Harris Coyle Breen
Chartered Quantity Surveyors

MUNSTER TECHNOLOGICAL UNIVERSITY

High Performance Athletic Centre

MTU Bishopstown Campus / Rossa Avenue, Bishopstown / Cork, T12 ERX0

VOLUME C

Bill of Quantities

Public Works Contract for Building Works Designed by the Employer

EMPLOYER
Munster Technological University

REVISION
Rev-0

ISSUE / DATE
Tender · September 2026

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QUANTITY SURVEYOR
TO THE EMPLOYER

Revision Control

DOCUMENT ISSUE & REVISION RECORD

DOCUMENT Volume C · Bill of Quantities

PROJECT MTU High Performance Athletic Centre

PREPARED BY Harris Coyle Breen

REV	DATE	DESCRIPTION OF ISSUE / REVISION	PREPARED	CHECKED	APPROVED
T0	Sept 2026	Bill of Quantities issued for Tender	HCB	DB	RH

This page records the issue status and revision history of the document. Each subsequent issue must be recorded with its revision reference, date and a description of the change.

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SECTION 1.0

Project Particulars & Preliminaries

(06) Project Particulars, Preliminaries & General Conditions

	Description	Qty	Unit	Rate	Amount
	(06) PROJECT PARTICULARS, PRELIMINARIES AND GENERAL CONDITIONS				
	(06) PRELIMINARIES AND GENERAL CONDITIONS				
	NOTES				
A	For Preambles refer to end of this section for details.	1	Note		
	1. PRELIMINARY PARTICULARS				
	1.1 Project, parties and consultants				
	The name, nature and location of the project				
B	MTU High Performance Athletics Centre (MTUHPAC), a new indoor high-performance athletics and sports science facility at MTU Bishopstown Campus, Cork, adjoining the existing MTU Arena and F-Block.	1	item		
	General description of the works				
C	new-build indoor athletics centre comprising sprint track, field-event and strength & conditioning areas, sports-science and ancillary accommodation, envelope, structure, M&E services, external works and landscaping, constructed adjacent to and coordinated with the operational MTU campus.	1	item		
	Name of the Employer and Consultants				
D	Employer - Munster Technological University; Employer's Representative and Assigned Certifier - O'Connell Mahon Architects (OCM); Civil & Structural Engineer - Horgan Lynch (HL); M&E Engineer - J.V. Tierney & Associates (JVT); Quantity Surveyor - Harris Coyle Breen (HCB); Project Supervisor Design Process - Egan Safety Solutions (ESS); Fire Engineer - CK Fire Engineering Ltd (CK); Building Control Authority - Cork City Council Fire & Building Control	1	item		
E	The Contractor shall note that the Consultants as listed and any other Consultants appointed from time to time by the Employer shall have access to the site to inspect all or any of the works. Their instructions and directions shall be carried out by the Contractor who shall co-operate with them as required taking into account that the Employer's Representative shall have final and binding say in the question of directions.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	1.2 Description of the site				
A	The boundaries, access and position of the works: the Works are on the MTU Bishopstown Campus, Cork, on lands immediately adjoining the operational MTU Arena and F-Block. The site is a live, occupied campus in full use throughout; the extent of the Contractor's possession is the Designated Contractor Work Area defined by the red-line boundary on the Construction-Phase Compound Site Plan (Drawing MTUHPAC-Z30-ZL00-DR-OCM-AR-0700). Attention is drawn to the adjacent/abutting buildings retained in use.	1	item		
B	Adjoining features retained and site constraints: the MTU Arena is to remain fully operational (main entrance and all emergency escape doors/routes retained); the existing windmill, outdoor track and southern pedestrian plaza are retained, and the parking to the south of the Arena remains in MTU's possession for events. Vehicular access is from the east via the Rossa Avenue entrance only (no access from the west; no contractor use of the area south of the Arena). Site accommodation and storage are within the compound as indicated on Drawing 0700. Retained pedestrian routes and the making-good/reinstatement obligations are as measured under Section 4. Information to facilitate visiting the site is available from the Employer's Representative.	1	item		
C	The Contractor shall take photographs of entrance roads, boundary conditions and fences and railings, and all existing adjoining buildings and structures prior to commencing the works on site for record purposes. A soft copy of all photographs will be supplied to the ER immediately on commencement of the works..	1	item		

	Description	Qty	Unit	Rate	Amount
A	Contractors are strongly advised to visit the Site prior to completing and submitting their tender, to fully ascertain for themselves the extent of the site, the existing buildings adjoining the site of these proposed works, the access restrictions to and from the site and the locations of all new and existing structures. The contractor shall take note of the location and condition of adjoining building structures, roads, drains and services etc. and make full allowance for all costs associated with working alongside and in close proximity to such structures and for maintaining the existing roads and site access ways strictly in accordance with the provisions herein. No claims for additional monies or time extensions will be entertained resulting from the Contractor not having made himself fully aware of the existing site conditions, boundaries, restrictions and/or adjoining structures, roads, drains and services and their impact upon the Works to be undertaken under the Terms of this Contract.	1	item		
B	Drainage, water, gas or other mains or power services are known to exist on under, or over the site and the Contractor is to include in his tender for disconnection, temporary diversion and removal of same as necessary (Refer to HDS252060_MTU Arena Topographic _Survey_A1 & HL Drawing Nr. 0001,0002, 0006, 0007 & 0008)	1	Item		
	1.3 Drawings and other documents				
	<u>Tenders</u>				
C	Tenders shall be submitted on the Form supplied fully completed. The Employer does not bind himself to accept the lowest, or any tender, nor will Contractors be remunerated for any expense they may have incurred in the preparation of their tender.	1	item		
D	Contractors shall submit their tenders for a gross specific sum to include all materials, workmanship, plant, carriage, cartage and expenses incidental to the due performance of the works as specified and shown in the Works Requirements, and other tender documents.	1	item		
E	The cost of complying with all the conditions, obligations and liabilities described in the Conditions of Contract and in the Specification will be deemed to be spread over and included in the prices stated in this Schedule unless expressly the subject of a specific item in this Bill of Quantities.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Contractor to Execute Contract Agreement				
A	Forthwith upon receipt of the letter of acceptance, the contractor shall enter into and properly execute the agreement in the form contained in the contract.	1	item		
B	Contractor to inform himself on all points	1	item		
C	The Contractor shall be deemed, before tendering, to have made a thorough examination of the Drawings, Specification & Schedules, the site, existing buildings, boundary walls to be demolished and all features thereof, with all mains, drains, adjoining premises or other things affecting the and extent of same and the conditions under which the proposed works will have to be executed and the Contractor shall be deemed to have obtained full information on all matters and things which could in any way have influenced his tender.	1	item		
D	The Contractor, at the time of tendering, is to satisfy himself with regard to all aspects of the works and descriptions described herein and the onus is upon him to contact the Employer's Representative during the tender period to clarify matters. No claim for delays or extras arising from the Contractor's inability to understand the full implications of the Project will be entertained.	1	item		
	Discrepancies in Contract Documents				
E	There are several documents forming the Contract which are to be taken as mutually explanatory to one another. The Contractor shall conform minutely to the signed Drawings and Specification. He shall work to any further Drawings which shall be furnished or approved in writing by the Employer's Representative during the progress of the works as fully and effectually as if such other drawings had formed part of the Contract Documents.	1	item		
F	The Contractor shall provide everything necessary for the proper execution of the works according to the Contract and to the true intent and meaning of the Drawings and Specification taken together whether the same may or may not be particularly shown on the Specification, provided that the same is reasonably to be inferred therefrom; and, if the Contractor finds any discrepancy in the Drawings or between the Drawings and the Specification he shall immediately refer the same to the Employer's Representative who shall decide which shall be followed. Figured dimensions are to be taken in preference to the scale, and detail drawings are to be taken in preference to 1 : 100 scale drawings	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Sufficiency of Tender Information				
A	In accordance with Article 4 of The Agreement, the Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of the rates and prices set out by him in the Priced Bill of Quantities on which rates and prices his tender shall be based and which tender shall cover all his obligations under the Contract, and all matters and things necessary for the proper completion of the work.	1	item		
B	In accordance with Article 4 of the Agreement, the Contractor shall satisfy himself that there is sufficient information in the Bill of Quantities to enable him to price all items in the Bill. If he requires further information, he should communicate with the ER who will supply what information is required. Descriptions shall be deemed to include such incidental works as are usual and necessary or as can be fairly implied although not specifically mentioned. All information and instructions to the various trades will be deemed to have been taken into consideration when pricing the whole of the Bill of Quantities.	1	item		
C	The Contractors original Priced Bill of Quantities on which his tender is based shall be lodged with the Employer's Representative for his use or that of the Quantity Surveyor and shall be used for the purpose only of the Contract.	1	item		
	Drawings Specifications, etc.				
D	The Contractor shall provide and keep on site all douments in accordance with clauses 4.12 and 4.18 of the conditions, in particular two copies of the Specification forming part of the Contract with two copies of the General Conditions of Contract and two complete sets of the drawings referred to in the Specification will be furnished to the Contractor. The Contractor shall provide and make at his own expense any working or progress drawings required by him in addition to those supplied by the Employer's Representative or necessary for the proper carrying out of the work and shall if required by the Architect furnish copies of the same to him for his approval and information.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	The works shall be carried out in accordance with the directions and to the satisfaction of the Employer's Representative in accordance with the signed Drawings, the original priced Bill of Quantities and the Specification, and in accordance with such further Drawings, details, change orders, directions and explanations as may from time to time be given by the Employer's Representative. The Contract Drawings and Specification shall remain in the custody of the Employer's Representative and shall be produced by him at his office as and when required by the Contractor.	1	item		
B	Any copies of the Drawings and Specification which shall have been furnished to the Contractor shall be the property of the Employer's Representative; be returned to him before the final certificate is given for payment of the balance of the Contract price. All documents are to be treated as confidential.	1	item		
C	In accordance with clause 4.12 of the conditions, the Contractor shall have a full set of Contract Documents available on-site for the Design Team, all drawings shall be the latest revision.	1	item		
	<u>Drawings, Copies</u>				
D	Copies of the Drawings, additional to those provided for in the Conditions of Contract, shall be provided at the Contractor's expense. Keep one copy of all Contract Drawings and Specification on the Works for inspection by the Employer's Representative. Return all copies of Drawings and Specification to the Employer's Representative on completion of the Works.	1	item		
E	Copies of the Drawings, additional to those provided for in the Conditions of Contract, shall be provided at the Contractor's expense; the Contractor shall maintain an up-to-date drawing register on site incorporating all revisions and ensure superseded drawings are marked accordingly, including the Construction-Phase Compound Site Plan (MTUHPAC-Z30-ZL00-DR-OCM-AR-0700), which governs compound layout, hoarding lines and access restrictions.	1	item		
	<u>Inspection of Documents</u>				
F	A full set of Drawings and other documents relating to the Contract may be seen by appointment at the office of the Employers Representative.	1	Item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Bill of Quantities and Basis of Measurement				
A	The Bill of Quantities/Pricing Document has been measured in accordance with the Agreed Rules of Measurement (4), as amended by Supplement 1 Issue 2; Mechanical & Electrical Works have been measured in accordance with ARM4 Supplement 2.	1	item		
B	No alterations or qualifications of any kind may be made by the tenderer to the text of the Bill; any such alteration will be ignored and the Quantity Surveyor's text shall be adhered to. The Contractor is to check pagination and notify the Quantity Surveyor of any missing, duplicated or indistinct page.	1	item		
C	This Bill of Quantities should be read in conjunction with the drawings and the Specifications and it should be supplemented by a careful analysis of the existing on-site conditions.	1	item		
D	The Contractor is not to use the Bill of Quantities as a Schedule for ordering materials without prior reference to the Drawings and on-site measurements.	1	item		
E	This Bill of Quantities is not a Design Document within the meaning and intent of the Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013) and does not purport to instruct the Contractor as to the manner and methods to be employed in the construction of this project. This information is to be ascertained from the Design Drawings and Specification.	1	item		
	2. CONTRACT				
	2.1 Form, Type and Conditions of Contract				
	Form of Contract				
F	The version and edition of the Conditions of Contract are the Public Works Contract for Building Works Designed by the Employer, PW-CF1 v2.10 (16-06-2026), with the Tender and Schedule form FTS1 v2.10 (16-06-2026). Both are confirmed current for this issue. No amendment approved by the Government Contracts Committee (Construction) has been identified; any such amendment is to be given in full when notified.	1	Item		
	Articles				
	Agreement				
G	^^^Article 1	1	item		

