CANMOOR

rhodes business park

MANCHESTER OLD ROAD ■ MIDDLETON ■ MANCHESTER ■ M24 4NE

UNIT 1 - TECHNICAL INFORMATION PACK

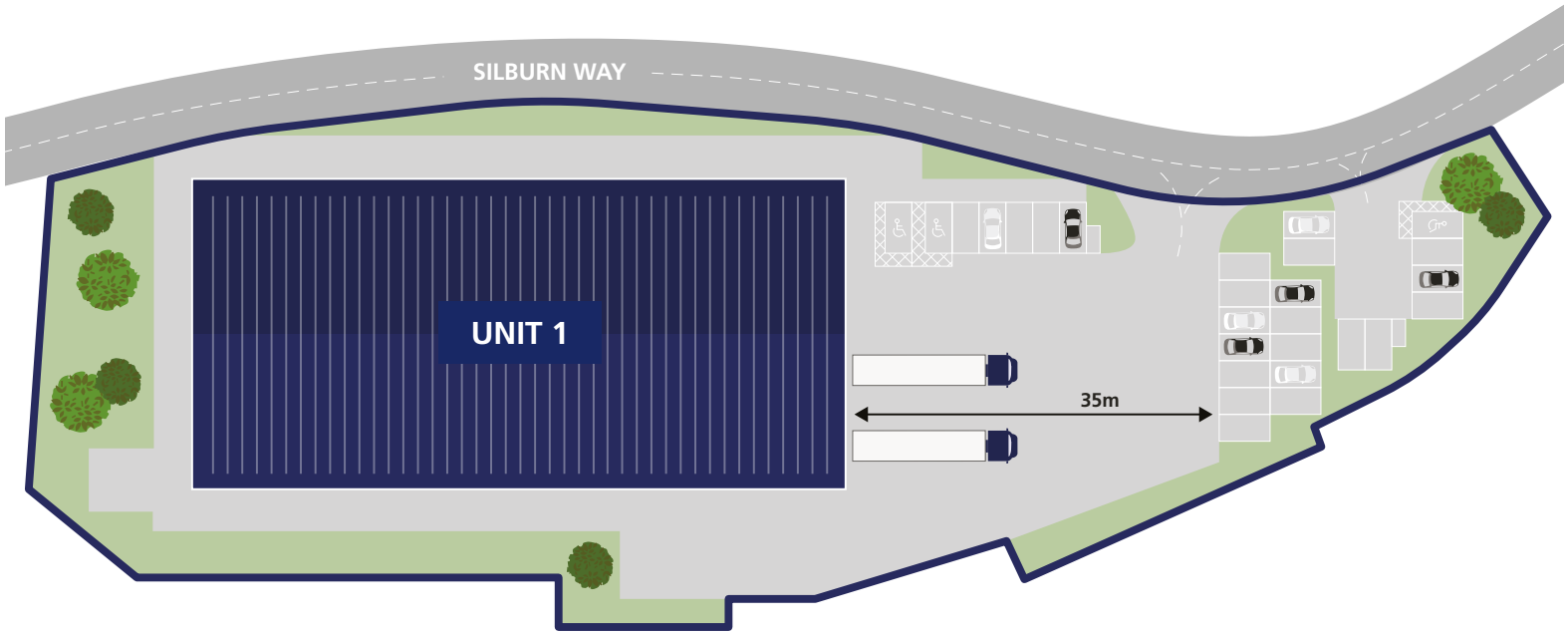
CONTENTS

UNIT 1 OVERVIEW

- 2 LEVEL ACCESS DOORS
- 9M EAVES HEIGHTS
- 50KN/M2 FLOOR LOADING
- 35M YARD
- OFFICE VRF HEATING AND COOLING
- HIGH QUALITY TOILETS & SHOWERS
- 27 CAR PARKING SPACES
- PV ROOF PANELS
- TARGETING BREEAM 'VERY GOOD'
- 10 CYCLE PARKING SPACES

CONTENTS

SITE PLAN



ACCOMMODATION (GIA)

UNIT 1	SQ FT	SQ M
Warehouse	19,688	1,827
Office	1,800	167
Total	**21,468**	**1,994**

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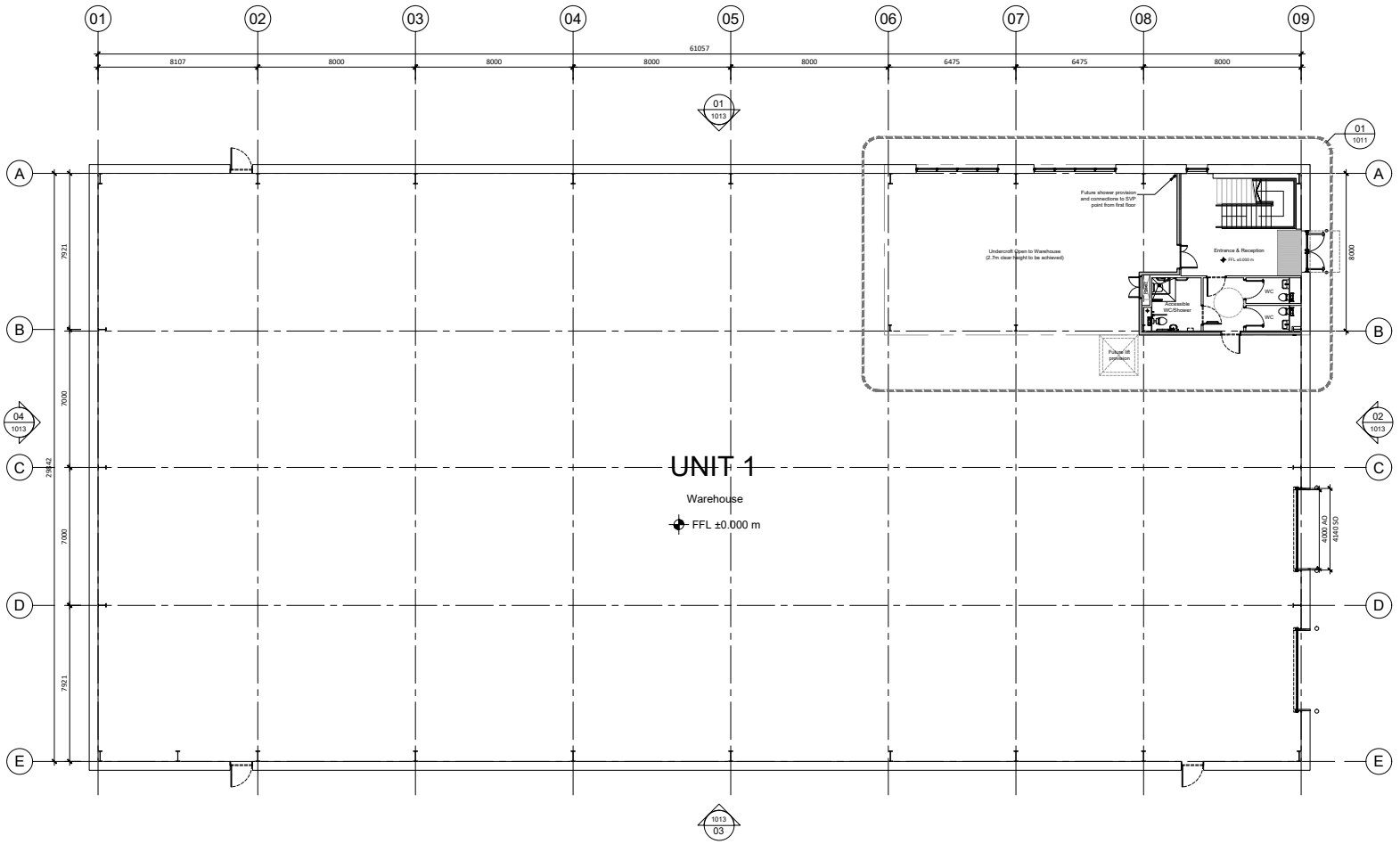
FLOOR PLAN



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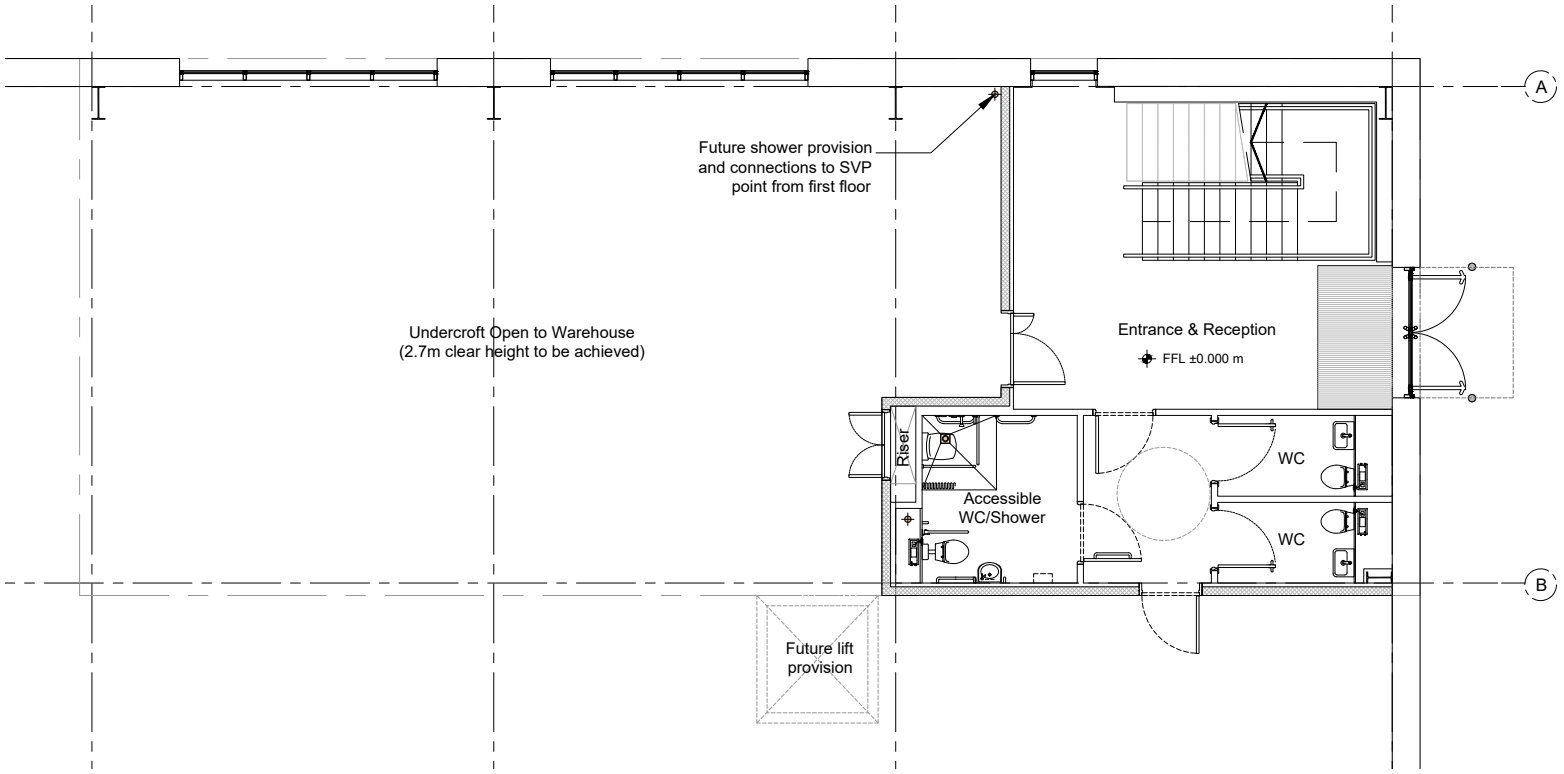
OFFICE PLAN



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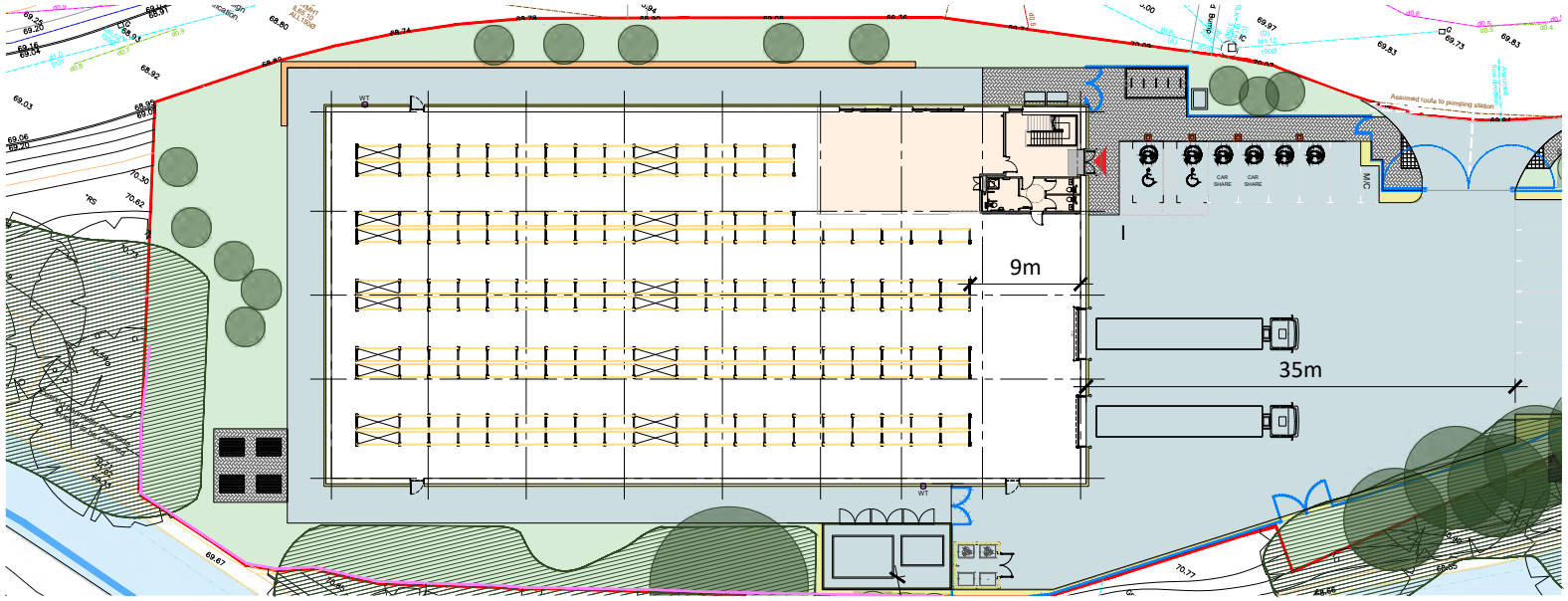
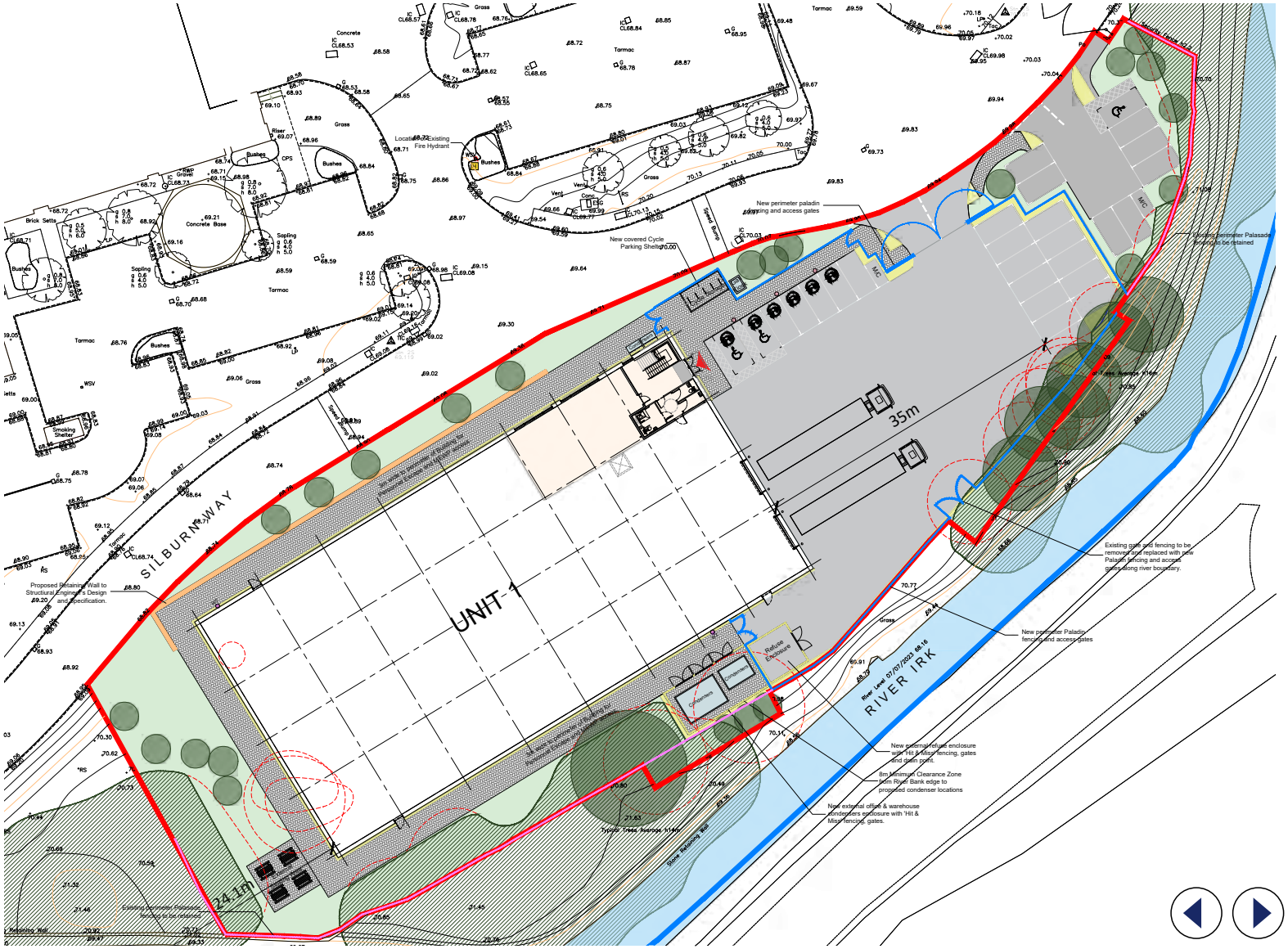
RACKING PLAN



PROPOSED RACKING LAYOUT
191 PALLET RACKS
162 FULL PALLET RACKS
20 PALLET RACKS WITH ACCESS

CONTENTS

DEMISE PLAN



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ESG

TARGETING BREEAM
'VERY GOOD'

TARGET
EPC A

PV ROOF
PANELS

LED
LIGHTING

ROOF LIGHTING
IN SITU

STAFF
WELFARE

CYCLE
PARKING

CONTENTS

SERVICES

ELECTRIC

234 kVA

GAS

400 kWh

WATER

New connection via 32mm standard pipe.

