer/ Sealer: Not required
7. Accessories: Metal beads/ stops recommended by the board manufacturer & ask shown on the drawings.
8. Other requirements: Changing Place: Drop Down Loft Access Hatch with Secure CamLock Key Lock (550mm square, insulated, white, hinged) - Manthorpe Building Products - GL271F or similar equal

36 Wall lining system (timber framing)

1. Description: Internal Changing Place Wall
2. Manufacturer: Knauf, Aquapanel
   - 2.1. Product reference: Aquapanel Cement Board Indoor
3. Wall: Treated Timber Stud
4. Cavity between wall and back of lining: 150mm to allow service zone between / behind
   - 4.1. Framing centres: 600 mm
5. Linings: Two layers of 12.5mm thick Aquapanel stagger fixed to timber studs behind.
   - 5.1. Screw centres: As per manufacturers recommendations
6. Access units: Required
7. Finishing: manufacturers standard in preparation of a wall tiled finish.
   - 7.1. Primer/ Sealer: As recommended by board manufacturer for improved moisture resistance
8. Accessories: Metal beads / stops as recommended by board manufacturer
9. Other requirements: N / a

Installation

60 Ceilings

1. Sequence: Fix boards to ceilings before installing walls and partitions finishes
2. Orientation of boards: Fix with bound edges at right angles to the outer walls & supports and with ends staggered in adjacent rows.
3. Two layer boarding: N / A

67 Skim coat plaster finish

1. Plaster type: ThistlePro Durafinish
   1.1. Thickness: 2-3 mm.
2. Joints: Fill and tape except where coincident with metal beads.
3. Finish: Tight, matt, smooth surface with no hollows, abrupt changes of level or trowel marks.

69 Installing beads/ stops

1. Cutting: Neatly using mitres at return angles.
2. Fixing: Securely using longest possible lengths, plumb, square and true to line and level, ensuring full contact of wings with substrate.
3. Finishing: After joint compounds/ plasters have been applied, remove surplus material while still wet from surfaces of beads exposed to view.

70 Additional supports

1. Framing: Accurately position and securely fix to give full support to: Existing Structure / Joists
   1.1. Partition heads running parallel with, but offset from main structural supports.
   1.2. Fixtures, fittings and service outlets. Mark framing positions clearly and accurately on linings.
   1.3. Board edges and lining perimeters, as recommended by board manufacturer to suit type and performance of lining.

87 Sealing gaps around service / svp penetrations

1. Sealing: Apply sealant to perimeter abutments and around openings as a continuous bead with no gaps.
2. Application: To clean, dry and dust free surfaces as a continuous bead with no gaps.
   2.1. Gaps greater than 6mm between floor and underside of gypsum board: After sealing, fill with joint compound.

94 Fixing gypsum board to timber

1. Fixing to timber: Securely at the following centres (maximum):
   1.1. Nails: 150 mm.
   1.2. Screws to partitions/ wall linings: 300 mm. Reduce to 200 mm at external angles.
   1.3. Screws to ceilings: 230 mm.
2. Position of nails/ screws from edges of boards (minimum)
   2.1. Bound edges: 10 mm.
   2.2. Cut/ unbound edges: 13 mm.
3. Position of nails/ screws from edges of timber supports (minimum): 6 mm.

Finishing - Not Used

Ω End of Section

K11
Rigid sheet flooring/ sheathing/ decking/ sarking/ linings/ casings

To be read with preliminaries/ general conditions.

10 Wood-based sheets generally

1. Standard: To BS EN 13986.
    1.1. Evidence of compliance: All sheets to be UKCA/ UKNI/ CE marked. Submit Declaration of Performance (DoP).

40 Plywood roof decking

1. Substrate: Existing Timber Joists
    1.1. Additional supports: As / if required, treated SW to match existing roof structure.
2. Decking: Plywood manufactured to the relevant standards and quality control procedures specified in BS EN 636, and so marked.
    2.1. Finish: Natural
    2.2. Use class: Class 3
    2.3. Grade: B Grade
    2.4. Nominal thickness/ number of plies: 18mm
    2.5. Edges: square-edged boards
3. Setting out: Long edges running across supports. End joints central over joists and staggered.
4. Fixing
    4.1. Fasteners: 50 x 3.35 mm annular ringed shank nails
    4.2. Fixing centres:
    4.3. Along each support: 25 mm from each long edge and at maximum 300 mm centres between.
    4.4. Around perimeter of roof area: Maximum 300 mm centres.
5. Expansion provision
    5.1. Clear expansion gap around perimeter of roof area and upstands: 10 mm.

85 Fixing generally

1. Timing: Building to be weathertight before fixing boards internally.
2. Moisture content of timber supports (maximum): 18%.
3. Boards/ sheets: Fixed securely to each support without distortion and true to line and level.
4. Joints between boards: Accurately aligned, of constant width and parallel to perimeter edges.
5. Methods of fixing, and fasteners: As section Z20 where not specified otherwise.
6. Fasteners: Evenly spaced in straight lines and in pairs across joints.
    6.1. Distance from edge of board: Sufficient to prevent damage.
7. Surplus adhesive: Removed as the work proceeds.

Ω End of Section

K20
Timber board flooring/ sarking/ linings/ casings

To be read with preliminaries/ general conditions.

30 Timber board

1. Description: New Soffit Board to existing metal clad soffit
2. Substrate: Pressure Treated 25 x 50mm Tiling battens at 400mm crs (equally spaced to miss through soffit luminaires /vents / penetrations to create a perimeter frame with intermediates running at 90 degrees to)
3. Boards
   - 3.1. Type: 18mm thick WBP Plywood
   - 3.2. BS EN 636 Plywood Class: III or 3
   - 3.3. Plywood Surface Grade: AB Grade
   - 3.4. Edge profile: Square edge
   - 3.5. Finished thickness: 18 mm
   - 3.6. Moisture content at time of fixing: 12-16%
4. Fixing: 40 mm x 2.65 mm A4 Grade Stainless Steel, round head annular ringed shank nails, at max. 300mm crs to perimeter of each board & intermediate battens / substrate.

Workmanship

50 Fixing boards

1. Protection during and after installation: Keep boards dry, clean and undamaged.
2. Boards to be used internally: Do not install until building is weathertight.
3. Moisture content of timber supports at time of fixing boards: Not more than 18%.
4. Fixing: Fix boards securely to each support to give flat, true surface free from undulations, lipping, splits and protruding fasteners.
5. Timber movement: Position boards and fixings to prevent cupping, springing, excessive opening of joints and other defects.
6. Heading joints: Tightly butted, central over supports and at least two boards widths apart on any one support.
7. Edges: Plane off proud edges.
8. Exposed nail heads: Neatly punch below surface.

Ω End of Section

L20
Doors/ shutters/ hatches

To be read with preliminaries/ general conditions.

10 Timber procurement

1. Timber (including timber for wood-based products): Obtained from well-managed forests and/ or plantations in accordance with:
   1.1. The laws governing forest management in the producer country or countries.
   1.2. International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
2. Documentation: Provide either in accordance with chain of custody certification scheme requirements:
   2.1. Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied; or
   2.2. Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood-based products.
3. Chain of custody certification scheme: In accordance with UK Government Timber procurement policy (UKTPP), i.e. FSC, GiB or PEFC
   3.1. Other evidence: None

20 Existing Wood Flush Doors (metal faced) & Frames

1. Description: Carefully remove existing internal cubicle doors & hardwood frames (2 x Male & 3 x Female). Restore doors & frames to match original quality (using existing framing / wood from the removed & redundant doors & frames).
   Note: each door to be turned around so the hinged / hung side becomes the exposed side with the lock / latch ironmongery in.
   Repaint doors & frames (spray not brush), install new ironmongery (except hinges if they are still in good condition) & reinstall.
2. Manufacturer: N / A
   2.1. Product reference: N / A
3. Facings: To match existing
4. Lippings: To match existing
5. Preservative treatment: N / A
6. Finish as delivered: Adequately sand & prepare, then spray paint finish. Type & Colour: to be agreed with restorer / joiner.
7. Other requirements: Ironmongery:
   Supplier: Web: Allgood.co.uk
   Allgood plc
   63-83 Brearley Street
   Birmingham
   B19 3NT
   Modric Range:-
   5 x 771Q2530 - Modric Disabled WC Turn and Emergency Release Indicator Set, Finish: SS.
   5 x 6598CBB (back to back pairs) Modric Ø19mm Cranked Pull Handle 400mm c/c

55 Doorsets

1. Description: EXTERNAL STEEL
2. Manufacturer: Titan Door Systems Ltd
   2.1. Product reference: Titan S-Series Flush Metal Doorsets

3. Finish as delivered: Galvanized & Marine Grade Polyester Powder Coated - Titan PPC Coating Standard - PC3
4. Ironmongery: Heavy duty, manufacturers standard. Refer to Door Schedule.
5. Perimeter seals: EPDM weatherseal
6. Thermal performance (U-value maximum): Manufacturer's standard
7. Fire performance
    7.1. Fire resistance: Not required
    7.2. Smoke leakage: Not required
    7.3. Reaction to fire: Not required
8. Other requirements: PPC Colour Finish: White (exact colour / RAL number to be confirmed / agreed when Titan's Drawings have been issued for Architect comment).
9. Fixing: Manufacturers Standard / Recommended.
    9.1. Spacing of fixings (frames not predrilled): Maximum 150 mm from ends of each jamb and at 600 mm maximum centres.