	Description	Qty	Unit	Rate	Amount
A	^^^Article 2	1	item		
B	^^^Article 3	1	item		
C	^^^Article 4	1	item		
D	^^^Article 5	1	item		
E	^^^Article 6	1	item		
	A schedule of the clause headings of the Conditions of Contract are set out hereunder for pricing :-				
	^1. THE CONTRACT				
F	^^^1.1 Definitions	1	item		
G	^^^1.2 Interpretation	1	item		
H	^^^1.3 Inconsistencies	1	item		
J	^^^1.4 Pricing Document and Works Proposals	1	item		
K	^^^1.5 Performance Bond	1	item		
L	^^^1.6 Reliance Documents	1	item		
M	^^^1.7 Joint Ventures	1	item		
N	^^^1.8 Assignment	1	item		
P	^^^1.9 Miscellaneous	1	item		
Q	^^^1.10 Background Information	1	item		
	^2.0 THE LAW				
R	^^^2.1 Law governing the Contract	1	item		
S	^^^2.2 Compliance with Legal Requirements	1	item		
T	^^^2.3 Consents	1	item		
U	^^^2.4 Project Supervisor	1	item		
V	^^^2.5 Safety, Health and Welfare at Work Act 2005 and Safety, Health and Welfare at Work (Construction) Regulations 2013	1	item		
W	^^^2.6 Ethics in Public Office	1	item		
X	^^^2.7 Legal Opinion	1	item		
Y	^^^2.8 Data Protection	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	^3.0 LOSS, DAMAGE AND INJURY				
A	^^^3.1 Employer's Risks of Loss and Damage to the Works	1	item		
B	^^^3.2 Care of the Works	1	item		
C	^^^3.3 Insurance of the Works and Other Risk Items	1	item		
D	^^^3.4 Contractors Indemnity	1	item		
E	^^^3.5 Employer's Indemnity	1	item		
F	^^^3.6 Public Liability and Employer's Liability Insurances	1	item		
G	^^^3.7 Professional Indemnity Insurance	1	item		
H	^^^3.8 Existing Facilities and Use or Occupation by Employer	1	item		
J	^^^3.9 General requirements concerning insurance	1	item		
K	^^^3.10 Limitation on Liability	1	item		
	^4.0 MANAGEMENT				
L	^^^4.1 Co-operation	1	item		
M	^^^4.2 Contractor's Representative and Supervisor	1	item		
N	^^^4.3 Employer's Representative	1	item		
P	^^^4.4 Employer's Representative's communications	1	item		
Q	^^^4.5 Instructions	1	item		
R	^^^4.6 Works Proposals	1	item		
S	^^^4.7 Required Contractor Submissions	1	item		
T	^^^4.8 Value Engineering	1	item		
U	^^^4.9 Programme	1	item		
V	^^^4.10 Progress Reports	1	item		
W	^^^4.11 Notice and time for Employer's obligations	1	item		
X	^^^4.12 Documents	1	item		
Y	^^^4.13 Contractor's Management	1	item		
Z	^^^4.14 Communications	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^4.15 Meetings	1	item		
B	^^^4.16 Confidentiality and Secrecy	1	item		
C	^^^4.17 Contractor's Things Not to be Removed	1	item		
D	^^^4.18 Contractor's Documents	1	item		
	^5.0 CONTRACTORS PERSONNEL				
E	^^^5.1 Contractor's Personnel to carry out Contractor's Obligations	1	item		
F	^^^5.2 Qualifications and Competence	1	item		
G	^^^5.3 Pay and Conditions of Employment	1	item		
H	^^^5.4 Subcontractors and Specialists	1	item		
J	^^^5.5 Collateral Warranties	1	item		
K	^^^5.6 Removal of Workers	1	item		
L	^^^5.7 Weekly Labour Records	1	item		
M	^^^5.8 Ancillary Certificates	1	item		
	^6.0 PROPERTY				
N	^^^6.1 Ownership of Work Items	1	item		
P	^^^6.2 Infringement of Property Rights	1	item		
Q	^^^6.3 Works Requirements	1	item		
R	^^^6.4 Rights in Contractor's Documents	1	item		
	^7.0 THE SITE				
S	^^^7.1 Lands made available for the Works	1	item		
T	^^^7.2 Trespassers	1	item		
U	^^^7.3 Contractor Responsible for all Site Operations	1	item		
V	^^^7.4 Services for Employer's Facilities	1	item		
W	^^^7.5 Security and Safety of the Site and Nuisance	1	item		
X	^^^7.6 Other Contractors	1	item		
Y	^^^7.7 Setting Out the Works	1	item		
Z	^^^7.8 Archaeological Objects and Human Remains	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^7.9 Access and Facilities	1	item		
B	^^^7.10 Condition of Site on Completion	1	item		
C	^^^7.11 Working Times	1	item		
	^8.0 QUALITY, TESTING AND DEFECTS				
D	^^^8.1 Standards of Workmanship and Works Items	1	item		
E	^^^8.2 Quality Assurance	1	item		
F	^^^8.3 Inspection	1	item		
G	^^^8.4 Tests	1	item		
H	^^^8.5 Defects	1	item		
J	^^^8.6 Defects Period	1	item		
K	^^^8.7 Defects Certificate	1	item		
	^9.0 TIME AND COMPLETION				
L	^^^9.1 Starting Date	1	item		
M	^^^9.2 Suspension	1	item		
N	^^^9.3 Delay and Extension of Time	1	item		
P	^^^9.4 Programme Contingency	1	item		
Q	^^^9.5 Omissions and Reduction of Time	1	item		
R	^^^9.6 Substantial Completion	1	item		
S	^^^9.7 Taking Over Part of the Works	1	item		
T	^^^9.8 Liquidated Damages	1	item		
	^10.0 CLAIMS AND ADJUSTMENTS				
U	^^^10.1 Compensation Event	1	item		
V	^^^10.2 Contractor to Pay Employer's Cost of Checking Quantities	1	item		
W	^^^10.3 Contractor Claims	1	item		
X	^^^10.4 Proposed Instructions	1	item		
Y	^^^10.5 Employer's Representative's Determination	1	item		
Z	^^^10.6 Adjustments to the Contract Sum	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^10.7 Delay Cost	1	item		
B	^^^10.8 (Not used)	1	item		
C	^^^10.9 Employer's Claims	1	item		
D	^^^10.10 International Procurement Instrument Measures	1	item		
	^11.0 PAYMENT				
E	^^^11.1 Interim Payment	1	item		
F	^^^11.2 Unfixed Works Items	1	item		
G	^^^11.3 Retention	1	item		
H	^^^11.4 Full payment	1	item		
J	^^^11.5 Final Statement	1	item		
K	^^^11.6 Time for Payment and Interest	1	item		
L	^^^11.7 Value Added Tax	1	item		
M	^^^11.8 Withholding Tax	1	item		
N	^12.0 TERMINATION	1	item		
	^^^12.1 Termination on Contractor Default				
P	^^^12.2 Consequences of Default Termination	1	item		
Q	^^^12.3 Suspension by the Contractor	1	item		
R	^^^12.4 Termination by the Contractor	1	item		
S	^^^12.5 Termination at Employer's Election	1	item		
T	^^^12.6 Consequences of Termination by Contractor or at Employer's Election	1	item		
U	^^^12.7 Survival	1	item		
V	^^^12.8 Payment	1	item		
W	^^^12.9 Reference to Conciliation	1	item		
	^13.0 DISPUTES				
X	^^^13.1 Dispute Managemenrt Procedure	1	item		
Y	^^^13.2 Conciliation	1	item		
Z	^^^13.3 Adjudication	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^13.4 Arbitration	1	item		
B	^^^13.5 Jurisdiction	1	item		
C	^^^13.6 Agent for Service	1	item		
D	^^^13.7 Continuing obligations	1	item		
	^14.0 COVID-19 MANDATORY CLOSURE				
E	^^^14.1 Covid-19 Definitions	1	item		
F	^^^14.2 Covid-19 General Provisions	1	item		
G	^^^14.3 Covid-19 Costs	1	item		
H	PRICE VARIATION	1	item		
J	^^^15.1 Definitions	1	item		
K	^^^15.2 Contract Sum Adjustment	1	item		
L	^^^15.3 Proportions	1	item		
M	^^^15.4 Change in Law	1	item		
N	^^^15.5 Failure to Commence by the Start Date	1	item		
P	^^^15.6 Failure to Complete on Time	1	item		
Q	^^^15.7 Excluded Amounts	1	item		
R	^^^15.8 Revisions of Index Figures	1	item		
S	^^^15.9 Permitted Increases and Permitted Decreases for Material Categories and Fuel Categories	1	item		
T	^^^15.10 Adjustments for Labour	1	item		
U	^^^15.11 Efficiency	1	item		
V	^^^Appendices to Clause 15	1	item		
W	^^^Appendix 1 Definitions	1	item		
X	^^^Appendix 2 Permitted Increases and Permitted Decreases for Materials and Fuel	1	item		
Y	^^^Appendix 3 Labour	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	The completed Schedule: Part 1 of the contract is contained in the Form of Tender. The Contractor shall allow for all cost associated with complying with the completed Schedule: Part 1:-.				
	A) Employer's Representatives and Communications				
A	Details for sending notices under clauses 12 and 13 to the Employer are: Refer to Tender & Schedule	1	item		
B	Details for sending other notices and communications to the Employer are: Refer to Tender & Schedule	1	item		
C	Details for sending notices and other communications to the Employer's Representative are: Refer to Tender & Schedule	1	item		
	The Number of Project Board members for the Contract shall be:				
D	The Number of Project Board members for the Contract shall be: 2 members from each Party (Not applicable)	1	item		
	Limitations on the Employer's Representatives authority to perform its functions and powers under the contract				
E	Maximum adjustment to the Contract Sum for a single Change Order: €5,000, unless approved by the Employer.	1	item		
F	Maximum cumulative value of adjustments to the Contract Sum for Change Orders in any 3-month period: €25,000, unless approved by the Employer	1	item		
G	The Employers Representative shall not make a Change Order causing or contributing to a reduction in safety, scope, quality or usefulness of the Works without the Employers approval	1	item		
H	The Employer must agree to reduce retention if the Defects Period is extended	1	item		
J	The Employers Representative is to consult with the Employer in relation to any adjustment to the Contract Sum before determining the adjustment	1	item		
K	Where the Employer has appointed a quantity surveyor, the Employers Representative is to consult with the quantity surveyor in relation to any adjustments to the Contract Sum before determining the adjustment	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	The Employers Representative must not waive any of the Employers rights or the Contractors obligations under the Contract including without limitation sub-clause 10.3.	1	item		
	B) Documents				
B	The Works Requirements are: As scheduled and included in Volume A Works Requirements	1	item		
C	The Pricing Document is: A Bill of Quantities measured in accordance with the: Agreed Rules of Measurement 4 as amended by Supplement 1, Issue 2, as included in Volume C. Mechanical & Electrical Works measured in accordance with: The Agreed Rules of Measurement 4 to Supplement 2.	1	item		
D	The Works Proposals are: as Scheduled in Appendix 1 of the 'Instructions to Tenderer's document'	1	item		
	C) Project Supervisor (Sub-Clause 2.4)				
E	The Contractor is to be appointed project supervisor for the construction stage for the Works and any other work on the Site from the Starting Date and until all construction work on the project has been completed.	1	item		
	D) Insurance (Clause 3)				
	Insurance of the works:				
F	Insurance of the Works: minimum amount insured for professional fees 12.50% of the Contract Sum.	1	item		
G	Minimum indemnity limit for Public liability insurance: €6,500,000 for any one event, but this limit may be on an annual aggregate basis for products liability, collapse, vibration, subsidence, removal and weakening of supports and sudden and accidental pollution.	1	item		
H	Minimum indemnity limit for Employers liability insurance: €13,000,000 for any one event.	1	item		
J	Maximum excess for Insurance of Works and other Risk Items: €10,000.00	1	item		
K	Maximum excess for Public liability and Employers liability: €10,000.00.	1	item		
L	There is no excess permitted for the Employers liability insurance	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Permitted exclusions from all Insurances				
A	War, invasion, act of foreign enemies, hostilities [whether war is declared or not], civil war, rebellion, revolution, insurrection or military or usurped power	1	item		
B	Pressure waves caused by aircraft or other airborne objects travelling at sonic or supersonic speeds	1	item		
C	Contamination by radioactivity or radioactive, toxic, explosive or other hazardous properties of any explosive nuclear assembly or its components, in each case not caused by the Contractor or the Contractors Personnel	1	item		
D	Terrorism	1	item		
E	Asbestos	1	item		
	Permitted exclusions from insurance of the Works and other Risk Items				
F	Use or occupation of the Works by the Employer except in connection with the Works	1	item		
G	Unless otherwise specified in the Works Requirements, cost of making good defects in the Works but not damage caused by such defects to other sound parts of the Works	1	item		
H	Wear, tear, normal upkeep or normal repair or gradual deterioration	1	item		
J	Inventory losses	1	item		
K	Loss of use or any consequential loss of any nature including penalties for delay, non-completion or non-compliance	1	item		
L	Failure of information technology	1	item		
M	Mechanical or electrical breakdown but not resulting damage	1	item		
N	Cessation of the Works for more than 3 months	1	item		
	Permitted exclusions from public liability insurance:				
P	Persons under a contract of service or apprenticeship with the insured	1	item		
Q	Property of the insured or in the insureds custody or control other than existing premises and their contents temporarily occupied for the purposes of the Works	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Defective workmanship or materials but not resulting damage	1	item		
B	Mechanically propelled vehicles within the meaning of the Road Traffic Acts	1	item		
C	Loss or damage due to Design	1	item		
D	Gradual pollution or contamination	1	item		
E	Territorial limits	1	item		
F	Unless otherwise specified in the Works Requirements, aircraft and waterborne craft	1	item		
G	Fines, penalties, liquidated damages	1	item		
	Permitted exclusions from employers liability insurance:				
H	Offshore work	1	item		
J	Liability compulsorily insurable under the Road Traffic Acts	1	item		
	Permitted exclusions from professional indemnity insurance				
K	Persons under a contract of service or apprenticeship with the insured.	1	item		
L	Ownership, use, occupation or leasing of mobile or immobile property	1	item		
M	Effecting or maintenance of insurance of or in connection with the provision of finance or advice on financial matters	1	item		
N	Dishonest, malicious, criminal or deliberate illegal acts	1	item		
P	Libel and slander	1	item		
Q	Insolvency	1	item		
R	Fines, penalties, liquidated damages or any penal, punitive, exemplary, non-compensatory or aggravated damages	1	item		
S	Failure of information technology	1	item		
T	Contractual liability that would not apply in the absence of the contract	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Optional insurance provisions				
A	Sub-clause 3.8 (Existing Facilities and Use or Occupation by Employer) shall not apply.	1	item		
B	Insurance of the Works and other Risk Items shall include the following property of the Employer, other than the Works and Works Items: (Not Applicable) and the minimum sum for which this property is to be insured shall be € (Not Applicable)	1	item		
C	If Insurance of the Works and other Risk Items is to include terrorism cover, the minimum sum insured shall be € (Not Applicable)	1	item		
D	The Contractor is not required to extend the insurance of the Works and other Risk Items for a Section that has reached Substantial Completion until the Employers Representative issues the certificate of Substantial Completion for the whole Works.	1	item		
	Required extensions to Insurance: (Not Applicable)	1	item		
E	Professional indemnity insurance IS required. If required, the professional indemnity insurance is to be kept in place for 12 years after Substantial Completion of the Works is certified by the Employers Representative. If required, the minimum indemnity limit for professional indemnity insurance shall be €2,500,000.00 in the annual aggregate limit.	1	item		
F	The maximum excess shall be the greater amount of 2% of the Contractor's annual turnover or €5,000.	1	item		
	E Performance Bond (Sub-clause 1.5)				
G	A performance bond is required. The amount of the performance bond shall be 10% of the initial Contract Sum up to certification of Substantial Completion of the Works, and 5% of the initial Contract Sum for 450 days after that.	1	item		
H	The Contractor's attention is drawn to the pre-conditions to the first Interim Payment under Clause 11.1 and Schedule Part 1L - including the Employer's receipt of a satisfactory Performance Bond (Clause 1.5) and the required insurances - no interim payment being certified until these are in place.	1	item		
	F (i) Collateral Warranties (Sub-clause 5.5)				
J	Collateral Warranties are required from the following categories of Specialists, by the following dates; and the amount withheld from payments under sub-clause 11.4.1 are as follows: - as per Tender and Schedule	1	Item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	F (ii) Ancillary Certificates (Sub-clause 5.8)				
A	Ancillary Certificates are required from the following categories of Contractors Personnel. The list reflects the works elements known at the time of tender but does not limit the Contractors duties under sub-clause 2.3.1: - Refer to Tender & Schedule and BCar Info & Documentation	1	item		
	F (iii) Named Specialists (Sub-clause 5.4)				
B	Not applicable	1	item		
	G Dates for Substantial Completion, Sections, Liquidated Damages, Retention				
C	Date for Substantial Completion: - as per Tender and Schedule including programme contingency	1	item		
D	Rate for Liquidated Damages: - as per Tender and Schedule	1	item		
	H Early Completion (Sub-clause 9.6)				
E	The Employers Representative is required to issue the certificate of Substantial Completion if the Works or a Section reaches Substantial Completion before its Date for Substantial Completion.	1	item		
	I Defects Period				
F	The initial Defects Period is one year from the date of Substantial Completion of the Works.	1	item		
	J Random Checks for Employment Records				
G	Sub-clause 5.3.3A(2) shall be part of the Contract.	1	item		
	K Delay Events, Compensation Events, Programme Contingency, Delay Costs, Adjustments (Sub-clauses 9.3, 9.4, 10.1, 10.6, 10.7, clause 14)				
	Delay Events and Compensation Events are as follows (See Section 2.2)				
	L Payment Particulars (Clause 11)				
H	Period for interim payment is monthly. Minimum amount for interim payments, except release of retention, € (Not Applicable). Up to the percentage stated below of the Contract value of the following unfixed Works Items may be included in an interim payment in accordance with sub-clause 11.2	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Period for interim payment is monthly				
A	Minimum amount for interim payments, except release of retention, € (Not Applicable).	1	item		
	Up to the percentage stated below of the Contract value of the following unfixed Works Items may be included in an interim payment in accordance with sub-clause 11.2				
B	On Site Materials % of Contract Value: 90%	1	item		
C	Off Site Materials with Bond % of Contract Value: 90 %	1	item		
D	The retention percentage is 5%	1	item		
	M Cap on Liability (Sub-clause 3.1)				
E	Subject to sub-clause 3.10.2 of the Conditions of Contract, the monetary amount of the Contractor's liability to the Employer under or arising out of this Contract shall not exceed the amount stated below: € an amount equal to the Contract Sum	1	item		
	N Conciliation, Adjudication and Arbitration (Sub Clauses, 13.2 13.3 and 13.4)				
F	For the purposes of resolution of a dispute by conciliation the parties to the contract shall agree on the appointment of: A Conciliator appointed for each conciliation	1	item		
G	Where there is a Standing Conciliator, the Standing Conciliator shall be named in Schedule Part 3C and appointed prior to the Starting Date. The amount allowed in the Pricing Document by the Employer [which may be adjusted prior to the issue of the Letter of Acceptance where the Standing Conciliator has been identified and their fee has been agreed] will be the entire amount recoupable by the Contractor for their share of the Standing Conciliators fee for performance of Standing Conciliator duties, other than conciliating a dispute referred under clause 13.2. The Standing Conciliators fees shall be shared equally between the Parties for the purposes of clauses 13.2. Appointment of a conciliator or Standing Conciliator for the purposes of conciliating a dispute referred under clause 13.2 of the Conditions of Contract should be executed using Model Form: MF1.16 - Appointment of Conciliator Appointment of a Standing Conciliator for performance of Standing Conciliator duties, other than conciliating a dispute referred under clause 13.2 should be executed using Model Form: MF1.18 Appointment of Standing Conciliator.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Failing agreement, the conciliator [or Standing Conciliator] will be appointed by: The President of the Royal Institute of Architects of Ireland (RIAI)	1	item		
B	Unless the parties agree to apply the Capital Works Management Framework (CWMF) Arbitration Rules for use with Public Works and Construction Services Contracts (AR1) published on https ://cwmf.gov.ie/en/pillars/pillar-1/arbitration-rules/ on the date 10 days before the latest date for submission of Tenders for this contract (disregarding any amendments posted on that date) the arbitration rules shall be the Rules of Arbitration of the International Chamber of Commerce (ICC Arbitration Rules).				
C	The person or body to appoint the arbitrator, if not agreed by the parties, is The President of the Royal Institute of Architects of Ireland (RIAI)	1	item		
D	The person to appoint the adjudicator, if not agreed by the parties, is Chairperson of the Panel of Adjudicators	1	item		
	O Rights in Contractors Documents (Sub-clause 6.4)				
E	Copyright and all other rights in the following Contractors Documents and Works Proposals described in subclause 6.4.2 transfers to the Employer in accordance with sub-clause 6.4.	1	item		
	P IPI Measures (Sub-clause 10.10)				
F	Sub-clause 10.10 shall not apply.	1	item		
	<u>The Schedule: Part 2</u>				
G	The Contractor shall also include for completing and returning with his tender package the completed Schedule Part 2 contained in Appendix B of the Form of Tender.	1	Item		
	<u>The Schedule: Part 3</u>				
H	To be Completed by the Employer after Tender and prior to issue of the Letter of Acceptance	1	Item		
	2.2 Public Works Contract for Building and Civil Engineering Works Designed by the Employer				
	<u>K Delay Events, Compensation Events, Programme Contingency, Delay Costs, Adjustments (Sub-clauses 9.3, 9.4, 10.1, 10.6, 10.7, clause 14)</u>				
	Delay Events and Compensation Events are as follows:				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Event 1: The Employers Representative gives the Contractor a Change Order				
A	Delay Event: Yes	1	item		
B	Compensation Event: Yes	1	item		
	Event 2: The Employers Representative directs the Contractor to search for Defects or their cause and no Defect is found, and the search was not required because of a failure of the Contractor to comply with the Contract				
C	Delay Event: Yes	1	item		
D	Compensation Event: Yes	1	item		
	Event 3: The Employers Representative directs the Contractor to suspend work under sub-clause 9.2				
E	Delay Event: Yes	1	item		
F	Compensation Event: Yes	1	item		
	Event 4: The Contractor suspends work in accordance with subclause 12.3				
G	Delay Event: Yes	1	item		
H	Compensation Event: Yes	1	item		
	Event 5: There is a factual error in information about the Site or setting out information in the Works Requirements. [This does not include an error of interpretation.]				
J	Delay Event: Yes	1	item		
K	Compensation Event: Yes	1	item		
	Event 6: The Employer takes over part of the Works before Substantial Completion of the Works and any relevant Section				
L	Delay Event: Yes	1	item		
M	Compensation Event: Yes	1	item		
	Event 7: The Employers Representative does not give the Contractor an instruction required under sub-clause 4.5.4 within the time required under sub-clause 4.11.2 when the Contractor has asked for the instruction in accordance with sub-clause 4.11.1				
N	Delay Event: Yes	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Compensation Event: Yes	1	item		
	Event 8: The Employer does not allow the Contractor to occupy and use a part of the Site in accordance with sub-clause 7.1				
B	Delay Event: Yes	1	item		
C	Compensation Event: Yes	1	item		
	Event 9: The Employer does not give the Contractor a Works Item or other thing as required by the Contract when the Contractor has asked for it in accordance with sub-clause 4.11.1				
D	Delay Event: Yes	1	item		
E	Compensation Event: Yes	1	item		
	Event 10: Employers Personnel working on the Site under clause 7.6 interfere with the execution of the Works on the Site, and the interference is unforeseeable and not in accordance with the Contract				
F	Delay Event: Yes	1	item		
G	Compensation Event: Yes	1	item		
	Event 11: The Employer instructs the Contractor under sub-clause 3.2.3 to rectify loss of or damage to Risk Items for which the Contractor is not responsible				
H	Delay Event: Yes	1	item		
J	Compensation Event: Yes	1	item		
	Event 12: Loss of or damage to the Works that is at the Contractors risk in accordance with sub-clause 3.2				
K	Delay Event: Yes	1	item		
L	Compensation Event: No	1	item		
	Event 13: A weather event as described below				
M	Delay Event: Yes	1	item		
N	Compensation Event: No	1	item		
	Event 14: A strike or lockout affecting the construction industry generally or a significant part of it, and not confined to employees of the Contractor or any Contractor Personnel				
P	Delay Event: Yes	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Compensation Event: No Event 15: Delay to the Works caused by the order or other act of a court or other public authority exercising authority under Law, that did not arise as a result of or in connection with an act, omission or breach of Legal Requirements of the Contractor or the Contractors Personnel or a breach of the Contract by the Contractor	1	item		
B	Delay Event: Yes	1	item		
C	Compensation Event: No Event 16: A breach by the Employer of the Contract delaying the Works that is not listed elsewhere in this table.	1	item		
D	Delay Event: Yes	1	item		
E	Compensation Event: Yes Event 17: A difference between the Contract value of the Works according to the quantities and descriptions in the Pricing Document and the Contract value of the Works described in the Works Requirements, because the Pricing Document, when compared with the Works Requirements -includes an incorrect quantity or -includes an item that that is not included in the Works Requirements or -excludes an item that is included in the Works Requirements or -gives an incorrect item description and the difference for an item in, or that should have been in, the Pricing Document is more than €500.	1	item		
F	Delay Event: No	1	item		
G	Compensation Event: Yes Event 18 :An item of archaeological interest or human remains is found on the Site, and it was unforeseeable	1	item		
H	Delay Event: Yes	1	item		
J	Compensation Event: No Event 19: The Contractor encounters on the Site unforeseeable ground conditions (not resulting from weather) or unforeseeable human-made obstructions in the ground, other than Utilities	1	item		
K	Delay Event: Yes	1	item		
L	Compensation Event: No	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Event 20: The Contractor encounters unforeseeable Utilities in the ground on the Site				
A	Delay Event: Yes	1	item		
B	Compensation Event: No	1	item		
	Event 21: Owners of Utilities on the Site do not relocate or disconnect Utilities as stated in the Works Requirements, when the Contractor has complied with their procedures and the procedures in the Contract, and the failure is unforeseeable				
C	Delay Event: Yes	1	item		
D	Compensation Event: No	1	item		
	In the above table				
E	Utilities means conducting media and apparatus for water, sewage, electricity, gas, oil, telecommunications, data, steam, air, or other services, and associated apparatus and structures.				
F	A condition, circumstance or occurrence is unforeseeable if an experienced contractor tendering for the Works could not have reasonably foreseen it on the Designated Date, having inspected the Site and its surroundings and having satisfied itself, insofar as practicable and taking into account any information in connection with the Site provided by the Employer, as to all matters concerning the Site, including its form and nature and its geotechnical, hydrological and climatic conditions.	1	item		
G	WE 1.0 is the document entitled Weather Events WE 1.0 published on www.constructionprocurement.gov.ie on the Designated Date.	1	item		
H	A weather measurement for a month means each of the following: - the number of days with rainfall exceeding 10 millimetres - the number of days with minimum air temperature less than 0 degrees Celsius and - the number of days with maximum mean 10 minute wind speed exceeding 15 metres per second as recorded at Cork Airport weather station	1	item		
J	If no weather station is named, the Met Eireann station nearest the Site is used. If the station named, or the nearest one, does not record the weather measurements, the station nearest the Site that records that weather measurement is used.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	A weather event is when in a month between the Starting Date and the Date for Substantial Completion of the Works a weather measurement exceeds the number of days for the same item, the same weather station, and the corresponding month in WE 1.0.	1	item		
B	If a weather event occurs in a month and there is to be an extension to a Date for Substantial Completion under sub-clause 9.3.2, the amount of the extension is the lesser of (a) the extension to be made under sub-clause 9.3.2 and (b) the difference between the weather measurement and the number of days for the corresponding item in WE1.0. No day is counted for more than one weather measurement.	1	item		
C	An order or other act of a court or other public authority exercising authority under Law includes a Covid-19 Mandatory Closure.	1	item		
	In sub-clause 9.4: -				
D	^^^The first threshold is 20 Site Working Days of delay caused by Compensation Events.	1	item		
E	^^^The second threshold is 30 Site Working Days of delay caused by Compensation Events.	1	item		
F	In sub-clause 10.6.4(3), the rates to be used to determine the cost of plant are the rates in: , modified as follows: -Rates will be treated as if in euro - and any rates in the Pricing Document.	1	item		
G	In sub-clause 10.7, the amount to be added for delay cost is in accordance with sub-clause 10.7.1(2) the daily rate tendered by the Contractor in Schedule, part 2D. For purposes of sub-clause 10.7, the Contractor is to tender in part 2D a single daily rate for delay costs :	1	item		
H	For purposes of sub-clause 10.7, the Contractor is to tender in part 2D a single daily rate for delay costs:	1	item		
	2.3 Risk of Quantities				
J	The risk of quantities remains with the Employer under FTS1 Schedule Part 1K, Event 17, only where such risk is not affected by another risk passed to the Contractor elsewhere under Part 1K; where it is so affected, the other Event takes precedence to the extent the change arises from that risk. (Ref: ARM4 Supp 1 Section 2.3; FTS1 v2.10 Schedule Part 1K Event 17)	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	2.4 Compensation Event				
A	Where an optional Compensation Event item has no entered against it in FTS1 Schedule Part 1K, all costs associated with that Compensation Event are at the Contractors risk and are to be allowed for here. Allow generally for the operation of the Compensation Event mechanism under Clause 10 (Contractor Claims, ER's Determination and adjustment of the Contract Sum). (Ref: ARM4 Supp 1 Section 2.4; PW-CF1 v2.10 Clause 10; FTS1 Schedule Part 1K)	1	item		
	2.5 Contractor's liability				
B	Refer Section 2.1 Form, Type and Conditions of Contract	1	item		
	2.6 Insurance Liability of Employer				
C	Refer Section 2.1 Form, Type and Conditions of Contract	1	item		
	2.7 Local Authorities fees and charges				
D	The Contractor shall incude for all costs associated with Local Authorities fees and charges, including road opening licences, hoarding licences and permits, and the like, for the Works.	1	Item		
E	In accordance with its obligations under the Contract Conditions, the Contractor shall obtain approval from the Local Authority for the location of temporary entrances, hard standings and crossings required for the Works. Comply with the requirements of the Local Authority regarding their maintenance and reinstatement.	1	item		
	2.8 Obligations and restrictions imposed by the Employer:-				
	<u>2.8 a Access to and possession or use of the site</u>				
F	The Contractor shall not have exclusive possession; the site is a live, occupied university campus that remains in full use throughout, and possession is limited to the Designated Contractor Work Area within the red-line boundary on Drawing 0700. (PW-CF1 7.1; OCM PPS; SMP; OCM Drawing Nr. 0400, 0430, 0510 & 0700,)	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	All vehicular access shall be via the Rossa Avenue entrance only; no access from the west; and no parking in MTU staff, student, visitor or general car parks (clamping/towing in operation), with off-site parking to be arranged.	1	item		
B	Ensure safe egress of all construction traffic to and from the red-line boundary by providing adequate banksman cover at all times to all vehicles; no queuing or staging of construction traffic on internal MTU roads or roads in the vicinity, including Rossa Avenue, Melbourn Road and the Um Var area; and comply with Planning Condition No. 15 (Construction Traffic Management Plan agreed with MTU, Cork City Council and An Garda Siochana).	1	item		
C	Comply with the MTU Permit-to-Work system (induction, RAMS, hot-works and roof-access permits) for any works outside the red-line boundary or in shared areas.	1	item		
D	Carry out a pre-commencement condition survey, with photographic record, of all works areas, access routes and impacted services.	1	item		
E	Maintain adequate Emergency Services and Fire Brigade access to the works and the MTU Arena at all times — including 24/7 pedestrian access to the Arena entrance/escape routes and 24/7 vehicular access to the south of the Arena for maintenance, deliveries and emergency traffic; the Contractor shall not use/park in the south-of-Arena area (retained in MTU possession) but shall keep it accessible.	1	item		
F	Before placing foundations, laying drains, filling trenches, pouring reinforced concrete and otherwise proceeding with work that will cover and conceal previous work, the Contractor shall give early notice in writing to the Employer's Representative and shall afford him an opportunity of inspecting the previous work. Approvals given at such inspections will not relieve the Contractor for full responsibility for the quality of the work throughout.	1	Item		
	2.8 b Limitations of working space				
	Working space				
G	Confine all works, site accommodation, storage, parking and deliveries to the hoarded compound as indicated on Drawing 0700, the layout to be agreed with MTU before commencement and adapted for the Contractor's phasing. (OCM PPS; OCM Drawing Nr. 700; SMP)	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Retain the existing pedestrian routes in operation throughout — the plaza route linking the campus to the MTU Arena and tiered car park, and the retained crossing. (SMP)	1	item		
B	Provide a temporary pedestrian route (minimum 1800 mm wide) along the west elevation of F-Block with interlocking crowd-control barriers. (SMP)	1	item		
C	Retain a minimum 1800 mm access route, free of door openings, between the MTU Arena and the hoarding line. (SMP)	1	item		
D	Pedestrian/Members/Staff access points, car parking and deliveries points, must be maintained safely throughout the various phases of construction. A method statement for the safe interaction of the phases of these and construction activities must be agreed with the design team and client prior to commencement.	1	item		
E	Car park spaces for use by CIT students, staff and other related personel must not be used or impeded by the vehicles of any contractors personnel working on the project	1	Item		
	2.8 c Limitations of working hours				
	Working hours				
F	Working hours during site clearance and construction are restricted to 0800-1800; any work outside these hours requires the Employer's Representative's prior written consent, at the Contractor's cost.	1	item		
G	Allow within the programme for restricted 'no site works' periods: Summer Examinations (Weeks 2-3 May), Autumn Conferrings (Week 4 October) and Christmas Examinations (Week 3 December). (SMP)	1	item		
H	Allow for campus closures (the Christmas period and Good Friday) during which no site access is permitted. (SMP)	1	item		
J	Schedule works to the MTU Arena link outside academic term. (SMP)	1	item		
K	Schedule works to the MTU Arena internally outside academic term. (SMP)	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Any activities outside of these hours shall require the prior written consent of the Employer's Representative. In the case of any night work, or work outside the ordinary ("normal") hours, being carried out by the contractor, a minimum of two (2) clear working days notice shall be given in writing by the contractor to the 'Employers Representative', so that the latter may arrange supervision. Any overtime and night work carried out without such notice shall not be deemed to be work done under this contract and shall not be measured up for the purposes of certification. Any work so done and covered up shall be opened up at the Contractor's own expense for inspection.	1	Item		
	2.8 d Limitations on the Operation of plant with respect to adjoining property				
B	Construction noise shall not exceed 65 dB(A) L(eq,30min) off-site (75 dB(A) peak), with an internal limit of 45 dB L(Aeq,1hr) to occupied campus buildings.	1	item		
C	Provide the maximum practicable acoustic screening between the site and areas retained in use by the Employer.	1	item		
D	Provide construction noise and vibration monitoring at sensitive locations, with a designated environmental liaison officer and complaints log.	1	item		
E	Cease noisy or disruptive work on the direction of the Employer's Representative during MTU Arena events. (SMP)	1	item		
	2.8 e The use or disposal of any material found on the site				
F	All fossils, articles of value or antiquity, structures and other remains discovered on the site shall be the Employer's absolute property. (PW-CF1 7.8)	1	item		
G	Take precautions to prevent removal or damage, notify the Employer's Representative immediately on discovery and before removal, and comply with directions as to disposal. (PW-CF1 7.8)	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	2.8 f Hoardings, fences, screens, temporary roofs, temporary name boards and advertising rights.				
	Hoardings etc.				
A	Design, supply, erect and maintain the site hoarding — minimum 3.0 m high, fully sealed against dust, with graphics/artworks to the Employer's direction — adapted for phasing and removed in totality with making-good on completion. (Dwg 0700)	1	item		
B	Provide internal dustproof and fire-rated screens (at least 1 hour) to adjoining existing buildings.	1	item		
C	Supply, erect and maintain the Employer's Display / project signage in accordance with Appendix 9, kept clean and removed with reinstatement on completion.	1	item		
D	Supply, erect and maintain, at an agreed location for the duration of the works, a substantial aluminium-panelled project signboard with weatherproof graphics (development image, Employer and design-team titles and logos), concealed fixings, on a galvanised steel framework to reinforced-concrete pad foundations, with contractor-designed temporary-works support and sample/shop drawings for approval; replace within 48 hours on ER direction, and remove in totality with reinstatement on completion.	1	item		
E	The Contractor is to allow for the cost of dismantling and removing the sign board and associated site sign structure and foundations on completion of contract, carefully disposing of same to a licenced tip upon completion, including all necessary making good all work disturbed to the satisfaction of the Employer's Representative.	1	Item		
F	The Contractor is to allow in his tender for the cost of maintaining and keeping the site sign board in a clean and presentable condition throughout the contract period.	1	Item		
G	No advertisements are permitted other than the Employer's approved signage.	1	item		
H	Localised hoarding required for the contractor to proceed with works associated with the proposed existing electrical supply building and any work areas outside the main work zone (Drawing Nr. 0700)	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Hoarding plans must be developed in connection with the Contractor's preferred phasing and sequence of works. Costs associated must include for all dismantling and re-erection as a sequence of the agreed programme/phasing. Any re-erection of hoarding must comply to the original design.	1	item		
	2.8 g The maintenance and protection of existing services on or over the site				
B	Carry out Ground Penetrating Radar (GPR) survey to prove the location of all existing services prior to any works taking place; where services are located, excavate by hand-digging around them. (A1-710; SMP - pre-commencement condition/services survey)	1	item		
C	Protect, uphold and maintain all overground/underground services (statutory, provider or private) encountered; make good any damage within the Contractor's control at its own expense.	1	item		
D	Protect, uphold and maintain all existing services throughout, and bear the cost of making good any damage within the Contractor's control.	1	item		
E	Carry out a full services survey before commencement to confirm the location of existing utilities.	1	item		
F	Agree any diversions or tie-ins with the Employer and the Service Authorities in advance, and adhere to the Emergency Plan for immediate response to service damage.	1	item		
G	Proactively manage excavation and diversion works; immediately notify on discovery of unknown services; agree a programme with the Employer and Service Authorities in advance; carry out a full services survey before commencement.	1	item		
H	Facilitate access for third parties to existing utilities/services (diversions, MTU/public utility maintenance).	1	item		
J	The Contractor shall keep detailed written records of any areas opened up and testing carried out. These records are to have a written description of the relation to existing elements of the structure. Additionally, details of what was discovered and the procedure that followed as a result. These records to be handed over to the Employer's Representative and Quantity Surveyor at site meetings.	1	Item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	2.8 h The execution or completion of the work in any specific order in sections or phases, including any coincidental work not at the descretion of the Contractor.				
A	Proceed with the Works in the order agreed with the Employer's Representative, in accordance with the phasing and sequencing requirements and the Site Management Plan. (SMP)	1	item		
B	Coordinate, supervise and programme all Reserved/Novated Specialists, utility providers and other contractors working concurrently; give adequate notice of attendances; keep all parties informed of programme and progress.	1	item		
C	The Employer reserves the right to alter the programme and to omit sections of the Works. (PW-CF1 9.5)	1	item		
D	Cause the least possible disturbance to the operational campus and adjoining facilities, maintaining servicing and access throughout. (SMP)	1	item		
E	The contractor shall note the required phased diversion and provision of new ducting required to be carrier out to complete the works, these works are shown on M &E Consulting Engineers Drawings	1	Item		
	2.8 i Maintenance of specific temperature and humidity levels				
F	Provide and maintain any temperature and humidity conditions required for the installation, storage and commissioning of finishes, equipment and MEP systems, as required by the Works Requirements. (Works Requirements; A1-818/820)	1	item		
	2.8 j Temporary accommodation and facilities for use of the Employer, including heating, lighting, furnishing and attendance				
G	Provide and maintain, until 2 weeks post-Substantial Completion, the Site Inspectorate meeting room (20 persons; A0 table, drawing store, whiteboard, boarded floor, 2 opening windows, lockable door, 500 lux, heating, laptop + large screen hard-wired to the EDMS, water dispenser). (A1-712; A1-713; App 21)	1	item		
H	Provide 2 separate temporary offices (Clerk of Works, Site Engineer), each min. 20 m² / 2.40 m high, fully furnished; separate locked M/F toilets and a 10 m² changing facility (5 lockers, 2 benches); tea/coffee facilities; 4 × 8 m tapes and 4 Maglite torches; keep clean, lit, heated and fit for purpose. (A1-713; App 21)	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Provide separate locked male/female toilets and a changing facility for the Site Inspectorate. (App 21)	1	item		
B	Provide all furniture and equipment (including a laptop and large screen hard-wired to the EDMS, measuring tapes and torches) and tea/coffee facilities, and keep all facilities clean throughout. (A1-713; App 21)	1	item		
C	Provide for consumables	1	item		
D	The Office shall have a First Aid kit and Fire Extinguishers, which are to be serviced and maintained for the duration of the contract.	1	item		
E	Provide for weekly maintenance to ensure the facilities are kept hygienic, clean and in a tidy manner.	1	item		
F	On completion remove from site and make good.	1	item		
	2.8 k Provision of connections to temporary voice and data communications systems for use of the Employer				
G	Provide separate temporary landline, broadband and Wi-Fi connections to the Inspectorate offices and meeting room, hard-wired to the document management system. (A1-713; App 21)	1	item		
H	Provide, maintain and subsequently remove upon completion of the contract, WIFI Facilities to be available to the Employers Site Office(s) at download speeds not less than 5mb/s.	1	item		
	2.8 l Periodic useage and access charges on voice and data communications systems for use of the Employer and associated running costs				
J	Maintain the Employer's voice/data and Wi-Fi connections throughout the works and for 2 weeks after Substantial Completion, and pay all periodic usage, access and running charges; remove and make good on completion. (A1-713; App 21)	1	item		
K	Provide, maintain and subsequently remove upon completion of the contract, WIFI Facilities to be available to the Employers Site Office(s) at download speeds not less than 5mb/s.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	2.8 m Provision of Project Supervisor Construction Stage services, by the Contractor under the Safety, Health & Welfare at Work (Construction) Regulations.				
A	The Contractor shall be appointed and act as Project Supervisor for the Construction Stage (PSCS) under the SHWW (Construction) Regulations 2013 (S.I. 291/2013), providing competent PSCS resources and the Project Safety Management System (PSMS).	1	item		
B	Take the responsibility of 'person in control of the place of work' under Section 15 of the SHWW Act 2005.	1	item		
C	Provide the safety-file information (per the EIR, Appendix 17) and the PSCS insurances.	1	item		
D	Prepare, issue and agree a Project Health & Safety Management System (PSMS) with the ER and PSDP before commencement, per the Preliminary Safety & Health Plan; provide safety-file information per the EIR (App 17) before Substantial Completion; provide the PSCS insurances.	1	item		
E	The Contractor shall appoint an approved, competent Temporary Works Designer who shall take overall design responsibility for the stability of the partially completed permanent works and of adjoining structures and lands during the envisaged construction process and, further, the main contractor shall employ suitably qualified site engineer; both shall liase with each other and the with the Project Supervisors, all in accordance with the HSA Guidelines to Safety, Health and Welfare at Work (Construction) Regulations 2006, & subsequent amendments. Subject to the Employer's Representative consent, (a) on small routine projects the site engineer need not be permanently on site; an/or (b) it may be permissible for one person to fulfil both of these roles	1	Item		
	2.8 n Other obligations and restrictions:-				
F	Prepare and operate a Contract-Specific Site Security Plan with 24/7 photo-ID access control, and provide perimeter CCTV linked full-time to the MTU security control room in D-Block (east of the site). (A1-707; A1-708)	1	item		
G	Provide lighting and watching of the works and compound.	1	item		
H	Implement environmental controls — the Dust Minimisation Plan (Bergerhoff monitoring) and bunding of all fuel oils and chemicals to at least 110% of stored volume.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Keep public and private roads, footpaths and car parks clear, and reinstate all roads, kerbing, parking and soft landscaping to match existing on completion.	1	item		
B	Maintain the interface with the University and site tidiness throughout, and comply with all planning conditions and the overarching obligation to keep the campus operational.	1	item		
C	The contractor is to ensure and maintain fire vehicle, refuse collection and delivery access to buildings adjacent to and within the site at all times.	1	item		
D	A method statement for the access and egress of all construction traffic must be agreed with the design team and client prior to commencement.	1	item		
E	A Permit to work will be required for the decommissioning of all live services and should include details of the service providers, a statement on proof of isolation, certificates and records of services including a map (if applicable) of the services diverted.	1	item		
F	Temporary works shall not be executed until the relevant Temporary Works Design Certificate has been signed by the PSDP and signed by the Contractor.	1	item		
G	A method statement for construction traffic movements within the site must be agreed with the design team and client prior to commencement to ensure public and contractors safety during access and egress of trucks and any construction traffic.	1	item		
H	A Permit to Work (from the main contractor) will be required for all hot works and a fire watch shall be maintained until there is no long a risk of fire.	1	item		
J	A Permit to Work (from MTU) will be required for all works which may affect the services, alarm systems or access/circulation in CIT.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	3. WORKS BY NOVATED SPECIALISTS, SPECIALISTS, WORKS BY PROVIDERS AND WORKS BY OTHERS ENGAGED DIRECTLY BY THE EMPLOYER				
	3.2 Project Board				
A	Provide for the Contractor's costs associated with the Project Board established under sub-clause 4.15 of the Conditions (FTS1 Schedule Parts 1A/3A): naming of members (excluding the ER, design team and Contractor's Representative), a preliminary meeting before the Starting Date, and meetings at least every 60 days, with the Contractor's attendance and administrative support	1	item		
B	In accordance with Schedule 1N, Provide the following amount for the Contractors share in Standing Conciliators Fee. Standing Conciliator to be appointed prior to issuance of Letter of Acceptance and this sum will be adjusted to equal one half of the agreed appointment fee. This Fee is a RESERVED SUM for the Contractors share of the Standing Conciliators Fee for performance of Standing Conciliators duties, other than conciliating a dispute referred under clause 13.2 of the Conditions of Contract. The Standing Conciliators fee shall be shared equally between the parites for the purposes of clause 13.2 of the contract conditions.	1	psum	50,000.00	50,000.00
	3.3 Work by Utility Providers				
C	Work to be carried out by a Statutory Body, Public Undertaking or Private Utility Provider is described and measured per these Rules: allow for attendance on, coordination with and facilitation of the utility providers (electricity, water, gas, telecoms/data) for new connections and for diversions/tie-ins to existing campus infrastructure, including liaison in advance of excavation and adherence to the Emergency Plan for service damage.	1	item		
D	Protect and maintain all services installed by utility providers/statutory undertakers, and allow access to the site for their staff and for the Employer's staff connected with such installations; bear the cost of making good any damage within the Contractor's control.	1	item		
E	The Contractor will be held responsible for any damage caused through his want of proper care to any of the fittings, equipment or machinery installed by Utility Providers Engineers or other statutory undertakers and their agents.	1	Item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	The Contractor shall if required allow access to the site and building for the staff of Utility Providers or others carrying out other installations and employed by or acting on behalf of the Employer. He shall also allow access to the employer's staff connected with this work.	1	Item		
	3.4 Work by others engaged directly by the Employer				
B	A description of work to be carried out during the period prior to Substantial Completion by Others engaged directly by the Employer — the ICT fit-out contractors, equipment-installation contractors and Art-installation works — is given; this work does not form part of the Contract and no profit/discount is allowed on it.	1	item		
C	Provide the general and special attendances required of the Contractor in connection with each such item of work by Others — safe access, protection, security and making-good of any damage — during the Contract Period and during the Defects Period.	1	item		
	4. GENERAL FACILITIES AND OBLIGATIONS				
	4. a Supervision and co-ordination of the works				
D	Provide, for the full duration of the Works, a full-time site management team staffing all the key management roles required for the project, including: the Contractor's Representative; Site Inspectors; Project Management; Procurement Management; Safety Management; Quality Management; Design and Specialist Design Management; Façade/Envelope Management; Embodied Carbon Co-ordinator; MEP and ICT Co-ordination; Building and Services Co-ordination; Fire Safety Co-ordinator; Project Controls, Planning, Scheduling and Reporting; Communications and Community Engagement; and Cost Management — with the roles and responsibilities of each described in detail, including how they change as the work progresses.	1	item		
E	Provide the Project Organisation and Personnel Plan, issued to the ER prior to commencement on site, comprising organisation charts, staffing plans and the CVs of key personnel, indicating full- and part-time appointments.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Appoint a Contractor's Representative with full authority to act on the Contractor's behalf in all matters affecting the contract, and do not transfer or change key personnel without prior written notice to and the agreement of the ER — demonstrating that any replacement has comparable experience and qualifications to the tender-stage individual, the ER being entitled to vet the replacement.	1	item		
B	From commencement until Substantial Completion, keep the site management team present at the site during normal working hours (appointing a suitable deputy whenever a member is absent) to supervise all work by the Contractor, Reserved Specialists and Sub-Contractors, attend all BC(A)R inspections, and receive all instructions from the ER — ensuring at all times sufficient suitably-qualified, experienced and competent staff, familiar with the Building Regulations, Standards and Codes of Practice, to supervise and inspect all work on and off site, including the civil, structural and all other engineering works.	1	item		
C	Accept responsibility for co-ordination, supervision and administration of the whole of the works, including all Reserved/Novated Specialists, sub-contractors, utility providers and others working concurrently.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Provide a dedicated full-time Services Co-ordinator - on site from commencement until three months after Practical Completion, engaged on this role alone, qualified in Building Services and approved in writing by the Architect - responsible for the total co-ordination of the MEP, lift and ICT services installations, whose duties include: interpreting the MEP Works Requirements and co-ordinating the developed Works Proposals; the proper and accurate co-ordination of all services and agreement of service routes and builders'-work openings; issuing properly co-ordinated services drawings to the ER for review at least two months before the relevant installation; day-to-day co-ordination, supervision, setting-out and sequencing of the services and other sub-contractors; input to method statements for live services, tie-ins and works affecting the existing MTU buildings (including Phase 1 MTU Arena); liaison at all times with the Services Engineers and Specialists, the specialist equipment installers, the Utility companies (power, telephone, gas, water and the like) and the relevant Local Authority bodies; resolving sub-contractor/supplier queries and reporting MEP progress at meetings; checking plant and system sizing once co-ordinated; co-ordinating with the Commissioning Management Team the programming, inspection, testing, commissioning and staff training of all services; ensuring the BC(A)R certification documents are provided in a timely manner for handover; and ensuring "as-built" record drawings, instruction manuals and test certificates are prepared and signed off on an ongoing basis for the O&M manual / Safety File before Substantial Completion. Provide the detailed MEP procurement plan within four weeks of award, integrated into the Project Programme. (A1-802; A1-801)	1	item		
B	Co-ordinate all MEP setting-out with the Design Team on site, deriving socket, data, trunking and medical-gas outlet locations strictly from the Room Data Sheets; any item installed without such coordination to be relocated at the Contractor's own expense.	1	item		
C	Provide competent civil & structural engineering supervision on site.	1	item		
D	Prepare, submit and manage the Project Execution Plan (PEP) and the fully-resourced, logic-linked Integrated (Level III) Project Programme, and maintain and update them throughout the works.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Attend the fortnightly Site Meetings chaired by the ER, issuing the progress report and project dashboard two working days in advance; and convene, chair, attend and minute all other meetings necessary for the proper co-ordination and management of the Works, including the Contractors' Co-ordination meetings, MEP/Services Co-ordination meetings, Quality Management meetings, Liaison meetings, Cost meetings and Design-Team/Technical Query meetings, at the frequencies required, circulating agendas and minutes to all parties.	1	item		
B	Draw up and maintain the project Risk Register agreed with the ER at commencement — listing risks to the timing, cost or quality of the Works and the agreed mitigation actions - issued with the Progress Report ahead of each Site Meeting, reviewed at the meeting, and updated with agreed actions and the dates risks pass.	1	item		
C	Develop, submit and agree the Construction Management Plan with the Employer, the ER and Cork City Council prior to commencement, and develop the Construction Mobilisation Plan (the Contractor's work plan for the first 360 days covering off-site, on-site, town-planning, design, procurement and construction).	1	item		
D	Provide and maintain the Contractor's Cost Management Plan prior to commencement, addressing value engineering, preparation and submission of applications for payment (including co-ordination of Specialist Sub-Contractors' applications), change management and the monthly Projected Final Account report.	1	item		
E	Provide a Cash Flow Forecast based on the Tender Programme with the tender, updated and reissued to the ER on award prior to commencement, and maintained through the works.	1	item		
F	Develop and implement project-specific Lean Construction methods, applied by the entire supply chain at all stages of the project, as part of the Construction Management Plan.	1	item		
G	Set up and manage the RFI (Request for Information) process - maintaining an RFI Process Matrix/Tracker updated weekly and allowing sufficient time to co-ordinate, review and respond to RFIs.	1	item		
H	The Contractor shall ensure that full technical support is available from material suppliers for the duration of the contract. Include for all costs in connection with same.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	The Employer may appoint a Clerk of Works who shall be paid by him. Neither the appointment nor the actions of the Clerk of Works will invalidate the responsibility of the Contractor and the Clerk of Works shall have no power to authorise Change Orders.	1	item		
	4. b Plant, tools and vehicles				
B	Provide all plant, tools, equipment and vehicles for the works - bringing to site, maintaining, and removing on completion; give the ER a weekly return of plant on site ; do not remove plant/scaffold until agreed with the ER.	1	item		
C	Give the Employer's Representative a weekly return of plant on site; no plant or scaffold to be removed without the ER's agreement.	1	item		
D	Operate all plant within the site noise and vibration limits	1	item		
E	No existing or proposed lifts shall be used for construction purposes, unless specifically required to satisfy the Works Requirements or by special agreement with the ER in advance	1	item		
F	Craneage and lifting operations: provide, prepare ground for, and define crane set-down areas; agree all lift paths, exclusion zones and lifting plans with the ER; and carry out all lifting so as not to lift heavy elements or components over publicly-accessible areas or occupied buildings (including the operational MTU Arena), sequencing and scheduling lifts accordingly.	1	item		
	4. c Scaffolding				
G	Design, supply, erect, inspect, maintain and remove all scaffolding and temporary access, in compliance with the relevant standards and the Safety, Health and Welfare at Work (Construction) Regulations 2013; treat scaffolding as Contractor-designed temporary works with design and method statements submitted to the ER.	1	item		
H	Treat scaffolding as a Contractor Designed Item, with design and method statements submitted to the Employer's Representative.	1	item		
	4. d Site Administration including the provision and keeping of all statutory records				
J	Provide sufficient administrative staff and maintain all statutory registers and records.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	The Contractor shall provide site records in hardcopy and electronic format each week for the Employer's Representative and Quantity Surveyor. Site records to comprise the following: (a) A daily record of the number and description of tradesmen and labour employed on the works (b) A daily record of all plant, i.e. number, type and capacity (b) A daily record of all materials and goods including name of supplier, delivery docket number etc. (c) A daily record of wet hours, during which time work was prevented by bad weather (d) all other required records	1	item		
A	Common Data Environment (CDE): operate, and bear all costs of, the project Electronic Document Management System (Autodesk Forma, or a fully compatible EDMS) established by the Employer, through construction and handover — the Employer funding the system only until the Contractor is appointed, after which all responsibilities and costs transfer to the Contractor for the duration of the contract.	1	item		
B	Route all contractual correspondence with the ER through the EDMS (letters, relevant emails, instructions, RFI close-outs, issue of drawings, commissioning documents and the like); provide the system together with all training, familiarisation and mobilisation required for the whole supply chain, the design team and the Employer to interface with it; and agree any proposed change to the EDMS structure or process with the Employer and design team in advance, bearing the associated costs.	1	item		
C	Site Photographs and Video: keep digital and video cameras on site throughout, and provide — a continuous 4K video record of the entire site downloaded weekly; 200 dated digital photographs per month taken from locations directed by the Site Inspectorate; and erected and maintained time-lapse cameras covering the whole project from demolition to completion (camera locations agreed with the ER), with all necessary services and recording facilities to store the images.	1	item		
D	The Contractor is to produce Aerial Photographs of the entire Site, its adjacent boundaries and Works Areas, for the ER's Approval. The medium used is to be both conventional and digital formats; date and time recorded: (a) One Full set prior to commencement of any works on site (b) One Full set PER CALENDAR MONTH for the entire Contract duration (c) One Full set at Substantial Completion	1	item		
E	Maintain all BC(A)R records (see Section 5).	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Recording and Monitoring Equipment — when required by the ER, make available at the Contractor's own cost a site engineer and suitable surveying instruments, together with adequate thermometers of various types (properly sited for representative readings), moisture meters, tell-tales (fixed as directed by the Design Team), tablet-based inspection hardware and software with adequate memory, and still/video cameras.	1	item		
	4. e Security				
B	Prepare and agree a Contract-Specific Site Security Plan and operate 24/7 security with photo-ID access control. (A1-707)	1	item		
C	Provide a temporary CCTV system to the full perimeter, linked full-time to the MTU security control room in D-Block (east of the site). (A1-708)	1	item		
D	Provide lighting and watching of the works and compound. (A1-708)	1	item		
E	Provide for safeguarding the site, the works, materials and plant against unauthorised entry damage and theft including providing all necessary watching and lighting for the security of the works and the protection of the public. Make good any damage caused by ineffective protection.	1	item		
	4. f Provision of clearly identifiable site perimeters and surroundings				
F	Enclose the red-line Designated Contractor Work Area (Drawing 0700) with the site hoarding, clearly identifying the site perimeter, and set out the compound as indicated on Drawing 0700 and agreed with MTU. (SMP)	1	item		
	4. g Provision for protection of the public from site operations and arrangements for protection of third parties and visitors to the site in accordance with all statutory requirements				
G	Effect all measures to safeguard the public, staff, students and third parties from site operations — the Pedestrian Management Plan, temporary routes, crossings and barriers, and advance warning and way-finding signage. (SMP)	1	item		
H	Maintain Emergency Services and Fire Brigade access to the works and the MTU Arena at all times, including 24/7 vehicular access to the south of the Arena. (A1-704)	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Ascertain and comply with the Regulations of the Fire Department and other Emergency Services including maintaining required access at all times to new and existing properties.	1	Item		
B	To comply with its obligations under clause 7.5 of the conditions the Contractor shall take all reasonable measures to ensure the safety of the public. The Contractor's responsibility for trespassers is set out in clause 7.2 of the conditions and shall pay particular regard to preventing trespass onto his site by members of the public.	1	item		
	4. h Transport for workpeople				
C	Obtain an adequate labour force; make off-site parking and alternative-transport arrangements via the Construction Stage Mobility Travel Plan, at no additional cost to the Employer, and encourage use of public transport.	1	item		
	4. i Protecting the works from inclement weather				
D	Protect the works, materials and plant from the weather throughout and make good any damage.	1	item		
	4. j Water for the works				
E	Provide an adequate supply of clean fresh water to the works, compound and Site Inspectorate, and pay all charges.	1	item		
F	Provide an adequate supply of clean fresh water to the works, compound, Site Inspectorate and client-team facilities for the duration of the works and for six months after Substantial Completion — including the application for, provision of, attendances on, and all connection and running costs of, the temporary supply — the Contractor providing its own temporary connection with no reliance on any existing MTU campus water provision.	1	item		
	4. k Temporary lighting and power for the works				
G	Provide separately metered temporary power and lighting, distributed about the site, with external safety lighting to pedestrian routes.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Provide separately-metered temporary power and lighting distributed about the site and compound, with external safety lighting to pedestrian routes, for the duration of the works and for six months after Substantial Completion — including the application for, provision of, attendances on, and all connection and running costs of, the temporary supply — the Contractor providing its own temporary supply (new utility connection and/or generators) with no reliance on any existing MTU campus power provision; connection point, type, voltage and capacity to be confirmed	1	item		
B	Provide power and fuel for the Contractor's and Specialists' plant, and pay all connection and running costs.	1	item		
C	Restrictions on use of permanent installations — existing and proposed lifts shall not be used for construction purposes, and the permanent lighting installation shall not be used for the Works, save where specifically required by the Works Requirements or by special prior agreement with the ER.	1	item		
	4. l Temporary roads, hardstandings, crossings and similar items				
D	Provide all temporary roads, hardstandings and crossings within the compound, in locations approved by the Employer's Representative. (OCM Dwg 0700)	1	item		
E	Reinstate all roads, kerbing, parking and soft landscaping to match existing on completion. (SMP)	1	item		
F	Comply with the requirements of the Local Authority regarding their maintenance and reinstatement.	1	item		
	4. m Temporary accommodation for the use of the Contractor				
G	Provide, erect, maintain, adapt, relocate and remove the Contractor's temporary buildings (offices, mess rooms, sanitary accommodation, stores) for the Contractor and sub-contractors, in a uniform colour with project branding to ER approval; reinstate on completion all surfaces, vegetation, grassed areas, hard landscaping etc., disturbed or damaged by Contractor's operations during the course of the works.	1	item		
	4. n Temporary storage areas including suitable and separate storage for dangerous materials or substances				
H	Provide secure, weathertight storage within the compound.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Provide separate storage for dangerous/hazardous materials, and bund all fuel oils and chemicals to at least 110% of stored volume.	1	item		
B	Comply with asbestos and hazardous-waste requirements.	1	item		
	4. o Temporary telephones for the use of the Contractor				
C	Provide temporary communications (mobile, landline, broadband) and site Wi-Fi for the Contractor's own use, 24/7 from the outset, and pay all charges.	1	item		
D	Provide temporary communications (mobile, landline and broadband) and site Wi-Fi for the use of the Contractor, sub-contractors, Reserved Specialists, the Site Inspectorate and the client team, 24/7 from the outset and for six months after Substantial Completion, and pay all charges — the Contractor providing its own temporary provision with no reliance on any existing MTU campus ICT provision. (A1-714; A1-715)	1	item		
	4. p Traffic regulations				
E	Comply with all traffic and An Garda Siochana regulations, and prepare a Construction Traffic Management Plan (Planning Condition 15, agreed with MTU, Cork City Council and An Garda Siochana).	1	item		
F	Provide banksman cover; no queuing or staging of construction traffic on Rossa Avenue, Melbourn Road or the Um Var area. (SMP)	1	item		
G	Obtain all road-opening licences and permits.	1	item		
	4. q Welfare facilities for work people to be in compliance with fourth schedule of the Safety Health and Welfare at Work (Construction) Regulations				
H	Provide and maintain temporary welfare facilities (toilets, washrooms, canteen/mess) in compliance with the Fourth Schedule of the SHWW (Construction) Regulations 2013; keep clean and properly maintained throughout.	1	item		
	4. r Safety Health and Welfare at Work provisions including items for the following:-				
J	Provide the PSCS services and the PSMS under the SHWW (Construction) Regulations 2013.	1	item		
K	Operate the Safe Pass/SOLAS and Construction Skills Certificate (CSCS) schemes.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Provide the Safety Officer(s), supervisors, first-aiders, inspectors and certifiers required.	1	item		
B	Provide all tests and certificates on plant and equipment, safety signs and signals, and personal protective equipment.	1	item		
C	Provide emergency routes and exits with designated personnel, temporary fire detection and fighting, first-aid provision.	1	item		
D	Prepare, issue and agree with the ER in advance the Risk Assessments and Method Statements (RAMS) for all works — to a consistent standard and layout, with a safe plan of action agreed with the work crew at each work location — and manage the Permit-to-Work process, the PSCS supervising the works to validate the safe systems of work.	1	item		
E	Allow for all costs arising out of the Preliminary Safety and Health Plan - the project-specific hazard-mitigation and control measures it identifies in its Schedule of Particular Residual Risks (Appendix A1) and Other Significant Risks (Appendix A2) — and develop and maintain the construction-stage Safety and Health Plan (PSMS) therefrom. (PSHP)	1	item		
F	Develop and implement, as part of the PSMS, the health and safety communications strategy and "exemplary site set-up" — a visible safety culture, site establishment and look-and-feel, a clear safety charter and clear logistics plans.	1	item		
G	All workers on the site will be subject to Garda Vetting	1	item		
	4. s Disbursements arising from the employment of workpeople				
H	Comply with all statutory obligations on pay and conditions of employment; maintain and submit weekly labour records; bear all levies, insurances and other disbursements arising from the employment of workpeople. (PW-CF1 5.3, 5.7)	1	item		
J	Prepare and operate the Industrial Relations Management Plan/procedures for the project.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	4. t Maintenance of public and private roads				
A	Keep the site tidy throughout; on completion, and as directed by the Employer's Representative, clear away and remove all constructional plant, temporary works of every kind, surplus materials, rubbish and protective casings/coverings, and leave the whole of the site and Works perfectly clean and in a workmanlike condition to the ER's satisfaction.	1	item		
B	Carry out the builder's clean and final cleaning/disinfection, and achieve zero-defect punch lists.	1	item		
C	The Contractor shall be responsible for all damage to existing roads and footpaths caused by his own or sub-contractors' or suppliers' transport to and from the site. Maintain the Employer's existing roads and footpaths during the Contract and make good any damage caused by site traffic or site operations. Protect all underground services encountered during the execution of the works. The Contractor shall make good any damage caused by his own, by sub-contractor's or by suppliers' operations.	1	item		
D	The Contractor is also to take reasonable steps to prevent the excessive deposit on roads and footways of mud from his vehicles or those of any sub-contractor under the Contract and is to allow for cleaning such deposits as necessary.	1	item		
	4. u Removing rubbish, protective casings and coverings and cleaning the works on completion				
E	Keep the site tidy throughout; remove all rubbish, protective casings and coverings; carry out builder's clean and final cleaning/disinfection; achieve zero-defect punch lists; and carry out site demobilisation and clearance.	1	item		
F	Keep the site tidy throughout; on completion, and as directed by the Employer's Representative, clear away and remove all constructional plant, temporary works of every kind, surplus materials, rubbish and protective casings/coverings, and leave the whole of the site and Works perfectly clean and in a workmanlike condition to the ER's satisfaction.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Cleaning and Disinfection on completion — carry out: (i) the Builders Clean — remove heavy dust and dirt to leave all areas presentable and fit for use; (ii) the MEP Clean — clean all external and internal surfaces of plant, ductwork and pipework, AHU components (impeller blades, fan scrolls, attenuators, heat-transfer surfaces), motor casings and airways, and control panels/connection boxes; remove temporary filters and replace with new clean filters; and clear all building materials from service voids and plantrooms, leaving them dust-free; and (iii) the Industrial Clean — window cleaning, power washing, and stripping and sealing of floor, wall and ceiling surfaces and built-in components using specialist heavy-duty cleaning; remove all temporary supply labels; and a final clean and disinfection to leave the Works fit for occupation. Achieve zero-defect punch lists.	1	item		
B	Prepare, agree and implement a site-specific Vermin Control Management Plan from commencement of the construction works, maintained throughout.	1	item		
	4. v Compliance with Waste Management statutory obligations				
C	Prepare and implement a Project Construction & Demolition Waste Management Plan and Resource & Waste Management Plan in accordance with the EPA Best Practice Guidelines.	1	item		
D	Comply with the Waste Management Acts; no on-site crushing or bulk stockpiling of waste without the Employer's Representative's permission.	1	item		
	4. w Drying of the works				
E	Provide temporary heating/dehumidification as necessary to dry out the works for finishes and commissioning, and bear the energy costs to Substantial Completion; permanent building systems not to be used for drying-out without the ER's agreement. (A1-818/820)	1	item		
F	Control humidity as required to facilitate progress and to prevent damage to or deterioration of the works	1	item		
G	The permanent heating installation may not be used for drying out the works	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	4. x Temporary fencing, hoardings, gates, doors, screens, fans, planked footways, guardrails, gantries, floor, stair, roof edge protection, and protection of openings, safety nets and similar items				
A	Design, supply, erect, adapt and remove all temporary fencing, site hoarding (min. 3.0 m, fully sealed) and gates, as Contractor-designed temporary works.	1	item		
B	Design, supply, erect, adapt and remove all temporary internal dustproof/fire-rated screens, planked footways, guardrails, gantries, floor/stair/roof-edge protection, protection of openings and safety nets, as Contractor-designed temporary works.	1	item		
C	Undertake the design, checking and co-ordination of all temporary works generally, and their construction and removal, in accordance with the temporary-works procedure.	1	item		
D	Obtain permission from the Local Authority for all temporary hoardings and fences, scaffolding, road opening licence and footpath closure licence. Comply with the requirements of the Local Authority.	1	Item		
E	The Contractor shall comply with all statutory regulations to ensure the safety and protection of all employees, subcontractors, suppliers, consultants and all other third parties involved in or likely to be connected with the Works any way whatsoever.	1	item		
	4. y Control of noise, pollution and compliance with statutory obligations				
F	Take all practicable steps to avoid nuisance in respect of noise, dust, vibration and waste.	1	item		
G	Comply with the noise limits (65 dB(A) L(eq,30min) off-site, 75 peak, 45 internal) and the working hours 0800-1800.	1	item		
H	Implement the Dust Minimisation Plan (Bergerhoff monitoring), noise and vibration monitoring, and a designated environmental liaison officer with complaints log.	1	item		
J	Comply with all planning conditions. (Planning conditions)	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Allow for compliance with all conditions attached to the grant of planning permission [ref/date], including any obligations, restrictions, surveys, monitoring, bonds or contributions imposed thereby, in so far as not separately measured elsewhere in the Works Requirements or this Bill	1	item		
	4. z Protection of the works				
B	Protect the works and all completed and partly-completed sections, materials and plant from damage throughout.	1	item		
C	Protect all retained existing buildings, finishes and services, and make good any damage at the Contractor's own expense.	1	item		
D	Protect all retained trees and landscaping in accordance with the tree-protection requirements; appoint a suitably-qualified Arborist to monitor and inspect the retained trees; and provide the tree-protection monitoring records.	1	item		
E	The Contractor shall provide everything that may be necessary for the protection and safety of adjoining property, while carrying out the works. The Contractor shall alter, adapt and maintain, as necessary, any temporary works required in this connection and finally clear away and make good	1	item		
F	The works shall be protected at all times against damage from inclement weather, impact, or any other cause and the Contractor shall provide waterproof and frost-proof coverings, temporary shelters, temporary drainage and any other necessary protection for this purpose. He shall provide also watching and temporary lighting, hoarding etc., necessary for the protection of the public and for the protection of the site and the Works against trespass and interference.	1	item		
	5. PROJECT-SPECIFIC REQUIREMENTS (General Rule 1)				
	Contractor Submittals:				
G	Comment Process: submittals are reviewed under a three-status comment process (A - no inconsistency; B - minor, may proceed at own risk; C - major inconsistencies), each accompanied by the Contractor's confirmation of compliance with the Works Requirements. ER/design-team review constitutes comment only, not acceptance, and does not relieve the Contractor of design responsibility (incl. Contractor Designed Items).	1	item		