CONTENTS

PROJECT TEAM

LANDLORD / DEVELOPER
Canmoor

PROJECT MANAGER
Quartz Project Services

CONTRACTORS
A&H Construction & Developments Plc.

ARCHITECTS
Hale Architecture

LETTINGS TEAM
CBRE & Cushman & Wakefield

LEGAL TEAMS
Forsters LLP

MANAGING AGENTS
Savills

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PLANNING CONSENT

ROCHDALE BOROUGH COUNCIL

Town and Country Planning Act 1990 (as amended)

PLANNING PERMISSION GRANTED

APPLICATION REFERENCE: 23/01213/FUL

Name and address for correspondence:	Applicant name:
Mrs Helen Leggett Emery Planning 1-4 South Park Business Court Hobson Street Macclesfield SK11 8BS	Mr Tim SmithOLF1 PROPCO2 S.A.R.L (C/O Oxenwood Real Estate LLP)

Part I - Particulars of Application

Date of Application: 24 November 2023

Proposal:	**Erection of 1no. unit (Use Class B2/B8/E(g) (General Industry/Storage & Distribution/Commercial) together with associated service yard, car parking and landscaping.**
Location:	**Rhodes Business Park , Silburn Way, Middleton, Rochdale, M24 4NE**

Part II - Particulars of decision

The Rochdale Borough Council hereby give notice in pursuance of the provisions of the Town and Country Planning Act 1990 (as amended) that planning permission has been **GRANTED SUBJECT TO CONDITIONS** for the carrying out of the development referred to in Part I above.

The Council hereby permits the above development in accordance with the details given on the application form and subject to the following condition(s):

Conditions and Reasons:

1 The development must be begun not later than three years beginning with the date of this permission.

Reason: Required to be imposed by Section 91 of the Town and Country Planning Act 1990 (as amended).

2 This permission relates to the following plans and documents:

Location Plan Drawing No RBP-PHP-XX-XX-DR-A-4694-100-P04
Proposed Site Plan Drawing No RBP-pHp-XX-00-DR-A-101-P08
Proposed Ground Floor Plan Drawing No RBP-pHp-XX-00-DR-A-4694-200 P05
Proposed First Floor Plan Drawing No RBP-pHp-XX-01-DR-A-201-P04
Proposed Roof Plan Drawing No RBP-pHp-XX-RF-DR-A-4694-210-P04

Office Floor Plans Drawing No RBP-pHp-XX-XX-DR-A-202-P04
Proposed Sections Drawing No RBP-pHp-XX-XX-DR-A-401 Rev P05
Proposed Elevations Drawing No RBP-pHp-XX-XX-DR-A-300 Rev p07
Soft Landscape Proposals Drawing No 2203 DLA-DR-L-01-P02
Tree Pit Detail Drawing No 2203-DLA-DR-L-02-P01
Site Plan External Lighting Design Strategy Drawing No 4025-HAN-RBP-00-DR-E-64-200
Flood Risk Assessment and Drainage Strategy Report Reference 40055-BGL-XX-XX-RP-D-0001 Version V4
Technical Note Flood Zone Analysis Modelling Results Reference 40055-BGL-XX-XX-TN-C-00006 Version P03
Ground Investigation Report Reference STV6211-r02 Rev A.
Ecological Impact Assessment Reference 16200_R01_OM
Transport Assessment Reference J000467-TA01
Framework Travel Plan Reference J000467-FTP01
Planning Statement Reference 23-340
Biodiversity Metric
Air Quality Assessment Reference 7263r1 Rev 1
Energy & Sustainability Statement Reference 4025-HAN-ZZ-XX-RP-N-001 Rev 03

Arboricultural Impact Assessment Reference 16200_R02_WS_LB
Design and Access Statement Rev D
Landscape Management and Implementation Plan Reference DLA-2203-LIMP-01-RevP01.
Noise Impact Assessment Reference P23-322-R01v1

The development shall be carried out in accordance with these drawings and documents hereby approved unless otherwise required by condition below.

Reason: For the avoidance of doubt and to ensure a satisfactory standard of development in accordance with the policies contained within the adopted Rochdale Core Strategy, the saved Rochdale Unitary Development Plan, Places for Everyone Joint Development Plan and the National Planning Policy Framework.

3 The development shall be carried out in accordance with the submitted Flood Risk Assessment (Graham Burrows/4005-BGL-XX-XX-RP-D-0001/October 2023) and the following mitigation measures it details:

Finished floor levels shall be set no lower than metres above Ordnance Datum 70.9 (AOD)

These mitigation measures shall be fully implemented prior to occupation and subsequently in accordance with the scheme's timing / phasing arrangements. The measures detailed above shall be retained and maintained thereafter throughout the lifetime of the development.

Reason: To reduce the risk of flooding to the proposed development and future occupants.

4 The drainage for the development hereby approved, shall be carried out in accordance with principles set out in the submitted Foul & Surface Water Drainage Design Drawing 40055-BGL-XX-XX-DR-C-00250, Rev P02 - Dated 10.10.23 which was prepared by Burrows Graham as included within the Flood Risk Assessment and Drainage Strategy Report referenced 40055-BGL-XX-XX-RP-D-0001 Version V4. For the avoidance of doubt surface water must drain at the restricted rate of 4.5 l/s. No surface water will be permitted to drain directly or indirectly into the public sewer.

Prior to occupation of the proposed development, the drainage schemes shall be completed in accordance with the approved details and retained thereafter for the lifetime of the development.

Reason: To ensure a satisfactory form of development and to prevent an undue increase in surface water run-off and to reduce the risk of flooding.

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PLANNING CONSENT

5 No drainage systems for the infiltration of surface water to the ground are permitted other than with the written consent of the Local Planning Authority. Any proposals for such systems must be supported by an assessment of the risks to controlled waters. The development shall then be carried out in accordance with the approved details.

Reason: To ensure the development does not contribute to and is not put at unacceptable risk from or adversely affected by unacceptable levels if water pollution caused by mobilised contaminants. This is in line with paragraph 180 of the National Planning Policy Framework.

6 Prior to the occupation of the development a sustainable drainage management and maintenance plan for the lifetime of the development shall be submitted to the local planning authority and agreed in writing. The sustainable drainage management and maintenance plan shall include as a minimum:

Arrangements for adoption by an appropriate public body or statutory undertaker, or, management company; and

Arrangements for inspection and ongoing maintenance of all elements of the sustainable drainage system to secure the operation of the surface water drainage scheme throughout its lifetime.

The development shall subsequently be completed, maintained and managed in accordance with the approved plan.

Reason: To ensure that management arrangements are in place for the sustainable drainage system in order to manage the risk of flooding and pollution during the lifetime of the development in accordance with Policy G8 of the adopted Rochdale Core Strategy, saved policies EM7 and EM/8 of the adopted Rochdale Unitary Development Plan and the National Planning Policy Framework.

7 Prior to the commencement of the development hereby approved (including demolition and all preparatory work), a scheme for the protection of the retained trees, in accordance with BS 5837:2012, including a tree protection plan and an arboricultural method statement shall be submitted to and approved in writing by the Local Planning Authority. The approved details shall be implemented and adhered to throughout the construction of the development.

Reason: To satisfy the Local Planning Authority that the trees to be retained will not be damaged during demolition or construction and to protect and enhance the appearance and character of the site and locality.

8 Prior to the commencement of development and where the site characterisation has identified unacceptable risks, a detailed remediation scheme to bring the site to a condition suitable for the intended use by removing unacceptable risks to human health, the water environment, buildings and other property and the natural and historical environment shall be submitted to an approved in writing by the Local Planning Authority.

The approved remediation scheme shall thereafter be fully implemented and there shall be no variation of the approved remediation scheme unless otherwise approved in writing by the Local Planning Authority.

Reason: To prevent pollution of the water environment and to ensure the safe development of the site in the interests of the amenity of future occupiers.

9 Pursuant to condition 8 and prior to first use or occupation of the development hereby approved, a verification report, whicih validates that all remedial works undertaken on site were complieted in accordance with those agreed with the Local Planning Authority, shall be submitted to and approved in writing by the Local Planning Authority.

Reason: To precvent pollution of the water environment and to ensure the safe development of the site in the interests of the amenity of future occupiers

10 Should, during the course of the development, any contaminated material other than that referred to in the investigation and risk assessment report and identified for treatment in the remediation proposals be discovered, then the development should cease until such time as further remediation proposals have been submitted to and approved in writing by the Local Planning Authority.

Reason: To protect the environment and prevent harm to human health by ensuring that the land is remediated to an appropriate standard for the proposed end use.

11 Only the external materials detailed within the proposed schedule of materials on the approved Proposed Elevations Drawing No RBP-pHp-XX-XX-DR-A300 Rev P07 shall be used and no others substituted.

Reason: In order to ensure use of appropriate materials which are sympathetic to the character of the building and the surrounding area in the interests of visual amenity. These are in accordance with the requirements of Core Strategy Policies P1, P2 and P3 and the National Planning Policy Framework.

12 No development, site clearance or earth moving shall take place, or material or machinery brought on site until a method statement via a Construction Environmental Management Plan (CEMP) to protect the River Irk from further accidental spillages, runoff, dust and debris has been supplied to and agreed in writing by the Local Planning Authority.

The approved CEMP shall be adhered to throughout the construction period and for future operations in accordance with the approved details. The development shall not be carried out otherwise than in accordance with the approved CEMP.

Reason: To minimise detrimental effects to the neighbouring amenities, the amenities of the area in general, detriment to the natural environment through the risks of pollution and dangers to highway safety, during the construction phase in accordance with Policies DM1, P3, T2, G8 and G9 of the adopted Rochdale Core Strategy and the National Planning Policy Framework.

13 Prior to any earthworks, vegetation clearance or demolition, a method statement detailing eradication or avoidance measures for Himalayan balsam and Japanese knotweed should be supplied to and agreed in writing to the Local Planning Authority. The agreed method statement shall be adhered to and implemented in full.

Reason: To eradicate invasive species and protect the biodiversity of the area.

14 No retained tree shall be cut down, uprooted or destroyed, nor shall any retained tree be topped or lopped other than in accordance with the approved plans and particulars, without the written approval of the Local Planning Authority. Any topping or lopping approved shall be carried out in accordance with the relevant recommendations of appropriate British Standards or other recognised Codes of Good Practice. If any retained tree is removed, uprooted or destroyed or dies (as a consequence of the development), another tree shall be planted at the same place and that tree shall be of such size and species, and shall be planted at such time as may be specified in writing by the Local Planning Authority.

Reason: To ensure that retained trees are adequately protected, in the interests of the visual amenities of the locality in accordance with Policy G6 of the Rochdale Core Strategy.

15 No clearance of trees and shrubs in preparation for (or during the course of) development shall take place during the bird nesting season (March - August inclusive) unless an ecological survey has been submitted to and approved in writing by the Local Planning Authority to establish whether the site is utilised for bird nesting. Should the survey reveal the presence of any nesting species, then no development shall take place during the period specified above unless a mitigation strategy has first been

CONTENTS

PLANNING CONSENT

submitted to and approved in writing by the Local Planning Authority which provides for the protection of nesting birds during the period of works on site.

Reason: In order to prevent any habitat disturbance to nesting birds in accordance with policy G7 of the adopted Rochdale Core Strategy, Policy JP-G8 of PfE and the National Planning Policy Framework.

16 The access road Silburn Way shall be kept clear at all times and shall not be used for the storage of materials, goods or bins/waste collection. The access road shall be retained for its intended use at all times.

Reason: In order to ensure servicing provision is clear of the highway and in the interest of highway safety in accordance with the requirements of policies DM1 and T2 of the adopted Rochdale Core Strategy and National Planning Policy Framework.

17 The development hereby permitted shall not be occupied until all vehicle parking spaces have been provided and clearly marked out in accordance with the plans hereby approved. The parking spaces shall be kept available for parking at all times thereafter and shall not be used for the storage of materials, goods or bins.

Reason: In order to ensure there is adequate provision for vehicles to be parked and adequate turning and servicing provision clear of the highway in order to comply with policy T2 of the adopted Rochdale Core Strategy and the requirements of the National Planning Policy Framework

18 Piling or any other foundation designs using penetrative methods shall not be carried out other than with the written consent of the Local Planning Authority. The development shall be carried out in accordance with the approved details.

Reason: To ensure that the proposed activity does not harm groundwater resources in line with paragraph 180 of the National Planning Policy Framework and Position Statement J of The Environment Agency's approach to groundwater protection.

19 The total combined noise from the site must not exceed:

61 dB(A) between 07:00 - 19:00

55 dB(A) between 19:00 - 23:00

46 dB(A) between 23:00 - 07:00

When measured 1 metre from the facade of noise sensitive receptors.

Reason: To protect the amenity of nearby residents in accordance with Policy G9 of the Rochdale Core Strategy.

Procedure Statement:

The proposal complies with the development plan and would improve the economic, social and environmental conditions of the area. It therefore comprises sustainable development and the Local Planning Authority worked proactively to issue the decision without delay.

Date Decision Issued 14 November 2024

Melanie Hale
Head of Planning Services

IMPORTANT
PLEASE ENSURE THAT YOU HAVE READ AND FULLY UNDERSTOOD THE CONTENTS OF THIS DECISION NOTICE. YOUR ATTENTION IS DRAWN TO THE ATTACHED NOTES.

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INFORMATIVE:
The Local Planning Authority's reasons for its decision are set out in the accompanying officer's report.

INFORMATIVE:
The applicant is reminded of the need to submit and obtain formal approval of those details required by the conditions of this planning permission before development may lawfully commence on the site. The formal discharge of a planning condition is currently subject to payment of an additional fee per request: £34.00 for householder applications and £116.00 in all other cases.

INFORMATIVE:
The proposed development lies within an area that has been defined by The Coal Authority as containing potential hazards arising from coal mining. These hazards can include: mine entries (shafts and adits); shallow coal workings; geological fissures; mine gas and previous surface mining sites. Although such hazards are often not readily visible, they can often be present and problems can occur as a result of development taking place, or can occur at some time in the future.

It is recommended that information outlining how the former mining activities affect the proposed development, along with any mitigation measures required, be submitted alongside any subsequent application for Building Regulations approval.

Any intrusive activities which disturb or enter any coal seams, coal mine workings or coal mine entries (shafts and adits) requires the prior written permission of The Coal Authority. Such activities could include site investigation boreholes, digging of foundations, piling activities, other ground works and any subsequent treatment of coal mine workings and coal mine entries for ground stability purposes. Failure to obtain Coal Authority permission for such activities is trespass, with the potential for court action.

Property specific summary information on coal mining can be obtained from The Coal Authority's Property Search Service on 0845 762 6848 or at www.groundstability.com.

INFORMATIVE:
The applicant is advised that the supply and delivery of refuse containers (including all wheelie bins and food waste caddies) for residential developments is chargeable and the responsibility for these charges rests with the applicant/developer. The cost is based on a variable rate per property depending on the property size and number of bedrooms but as an indication, the present charge for a suite of three 240l recycling bins and one 240l refuse bin is £144 per residence. Please contact environmental.management@rochdale.gov.uk for a quotation for your development.

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SPECIFICATION

ARCHITECTURAL SPECIFICATION

hale

22c Leathermarket Street
London, SE1 3HP

T : +44 (0)20 7740 0950
E : studio@hale-adm.com
W : www.hale-adm.com

PROJECT: **Rhodes Business Park, Middleton.**

PROJECT No: **24077**

DATE: 13/03/2026

Revision	Notes	Date	Auth	App
CR01	Record Issue	13.03.2026	HA	HA

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SPECIFICATION

CONTENTS

SPECIFICATION

1.0 INTRODUCTION

1.1 Project Description

1 No. new light industrial / warehouse unit with ancillary offices, car parking and service yard areas at Rhodes Business Park, Middleton, Manchester M24.

1.2 Base Performance Specification

This performance specification is a description of the scope and quality of the work to be carried out. The quality of the work will be supported by identifiable samples where necessary during the construction of the works.

The work will be designed and constructed in accordance with the latest edition of relevant Acts of Parliament and Regulations made under current British BS or BS EN Codes of Practice and Standards, Fire Regulations, Health and Safety legislation, the regulations and standards of Local Service Authorities and other enforceable regulations applicable to the design and construction of the development. Current shall mean current at the time of tender submission of the works.

Where any work cannot be benchmarked or assessed against current legislation, statutory provisions, local by-laws, or British Standards, Codes of Practice, or where the interpretation of same leads to ambiguity, then the work will comply with any appropriate manufacturers Trade Association, Federation Guidelines and / or practice notes, applicable to the work in question.

The new services installation will be designed, installed, controlled and commissioned in accordance with the current recommendations of the Chartered Institute of Building Services Engineers and the 18th Edition of the IEE Wiring Regulations.