80 Sealing Tape

1. Sealant
    1.1. Manufacturer: Tremco-Illbruck
        1.1.1. Product reference: Compriband TP600 Expanding Tape - 20 / 8-1520 / 8-15
    1.2. Colour: Black / Dark-Grey
    1.3. Application: Prepare joints & install in accordance with manufacturer's recommendations, finished to a flat or slightly convex profile.

81 Sealant Joints

1. Sealant
    1.1. Manufacturer: Adshead Ratcliffe & Co Ltd
        1.1.1. Product reference: ARBOMERIC MP20 - MS10240CWH
    1.2. Colour: White
    1.3. Application: Prepare joints in accordance with manufacturers recommendations. Ensure Sealing Tape has been installed either side prior. Triangular fillets finished to a flat or slightly convex profile.

85 Fixing ironmongery generally

1. Fasteners: Supplied by ironmongery manufacturer.
    1.1. Finish/ Corrosion resistance: To match ironmongery.
2. Holes for components: No larger than required for satisfactory fit/ operation.
3. Adjacent surfaces: Undamaged.
4. Moving parts: Adjusted, lubricated and functioning correctly at completion.

Ω End of Section

M20
Plastered/ rendered/ roughcast coatings

To be read with preliminaries/ general conditions.

19 Multicoat render systems

1. Substrate preparation: StoPlex W.
2. First undercoat: As / if recommended by manufacturer.
3. Second undercoat: StoArmat Classic plus G cement free reinforcing render.
4. Final coat: StoSilco K1.0
5. Sealant movement joints
   5.1. Beads: Sto-Movement Joint Bead PVC-U.
   As recommended by manufacturer & required for installation.
   Sto corners beads to door reveals & reinforcement / anti-crack beads over existing perimeter plinth.
6. Substrate: Existing exposed aggregate fair-faced concrete blockwork.
7. Overall thickness: To suit application & in accordance with manufacturer's recommendations - 20mm envisaged.
8. Reinforcing mesh: Sto Glass Fibre Mesh.
9. Colour/ Aggregate: Marble White / 1.0mm grain size
10. Accessories: As recommended in each location by Sto for the installation.
11. Description: To each face of existing external walls, from 50mm off ground level to underside of clerestory glazed cill flashing.
12. Manufacturer: Sto Ltd
13. Contact details
    13.1. Address: Unit 700 Catesby Park
    Kings Norton
    Birmingham
    B38 8SE
    13.2. Telephone: +44 (0)330 024 2666
    13.3. Web: www.sto.co.uk
    13.4. Email: info.uk@sto.com
14. Undercoats
    14.1. Product reference: Sto Rend Flex Cote System

65 Mixing

1. Mixes: Of uniform consistence and free from lumps.
2. Contamination: Prevent intermixing with other materials.

67 Cold weather

1. General: Do not use frozen materials or apply coatings on frozen or frost bound substrates.
2. External work: Avoid when air temperature is at or below 5°C and falling or below 3°C and rising.

71 Suitability of substrates

1. General: Suitable to receive coatings. Sound, free from contamination and loose areas.
2. Cutting, chasing, making good, fixing of conduits and services outlets and the like: Completed.
3. Tolerances: Permitting specified flatness/ regularity of finished coatings.

4. Cleanliness: Free from dirt, dust, efflorescence and mould, and other contaminants incompatible with coatings.

82 Beads/ stops for external use

1. Standard: In accordance with BS EN 13914-1.
2. Materials: Plastics/ PVC
3. Fixing: Secure and true to line and level.
   3.1. Beads/ stops to external render: Fix mechanically.

87 Application of coatings

1. General: Apply coatings firmly and achieve good adhesion.
2. Appearance of finished surfaces: Even and consistent. Free from rippling, hollows, ridges, cracks and crazing.
   2.1. Accuracy: Finish to a true plane, to correct line and level, with angles and corners to a right angle unless specified otherwise, and with walls and reveals plumb and square.
3. Drying out: Prevent excessively rapid or localized drying out.
4. Keying undercoats: Cross scratch plaster coatings and comb render coatings. Do not penetrate undercoat.

93 Curing and drying of render coatings

1. General: Prevent premature setting and uneven drying of each coat.
2. Curing: Keep each coat damp by covering with polyethylene sheet and/ or spraying with water.
   2.1. Curing period (minimum): As render manufacturer's recommendations
3. Drying: Allow each coat to dry thoroughly, with shrinkage substantially complete before applying next coat.

94 Flatness/ surface regularity

1. Sudden irregularities: Not permitted.
2. Deviation of plaster surface: Measure from underside of a straight edge placed anywhere on surface.
   2.1. Permissible deviation (maximum) for plaster not less than 13 mm thick: 2 mm in any consecutive length of 1800 mm.

99 Render final coat – plain floated finish

1. Finish: Even, open texture free from laitance.

Ω End of Section

M40
Stone/ concrete/ quarry/ ceramic tiling/ mosaic

To be read with preliminaries/ general conditions.

5 Tiling to Walls

1. Tiles: To all Male, Female & Changing Place Walls + Cleaners Store (Sink splash-back only)
   - 1.1. Manufacturer/ Supplier: Domus Group - domusgroup.com
     - 1.1.1. Product reference: Spectrum - Porcelain Minimal DRS
   - 1.2. Colour: Female WC - DRS 25 with DRS 50 in each cubicle
     Male WC - DRS 49 with DRS 63 in each cubicle
     Changing Place - DRS 49
   - 1.3. Finish: Matt
   - 1.4. Size: Bar 592 x 96 mm (R)
   - 1.5. Thickness: 8.5
   - 1.6. Slip potential
     - 1.6.1. Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum) to BS 7976-1, -2 and -3: Not applicable
     - 1.6.2. Surface roughness (Rz) (minimum) in accordance with BS 1134: Not applicable
     - 1.6.3. Ramp test class: Not applicable
   - 1.7. Recycled content: Manufacturers standard
   - 1.8. Other requirements: TBC
2. Background/ Base: Existing / Aggregate Blockwork / Other
   - 2.1. Preparation: SBR bonding agent to existing wall tiles
3. Intermediate substrate: Not required
4. Bedding
   - 4.1. Walls: Adhesive bed notched trowel and buttering method, as clause 55
   - 4.2. Floors: Not applicable
   - 4.3. Reinforcement: Not applicable
   - 4.4. Adhesive to BS EN 12004-1: BAL or similar approved. Type to be agreed on site & suitable for application when existing tiles have been removed. Heavy Duty, suitable for an external application with a 25 year guarantee.
5. Joint width: To tile manufacturers recommendations
6. Grout: BAL or similar approved. Type to be agreed on site & suitable for application when existing tiles have been removed. Heavy Duty, suitable for an external application with a 25 year guarantee. - Colour: TBC / light to mid-grey
   - 6.1. Type/ classification: CG2WA
   - 6.2. Admixture: None
7. Movement joints: None envisaged
8. Accessories: Stop & Corner Beads as shown on the drawings - use Schluter Rondec-EB Brushed Stainless Steel to each exposed corner (size to suit location

15 New backgrounds/ bases

1. Background drying times (minimum)
   - 1.1. Brick/block walls: six weeks.
   - 1.2. Rendering: two weeks.
   - 1.3. Gypsum plaster: four weeks.

2. Base drying times (minimum)
   2.1. Concrete slabs: six weeks.
   2.2. Cement:sand screeds: three weeks.

20 Existing backgrounds/ bases generally

1. Efflorescence, laitance, dirt, loose and defective material: Remove and make good defective areas with materials compatible with background/base and bedding.
2. Deposits of oil, grease and other materials incompatible with the bedding: Remove.
3. Tile, paint and other nonporous surfaces: Clean.
4. Wet backgrounds: Dry before tiling.
5. Paint with unsatisfactory adhesion: Remove so as not to impair bedding adhesion.

25 New plaster

1. Plaster: Dry, solidly bedded, free from dust and friable matter.
2. Plaster primer: Apply if recommended by adhesive manufacturer.

30 Fixing generally

1. Colour/ shade: Avoid unintended variations within tiles for use in each area/ room.
   1.1. Variegated tiles: Mix thoroughly.
2. Adhesive: Compatible with background/ base.
3. Cut tiles: Neat and accurate.
4. Fixing: Provide adhesion over entire background/ base and tile backs.
5. Final appearance: Before bedding material sets, make adjustments necessary to give true, regular appearance to tiles and joints.
6. Deviation of surface: Measure from underside of a 2 m straightedge with 3 mm thick feet placed anywhere on surface. The straightedge should not be obstructed by the tiles/ mosaics and no gap should be greater than 6 mm, i.e. a tolerance of
7. Surplus bedding material: Clean from joints and face of tiles/ mosaics.

35 Setting out

1. Joints: True to line, continuous and without steps.
   1.1. Joints on walls: Horizontal, vertical and aligned round corners.
   1.2. Joints in floors: Parallel to main axis of space or specified features.
2. Cut tiles: Minimize number, maximize size and locate unobtrusively.
3. Joints in adjoining floors and walls: Align.
4. Joints in adjoining floors and skirtings: Align.
5. Movement joints: Where locations are not indicated, submit proposals.
6. Setting out of Tiling : Drawing references: Proposed Elevation Drawings.