	Description	Qty	Unit	Rate	Amount
A	Include third-party-verified Environmental Product Declarations (EPDs, to EN 15804) in all product submittals, proposing products with EPDs where practicable.	1	item		
B	Certain Sub-Contractors/Suppliers will be required to provide design and production drawings and other information: The Contractor shall make reasonable allowance for the time taken in completing such information, checking, inspection by the Employer's Representative. The Contractor shall take appropriate action to obtain all information which the Sub-Contractors/Suppliers are required to provide. The Contractor shall thoroughly check on the basis of information available, note any comments, discrepancies and divergences and submit to the Employer's Representative. Ensure that any necessary amendments to the information are made in accordance with any comments of the Employer's Representative, and re-submit unless the Employer's Representative so confirms that this is not necessary. If submitted information differs from the Sub-Contract documents, each such difference must be the subject of a request for substitution or Change Order. Should any amendment required by the Employer's Representative be considered to involve a variation, the Contractor shall notify the Employer's Representative without delay and shall not proceed until sub-sequentially instructed. Claims for the extra over cost of such work, if made after it has been carried out, may not be allowed. Obtain final version of all information and submit to the Employer's Representative the number of copies required by him. Distribute additional copies to all affected Sub-Contractors and Suppliers, retain copies for your the Contractors own use and keep at least one copy on site. Ensure that the work is carried out in accordance with this final version	1	item		
	Contractor Design Items:				
	<u>BIM and Information Management (per the EIR and Responsibility Matrix, to IS EN ISO 19650-2):</u>				
C	BIM and Information Management (per the EIR and Responsibility Matrix, to IS EN ISO 19650-2):	1	item		
D	Appoint an Information Manager and BIM Coordinator, and facilitate on-site BIM coordination meetings, clash detection and resolution.	1	item		
E	Upload an updated federated model to the Employer's CDE at least every two weeks ahead of site meetings, with report, and use automated model-checking software to verify Level of Model Development (LOD/LOI).	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Prepare and maintain the BIM Execution Plan (BEP) and complete the Detailed Responsibility Matrix (EIR Appendix B).	1	item		
B	Photograph and catalogue every partition wall and ceiling void before closing, recording the installation in hidden areas.	1	item		
C	Provide accurate as-built BIM deliverables before Substantial Completion, with all specialist models in a PUBLISHED state at completion, and maintain the model to the end of the Defects Period.	1	item		
D	Populate the Preventative Maintenance Plan template (EIR Appendix C) with the classification and coding required for all Group 1, Group 2 and MEP assets, for the O&M/FM handover.	1	item		
	Contractor Designed Items: allow for the design, design coordination, checking, professional indemnity insurance, specialist collateral warranties and design/ancillary certification of every item in the Contractor Design Responsibility Register				
E	Contractor Designed Items — Schedule (Appendix 23): allow for the design development, coordination, checking, professional indemnity insurance, specialist collateral warranties and ancillary design certification of every element scheduled in the Architect's Schedule of Contractor Designed Items (Appendix 23) — developing the Employer's outline/performance design to construction-detail status and ensuring each element complies with the Works Requirements — including: (a) full specialist design-and-build packages (e.g. curtain walling/façade, structural silicone glazing, rainscreen, stairs, doorsets, revolving doors); (b) elements the main contractor designs from the Employer's design intent (e.g. barriers, guarding, handrails, zinc shingle cladding) ; and (c) specialist-engineer designed elements per SE-0008 (e.g. steel connections, precast, hollowcore, lift supports, piling, glulam/CLT). These are the main contractor's domestic supply chain (not Reserved/Novated Specialists): the physical work is measured as Contractor-Designed in the trade bills, with the design, PI and certification cost carried here; design and ancillary certificates submitted to the Assigned Certifier per Appendix 11. (App 23; A1-815)	1	item		