The design and construction of any temporary works required will comply with BS 5975:2019, and will be subject to the approval of the Structural Engineer and Building Control Officer / Approved Inspector.

All Civil / Structural Engineers design & specification items / elements & loadings to be as per Civil / Structural Engineers design & specification and / or separate specification documents (to be issued at tender stage).

1.3 Drawings

The following form part of and are to be read in conjunction with this specification:

(PL) Planning Drawings - see drawing issue register attached as Appendix 01.
(ER) Employer's Requirements Drawings - see drawing register attached as Appendix 02.

1.4 Building Regulations / Approved Inspector Pre-construction Services

The Main Contractor shall:

- Obtain approvals under the Building Regulations for any elements of work within this Building Contract requiring compliance. Submit to the Local Authority / Approved Inspector all relevant information on materials, fixings and the like together with calculations and other information necessary to confirm structural integrity and other compliance with Building Regulations.
- Employ a project Approved Inspector / Building Control Officer.
- Carry out any and all terms required by the Approved Inspector / Building Control Officer.
- Confirm resistance to the spread of flame, integrity of any compartmental walls or floors and protected areas and the fire-stopping of concealed spaces and joints between elements of structure conform to the Building Regulations. Carry out tests if required by the Local Authority or Approved Inspector.

- Produce and manage Building Regulation tracker recording the iterative reviews and comments raised by the Approved Inspector and present this to the Employers Agent (EA) at each Project Team Meeting.
- Obtain the Building Regulations completion certificate on completion of the works.
- Provide an on-site webcam if required by Employers Agent (EA).

2.0 SUMMARY OF CRITICAL DESIGN DATA

2.1 Floor Areas (Gross Internal Areas)

Floor Area (GIA)

Unit 1

Ground Floor:	1,822 m^2	19,612 ft^2
First Floor (Office):	167 m^2	1,797 ft^2
Total GIA:	**1,989 m^2**	**21,409 ft^2**

Car Parking (incl. service areas):	27 No. Spaces (incl. 3 No. of dis. spaces)
Motorcycle Parking :	2 No. Bays
Cycle Parking:	10 No. Spaces (5 No. Stands)
Level Loading Doors:	2 No. Doors

These areas are given in square metres and approximate square feet. 1m^2 = approximately 10.764 square feet calculated in accordance with the RICS Code of Measuring Practice (6th Edition, May 2015) using the stated options GEA and GIA. The staircase footprint to upper levels is included as part of GIA calculations (refer to RICS GIA Note 7).
Areas are measured from the inside of cladding rail to inside of cladding rail (perimeter) or to inside of partition lining / fair faced blockwork / composite panel structure for party wall / office wall (non-perimeter envelope location) areas.
Areas are approximate and relate to the likely areas of the building at the current stage of the design. Any decisions to be made on the basis of these predictions, whether as to project viability, pre-letting, lease agreements and the like, should make due allowance for the following:

i) Design development.
ii) Accurate site survey, site levels and dimensions.
iii) Construction methods and building tolerances.
iv) Local Authority consents.

2.2 Structural and Planning Grid

Structural grid to be designed and detailed to Engineer's design.

2.3 Haunch Height and Planning Grid

Clear height to underside of haunch (internal, warehouse area):

Unit 1:	8 metres
Roof pitch:	6°

2.4 Offices and Core Ceiling Heights

Ceiling heights (min clear)

Office / Ancillary Areas:	2.7m
WC / Shower (Sanitary Areas):	2.4m
Reception Area:	2.7m + Double Height

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SPECIFICATION

2.5 Floor Loadings - refer to Civil / Structural Engineers specification.

Warehouse/ Production:	50.0 kN/m² (power floated finish) see specification item 6.1.4
First Floor Level (Office) Area:	4.0 kN/m² (plus 1.0kN/m²) see specification item 6.2.9

2.6 Services - refer also to specification item 5.3.3

2.7 Exclusions (unless expressly specified elsewhere)

(a) Burglar alarm, telephone and data systems.
(b) Estate Directory or general signage (non-statutory).
(c) Statutory Services application for the meter only and supply agreements for permanent supplies. Payments by developer.
(d) Canteen / kitchen catering equipment, servery and fittings.
(e) Blinds.
(f) Furniture, furnishings, blind fittings, shelving, process machinery of any type, racking, skips, vehicle wash equipment, fuel installation or any other item which has not been expressly detailed in this document.

3.0 SITE WORKS

3.1 Any existing services at the access points to the site shall be diverted or lowered as appropriate in conjunction with the Statutory Authorities requirements.

3.2 The site to be covered by the new buildings and hard standings will be cleared of all undergrowth, buildings, hard standings and the like, and the site reduced or increased in level to ground floor formation level. Any works required to conform with Environmental Agency recommendations are to be carried out as part of this development including drainage and agreed slab levels.

3.3 Site clearance, where necessary, will be carried out including removing to Contractor's regulated tip off site. The formation level will be graded, trimmed and compacted prior to laying the appropriate sub-base.

3.4 The contractor will propose levels to which the formation will be taken over the area of the building, as shown on the drawings.

3.5 The whole of the substructure work will be carried out to the Civil / Structural Engineers design and approved by the Local Authority. Concrete work to comply with current British Standards / Codes of Practice including BS EN 1992-1-1:2004 + A1:2014 'Design of concrete structures - General rules and rules for buildings'.

3.6 All site works are to be undertaken in compliance with, and to ensure full regard for, the recommendations and requirements contained within Civil / Structural Engineers Specification (Enabling Works Section), along with the project Geo-technical and Environmental reports.

3.7 The design, construction, maintenance and dismantling of all temporary works will comply with current British Standards / Codes of Practice including BS 5975:2019, and will be subject to the approval of the Structural Engineer and Building Control Officer.

4.0 FIRE SAFETY

All systems, components and products where fire performance is relied upon shall be inspected on site in the specific conditions and environment within which they are used and independently verified. Suppliers site specific statements are to be provided confirming compliance with test data, relevant BRE agreement certification and the manufacturers technical guidance without qualification.

- Comply with all relevant Codes of Practice, Standards, Fire Regulations, Building Regulations and local Building Codes, Safety Regulations and any other regulations applicable to the installation, together with all relevant Statutory Rules, Regulations, Byelaws and other enforceable instruments applicable to both the design and execution of the works.

- Fire performance in terms of fire resistance of elements and structure shall be determined in accordance with BS EN 13501-1:2018, as described in Appendix B of Approved Document B of the Building Regulations.

- Internal surfaces and linings requiring to be rated in terms of 'reaction to fire' shall be rated for performance by the method specified in BS EN 13501-1:2018. Refer to Appendix B of the Approved Document B of the Building Regulations generally.

- Composite products and synthetic materials requiring to be fire rated shall be subject to the limitations specified in Approved Document B of the Building Regulations.

- Supply test certificates to demonstrate that all materials meet the above requirements.

- Ensure compliance with all Statutory Authorities and Fire Services requests / recommendations and ensure discharge of relevant conditions in their respect.

- Insulation materials generally shall comply with all the recommendations of the LPC Design Guide for the Fire Protection of Buildings.

- In addition to the requirements of the Building Regulations and Approved Documents, insulation, binders or other materials used as the core in cladding assemblies and composite cladding panels or as insulation behind sealed or rainscreen cladding assemblies, shall be non-combustible in accordance with BS EN ISO 1182:2020.

- If materials are proposed for use in these applications that are unable to achieve this classification, fire risk assessments shall be submitted for review by an independent Fire consultant or other independent suitably qualified Competent Person. These materials shall not be used unless an independent Fire Consultant or independent Competent Person confirms acceptance of their use in writing.

4.1 Fire Performance Inspection and Certification

Any product, system or material which provides a fire performance or has fire performance properties is to be installed in strict accordance with the manufacturer's instructions. Products and systems shall all carry current BRE and Agreement Certified test data demonstrating their suitability for use on this project. Suppliers technical representatives shall visit site and inspect the works at all key stages and provide a closing statement confirming the works on site have been competed in accordance with their recommendations without qualification. These reports shall be issued to the Employers Agent (EA) incrementally during the contract and at completion of the works packages.

4.2 Fire Protection

4.2.1 General Requirements

- Detail and co-ordinate all necessary fire / smoke stops required by the Building Regulations and the Relevant Authority.

- Where the Statutory Authorities and / or Local / National Fire Regulations require a specific fire resistance to elements of structure which form a junction with adjacent components, ensure that the junction is fire stopped to the same degree as the elements.

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SPECIFICATION

4.2.2 Fire Protection

- Fire performance in terms of fire resistance of elements and structure shall be determined in accordance with BS EN 13501: Parts 2-4 and BS 476: Parts 20-24, as described under Notes of Table B3 and under clauses B19 to B27 of the Approved Document Part B Volume 2 of the Building Regulations.
- Non-combustible materials (class A1) and materials of limited combustibility (class A2) shall be as defined in Table B1 of the Approved Document Part B Volume 2 of the Building Regulations in line with BS EN 13501-1 classification system.
- Internal surfaces and linings requiring to be rated in terms of 'surface spread of flame' shall be rated for performance as per relevant part of Section 6 of the Approved Document Part B Volume 2 of the Building Regulations, refer to requirement B2 of the Approved Document Part B Volume 2 of the Building Regulations generally.
- All steelwork must be designed to satisfy latest Building Regulations for fire protection for each: Loadbearing Capacity (R), Integrity (E), and Insulation (I). Elements that lie within or that pass through a fire compartmentation line are to include integrity (E) and insulation (I) protection as required by Building Regulations to the wall and / or floor to prevent fire spreading between compartments, this may include the need for encasement of the steelwork.
- Composite products and synthetic materials requiring to be fire rated shall be subject to the limitations specified in Appendix B of the Approved Document to Part B Volume 2 of the Building Regulations.
- Supply test certificates to demonstrate that all materials meet the above requirements.
- Ensure compliance with all Statutory Authorities and Fire Services requests / recommendations and ensure discharge of relevant conditions in their respect.

5.0 SUBSTRUCTURE - refer to Civil / Structural Engineers specification

5.1 Foundations

refer to Civil / Structural Engineers design and specification.

5.1.1 The foundations shall be designed having regard to the site ground conditions and in accordance with the recommendations of current British Standards / Codes of Practice. The structural concrete for foundations will be designed in accordance with current British Standards / Codes of Practice, refer to Civil / Structural Engineers specification for the ground improvement technique to be adopted.

5.1.2 Wherever possible, recycled materials to be used.

5.2 Ground Beam / Slab Edge Beam / Perimeter Detail

refer to Civil / Structural Engineers design and specification.

5.2.1 Perimeter cladding running to ground floor level to be fixed back to cladding rail and continuous pre-cast concrete ground beam or continuous galvanised (PFC) steelwork section channel with staking at regular approx. 2m centres to main contractors design. If steelwork section applicable then the orientation (toes in or out) to be subject to main contractors design. No base ground floor level steelwork section to be fixed in the position of the main entrance area or level loading door access areas. External personnel (fire exit) door areas to have top

flange of base ground floor level steelwork section removed if required to avoid external exposure within threshold area.

5.3 Service Ducts

refer to Civil / Structural Engineers design and specification / Mech & Elec specification

5.3.1 Ducts for all incoming and outgoing services, are to be properly built into the substructure and oversite slab with correct radius bends and puddle flanges to statutory approval. Entries to be made without adversely affecting the structural and water-resistant qualities of the structure or any gas protection issues.

5.3.2 All ducts to be complete with pull cords for future installation. All ducts to be provided with the appropriate cover in accordance with the relevant British Standards and the Local Authority requirements.

5.3.3 Duct locations (internal or external), size and amount required to be agreed with Employers Agent (EA) in connection with:

- Water (including BREEAM duct requirements, external areas cleaning requirements (refuse or loading door areas) and potential soft landscaping irrigation system requirements)
- Electricity (including 1No. spare duct requirement)
- Telecommunication (Data, Fibre Optic etc.)
- CCTV
- Access Control (gates or future gates installations)
- EV Car Parking Charging (duct requirements (active and passive) to comply with local planning authority, BREEAM and Approved Document to Part S of the Building Regulations requirements (including external termination of passive ducts)), power supply car parking zoning as per anticipated unit demise (to be agreed with the Employer Agent (EA)), location of distribution board(s) for electric vehicle charging system to be agreed with the Employers Agent (EA))
- External Lighting (coordinated with the electrical trade contractor, to extend to refuse and cycle store areas, power supply zoning as per demised / landlord areas (to be agreed with the Employers Agent (EA))
- Petrol Interceptor Alarm Panel (internal or external, to be agreed with the Employers Agent (EA), including potential vent duct requirements)

Ducts to be brought from the perimeter of site into the ground floor of all units (where relevant).

6.0 SUPERSTRUCTURE - refer to Civil / Structural Engineers design and specification.

6.1 Structural Frame

refer to Civil / Structural Engineers design and specification.

6.1.1 The structural frames to be constructed of steel framing, designed by the contractor. Pitch of roof shall not be less than 6° (after anticipated deflection). The frames shall be constructed in single-span structural bays.

6.1.2 The structural frame will be designed in accordance with, and to ensure full regard for the recommendations and requirements contained within the Civil / Structural Engineers performance specification.

6.1.3 The structural steel frame will be a portal frame with a minimum clear height to underside of haunch as indicated on the design drawings (in line with specification item 2.3(underside of

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haunch height)), designed in accordance with current British Standards / Codes of Practice for "Structural use of Steelwork and Loadings in Building". All work will be carried out in compliance with the National Structural Steelwork Specification.

6.1.4 Bracing locations shall be agreed with the Employers Agent (EA) and are to be kept free from open areas / internal stanchions, door openings, window openings, undercroft areas and the like. Perimeter bracing is to be positioned to the external edge of the perimeter columns to maximise internal usable space (where structurally possible) and base fixing plates to bracing is to be positioned above the level of the ground floor slabs to achieve a consistent level of floor finish across the slab surface (where structurally possible).

6.1.5 The frames and purlins to be capable of supporting a service loading arising from mechanical, sprinkler and electrical services / installation plant, equipment and fittings, over the whole area of the roof and to be capable of supporting a loading of the photovoltaic (PV) panels with exact positions, loading requirements and extent to be confirmed by the Energy Report (BRUKL Report) specification and agreed with the Employers Agent (EA), refer to Civils / Structural Engineers specification for loadings and additional requirements.

6.1.6 Perimeter columns will be designed with pinned bases and steel frame to be fire protected, or as agreed with the main contractor (example: foundation design / bolts and baseplates designed in accordance with the Steel Construction Institute publication No. SCI P313 - Single Storey Steel Framed Buildings in Fire Boundary Conditions).

6.1.7 The steelwork will be designed and constructed to allow the building envelope to achieve compliance to specification item 7.1(Wall Cladding) and specification item 7.2(Roof Cladding). All purlins and rails will be fixed in accordance with manufacturer's recommendations and will have a minimum thickness of 1.5mm to assist a positive cladding fixing.

All sheeting rails within 2.0m of ground FFL to be installed 'toes down' to prevent build-up of debris.

6.1.8 All steelwork will shot blasted to current British Standards / Codes of Practice, second quality, before painting with one coat of epoxy 2 pack high build zinc phosphate primer to a nominal dry film thickness of 75 microns to give 10 years life to first maintenance, finished colour to be colour light grey, overall paint finish to be consistent to provide uniform appearance (see specification item 6.1.10), please note if intumescent paint requires top coat than the colour of the top coat and intumescent paint below should be contrasting to provide control over coverage application of top coat over intumescent paint areas below). Cold formed sections will be manufactured from hot dipped galvanised coil to current British Standards / Codes of Practice. Where steelwork is to be encased in masonry, it will receive two coats of bituminous paint. Where remedial works are required to webs, flanges, beams, columns or other steelwork that is visible in the completed building the whole area of the affected steelwork will be coated to provide a uniform appearance without obvious patches.

6.1.9 The steel frame shall be designed to meet the following standards:

6.1.9.1. All cold rolled steel work shall have the standard manufacturers galvanised finish to current British Standards / Codes of Practice or better.
6.1.9.2. All frame bolts are to be zinc plated or galvanised finish.
6.1.9.3. The roof and wind loads shall comply with current British Standards / Codes of Practice including allowance for drifting show.
6.1.9.4. All doors shall be fully framed in steelwork, including all frame extensions necessary to support sectional door fittings and canopies.
6.1.9.5. Sags rods and tension wires shall be free from distortion, properly adjusted.
6.1.9.6. The structure must be capable of carrying signage and door frames in the positions shown on the drawings.

6.1.10 Columns and beams to be protected by intumescent paint / appropriate fire rated encasement boarding where required by the Building Regulations. Note: Board or paint to be coloured to suit final overall consistent uniform appearance. If and where fire protection boarding is used, no diminution of critical site dimensions shall be allowed.

6.1.11 Intumescent paint system to provide fire resistance to the satisfaction of the Building Control Officer / Approved Inspector with acrylic finish top-sealer coats. Top coat finish to be as per specification item 6.1.8. The definitions contained in current British Standards / Codes of Practice shall be used. Visual requirements shall be based upon samples submitted and agreed. Life expectancy to first maintenance for paint finishes shall be a minimum of 10-12 years. The paint manufacturer shall provide a written specification at the time of tender for recoating (by others) at the end of the life expectancy period.

6.2 Structural Floors

refer to Civil / Structural Engineers design and specification.

6.2.1 The construction shall incorporate a structural floor slab that will be inherently watertight.

6.2.2 The structural floors will be designed in accordance with, and to ensure full regard for the recommendations and requirements contained within the Civil / Structural Engineers performance specification.

6.2.3 The ground floor slab will be constructed of reinforced concrete or C32/40 ground slab with a power floated finish provided to the warehouse and undercroft area. Refer to Civil / Structural Engineers specification.

6.2.4 The ground floor slab will be designed in accordance with the recommendations of the Concrete Society Technical Report 34 (TR34) 'Concrete Industrial Ground Floors' for two loading conditions (max floor loading and leg rack loading placed in a back to back situation (with the centre line base plates placed minimum distance of 200mm away from floor joints) anywhere on the floor as per specification item 2.5 (in line with Civil / Structural Engineers specification).