55 Adhesive bed – notched trowel and buttering method to walls

1. Application: By floated coat of adhesive to dry background. Comb surface.
2. Tiling: Apply thin even coat of adhesive to backs of dry tiles. Fill any profiles. Press tiles firmly onto float coat.
3. Finished adhesive thickness: 3 mm or within the range allowed by the adhesive manufacturer.

70 Grouting

1. Sequence: Grout when bed/ adhesive has set sufficient to prevent disturbance of tiles.

2. Joints: 6 mm deep (or depth of tile if less). Free from dust and debris.
3. Grouting: Fill joints completely, tool to profile, clean off surface. Leave free from blemishes.
4. Profile: Slightly concave
5. Polishing: When grout is hard, polish tiling with dry cloth.

Ω End of Section

M50
Rubber/ plastics/ cork/ lino/ carpet tiling/ sheeting

To be read with preliminaries/ general conditions.

20 Particle-based enhanced wet area polyvinyl chloride (PVC) sheets

1. Description: - PLASTICS
2. Base: Existing Floor tiles
   - 2.1. Preparation: As clause 65 - floor manufacturers recommended self-levelling compound will / may be require
3. Fabricated underlay: None
4. Flooring roll
   - 4.1. Standard: To BS EN 14041.
     - 4.1.1. Evidence of compliance: Submit.
   - 4.2. Reaction to fire classification: Class Bfl
   - 4.3. Material: Homogeneous PVC to BS EN ISO 10581
   - 4.4. Manufacturer: Altro
     - 4.4.1. Contact details
       - 4.4.1.1. Address: Works Road
Letchworth Garden City
Hertfordshire
SG6 1NW
       - 4.4.1.2. Telephone: +44 (0)1462 480480
       - 4.4.1.3. Web: www.altro.com/uk
       - 4.4.1.4. Email: enquiries@altro.com
     - 4.4.2. Product reference: Altro Pisces
   - 4.5. BS EN ISO 10874 class: 34 / 43
   - 4.6. Slip potential
     - 4.6.1. Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum) to BS 7976-1, -2 and -3: > 50 wet / R11
     - 4.6.2. Surface roughness (Rz) (minimum) to BS 1134: > 20 wet
   - 4.7. Recycled content: Manufacturers standard
   - 4.8. Width: 2000 mm
   - 4.9. Thickness: 2 mm
   - 4.10. Colour/ pattern: ANCHOR
5. Adhesive (and primer if recommended by manufacturer): Altrofix 19+
6. Seam welding: Hot welding with matching Altro welding rod
7. Accessories: Coved Skirtings as clause 80 - 150mm high
8. Finishing: Clean and Seal in accordance with manufacturers recommendations
9. Other requirements: None

40 Laying coverings on new wet laid bases

1. Base drying aids: Not used for at least four days prior to moisture content test.
2. Base moisture content test: Carry out in accordance with BS 5325, Annexe A or BS 8203, Annexe A.
3. Commencement of laying coverings: Not until all readings show 75% relative humidity or less.

65 Laying coverings

1. Base/ substrate condition: Rigid, dry, smooth, free from grease, dirt and other contaminants.
2. Use a primer where recommended by adhesive manufacturer. Allow to dry thoroughly.
3. Adhesive: As specified, as recommended by covering manufacturer or, as approved.
4. Conditioning of materials prior to laying: As recommended by manufacturer.
5. Environment: Before, during and after laying, provide adequate ventilation and maintain temperature and humidity approximately at levels which will prevail after building is occupied.
6. Finished coverings: Accurately fitted, tightly jointed, securely bonded, smooth and free from air bubbles, rippling, adhesive marks, stains, trowel ridges and high spots.

80 Coved Skirtings

1. Types: PVC
2. Manufacturer: Altro
   2.1. Product reference: CF38R Radius Cove Former and Captile Strip C8
3. Fixing: Securely bond with mitred corners.
   3.1. Corners: Mitre joints all Hot Welded

85 Waste

1. Spare covering material: Retain suitable material for patching. On completion submit pieces for selection. Hand over selected pieces to Employer.

Ω End of Section

M60
Painting/ clear finishing

To be read with preliminaries/ general conditions.

17 Special Mould Resistant Coating

1. Description: To Internal Ceilings
2. Manufacturer: Zinsser
   2.1. Product reference: Perma-White Interior Satin Paint
   2.2. Colour:: White
3. Surfaces: Internal Plasterboard Ceilings
   3.1. Preparation: Ensure surfaces are clean and dry
   3.2. Application / Dry Time: In accordance with manufacturers recommendations.
4. Initial coats: To finished plaster ceilings
   4.1. Number of coats: One (none thinned)
5. Finishing coats: To initial coated plaster ceilings
   5.1. Number of coats: One

18 Special Exterior Coating

1. Description: To Eaves Soffit Boards
2. Manufacturer: Sadolin
   2.1. Product reference: Superdec Satin - Opaque Wood Protection
   2.2. Colour:: White
3. Surfaces: Exterior Roof Soffit Boards
   3.1. Preparation: Ensure surfaces are even, clean and dry
   3.2. Application / Dry time : In accordance with manufacturers recommendations.
4. Initial coats: To finished WBP Plywood soffit boards
   4.1. Number of coats: One (none thinned)
5. Finishing coats: To initial coated soffit boards
   5.1. Number of coats: One

22 Handling and storage

1. Coating materials: Deliver in sealed containers, labelled clearly with brand name, type of material and manufacturer's batch number.
2. Materials from more than one batch: Store separately. Allocate to distinct parts or areas of the work.

28 Protection

1. 'Wet paint' signs and barriers: Provide where necessary to protect other operatives and general public, and to prevent damage to freshly applied coatings.

30 Preparation generally

1. Standard: In accordance with BS 6150.
2. Refer to any pre-existing CDM Health and Safety File and CDM Construction Phase Plan where applicable.

3. Risk assessments and method statements for suspected hazardous materials: Prepare for operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
4. Preparation materials: Types recommended by their manufacturers and the coating manufacturer for the situation and surfaces being prepared.
5. Substrates: Sufficiently dry in depth to suit coating.
6. Efflorescence salts, dirt, grease and oil: Remove. Give notice if contamination of surfaces/ substrates has occurred.
7. Surface irregularities: Provide smooth finish.
8. Organic growths and infected coatings
   8.1. Remove with assistance of biocidal solution.
   8.2. Apply residual effect biocidal solution to inhibit regrowth.
9. Joints, cracks, holes and other depressions: Fill with stoppers/ fillers. Provide smooth finish.
10. Dust, particles and residues from preparation: Remove and dispose of safely.
11. Water-based stoppers and fillers
    11.1. Apply before priming unless recommended otherwise by manufacturer.
    11.2. If applied after priming: Patch prime.
12. Doors, opening windows and other moving parts
    12.1. Ease, if necessary, before coating.
    12.2. Prime resulting bare areas.

43 Plaster preparation

1. Nibs, trowel marks and plaster splashes: Scrape off.
2. Overtrowelled 'polished' areas: Provide suitable key.
3. Depressions around fixings: Fill with stopper/ filler.

61 Coating generally

1. Application: In accordance with BS 6150,
2. Conditions: Maintain suitable temperature, humidity and air quality.
3. Surfaces: Clean and dry at time of application.
4. Thinning and intermixing: Not permitted unless recommended by manufacturer.
5. Overpainting: Do not paint over intumescent strips or silicone mastics.
6. Priming coats: Apply as soon as possible on same day as preparation is completed.
7. Finish
   7.1. Even, smooth and of uniform colour.
   7.2. Free from brush marks, sags, runs and other defects.
   7.3. Cut in neatly.
8. Doors, opening windows and other moving parts: Ease before coating and between coats.

Ω End of Section

N10
General fixtures/ furnishings/ equipment

To be read with preliminaries/ general conditions.

15 Baby Change Table

1. Description: For Male and Female WC
2. Item: Baby Change Table
3. Manufacturer: Vectair Systems Ltd
   - 3.1. Product reference: Babyminder - Horizontal Table – Light Grey
   - 3.2. Material:: SLDPE (Super Linear Density Polyethylene)
   - 3.3. Stock & Commodity Code:: JBABYHOR2LG & 3925.901
   - 3.4. Barcode:: 5060060076921
4. Plan shape: Manufacturers standard
5. Dimensions: 506x872x102 Closed
   506x872x513 Open (H x W x D)
6. Supports: Wall fixings supplied with Baby Change Table
   - 6.1. Material: Manufacturers standard
   - 6.2. Finish/ Colour: Manufacturers standard
7. Other requirements: Not required

Ω End of Section

N13
Sanitary appliances and fittings

To be read with preliminaries/ general conditions.

10 WC pans and flushing arrangements

1. Standard: To Defra WC suite performance specification or equivalent approved by the relevant water company.
2. Type: Wall-hung, through wall concealed cistern
   - 2.1. Material: Satin Stainless steel
   - 2.2. Colour: Satin Stainless Steel / Self-coloured
3. Pan: To Male & Female Wc's
   - 3.1. Standards: To BS EN 33 and BS EN 997, Class 2
   - 3.2. Manufacturer: Franke
     - 3.2.1. Product reference: Heavy Duty HDTX592S - 200.0000.023
       Size: 360 x 351 x 500 (W x H X D)
4. Material: Stainless steel, satin
5. Seat: Manufacturers standard Grey Seat Pads (no lid)
6. Pan connector: To BS 5627, colour to match pan
7. Flushing arrangement: Siphon, WRAS-approved
   - 7.1. Manufacturer: Franke
     - 7.1.1. Product reference: Heavy Duty - As recommended by the WC manufacturer for a through wall application (complete with automatic siphon, lid, supports and fixings): 4.5 litre plastics auto cistern to BS 1876.
   - 7.2. Operating control: Heavy Duty Lever handle, chrome-plated
   - 7.3. Flush volume: 4.5 L
8. Accessories: Through wall fixing rods supplied with WC Pan.