	Description	Qty	Unit	Rate	Amount
A	Contractor Designed Items — arising from the Specifications: allow for the design, coordination, professional indemnity, collateral warranties and ancillary certification of any further Contractor-designed elements required by the OCM Architectural Specification and the HL / JVT Engineering Specifications that are not expressly scheduled in Appendix 23, in so far as not already measured or scheduled elsewhere; notify any such item to the ER for confirmation and inclusion in Appendix 23. (OCM Architectural Specification; HL / JVT Engineering Specifications; A1-815)	1	item		
	BC(A)R Compliance & Certification: allow for full compliance with the Building Control (Amendment) Regulations, including: (Ref: A1-501 to A1-510; App 10 (Preliminary Inspection Plan); App 11 (Ancillary Certifier Responsibility)				
B	BC(A)R contractor supervision and the Contractor's BC(A)R Compliance Plan	1	item		
C	The Preliminary Inspection Plan and Inspection Notification Framework (INF), coordinated and updated with the construction programme.	1	item		
D	Making all INF elements available for inspection at each milestone — complete, not concealed and safely accessible — and facilitating random inspections by the Assigned Certifier, Ancillary Certifiers and/or Building Control Authority.	1	item		
E	Advance inspection notices (minimum 5 working days; re-inspections minimum 3 working days), with no claim for extension of time or cost arising from inspection/re-inspection.	1	item		
F	Timely provision of all materials, product and assembly test certificates and Ancillary Certificates.	1	item		
G	Procurement, from the Contractor's selected specialists and sub-contractors, of the full schedule of Ancillary Certificates listed in Appendix 11 - Specialist design/inspection/completion (Sd/Si/Sc) and sub-contractor / sub-sub-contractor completion (Cs/Css) - on the Appendix 11 templates, for issue to the Assigned Certifier.	1	item		
H	Interim BC(A)R certification as a precondition for interim payment of the relevant sections of work.	1	item		
J	Maintenance of BC(A)R progress and inspection records, issued to the Assigned Certifier and retained for the statutory period.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Submission of the Commencement Notice, and at completion co-signing the Certificate of Compliance on Completion and registration on the Building Control Management System (BCMS) as a prerequisite for Substantial Completion.	1	item		
	Mock-ups				
B	Provide 8 no. internal prototype mock-ups per Appendix 12 (fire-resisting doorset, fitted bench, laboratory workbench, IPS cubicle bay, partitions, timber wall/ceiling linings, stretched-fabric lining, glass-balustrade channel). (App 12)	1	item		
C	Provide 6 no. envelope prototype mock-ups per Appendix 12 (curtain-wall slab-edge, zinc shingle cladding, timber rainscreen/glulam column, fairfaced in-situ concrete wall, stub-column-to-glulam connection, corrugated rooflight lining). Confirm whether mock-up cost is discrete or absorbed in measured trades	1	item		
D	Provide tabletop material samples and benchmark/first-of-a-kind installations for approval at least two weeks before continuation of the relevant installation; procure an off-site mock-up location where the programme cannot accommodate on-site mock-ups. (Ref: App 12)	1	item		
E	Mock-ups, sample panels and first-of-kind installations — OCM Architectural Specification: in addition to the mock-ups scheduled in Appendix 12, provide all other mock-ups, prototype assemblies, sample panels, benchmark installations and first-of-a-kind ("first-off") installations required by the OCM Architectural Specification — constructing each in an approved location; obtaining the written approval of the ER / Design Team before proceeding with the related work; retaining the approved mock-up or benchmark as the quality standard against which that work is measured; and rebuilding any rejected mock-up until approved — in so far as not already scheduled in Appendix 12 or measured elsewhere. Notify the ER and agree the mock-up schedule and programme in advance. (App 12)	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Mock-ups, benchmark pours and first-of-kind installations — HL Engineering Specifications: provide all mock-ups, sample panels, trial / benchmark concrete pours, precast sample units and first-of-a-kind ("first-off") installations required by the HL Engineering Specifications (e.g. visual / exposed concrete benchmark panels, precast sample units) — constructing each in an approved location; obtaining the written approval of the Engineer / ER before proceeding with the related work; retaining the approved benchmark as the quality standard for that work; and rebuilding any rejected mock-up until approved — in so far as not already scheduled in Appendix 12 or measured elsewhere. (HL Engineering Specifications)	1	item		
	Testing				
B	Testing - full register: carry out, coordinate and report all tests set out in the Contractor Testing Requirements Register — materials, workmanship, systems and performance tests, including hold and witness points - and provide all test certificates to the ER/Assigned Certifier	1	item		
C	Air-tightness testing by an NSAI/INAB, ISO 17025-accredited contractor (I.S. EN 13829 / BS EN ISO 9972 fan-pressurisation; CIBSE TM23) to achieve ≤ 2.5 m3/h/m2 at 50 Pa, incl. temporary airtight partition to the new/existing junction and EPDM sealing; preliminary test (pressure + smoke, services exposed) and final test (pressure + smoke) pre-Substantial Completion; further tests/remedials to achieve the standard at the Contractor's expense. Ref: A1-821; App 19	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Horgan Lynch (Civil & Structural): carry out, coordinate and report all testing and inspection required by the HL Engineering Specifications (SE-0001 Drainage, SE-0005, SE-0007 Structural Steelwork, SE-0008 Material Conformity & Quality Control, SE-0009), including: concrete testing (fresh to BS EN 12350, hardened/cube testing to BS EN 12390, delivery dockets); reinforcement CARES certification and pre-pour rebar inspections (rebar installed and internally inspected not less than 24 hours before each pour, min. 2 working days' notice for inspection); structural steelwork material test certificates and certificates of manufacture (BS EN 10025/10029/10210), weld procedure qualification and welding inspection (BS EN 1011 / BS EN ISO 15614), and connection testing; piling — pile calculations, concrete mix design and record of pile testing (as-built locations); drainage testing (foul/storm air or water test to IS EN 752, manhole water tests, CCTV survey and drainage schedule, all witnessed and signed off by the ER before backfilling); and any additional material testing the Engineer calls for. All tests witnessed/signed off by the ER as required; the cost of any re-testing arising from non-compliance borne by the Contractor. (HL Engineering Specs SE-0001/0005/0007/0008/0009)	1	item		
	Equipment groupings and attendances (as per Room Layout Sheets)				
B	Equipment groupings and attendances — Group 1 (supply, manage, coordinate installation), Group 2 (install Employer-supplied equipment with builders' work, delivery routes, protection, attendances), Group 3/4 (storage, access, security, protection, making-good)	1	item		
C	Group 1: supply, manage and co-ordinate the installation (supply and fitting deemed included in the Contract Sum).	1	item		
D	Group 2: manage, co-ordinate and install the Employer-supplied equipment (fitting deemed included), with builders' work, delivery routes, protection and attendances.	1	item		
E	Groups 3 & 4 (procured independently by the Employer - Group 3 delivered pre-Substantial Completion)	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Co-ordinate, manage and supervise the delivery, installation and installation programme; define drop-off points and safe delivery routes through the building; provide fully-finished, cleaned and commissioned storage space; provide all attendances on the Employer's / specialist installers; provide security and protection of the equipment before, during and after installation; protect finishes; carry out the builder's works and completions post-installation; and repair/make good any damage arising from the Group 3/4 delivery and set-out.	1	item		
	As-built Life Cycle Assessment				
B	As-built Life Cycle Assessment to EU Level(s) Path 3 / EN 15978 by a qualified assessor: element modelling on completion, monthly progress reporting, A4/A5 emissions, design-vs-as-built comparison, final model/report within one month of practical completion; EPDs as required. Ref: A1-929/930; App 22	1	item		
	Commissioning, Soft Landings, FM and handover:				
C	Integrated commissioning of the works.	1	item		
D	Manage, monitor and co-ordinate, through the Soft Landings process, the 12-month 'Hard FM' maintenance service provided by the MEP Specialists (during the Works and for 12 months after Substantial Completion), reporting it in the monthly Soft Landings report; the FM/maintenance cost itself is deemed included in the MEP Contract.	1	item		
E	12-month 'Hard FM' maintenance service by the MEP Specialists, managed through the Soft Landings process with monthly reporting.	1	item		
F	The Handover Execution Plan and dossiers — all testing/commissioning/certification, as-built drawings, BC(A)R documentation, punch lists, systems status and certificates.	1	item		
G	O&M manuals with FM tagging and structure, the Employer Safety File, and all secured manufacturers' guarantees and warranties, updated through the Defects Period.	1	item		
H	Familiarisation and training of the Employer's maintenance staff in the operation and maintenance of the installed systems.	1	item		
J	The recommended spare-parts schedule and first fills, and (if requested) a priced quotation for the initial supply of spares.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Zero-defect punch lists, cleaning/disinfection at completion, and the site demobilisation and clearance plan for the Defects Period.	1	item		
B	At Substantial Completion, provide the tools and portable indicating instruments required for the operation and maintenance of the services plant and equipment, with suitable means of identifying, storing and securing them.	1	item		
C	Allow generally for all other handover, familiarisation, training, demonstration, spares and tools requirements reasonably necessary to complete the handover and Soft Landings process, in so far as not separately measured elsewhere	1	item		
D	Works carried out by the Contractor after Substantial Completion shall be by prior arrangement with the Employer and in full conformity with their limitations and restrictions including hot work permits, wearing of name tags, restricted use of facilities, general housekeeping and security requirements	1	item		
	Quality Assurance and Environmental Management Systems:				
E	Operate the project QA system covering standards of workmanship, checks and tests, and non-conformance/defective-work management; and maintain independent certification and registration with an accredited certification body of compliance with the current ISO 9001, from the date of the Contract to the expiry of the Defects Period, ensuring all Contractor's Personnel comply.	1	item		
F	Operate an Environmental Management System for the works, and prepare, submit to the ER for agreement prior to commencement, implement and retain on site the Contract-Specific Construction Environmental Management Plan (CEMP), which is the umbrella for the dust, noise/vibration and waste controls itemised at 2.8(d), 4(y) and 4(v).	1	item		
	Site Survey, Setting Out & Permanent Ground Markers:				
G	Carry out the site survey and setting out of the works; establish Permanent Ground Markers on the ITM grid (maximum 150 m spacing); commission an independent third-party verification survey at outset and quarterly thereafter; check and report on all survey controls fortnightly; and prepare the Survey Report.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	The Contractor shall set out the Works and keep them correct. Opening up and excavation shall not be commenced until the Engineer/ Employer's Representative has inspected the setting out. Two days notice is to be given to the Architect to check the setting out. The checking of any setting out or of any line or level by the Employer's Representative or the Clerk of works (if any) shall not relieve the Contractor of his responsibility for the correctness thereof. Discrepancies between specification and drawings should be brought to the Architect's attention prior to the work starting on site.	1	item		
B	Before the Contractor commences work and before the existing ground is disturbed, the Contractor shall confirm in writing his agreement that all existing levels as indicated on the drawings are correct prior to undertaking any works on site.	1	item		
C	If the Contractor considers that the existing ground levels vary from those shown on the drawings he shall seek clarification and instruction from the Employer's Representative	1	item		
D	Failure by the Contractor to comply with this requirement will be taken to indicate that no difference between existing levels and those indicated on the drawings exists	1	item		
	Vesting Certificates:				
E	he Contractor shall provide vesting certificates confirming title to the Employer for the lifts, air-handling units, any unfixed items and interim payment items… No payment for the item shall be certified until the Vesting Certificate has been issued.	1	item		
	Works Within Existing Buildings:				
F	Any works within existing university buildings shall be carried out under permit, with RAMS agreed well in advance; minimise disruption to the ongoing use of the existing buildings (including the Phase 1 MTU Arena); allow for working out of normal hours where required, and for special controls in respect of privacy to adjacent areas, fire separation of the works areas from adjacent areas, cleaning during and after the works, and noise, dust and nuisance-avoidance measures — all requirements reasonably inferred from this clause being deemed included, with the ER the final arbiter.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Works within the existing MTU Arena (formation of the link to the HPAC):				
	The existing Arena remains fully operational throughout; allow for the preliminaries obligations of working within the occupied building as shown on the MTU Arena Site Management Floor Plans, including:				
A	Phased possession of the identified Arena areas - the First-Floor Kitchenette, Store and Cleaners Room to form the link — and of the shared areas, coordinated with MTU and taken, so far as practicable, towards the back end of the programme.	1	item		
B	Compliance with the MTU Permit-to-Work system for all works in the shared Arena areas (Electrical Switch Room, WC areas, Comms Room and Circulation Areas).	1	item		
C	Maintaining the Arena in full operation throughout - the main entrance retained and unrestricted, and all emergency escape doors/routes and a minimum 1800 mm internal access route retained.	1	item		
D	Maintaining continuous through-access throughout the works for the occupants, users and staff of the operational Arena, and uninterrupted access for emergency services, refuse collection and for utility providers and MTU's M&E maintenance to the Arena (including its Electrical Switch Room, Comms Room and plant), coordinating any necessary temporary diversion of these with MTU.	1	item		
E	Temporary dust, fire and acoustic protection and screening to the occupied Arena areas adjoining the works.	1	item		
F	Providing the Contractor's own separate external access to the Arena at the link formation.	1	item		
G	Temporary works to maintain the Arena's means of escape (including the second means of escape from the First Floor) during construction of the link.	1	item		
H	Scheduling all Arena-internal and link works outside Academic Term.	1	item		
J	Protecting and making good all disturbed Arena fabric, finishes and services on completion.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	New mini-pillar relocation & sub-mains supply (sequencing):				
A	Sequencing of the new ESB mini-pillar relocation and associated sub-mains supply (per JVT drawing MTUHPAC-Z-60-Z-ZZZ-DR-JVT-EE-0003): programme, co-ordinate and carry out the phased works to relocate the existing mini-pillar while maintaining supply, including — the civil works to clear existing services at the building footprint and to form the new underground ductwork, chambers, concrete plinth and vault/access chamber ahead of the electrical works ; installation of the new pillar/panel; the phased disconnection and removal of the existing mini-pillar and pillar/panel (making cables safe at the Create switchboard and pulling back to the nearest chamber); feeding and pulling the slack cable through the existing U/G ducts; termination at the new pillar/panel and re-termination at the Create switchboard; and test, commissioning and putting into service — so as to maintain continuity of the existing supply throughout, in liaison with the ESB/utility provider and MTU. The physical electrical and civil works are measured in the M&E and builders'-work bills; this item carries the sequencing, phasing, co-ordination and attendances, and the development of working/installation drawings from the JVT performance drawing (Contractor Designed). (JVT Dwg EE-0003)	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	New sub-mains supply to Phase 2 Main Switchboard (sequencing):				
A	Sequencing of the new sub-mains supply to the Phase 2 Main Switchboard (per JVT drawing MTUHPAC-Z-60-Z-ZZZ-DR-JVT-EE-0003): programme, co-ordinate and carry out the phased changeover, including — the civil works for the new U/G chambers and ducting; forming the new switchroom within the building structure; installation of the new Phase 02 sub-main LV switchboard; installation of the new sub-mains cabling between the Phase 02 switchboard and the MTU substation (utilising new and existing U/G ducts and the substation openings currently serving Phase 01); disconnection and removal of the Phase 01 supply cables at the substation — programmed outside the academic term; provision and operation of a temporary standby diesel generator (circa 200 kVA, with weathered canopy and fuel tank) to maintain the Phase 01 supply during the changeover downtime, and its subsequent removal; termination into the main MTU switchboard with settings adjusted, energising the Phase 02 switchboard, and cutting-in and terminating the Phase 01 sub-mains to the Phase 02 switchboard — so as to maintain continuity of supply to the operational campus throughout, in liaison with the ESB/utility provider and MTU. The physical electrical and civil works (and the standby generator, if measured in the M&E bill) are carried there; this item carries the sequencing, phasing, out-of-term programming, co-ordination and attendances, and the development of working/installation drawings from the JVT performance drawing (Contractor Designed). (JVT Dwg EE-0003; A1-801)	1	item		
	Enabling works:				
B	Enabling Works — prepare, submit, obtain acceptance for, manage and deliver the decommissioning, demolition, diversions and/or tie-ins of the existing systems on site.	1	item		
	Industrial Relations Management Plan:				
C	Submit to the ER, prior to commencement, the Contractor's Industrial Relations Management Plan/procedures.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Void Closure Inspections & Procedures:				
A	Set up, manage and record the closure of all partition voids and ceiling voids: allow adequate time and resource in the programme; digitally record and store a reference image of each void elevation before closing; agree a fire-stopping recording matrix with the ER; ensure an adequate quantity of firestopping is available; and carry out dated closure inspections with the Fire-Stopping Contractor and the Employer's Inspectorate.	1	item		
	Temporary System Operation and Commissioning Consumables:				
B	provide, install, remove and pay for all fuel and consumables (fuel, filters, lamps, spares and the like) required to start up, test, commission, run and operate the MEP systems through construction, commissioning and handover; thereafter maintenance only during the 12-month Soft Landings period. (A1-818)	1	item		
	Utility and Energy Costs:				
C	Utility and Energy Costs (during and post-commissioning, pre-handover) — be responsible for all utility costs (water, gas, oil, power and ICT) to operate the MEP, building and site-wide systems during construction and handover up to certification of Substantial Completion; and apply for, pay for, manage and facilitate the installation and commissioning of the necessary on-site utility infrastructure.	1	item		
	PREAMBLE				
D	Basis of measurement: this Bill of Quantities / Pricing Document has been measured in accordance with the Agreed Rules of Measurement 4 (ARM4) as amended by Supplement 1, Issue 2 (public works contract requirements); Mechanical & Electrical Works have been measured in accordance with ARM4 Supplement 2.	1	item		
E	No alterations or qualifications of any kind may be made by the tenderer to the text of this Bill; any such alteration will be disregarded and the Quantity Surveyor's text shall prevail. The Contractor is to check pagination and notify the Quantity Surveyor of any missing, duplicated or indistinct page.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	This Bill of Quantities is not a "design document" within the meaning and intent of the Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013), and does not purport to instruct the Contractor as to the manner and methods to be employed in the construction of this project. Such information is to be ascertained from the Design Drawings and Specification.	1	item		
B	The cost of any item that is not priced shall be deemed to be included in the priced items elsewhere in the Bill of Quantities / Pricing Document.	1	item		
C	References to Irish, British or European Standards and Codes of Practice are to the latest published version, including amendments current at the date of invitation to tender; where a Standard or Code has been superseded, the latest superseding publication applies. The Specification takes precedence over Standards and Codes where they are at variance; any variance is to be brought to the Employer's Representative for instruction.	1	item		
D	Where materials or products are specified by proprietary or trade name, the phrase "or equivalent" is deemed included. Substitutions of demonstrable equivalence may be approved in writing by the Employer's Representative on objective, verifiable evidence; any increased cost arising from a substitution (redesign, rescheduling, health & safety, etc.) is borne by the Contractor.	1	item		
E	Give the Quantity Surveyor reasonable notice before covering up any work required to be measured, and provide a dated photographic record of any work prior to it being covered up which may lead to a Change Order (digital records to be date- and time-stamped).	1	item		
F	Before placing foundations, laying drains, filling trenches, pouring reinforced concrete and otherwise proceeding with work that will cover and conceal previous work, the Contractor shall give early notice in writing to the Employer's Representative and shall afford him an opportunity of inspecting the previous work	1	Item		
G	Approval given at such inspection will not relieve the Contractor from full responsibility for the quality of the work throughout	1	Item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	If the Contractor does not separately price any item in these Preliminaries he shall be deemed nevertheless to have allowed in his prices or in his rates for the cost of compliance with all the requirements of these Preliminaries. All the Preliminaries shall apply to the whole of the Works. The Contractor will be required to submit a detailed breakdown of his pricing of these Preliminaries before acceptance of his Tender	1	item		