6.2.5 Joints will be kept to a minimum, but where necessary, they will be detailed in accordance with TR34 and designed so that no vertical movement occurs across the joint. Day joints should be tied or reinforced with 10mm minimum thickness arris protection.

6.2.6 The ground floor slab will be constructed so that the top surface tolerances comply with FM2 (in line with Civil / Structural Engineers specification) as defined in Concrete Society Technical Report TR34 Fourth Edition 2013 for free movement areas of the slab. A surface regularity survey is to be undertaken by an approved and agreed survey company to demonstrate compliance with this specification prior to completion.

6.2.7 The surface of the ground floor slab to be power floated, cured and sealed with proprietary acrylic based hardener Sika Proseal or similar approved and to be dust free. The floor shall not be trafficked for a minimum of four days following the sealing operation and in line with the specialist flooring contractor's recommendations. Wearing surface shall have a minimum abrasion resistance of AR2 (in line with Civil / Structural Engineers specification) in accordance with current British Standards / Codes of Practice and confirmed by independent testing. If required shrinkage cracking shall be induced joints at no less than 6 metre centres cut to an agreed regular pattern.

6.2.8 The ground floor slab is to be insulated where required by Approved Document Part L of the current Building Regulations.

6.2.9 The first floor office slab will be constructed of an in-situ composite concrete floor slab with a power floated finish or precast concrete planks with a screed finish to contractor's design to

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achieve loading as per specification item 2.5 (in line with Civil / Structural Engineers specification). U/s of exposed slab (warehouse undercroft) to be thermally insulated as per compliant Energy Report (BRUKL Report) and Building Control requirements.

6.2.10 Floor Screeds:

Location: to staircases / landings, toilet cores and lobbies (if relevant due to raised access floor installation).

Isocrete K-Screed, all preparatory work and application shall be in accordance with the manufacturers' instructions - Flowcrete UK Ltd. Floating 85mm Isocrete K-Screed, reinforced throughout with steel fabric to current British Standards / Codes of Practice (or reinforced throughout with Isocrete PP Fibres with a strip of steel fabric to current British Standards / Codes of Practice across day joints) laid on and including 65mm insulation board. Works to include all required expansion and contraction joints.

Accessories: as recommended by Flowcrete including steel angle edges to all unsupported perimeters / interfaces with raised flooring. Planted stainless steel flats shall be fixed to screed angles to allow finishing to tiling / carpets above where visible in the finished works.

7.0 EXTERNAL FABRIC

Minimum external envelope element U-values to be as per the requirements of Building Regulations compliant Energy Report (BRUKL Report), see summary noted below:

Roofs	0.16 W/m²K
External Walls	0.26 W/m²K
Internal Walls (Heated/Unheated Envelope)	0.28 W/m²K
Ground Floors	0.18 W/m²K
Upper Floors (Heated/Unheated spaces)	0.25 W/m²K
Windows	1.60 W/m²K
Rooflights	1.30 W/m²K
Personnel Doors	1.60 W/m²K
Vehicle Access / Similar Large Doors	1.30 W/m²K
High Usage Entrance Doors	3.00 W/m²K
Air Permeability	5m³/hm²@50Pa

7.1 Wall Cladding

7.1.1 Generally

Profiled steel cladding to elevations to be designed, detailed and installed to accord with the requirements of the stated performance specification to meet the requirements of the Building Regulations and to the satisfaction of the Building Control Officer / Approved Inspector. Building envelope in its entirety shall be designed, installed and tested in accordance with the fabric system suppliers recommendations.

If a factory built sandwich or composite panel construction is used, then a Loss Prevention Council / Loss Prevention Standard (LPC / LPS) approved core material will be used.

7.1.2 External wall cladding - Type 01 (see planning / tender drawings for locations)

Type: ~~Euroclad~~ CA or similar approved.
Product ref.: Trapezoidal profile (laid vertically).
Material: Colorcoat Prisma ®with Confidex® Guarantee including cover for cut edges for the entire guarantee period. Substrate to be Galvalloy® 95% zinc / 5% aluminium eutectic alloy, hot-dip metallic coated steel substrate grade

S220GD + ZA and coating weight ZA255 to current British Standards / Codes of Practice.
Outer side finish: Colorcoat Prisma ® high performance pre-finished steel with nominal organic coating thickness 200µm with Scintilla® emboss with a nominal depth of 40µm and maintenance and inspection free Confidex® Guarantee.
Outer side colour: Orion (RAL 9007),
Thickness: Nominal 0.7mm.
Inner side finish: High Performance Polyester Standard Backing Coat.
Inner side colour: Light Grey.
Built-up thickness: to achieve required U-value (thickness tbc by manufacturer).
U-Value: see specification item 7.0

7.1.3 External wall cladding - Type 02 (see planning / tender drawings for locations)

Type: ~~Euroclad~~ CA or similar approved.
Product ref.: Trapezoidal profile (laid vertically).
Material: Colorcoat Prisma ® with Confidex® Guarantee including cover for cut edges for the entire guarantee period. Substrate to be Galvalloy® 95% zinc / 5% aluminium eutectic alloy, hot-dip metallic coated steel substrate grade S220GD + ZA and coating weight ZA255 to current British Standards / Codes of Practice.
Outer side finish: Colorcoat Prisma ® high performance pre-finished steel with nominal organic coating thickness 200µm with Scintilla® emboss with a nominal depth of 40µm and maintenance and inspection free Confidex® Guarantee.
Outer side colour: Anthracite (RAL 7016).
Thickness: Nominal 0.7mm.
Inner side finish: High Performance Polyester Standard Backing Coat.
Inner side colour: Light Grey.
Built-up thickness: to achieve required U-value (thickness tbc by manufacturer).
U-Value: see specification item 7.0

7.1.4 Steel Lining Sheets (internal - wall built-up cladding systems)

Type: ~~Euroclad~~ CA or similar approved (part of external wall cladding system as noted above).
Product ref.: ~~19/1000 linear~~ 0.4mm CA 17 1000L pre-coated steel.
Inner side finish: Colorcoat High Reflect. Substrate must be Z275 Galvatite hot-dip zinc coated steel to current British Standards / Codes of Practice.
Inner side colour: PE15 coated Bright white.
Thickness: Metal thickness to be nominal 0.4mm (including zinc) and of a Fe E220 G quality.

7.1.5 External Roof Level Fascia & Eaves

Type: ~~Euroclad~~ CA or similar approved.
Material: Colorcoat HPS200 ® Ultra with Confidex®guarantee including cover for cut edges for the entire guarantee period. Substrate to be Galvalloy® hot-dip metallic coated steel substrate grade S220GD + ZA, and coating weight ZA255 to current British Standards / Codes of Practice.
Outer side finish: Colorcoat Prisma® high performance pre-finished steel with nominal organic coating thickness 200 µm with Scintilla® emboss with a nominal depth of 40µm and maintenance free Confidex guarantee.
Outer side colour: Anthracite (RAL 7016)
Thickness: 0.7mm.

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7.1.6 External flashing and trims

Type: ~~Euroclad~~ CA or similar approved.
Material: Colorcoat Prisma® with Confidex® guarantee including cover for cut edges for the entire guarantee period. Substrate to be Galvalloy® hot-dip metallic coated steel substrate grade S220GD + ZA, and coating weight ZA255 to current British Standards / Codes of Practice.
Outer side finish: Colorcoat Prisma® high performance pre-finished steel with nominal organic coating thickness 200 µm with Scintilla® emboss with a nominal depth of 40µm and maintenance free Confidex guarantee.
Outer side colour: Orion (RAL 9007), metallic.
Thickness: 0.7mm.

7.2 Roof Cladding

7.2.1 External roof cladding - profiled sheets - (see planning / tender drawings for locations)

Type: ~~Euroclad~~ CA or similar approved.
Product ref.: ~~Elite System 2 - 32-167-1000 roof external profile~~ CA Twin-Therm (32/1000)
Material: Colorcoat HSP200® Ultra Confidex® Guarantee including cover for cut edges for the entire guarantee period. Substrate to be Galvalloy® 95% zinc / 5% aluminum eutectic alloy, hot-dip metallic coated steel substrate grade S220GD + ZA, and coating weight ZA255 to current British Standards / Codes of Practice.
Outer side finish: Colorcoat HSP200® Ultra high performance pre-finished steel with nominal organic coating thickness 200µm with Scintilla® emboss with a nominal depth of 40µm and maintenance and inspection free Confidex® Guarantee.
Outer side colour: Goosewing Grey (RAL 7038)
Thickness: Nominal 0.7mm.
Inner side finish: High Performance Polyester Standard Backing Coat.
Inner side colour: Light Grey.
Thickness: Nominal 0.7mm (walkable to allow for roof installation).
Built-up thickness: to achieve required U-value (thickness tbc by manufacturer).
U-Value: see specification item 7.0

To comply with current British Standards / Codes of Practice including BS EN 1991-1 1:2002 & BS EN 1991-1-7:2006 + A1:2014, the whole roof construction is to achieve an integral, continuous and completely sealed vapour barrier, fixed strictly in accordance with the manufacturer's recommendations.

A bright white polyester coated liner panel to form the internal surface of the roof construction.

Gutter size, number of RWPs and capacity is to be designed by the specialist cladding sub-contractor.

The buildings are to use syphonic drainage systems with drainage performance specification to the specialist cladding sub-contractor design. Weir overflows to be provided in locations to suit the surface water drainage design.

All gutters to be laid flat, not to falls. The gutters to be continuously supported to eliminate ponding.

A design method statement and risk assessment will be provided at the start of the construction phase of the project for the maintenance of the roof and gutters. This will be incorporated into the Health and Safety File.

7.3 Rooflights

Part of Roof Cladding shall be site assembled in plane triple skin translucent roof lights of a pattern to match the cladding profile.

Rooflight type: ~~Euroclad~~ CA Therma-light ~~or similar approved~~ profiled in plane triple skin GRP lights. Not susceptible to UV degradation, for U-Value requirements see specification item 7.0.
Sheets: Internal and external rooflight sheets to match roof external and liner profiles,
~~Class 1 / SAA, 3.0kg / m2.~~

- Inner rooflight - CA Therma-light 32 1000 CE24 GRP Liner Panel 2.44kg/m² (8oz) rated 'EXT.S.AA' TO BS 476-3:2004 & 'CLASS 1' to BS476-7:1997
- Outer Rooflight: CA Therma-Light 32 Ce18e 1000 Grp Outer Sheet 1.83kg/m² (6oz) Rated 'EXT.S.AB' to BS 476-3:2004 & 'Class 3' To BS476-7:1997

Area: to be equal to 10% of production floor area. (see planning / tender drawings for locations)
Note: adequate metal sheets should be used upslope of rooflights.
The rooflight assembly described fitted correctly is expected to achieve a Class B fragility rating for 25 years. The fixing and installation to be as per manufacturer's recommendations.
Rooflights are to be designed, or provided with, protection to prevent collapse under the weight of a person or falling body. All rooflights are to be tested as part of roof assembly and to be a minimum Class B non-fragile ACR[M] 001:2005.

All rooflights are to be provided with internal trim flashings. No insulation is to be visible from inside the warehouse / unit. Note: Rooflights to be designed to align centrally between portal frames where achievable with the liner profile grid.

During construction phase Class B fragility is to be achieved at liner level once fixed.

7.4 Cladding Generally

7.4.1 Fixings / Fasteners

Fasteners (Supplied by ~~Euroclad~~ CA or similar approved): Fixing to Cold Rolled purlin from 1.5 - 3.5mm thick.
Spacer to sheeting rail: Standard method: Stainless steel self-driller Hex head min 5.5mm dia x min 25mm long and washer 2 x per bracket diagonally opposite (4 x per bracket for bracket heights =/> 260mm).

7.4.2 Design

Cladding / covering system: Complete detailed design and submit before commencement of fabrication.
Standard: To BS 5427-2016.
Related works: Coordinate in detailed design.

7.4.3 Thermal Insulation / Bridging

All insulation, including door & window cills, jambs & heads, is to be of A1 class, non-combustible, mineral wool typology. The use of PIR board is prohibited on the building, in order to achieve the Clients objectives and requirements.

Complete thermal design of the cladding / covering system to avoid excessive thermal bridging.

refer to compliant Energy Report (BRUKL Report) and apply accordingly.

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7.4.4 Thermal Performance

All external fabric in line with Current Building Regulations / British Standards / Codes of Practice dimensionally modelled on software fully compatible with BS EN ISO 10211-1 / 10211-2. The calculations are to be carried out in accordance with BR 433 March 2006 and EN ISO 6946:2017.
Placement: Continuous and lightly compressed between outer and lining sheets. Secure to prevent future movement or dislodgement.

Permeability: 5.0m³/(hm²) @ 50pa.

Provide test reports from an independent cladding inspector testing agency verifying the performance criteria of the cladding system used.

7.4.5 Vapour Control Layers

Building Humidity Classes to BS EN ISO 13788:2012.
Class 1 & 2: Sealed Lining.
Class 3 or 4: Sealing to liners may be omitted and a separate VCL included as below.
Material: Integra Cladding specification ~~Euroclad Elite VCL~~.
Vapour resistance (minimum): 500 MNs/g.
Tape: Integra Cladding specification ~~Euroclad Elite VCL Sealing Tape.~~
Size (width and thickness): min: 12mm x 1.5mm.
Position: to warm side of thermal insulation.

Class 5: Material: Integra Cladding specification ~~Euroclad Elite HH VCL~~.
Vapour resistance (minimum): 30,000 MNs/g.
Tape: Integra Cladding specification ~~Euroclad Elite HH VCL Sealing Tape~~.
Size (width and thickness): min: 15mm x 2mm.
Position: to warm side of thermal insulation.

All VCLs:
Laps: Not less than 150 mm, seal with tape. Use 2 rows for Class 5 applications. Achieve full bond.
Continuity: No breaks and with the minimum of joints.
Penetrations and abutments: Seal to vapour control membrane with tape. Achieve full bond.
Repairs and punctures: Seal with lapped patch of vapour control membrane and continuous band of sealant tape along edges.

7.5 Roof Access for Maintenance

7.5.1 The unit roof and gutters will be cleaned at roof level via designated access routes and using the MEWP apparatus. Details and a method statement is to be prepared and submitted to the CDM Principal Designer for approval.

7.5.2 Refer to Roof Access drawing.

7.5.3 Consideration to be made for a roof access landing point / points for safe access to roof from MEWP if required (including subsequent provision for roof fall protection system (fall restraint system / Mansafe system) to comply with HSE - The Work at Height Regulations 2005 requirements).

7.6 Loads

The cladding will be designed to comply with wind loads calculated in accordance with current British Standards / Codes of Practice.

7.7 Warranty / Guarantee

Tata Steel Confidex Sustain® offers the first Carbon Neutral building envelope in the world measuring and offsetting its impact cradle to cradle. i.e. manufacture through to installation, use and end of life. Confidex Sustain® is available with Colorcoat HPS200® Ultra and Prisma® when specified as part of a Colorcoat® assessed cladding or roofing system.

Tata Steel Confidex 'Sustain' guarantee is to be provided upon completion of the works. Should the roof require a PV array the applicable Colorcoat HPS200 Ultra warranty provided by Tata Steel UK Limited will be required.

7.8 Certificates

Apply at the outset of the project for registration with Tata Steel Confidex 'Sustain' and upon completion provide the Employers Agent (EA) with Tata Steel Confidex 'Sustain' certificates detailing how the carbon omissions have been offset.

7.9 Approved Document Part B Boundary Condition

Where required by the Building Regulations to provide fire protection to any external wall, then the construction will be upgraded to a firewall status in accordance with the Structural Engineers and cladding manufacturers recommendations.

7.10 Surface Spread of Flame

The internal lining to any cladding is to be of limited contribution to fire growth including a low rate of heat release rating for surface spread of flame as tested to current British Standards / Codes of Practice.

7.11 Blockwork

Internal blockwork walls where required, to be locally constructed of standard 7N/mm² 100mm or 140mm dense paint grade fair faced concrete blockwork to BS EN 772-2:1998 and BS EN 771-3:2011 with adequate head restraint.

7.12 Office and Entrance Glazing

7.12.1 Glazing systems are to comply with the latest edition of the Centre for Window and Cladding Technology (CWCT) standard for systemised building envelopes, test methods for curtain walling.

7.12.2 General

Provide test reports from an independent testing Agency verifying the performance criteria of the various systems used.

7.12.3 Air Permeability Tests

Test evidence shall be in accordance with CWCT test methods for curtain walling and windows and latest British Standards / Codes of Practice.

7.12.4 CWCT 'Standard for Systemised Building Envelopes'

General: unless specified or agreed otherwise comply with:
Part 2 - Loads, fixings and movement
Part 3 - Air, water & wind resistance
Part 4 - Operable components, additional elements & means of access.
Part 5 - Thermal, moisture & acoustic performance

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Part 6 - Fire performance
Part 7 - Robustness, durability, tolerances & workmanship.
Project performance requirements specified in subsection Part B - Testing.
Read in conjunction with CWCT performance criteria.

7.12.5 Integrity

Requirement: The curtain walling and windows must resist wind loads, dead loads and design live loads, and accommodate deflections and movements without damage. To be coordinated with Structural Engineers specification.

7.12.6 Structural Performance Requirements - refer to Structural Engineers specification

Comply with the recommendations of the Centre for Window Cladding (CWCT) Standard for Curtain walling and windows.

7.12.7 Structural Deflection - refer to Structural Engineers specification

The allowable deflection of any element, when carrying full design loads, not to exceed 15mm or 1/125 for single glazing and 15mm or 1/175 for double glazing of its clear span in a direction normal to the plane of that element, whichever is the lesser value. No element to deflect under loading in any way that is detrimental to any other element of the works or adjacent structure. All components, couplings and fixings to be capable of accommodating all of the above deflection without permanent distortion, deformation or failure. Accommodate defined differential structural movements arising from any loads imposed by adjacent structures. Calculations of deflections for structural aluminium to recognise criteria contained in BS 8118-1 limiting deflections.