15 Urinals and cisterns

1. Manufacturer: Franke
   - 1.1. Product reference: Heavy Duty Urinal - HDTX538
2. Urinals: Bowl
   - 2.1. Material: Stainless steel to BS 4880-1
   - 2.2. Colour: Self-finished / Satin
3. Wastes: Manufacturers standard supplied with urinal
4. Traps: Manufacturers standard supplied with urinal
5. Cisterns: (complete with automatic siphon, lid, supports and fixings): Heavy Duty - 4.5 litre plastics auto cistern to BS 1876, supplied by urinal manufacturer with splitter (one cistern to serve two urinals. Note: Siphon pump to be wired not battery operated.
6. Flush pipe: Stainless steel exposed flushpipe to bowl urinals
7. Accessories: As required / recommended by manufacturer

24 Bib tap:

1. Description: Above Cleaners Store sink
2. Type: Bib tap (one cold tap only (no hot))
3. Manufacturer: Armitage Shanks

3.1. Product reference: Alterna 21 bib tap 1/2"lever handles with anti-vandal outlet (one only not a pair)

4. Material: Chrome Plated Brass
5. Size: ½ -inch BSP

25 Sink

1. Description: To Cleaners Store
2. Type: Cleaners Sink
3. Manufacturer: Armitage Shanks
   3.1. Product reference: Birch 460mm with bucket grating - S591501
4. Size: 460 W x 390 D x 205 H (front - 150 higher at back) mm overall
5. Material: Glazed fireclay
6. Colour: White
7. Tap holes: No tap holes
8. Taps: Ref: N13 / 24
   8.1. Material: as clause
   8.2. Size: as clause
   8.3. Water supply temperature (maximum): Cold only - No requirement
9. Wastes: Strainer waste
   9.1. Standards: To BS EN 274-1, -2 and -3.
   9.2. Manufacturer: Armitage Shanks
      9.2.1. Product reference: S8726AA
   9.3. Size: 1.1/2"
   9.4. Material: Brass, chrome-plated
   9.5. Tail: Manufacturers standard
10. Traps: 1.1/2in Plastic Bottle Trap with 75mm Seal
    10.1. Standards: To BS EN 274-1, -2 and -3.
    10.2. Manufacturer: Armitage Shanks
       10.2.1. Product reference: Armitage Shanks (S892567)
11. Accessories: 1 x 350mm high x 355mm deep Legs & Bearers to support Cleaners Sink - Armitage Shanks ref: (S9233MY)

30 Washbasins

1. Type: Wall-hung
2. Manufacturer: Franke
   2.1. Product reference: Heavy Duty Anima - ANMX461
3. Material: Satin Stainless Steel
4. Colour: Natural Brushed Stainless Steel
5. Size: 460 x 170 x 490mm (W x H x D)
6. Tap holes: One tap hole
7. Taps: To each Washbasin
   7.1. Type: Self-Closing Pillar Tap
   7.2. Material: high-polished chromium-plated brass
   7.3. Size: G3-8
   7.4. Manufacturer: Franke

7.4.1. Product reference: F5SV1001

7.5. Water supply temperature (maximum): No requirement (cold water supply only)

8. Wastes: Welded perforated waste (non removable)
9. Traps: DN 30 bottle trap, 75 mm seal
10. Accessories: Mounting from the front, fixing material included.

59 Waste Bin

1. Manufacturer: Franke
   1.1. Product reference: Stratos Waste Bin - STRX605 (Wall Hung)
2. Material: Satin Stainless Steel
3. Finish/ colour: Satin Stainless Steel / Self-coloured

60 Toilet Roll holders

1. Description: One in each cubicle
2. Manufacturer: Franke
   2.1. Product reference: Heavy Duty Jumbo - RH 320
   (takes rolls up to 300mm in diameter)
3. Type: Toilet roll holder, wall-mounted
4. Size: 320 x 322 x 130mm (W x H x D)
5. Material: Stainless steel
6. Colour: Natural Satin Stainless Steel / Self-coloured

62 Soap dispensers

1. Description: To Male & Female WC only
2. Manufacturer: Franke
   2.1. Product reference: Heavy Duty - SD 300
3. Type: Liquid / Lotion (refillable 1 Litre Soap Tank)
4. Size: 128 x 320 x 127mm (W x H x D)
5. Material: Stainless steel
6. Colour: Natural Satin Stainless Steel / Self-coloured

63 Glass mirrors

1. Description: No mirrors to be installed throughout

64 Hand dryers

1. Description: To Male & Female WC only
2. Standard: To BS EN 60335-2-23.
3. Type: Heated high-velocity air
4. Manufacturer: Xlerator
   4.1. Product reference: Xlerator XL - SB
   4.2. Number required: Four
5. Heater power rating: 1.45 kW
6. Controls: Automatic
7. Enclosure: Brushed Stainless Steel
   7.1. Colour: Brushed Stainless Steel / Self-coloured

68 Sealant for pointing

1. Standard: To BS EN ISO 11600
   1.1. Class: F20 HM
2. Type: Silicone
   2.1. Manufacturer: Dow Corning
      2.1.1. Product reference: Dowsil 785+
3. Colour: Clear

70 Installation generally

1. Standards: In accordance with BS 6465-1, -2 and -3.
2. Assembly and fixing: Fix appliances securely to structure, without taking support from pipelines, level and plumb and so that surfaces designed to fall drain as intended.
3. Fasteners: Non-ferrous or stainless steel.
4. Jointing and bedding compounds: Recommended by manufacturers of appliances, accessories and pipes, to form watertight joints between appliances and backgrounds (except cisterns) and between appliances and discharge pipes.
5. Supply and discharge pipework: Fix before appliances.
6. Timing: Tiled backgrounds, other than splashbacks, complete before fixing appliances. Do not overstress tiles when fixing appliances.
7. On completion: Components and accessories working correctly with no leaks.
8. Labels and stickers: Remove.

75 Installing cisterns

1. Cistern operating components: Obtain from cistern manufacturer.
2. Inlet and flushing valves: Match to pressure of water supply.
3. Internal overflows: Into pan, to give visible warning of discharge.
4. External overflows: Fix pipes to falls, and locate to give visible warning of discharge. Agree position.

76 Installing taps

1. Fixing: Secure against twisting.
2. Seal with appliance: Watertight.
3. Positioning: Centrally over waste

77 Installing wastes and overflows

1. Bedding: Waterproof jointing compound.
2. Fixing: With resilient washer between appliance and backnut.

78 Installing hand dryers

1. Fused connection units
   1.1. Type: Tamper proof switched
   1.2. Engraving: Not required
   1.3. Location: Immediately below ceiling
2. Final connection: Concealed.
   2.1. Containment: 25 mm HG galvanized conduit

81 Sealant bedding and pointing

1. Bedding: Not required
2. Pointing: Joints between appliances and tiled walls / splashbacks

Ω End of Section

N91
External signage and interpretation

Signage outline

110 Proprietary signage to External Entrance Doors

1. Description: For WC Entrance doors
2. Function: Identification
3. Sign type: 76mm dia x 2mm thick, 316 grade Satin Stainless Steel (SS) - black logo. Torx screw fixed (A4 Grade) to each of the following doors in the location shown on the external door schedule;
    - Changing Place (Door no. EXD0.04/01)
    - Male WC (Door no. EXD0.03/01)
    - Female WC (Door no. EXD0.02/01) - Legs together, not legs apart.

    Supplier: Allgood, Birmingham - Modric Range or similar equal / approved.
4. Electrical supplies: Not required

111 Proprietary signage beside External Entrance Doors

1. Description: Wall fixed beside WC Entrance doors (using A4 grade Stainless Steel fixings).
2. Function: Identification
3. Sign type: 3 x square (200mm sq) / rectangular (200mm x 300mm) heavy duty signs, 316 grade Satin Stainless Steel (SS) - with standard Changing Place blue & white logo (textured / recessed RNIB compliant),names & braille underneath with the others to match type, style & design. Torx screw (A4 grade) fixed beside each door (height / location as shown on proposed elevations);
    - Changing Place (Door no. EXD0.04/01)
    - Male WC (Door no. EXD0.03/01)
    - Female WC (Door no. EXD0.02/01) - Legs together, not legs apart.

    Supplier / Range: to be confirmed / approved by architect / CA before installing
4. Electrical supplies: Not required

System performance - Not Used

Products - Not Used

Materials - Not Used

Fabrication - Not Used

Execution/ erection/ installation - Not Used

Completion - Not Used

Ω End of Section

P10
Sundry insulation/ proofing work

To be read with preliminaries/ general conditions.