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(06) PROJECT PARTICULARS, PRELIMINARIES AND GENERAL CONDITIONS **Carried to Summary**				

SECTION 2.0

Bill of Quantities

Building Works & External Works — Measured Works

	Description	Qty	Unit	Rate	Amount
	(00) DEMOLITIONS AND ALTERATIONS				
	Alterations				
	Remove; floor finishes				
	Carefully take up and remove existing vinyl sheet floor finish incl. welded seams and adhesive residue from concrete/screed substrate; clean off dry, remove all laitances, traces of dirt, grease and contaminants and prepare to receive new finish per M50 (BS 8203/DIN 18365); dispose off site. Dust control and site condition per C20 cl.330/450; including for the protection and all necessary making good to all structures and finishes disturbed.				
A	^^^generally (Level 01 - Staff kitchenette, cleaner store, store room and corridor as per Architects Drawing Nr. 0510)	29	m2		
	Removing; skirting				
	Carefully take down and remove from site existing vinyl coved skirtings and making good wall where skirting removed .				
B	^^^generally (Level 01 - Staff kitchenette, cleaner store and store room as per Architects Drawing Nr. 0510)	31	m		
	Carefully take down and remove from site existing timber skirtings and making good wall where skirting removed .				
C	^^^generally (Level 01 - corridor as per Architects Drawing Nr. 0510)	15	m		
	Remove; ceilings				
	Carefully take down remove from site part of existing MF plasterboard ceiling to facilitate the works; make good any damaged sections and finished distrubed				
D	^^^generally (Level 01 - Staff kitchenette, cleaner store, store room and corridor as per Architects Drawing Nr. 0510)	29	m2		
	Temporarily lift out existing 600 × 600mm lay-in ceiling tiles from existing suspended grid, set aside and protect for re-use; provide access for electrical containment installation above ceiling line; reinstate tiles true and level on completion. Grid to remain in place.				
E	^^^generally (Female Toilets G-04 - Existing Arena Building)	5	m2		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^^^^extra over for localised temporary removal and reinstatement of existing suspended grid members (main runners / cross-tees) where containment cannot be threaded through the open grid.	5	m2		
B	^^^^^^extra over for supply and install new 600 × 600mm ceiling tile to match existing, in lieu of existing tile damaged or soiled beyond re-use.	5	m2		
	Cut out and remove localised areas of existing metal-framed suspended plasterboard ceiling (board only; framing to remain where practicable) to provide access for electrical containment installation above; make good with new plasterboard to match existing (K10-401 standard / K10-403 MR to suit location), screw-fixed, taped and jointed, finished with skim coat plaster to K10-680.				
C	^^^generally (Female Toilets G-04 - Existing Arena Building)	5	m2		
D	^^^generally (Unisext Toilets G-03 - Existing Arena Building)	4	m2		
E	^^^generally (Male Toilets G-05 - Existing Arena Building)	6	m2		
F	^^^Redecorate made-good ceiling areas to match existing finish (ref M60).	30	m2		
	Removing; internal doors				
	Carefully take down and removing existing internal timber doorset, single leaf, incl. leaf, frame/lining, architraves, stops and all ironmongery; cart away and dispose off site. Dust control and site condition per C20 cl.330/450; make good to finishes disturbed				
G	^^^internal single door size aprox size 1100 x 2400 mm (Level 01 as per Architects Drawing Nr. 0510)	3	nr		
H	^^^internal door and a half door with side screen overall size aprox 3000 x 2705 mm (Level 01 as per Architects Drawing Nr. 0510)	1	nr		

To Collection €

	Description	Qty	Unit	Rate	Amount
	Removing; Internal walls				
	Carefully take down and remove from site existing internal blockwork wall; include for saw cutting; all necessary shoring and propping of the existing structure as required to facilitate the works; removal of the existing wall and disposal off site; allow for making good the existing floor, wall and ceiling finishes disturbed during the course of the works and allow for repair or replacing as necessary to match the existing where removed; damage to the existing structure is to be made good				
A	^^^^3900mm high 215mm blockwork wall (Level 01 as per Architects Drawing Nr. 0510)	2	m		
B	^^^^3900mm high 215mm blockwork wall (Level 01 for new screen as per Architects Drawing Nr. 0510)	7	m		
	Carefully take down and remove from site existing internal studwork wall including studwork frame, heads / sole plates; include for saw cutting; removal of the existing wall and disposal off site; allow for making good the existing floor, wall and ceiling finishes disturbed during the course of the works and allow for repair or replacing as necessary to match the existing where removed				
C	^^^3900mm high consisting of 92mm metal frame with 2 layers of plaster board either side and cavity insulation (Level 01 studs as per Architects Drawing Nr. 0510)	10	m		
D	^^^3900mm high consisting of 92mm metal frame with 2 layers of plaster board one side and cavity insulation (Level 01 liner as per Architects Drawing Nr. 0510)	4	m		
	Removing; existing external windows & doors				
	Carefully take down and remove from site existing external aluminium double glazed windows; pressed metal flashings including all associated fixings, cills, weather seals and iromongery allow for temporary weathering as necessary; allow for all temporary weathering / construction bubbles as necessary and making good finishes where removed to match the existing				
E	^^^^size aprox 2050 x 1750mm high including internal timber lining (Level 01 as per Architects Drawing Nr. 0510)	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Carefully take down and remove from site existing external aluminium glazed doors; pressed metal flashings including all associated fixings, threshold, weather seals and iromongery allow for temporary weathering as necessary; allow for all temporary weathering / construction bubbles as necessary and making good finishes where removed to match the existing				
A	^^^double door size aprox 2050 x 2750mm high (Level 00 as per Architects Drawing Nr. 0510)	1	nr		
	Carefully take down and remove from site existing external steel doors complete with frames, pressed metal flashings including all associated fixings, threshold, weather seals and iromongery; allow for all temporary weathering / construction bubbles as necessary and making good finishes where removed to match the existing				
B	^^^single door size aprox size 1100 x 2400 mm (Roof Level as per Architects Drawing Nr. 0510)	2	nr		
	Removing; existing cladding				
	Carefully take down and remove from site existing cladding, profile corners, pressed metal flashings including all associated fixings, weather seals, sealing, profile fillers, tophats, grounds and the like; allow for all temporary propping and weathering / construction bubbles as necessary and making good finishes where removed to match the existing; as per Architects Drawing Nr. 0510				
C	^^^100mm thick Kingspan Quadcore panel at existing external plant level of the Arena Building	51	m2		
D	^^^100mm thick Kingspan Quadcore wall panel to existing plantroom of the Arena Building	20	m2		
E	^^^100mm thick Kingspan Quadcore roof panel to existing plantroom of the Arena Building	4	m2		
	Removing; existing roof finish				
	Carefully take down and remove from site existing asphalt roof finisg, insulation, upstands, pressed metal flashings including all associated fixings, weather seals, sealing and the like; allow for all temporary weathering / construction bubbles as necessary and making good finishes where removed to match the existing; as per Architects Drawing Nr. 5623				
F	^^^L02 - New lobby	11	m2		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Remove; existing structural steel				
	Carefully take down and remove from site existing fabricated hot rolled sections, plates, fittings and bolts; include for all necessary saw cutting; all necessary shoring and propping of the existing structure as required to facilitate the works; allow for making good and touching up paint surface finishes disturbed during the course of the works and allow for repair or replacing as necessary to match the existing where removed; as per Engineers Drawing Nr. 4107				
A	^^^200 x 200 x 24 EA (as per Engineers Drawing Nr. 4107)	10	m		
B	^^^200 x 90 PFC (as per Engineers Drawing Nr. 4107)	2	m		
C	^^^200 x 75 PFC (as per Engineers Drawing Nr. 4107)	6	m		
	Carefully take down and remove from site existing existing fabricated cold rolled sections, plates, cleats, fittings and bolts; include for all necessary saw cutting; all necessary shoring and propping of the existing structure as required to facilitate the works; allow for making good and touching up paint surface finishes disturbed during the course of the works and allow for repair or replacing as necessary to match the existing where removed; as per Engineers Drawing Nr. 4107				
D	^^^M205/065/150 sheeting rails	57	m		
	Propping of existing sheeting rails with 100 x 100 x 10mm hot-dip galv. steel angle prop to existing cladding rails; 2Nr. Grade 8.8 M12 bolts to rails + 2No. Hilti HIT-HY-200-A V3 + HAS-U or equivalent Grade 8.8 M12 chemical anchors at 150 c/c to existing RC wall. Steelwork / galv. per SE-0007. Contractor to design anchors and on-site pull-out testing to confirm to resist 6kN design pull-out. Ref Detail 1 Engineers Drawing Nr. 4107				
E	^^^300 x 350mm L shape bracket	10	nr		

	Description	Qty	Unit	Rate	Amount
	Propping of existing sheeting rails with 100 x 100 x 10mm hot-dip galv. steel angle prop to existing cladding rails; 2No. Grade 8.8 M12 bolts to rails + 2No. Hilti HIT-HY-270 + HAS-U or equivalent Grade 8.8 M12 chemical anchors at 150 c/c to existing blockwork wall. Steelwork / galv. per SE-0007. Contractor to design anchors and on-site pull-out testing to confirm to resist 8kN design pull-out. Ref Detail 2 Engineers Drawing Nr. 4107				
A	^^^300 x 350mm L shape bracket	10	nr		
	Forming Openings				
	Form new opening in existing internal blockwork wall; include for removal of existing wall and disposal off site, all necessary shoring, breaking through wall, forming jambs, inserting keystone IB/K-3C proprietary lintel, adjustments and supports; making good all work disturbed to match existing.				
B	^^^screen ope size 4100 x 2300 mm in existing 215 mm thick blockwork wall (Screen G-01-Ph 2 - Level 01 as per Architects Drawing Nr. 0510)	1	nr		
	Form new door opening in existing 250mm RC wall; perimeter diamond/wire saw cut to clean edge, break out and remove, cut back exposed rebar to face of concrete, even off surfaces; cart away and dispose off site. Cutting per HL SE-0006 cl.9.1.1; dust/site condition per C20 cl.330/450; temporary propping/needling to support RC wall and loads over opening before and during cutting; design, erect and remove per BS 6031 (HL SE-0006 cl.7). Contractor-designed temporary works; Prepare and make good opening reveals, head and edges to receive new doorset/frame; make good wall finishes both faces to junction; making good all work disturbed to match existing.				
C	^^^door ope size 1510 x 2260 mm in existing 250 mm thick wall (Door D02-VCOM-001 - Level 02 as per Architects Drawing Nr. 0510)	1	nr		
D	^^^door ope size 1510 x 2260 mm in existing 250 mm thick wall (Door D01-VCOM-023 - Level 02 as per Architects Drawing Nr. 0510)	1	nr		

	Description	Qty	Unit	Rate	Amount
	Building up opening Build up existing opening in 250mm RC wall with solid dense concrete blockwork infill; bed/joint in min. M20 mortar, stretcher bond per HL SE-0003. Tie new blockwork infill to existing RC reveals; proprietary wall connectors/ties mechanically fixed to concrete at vertical intervals per F30. Pin up/wedge and grout final course solid to underside of existing RC head; fill all voids leaving no gaps. making good all work disturbed to match existing including plastering and decoration to match existing.				
A	^^^door ope size 1100 x 2260 mm in existing 250 mm thick wall (Door D02-VCOM-001 - Level 02 as per Architects Drawing Nr. 0510)	1	nr		

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(00) DEMOLITIONS AND ALTERATIONS **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(10) BUILDING SUBSTRUCTURE				
	EXCAVATION				
	Excavations				
	Excavation; at formation level; depth				
A	^^^< or = 2.00m in bulk excavation for blinding in foundation trenches including associated pads	2791	m3		
B	^^^< or = 2.00m in isolated pits (4nr pads next to existing building)	13	m3		
C	^^^> 2.00m < or = to 4.00m in isolated pits (Lift pit)	70	m3		
D	^^^< or = 2.00m in soft spots	25	m3		
	Extra over excavating items irrespective of depth for:				
E	^^^breaking out weak weathered rock as detailed in the site investigation report	1734	m3		
F	^^^breaking out solid rock as detailed in the site investigation report	261	m3		
G	^^^breaking out reinforced concrete (remnants of old foundations at the existing annex building close to the roundabout)	25	m3		
	Disposal of water				
H	^^^surface	1	item		
J	^^^ground	1	item		
	Disposal of excavated material				
K	^^^off site	2899	m3		
	Working Space				
	Excavate in foundations and backfill in SR21-Annex 1 hardcore filling material; laid and compacted in 225mm layers				
L	^^^ <or = 2.00m to isolated pits (Lift pit)	49	m2		
	Hardcore T1 filling to be SR21-Annex 1 hardcore material; laid and compacted in 225mm layers				
	To make up levels under slab				
M	^^^< or = to 250mm	635	m3		

	Description	Qty	Unit	Rate	Amount
	Hardcore T2 filling to be SR21-Annex 1 hardcore material; laid and compacted in 225mm layers				
	To make up levels under slab				
A	^^^< or = to 250mm	482	m3		
	To excavations				
B	^^^> 250mm	1101	m3		
	Surface treatments				
	Trimming				
C	^^^trimming rock to horizontal surfaces	1655	m2		
D	^^^trimming rock to vertical surfaces.	1192	m2		
	Sand dust blinding; laid on hardcore base				
E	^^^50 mm thick	3173	m2		
	CONCRETE WORK				
	Insitu Concrete				
	Plain, in-situ concrete, grade C8/10 (IS EN 206), with 50% GGBS content; Mix C in accordance with Engineer's Specifications SE-0004 and SE-0005; poured on or against earth or unblinded hardcore in:				
F	^^^Blinding below isolated pads	3	m3		
	Plain, in-situ concrete, grade C20/25 (IS EN 206), with 50% GGBS content; Mix C in accordance with Engineer's Specifications SE-0004 and SE-0005; poured on or against earth or unblinded hardcore in:				
G	^^^Bulk filling blinding below foundations and associated pads	1498	m3		
H	^^^Soft Spots	25	m3		
	Reinforced, in-situ concrete, grade C32/40 (to IS EN 206), exposure class XC2 / XA1; with 50% GGBS content; Mix A in accordance with Engineer's Specifications SE-0004 and SE-0005; poured on or against earth or unblinded hardcore and well vibrated around reinforcement in:				
J	^^^Foundations including associated bases	110	m3		
K	^^^Isolated foundations	61	m3		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Isolated foundations, lift pit base	20	m3		
B	^^^Isolated foundations, staircore base and associated bases	42	m3		
C	^^^Beds, < or = 150mm	503	m3		
D	^^^Screeds, < or = to 150mm (75mm thick)	172	m3		
E	^^^Screeds, < or = to 150mm (90mm thick)	77	m3		
	Reinforced, in-situ concrete, grade C32/40 (to IS EN 206), exposure class XC1; with 50% GGBS content; Mix A in accordance with Engineer's Specifications SE-0004 and SE-0005; poured on or against earth or unblinded hardcore and well vibrated around reinforcement in:				
F	^^^Walls, > 150mm	35	m3		
G	^^^Walls, > 150mm to lift core	7	m3		
H	^^^Walls, > 150mm to staircore	8	m3		
J	^^^Column, cross sectional area < or = to 0.10m2 - [22nr)	3	m3		
K	^^^Column, cross sectional area > 0.10m2 - [28nr]	8	m3		
L	^^^Column casings, cross sectional area < or = to 0.10m2 - [12nr)	2	m3		
M	^^^Column casings, cross sectional area > 0.10m2 - [90nr]	15	m3		
	Sundries				
	Designed joints				
	Formed induced movement joint to concrete slab, saw cut 10 x 5mm beep filled with two part polysulphate sealant as per Engineers detail drawing Nr. 3106 and Specification				
N	^^^depth < or = to 150mm (screeds)	621	m		
P	^^^depth < or = to 150mm (150mm thick slab)	621	m		