7.12.8 Design Loads - refer to Structural Engineers specification

Withstand loads specified without affecting the systems ability to comply with performance requirements and / or the exceptional loads. Unless otherwise stated, the system to comply with all prevailing relevant British Standards as appropriate, including BS 6180:2011 and BS EN 1991-1-3:2003 + A1:2015. Consider the worst combinations when calculating design loads. Accommodate the self-weight of the system including all of its framing and supporting systems.

7.12.9 Imposed Gravity Loads - refer to Structural Engineers specification

Accommodate loads imposed by adjacent and / or attached elements suspended from or fixed to the system.

7.12.10 Live Loads - refer to Structural Engineers specification

Accommodate the following live loads without any reduction in performance:

- Movement of the building structure and cladding support structure.
- Horizontally applied loads acting on the surface of framing members and glazing arising from maintenance and cleaning operations.
- A horizontal uniformly distributed line load of 0.74 kN/m, due to the occupants, acting at a height of 1100mm above the finished internal floor level.
- Known impact loads, or transferred impact loads, that occur during service life.
- Loads imposed during replacement.

7.12.11 Wind loads - refer to Structural Engineers specification

Horizontal and vertical loads of similar magnitude to those which are imposed upon adjacent or attached elements.

7.12.12 Imposed Movements - refer to structural Engineers specification

Accommodate imposed loads by defined movements of its supporting structure and / or other adjacent elements.

7.12.13 Wind / Air Pressure Loads - refer to Structural Engineers specification

Calculate pressure loads to include the effect of internal air pressures within the building, taking into account the presence of significant openings.

7.12.14 Thermal Loads - refer to Structural Engineers specification

Accommodate thermal movement resulting from the maximum and minimum surface temperatures defined by CWCT requirements for curtain walling and windows. Cater for all temporary and permanent conditions.

7.12.15 Inertial Loads - refer to Structural Engineers specification

Accommodate inertial loads arising from acceleration / deceleration of moving sections including opening lights, doors and vents of the building or enclosure.

7.12.16 Environmental Performance Requirements

Moisture Movement - resist movement without permanent deformation or any reduction in the specified performance:

- Due to changes in the moisture content of works' components, resulting from variations in the moisture content of the air.
- Due to the expansion of absorbed or retained moisture caused by freezing.
  Control the flow of any water within the system and direct such water to the outside.

7.12.17 Thermal Performance

The average U-value through the works to comply with the above requirements and meet all statutory requirements as well as the specified requirements. Submit thermal calculations for the various components and the average thermal performance of the proposed works to comply with the specified requirements.

7.12.18 Solar Performance Requirements

Submit data sheets in respect of solar and visible light performance for project specific glass build-ups in accordance with BS EN 410: 2011 (light transmittance, radiant transmittance of glazing) with tolerances of ±3% for flat glazing. No cracking or distortion of glass is acceptable. Confirm the total solar transmission (G-value) for each glass type specified for review by the Employers Agent (EA). Glass manufacturers and types are acceptable only if they meet the performance and visual requirements.

Glazing units are to be ~~24 mm~~ 28mm argon filled double glazed units.

~~Glass - Standard Pilkington insulight or similar.~~
~~10mm - Suncool 66/33 toughened outer (HST).~~
~~24mm - Argon filled cavity with black spacer.~~
~~6mm - Clear toughened inner.~~

~~Look a like panels.~~
~~10mm - Suncool 66/33 toughened outer.~~

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~~24mm Air filled cavity.~~
~~6mm Toughened (HST) inner with ceramic enamel coating to inner face colour BS 18 B 29 (Graphite).~~

'G' - General Glazing
28mm DGU
6mm Clear Solar Control Toughened HST outer
16mm Argon filled cavity with black warm edge spacer
6mm Clear - Toughened HST inner.
Light Transmittance (TL) 70%
Solar Factor (g) 0.35
Center Pane 1.0W/m²K.

'D'- (Doors)
28mm DGU
6mm Clear Solar control Toughened HST outer
16mm Argon filled cavity with black warm edge spacer
6mm Clear - Toughened HST inner.
Light Transmittance (TL) 70%
Solar Factor (g) 0.35
Center Pane 1.0W/m²K.

'AP' - Aluminium Panel
28mm Thick Insulated aluminium Panel
Painted to match framing – RAL 7016

7.12.19 Air Permeability / Infiltration - refer to Building Regulation requirements

Minimise airflow from the outside to the inside of the building through joints / junctions to control concentrated airflow.

Maximum air infiltration rates to be achieved are:
1.5m³/hr/m² for fixed lights.
2.0m³/hr/per metre length for opening lights / smoke vents.
3.0 ³/hr/per metre length of opening for framed and rebated doors.
Any air leakage to be distributed and not concentrated at a single location.
Provide actual air leakage test results.

7.12.20 Façade Floor Air Leakage

Joints between cladding and structural slabs at each floor to be sealed such that air shall leak through the joint at no more than 0.1 litres/sec per linear metre of façade at 50N/m². Floor joint air leakage test to be carried out on site by a specialist laboratory such as CERAM, Taywood or BSRIA. Allow for testing at 10 No. locations, each comprising a tenth of 6000mm.

7.12.21 Condensation

Except under extreme conditions where the internal relative humidity is in excess of 70%, condensation is not to form, either on internal or external surfaces of framing members, glazing, solid panels or louvres, or internally within the construction of infill panels forming a part of the works, such that is may lead to damage or staining under the psychrometric conditions. Condensation will be permitted only in non-visible drained and ventilated rebates subject to it not having a deleterious effect on performance or durability. Provide a condensation risk assessment, taking into account the specified psychrometric condition. Refer to project outline specification and the Building Services Environmental Model.

7.12.22 Capillarity

Eliminate water migration, due to capillarity, to the inside of the building.

7.12.23 Weather and Water Penetration Resistance

The works to be weatherproof and watertight ensuring the prevention of water leakage onto the internal face of the works. The works to remain weatherproof and watertight under all conditions with due allowance made for deflections and movements. Cavities to be drained and ventilated to the exterior. Wet applied seals for the purpose of preventing the ingress of water is not acceptable. All seals and gaskets shall be "dry". Fixed joints to remain rigid and accommodate all thermal, building structure or other movements and any applicable loads without compromising water-tightness.

7.12.24 Acoustic Requirements - refer to Acoustic Engineers specification

The works shall effectively insulate the internal areas of the building from high levels of noise. The works shall provide internal sound reduction between floors. The works shall provide internal sound reduction between adjoining areas on the same floor.
Evidence shall be provided that the acoustic performance requirements given herein can be achieved. The measured noise exposure of each façade shall have been used in conjunction with the internal noise criteria of 45dBL Aeq to derive the façade sound insulation requirements of this development. Each façade shall achieve the minimum sound reduction indices (R) when tested in accordance with BS EN ISO 10140:2021 and associated parts, as specified by the Acoustic Engineer.

7.12.25 Impact and Abrasion Resistance

Resist abrasion from cleaning methods and maintenance systems without noticeable change in surface appearance. Generally, surfaces to be sufficiently hard (including glass coatings) to resist all reasonable impacts from hand-held objects without any noticeable change to the surface appearance. Impact tests to be carried out to all assemblies adjacent to pedestrian areas in accordance with the recommendations of BS 8200. Tests shall conform to category B requirements. The extent of any damage determined through testing to be recorded and, where possible, quantified. Samples shall also be submitted to the Employers Agent (EA).

7.12.26 Demountability

Elements of the works to be individually and independently removable ensuring access for maintenance and / or replacement of glazed units in the event of breakage. The removal of glazed units is not to affect the performance or safety of any part of the works and a method statement is to be provided for acceptance.

7.12.27 Fire Performance Requirements

All elements to be non-combustible or not easily ignitable with low flame spread characteristics, and not produce excessive quantities of smoke or toxic gases.
The external wall, where necessary to meet unprotected limitations under requirement B4 "External Fire Spread" of the Building Regulations. All materials used internally and externally (excluding sealants and gaskets) to have a reaction to fire performance Class A2-s1, d0 or better, spread of flame classification when tested in accordance with BS 476 and associated parts and also BS EN 1363-1:2020 / BS EN 1363-2:1999 / EN 13501-1:2018.

Fire tests in accordance with BS EN ISO 1182:2019 / EN ISO 1716:2018 / BS EN 13823:2020 / BS EN ISO 11925-2:2020.

Provide cavity barriers as necessary and comply with Building Regulations Approved Document

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B. Fire and smoke stops to be positively fixed in position so as not to become dislodged in the event of a fire. The fixing to secure the stop in position for a period at least equal to that required for the compartment wall or floor against which the works abut. If fire resistance is required for space separation purposes, comply with functional requirement B4 of the Building Regulations. The external surfaces of the cladding to comply with functional requirement B4 of the Building Regulations. Any insulation in the external wall construction that is exposed in a ventilated cavity shall be of limited combustibility, in accordance with the guidance in Section 12 of the Approved Document B. Provide a floor to floor fire separation as required at the perimeter of each level. Submit details of suitable products, including fire tests information complying with BS 476: Part 20, test method.

7.12.28 Office Windows & Entrance Doors Ribbon Glazing System

To match main entrance ~~Technal~~ Senior aluminium / steel framed system (or equal & approved) with a glass fibre reinforced, polyamide thermal break, dry-glazed with EPDM gaskets, or similar and approved. In-line opening lights as defined on the design drawings with restriction stays allowing the windows to be fixed to 100mm for safety and security.
Exposure category to BS 6375-1:2015
Design wind load: Consult ~~Technal~~ Senior for details
Airtightness - 600 Pascals
Watertightness - 600 Pascals
Colour / Finish - Polyester powder coating is available in any standard RAL colour
Ironmongery / Accessories: All handles, locks and hinges to be supplied by ~~Technal~~ Senior powder coated to match adjacent windows, curtain walling and doors.

7.12.29 Glass

Durability requirements of class C of European standards EN 1096-1 and -2.
Light and solar performance according to BS EN 410:2011. All glass shall be toughened and heat soaked. Thermally toughened safety glass shall be classified according to EN 12600:2002 for its pendulum impact performance. This product is to be used in critical locations (see BS 6262-4:2018). Heat soaked thermally toughened products shall comply with EN 14179-1:2016 for soda lime silicate glass.

Panel / facing type

Vacuum insulated aluminium glazed into and forming part of the curtain wall assembly.

External material:	3mm (min thickness) aluminium
External finish:	anodised
Internal material:	3mm (min thickness) aluminium
Internal finish:	mill and PPC
Core insulation:	non-combustible (A1 class) or limited combustibility (A2 class) insulation infill
Glazing system:	as ~~Technal~~ Senior recommendations

All glazing indicated on drawings should be fabricated as a complete glazing system and in strict a/w ~~Technal~~ Senior recommendations.

7.13 External Front Entrance Doors / Escape Doors / Loading Doors

7.13.1 Front Entrance Doors

The doors are to be manually operated with a thumb turn internally for the purposes of compliance to Building Regulations Part B compliant escape. A polyester powder coated or brushed stainless steel (to be agreed with Employers Agent (EA)) Note: to be sealed until units are occupied. Brushed stainless steel full height handles to be provided inside and outside

(50mm dia by 2000mm length approx.), offset handles to be used if relevant to avoid handles blocking access to door key point. Doors shall comply with all requirements of Part M of The Building Regulations. Concealed overhead door closer and a stay, or operator assist actuators, to be set to comply with Building Regulations Part M. 1No. brushed stainless steel bollards 100mm diameter x 1000mm high to be provided externally on the handed side of each entrance door to act as door stop when doors can be caught by gusty winds. Entrance doors are to be designed to allow for the future installation of security and access controls by the occupier. Wireways are to be provided to allow the future installation of access control systems.

7.13.2 Escape Doors

Fire escape door sets to be painted steel sheet in steel frames with concealed high security panic bar / swing restraint / shoot bolts. Colour to match adjacent cladding or to be as per planning / tender drawings.

No vision panels to be provided to external escape doors. Doors to be installed in external elevations set with minimal reveal depth and to suit threshold junction detail.

7.13.3 Level Loading Doors

Level loading doors required for per each unit as shown on the design drawings, insulated lockable and electrically operated and with bollards to protect jambs.

Unit 1:	Doors are 4.5 m high x 4 m wide.
Type:	~~Assa Abloy 1042 P~~ Doors for Industry (DFI) sectional overhead door (or equal & approved)
Finish:	Manufacturer's standard with colour as below.
Colour:	Anthracite (RAL 7016).

Note: internal liner panel should be white to match cladding liner sheet.

Doors shall have a manual override device installed. The doors are to be lockable and electrically operated with the appropriate weather tight seal and flashing. Permanent power will be provided to the doors and the doors will be fully commissioned upon completion.

150mm diameter, 1200mm high (minimum) concrete filled protection bollards are to be provided externally to level entry door openings. Bollards are to be sleeved to facilitate easy replacement and painted black with reflective yellow hazard stripes to the head.

7.14 Movement Joints - refer to Structural Engineers specification

Movement joints shall be installed in accordance with manufacturers recommendations, shall be sealed with 2 part polysulphide or low modulus silicone based sealant on an expanded polyethylene backing strip. Sealant colour is to match the surrounding materials to Employers Agent (EA) approval.

Contraction and expansion joints for the structure and blockwork are to be provided where required and fully co-ordinated. Back to back plaster stop will be provided at contraction and movement joints to avoid plaster cracking, with sealant finish by Tremco 'Dymeric' or equivalent.

7.15 Timber

Structural sawn timber to BS 4978:2007 + A2:2017, framing and battens to be preserved to British Wood Preserving Association Commodity Specification C8.

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7.16 Front Entrance Canopies

~~Frameless minimum 12mm thick laminated toughened clear safety glass panel~~ 1400mm Projection Glass canopy. 10mm thick toughened glass on satin or brushed stainless steel connectors and wires / bars connected to the ~~curtain wall system~~ structural steel in line with design drawings or on powder coated steel support arms fixed within cladding zone or curtain walling / glazing metal spandrel panel areas in line with design drawings (steel support's finish to match curtain wall / glazing external frame finish). All connections and bolts in satin or brushed stainless steel. Polyester powder coated gutter and downpipe with concealed fixing to match curtain wall / glazing external frame finish. Projected gutter and downpipe to be fixed/ sealed into cladding / flashing profile / curtain walling as appropriate.

Canopy width to match width of glazed entrance unit and projection to be ~~approximately 1500~~ 1400mm to cover front paving area zone measured from external face of glazing frame (projection to be coordinated with paving depth).

7.17 Air Pressure Test

An air pressurisation test will be carried out to provide an air permeability of a maximum of 5 $m^3/m^2.h$ in line with the Building Regulations and the project Energy Strategy.

7.18 External Signage

A zone shall be designated and left ready for the future installation of occupier signage. Illumination, planning approvals and installation are to be undertaken by the Occupier. Suitable allowance to be made for additional internal steel structure to support this.

8.0 INTERNAL CONSTRUCTION

8.1 Internal Walls and Partitions

Layout of the cores, offices and associated areas are to be designed as per the design drawings.

8.2 Walls to Offices / WCs (including disabled WCs) / Lobbies

Save for where specifically specified elsewhere internal walls (including linings to external elevations and column encasements) are to be constructed of 100/140mm solid blockwork to BS 6073-1, (thermally and acoustically insulated where relevant) metal stud partition wall system or non-combustible (class A1) / limited combustibility (class A2) core composite panel system to achieve both fire compartment and structural requirements. Walls and floors forming divisions between office space and warehouse are to be insulated to achieve a minimum of U value in line with the requirements of Building Regulations compliant Energy Report (BREEAM Report) and achieve required fire resistance as per fire strategy requirements.

All partitions, ceilings & doors to plant areas and walls separating spaces within the office are to achieve a sound reduction factor of 41 dBA.

8.3 Internal Doors

8.3.1 Offices / Reception / WCs (including disabled WCs)

Doors to be factory finished. The contractor will submit a door sample for EA approval.

Front of house - American White Oak timber veneered solid core flush door-sets with hardwood flush beads and lipping on three edges hung in hardwood painted frames to comply with fire requirements. Vision panels will be provided as required by Building Control and as shown on the project design drawings.

Back of House (if relevant) - shall match the front of house doors in general appearance and arrangement, factory primed and site painted (white) ply faced flush type in painted softwood frames.

All fire doors will comply with FD30s / FD60s and BS EN 476: 2022 and to be self-closing and all necessary fire signs to Fire Officer approval. 2mm intumescent strip is to be concealed within door frame at door stop. Smoke seals to be fixed to frames as required by the Fire Officer.

Full height vision panels of approx. 150mm x 1600mm are to be provided to the office and reception doors as necessary and be 'Pyran' or similar fire resistant clear glass to comply with BS 476:2011 Parts 20 and 22.

Fire Resisting Doors / Door sets

Door / Door sets must be installed by a firm currently listed in the FIRAS Register of Accredited Installers, in accordance with instructions supplied with the product conformity certificate, test report or engineering assessment.

Door assemblies within openings, including ironmongery are to comply with Approved Doc B to the satisfaction of the Approved Inspector & shall be independently tested to the relevant parts of BS 476:2011 Parts 20 and 22 and assessed under the TRADA Quality Assurance Services Ltd. "Fire Resisting Doors and Door sets Quality Assurance Scheme". Doors to be marked with an identifying label and plug, in accordance with the scheme. Copies of test certificates or assessments to be provided for inspection.

Door manufacturers need to be approved registered by the Exova BM TRADA Q Mark scheme.

8.4 Architraves / Skirting

Architraves to be factory primed (white) square edge type MDF site painted (white).

Skirting's to sanitary areas and ground floor level lobby areas to be tiled to match flooring (see specification item 9.1). Skirting to staircase and landing / lobby areas to be factory primed (white) square edge type MDF, site painted (white or see staircase design) skirting board.