5 Eaves roof ventilators for existing roofs

1. Manufacturer: Manthorpe Building Products Ltd
   1.1. Product reference: G700-WH
   1.2. Colour: : White
   1.3. Size: : 80 dia. x 16mm
   1.4. Circular hole cut size: 70mm dia.
2. Eaves free air space (minimum): As recommended in BRE Report 262 &
3. Location: Eaves Soffit: as shown on Architects drawings

10 Mineral wool insulation Type B

1. Manufacturer: Knauf Insulation Ltd
   1.1. Contact details
      1.1.1. Address: Knauf Insulation
      Stafford Road
      St Helens
      Merseyside
      WA10 3LZ
      1.1.2. Telephone: +44 (0)1744 766 666
      1.1.3. Web: www.knaufinsulation.co.uk
      1.1.4. Email: technical.uk@knaufinsulation.com
   1.2. Product reference: Knauf Insulation Loft Roll 44 (100 mm thick, combi-cut (shorter length))
2. General requirements: Insulation products generally.
3. Standard: To BS EN 13162.
4. Form: Roll.
5. Density: Manufacturer's standard.
6. Facing: Unfaced.
7. Thickness (minimum): 100 mm.
8. Width (nominal): 1140 mm (2 x 570 mm).
9. Thermal conductivity (maximum): 0.044 W/m·K.
10. Fire performance: Euroclass A1 to BS EN 13501-1
11. Recycled content: 80%.
12. Vapour resistivity: 5.00 MNs/g.m.
13. Density: 8-13 kg/m³.
14. Length: 3400 mm.
15. Material: Glass wool to BS EN 13162
16. Installation requirements
    16.1. Standard: To BS 5803-5
    16.2. Location: Carefully lay between existing timber joists to perimeter walls only (not over existing eaves)

Ω End of Section

P21
Door/ window ironmongery

To be read with preliminaries/ general conditions.

3 Quantities and locations

1. Quantities and locations of ironmongery are in the door schedule .
2. Fixing: As sections L10 and L20.

56 Door Stop & Holder

1. Description: Foot Operated Push Down Holder & Stop
2. Manufacturer: Door Furniture Direct
   2.1. Product reference: SKU I475680
   2.2. Number required: Two
3. Type: Foot Operated Push Down Holder & Stop
4. Size: Faceplate measures 45x45x2.5mm, cylinder body measures 32mm diameter x 52mm long and buffer height is approximately 20mm
5. Material/ finish: Grade 316 satin stainless steel

Ω End of Section

R10
Rainwater drainage systems

To be read with preliminaries/ general conditions.

32 Existing Cast Iron Pipework

1. Description: Existing RWPs to remain and be protected during the works. No work envisaged to unless blocked or found to be damaged.
2. Standard: As Existing
3. Coupling type: As Existing
4. Nominal size: As Existing
5. On completion: : Ensure they are left unblocked, undamaged & in full working order

Ω End of Section

R11
Above ground foul drainage systems

To be read with preliminaries/ general conditions.

5 Floor drains

1. Description: Existing to be utilized / reused
2. Floor finish: Flexible sheet over existing tiles
3. Grating/ cover
   - 3.1. Type: Reuse existing / replace as required to suit new floor finish
   - 3.2. Material: If replaced use 316 grade Stainless steel, screw fixed
4. Outlet: Type and direction to suit pipework.
5. Accessories: As required to suit existing installation

11 Plastics branch pipework

1. Description: For WC's / Wastes
2. Materials and standards: Plastics to BS EN 1451-1, BS EN 1455-1 or BS EN 1566-1, Kitemark certified
3. Manufacturer: Contractor's choice - To complement existing installation & discharge (unsure which system is currently installed & how its vented (appears to be through a single existing roof vent (above the Plantroom).
   - 3.1. Product reference: Contractor's choice (to complement existing)
4. Nominal sizes: To complement existing & new products
5. Colour: Contractor's choice (concealed / non-visible)
6. Jointing: To match / complement existing - solvent weld in concealed / none maintainable locations. Push fit elsewhere.
7. Fixing: Plastics brackets at 500 mm centres
8. Accessories: As required to complete installation

21 PVC-U soil/ vent pipework and wc branches

1. Description: To Discharge Stack(s) / Wastes
2. Standard
   - 2.1. To BS EN 1329-1, Kitemark certified; or
   - 2.2. To BS 4514, Kitemark certified.
3. Manufacturer: Contractor's choice - To complement existing installation & discharge (unsure which system is currently installed & how its vented (appears to be through a single existing roof vent (above the Plantroom).
   - 3.1. Product reference: Contractor's choice (to complement existing)
4. Nominal sizes: To complement existing & new products
5. Colour: Contractor's choice (concealed / non-visible)
6. Jointing: To match / complement existing - solvent weld in concealed / none maintainable locations. Push fit elsewhere.
7. Fixing: Plastics brackets at 1200 mm centres
8. Accessories: Vent Cowl(s) - Note: Doesn't appear to currently vent through the roof

45 Air admittance valves

1. Standard: To BS EN 12380 or Agrément certified.

2. Minimum air flow rate: To BS EN 12056-2.
3. Manufacturer: Contractor's choice
   3.1. Product reference: Contractor's choice
4. Position: Vertical.
5. Unheated locations: Fit manufacturer's insulating cover.

50 Installation generally

1. Standards: To BS EN 12056-5.
2. Components: From same manufacturer for each type of pipework.
3. Electrolytic corrosion: Avoid contact between dissimilar metals where corrosion may occur.
4. Plastics and galvanized steel pipes: Do not bend.
5. Allowance for thermal and building movement: Provide and maintain clearance as fixing and jointing proceeds.
6. Concealed or inaccessible surfaces: Decorate before starting work specified in this section.
7. Protection
   7.1. Purpose made temporary caps: Fit to prevent ingress of debris.
   7.2. Access covers, cleaning eyes and blanking plates: Fit as the work proceeds.
8. Drainage from appliances: Quick, quiet and complete, without blockage, crossflow, backfall, leakage, odours, noise nuisance or risk to health.
9. Access: Provide access fittings in convenient locations to permit cleaning and testing of pipework.

60 Fixing pipework

1. Pipework: Fix securely plumb and/ or true to line. Fix discharge stack pipes at or just below socket collar or coupling.
2. Branches and low gradient sections: Fix with uniform and adequate falls to drain efficiently.
3. Externally socketed pipes and fittings: Fix with sockets facing upstream.
4. Additional supports: Provide as necessary at junctions and changes in direction.
5. Vertical pipes: Provide a load bearing support not less than every storey level. Tighten fixings as work proceeds so that every storey is self-supporting.
6. Wall and floor penetrations: Isolate pipework from structure, e.g. with pipe sleeves.
   6.1. Masking plates: Fix at penetrations if visible in the finished work.
7. Expansion joint sockets: Fix rigidly to the building.
8. Fixings: Allow the pipe to slide.
9. Cut ends of pipes: Clean and square with burrs and swarf removed.

65 Electrical continuity

1. Joints in metal pipes with flexible couplings: Make with clips (or suitable standard pipe couplings) supplied for earth bonding by pipework manufacturer to ensure electrical continuity.

66 Identification of internal foul drainage pipework

1. Markings: To BS 1710.
   1.1. Type: Black bands, with arrows to indicate direction of flow
   1.2. Wording: White lettering 'FOUL DRAINAGE' on a black background
2. Type: Integral lettering on pipe wall, self-adhesive bands or identification clips.
3. Locations: At 500 mm centres, junctions and both sides of slabs, valves, appliances, bulkheads and wall penetrations.

69 Installing air admittance valves

1. Position: Vertical, above flood level of highest appliance served and clear of insulation materials (other than the manufacturer's insulating cover).
2. Connection to discharge stack: Allow removal for rodding, e.g. ring seal.
3. Roof spaces and other unheated locations: Fit manufacturer's insulating cover.

70 Pipework airtightness test

1. Preparation
   1.1. Open ends of pipework: Temporarily seal using plugs.
   1.2. Test apparatus: Connect a 'U' tube water gauge and air pump to pipework via a plug or through trap of an appliance.
2. Testing: Pump air into pipework until gauge registers 38 mm.
3. Required performance: Pressure of 38 mm is to be maintained without loss for at least three minutes.

72 Pre-handover checks

1. Temporary caps: Remove.
2. Permanent blanking caps, access covers, rodding eyes, floor gratings and the like: Secure complete with fixings.

Ω End of Section

S90
Hot and cold water supply systems

General

110 Mains cold water supply

1. Description: Replumb all proposed off the existing supply
2. Position of incoming mains water supply: Existing Plantroom
3. Drinking water outlets: Required
4. Water meters: Not required
5. Water softener: Not required
6. Pipelines: N/A - Utilize existing supply
   6.1. Accessories: Not required
7. Valves: Utilize existing
8. Insulation: Preformed flexible closed cell
9. Sanitary appliances: As section N13
10. Control: Flush control devices
11. Accessories: Submit design and cost proposals
12. Completion: See clauses 910, 920, 930, 940, 950, 960, and 980.

System performance

210 Design

1. Description: To all spaces / sanitary ware / installations
2. Design: Complete the design of the cold water supply system.
3. Standard: To BS EN 806-2, BS 8558 and in accordance with HSE publication ‘The control of legionella bacteria in water systems. Approved code of practice and guidance’.
4. Proposals: Submit drawings (showing equipment positions and pipeline routes), technical information, calculations and manufacturers' literature.

250 Pipeline sizes

1. Sizing: Calculate sizes to meet simultaneous demand for the building in accordance with BS 8558 or BS EN 806-3. Submit proposals.
2. Performance
   2.1. Water velocity (maximum): 2.0 m/s for cold water.
   2.2. Filling time (maximum) for cold water storage cistern: 3 minutes

Products

310 Dezincification

1. Fittings, pipelines, equipment located below ground or in concealed or inaccessible locations: Resistant to dezincification, e.g. gunmetal.