	Description	Qty	Unit	Rate	Amount
	Construction joint to concrete slab with approved joint filler, formed sealant groove with polysulphate sealant; including H12 mm diameter mild steel dowel bars 500mm long at 400mm centres, set perpendicular to joint and covered one end with a 250mm debonding sleeve supported on reinforced chairs, all as per detail on Engineers Drawing Nr. 3106 and Specification.				
A	^^^depth < or = to 150mm (150mm thick slab)	117	m		
B	^^^depth < or = to 150mm with H10 bars in lieu H12 bars (in screeds)	117	m		
	Formed isolation joint to concrete slab with approved joint filler, mesh to have 50mm cover filled with 20mm proprietary joint filler sealed with a bitumen sealent				
C	^^^150- 300mm deep (150mm thick slab + 75/90mm screeds) at junction with concrete columns	192	m		
D	^^^150- 300mm deep (150mm thick slab + 75/90mm screeds) at junction with concrete walls	282	m		
	Joints				
	Iinternally cast waterstop, type HD240, having heat welded butt joints in the running length, include for formwork and supporting in position sealing joint with two part expoxy sulphide sealant all in accordance with manufacturers instructions.				
E	^^^at junction of foundation and concrete walls, 250mm thick	14	m		
F	^^^^^^extra over for bends	4	nr		
	Surface finishes				
G	^^^power floating beds	3173	m2		
H	^^^power floating screeds	3173	m2		
J	^^^^^^extra over for falls and cross falls (1:50 as per Architects Drawing Nr. 1625)	19	m2		
K	^^^^^^extra over for conforming to flatness tolerance accurate to 6mm over a 4m straight edge, in addition no deviations greater than 3mm shall be measured when tested under 1.0m long straight edge. Step-like irregularities shall be no greater than 1mm in height where they accour (in any location) when measured with 300mm straight edge	3154	m2		
	Labours				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Leave or form recess in concrete floor and screed; including all necessary formwork				
A	^^^160 x 75mm deep for trench heaters; as per OCM Details on Drawing Nr. 5560 & JVT Drawing Nr. 56-Z-L00-DR-JVT-ME-EE-0001 (Free issue by Electrical Contractor and installed by Main Contractor)	10	m		
B	^^^330 x 330 x 90mm deep for floor boxes; as per OCM Details on Drawing Nr. 5520 & JVT Drawing Nr. 62-Z-L00-DR-JVT-EE-EE-0001 (Free issue by Electrical Contractor and installed by Main Contractor)	4	nr		
C	^^^330 x 330 x 75mm deep for floor boxes; as per OCM Details on Drawing Nr. 5520 & JVT Drawing Nr. 62-Z-L00-DR-JVT-EE-EE-0001 (Free issue by Electrical Contractor and installed by Main Contractor)	5	nr		
D	^^^allow for casting in 2 nr x 20mm conduits as per JVT Drawing Nr. 62-Z-L00-DR-JVT-EE-EE-0001 (ref note 22) (Free issue by Electrical Contractor and installed by Main Contractor)	37	m		
E	^^^allow for casting in 2 nr x 25mm conduits as per JVT Drawing Nr. 62-Z-L00-DR-JVT-EE-EE-0001 (ref note 21) (Free issue by Electrical Contractor and installed by Main Contractor)	20	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Cast-in composite item: preformed pole vault take-off (planting) box with flush cover/blanking plate, as drawing MTUHPAC-Z-43-Z-ZZZ-DR-OCM-AR-5510 Rev P8-S-0 detail 3 (legend item 283, ref C42-620x). Comprising forming the box recess within the 100mm RC ground floor slab and screed (to HL Structural Engineer's detail), including all edge formwork and localised concrete surround/thickening to form the void; continuing and dressing 100mm sub-floor insulation (E20-201), radon DPM (J45/160) and radon VCL (J45/330) around the box, gas-tight sealed to the J40 radon membrane detail using membrane, approved double-sided radon butyl tape and liquid radon sealant; supply and installation of a proprietary World Athletics approved preformed pole vault planting/take-off box, complete with flush cover / blanking plate surfaced to match the runway finish (principle per Sports Labs ER Q52 clause 630B, 5.1), set to line, level and fall and installed strictly to World Athletics installation requirements; the cast-in lip and cover plate to finish flush to the base tolerance of Q26 clause 150B (no step-like irregularity greater than 1mm under a 300mm straightedge); and all associated bedding, fixings and sealants. Exact box dimensions, floor slope and depth to suit the chosen supplier's certified product; to form recess; including all necessary additional excavations, disposal, backfilling, concrete thickening, infill concrete, bedding, packing, insulation, formwork fixings, sealants and associated labours; as per Details and Drawings OCM Nr. 5510 & HL 1001				
A	^^^1400 x 950 x 315 mm deep as per Engineers Drawing Nr. (Vault box)	1	nr		

	Description	Qty	Unit	Rate	Amount
	Cast-in composite item: long/triple jump landing bed (sand box), as drawing MTUHPAC-Z-43-Z-ZZZ-DR-OCM-AR-5510 Rev P8-S-0 detail 2. Comprising forming the box recess within the 100mm RC ground floor slab and screed (to HL Structural Engineer's detail), including all edge formwork and localised concrete surround/thickening to form the void; continuing and dressing 100mm sub-floor insulation (E20-201), radon DPM (J45/160) and radon VCL (J45/330) around the box, gas-tight sealed to the J40 radon membrane detail using membrane, approved double-sided radon butyl tape and liquid radon sealant; cast-in lip finished flush to the base tolerance of Q26 clause 150B (no step-like irregularity greater than 1mm under a 300mm straightedge). INCLUDING supply and installation of rubber-topped EF pin edging landing-bed kerbs to Q10 clause 110 (item 204), 50 x 150 x 915mm to BS EN 1340, ACO Sport Kerbstones or equivalent, bedded and haunched on a race of fresh concrete (GEN0/ST1 min.) to Q10 clauses 510 and 530 and laid to Q10 clause 620 accuracy; and aluminium angle edge trim to Q26 clause 220 (item 206) to the bed edge/transition. Internal bed width approx. 2565mm; kerb/angle to full perimeter of the bed, length to OSMA landing-bed plan; to form recess; including all necessary additional excavations, disposal, backfilling, concrete thickening, infill concrete, bedding, packing, insulation, formwork fixings, sealants and associated labours; as per Details and Drawings OCM Nr. 5510 & HL 1001				
A	^^^8000 x 2850 x 320 mm deep as per Engineers Drawing Nr. 1001 (Sand box)	1	nr		
B	^^^^^^extra over the cast-in sand box for filling the landing bed with Fine Clean Washed Sports Sand to Sports Labs Employer's Requirements Q52 clause 410(4): fine, clean, washed sports sand to BS EN 1176-1, grading and manufacturer contractor's choice to suit World Athletics landing-area requirements; supplied loose, placed and levelled to receive the sand-trap rubber capture and cover	8	m3		

	Description	Qty	Unit	Rate	Amount
	Cast-in composite item: force plate recess, as drawing MTUHPAC-Z-43-Z-ZZZ-DR-OCM-AR-5510 Rev P8-S-0 detail 1 (legend item 282). Comprising forming the recess/pit within the 100mm RC ground floor slab and screed (to HL Structural Engineer's detail), including all edge formwork and localised concrete surround/thickening to form the void to receive a client-supplied proprietary force plate, nominal 900 x 600mm, exact depth to suit the chosen supplier's product; continuing and dressing 100mm sub-floor insulation (E20-201), radon DPM (J45/160) and radon VCL (J45/330) around the recess, gas-tight sealed to the J40 radon membrane detail using membrane, approved double-sided radon butyl tape and liquid radon sealant; casting-in the force plate mounting frame/subframe and levelling/packing to receive the free-issued plate, with attendance on the client's force plate supplier where the frame is provided with the plate ; recess perimeter edge angle/trim; and forming the cast-in cable duct / containment entry to the recess. Recess lip/frame finished flush to the base tolerance of Q26 clause 150B (no step-like irregularity greater than 1mm under a 300mm straightedge) so the plate finishes flush with the athletics surface; contractor to receive force plate (Free Issue by Client), store, protect and install into the cast-in recess by prior arrangement; to form recess; including all necessary additional excavations, disposal, backfilling, concrete thickening, infill concrete, bedding, packing, insulation, formwork fixings, sealants and associated labours;				
A	^^^nominal size 900 x 600 x 150mm deep	1	nr		
	Forming rectangular recess in concrete floor slab to receive client-supplied proprietary pole vault support; exact depth to be confirmed with the chosen supplier (Details 1 & 3 on drawing 5510); including formwork, reinforcement interruption, and finishing surfacing/edge trim flush to the recess perimeter				
B	^^^size 900 x 600 x 150mm	2	nr		
	Forming rectangular recess in concrete floor slab for high jump; exact depth to be confirmed; including formwork, reinforcement interruption, and finishing surfacing/edge trim flush to the recess perimeter				
C	^^^8000 x 2850 x 150 mm deep as per Engineers Drawing Nr. 1000 (Long Jump)	2	nr		
	Reinforcement				
	Reinforcement bars; high yield type 2 deformed steel bars to BS 4449 and BS 8666				

	Description	Qty	Unit	Rate	Amount
	Spacers and chairs at contractors discretion				
	Foundations and bases (kg/m3 as per Engineers Structural Concrete Particular Specification)				
	Bar; straight or bent				
A	^^^nominal size > 12 < or = to 25 mm diameter	18.56	t		
	Walls (kg/m3 as per Engineers Structural Concrete Particular Specification)				
	Bar; straight or bent				
B	^^^nominal size > 12 < or = to 25 mm diameter	9.27	t		
	Columns (kg/m3 as per Engineers Structural Concrete Particular Specification)				
	Bar; straight or bent				
C	^^^nominal size > 12 < or = to 25 mm diameter	0.75	t		
	Reinforcement mesh fabric; BS 4483;				
	Reference A142 (2.22kg/m2); 300mm minimum side and end laps				
D	^^^horizontal to screeds	3173	m2		
	Reference A393 (6.16kg/m2); 300mm minimum side and end laps				
E	^^^horizontal to beds	3173	m2		
	Reference D49 (0.77kg/m2); 300mm minimum side and end laps				
F	^^^vertical wrapping around structure members	130	m2		
	Formwork				
	Formwork surface finish to concrete; Type "Ordinary" finish as defined in Section 1.9 of the National Structural Concrete Specification (NSCS) 4th edition				
	Sides of foundations				
G	^^^height, > 250 < or = to 500mm, to strip foundations	502	m		
H	^^^height, > 250 < or = to 500mm, to pad foundations	588	m		
J	^^^height, > 250 < or = to 500mm, to pad foundations to stairs core	46	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^height, > 500mm, to pad foundations to pad foundations	25	m2		
B	^^^height, > 500mm, to pad foundations to lift core	14	m2		
	Formwork surface finish to concrete; Type "Plain" finish as defined in Section 1.9 of the National Structural Concrete Specification (NSCS) 4th edition				
	Edges of beds				
C	^^^height, < or = to 250mm (change in level in floor screeds - aprox 15mm)	52	m		
D	^^^height, > 250 < or = to 500mm	129	m		
E	^^^height, > 250 < or = to 500mm (sand box and vault box recess)	48	m		
	Kickers				
F	^^^walls	187	m		
G	^^^columns, size 300 x 300mm (C22)	22	nr		
H	^^^columns, size 380 x 380mm (C21)	28	nr		
	Walls				
J	^^^vertical	264	m2		
K	^^^vertical to lift core	59	m2		
L	^^^vertical to staircore	62	m2		
	Columns				
M	^^^isolated	117	m2		
	Column casing				
N	^^^isolated	130	m2		
	Extra on any of the foregoing formwork categories for:				
P	^^^20 x 20mm chamfer to exposed corners of columns	468	m		
Q	^^^forming 160 x 75mm deep recess to edge of floor slab, include for galvanised screed edge floor former, as per Architects Drawing Nr. 5600, 5601 & 5602	129	m		
R	^^^recess to lift shaft wall size 80 x 30mm high	15	m		
S	^^^sump to lift shaft base 350 x 350 x 200mm	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	BRICKWORK AND BLOCKWORK:				
	Blockwork				
	Solid concrete blockwork to BS EN 771-3:2011+A1 :2015, Group 1 configuration, minimum density 1500 kg/m3 compressive strength of 13N/mm2, laid in stretcher bond, as Engineers Specification SP-HLC-SE-0003 and Architects Specification F10; bedded and jointed in mortar with compressive strength class M12, masonry cement:line:sand mix 1:0:3, masonry mortar shall comply with IS EN 998-2 and Annex E. (mortar shall be supplied as factory produced ready-to-use mortar from an approved supplier, operating a quality management system to IS EN 9001) in:-				
	Walls in trenches				
A	^^^100 mm thick (at CLT base as per OCM Detail 4 Drawing Nr. 5600)	46	m2		
B	^^^215 mm thick	205	m2		
C	^^^215 mm thick in cavities (in forming plinth as per OCM Detail Drawing Nr. 3500)	40	m2		
D	^^^215 mm thick, laid over concrete column encasement (similar to Engineers ref. Detail 15 Drawing Nr. 3102)	4	m2		
E	^^^450 mm thick	6	m2		
F	^^^775 mm thick	26	m2		
G	^^^^^^extra over for thermally enhanced aggregate concrete blockwork; 2 nr. course of blocks 440 x 100 x 215mm laid on edge (100mm thick wall), to EN 771-3, Group 1, Cat II, min 18 N/mm2, thermal cond. 0.33 W/mK, tolerance D1, freeze/thaw resistant for exposed use; half-lap stretcher bond in mortar as section Z21 (EN 998-2, 1:3 masonry cement:sand); blocks cut to suit; as OCM Specification F10/350 (External Leaf behind plinth as per OCM Details Drawing Nr. 5600)	46	m		

	Description	Qty	Unit	Rate	Amount
A	^^^^^^extra over for thermally enhanced aggregate concrete blockwork; 3 nr. course of blocks 440 x 100 x 215mm laid on flat (215mm thick wall), to EN 771-3, Group 1, Cat II, min 18 N/mm2, thermal cond. 0.33 W/mK, tolerance D1, freeze/thaw resistant for exposed use; half-lap stretcher bond in mortar as section Z21 (EN 998-2, 1:3 masonry cement:sand); blocks cut to suit; as OCM Specification F10/350 (External Leaf behind plinth as per OCM Details Drawing Nr. 5600)	59	m		
B	^^^^^^extra over for thermally enhanced aggregate concrete blockwork; 2 nr. course of blocks 440 x 100 x 215mm laid on flat (215mm thick wall), to EN 771-3, Group 1, Cat II, min 18 N/mm2, thermal cond. 0.33 W/mK, tolerance D1, freeze/thaw resistant for exposed use; half-lap stretcher bond in mortar as section Z21 (EN 998-2, 1:3 masonry cement:sand); blocks cut to suit; as OCM Specification F10/350 (Internal & Externally)	255	m		
	Labours				
C	^^^on blockwork	1	item		
	Bonding to other work				
	Stainless steel movement tie with 21 / 18 Omega channel or equivalent, having channel cast into reinforced concrete column / wall / slab during construction with and including any adjustments to formwork and PP21 stainless steel split ended strip wall ties at other end built into concrete block wall as work proceeds including filling joint both ends with polysulphide joint sealer; all in accordance with the manufacturers written instructions; as per Engineers detail and Specification				
D	^^^100 mm thick walls at 450 mm centres; vertically	4	m		
E	^^^215 mm thick walls at 450 mm centres; vertically	3	m		
	Debonded movement/restraint tie fixing collar blockwork to steel column, Ancon SHX or equivalent, stainless steel, 200mm long with debonding sleeve (10mm end gap for movement), fixed to column flange and built into blockwork as work proceeds at required c/c; restraining wind load while permitting in-plane movement; as per HL SE-0003 cl. 9.2/9.4				
F	^^^215 mm thick collar blockwork walls at 450mm c/c; vertically; as per HL Detail 58 Drawing Nr. 3105	27	m		

	Description	Qty	Unit	Rate	Amount
	Ancillaries to Blockwork				
	Proprietary S/S wall ties to SE Specification as per OCM Drawing Nr. 5600				
A	^^^Tie blockwork to CLT	25	m2		
	Damp Proof Course				
	Damp proof courses; polyethylene continuous, with minimum 100 mm laps; no allowance in measurement for laps; as per OCM Specification F30				
B	^^^Horizontal, < or = to 225mm wide.	242	m		
C	^^^Horizontal, > 225mm wide.	23	m2		
	Self-adhesive flexible reinforced polymeric DPC, gas resistant, CE to EN13969:2004 (watertightness 2kPa/24hr EN1928, tensile >3MPa, elong >110% EN12311-1, flex >-15degC EN1109); width 110-600mm per dwgs; bonded to prepared/primed concrete/deadwork face, lapped & sealed to face of deadwork, 100mm laps sealed w/ mfr adhesive, junction cloaks/stop ends; CE cert + DoP; as per OCM Specification F30				
D	^^^vertical dress over blockwork and up CLT wall as per Drawing Nr. 5600	12	m2		
	Sundries				
	Forming ventilation ope for radon exhaust, in concrete block wall, including necessary precast concrete lintels				
E	^^^size 225 mm x 150 mm in 100 mm concrete block wall, including filling openings around pipe with expanding foam	1	nr		
F	^^^size 225 mm x 150 mm in 215 mm concrete block wall, including filling openings around pipe with expanding foam	6	nr		
	Forming ope for services, in concrete block wall, including necessary precast concrete lintels				
G	^^^size 225 mm x 225 mm in 100 mm concrete block wall, including filling openings around pipe with expanding foam	1	nr		
H	^^^size 225 mm x 225 mm in 215 mm concrete block wall, including filling openings around pipe with expanding foam	19	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^size 225 mm x 225 mm in 650 mm concrete block wall, including filling openings around pipe with expanding foam	5	nr		
	Forming ope for services, in reinforced concrete wall, including necessary additional formwork and adjustment of reinforcing steel				
B	^^^size 225 mm x 225 mm in 250 mm wall, including filling openings around pipe with expanding foam (radon pipes)	4	nr		
C	^^^size 225 mm x 225 mm in 250 mm wall, including filling openings around pipe with expanding foam (storm pipes)	1	nr		
	ROOFING CLADDING AND WATERPROOFING				
	Mastic Asphalt,Waterproof and Gasproof Non Metal Flexible Sheet Coverings				
	Tanking				
	Preprufe 300 R Plus or equivalent water proofing membrane fixed with Preprufe tape in one layer with 75mm fully bonded laps between adjacent sheets; all in accordance with Manufacturer Instructions and the Architects specification				
D	^^^horizontal, girth > 300 mm to underside of lift foundation; as per Engineers Detail on Drawing Nr. 3103	33	m2		
E	^^^vertical, girth < or = to 300 mm, dressed up foundation; as per Engineers Detail on Drawing Nr. 3103	7	m2		
	Single layer Bituthene 8000 or equivalent preformed self- adhesive water and vapour proof membrane, lapped at all joints and fixed to reinforced concrete walls; allow for Bitustik 4000 double sided, self-adhesive, cold applied, waterproofing tape for membrane detailing and sealing; including preparing surfaces to be free of voids, clean, dry, remove all laitances, traces of dirt, grease and contaminants etc in preparation to receive Bituthene S2 Primer to faces concrete; all in accordance with manufacturers instructions and as per Architects Specification				
F	^^^vertical, girth > 300 mm, dressed up foundation and up concrete lift shaft wall; as per Engineers Detail on Drawing Nr. 3103	45	m2		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^horizontal, girth > 300 mm to top of lift foundation; as per Engineers Detail on Drawing Nr. 3103	19	m2		
B	^^^^^^extra over for tilting fillet	38	m		
	6mm thick, bituminous protection board: Comprising a hard bitumen compound coated one side with asphaltic paper and one side with printed polyethylene paper to protect tanking membranes and sub-structure; in accordance with the requirements of BS 8102:1990; fixed over tanking membrane; as per Architects Specification 07 11 00 and DMP-011.				
C	^^^vertical, girth > 300 mm, dressed up foundation and up concrete lift shaft wall; as per Engineers Detail on Drawing Nr. 3103	45	m2		
D	^^^horizontal, girth > 300 mm to top of lift foundation; as per Engineers Detail on Drawing Nr. 3103	19	m2		
E	^^^horizontal, girth > 300 mm to underside of lift foundation; as per Engineers Detail on Drawing Nr. 3103	33	m2		
	Mastic Asphalt, Waterproof and Gas Proof Non Metal Flexible Sheet Coverings				
	Polythene sheeting				
	Gauge 2000 slip separation membrane layer; 4% recycled to BS EN ISO 14021; laid on insulation; all joints lapped minimum 75 mm and sealed with approved tape and mastic; all in accordance with the manufacturer's written instructions and Architects Specification J40-120				
F	^^^horizontal, girth > 300 mm	3153	m2		
G	^^^sloping, > 15 deg < or = to 45 deg, girth > 300mm under floor slab	20	m2		
H	^^^vertically, girth < or = to 300 mm	79	m2		
	Radon Tests				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Radon, air and damp-proof reinforced 6-layer membrane, comprising a blend of virgin low-density polyethylene (LDPE), aluminium and 12×12 multi-filament polyester, compliant with EN 13967 (Type A and T); min. thickness 0.8mm (nominal 810 microns), laid horizontally over blinded hardcore sub-base beneath the ground-floor slab and turned up at perimeter; membrane to achieve min. tensile strength 870/830 N/50mm (MD/CD, EN 12311-1), elongation 29%/15% (MD/CD), tear resistance 744/712 N (MD/CD, EN 12310-2), MVTR <0.03 g/m2/day, water vapour resistance >4100, radon transmittance 1 (10 power -9 m/s) and radon permeability 0.4 (10 power -12 m²/s); end and side laps min. 150mm; sub-base fully site measured and membrane rolls factory heat-fusion welded and jointed prior to installation, with site joints (where fusion welding cannot be carried out) fully sealed with 2no. layers of manufacturer-approved double-sided radon-resisting butyl tape, DPCs lapped and sealed to face of deadwork; membrane installed by a certified and system-approved Waterproofing Sub-Contractor, present during fixing of slab reinforcement and the concrete pour to confirm no damage; certificate of completion and Ancillary Certificate for the full waterproofing works to be provided (cl.140.5–140.6). Workmanship as per J40 cl.310, 320 and 350: substrate clean, even-textured and free from voids/sharp protrusions; membrane neat, fully supported, dressed into abutments and around intrusions, completely impervious and continuous; give notice before covering (cl.320) and cover with overlying construction within 42 days (cl.310.4); all as per OCM Specification J40 (measured nett)				
	Gas Proofing				
A	^^^horizontal, girth > 300mm, including for all lapping, taping and sealing.	3153	m2		
B	^^^sloping, > 15 deg < or = to 45 deg, girth > 300mm, including for all lapping, taping and sealing.	20	m2		
C	^^^vertically, girth > 300mm at edge of slab thickening; as per OCM Details on Drawing Nr. 5600; including for all lapping, taping and sealing.	61	m2		
D	^^^^^^extra over for overlap with tanking membrane (J40/250) min. 1000mm, triple sealed with double-sided bitumen tape, as per OCM Specification J40 cl.140.8	23	m		
	External Deadwork Walls				

	Description	Qty	Unit	Rate	Amount
A	^^^horizontal / vertical, girth > 300 mm and dressed over blockwork / concrete; as per OCM Details on Drawing Nr. 5600, including for all lapping, taping and sealing	259	m2		
	Internal block Walls				
B	^^^vertical and dressed over blockwork internal rising wall, girth > 300mm, including for all lapping, taping and sealing	137	m2		
C	^^^vertical to concrete walls, girth > 300mm, including for all lapping, taping and sealing	92	m2		
D	^^^vertical to concrete encasements, girth > 300mm, including for all lapping, taping and sealing	63	m2		
	Sundries.				
	Seal around service pipe penetrations with universal approved top hat pipe seals; fixed with retension clips and 30mm radon resistant sealant tape; all in accordance manufactures written instructions.				
E	^^^^holes, < or = to 0.50m girth	30	nr		
	Sumps.				
	Supply and fit propriety prefabricated uPVC radon Sump; laid horizontal under floor slab; ventilation sump for radon barrier; all in accordance with the manufactures written instructions.				
F	^^^^Sump size 458mm diameter, 225mm high.	19	nr		
	WOODWORK:				
	Ironmongery, Accessories and Sundries				
	Insulation				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Polyisocyanurate (PIR) rigid thermoset foam board floor insulation, fibre-free core with low-emissivity composite foil facing both sides, blowing agent of zero ODP and low GWP, manufactured under ISO 9001/ISO 14001, BRE Green Guide A+; laid underslab in 2no. layers with joints staggered and overlapped; boards laid in staggered pattern, joints butted and taped, penetrations neatly formed with foil-faced tape bonded around the base, laid on prepared even substrate all in accordance with manufacturer's recommendations and the workmanship; performance: thermal conductivity min. 0.022 W/mK, compressive strength 140kPa at 10% to EN 826:2013, achieving U -value 0.11 W/m2K. all as per OCM Specification E20				
A	^^^35mm thick, vertically, girth < or = to 300mm	138	m2		
B	^^^100mm thick, horizontal, girth > 300mm under floor slab	3153	m2		
C	^^^100mm thick, sloping, > 15 deg < or = to 45 deg, girth > 300mm under floor slab	20	m2		
	High-performance rigid extruded polystyrene (XPS) insulation with smooth dense skin to both faces, highly resistant to water absorption and vapour transmission and unaffected by freeze/thaw cycles, blowing agent of zero ODP and low GWP, manufactured under ISO 9001/ISO 14001, BRE Green Guide A+, installed in 2nr. layers with joints staggered and overlapped; boards laid in staggered pattern, joints butted and taped, penetrations neatly formed with foil-faced tape bonded around the base, all in accordance with manufacturer's recommendations; performance: compressive strength 300kPa at 10% to EN 826:2013, water vapour resistance >120 MNs/g, U-value 0.11 W/m2K; all as per OCM Specification E20				
D	^^^300mm thick, vertical, girth > 300 mm, dressed up foundation and up concrete lift shaft wall	45	m2		
E	^^^300mm thick, horizontal, girth > 300 mm to top of lift foundation; as per Engineers Detail on Drawing Nr. 3103	19	m2		
F	^^^300mm thick, vertical, girth > 300 mm, to Cycle Parking ref. 00-STO-022	59	m2		
	Insulation				