Office areas with requirement for raised access floor system to have factory primed (white) square edge type MDF site painted (white) skirting boards.

8.5 Entrance Mat

Entrance matwell and recessed stainless steel frame - ~~Emco Diplomat 517~~ Intra Systems Intraform Low Profile with Anthracite infills. Door containment for tenant security shall be set within a recess within the slab beneath the mat (requirement to be confirmed with Employers Agent (EA)). Entrance mat is to be provided to entrance doors, sized to be 1200mm in depth across the full width of the entrance screen.

8.6 Ironmongery

Doors to be complete with heavy duty floor / overhead hydraulic closers, push plates, and pull handles, lever handles and latches, protective plates and kick plates, mortice locks fitted with interchangeable suited key barrels, etc. Locks will be individually keyed under master key. All Ironmongery to be generally heavy duty brushed / satin stainless steel finish or equal.
Allow for doc M door grab rails (see specification item 10.4.2) to disabled showers and WC areas.

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8.7 Staircases

Staircases are to be designed to meet all the requirements of the Building Regulations including Part M and Part K.

~~Decorative finish to all steel faces & edges of steel stair cases, in accordance with NBS specification clause 460 high decorative finish. The factory polyester powder coat finish is to be of a high standard of evenness, smoothness & gloss when viewed at minimum distance of 2m. Colour: RAL 7016 Anthracite Grey.~~

Staircases shown on the design intent drawings and described in this specification are to be designed to BS 5395:2010 where applicable and in line with Structural Engineer's specification. The supplier / subcontractor must complete the design and detailing to ensure compliance with the structural and safety requirements of BS 5395-1:2010 / BS 5395-3:1985
Occupancy class for dead and imposed loadings on stairs and landings to BS EN 1991-1-1:2002 and BS EN 1991-1-7:2006 + A1:2014.

Building use category for balustrades and handrail loadings (as specified in BS 6180:2011: 4.
Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication. Designated items: Stair balustrading, handrails, rods and ancillary support sections, roof access ladders.

All internal stairs are means of fire escape which will be used as general accommodation stairs for occupants. The design intent drawings illustrate the stair in terms of layout and finishes: the fabricator / subcontractor shall progress the design to completion with the same design concept. For this purpose, the following criteria shall be maintained. Stair supports shall only be as shown on the design drawings.

Stairs shall have ~~painted mild~~ satin stainless steel balustrades (to stairs and landings) - 2No. 40mm x 10mm flats as uprights with 4No. approximately 12mm diameter equally spaced horizontal rods with approximately 48mm ~~brushed~~ satin stainless steel handrails, verticals to be fixed to top or side of staircase surface (fixing to suit staircase design). Handrails adjacent to walls to be fixed with metal brackets, with a finish to match adjacent balustrades.

Where handrails are proposed to be fixed to wall without the need for vertical post supports adjacent partition wall system to include adequate pattress plywood (min 18mm) or suitable sub-base for handrail fixing. Metalwork finishes: The drawings show the degree of steelwork that will be visible on completion of the stair.

Balustrades are to be fully ramped / arised to ensure a fluid and smooth line at all changes in direction and avoid swan necks (where possible). Handrail at wall perimeters to be supported on bespoke wall brackets as design intent drawings (finish to be agreed).

Any exposed strings to be finished smoothly and painted. The staircase is to be finished with carpet as office with Gradus aluminium nosing full width sections with colour coated inserts. (Nosing inserts (colour) to comply with LRV (Light Reflectance Value) requirements against proposed carpet finish). The skirting to staircases is to be generally as per specification item 8.4 with cut string to match the general skirting appearance.

9.0 INTERNAL FINISHES

9.1 Floors

Tile grout joints to be coordinated between different size floor and wall tiles (to be aligned where possible).

9.1.1 Floor to Reception / Ground Floor Lobby

Approx. 8mm anti-slip ceramic tile bedded on power floated slab laid to pattern and pointed up in grey grouting cement to BS 5385-1:2018. Domus 592mm x 592mm Flow 2.0 DRFW 06 dark grey tiles [Matt finish] or similar approved to be laid with matching skirting tiles (height to be agreed). Grouting to be Mapei 114 Anthracite, minimum ramp slip resistance test R-value to be R10 (subject to BC comments) / in line with HSE requirements.

9.1.2 First Floor Offices

Carpet tiles: 500mm x 500mm heavy contract grade carpet tiles,
Manufacturer: Desso Desert Carpet ~~B882 9502~~ AC89 9516 colour Grey or similar approved, the carpet is to be laid in a broadloom pattern in all cases.
Laying method: Tiles to be bonded with tackifier or in a/w carpet supplier recommendations.
Accessories: Aluminium floor trim edge profiles (Gradus) to all doors with change of floor finish.
Laying of coverings will be taken as joint acceptance by the Main Contractor and subcontractor of the suitability of the bases and conditions within any given area.

Raised access floor system to office areas by ~~Kingspan - RMG600 (if relevant - tbc)~~ Permaflor – BGM600, nominal depth to be 150mm including tray. Steel encapsulated / particle board construction, screw down raised access floor panels to the requirements of PSA MOB PF2 PS/SPU and BS EN 12825. 600mm x 600mm with oversized tiles to suit the floor layout (600mm x 900mm panel standard perimeter), **cuts of less than 450mm will not be accepted.** Complete works in a/w manufacturer's technical recommendations including expansion and contraction joints.
Fire stop the floor to the requirements of Part B and specifically at riser interfaces and cladding perimeters, provide any additional bridging and support as required. Carry out bag tests to ascertain the pedestal fixing method (adhesive or mechanical fix), finish the sub-floor with two coats of floor sealer in contrasting colours. Provide fire barriers to comply with the requirements of Approved Document B.

9.1.3 Floor to WC's

Approx. 8mm anti-slip ceramic tile bedded on power floated slab laid to pattern and pointed up in grey grouting cement to BS 5385-1:2018.
Domus 592mm x 592mm (or 295mm x 295mm) Flow 2.0 DRFW 06 dark grey tiles (Matt finish) or similar approved to be laid with matching skirting tiles (height to be agreed). Grouting to be Mapei 114 Anthracite, minimum ramp slip resistance test R-value to be R10 (subject to BC comments) / in line with HSE requirements.

9.1.4 Floor to Disabled WC & Shower.

Approx. 8mm anti-slip ceramic tile bedded on power floated slab laid to pattern and pointed up in grey grouting cement to BS 5385-1:2018.
For area around disabled shower: Domus 592mm x 592mm (or 592mm x 295mm) Flow 2.0 DRFW 06 dark grey tiles (Bush Hammered finish) or similar approved to be laid with matching skirting tiles (height to be agreed). Grouting to be Mapei 114 Anthracite, minimum ramp slip resistance test R-value to be R11 (subject to BC comments) / in line with HSE requirements.
For disabled shower area (1200mm x 1200mm zone with gradient towards floor drain point): Domus 146mm x 146mm Uniseries DTU 15 (Rock finish - to closely match Flow 2.0 DRFW 06 finish) or similar approved to be laid with matching skirting tiles (height and type to be agreed and coordinated with area around disabled shower). Grouting to be Mapei 114 Anthracite, minimum ramp slip resistance test R-value to be R12 (subject to BC comments) / minimum wet area Pendulum Test value (PTV) to be 36+ (TRV) / in line with HSE requirements. A wet room type disabled shower area to be provided with flush entry and 150mm square chrome plate / brushed stainless steel finish floor drain (Harmer or similar approved, location to be coordinated with drainage design) to comply with Section M1 / M3 diag. 23 and 24 - Approved

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Document Part M Volume 2.
For wall tiles within 1200mm x 1200mm disabled shower area see specification item 9.2.3.

9.2 Walls

9.2.1 Walls Generally

Full height plaster or skimmed plasterboard linings according to location to all walls and columns. Finished with three coat emulsion paint. (1 mist, 2 full).
All external plaster angles reinforced with angle beads, all changes in direction shall include crack control beads. All external plaster angles reinforced with angle beads including all necessary stop beads and expansion joints at junctions of dissimilar backings and steel columns or expansion joints in blockwork.

9.2.2 Rear walls to Office Toilets

IPS panels by ~~Venesta~~ TBS Fabrications or equivalent:

Substrate:	Treated softwood framework, notched, screwed and site assembled.
Board / Panels:	Solid grade laminate panels, full height in three panel sets.
Thickness:	12mm - 13mm overall
Core material:	Not applicable
Facing:	Not applicable
Colour:	Dark grey ~~(close match to RAL Anthracite Grey (RAL 7016))~~ Pepper TA349
Moisture content at time of fixing:	As recommended by fabricator to suit environmental conditions.
Edge treatment:	Exposed edges are machined to a smooth profiled finish (black).
Method of fixing panels:	Concealed Keku 'lift off' brackets with hook on system panels or panels on concealed (secret) fixings (hinges) with keyed lock (chrome) to prevent unauthorised access.
Joint treatment:	With 20mm flash shadow gaps and close butted horizontally, rear shadow gap laminate to match panel colour.
Included features:	All duct / panelling cistern duct sets to be made to site dimensions with vertical shadow gaps set to 20mm.
Accessories:	All fixing components.

9.2.3 Disabled WC showers

Full height tiling to shower area, note tiling manufacturer's recommendations in regard to tile fixings to rendered substrates. Refer to design drawings.

Tiling to BS 5385-1:2018, 150mm x 150mm x approx. 6mm Johnson Prismatic (or similar approved), coordinated with nominal 150mm (146mm) floor tiling setting out and skirtings (see specification item 9.1.4).
Colour: White
Grout: to closely match the wall tile Mapei 110 / 111 / 130 Jasmine (tbc).

9.3 Ceilings

Location: Cleaner's Cupboard

Light fittings to be arranged evenly to achieve required Lux levels
Lining to be skimmed and painted to match adjacent wall finish.

9.3.1 Accessible tiled ceilings with lay-in grid and perimeter MF suspended ceiling

Location: Lobby Areas and Office

Minimum floor to ceiling height to be as per specification item 2.4.
Manufacturer and reference: Zentia Aruba Tegular 24 white painted or similar approved, size 600mm x 600mm.
Board materials: Mineral Fibre (class A2-s1, d0).
Accessories: Perimeter trims finished powder coat white RAL 9010.
Light fittings to be arranged evenly to achieve required Lux levels within open plan / cellular layout.
Light fittings are to be LG3 compliant to office areas only and suit tile size.

9.3.2 Accessible tiled ceilings with lay-in grid

Location: Office Toilets (or Cleaner's Cupboard)

Minimum floor to ceiling height to be as per specification item 2.4.
Light fittings are to be lay in recessed modular fittings and arranged evenly to achieve the required Lux levels.
Manufacturer and reference: Zentia Aruba Tegular 24 white painted or similar approved, size 600mm x 600mm.
Board materials: Mineral Fibre (class A2-s1, d0).
Accessories: Perimeter trims finished powder coat white RAL 9010.
Light fittings to be arranged evenly to achieve required Lux levels.
Light fittings are to be LG3 compliant to office areas only and suit tile size.

9.3.3 Accessible tiled ceilings with lay-in grid

Location: Disabled WCs&Shower,
or generally any areas with anticipated high humidity

Minimum floor to ceiling height to be as per specification item 2.4.
Light fittings are to be lay in recessed modular fittings and arranged evenly to achieve the required Lux levels.
Manufacturer and reference: Zentia Hydrobloc (moisture resistant) Tegular 24 white painted or similar approved, size 600mm x 600mm.
Board materials: Mineral Fibre (class A2-s1, d0).
Accessories: Perimeter trims finished powder coat white RAL 9010.
Light fittings to be arranged evenly to achieve required Lux levels.
Light fittings are to be LG3 compliant to office areas only and suit tile size.

9.4 Ancillary Items

9.4.1 Cill Window Boards

Where applicable 38mm section solid painted (white) mdf with square edging with nib returns.
High level timber backing is to be provided to all office windows to allow for the fixing of blinds by the occupier.

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10.0 FIXTURES AND FITTINGS

10.1 Sanitaryware - Unisex WC / Single-sex WC

10.1.1 WC Pan and Cistern

Arrangement:	Back to Wall WC Pan with concealed cistern.
Pan:	Geberit Selnova (back to wall) with concealed cistern system (ref. No. 501.043.00.6).
Seat with Cover:	Geberit Selnova WC Seat, white (both seat and cover (ref. No. 500.333.01.1) - soft self-closing with top fix, hinge brass chrome plated).
Pan connector:	to suit horizontal pan connection and drainage design, white plastic finish.
Cistern:	Grohe EAU2 WC Concealed Cistern 0.82m, 6/3 l set, six litre capacity with Freeflow plastic syphon fittings (ref. No. 38 691 000), 15mm microvalve side supply, 20mm side flow, plastic flush bend or similar approved.
Other accessories:	Grohe Eau2 air push button (ref. No. 38 771 000), actuation with 100mm dia escutcheon, pneumatic hose 1500mm long or similar approved.
Sealing:	white silicon sealant to pan / floor / wall junctions.

10.1.2 Washbasin

Basin:	Geberit Selnova Compact (ref. No. 501.515.00.6) with 1 centred tap hole option and internal overflow feature, to be fixed to IPS panel without the need for exposed brackets and pedestals (semi or full), 450mm(w) x 340mm(d) x 170mm(h), white vitreous china finish.
Waste / Trap:	Geberit 1 ¼'' washbasin drain with trap including external waste plug with push actuation, horizontal outlet (ref. No. 151.021.21.1), gloss chrome plated finish, depth of water seal 75mm, installation to include wall collar.
Mixer:	Grohe Eurosmart Cosmopolitan mono basin mixer ½'' S-size (ref. No.3282400L), chrome finish.

10.1.3 Wall Shelf (if required by BC)

Shelf:	Disabled Toilets UK wall-hung shelf with concealed fixings (ref. No. DTUK274SS-250), size 250mm(w) x 150mm(d) x 50mm(h).
Material:	steel.
Finish / Location:	stainless steel installed 780mm to 800mm above finished floor level above anticipated disposal bin floor zone.

10.2 Sanitaryware - Cleaners Cupboard

10.2.1 Cleaner's Sink

Sink:	Armitage Shanks Alder heavy duty cleaner's sink (ref. No. S5900) with high back and fitted with stainless steel bucket gratings, with stainless steel (anticipated 350mm) legs (ref. No. S9233) with aluminium alloy bearers and screws (ref. No. S9101), 510mm(w) x 310mm(d), white (01) fine fireclay finish.
Waste:	Armitage Shanks waste 1 ½'' unslotted strainer waste (ref. No. S8726), 80mm tail brass, chrome (AA) finish.

Trap:	Armitage Shanks 1 ½'' bottle trap with 75mm seal (ref. No. S8925), multi-purpose outlet, neutral finish (67).
Taps:	Armitage Shanks Nimbus 21 Anti vandal bib taps ½'' (ref. No. B1673), hot and cold water cross head type, chrome plated brass finish with Armitage Shanks Nimbus 21 Concealed bib tap wall mount with self-centralising installation for connection to be concealed within partition wall (ref. No. B1686), chrome plated (AA) brass finish or with Armitage Shanks Nimbus 21 exposed bib tap wall mount with self-centralising installation (ref. No. B1688), chrome plated (AA) brass finish.

10.3 Sanitaryware - Disabled WC

10.3.1 WC Pan and Cistern

Arrangement:	back to wall toilet with exposed cistern.
Toilet:	Armitage Shanks Contour 21 close couples raised height toilet bowl with horizontal outlet (ref. No. S3054 (toilet) + ref. No.S3654 (cistern)), 75cm projection with floor fixing kit, with seat only (ref. No. S4066 - top fixing hinges and retaining buffers) and spatula cistern lever (ref. No. S4420), white (01) vitreous china toilet finish, charcoal (RN) / grey (LJ) seat finish, chrome (AA) lever finish.

10.3.2 Washbasin (select option below - with overflow or without overflow)

Basin (no overflow):	Contour 21 Armitage Shanks 37cm hand rinse washbasin, right hand (RH - ref. No. S2474) or left hand (LH - ref. No. S2473) orientation to suit individual layouts (see GA layouts), short projection wall mounted with no overflow, to be wall fixed without exposed brackets or pedestals, hangers concealed (ref. No. S9110), 370mm(w) x 305mm(d) x 170mm(h), white (01) vitreous china finish.
Waste:	Armitage Shanks waste 1 ¼'' chrome plated brass strainer waste (ref. No. S8720), 80mm unslotted tail, chrome (AA) finish.
Trap:	Armitage Shanks 1 ¼'' metal bottle trap 75mm seal (ref. No. E0079), chrome (AA) finish.
Mixer:	Armitage Shanks thermostatic basin mixer Contour 21+ (ref. No. A6697), 1 hole single sequential lever with copper tails, chrome plated (AA) brass finish.
Basin (overflow):	Sandringham 21 Handrinse 35cm hand rinse washbasin, right hand (RH - ref. No. E8928) or left hand (LH - ref. No. E8929) orientation to suit layouts (see GA layouts), short projection wall mounted with overflow no chainstay hole, to be wall fixed without exposed brackets or pedestals, hangers concealed (ref. No. E5010) or screwed to wall using screws (ref. No. E0157), 350mm(w) x 260mm(d) x 160mm(h), white (01) vitreous china finish.
Waste:	Armitage Shanks 1 ¼'' chrome plated brass anti-theft swivel plug waste (ref. No. S8733), 80mm slotted tail, chrome (AA) finish.
Trap:	Armitage Shanks 1 ¼'' metal bottle trap 75mm seal (ref. No. E0079), chrome (AA) finish.
Mixer:	Armitage Shanks thermostatic basin mixer Contour 21+ (ref. No. A6697), 1 hole single sequential lever with copper tails, chrome plated (AA) brass finish (selection subject to M&E design requirements).