360 Instantaneous water heaters, electric - located in Cleaners Store to serve Cleaners Store

1. Description: Water Heater - Cleaners Store
2. Standard: To BS EN 60335-2-35, BEAB-approved.

3. Manufacturer: Stiebel Eltron
   3.1. Product reference: SN 15 SL GB Small Water Heater 15 Litre
4. Type: Single-point - mains supply
5. Rating: 3.3 kW
6. Flow rate: Manufacturers standard
7. Casing finish: White vitreous enamel
8. Controls: Manufacturers standard
9. Accessories: As required to complete a compliant installation. All pipe runs to be insulated / lagged.

361 Instantaneous water heaters, electric - located in Cleaners Store to serve the Changing Place

1. Description: Water Heater - Changing Place
2. Standard: To BS EN 60335-2-35, BEAB-approved.
3. Manufacturer: Ariston
   3.1. Product reference: Ariston Andris Lux 15 - Oversink
4. Type: Single-point - mains supply
5. Rating: 3 kW
6. Flow rate: Manufacturers standard
7. Casing finish: Manufacturers standard - White
8. Controls: Manufacturers standard
9. Accessories: As required to complete a complaint installation.
   To be located H/L in the Cleaners Store & piped H/L through the wall to the Changing Place sink.
   All pipe runs to be insulated / lagged.

510 Copper pipelines for general use

1. Standard: To BS EN 1057, Kitemark-certified.
2. Temper: Half-hard R250.
3. Finish: Plastic-coated copper tube
   3.1. Colour: White
4. Wall thickness (nominal): To BS EN 1057.
5. Jointing generally: Integral lead free solder ring capillary fittings to BS EN 1254-1, Kitemark-certified.
6. Connections to appliances and equipment: To all new installations
   6.1. Compression fittings: To BS EN 1254-2, Kitemark-certified.
   6.2. Fittings with threaded ends: To BS EN 1254-4.
7. Supports: Plastics spacers, single screw fixing

570 Insulation to pipelines

1. Material: Preformed flexible closed cell
2. Function: Protection from freezing
3. Thermal conductivity: 0.04 W/m·K
4. Emissivity: Low
5. Thickness (minimum): To BS 5422, Tables 19 and 20 and in accordance with ‘TIMSA guidance for achieving compliance with Part L of the Building Regulations’, Table 6.1.1.
6. Fire performance (minimum): Class B-s3,d2 to BS EN 13501-1

620 Valves generally

1. Types: Approved for the purpose by local water supply undertaker and of appropriate pressure and/ or temperature ratings.
2. Control of valves: Fit with handwheels for isolation and lockshields for isolation and regulation of circuits or equipment.

640 Draining taps

1. Description: If required in design / best practice
2. Standard: Copper alloy to BS 2879, type 1, hose connection pattern, Kitemark-certified.

650 Flow-reducing/ servicing valves

1. Description: To all sinks & cisterns
2. Manufacturer: Contractor's choice
   2.1. Product reference: Contractor's choice
3. Type: Screw-operated ball type.
4. Material: Copper alloy
5. Finish: Chrome-plated

660 Gate valves

1. Description: If required in design / best practice
2. Standard: To BS 5154, Series B, Kitemark-certified or BS EN 12288.

670 Stop valves and draw-off taps, above ground

1. Manufacturer: Contractor's choice
   1.1. Product reference: Submit proposals

695 Drinking Fountain

1. Manufacturer: Elkay Outdoor EZH2O Bottle Filling Station Wall Mounted
   1.1. Product reference: Model LK4405BF
   Colour: Black (BLK)
   1 number only required.
2. Type: Non-Filtered & Non-Refrigerated
3. Flow rate: Min. 1.5 BAR / Max. 6.0 BAR
4. Temperature of delivered water: Mains temperature
5. Water inlet: To be through external wall plumbed in from supply within Changing Place room. Pipework to be surface fixed & insulated within Changing Place & concealed from the outside.
6. Power supply: N / A - No Electric Supply Required

Execution

710 Stripping out

1. Extent of stripping out: Strip out all unused / redundant pipework & recycle before completing the new installation.

715 Installation generally

1. Installation: To BS EN 806-4.
2. Performance: Free from leaks and the audible effects of expansion, vibration and water hammer.

3. Fixing of equipment, components and accessories: Fix securely, parallel or perpendicular to the structure of the building.
4. Preparation: Immediately before installing tanks and cisterns on a floor or platform, clear the surface completely of debris and projections.
5. Corrosion resistance: In locations where moisture is present or may occur, provide corrosion-resistant fittings/ fixings and avoid contact between dissimilar metals by use of suitable washers, gaskets, etc.

720 Installing cisterns

1. Outlet positions: Connect lowest outlets at least 30 mm above bottom of cistern.
2. Access: Fix cistern with a minimum clear space of 350 mm above, or 225 mm if the cistern does not exceed 450 mm in any dimension.

790 Pipelines installation

1. Appearance: Install pipes straight, and parallel or perpendicular to walls, floors, ceilings, and other building elements.
2. Pipelines finish: Smooth, consistent bore, clean, free from defects, e.g. external scratching, toolmarks, distortion, wrinkling, and cracks.
3. Concealment: Generally conceal pipelines within floor, ceiling and/ or roof voids.
4. Access: Locate runs to facilitate installation of equipment, accessories and insulation and allow access for maintenance.
5. Arrangement of hot and cold pipelines: Run hot pipelines above cold where routed together horizontally. Do not run cold water pipelines near to heating pipelines or through heated spaces.
6. Electrical equipment: Install pipelines clear of electrical equipment. Do not run pipelines through electrical enclosures or above switch gear distribution boards or the like.
7. Insulation allowance: Provide space around pipelines to fit insulation without compression.

800 Pipelines fixing

1. Fixing: Secure and neat.
2. Joints, bends and offsets: Minimize.
3. Pipeline support: Prevent strain, e.g. from the operation of taps or valves.
4. Drains and vents: Fix pipelines to falls. Fit draining taps at low points and vents at high points.
5. Thermal expansion and contraction: Allow for thermal movement of pipelines. Isolate from structure. Prevent noise or abrasion of pipelines caused by movement. Sleeve pipelines passing through walls, floors or other building elements.
6. Dirt, insects or rodents: Prevent ingress.

810 Supports for copper and stainless steel pipelines

1. Spacing: Fix securely and true to line at the following maximum centres:
    1.1. 15 and 22 mm pipe OD: 1200 mm horizontal, 1800 mm vertical.
    1.2. 28 and 35 mm pipe OD: 1800 mm horizontal, 2400 mm vertical.
    1.3. 42 and 54 mm pipe OD: 2400 mm horizontal, 3000 mm vertical.
2. Additional supports: Locate within 150 mm of connections, junctions and changes of direction.

830 Pipeline spacing

1. Clearance (minimum) to face of wall-fixed pipes or pipe insulation
    1.1. From floor: 150 mm.
    1.2. From ceiling: 50 mm.

1.3. From wall: 15 mm.

1.4. Between pipes: 25 mm.

1.5. From electrical conduit, cables, etc.: 150 mm.

840 Joints in copper and stainless steel pipelines

1. Preparation: Cut pipes square. Remove burrs.
2. Joints: Neat, clean and fully sealed. Install pipe ends into joint fittings to full depth.
3. Bends: Do not use formed bends on exposed pipework, except for small offsets. Form changes of direction with radius fittings.
4. Adaptors for connecting dissimilar materials: Purpose designed.
5. Substrate and plastics pipes and fittings: Do not damage, e.g. by heat when forming soldered joints.
6. Flux residue: Clean off.

860 Installation of insulation to pipelines

1. Standard: In accordance with BS 5970.
2. Cold water pipelines: Insulate in unheated spaces. Insulate potable cold water pipelines.
3. Hot water pipelines: Insulate, except for short lengths in prominent positions next to appliances.
4. Appearance: Fix securely and neatly. Make continuous over fittings and at supports. Leave no gaps. Locate split on ‘blind’ side of pipeline.
5. Timing: Fit insulation after testing.

865 Installing insulation to cisterns

1. Standard: In accordance with BS 5970.
2. General: Fix securely to sides and top of cisterns. Leave no gaps.
3. Access cover: Allow removal of cover with minimum disturbance to insulation.
4. Underside of cistern: Insulate where exposed in unheated spaces.

870 Installing valves

1. Isolation and regulation valves: Provide on equipment and subcircuits.
2. Access: Locate where valves can be readily operated and maintained and next to equipment which is to be isolated.
3. Connection to pipework: Fit with joints to suit the pipe material.

Completion

910 Flushing and filling

1. Standard: To BS EN 806-4.

920 System disinfection

1. Disinfection: To BS EN 806-4.

930 Testing

1. Standard: To BS EN 806-4.
2. Notice (minimum): Three days.
3. Preparation: Secure and clean pipework and equipment. Fit cistern and tank covers.
4. Leak testing: Start boiler and run the system until all parts are at normal operating temperatures and then allow them to cool down to cold condition for a period of three hours.