	Description	Qty	Unit	Rate	Amount
	Mineral wool insulation (80kg/m3); butt jointed tightly packed between floor screed and curtain walling; as per Architects Detail on Drawing Nr. 5600 and Architects Specification H11-110				
A	^^^size 160 x 75 mm thick	129	m		
	METALWORK:				
	Non-Structural				
	Bars, rods and the like; support angles				
	Continuous purpose-made folded aluminium support angle fixed to concrete slab edge with Hilti HST4 or equivalent M8 expansion anchors at max 400 c/c, incl. drilling, cutting, PVC thermal pads; all fixings as per details				
B	^^^175 x 50 x 6mm (as per Details HL Drawing Nr. 3101 & OCM Drawing Nr. 5600)	38	m		
	FLOOR, WALL AND CEILING FINISHES				
	Finishing				
	EWI rendered plinth; cementitious dispersion primer & leveller to substrate, 100mm high-density EPS plinth board adhered (XPx plinth board to be fully covered with adhesive mortar to form continuous airtight seal) base of wall below DPC (DPC @150mm above FFL); min. 5mm mineral leveller, AR glass-fibre reinforcing mesh (outer 180g/m2 carbon-coated+SS inserts earthed to ETCI, inner 480g/m2), 10mm min polymer-cement reinforcing coat in 2 coats, AR primer & 2mm cement-free silicone resin finish dark grey; solid extruded aluminium trims; system & fixings by manufacturer/approved installer to pull-out results; including protection board; as per OCM Specification M21/210				
	Plinths				
C	^^^> 300mm girth (50mm thick as per OCM Details Drawing Nr. 5600)	60	m2		
D	^^^> 300mm girth, curved (50mm thick as per OCM Detail 2 Drawing Nr. 3501)	2	m2		
E	^^^> 300mm girth (180mm thick as per OCM Detail 4 Drawing Nr. 5600)	68	m2		
F	^^^> 300mm girth (200mm thick as per OCM Detail 1 Drawing Nr. 5605)	45	m2		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^^^^extra over for solid extruded aluminium plinth/base trim and stop beads to bottom edge of plinth, coloured to match, as per M21/210	249	m		
B	^^^^^^extra over for solid extruded aluminium plinth/base trim and stop beads to bottom edge of plinth, coloured to match, curved, as per M21/210	4	m		
C	^^^^^^extra over for forming movement joints to plinth with solid extruded aluminium profiles and manufacturer's sealant, as per M21/490	10	m		
	PAINTING AND DECORATING:				
	Painting				
	Thoroughly clean down; remove any grease or dirt, substrate to be sound, dry, clean and free of dust/grease/salts/algae; apply moisture-tolerant, structural, two-component (two-part) bonding agent based on a combination of epoxy resins and special fillers, to prepared in-situ concrete joint/substrate faces to achieve structural bond, application temperature +10 deg C to +30 deg C; product to achieve: fire performance to EN 13501-1 Class C-s1,d0 and Bfl-s1; density 1.5 kg/L (±0.1); compressive strength -61 N/mm2 (EN 12190); flexural strength -42 N/mm2 (EN ISO 178); modulus of elasticity in compression -3300 N/mm2 (ASTM D695) / -5000 N/mm2 (EN 13412) and tensile -3800 N/mm2 (EN ISO 527-2); shear strength -11 MPa (EN 12615); tensile adhesion / pull -out resistance <0.60mm at 75 kN (EN 1881) and bond/adhesion strength pass (EN 12636); shrinkage <0.1% (EN 12617-1); thermal compatibility and moisture resistance pass (EN 13733 / EN 12636); agent applied strictly to manufacturer's coverage and within pot life; new concrete/screed placed onto the bonding agent while still tacky/wet per manufacturer's requirements; as per OCM Specification E40/530				
	Walls, concrete base				
D	^^^> 300mm as per OCM Detail Drawing Nr. 5600	19	m2		
	DRAINAGE:				
	Below Ground				
	Excavating trenches; grading bottom; earthwork support ; backfilling with granular material, Annex E; compacting ; disposing of surplus excavated material off site				
	Pipes < or = to 250 nominal diameter				

	Description	Qty	Unit	Rate	Amount
A	^^^average depth of trench < or = to 500mm, radon pipes	234	m		
	Granular material; Type B Granular material, Pea Gravel well compacted graded from 9.5mm to 4.75mm as Engineers Drawing MV104-107				
	Beds and surrounds (minimum sizes)				
B	^^^460 x 460 thick; to 110 nominal diameter pipe	234	m		
	uPvc pipe, horizontal, under floor slabs, ventilation pipework for radon barrier, as per manufactures written instructions.				
C	^^^^110mm diameter pipe as per OCM Drawing Nr. 1800	234	m		
D	^^^^110mm bend.	4	nr		
E	^^^^110mm pop-up.	2	nr		
	Above ground				
	uPvc pipe, horizontal, ventilation pipework for radon barrier, with support bracketing and clips; as per manufactures written instructions.				
F	^^^^110mm diameter pipe, vertically for venting as per OCM Drawing Nr. 1800	30	m		
G	^^^^110mm bend.	6	nr		
H	^^^^110mm bend vent cowl	2	nr		

Description	Qty	Unit	Rate	Amount
COLLECTION				
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Page No. BQ/99				
(10) BUILDING SUBSTRUCTURE **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(22) INTERNAL WALLS PARTITIONS				
	(22) INTERNAL WALLS PARTITIONS				
	BRICKWORK AND BLOCKWORK:				
	Brickwork				
	Glazed finish facing brick to BS EN 771-1; extruded wire-cut, smooth, high gloss ceramic glaze in selected colour; laid in half-stretcher type bond, bedded and jointed in mortar with compressive strength class M6, designation (ii), masonry cement:line:sand mix 1:1/2:4, masonry mortar shall comply with IS EN 998-2 and Annex E. (mortar shall be supplied as factory produced ready-to-use mortar from an approved supplier, operating a quality management system to IS EN 9001), neatly pointing one side with 'bucket recessed joints, keep brickwork free from mortar splashes as work proceeds, as Engineers Specification SP-HLC-SE-0003 and Architects Specification F10 in :-				
	Walls				
A	^^^thickness 100mm	37	m2		
	Labours				
B	^^^on brickwork	1	item		
C	^^^^^extra over for acute / obtuse corner junction details as per Architects Drawing Nr. 5126	36	m		
	Blockwork				
	Solid fairfaced concrete blockwork to BS EN 771-3 :2011+A1:2015, Group 1 configuration, minimum density 1900 kg/m3 compressive strength of 7.5N/mm2, laid in half lap stretcher bond; bedded and jointed in mortar with compressive strength class M6, designation (ii), masonry cement:line:sand mix 1:1/2:4, masonry mortar shall comply with IS EN 998-2 and Annex E. (mortar shall be supplied as factory produced ready-to-use mortar from an approved supplier, operating a quality management system to IS EN 9001); neatly pointing one side with 'bucket recessed joints, keep brickwork free from mortar splashes as work proceeds; as Engineers Specification SP-HLC-SE-0003 and Architects Specification F10/255 & Z21 in:-				
	Walls				
D	^^^thickness 100mm	64	m2		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^thickness 100mm, in cavities	397	m2		
B	^^^thickness 215 mm, collar jointed, with Anco AMR-CJ / S / D4.0 172 at 450mm vertical centres, vertically collar joint fully filled with mortar as work proceeds; pointed both sides	1319	m2		
C	^^^^^extra over for reinforced concrete filled 215mm x 215mm u-block lintels above doors; horizontal; filled with and including Grade C30/37 concrete with and including (2) H16 reinforcement bars, minimum 600mm laps	49	m		
	Labours				
D	^^^on blockwork	1	item		
	Bonding to other work				
	Stainless steel movement tie with 21 / 18 Omega channel or equivalent, having channel cast into reinforced concrete column / wall / slab during construction with and including any adjustments to formwork and PP21 stainless steel split ended strip wall ties at other end built into concrete block wall as work proceeds including filling joint both ends with polysulphide joint sealer; all in accordance with the manufacturers written instructions; as per Engineers detail and Specification				
E	^^^100 mm thick walls at 450 mm centres; vertically	20	m		
F	^^^215 mm thick walls at 450 mm centres; vertically	47	m		
	Debonded movement/restraint tie fixing collar blockwork to steel column, Ancon SHX or equivalent, stainless steel, 200mm long with debonding sleeve (10mm end gap for movement), fixed to column flange and built into blockwork as work proceeds at required c/c; restraining wind load while permitting in-plane movement; as per HL SE-0003 cl. 9.2/9.4				
G	^^^215 mm thick collar blockwork walls at 450mm c/c; vertically; as per HL Detail 58 Drawing Nr. 3105	463	m		

	Description	Qty	Unit	Rate	Amount
	Head restraint sliding tie, Ancon IHR-V or equivalent, stainless steel to EN 10088, fixed to underside of precast hollowcore slab/concrete with M8 anchor bolts, restraining head of blockwork wall; built into blockwork as work proceeds at required c/c; permitting vertical movement / lateral restraint; as per HL Specification SE -0003 cl. 9.5				
A	^^^100 mm thick collar blockwork walls at 900mm c/c; horizontally; as per HL Detail 57 Drawing Nr. 3103	34	m		
B	^^^215 mm thick collar blockwork walls at 900mm c/c; horizontally; as per HL Detail 57 Drawing Nr. 3103	257	m		
	Void between blockwork and structural steel packed with mineral wool insulation to prevent flanking sound transmission; as per OCM Drawing Nr. 5085				
C	^^^215mm wide	48	m		
	Ancillaries to Blockwork				
	Forming cavities; Ancon SDB frame clamp stainless steel clamp ties complete fixed to reinforced concrete wall one side and embedded in mortar joints min 50mm; evenly spaced in non staggered horizontal and vertical rows at 600mm c/c horizontal spacing and 450mm c/c vertical spacing, with additional ties as required, all in accordance with Architects Drawings and Specification F1 & F10, built in				
	Between new walls (blockwork and concrete)				
D	^^^110 mm wide; including Full-fill mineral wool cavity batt to F30/150; certified BS EN 13162 / BS 6676-1, 0.037 W/mK, Euroclass A1; nominal batt 1.2 × 0.45m ; 110mm thick; fully filling cavity behind fair-faced block liner; placed continuous, free of mortar/debris (F30/120)	397	m2		
	Closing cavity; cavity fire stops				
	Fire-resistant acoustic air-leakage sealant, grey, to P12/338, gun-applied to structural junction on closed -cell polyethylene backing rod; incl. preparation and application; to achieve air-leakage ≤3 m3/m2/hr and rated E/I per fire strategy; per OCM Specification P12/338/240 & Z22				
E	^^^fixed between top of 100 mm concrete block wall (both sides) and underside of precast concrete floor slab; as per OCM typical details Drawing Nr. 5601	6	m		

	Description	Qty	Unit	Rate	Amount
A	^^^fixed between top of 100 mm concrete block wall and underside of in-situ concrete; as per OCM typical details Drawing Nr. 5608	29	m		
B	^^^fixed between top of 215 mm collar concrete block wall (both sides) and underside of precast concrete floor slab; as per OCM typical details Drawing Nr. 5601	71	m		
C	^^^fixed between top of 215 mm concrete block wall (both sides) and underside of CLT deck; as per OCM typical details Drawing Nr. 5608	5	m		
	Linear fire-stopping (non-combustible firestopping strip) to head of fairfaced collar blockwork at concrete slab soffit; ablative mineral wool rigid batt to, full wall width (215mm), incl. brackets/fixing clamps and capping sealant; performance to P12/240 per fire strategy; per OCM Specification P12/165/365				
D	^^^fixed between top of 100 mm collar concrete block wall and underside of precast concrete floor slab; as per OCM typical details	18	m		
E	^^^fixed between top of 215 mm collar concrete block wall and underside of precast concrete floor slab; as per OCM typical details	181	m		
	Designed Joints				
	Movement joints; PPS wall movement system; with PP21 225mm long wall type 2 ties; with debonding sleeve built into concrete blockwork wall as work proceeds at 450mm centres; filled with 20mm flexible closed cell polyethylene board and proprietary seal				
F	^^^215 mm thick cavity blockwork walls, vertically	25	m		
	WOODWORK:				
	Structural and first fixings				
	The following shall be sawn white deal softwood unless otherwise stated; structural grade Class C; vac - vac treated; include for all necessary fixings.				
	First fixings; grounds				
G	^^^65 x 30 mm around perimeter of door	179	m		
H	^^^70 x 50 mm fitted between vertical metal studs at 600mm c/c	521	m		
J	^^^70 x 50 mm long shot fixed to concrete floor between vertical channel	261	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^70 x 50 mm (Bulkheads)	182	m		
B	^^^130 x 20mm mullion head (as per Drawing Nr. 4151)	4	m		
	Boarding and Second Fixings				
	WBP plywood; 18 mm thick; fixed to metal studs at 600 mm centres; include for all necessary fixings and metal service support plat screw fixed to metal stud using wafer head jack point screws; as per Architects Detail Drawing 5041 & Specification K10.				
	Boarding and sheeting; walls				
C	^^^> 300 mm wide; vertically (1200mm high).	313	m2		
	STRUCTURAL:				
	Steelwork				
	Please note that all junctions between steel and concrete beams, columns etc are to be included within the rates hereunder this is a departure from ARM 4				
	The following shall be fabricated steel Grade S355 JOH to BS EN 10210-1 hollow structural sections; all joints v-butt welded, prepared and ground flush; include for all site welding and adjustments; include for all site fixing, forming mortice and all necessary bolts, all as per Engineers Specification for Structural Steelwork.				
	Fabricated members; square hollow sections; < or = to 25 kg/m member profile.				
D	^^^70 x 70 x 4 x 8.15 kg/m SHS (isolated posts as per HL Drawing Nr. 4016)	0.02	t		
E	^^^90 x 90 x 4 x 10.7 kg/m SHS (isolated posts as per HL Drawing Nr. 4016)	0.89	t		
F	^^^90 x 90 x 4 x 10.7 kg/m SHS (as per HL Drawing Nr. 4016)	1.35	t		
G	^^^90 x 90 x 6.3 x 14.2 kg/m SHS (as per HL Drawing Nr. 4016)	0.10	t		
	Fabricated members; rectangular hollow sections; < or = to 25 kg/m member profile.				
H	^^^160 x 80 x 6.3 x 40.9 kg/m RHS (isolated posts as per HL Drawing Nr. 4016)	0.16	t		
J	^^^160 x 80 x 6.3 x 22.2 kg/m RHS (as per HL Drawing Nr. 4016)	0.61	t		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Fabricated members; fittings				
A	Fittings includes caps, bases, haunches, gussets, end plates, splice plates, cleats, brackets, stiffeners, distance pieces and the like as required.	0.47	t		
	Protective coatings				
B	Surface treatment off site; shot blast and cleaning to remove all traces of loose rust, grit etc to BS 7079 Part A1 (SA 2.5), and apply one coat high build two pack epoxy zinc phosphate modified alkyd primer to B.S.5493 standard SF6, to NDFT 40 microns and apply 2 to 3 coats high build two pack epoxy of micaceous oxiode to NDFT 200 microns by airless spray to structural steelwork as per Engineers Specification for Structural Steelwork.	3.60	t		
C	^^^^^^EXTRA OVER for being selected Ral colour	3.60	t		
	Bolts				
	"Hilti" or equally approved expanding anchor bolts; include for bolting up on completion.				
D	^^^M10 Hilti HST4 or equivalent mechanical wedge anchors	160	nr		
	Sundries				
	Shimming and grouting.				
E	^^^Grout under 250 x 90mm 8mm thick base plates with 25 mm thick non shrink grout; include for all necessary formwork etc.	47	nr		
	Drilling / forming holes in other construction for fixings.				
F	^^^11 mm diameter for M10 bolts; 40 mm deep into reinforced in-situ concrete screed and precast concrete slab; including for all necessary grouting and resin.	160	nr		
	Lintols				

	Description	Qty	Unit	Rate	Amount
	Structural steel lintel; Keystone IB/K-3C solid-wall (heavy-duty / extreme load) type, or equivalent to BS EN 845-2, CE-marked with Declaration of Performance; 215mm wall width, 227mm overall height, hot-dip galvanised steel; installed over opening in 215mm fair-faced collar blockwork (F10/255); clear span as noted; including minimum 200mm end bearings each side, bedding in mortar, building in and all necessary works; length/load capacity per manufacturers safe-load tables, to be confirmed against design loading per opening.				
A	^^^size 4800mm overall length; 215mm collar wall construction (Reception Ground floor)	1	nr		
	FLOOR, WALL AND CEILING FINISHINGS:				
	Stud Partitions				
	Hot dipped galvanized mild steel shaftwall stud partition system; 0.70mm gauge, consisting of 70 SC 70 mm vertical starter studs, 70 I 70 mm I studs at 600 mm centres; fitted between and including 72 C 50 mm floor channel and 72 EDC 80 mm extra deep head channels, include for all necessary intermediate noggings, G110 retaining channels, GSF1 fixing straps and GA3 steel angles; assemble, erect, plug and screw fix to concrete floor slab at base and underside of precast concrete floor slab at top; leave ready for plasterboard (plasterboard m/e); as per Architects Details on Drawings Nr. T5220 to T5223 and Specification Section 09 29 00.				
	Partitions - Level 0				
B	^^^height 3250 mm (IWL-01-70-100)	3	m		
C	^^^height 3250 mm (IWL-02-70-100)	9	m		
D	^^^height 5150 mm (IWL-02-70-100)	3	m		
E	^^^height 3250 mm (SHW-02-70-102)	2	m		
	Partitions - Level 1				
F	^^^height 3400 mm (IWL-01-70-100)	3	m		
G	^^^height 3905 mm (IWL-01-70-100)	2	m		
H	^^^height 3905 mm, existing Arena building (IWL-01-70-100)	6	m		
J	^^^height 3400 mm (SHW-02-70-102)	2	m		
K	^^^height 3815 mm (SHW-02-70-102)	2	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Partitions - Level 2				
A	^^^height 3850 mm (IWL-01-70-100)	11	m		
B	^^^height 3550 mm (SHW-02-70-102)	4	m		
C	^^^height 3850 mm (SHW-02-70-102)	4	m		
D	^^^height 3905 mm, existing Arena building (IWL-01-70-100)	6	m		
	Extra over for				
E	^^^angles to partitions (3250mm high)	7	nr		
F	^^^angles to partitions (3400mm high)	1	nr		
G	^^^angles to partitions (3815mm high)	1	nr		
H	^^^angles to partitions (3850mm high)	3	nr		
J	^^^angles to partitions (3905mm high)	7	nr		
K	^^^angles to partitions (5150mm high)	1	nr		
L	^^^abutments with other finishes (3250mm high)	11	nr		
M	^^^abutments with other finishes (3400mm high)	2	nr		
N	^^^abutments with other finishes (3815mm high)	1	nr		
P	^^^abutments with other finishes (3850mm high)	8	nr		
Q	^^^abutments with other finishes (3905mm high)	9	nr		
R	^^^abutments with other finishes (5150mm high)	2	nr		
S	^^^three-way intersection (3250mm high)	5	nr		
T	^^^three-way intersection (3815mm high)	1	nr		

	Description	Qty	Unit	Rate	Amount
	Hot dipped galvanized mild steel stud partition system; 0.60mm gauge; consisting of stud partition system consisting of 92mm vertical C studs at 600 mm centres; fitted between and including 94 mm wide deep flange floor and extra deep ceiling channels, include for all necessary intermediate noggings, bearers, GSF1 fixing straps and 99FC50 channels; assemble, erect, plug and screw fix to concrete floor slab at base and underside of structure at top; leave ready for plasterboard (plasterboard m/e); as per Architects Partition Details on Drawings Nr. 5010 - 5078 and Specification K10				
	Partitions - Level 0				
A	^^^height 3250 mm (STW-01-92-152)	15	m		
B	^^^height 3250 mm (STW-02-92-152)	42	m		
	Partitions - Level 1				
C	^^^height 3400 mm (STW-01-92-152)	2	m		
D	^^^height 3815 mm (STW-01-92-152)	7	m		
E	^^^height 3905 mm (STW-01-92-152)	37	m		
F	^^^height 3905 mm (STW-02-92-152)	8	m		
G	^^^height 3905 mm, existing Arena building (STW-02-92-152)	2	m		
H	^^^height 3905 mm (STW-04-92-152)	15	m		
J	^^^height 3905 mm, existing Arena building (STW-04-92-152)	4	m		
K	^^^height 3905 mm (STW-08-92-152)	13	m		
L	^^^height 3905 mm (STW-32-92-152)	9	m		
	Partitions - Level 2				
M	^^^height 3550 mm (STW-01-92-152)	7	m		
N	^^^height 3850 mm (STW-01-92-152)	9	m		
P	^^^height 3850 mm (STW-04-92-152)	84	m		
Q	^^^height 3905 mm, existing Arena building (STW-04-92-152)	3	m		
R	^^^height 3850 mm (STW-32-92-152)	9	m		
S	^^^height 3850 mm (STW-02-92-152)	8	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^height 3850 mm (STW-08-92-152)	12	m		
	Extra over for				
B	^^^angles to partitions (3250mm high)	2	nr		
C	^^^angles to partitions (3400mm high)	2	nr		
D	^^^angles to partitions (3550mm high)	2	nr		
E	^^^angles to partitions (3815mm high)	2	nr		
F	^^^angles to partitions (3850mm high)	3	nr		
G	^^^angles to partitions (3905mm high)	4	nr		
H	^^^abutments with other finishes (3250mm high)	19	nr		
J	^^^abutments with other finishes (3400mm high)	1	nr		
K	^^^abutments with other finishes (3550mm high)	2	nr		
L	^^^abutments with other finishes (3815mm high)	3	nr		
M	^^^abutments with other finishes (3850mm high)	27	nr		
N	^^^abutments with other finishes (3905mm high)	23	nr		
P	^^^three-way intersection (3250mm high)	10	nr		
Q	^^^three-way intersection (3400mm high)	2	nr		
R	^^^three-way intersection (3815mm high)	1	nr		
S	^^^three-way intersection (3850mm high)	14	nr		
T	^^^three-way intersection (3905mm high)	13	nr		
U	^^^four-way intersection (3250mm high)	2	nr		
V	^^^fair ends to partitions (3250mm high)	7	nr		
W	^^^forming opening; 850 mm wide x 2260 mm high (door).	4	nr		
X	^^^forming opening; 900 mm wide x 2100 mm high (door).	2	nr		
Y	^^^forming opening; 1050 mm wide x 2260 mm high (door).	2	nr		
Z	^^^forming opening; 1100 mm wide x 2260 mm high (door).	5	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^forming opening; 1510 mm wide x 2260 mm high (door).	12	nr		
B	^^^forming opening; 2050 mm wide x 2700 mm high (door).	5	nr		
	Bulkheads				
C	^^^height 665mm (STW-01-92-152) - L00	12	m		
D	^^^height 520mm (STW-01-92-152) - L01	6	m		
E	^^^height 550mm (STW-01-92-152) - L01	34	m		
F	^^^height 705mm (STW-01-92-152) - L01	18	m		
G	^^^height 1205mm (STW-01-92-152) - L01	12	m		
H	^^^height 457mm (STW-01-92-152) - L02	4	m		
J	^^^height 1205mm (STW-01-92-152) - L02	9	m		
	Labours				
	Making good and / or cutting around obstructions				
K	^^^girth < or = to 300 mm	100	nr		
L	^^^girth 300 mm - 1.00m	50	nr		
	Form service outlet position in non-fire-rated metal stud partition,comprising: additional local support framing to receive electrical socket back box, being drywall steel angle bracket fixed to metal C-stud and metal fixing channel fixed to angle bracket with 2 No. wafer-head jack-point screws; perimeter of metal socket box sealed all round with manufacturer-approved fire/acoustic sealant; remaining gaps around service penetration fully sealed with P12 acoustic batt material; as per OCM Spec K10 cl.335 & 14.2 and drawing AR-5040 (Detail 4)				
M	^^^girth < or = to 300 mm	30	nr		