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10.3.3 Grab and Support Rails

Grab rail:	4No. (3No. vertical + 1No. horizontal) Armitage Shanks Contour 21 Doc M compliant 600mm x approx. 35mm diameter grab rails (ref. No. S6454), stainless steel finish (MY).
Hinged WC Support Rail:	1No. Armitage Shanks Contour 21 Doc M compliant 800mm x approx. 35mm diameter hinged support rail (ref. No. S6360), stainless steel finish (MY).

10.4 Sanitaryware - Disabled Shower

10.4.1 Shower

Shower Seat:	Armitage Shanks Doc M compliant shower seat (ref. No. S1207), folding 650mm projection fixed height and multi-system back support (ref. No. S1208), grey (XK) seat finish.
Shower Curtain:	Armitage Shanks multi-system shower curtain 1500mm x 2000mm (ref. No. S6750) with Armitage Shanks Contour 21 angled shower curtain rail (ref. No. S6751), 1200mm x 1200mm, white (01) curtain with white rail (AC) finish.
Shower Set:	Omnicare Thermostatic Electric Shower, Omnicare Design with extended kit, 8500 Watts, including riser rail kit with shower head (Triton reference No. CINCDES08WGRB) or similar approved

10.4.2 Grab and Support Rails

Grab rail:	2No. (1No. vertical + 1No. horizontal) Armitage Shanks Contour 21 Doc M compliant 600mm x approx. 35mm diameter grab rails (ref. No. S6454), stainless steel finish (MY).
Towel grab rail:	1No. horizontal Armitage Shanks Contour 21 Doc M compliant 450mm or 600mm to suit GA layout x approx. 35mm diameter grab rail (ref. No. S6452 or S6454 to suit GA layout), stainless steel finish (MY).
Door grab rail:	1No. horizontal Armitage Shanks Contour 21 Doc M compliant 450mm x approx. 35mm diameter grab rail (ref. No. S6452), stainless steel finish (MY).
Hinged Shower Rail:	2No. Armitage Shanks Contour 21 Doc M compliant 800mm x approx. 35mm diameter hinged support rails (ref. No. S6360), stainless steel finish (MY).

10.5 Pipework

To be designed to minimise the number and length of horizontal runs. No exposed horizontal (or vertical) pipework runs allowed, all pipework to be concealed within partition stud zone. Any cisterns / cistern mixers (or similar), soil stacks, SVP's, hot and cold water feeds are to be concealed (behind IPS or above the suspended ceiling). Horizontal runs of 100mm soil wastes and 38mm runs are to be avoided. Any exposed pipework to be chromed brass.

10.6 Toilet Roll Holders / Mirror(s) / Coat Hooks / Door Stops

Armitage Shanks Concept toilet roll holder with cover (ref. No. N1382) to be provided per each WC area, chrome plated metal finish (AA).
Mirror with concealed fixings to be provided per each WC area, size and location as per design drawings.
2No. Armitage Shanks Concept single robe hooks with cover (ref. No. N1380) to be provided per each toilet door.
Hafele floor mounted door stop with concealed floor fixing (ref. No. 937.51.720) to be allowed for all internal doors, location to be coordinated during construction stage, approx. 35mm diameter, satin

stainless steel finish with rubber buffer.

10.7 Kitchenette (First Floor Office)

Howden's Kitchen high gloss laminate base and overhead handle-less units, colour white gloss. Worktop to be Silestone 20mm Ethereal Glow ~~white Corian or similar approved~~ with integrated drain board, with square edges. 1no Stainless Steel kitchen tap and ~~square shape~~ white Chasewater Single Bowl No Drainer Undermount Granite Composite Fossil Kitchen sink bowl by Howdens undermounted onto ~~Corian top~~ worktop.

Splashback to be Johnson and Johnsons 300x100m white metro style tiles laid in brick pattern with white grout to back wall only.

~~Integrated Bosch white goods - integrated fridge, microwave, and dishwasher to the EA's approval. Loose equipment by occupier.~~

Integrated white goods - integrated Bosch fridge, Bosch dishwasher, and Lamona microwave, to the EA's approval.

Loose equipment by occupier.

10.8 Fire Precautions / Statutory Signage / Door Signage

The requirements of the Local Fire Prevention Officer will be incorporated, in respect of means of escape, fire resisting doors and partitions, fire exit doors and fittings and all associated signs and notices.

Signs and notices will comply with Associated Signs and BS ISO 3864-1:2011 'Fire Safety Signs, Notices and Graphic Symbols'. All signs to be metal or rigid plastic and screw fixed.

Icon pictogram door signs from Allgood (www.allgood.co.uk) for WC (ref. No. 8432 or 8532 (male), ref. No. 8433 or 8533 (female), ref. No. 8434 or 8534 (unisex) or ref. No. 8431 (gender neutral)), disabled WC (ref. No. 8435 or 8535 (disabled) + ref. No. 8456 or 8556 (shower)) and cleaners store (ref. No. 8455 or 8555 (cleaners)) doors all to suit GA layout requirements, size: 76mm sign, finish: satin stainless steel, All signs to be mechanically fixed.

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11.0 SERVICES

11.1 Below Ground Services - refer to Civil Engineer's design & specification and specification item 5.3.3

All below ground services to be installed in accordance with the Street Works UK recommendations as outlined in Steet works UK guidance on the positioning and colour coding of underground utilities, Volume 1, Issue 10.
All mains connections are to be co-ordinated and laid in the new access road.

11.2 Electrical

11.2.1 3 Phase power

A 3 phase power supply is to be brought into each unit to a suitable position to be agreed with the Employer's Agent (EA). See also specification item 2.6.
Distribution board shall be located adjacent the incoming supply cut-out (main switch) and suppliers meter.

11.2.2 The supply shall include an allowance of:

Office Lighting
Office small power
External /Car Park Lighting
Spare Capacity

11.2.3 Power, data and lighting ducts

Incoming supplies to the premises shall be via underground ducts located to the front of the warehouses with position to be agreed with the Employer's Agent (EA). Both power and data ducts shall rise through the floor slab using slow radius bends. Cable containment for the small power and lighting circuits shall be routed around the perimeter of the warehouse and through the ceiling voids of the communal and office areas. The low level services within the offices shall be installed within dado trunking.

Extra low voltage services and fire alarm cabling shall be installed on galvanised steel cable baskets.

11.2.4 Hand Drier/ Shaver Socket

One electric spur suitable for hand drier installation to be installed in each WC, disabled WC and disabled shower area (high level) with blank plate for future power supply connection (height to suit anticipated Part M compliant fitting location).

11.2.5 Perimeter Trunking

See specification item 8.4

11.2.6 Housekeeping

Adequate wall sockets are to be allowed in staircases and lobby (entrance, office or sanitary) areas for cleaning. Sockets are to be positioned at min 450mm above finished floor level.

11.3 Gas

11.3.1 Gas pipes shall be sized to carry the equivalent 30W/m² to the warehouse. They shall be installed between a meter housing at the boundary the warehouse and isolated/ capped off for future use.

11.4 Water

11.4.1 Water meter & supply

A suitable metered water supply shall be provided to serve each unit. Type and location of water points to be determined.

1 No. external bib tap to be provided adjacent to loading door. Exact position to be agreed with Employers Agent (EA).

1 No. external bib tap to be provided to the refuse area. Exact position to be agreed with Employers Agent (EA).

2 No. suitable external water points to be considered and provided for the maintaining of external landscaping (if relevant and required under BREEAM).
Refer to Proposed Site Plan.

Hot and cold drinking water supply to be provided to all toilets. Any water heater is to be concealed and fully accessible for maintenance in all cases, with the exception of the Cleaners Cupboard / Store which can be exposed. See also specification item 10.7

11.5 Heating

11.5.1 Electric panel wall hung heaters

Flat panel wall hung heater so be provided to office space, reception, sanitary areas and staircase / lobby areas as appropriate. The contractor and M&E subcontractor to advise and agree requirements / layout with the Employer's Agent (EA) prior to any installation.

11.5.2 Warehouse
No heating is to be provided to the warehouse areas.

11.5.3 Overhead Air Curtain

Dimplex Air Curtain (or similar approved, subject to M&E proposal) to be provided on the vertical (nominal location) or horizontal face of wall / ceiling above the main entrance to unit, white finish, width to be coordinated and centred on the main entrance glazing area. Any wiring to be concealed.

11.5.4 Performance Criteria

The installation to be designed and installed in accordance with the requirements of all relevant Statutory Authorities, the Building Regulations, and shall comply with the standards set down in the latest Chartered Institute of Building Services Engineers (CIBSE) guide.

11.6 Lighting

11.6.1 Internal Lighting

The contractor shall supply, install, test and commission the lighting installation. Lighting power and control distribution shall be made via a lighting control system located within the ceiling void.

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All lighting and control strategy shall be installed, tested and commissioned in accordance with CIBSE recommendations and guidelines and to meet the requirements (including lux levels) of LG7:2005 for the office areas, BCO guidelines and the Building Regulations.

The Contractor shall ensure that the lighting control modules (LCM's) are compatible with the luminaire control gear and that LCM's are located approximately 200-300mm above the suspended ceiling for ease of maintenance, suspended on two drop rods with capped ends or similar adequate.

Presence detectors shall be provided at strategic locations to locally control groups of luminaires. A number of these are combined presence detectors / photocells. The photocells shall enable the lighting control system to adjust artificial lighting to make the most use of available natural daylight.

Switches to be located adjacent to the door only with zoned and adjustable time and movement sensors, to be set at min 30 minutes at commissioning.

Emergency lighting will be provided in accordance with BS 5266-1:2016.

The following details the typical requirements for the lighting in the different area types:

Open Plan Offices

The lighting layout is to provide a uniform lighting level (500 lux) across the floor space via recessed modular luminaires (recessed 600 x 600mm modular LED type luminaires) to suit suspended ceiling grid / tile size, supplemented by recessed downlights. Luminaires near to the windows shall be provided with automatic daylight linking. Lighting to be PIR controlled. The initial set up shall be that any PIR in the open plan office space shall switch on the whole office space luminaires.

Stair Cores

The stair core lighting shall be renewed and controlled by the lighting control system. The lighting shall be provided by wall mounted LED luminaires supplemented with LED downlights in accessible locations if required, to be located and the landings and half landings. Lighting to be PIR controlled, PIR's are to be installed at all entrances to the stair cores. The activation of a single PIR within the stair core shall operate all lighting within that stair core.

Entrance and Sanitary Lobbies

The lobbies shall be provided with a suitable illuminance (150 or 200 lux for reception, 100 lux for ancillary areas). The space is to be locally switched via a scene setting controller.

WCs

The Contractor shall ensure that the lighting to these spaces gives a bright uniform lighting ambience (min 200 lux). Particular attention should be given to ensuring the luminaires (LED downlights) in these areas have the correct ingress protection and are impact resistant. Lighting to be PIR controlled.

Warehouse

No lighting to the warehouse, with the exception to 2No. flood lights to allow for inspection of the warehouse space. Flood lights are to be attached to the warehouse side of the office / warehouse compartment walls (high level). Lighting to be switch controlled.

11.6.2 External lighting

External light fittings to be provided to the yard, car and cycle parking areas and perimeter maintenance footpaths, fixed to the unit façade, column mounted or installed within bollard posts to suit adequate lux levels and proposed site design and to be connected to the respective unit or landlords supply (relevant to be applied based on demised area zoning).

The colour of fittings to match surrounding cladding positions as indicated on drawings.

Min average 20 Lux. Loading Bay to be average 50 Lux (and to comply with planning / ecological impact assessment report requirements).

All fittings are to be LED, controllable via photocell and timers with manual overrides.

11.7 Ventilation

11.7.1 Mechanical Ventilation - Office areas

General Office Ventilation is to provide a minimum fresh air supply of 10l/s per person based on one person per 10sqm of floor area with a matched extract system, via the use of heat recovery units. Fresh and exhausted air shall be taken from and exhausted to atmosphere via wall mounted supply / extract grilles on the suitable façade of the building, generally located above the window heads. Locations for these grilles are to be agreed with the design team prior to installation. Supply and extract air into and from the office space shall be via flush ceiling mounted diffusers, ducted to the required supply / exhaust grille as shown. Each heat recovery unit is to be provided with a locally mounted wall controller. HRU's and associated ductwork are to be contained within the ceiling voids.

11.7.2 Mechanical Ventilation - WC area, disabled WC area, disabled shower area and cleaner's cupboard area.

Local extract systems shall be provided. These shall achieve an air change rate of 8 air changes per hour in the case of the WC area and 10 air changes per hour in the cleaner's cupboard and disabled WC or shower area. Each fan shall be controlled via a PIR sensor local to each space, switching on the fan whilst the area is occupied. Once the room is vacated, the fan will be set to run on for a further 10 minutes (in the case of twin fan units an auto changeover control required.). Extracted air shall be discharged to atmosphere via an external grille located on the suitable façade of the building, generally located sufficiently away from window / door areas. Locations for these external grilles are to be agreed with the design team prior to installation. Extract air shall be via flush ceiling mounted diffusers, ducted to the required exhaust grille. Fans and associated ductwork are to be contained within the ceiling voids.

All external grilles (including metal flashing profiles) are to be colour co-ordinated and polyester powder coated to a RAL colour to match the adjacent cladding background.

Ventilation is to comply with Building Regulations.

11.7.3 SVP's flues and ventilation pipework

To be built into ductwork comprising 2 layers plasterboard / proprietary fire-resistant board to the required fire rating with staggered joints on softwood framing, with skim and emulsion paint. Pipes are to be fire stopped with proprietary sleeve connectors in accordance with Fire Officer's requirements.

11.7.4 Smoke Extraction

Shall only be provided if required to satisfy the requirements of the Building Regulations and /

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or Local Acts.

11.8 Security Systems

11.8.1 Security Systems

Shall be installed by incoming occupier.

11.9 Fire Alarm and Detection Systems

11.9.1 Fire Alarm and Detection System

A fire alarm and detection system is to be installed to all areas in accordance with Local Authority and Building Regulations requirements and to be installed to BS 5839-1:2017.

Manual Category M alarm system with break glass manual call points, sounders and circuits wired in an approved type of fire resistant cable to be installed as a minimum standard (warehouse) with additional automatic fire detection system of Category L3 ((including void detection system where relevant, minimum for office areas and office fire escape route areas) with capability of the system to be expanded to a maximum Category L1 system (in future), proposal subject to requirements by Approved Inspector / Building Control Officer.
Recessed fire alarm control panel to allow for the provision of 2 No. additional zones to be linked in at a later date.
Main fire alarm panel to be located in the entrance lobby area or close to the main entrance and shall be co-ordinated with other panels / devices to ensure uniform and symmetrical layout.

11.10 Defibrillator

11.10.1 Defibrillator

1No. defibrillator to be provided to unit located adjacent to incoming services and in line with the Building Regulations to a position agreed with the Employers Agent (EA).

11.11 Emergency Lighting

11.11.1 The Contractor (Electrical) is to coordinate, supply, install and fully commission the emergency lighting installation in accordance with BS 5266-1:2016 and BS EN 50172: 2004 and the requirements of the Building Control, Fire Prevention and Licensing Officer to be provided throughout the units. In offices, staircase areas, entrance lobby, lobbies and sanitary areas emergency lighting shall be integral with ceiling light fittings.

The Contractor shall allow for testing and commissioning the emergency lighting and exit sign installations prior to project handover and shall issue an emergency lighting test certificate prior to the handover.

11.12 Lightning Protection

11.12.1 Lightning Protection

A fully certified lightning protection system will be installed in accordance with BS EN 62305:2011 Parts 1-4. All points of lightning conductor tape are to be concealed and outlets to be positioned away from main entrance and doorways etc.

Drawings shall be submitted for lightning protection for external fabric design showing proposals for bonding the various elements of the Works for review by the professional team.

11.13 Commissioning

11.13.1 Commissioning

All systems shall be commissioned in accordance with the CIBSE Codes. All water services shall be balanced to comply with the requirements of HSG 70, the water Bye Laws and BS 6700.

11.14 BT and Data

11.14.1 BT and Data

There is to be provision of a BT connection to the Units with BT box positions to be agreed with the Employer's Agent (EA). 1No. duct / fibre connection to be brought into unit but with no allocated service.

11.15 Lifts

No lift to be installed. Refer to GA Plans for proposed location for future lift provision.

11.16 Vehicle Charging Points

11.16.1 Vehicle Charging Points

Install below ground ducting and power supplies and vehicle charging point units within the car parking areas in line with local planning authority, Approved Document Part S and BREEAM requirements.

2 No. 1000mm Rolec – Quantum EV 'double' charging pedestals with root mounted bases. (or similar Approved) with EV charging unit suitable for 7.4kW single phase operation.
2 No charging sockets per pedestal.
Foamex outer shell in Standard PPC finish.

2 No. 1000mm Rolec – Quantum EV 'double' charging pedestals with root mounted bases. (or similar Approved) with EV charging unit suitable for 7.4kW single phase operation.
1 No charging socket per pedestal.
Foamex outer shell in Standard PPC finish.

~~3 No. 1000mm Rolec EV 'double' charging pedestals with root mounted bases. (or similar Approved) with EV charging unit suitable for 7.2kW 3 phase operation.~~
~~2 No charging sockets per pedestal.~~
~~Foamex outer shell in Standard PPC finish.~~

Charging Solution: IEC 62196 (Type 2) charging sockets with 32 amp ~~three~~ single phase charging.
Mode 3IEC 61851-1 Communication compliance.
Hatch lock facility.
LED indicator.
Built-in overload, DC sensitive and fault current protected.
Photocell controlled LED amenity lighting head & full internal wiring.

Include stainless steel 'half halo' type protective bollards for each pedestal

Ducts for future vehicle charging points to be provided to full car parking area. These are to included pop-ups with pull cords with cover in line with Approved Document Part S requirements.

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11.17 Photovoltaics (PV) Panels - refer to roofing subcontractor proposals

Photovoltaics panels to be installed on the roof of the unit as per requirements within Building Regulations compliant Energy Report (see also specification item 6.1.5).