5. Pressure testing: At both hot and cold conditions joints, fittings and components must be free from leaks and signs of physical distress when tested for at least one hour as follows:
   5.1. Systems fed directly from the mains, and systems downstream of a booster pump: Apply a test pressure equal to 1.5 times the maximum pressure to which the installation or relevant part is designed to be subjected in operation.
   5.2. Systems fed from storage: Apply a test pressure equal to the pressure produced when the storage cistern is filled to its normal maximum operating level.
   5.3. Inaccessible or buried pipelines: Carry out hydraulic pressure test to twice the working pressure.

940 Commissioning

1. Standard: To BS EN 806-4.
2. Equipment: Check and adjust operation of equipment, controls and safety devices.
3. Outlets: Check operation of outlets for satisfactory rate of flow and temperature.

950 Testing service pipelines

1. Test method: Disconnect from the mains, fill with potable water, exclude air, and apply at least twice the working pressure for one hour.
2. Test criterion: No leakage.

960 Documentation

1. Manufacturers' operating and maintenance instructions: Submit for equipment and controls.
2. System operating and maintenance instructions: Submit for the system as a whole giving optimum settings for controls.
3. Record drawings: Submit drawings showing the location of circuits and operating controls.

980 Labels

1. Valve labels: Provide labels on isolating and regulating valves on primary circuits, stating their function.

Ω End of Section

T90
Heating systems

General - Not Used

System performance

210 Design

1. Description: Changing Place only to be background heated.
   Female WC, Male WC, Cleaners & Plantroom are all unheated spaces.
2. Design: Complete the design and detailing of the heating system
3. Completion: In accordance with CIBSE AM11
4. Proposals: Submit a drawing (showing equipment positions and cable routes and sizes), technical information, calculations and manufacturer's literature.

225 Thermal insulation of building fabric

1. Heat loss calculations: Base on the following maximum U-values:
   1.1. Floors: Existing / None envisaged - no thermal upgrade required.
   1.2. Walls: Existing / None envisaged - no thermal upgrade required.
   1.3. Windows: Existing / None envisaged - no thermal upgrade required.
   1.4. Roofs: Over Changing Place space only (between ceiling Joists - not over)

Products

460 Natural convector heaters

1. Description: In Changing Place only
2. Standard: To BS EN 442-1 and -2
3. Third-party certification: To RADMAC scheme
4. Type: Wall-mounted
5. Manufacturer: Stiebel Eltron
   5.1. Product reference:

CND100 - Panel Heater

6. Output: 1.0 kW
7. Sizes: 790mm x 504mm x 120mm
8. Casing finish: Manufacturer's standard
9. Connections: Manufacturer's standard
10. Accessories: Built in Timer / Programmer

Execution - Not Used

Completion

820 Setting to work and commissioning

1. Equipment: Panel Convector Heater
2. Installation: Fixed robustly, installation complete & controls working

840 Documentation

1. Manufacturers' operating and maintenance instructions: Submit for equipment and controls
2. Record drawings: Submit drawings showing the location of circuits and operating controls

Ω End of Section

V90
Electrical systems

General - Not Used

System performance

210 Design of low-voltage electrical installation generally

1. Design and detailing: Complete for the electrical installation.
2. Standards: In accordance with BS 7671 and the requirements of the electricity distributor.
3. Distribution circuits
   - 3.1. Spare capacity: 20% of current carrying capacity
   - 3.2. Conductor sizes (minimum): 16 mm²
4. Spare capacity of distribution equipment: 20% of total DB ways free
5. Protective devices: Coordinate the selection and adjustment of protective device settings to achieve discrimination throughout the fault level range. Grade so that a fault on any outgoing branch circuit is cleared by the switching device installed in the faulted branch circuit without affecting the other outgoing branch circuits.
6. Final circuits
   - 6.1. Spare capacity: 10% of current carrying capacity
   - 6.2. Conductor sizes (minimum): 1.5 mm² for Lighting & 2.5 mm² for Power
7. Selection of cables, conduit, trunking and ducting: Submit sizes where not stated
8. Equipment: Provide electrical supplies to all equipment requiring power (rewire any existing from distribution board / MCB).
9. Proposals: Submit drawings, technical information, and manufacturers' literature
   - 9.1. Existing Fire Alarm: To be retained, detectors , sensors , parts replaced (where necessary) to ensure it complies. New Emergency luminaires to be linked to existing system to ensure the whole completed installation complies with current legislation.
   - 9.2. Access / Maintenance: All wiring located / running in the roof space to be accessible clipped / tray run above plywood decking to allow them to be easy maintained.

235 Arrangement of particular circuits

1. Separation: Divide installation into separately controlled circuits.
   - 1.1. Separately controlled circuits: External lighting, Ground floor lighting, Ground floor ring circuit & Water heater
2. Further subdivision: As required.

270 Control of Internal & external luminaires

1. Individual control: Not required
2. Group control: Centrally time switched from Plantroom. Each room on a different circuit + externally lights on a separate but Fire Alarm linked.

280 Earthing and bonding design

1. Design: Complete the design of the earthing and bonding systems.
2. Earthing, main protective bonding, supplementary bonding and protective conductors: In accordance with BS 7671 and BS 7430.
3. Requirements: Submit proposals.

Products

320 Distribution boards

1. Manufacturer: Contractor's choice
   1.1. Product reference: Contractor's choice
2. Standards: To BS EN 61439-1 and BS EN 61439-3.
3. Third-party certification: ASTA certified.
4. Rated operational voltage (Ue): 250 V
5. Rated operational frequency: Submit proposals
6. Rating: Submit proposals
7. Number of phases: Single
8. Incoming devices: Submit proposals
9. Number of outgoing ways: Submit proposals
10. Outgoing devices: Submit proposals
11. Enclosure
    11.1. Ingress protection (minimum): To BS EN 60529, IP44
    11.2. Material: Submit proposals
12. Accessories: Submit proposals

430 Electrical Lighting & Emergency Lighting

1. Description: Internal & External Lighting / Luminaires
2. Manufacturer: iGuzzini
   2.1. Product reference: iRound recessed downlighters - refer to iGuzzini's Quotation dated 9.11.22 & Design Information for further clarification.
3. Standards
   3.1. Generally: To BS 5733.
   3.2. Switches: To BS EN 60669-1.
4. Finish: As iGuzzini Quotation & Design
5. Mounting: All recessed

580 Earthing and bonding equipment

1. Earth electrodes: In accordance with BS 7430.
2. Electrode type: Submit proposals to complement the existing installation
3. Earth clamps: To BS 951.

Execution

610 Electrical installation generally

1. Standard: In accordance with BS 7671.

615 Installing connection to incoming supply

1. Main switchboard/ distribution board: Connect to main incoming metering equipment.
2. Nature of connection: Liaise with the DNO to ensure the correct size, quantity and type of cable is provided for connection to their equipment.

630 Installing switchgear

1. Orientation: Accurate and square to vertical and horizontal axis. Align adjacent items of switchgear on the same horizontal axis.
2. Clearance in front of switchgear (minimum): 1 m.
3. Labelling: Permanently label each way, identifying circuit function, rating and cable size.
4. Padlock identification: Stamp padlock describing its function.

680 Cable routes

1. Cables generally: Conceal wherever possible.
    1.1. Concealed cable runs to wall switches and outlets: Align vertically or horizontally with the accessory.
2. Exposed cable runs: Submit proposals.
    2.1. Orientation: Straight, vertical and/ or horizontal and parallel to walls.
3. Distance from other services running parallel: 150 mm minimum.
    3.1. Heating pipes: Position cables below.

685 Installing cables

1. General: Install cables neatly and securely. Protect against accidental damage, adverse environmental conditions, mechanical stress and deleterious substances.
2. Timing: Do not start internal cabling until building enclosure provides permanently dry conditions.
3. Jointing: At equipment and terminal fittings only.
4. Cables passing through walls: Sleeve with conduit bushed at both ends.
5. Cables surrounded or covered by thermal insulation: Derate accordingly.
6. Cable guards: Fit where cables are vulnerable to mechanical damage

700 Installing cables in accessible roof spaces

1. Cables running across ceiling joists: Fix to timber battens which are secured to joists.

710 Installing PVC-sheathed cable

1. Temperature: Do not install cables if ambient temperature is below 5°C.

725 Final connections

1. Size: Determine.
2. Cable: Heat resisting white flex.
3. Length: Allow for equipment removal and maintenance.

735 Installing luminaires

1. Location: As shown in iGuzzini's Design
2. Orientation: All downlighters - As shown in iGuzzini's Design
3. Supports: Adequate for weight of luminaire.

746 Installing luminaire controlgear

1. Location: Integral within luminaire
2. Labelling of controlgear enclosures: Describe controlgear purpose.

760 Equipment labelling

1. Electrical equipment: Install labels indicating purpose.
2. Voltage warning notices
   2.1. Location: Apply to equipment in a position where it can be seen prior to gaining access to live parts when the voltage within exceeds 230 V.
   2.2. Format: To BS EN ISO 7010, functional reference number, W012, include warnings of the voltage present.
3. Distribution boards: Card circuit chart within a reusable clear plastic cover. Fit to the inside of each unit. Include typed information identifying the outgoing circuit references, their device rating, cable type, size, circuit location and details. Label each outgoing way corresponding to the circuit chart.
4. Sub-main cables: Label at both ends with circuit reference using proprietary cable marker sleeves.

Completion

810 Final fix

1. Accessory faceplates, luminaires and other equipment: Fit after completion of building painting.

820 Cleaning

1. Electrical equipment: Clean immediately before handover.
2. Equipment not supplied but installed and electrically connected: Clean immediately before handover.