12.0 EXTERNAL WORKS

12.1 Drainage - refer to Civils & Structural Engineers specification

12.1.1 Drainage above and below ground rainwater, surface, soil and foul to be constructed to the contractor's design and Local Authority, Environment Agency, National Rivers Authority and Building Regulations Approval.
Petrol interceptors are to be provided to external parking and service yard areas. Petrol control / alarm panels are to be located in positions agreed with the Employers Agent (external or internal).

12.1.2 No inspection chambers are to be positioned in the footpath immediately in front of or adjacent to the main entrance door.

12.1.3 Pre-cast channel drains with bolt down grates may only be adopted in lorry manoeuvring areas if they are provided within a reinforced concrete surround.

12.1.4 Road gulley and slot drains are acceptable in all other areas.

12.1.5 Surface water drainage is to be designed in accordance with the Structural & Civil Engineers design and details.

12.1.6 Drainage gullies are to be provided to the external refuse areas.

12.2 Roadways and Crossovers - refer to Civils & Structural Engineers specification

12.2.1 Construction of crossovers will be in accordance with Transport Research laboratory Structural Design of Bituminous Roads and relevant British Standards / Codes of Practice. All street paving and road kerbs will be to the approval to Local Authority Highways Department.

12.2.2 Access roads will be designed by the Structural & Civil Engineer in accordance with the Highways Agency 'Design manual for Roads and Bridges'. Kerbing will be conservation sections throughout.

12.3 Footpaths - refer to Civils & Structural Engineers specification

12.3.1 Footpaths to be ~~Marshalls~~ 'Charcon - Europa' concrete block paving, charcoal, 200mm x 100mm rectangular lock paving with integral spacers to comply with BS EN: 1338:2003 (thickness to suit location) or tarmac or porous tarmac, refer to proposed site plan for locations. Blocks are to be laid and bedded on sand in accordance with the manufacturer's instructions. Standard pre-cast kerb edging to BS EN 1339:2003. Refer to Proposed Site Plan.

12.3.2 Tactile flag paving to be 'Charcon' 400x400x50 Blister paver in colour 'Buff' laid in accordance with the manufacturer's instructions.

12.4 Car Parking and Car Manoeuvring Areas - refer to Civils & Structural Engineers specification

12.4.1 General car parking and all car manoeuvring areas are to be finished in asphalt or porous asphalt, refer to proposed site plan, design to enable storm water run-off to be drained & discharged to the underground drainage system.

Any car parking areas shown in the service yard areas are to be finished in concrete (as per specification item 12.5.1).

12.4.2 Car parking spaces

Standard car parking space to be of a size 2.5m x 5m minimum and the road width between bays to be 6.0m minimum. Disabled car parking spaces are to be provided to the approval of the Local Authority. Appropriate 'white' thermoplastic lining and markings to be provided to any car / motorbike parking areas and to yard areas, nominal lining width of 100mm.

12.5 Service Yards, Access Roads and Adjoining Areas

12.5.1 Concrete - refer to Civils & Structural Engineers specification

In-situ concrete with light brush finish and trowelled edge.
The concrete bays are to be of a similar size and orientation as far as possible.
These areas are to be designed in accordance with the requirements of Design Manual for Roads and Bridges, IAN 73/06 - Foundations and HD 26/06 - Pavement Design published by the Highways Agency.
The service yard areas and access roads shall provide for commercial vehicles with gross laden weight of 44 tonnes and maximum vehicle length of 16.5m.
Falls within vehicle parking areas shall be a maximum 1:30 and 1:40 in circulation areas.
The surface tolerance for the concrete paving should be ± 10mm.
Concrete bay sizes shall be kept to the minimum to prevent future cracking.

The service yard and associated access and hard standing areas will be excavated to the required formation level, trimmed and a sub-base thickness depending on CBR values established at formation level of suitable fill material blinded with fine chippings, sand or clinker ash.

The slab will be reinforced concrete to the Structural Engineer's details and laid to falls generally not exceeding 1:30 with tamp or brush finish surface and 100mm trowelled margin.

Bay sizes and all longitudinal, contraction, expansion and isolation joints will be formed in accordance with the recommendations of the Structural Engineer.

All concrete work generally will be in accordance with BS EN 1992-1:2023 Eurocode 2 'The Structural Use of Concrete' using appropriate grade Air Entrained concrete.

Precast concrete kerbs shall be provided to the perimeter of the services yard with Trief or similar kerbs used in all areas where lorries are likely to cause damage.

White thermoplastic linings shall be provided to define lorry parking and safety defined spaces.

All works to be completed in accordance with BS EN 13108-1:2016 + A1 and Part 7:2016 + A1.

12.6 Building Perimeter

External envelope to have a gravel margin between external face of base PFC (or relevant, see specification item 5.2.1) and proposed block paving (gravel margin width to allow for RWP installation without the clash with block paving element). Nominal width to be approximately 300mm.

12.7 Refuse and External Plant Enclosures

12.7.1 'Fast-Protect – Louvline Screening' galvanised steel panels to refuse storage areas with lockable ledged and braced steel panelled gates to match will be provided with lighting, water supply, tap and gully drainage to each unit (or as per BREEAM requirements). The space will be size to accommodate lockable euro-bins to the Local Authority approved specification provided by the

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Contractor. The enclosure will be approx. 5.0m x 5.0m (or as per BREEAM requirements).

12.7.2 The refuse areas will be positioned as identified on the design drawings subject to the agreement of the Local Environmental Services Dept.

12.8 Soft Landscaping

12.8.1 The soft landscaping to be completed in accordance with the landscape scheme approved by the Employer and the Local Authority.

Trees, shrubs and other plants to be detailed and described on a landscape plan and agreed with the Local Authority, will be planted, with minimum 50mm bark mulching, watered, staked and supported as necessary. One year's maintenance of trees, shrubs and landscaping areas shall be provided, including the replacement of plants / trees that die during this period. Grass, shrubs and trees shall be adequately maintained and watered during the maintenance period.

12.9 Fencing / Walls

12.9.1 Existing boundary fencing to be maintained and made good where required. Where the existing fencing is beyond repair then ~~new fencing to be installed to match existing in type, height and finish~~ existing panels that have been removed and replaced by new fence are to be reused.

12.9.2 Pedestrian gates, vehicle gates and fencing to be 2.4 metre high ~~steel paladin~~ Fastmesh-868 twin wire fencing mesh fencing panels, provided as shown on the proposed site plan. Polyester powder coated black finish.

12.9.3 Galvanised steel guard rail to be installed externally to perimeter retaining wall to north & west of the unit. Guard rail to be min. height of 1.1m above ground level and to comply to Approved Document K Section K2: Protection from Falling.

12.10 Cycle Shelters

Broxap Premier 4100 cycle shelter system to be provided to suit proposed site plan layout. Bases to be root fixed (submerged fixing base plates to be concealed below surface with surface water downpipe outlet above external level). Shelters to have a polyester powder coated finish (Anthracite Grey RAL 7016) and to include 5 No. ~~Sheffield cycle stands~~ Broxap MS SOLD SECURE 'Sheffield' Senior Cycle Stand in line with BREEAM requirements. Opal cladding roof option. Position to be as shown on the drawings.

12.11 Fire Hydrants

Will be provided in accordance with Local Authority Requirements in accordance with BS 9990:2015 and BS 5306-1:2006.

12.12 External Amenities / Seating Area

External seating area, as shown on Proposed Site Plan, to be provided with paving surface as per perimeter footpath (see 12.3.1). Provision to also include 4 no. picnic tables, to be ~~'Standard Picnic Table' 1460mm x 2000mm from NBB Recycled Furniture. Colour TBC~~ Broxap 'Springfield Picnic Bench' BX17 4015, 1800mm x 1500mm from treated softwood.

13.0 SUBMITTALS AND VERIFICATIONS

13.1 Final Design and Coordination

13.1.1 Complete the design and detailing of the Works and provide complete production information (including, as appropriate, co-ordination / fabrication / installation drawings, all design calculations, specifications etc.) based on the drawings, this specification and other information provided, liaising as necessary with the Employers Agent (EA) to ensure full co-ordination of the Works with related Works packages and services.

Information: Request additional information as necessary from the Employers Agent (EA) and provide information as necessary in time to meet the programme.

Submission: Submit sufficient copies of the design / production information to the Employer's Agent (EA) in accordance with the Contract Preliminaries.
The Employers Agent (EA) will review the design / production information, record their comments, which will be restricted to general aesthetic and functional matters and not the detail design and performance of the Works (which is the complete and sole responsibility of the Contractor). These will be returned within 5 working days to the Contractor.

Make any necessary amendments in accordance with any comments and without delay. Unless, and until it is confirmed that re-submission is not required, re-submit for further comment, and incorporate any necessary further amendments.

Co-ordinate all services requirements with other Specialist Contractors, making due allowance for out of sequence work, builders work, making good, protection and cleaning as necessary.

Submit copies of final version of design / production information for distribution as required by the Contract Preliminaries.

If submitted design / production information differs from the requirements of the Contract documents, each such difference must be the subject of a request for substitution or variation, supported by all relevant information. Such substitutions or variations may be considered where a cost saving can be achieved without prejudicing the programme, the overall design, performance and the specified quality of materials or workmanship.

13.2 Quality Standards / Control / Assessment and Verification

13.2.1 General Quality of Products: Materials and Products Tests:

Provide test certificates or certificates of compliance as necessary, or as required by The Employer's Agent (EA)for tests specified within listed British Standards, Codes of Practice or other applicable documents, to confirm properties, composition or performance of materials and products proposed. Only certificates provided by independent and authoritative testing bodies will be accepted.
Submit details in the form of a schedule, of materials and products for which evidence of tests will be provided for review.

13.2.2 Proprietary Products: Suitability for Use and Design Life

Provide written certification from manufacturers that their products or materials proposed are appropriate for their expected conditions in use together with statements on their respective life expectancies in use.

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13.3 Samples / Control Samples / Mock-ups / Benchmarking

13.3.1 Sample Requirements:

Sample requirements include, but are not necessarily limited to, the following:

1. Curtain wall and window sections and fittings
2. Metal wall and roof cladding
3. Double Glazing units, gaskets and / or sealants
4. Louvres: to include horizontal or vertical blades, bird mesh, fly screen and plenum box
5. Ironmongery (windows, doors, entrance doors)
6. Internal and external light fittings.
7. Floor finishes
8. Sanitaryware

Samples are to be of sufficient size to be fully representative of the specified material or product.

13.3.2 Samples Generally

Samples shall include various products, natural materials, fabricated items, equipment, devices, appliances or components thereof, as may be required to satisfy the visual appearance and technical requirements of the Design.

Samples shall be reviewed for their visual characteristics only and where moving or operating elements are involved, the Employer's Agent (EA) shall be given the opportunity to review working samples.

Ranges of samples shall be provided where a considerable range of colour, graining, texture, smoothness and other characteristics may be anticipated in the works.
Where custom colours are specified, samples shall be submitted illustrating precise colours, textures, patterns and finishes for review by the Employer's Agent (EA).

Provide 1No. of each sample required unless otherwise specified, for review. Label all samples with manufacturer's name, identifying information indicating what sample represents (data sheet) and date.

Permission may be given for samples to be incorporated in the finished work where warranted by cost of submission. Production drawings must identify component tolerances and show how given design tolerances are accommodated and other dimensional information given elsewhere in this specification.

13.3.3 Quality Benchmarks

Upon commencement of installation, erect complete sections of elements of the works, where described in the particular Works Sections, for acceptance of the Employer's Agent (EA). These shall be used as a quality benchmark for the remainder of the works until Practical Completion.

Installations shall not commence in other areas of that particular trade until the Employer's Agent (EA) has examined and accepted the quality benchmark. Carry out immediately any alterations or adjustments required by the Employer's Agent (EA) in order to achieve the quality of installation required.

Upon receipt of the Employer's Agents (EA) acceptance, fully protect the quality benchmark. It shall be used, from time to time, by the Employer's Agent (EA) to check and monitor quality of materials and workmanship incorporated in the remaining areas of the works, or where specifically stated for the purpose of further testing. Remove and replace all protection when

requested by the Employer's Agent (EA) for such purposes.

13.4 Supervision

Documentary evidence of personnel experience may be requested and must be available at any time.

13.5 Quality Control Records

13.5.1 Maintain full records to substantiate that the Works comply with the specified requirements. Keep copies on site for inspection by the Architect and submit copies of particular parts of the records on request.

The records must include:

1.0 Identification of the element, item, batch or lot including location in the Works.
2.0 The nature and dates of reviews by the Employer's Agent (EA), tests and approvals.
3.0 The nature and extent of deficiencies found.
4.0 Details on any corrective action.

14.0 FABRIC DESIGN

Complete the design, manufacture, fabrication and installation of the building cladding, curtain wall and window systems in accordance with the recommendations of the CWCT Standard for Systemised Building Envelopes.

15.0 PROHIBITED MATERIALS

High alumina cement in structural elements.

Wood wool members in permanent formwork to concrete or in structural elements.

Calcium Chloride admixtures for use in reinforced concrete.

Asbestos or asbestos products.

Naturally occurring aggregates for use in reinforced concrete which do not comply with BS EN 12620:2002 + A1:2008 and naturally occurring aggregates for use in concrete which do not comply with the provisions of BS EN 1992-1-1:2004 + A1:2014.

Lead or any products containing lead for use in connection with drinking water except where copper alloy fittings containing lead are specifically required for drinking water pipework supplied by any relevant Statutory Provider.

Urea formaldehyde foam or materials which may release formaldehyde in quantities which may be hazardous with reference to limits set out by The Health and Safety Executive at time of use.

Materials which are comprised of mineral fibres either man-made or naturally occurring which generally have a diameter of 3 microns or less and generally a length of 200 microns or less which contain any fibres not sealed or otherwise stabilised to ensure that fibre migration is prevented.

Concealed galvanised wall ties, fixings, brackets, angles and supports where used in external elements.

Any electronic or processor controlled equipment and component supplies which are not fully compliant with the change recognition given by the BSI document DISC PD 2000-1 A Definition of Year 2000 Conformity Requirements.

Poly-isocyanurate except where fire-rated appropriate to its intended location.

Composite panels with a core of polystyrene or other material not approved by The Loss Prevention Council.

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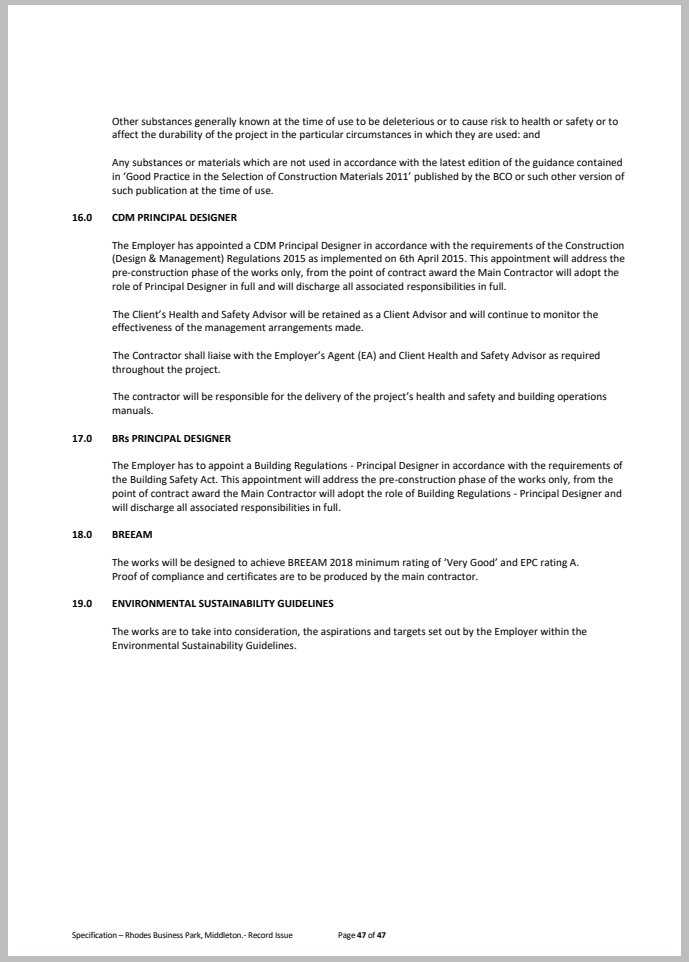

Other substances generally known at the time of use to be deleterious or to cause risk to health or safety or to affect the durability of the project in the particular circumstances in which they are used: and

Any substances or materials which are not used in accordance with the latest edition of the guidance contained in 'Good Practice in the Selection of Construction Materials 2011' published by the BCO or such other version of such publication at the time of use.

16.0 CDM PRINCIPAL DESIGNER

The Employer has appointed a CDM Principal Designer in accordance with the requirements of the Construction (Design & Management) Regulations 2015 as implemented on 6th April 2015. This appointment will address the pre-construction phase of the works only, from the point of contract award the Main Contractor will adopt the role of Principal Designer in full and will discharge all associated responsibilities in full.

The Client's Health and Safety Advisor will be retained as a Client Advisor and will continue to monitor the effectiveness of the management arrangements made.

The Contractor shall liaise with the Employer's Agent (EA) and Client Health and Safety Advisor as required throughout the project.

The contractor will be responsible for the delivery of the project's health and safety and building operations manuals.

17.0 BRs PRINCIPAL DESIGNER

The Employer has to appoint a Building Regulations - Principal Designer in accordance with the requirements of the Building Safety Act. This appointment will address the pre-construction phase of the works only, from the point of contract award the Main Contractor will adopt the role of Building Regulations - Principal Designer and will discharge all associated responsibilities in full.

18.0 BREEAM

The works will be designed to achieve BREEAM 2018 minimum rating of 'Very Good' and EPC rating A. Proof of compliance and certificates are to be produced by the main contractor.

19.0 ENVIRONMENTAL SUSTAINABILITY GUIDELINES

The works are to take into consideration, the aspirations and targets set out by the Employer within the Environmental Sustainability Guidelines.

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