830 Inspection and testing generally

1. Standard: In accordance with BS 7671.
2. Notice before commencing tests (minimum): 24 hours.
3. Labels and signs: Fix securely before system is tested.
4. Certificates: Submit.
   4.1. Number of copies: 2

860 Inspection and testing of emergency lighting systems

1. Standard: In accordance with BS 5266-1.
2. Certificate of testing: Submit.
   2.1. Standard: To BS 5266-1, Annex I
   2.2. Number of copies: 2
3. System log book: To BS 5266-1.

870 Inspection and testing of external lighting systems

1. Switching: Check correct operation of photoelectric control units, time switches and other switching devices over at least one switching cycle.
2. Orientation: Adjust luminaires to achieve optimal performance.
3. Additional requirements: None

880 Documentation

1. Timing: Submit at practical completion.
2. Contents
   2.1. Full technical description of each system installed.

2.2. Manufacturers' operating and maintenance instructions for fittings and apparatus including relamping instructions for luminaire types. Identify hazardous lamps that require specialist disposal.

2.3. Recommended frequency of testing and inspection, both for electrical safety and for matters such as the corrosion and security of lighting columns and luminaire fixings.

2.4. Manufacturers' guarantees and warranties.

2.5. As-installed drawings showing circuits and their ratings and locations of fittings and apparatus.

2.6. List of normal consumable items.

890 Maintenance

1. Servicing and maintenance: Undertake.

1.1. Duration: Until 12 months after practical completion

Ω End of Section

W90
Communications and security systems

General

130 Electronic access control system Changing Place Door

1. System manufacturer: Waldon Security, St Austell, Cornwall
   Web: waldonsecurity.co.uk
2. System type: Paxton 10 - Remotely monitored Access System, Web -based connectivity
3. Equipment interconnectivity: Manufacturer's recommenced for application.
4. Control software: Paxton 10
5. Method of authorization: CCTV Camera, Smart credentials, Keypad & Voice / Intercom
6. Readers: Proximity token readers
7. Door release: Electromechanically operated locks and striking plates
8. Controls: Access control units
9. Door monitoring status: Door monitoring state devices
10. System accessories: As required to suit Waldon Security's design

System performance - Not Used

Products

340 Digital CCTV camera

1. Manufacturer: HIK VISION
   1.1. Product reference: HIK DS-2CD3756G2-IZS
   Acu Sense 5 MP Varifocal Dome Network Camera in White
   1.2. Number required: One
2. Effective pixels: 12 million
3. Lens
   3.1. Focal length: Product Standard
   3.2. Zoom: Product Standard
   3.3. Features: Product Standard
4. Integral flash: Product Standard
5. Battery type: None - Mains wired
6. Image file format: Product Standard
7. Connectivity: Product Standard
8. Tripod: Not required

365 Intercom entrance panel

1. Manufacturer: Paxton Entry - VR Panel
   1.1. Product reference: TDS-1060
   1.2. Number required: One
2. Enclosure
   2.1. Material: 316 Marine Grade Stainless steel
   2.2. Colour: Natural / Silver
   2.3. Impact protection (minimum): To BS EN 62262, IK10

2.4. Ingress protection (minimum): To BS EN 60529, IP67

3. Rated operational voltage (Ue): 12 V d.c.
4. Type of operation: Networked
5. Communication interface: Ethernet
6. Entrance panel call buttons: Digital coded access keypad
7. Integral keypad
   7.1. Key type: Momentary push to make
   7.2. Features: Audio tone on buttons
   Backlight
8. Integral credential reader: Proximity
9. LCD display: Full-colour active matrix
10. Microphone: Integral.
11. Speaker: Integral.
12. Visual indication: LEDs providing visible indication and reassurance of call made.
13. Camera: See Clause 340 - CCTV connected & mounted separate to soffit of eaves over.
14. Remote door opening: To suit Waldron Security's design.
15. Accessories: Paxton Surface Mounting with Rain Hood - Sales Code 337-510

375 Electromechanically operated locks and striking plates

1. Manufacturer: Adams Rite
   1.1. Product reference: Electric Strike - 7100 12v DC
   Electric Deadlatch - 4750 Europrofile - 24mm Backset - 40.6mm Case - Right Hand - Zinc Plated
2. Standard: To BS EN 14846.
3. Number required: One of each.
4. Rated operational voltage (Ue): 12 V d.c.
5. Operation in the event of mains failure: Fail locked
6. Mobnitoring: To suit Waldon Security's design
7. Features: Anti-tamper
8. Ingress protection (minimum): To BS EN 60529, IP56
9. Colour: Silver
10. Operating temperature range: -20 to +60°C
11. Accessories: As required by Waldon Security's design.
    To include a Europrofile Cylinder (keyed-alike) with internal Disabled larger thumbturn. Ref: L20 / 55
12. Note:: Lock & Strike to be accommodated / installed within the metal Changing Place entrance door only manufactured by other. If they are unable to accommodate then this specified product might need to change accordingly to similar equal & appropriate for a Marine Environment.

461 Video matrix switch controller

1. Manufacturer: HIK VISION
   1.1. Product reference: DS-76 08NI-K2/8P NVR
   1.2. Number required: One
2. Video inputs: Eight
3. Video outputs: Product Standard
4. Adjustable dwell time: Product Standard

4.1. Switching speed: Product Standard
4.2. Alarm inputs: Product Standard
4.3. Alarm outputs: Product Standard

5. Serial interface: Product Standard

Execution

605 Installing cables generally

1. Standard: In accordance with BS 7671.
2. General: Install cables neatly and securely. Conceal wherever possible. Protect against accidental damage, adverse environmental conditions, mechanical stress and deleterious substances.
   2.1. Concealed cable runs to outlets: Align vertically with the accessory.
3. Exposed cable runs: Submit proposals.
   3.1. Orientation: Straight, vertical and/ or horizontal and parallel to walls.
4. Distance from other services running parallel: 150 mm minimum.
   4.1. Heating pipes: Position cables below.
5. Timing: Do not start internal cabling until building enclosure provides permanently dry conditions.
6. Jointing: At equipment and terminal fittings only.
7. Cables passing through walls: Sleeve with conduit bushed at both ends.
8. Cables running across ceiling joists: Clip to timber battens that are securely fixed on top of joists
9. Length of final connection: Sufficient for equipment removal and maintenance.

610 Installing outlets and equipment generally

1. Location: Coordinate with other wall or ceiling-mounted equipment.
2. Positioning: Accurate and square to vertical and horizontal axes.
3. Alignment: Align adjacent accessories on the same vertical or horizontal axis.
4. Mounting heights (finished floor level to underside of equipment/ accessory): Location dependent

670 Installing electronic access control systems

1. Standards: To BS EN 60839-11-1 and -11-2.

675 Installing keypads

1. Location: Install the reader on the wall within 200 mm of the latch edge of the door
2. Mounting arrangement: Surface
3. Height (finished floor level to underside of equipment): 1050 mm

Completion

830 Electronic access control system testing and commissioning

1. Standard: To BS EN 60839-11-1.
2. Credentials to be supplied: None - Client Supply / Others
3. System programming
   3.1. Set up credentials with holder information.
   3.2. Set up access permissions.
   3.3. Set up access times.
4. Access points: Verify the correct operation of reader, and of release/ closure mechanism.
5. Test report in accordance with BS EN 60839-11-1, clause 8.11: Provide.

840 Intercom system testing and commissioning

1. Call button: Verify the operation of call buttons.
2. Audio communication: Verify two-way audio communication.
3. Video image: Verify the operation of the video camera and remote display.
4. Remote release: Verify the operation of remote door release facilities.

870 Surveillance CCTV system testing and commissioning

1. Standard: To BS EN 62676-4.
2. System commissioning agent: System supplier
3. Notice before commencing tests (minimum): 48 hrs
4. Cable testing: Submit results, including insulation resistance and earth continuity.
5. Camera coverage: Adjust to obtain optimal performance with normal and infrared illumination.
6. Infrared illuminators: Accurately adjust to suit angle of associated cameras.
7. Pan-and-tilt units: Check accuracy of preset positions and demonstrate movement covers whole of relevant surveillance area.
8. Alarm and motion detection devices: Verify the operation, and adjust to provide maximum coverage.
9. Image storage time: Confirm.
10. Live and recorded images: Demonstrate from each camera and provide digital copies for reference purposes.

883 Documentation for electronic access control system

1. Standard: To BS EN 60839-11-1 and -11-2.
2. Operating and maintenance instructions
    - 2.1. Scope: Submit for the system giving optimum settings for controls.
    - 2.2. Product information: Include product description, date of purchase, performance characteristics, application (suitability for use), method of operation and control, and cleaning and maintenance requirements.
    - 2.3. Format: Electronic (PDF)
    - 2.4. Number of copies: One
3. Record drawings
    - 3.1. Content: For all access control cabling, the cable origin, circuit designation, route from controller to access control point, conductor material and c.s.a., insulation type and colour, number of cores per cable, number of cables in ducts, on tray or ladder
    - 3.2. Drawing format: Electronic drawing
    - 3.3. Number of copies: One
    - 3.4. Submittal date: At handover

890 Maintenance

1. Servicing and maintenance: Undertake.
    - 1.1. Duration: 12 months

Ω End of Section

Specification created using NBS Chorus