	Description	Qty	Unit	Rate	Amount
	Form service outlet position in fire-rated metal stud partition, comprising: additional local support framing to receive electrical socket back box, being drywall steel angle bracket fixed to metal C-stud and metal fixing channel fixed to angle bracket with 2 No. wafer-head jack-point screws; concealed box-out framed and lined with K10-404 fire liner board to manufacturer's fire-test requirements; intumescent putty pad encompassing the entirety of the back box and overlapping the plasterboard edge with no gaps, installed and photographically catalogued; perimeter of metal socket box sealed all round with manufacturer-approved fire/acoustic sealant; remaining gaps around service penetration fully sealed with P12 fire-stopping material to maintain the fire line; to OCM Spec K10 cl.335, 13.8, 14.1 & 14.2 and drawing AR-5040 (Detail 5)				
A	^^^girth < or = to 300 mm	30	nr		
	Sundries to partitions:-				
B	Seal faces around perimeter of metal stud partition system at junction with concrete floor / blockwork / concrete walls with one part water based acrylic acoustic intumescent sealant; as per Architects Partition Details on Drawings Nr. 5010 - 5078 and Specification K10 & P12	1012	m		
	Fire stopping				
C	90 mm wide x 30 mm thick Class O, non combustible glass reinforced board firestop with firestrips forming deflection head between top of stud partition and underside of structure (precast concrete slab / structural steel); to achieve rating; include for one part water based acrylic acoustic intumescent seal both sides; together with 30 x 50mm PPC steel angle both sides and sealing; as per Architects Details on Drawing Nr. 5020 and Specification K10	177	m		
D	90 mm wide x 30 mm thick Class O, non combustible glass reinforced board firestop with firestrips forming deflection head between top of stud partition and underside of structure (structural metal decking); to achieve rating; include for one part water based acrylic acoustic intumescent seal both sides; 455 x 15m thick fire rated plasterboard fixed to underside of metal decking with fixing channels at 300mm c/c; two number trapezoidal troughs voids to be filled with mineral wool; together with 30 x 50mm PPC steel angle both side and sealing; as per Architects Details on Drawing Nr. 5020 and Specification K10	152	m		
	Insulation				

	Description	Qty	Unit	Rate	Amount
	Mineral wool acoustic insulation; manufactured from a combination of silica sand and up to 80% recycled post-consumer glass, the mineral wool is to have a Zero Ozone Depletion Potential (ODP) and Zero Global Warming Potential (GWP); thermal conductivity: 0.036W/mK, thermal resistance: 1.35m2K/W, reaction to fire: A1 (EN 13501-1) and thickness class: T1; but jointed tightly packed into partition wall cavity between vertical studs and noggings etc, including taping / fastening to retain insulation and prevent slumping; as per Architects Partition Details on Drawings Nr. 5010 - 5078 and Specification K10 & P12				
A	^^^50 mm thick	1123	m2		
	Access panels				
	Fire-rated services access hatch, proprietary, Type AH05 metal door with concealed frame; door tray and concealed beaded frame formed from 1.2mm zintec electro-galvanised mild steel, beaded to receive skim finish; perimeter rubber gasket against moisture/humidity egress; continuous concealed hinge; anti-tamper lock with cover cap; face primed and textured for site-applied paint finish (paint measured under M60); fire resistance EI 30 (integrity & insulation) to BS EN 13501-2; smoke sealed with continuous intumescent acoustic mastic sealant around perimeter of frame; installed into fire-rated wall/shaft construction to maintain rated performance; include for all necessary additional supports and fixings; as per OCM Specification L20 clause 630 (V7)				
B	^^^size 450 x 450mm	7	nr		
C	^^^size 600 x 600mm	6	nr		

Description	Qty	Unit	Rate	Amount
COLLECTION				
Page No. BQ/101				
Page No. BQ/102				
Page No. BQ/103				
Page No. BQ/104				
Page No. BQ/105				
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Page No. BQ/111				
Page No. BQ/112				
Page No. BQ/113				
(22) INTERNAL WALLS PARTITIONS **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(23) FLOORS AND GALLERIES & (28) FRAME				
	(23) FLOORS AND GALLERIES AND (28) FRAME				
	CONCRETE WORK:				
	In-Situ Concrete				
	Reinforced in-situ concrete, grade C32/40 to IS EN 206, exposure class XC1, with 50% GGBS content; Mix A in accordance with Engineer's Specifications SE-0004 and SE-0005; placed between formwork and well vibrated around reinforcement in:				
	Slabs				
A	^^^> 150 mm to lift & staircore roofs	16	m3		
B	^^^> 150 mm to staircore suspended slab	15	m3		
	Walls				
C	^^^> 150mm thick to staircore	82	m3		
D	^^^> 150mm thick to lift core	49	m3		
E	^^^> 150mm thick to steps structure (North)	67	m3		
F	^^^> 150mm thick to steps structure (South)	67	m3		
	Upstands				
G	^^^cross sectional area < or = to 0.10m2 (plantroom)	2	m3		
H	^^^cross sectional area > 0.10m2 (roof of link)	4	m3		
	Screeds				
J	^^^< or = to 150mm (75mm thick) to floor slab	14	m3		
K	^^^< or = to 150mm (85mm thick) to floor slab	151	m3		
L	^^^< or = to 150mm (120mm thick) to floor slab	7	m3		
M	^^^< or = to 150mm (75mm thick) to floor slab (Roof of link)	7	m3		
N	^^^< or = to 150mm (120mm thick) to floor slab (New lobby Level 02 as per Drawing Nr. 5623)	2	m3		
	Filling to				
P	^^^edges and voids between precast concrete floor slabs	80	m3		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Sundries				
	Designed joints				
	Formed isolation joint to concrete slab with approved joint filler to a depth of 250mm, mesh to have 50mm cover filled with 10mm proprietary joint filler sealed with a bitumen sealant.				
A	^^^< or = to 150mm deep (75mm thick screed) at junction with concrete walls	60	m		
B	^^^< or = to 150mm deep (75mm thick screed) at junction with steel columns	94	m		
	Formed expansion joint with existing building and precast concrete slab with screed with approved joint filler, compressible mineral wool based backing rod wrapped with glass fibre yarn c/w fire resistant acreylic sealant				
C	^^^150- 300mm deep (235mm thick) as per Detail 29 Drawing Nr. 3104	4	m		
	Tie precast concrete floor to reinforced concrete wall with B16 mm diameter mild steel L-bars (to be bent on site into structural screed) 1300mm long at 200mm centres, including dry packing ends of ends of precast concrete hollow cores circa 65 x 80 x 250mm deep at 150mm c/c, all as per detail 20 on Engineers Drawing Nr. 3103 and Specification.				
D	^^^generally as per Detail 20	16	m		
	Tie precast concrete floor to structural with B16 mm diameter mild steel straight bars and L-bars at 200mm centres, all as per details on Engineers Drawing Nr. 3103 - 3106 and Specification.				
E	^^^4nr. longitudinal bars and 1300mm long L-bars as per Detail 22 on Drawings Nr. 3103	14	m		
F	^^^5nr. longitudinal bars and 900mm long L-bars as per Detail 27 on Drawings Nr. 3103	37	m		
G	^^^4nr. longitudinal bars and 900mm long L-bars as per Detail 31 on Drawings Nr. 3104	21	m		
H	^^^5nr. longitudinal bars and 900mm long L-bars as per Detail 33 on Drawings Nr. 3104	12	m		
J	^^^7nr. longitudinal bars and 1100mm long L-bars as per Detail 43 on Drawings Nr. 3105	12	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^5nr. longitudinal bars and 900mm long L-bars as per Detail 44 on Drawings Nr. 3105	16	m		
B	^^^6nr. longitudinal bars and 900mm long L-bars including dry packing ends of ends of precast concrete hollow cores circa 65 x 80 x 250mm deep at 150mm c/c as per Detail 45 on Drawings Nr. 3105	13	m		
C	^^^4nr. longitudinal bars and 900mm long L-bars as per Detail 49 on Drawings Nr. 3106	10	m		
	600 x 150mm wide cores to be formed in hollow core slab, cores to be spaced at 600mm c/c for disproportionate collapse reinforcement, B16 mm diameter mild steel straight bars at 600mm c/c (cores to be left exposed and infilled with concrete during the structural screed pour), as per Detail 38 on Drawings Nr. 3104				
D	^^^generally as per Detail 38	452	m		
	Dry packing ends of ends of precast concrete hollow cores circa 65 x 80 x 250mm deep at 150mm c/c, all as per details on Engineers Drawing Nr. 3103 - 3106 and Specification				
E	^^^generally to end of hollow core slabs as per detail ref. D23, D28, D37, D39, D50	102	m		
	Surface Finish				
F	^^^Powerfloat to screed	2005	m2		
G	^^^Powerfloat to screed (Link roof)	94	m2		
H	^^^Powerfloat to screed (New lobby Level 02 as per Drawing Nr. 5623)	11	m2		
J	^^^Powerfloat unset concrete slabs and roof to staircore and liftcore to approval.	140	m2		
K	^^^^^^extra over for conforming to flatness tolerance accurate to 6mm over a 4m straight edge, in addition no deviations greater than 3mm shall be measured when tested under 1.0m long straight edge. Step-like irregularities shall be no greater than 1mm in height where they accour (in any location) when measured with 300mm straight edge	2005	m2		
L	^^^Steel trowel surface of unset concrete in tops of upstands (plantroom)	14	m2		
M	^^^Steel trowel surface of unset concrete in tops of upstands (link roof)	5	m2		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Labours				
	Forming holes, recesses and the like; including all necessary formwork				
A	^^^100 mm diameter opening	50	nr		
B	^^^150 mm diameter opening	25	nr		
C	^^^250 mm diameter opening	25	nr		
	Leave or form recess in concrete floor and screed; including all necessary formwork				
D	^^^330 x 330 x 75mm deep for floor boxes; as per OCM Details on Drawing Nr. 5520 & JVT Drawing Nr. 62-Z-L00-DR-JVT-EE-EE-0001 (Free issue by Electrical Contractor and installed by Main Contractor)	13	nr		
E	^^^allow for casting in 2 nr x 25mm conduits as per JVT Drawing Nr. 62-Z-L00-DR-JVT-EE-EE-0001 (ref note 21) (Free issue by Electrical Contractor and installed by Main Contractor)	47	m		
	Firestopping to holes				
	Ablative coated batt fire stop to openings; 50mm thick; consisting of high density 160 kg/m3 stone wool core, precoated on both sides with high preformace ablative coating; clean opening and remove any dust and debris, cut to shape aand tightly fit and sealing around edge of opening and service penitration with 15mm thick acoustic intumescent sealant both sides and ensuring all gaps between the batt and opening are fully filled; to achieve 60 / 60 fire rating; all in accordance with the manufacturer's written instructions and Architects Specification 07 84 00 and FSD-001 & FSD-010				
F	^^^100 mm diameter opening	50	nr		
G	^^^150 mm diameter opening	25	nr		
H	^^^250 mm diameter opening	25	nr		
	Reinforcement				
	Reinforcement bars; high yield type 2 deformed steel bars BS 4449				
	Spacers and chairs at contractors discretion				
	Walls (kg/m3 as per Engineers Structural Concrete Particular Specification)				
	Bar; straight or bent				

	Description	Qty	Unit	Rate	Amount
A	^^^nominal size > 12 < or = to 25 mm diameter	31.73	t		
	Slabs (kg/m3 as per Engineers Structural Concrete Particular Specification)				
	Bar; straight or bent				
B	^^^nominal size > 12 < or = to 25 mm diameter	4.71	t		
	Reinforcement mesh fabric; BS 4483;				
	Reference A252 (3.95kg/m2); 300mm minimum side and end laps				
C	^^^horizontal to screeds	2005	m2		
D	^^^horizontal to screeds (Existing Arena 1 roof)	94	m2		
E	^^^horizontal to screeds (New lobby Level 02 as per Drawing Nr. 5623)	11	m2		
	Proprietary cast-in anchor plate; Peikko THRELDA or equivalent, supplied as one assembly comprising steel plate, threaded couplers and headed anchor studs (ribbed/threaded); to suit bolted end-plate connection of steel member, to specialist design and detail (Ancillary Certificate); cast into reinforced concrete wall as a cast-in item (Specification clause 5.5), fixed to formwork and wire-tied to main reinforcement clear of clashes; plate size and anchor configuration to specialist's connection schedule; connected end plate, bolts and washers (measured under steelwork); all as to HL Typical Details Drawing Nr. 3107				
F	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 254 x 146 x 37 UB (B17) end connection plate ref. HL Drawing Nr. 4006	1	nr		
G	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 762 x 267 x 197 UB (B15) end connection plate ref. HL Drawing Nr. 4006	1	nr		
H	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 203 x 102 x 23 UB (B02) end connection plate ref. HL Drawing Nr. 4007	3	nr		
J	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 457 x 152 x 60 UB (B07) end connection plate ref. HL Drawing Nr. 4007	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 254 x 146 x 31 UB (B09) end connection plate ref. HL Drawing Nr. 4007	1	nr		
B	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 203 x 203 x 60 UB (B37) end connection plate ref. HL Drawing Nr. 4007	1	nr		
C	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 400 x 200 x 6.3 RHS (B13) end connection plate ref. HL Drawing Nr. 4007	1	nr		
D	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 203 x 102 x 23 UB (B02) end connection plate ref. HL Drawing Nr. 4008	3	nr		
E	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 305 x 305 x 240 UB (B22) end connection plate ref. HL Drawing Nr. 4009	1	nr		
F	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 203 x 203 x 46 UB (B45) end connection plate ref. HL Drawing Nr. 4009	1	nr		
G	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 203 x 102 x 23 UB (B02) end connection plate ref. HL Drawing Nr. 4010	4	nr		
H	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 203 x 203 x 60 UB (B37) end connection plate ref. HL Drawing Nr. 4010	1	nr		
J	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 203 x 102 x 23 UB (B02) end connection plate ref. HL Drawing Nr. 4011	3	nr		
K	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 457 x 191 x 133 UB (B01) end connection plate ref. HL Drawing Nr. 4011	2	nr		
L	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 305 x 165 x 46 UB (B04) end connection plate ref. HL Drawing Nr. 4011	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 533 x 210 x 122 UB (B21) end connection plate ref. HL Drawing Nr. 4012	1	nr		
B	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 457 x 191 x 74 UB (B44) end connection plate ref. HL Drawing Nr. 4012	1	nr		
C	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 533 x 210 x 122 UB (B21) end connection plate ref. HL Drawing Nr. 4013	2	nr		
D	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 305 x 305 x 158 UB (B29) end connection plate ref. HL Drawing Nr. 4013	1	nr		
E	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 254 x 146 x 31 UB (B26) end connection plate ref. HL Drawing Nr. 4013	1	nr		
F	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 203 x 102 x 23 UB (B02) end connection plate ref. HL Drawing Nr. 4013	2	nr		
G	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 203 x 203 x 46 UB (B45) end connection plate ref. HL Drawing Nr. 4013	1	nr		
H	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 305 x 127 x 37 UB (B24) end connection plate ref. HL Drawing Nr. 4013	1	nr		
J	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 203 x 102 x 23 UB (B02) end connection plate ref. HL Drawing Nr. 4014	3	nr		
K	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 457 x 191 x 74 UB (B44) end connection plate ref. HL Drawing Nr. 4014	2	nr		
L	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 203 x 133 x 30 UB (B35) end connection plate ref. HL Drawing Nr. 4014	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^cast in anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 178 x 102 x 19 UB (B16) end connection plate ref. HL Drawing Nr. 4015	2	nr		
B	^^^double sided anchor steel plate c/w ribbed and threaded headed anchor bars (studs) and threaded couplers to suit 203 x 203 x 52 UB connection plate ref. (Auditorium seats as per HL Detail 1 Drawing Nr. 1100)	7	nr		
	Proprietary reinforcement continuity strip; Ancon Eazistrip standard range or equivalent (subject to CA agreement); galvanised dimpled-steel casing housing pre-bent reinforcement bars to BS 4449:2005 Grade B500C, bent to BS 8666:2005; CARES Technical Approval TA2-5017 or equivalent; cast into 250mm reinforced concrete wall at construction joint; protective cover removed, bars straightened once on site with manufacturer's re-bending tool and lapped to main reinforcement of in-situ 225mm reinforced concrete landing slab; all in accordance with HL Specification clause 6.1.4 and Detail 52 Drawing Nr. 3106.				
C	^^^EZ 240OU 12/150 (Box width: 240mm, Box length: 1200mm, Rebar diameter: 12mm, Centres: 150mm, Stirrup height: 170mm, Stirrup width: 220mm, Leg length: 500mm & Bars / box: 8nr)	50	m		
	Proprietary permanent recess former; invisible connections REDiBOX PRF-STD or equivalent; high-density polyethylene 'left-in' box, with ribbed monocoque key and integral tie-wire lugs; cast into 250mm in-situ reinforced concrete wall as a cast-in item (Specification clause 5.5) to receive the sliding inner section of a TSS/RVK telescopic connector cast into the precast stair / half-landing; recess filled with cementitious non-shrink grout on completion of the connection; connector, connection design and grout by precast stair specialist; all to HL Detail 53 Drawing Nr. 3106 and precast stair supplier's approved connection detail.				
D	^^^internal size 180 × 120 × 104 mm	16	nr		
	Ancon KSN12M anchor box system or equivalent, cast into concrete wall, including Bartec Plus parallel 12mm threaded reinforcing bars at 200mm c/c tied to structural screed reinforcement; as per manufactures written instructions and Engineers Drawings				
E	^^^single row connection with 12mm diameter bars projecting aprox 600mm long at 200mm c/c (precast floors to lift core); as per Detail 47 Engineers Drawing Nr. 3106 & Detail 25 Engineers Drawing Nr. 3103	60	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Formwork				
	Formwork surface finish to concrete; Type "Special" classification as defined in Section 8.6 of the National Structural Concrete Specification (NSCS) 4th edition as Architects Specification 03 33 00 & AFC -101				
	Edges of suspended slabs				
A	^^^height: > 250 < or = to 500 mm (stairs core)	10	m		
B	^^^height: > 250 < or = to 500 mm (lift and staircore roof)	47	m		
	Edge of Screeds				
C	^^^height: < or = 250 mm	448	m		
D	^^^height: > 250 < or = to 500 mm	38	m		
E	Sides of upstands				
F	^^^height: < or = 250 mm (plantroom)	107	m		
G	^^^height: > 500mm (link roof)	31	m2		
	Soffit of slabs				
H	^^^soffit height < or = 4.00 m (within staircores)	63	m2		
J	^^^soffit height < or = 4.00 m (staircore roof)	63	m2		
K	^^^soffit height < or = 4.00 m (lift core roof)	14	m2		
L	^^^soffit height < or = 4.00 m (underside of precast concrete edge filling as per Details on Engineers Drawings 3103 - 3106)	20	m2		
	Walls				
M	^^^vertical, height > 10.00 < or = to 12.00 m (staircore)	653	m2		
N	^^^vertical, height > 14.00 < or = to 16.00 m (lift core)	392	m2		
P	^^^vertical, height > 6.00 < or = to 8.00 m (Stairs North & South)	936	m2		
	Edges of openings in walls				
Q	^^^area of opening, < or 1.00 m2	3	nr		
R	^^^area of opening, > 1.00 < or = to 5.00 m2	16	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Edges of openings in slab				
A	^^^area of opening, < or 1.00 m2	2	nr		
	Extra on any of the foregoing formwork categories for:				
B	^^^20 x 20mm chamfer to upstands (plantroom)	107	m		
C	^^^20 x 20mm chamfer to upstands (link roof)	41	m		
D	^^^20 x 20mm chamfer to exposed wall corners	362	m		
E	^^^> 150mm thick to staircore	82	m3		
F	^^^> 150mm thick to lift core	49	m3		
G	^^^Architectural Special Finish wall formwork is an 18mm MDO film-faced ply (WISA MDO or Tomassi Plastform 330 or equivalent, FSC, film density >120 g/m2, factory acrylic-latex sealed edges), giving a smooth dense matt finish, cast with chemical release agent (Chemlease/Nufins or equivalent), struck at 24-36 hrs, kickerless construction to visible areas. Grit/sand-blasting to reveal aggregate and a board-marked feature wall are additional operations where called for on Architects drawings. Tie-bolt holes filled with colour-matched mortar recessed 2mm; surface tolerance/acceptance per SE-0005/G (blowholes max 3mm, <5/m2; no honeycombing / grout runs visible at 2m); as per Specification HL SE0005 & OCM E05	865	m2		
H	^^^Board-marked concrete feature wall; backing 18mm ply faced with planed white deal battens 75 –100mm nominal, board-marked indentations, lightly grit-blasted per approved sample; as per Specification HL SE0005 & OCM E05	865	m2		
	<u>Backpropping of Upper Floor Slabs</u>				
J	Allow for Backpropping of slab to Engineers Requirements all as Detailed on Engineers drawings and specification	1	Item		
	Precast Concrete				

	Description	Qty	Unit	Rate	Amount
	Ducon or equally approved precast prestressed hollow core slab units; capable of supporting design loads as specified with the Engineers Specification; fixed in accordance with the manufacturers instructions including all raking cutting for reinforcing slots, angles, intersections, joint filler, shear key connectors across joints at mid spans; to suit unit layout. Include for all necessary propping, hoisting and placing in position.				
	Floors				
A	^^^150 mm deep precast units; span 5.00m - 7.00m	2005	m2		
B	^^^150 mm deep precast units; span 5.00m - 7.00m (Link roof)	94	m2		
	Extra over for				
C	^^^raking cutting	73	m		
	Sundries				
	Forming holes, recesses and the like; including all necessary mild steel hanger support brackets and accessories				
D	^^^100 mm diameter opening	50	nr		
E	^^^150 mm diameter opening	25	nr		
F	^^^250 mm diameter opening	25	nr		
	Composite Construction				
	Prepare, clean down, scabble existing concrete surface; drilling for and including 12mm diameter m.s. dowel bars 300mm long at 300mm c/c chemically grouted into precast concrete slab, one layer A393 fabric mesh reinforcement laid horizontal, include for all necessary Formwork surface finish to concrete; Type "Plain" finish as defined in Section 1.9 of the National Structural Concrete Specification (NSCS) 4th edition as Architects Specification 03 33 00 & AFC -103; 25mm x 25mm chamfered edges, Reinforced in-situ concrete, grade C32/40 to IS EN 206, exposure class XC1, with 50% GGBS content; Mix A in accordance with Engineer's Specifications SE-0004 and SE-0005 with a steel trowel finish.				
	Plinths				
G	^^^Concrete plinth for Buffer Vessel, size 1500 x 1500 x 150mm high	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Concrete plinth for Air to Water Heat Pump, size 1150 x 1150 x 150mm high	1	nr		
B	^^^Concrete plinth for Buffer Vessel LTHW, Heat Exchanger & Buffer Vessel DHW (2No.), size 3600 x 1400 x 150mm high	1	nr		
C	^^^Concrete plinth for Plate Heat Exchanger, size 800 x 700 x 150mm high	1	nr		
D	^^^Concrete plinth for Irrigation Tank, size 6000 x 1750 x 150mm high	1	nr		
E	^^^Concrete plinth for LPHW header arrangement, size 4000 x 1750 x 150mm high	1	nr		
F	^^^Concrete plinth for Irrigation Tank, size 1550 x 1000 x 150mm high	1	nr		
G	^^^Concrete plinth for Cold Water Tank, size 2300 x 2800 x 150mm high	1	nr		
H	^^^Concrete plinth for MCC Panel, size 2500 x 1800 x 450mm high	1	nr		
J	^^^Concrete plinth for Water Source Heat Pump, size 1800 x 900 x 150mm high	1	nr		
K	^^^Concrete plinth for Buffer Vessel, size 1500 x 1500 x 150mm high	2	nr		
L	^^^Concrete plinth for DHW tanks, size 1500 x 1500 x 150mm high	2	nr		
M	^^^Concrete plinth for Heat Exchanger, size 800 x 700 x 150mm high	2	nr		
N	^^^Concrete plinth for Cold Water Tank, size 2300 x 2800 x 150mm high	1	nr		
P	^^^Concrete plinth for Irrigation Tank, size 2000 x 2000 x 150mm high	1	nr		
Q	^^^Concrete plinth for LPHW header arrangement, size 4000 x 1750 x 150mm high	1	nr		
R	^^^Concrete plinth for cold water booster, size 1500x1500x150 high	1	nr		
S	^^^Concrete plinth for expansion vessels and pressurisation units, size 2500 x 1200 x 150mm high	1	nr		
T	^^^Concrete plinth for MCC Panel, size 2500 x 1800 x 450mm high	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	ROOFING, CLADDING and WATERPROOFING:				
	Rigid Sheet Coverings and Decking				
	Profiled perforated metal roof decking, D60 perforated profile (Tata D60 as referenced in OCM cl.633), forming substrate to warm-deck roof covering; designed and laid to achieve minimum finished slope of 1:60 with no deflections or back-falls, to BS6229:2018 cl.4.4 allowing for construction tolerances, permitted deviations and load deflections; including independent metal upstands as per NBS Section G30; sheet gauge, finish, bearing and fixings to NBS Section G30 and structural / specialist design. Deck supplied and installed ; taping and sealing as required; all in accordance with manufactures instructions, as per HL & OCM Specification				
	Horizontal				
A	^^^exceeding 300 mm	1773	m2		
B	^^^exceeding 300 mm (Existing Arena roof as per Drawing Nr. 5623)	11	m2		
C	^^^^^^Extra over last for white lining enamel coated finish	1783	m2		
	Vertical				
D	^^^exceeding 300 mm	457	m2		
	Holes, including as necessary reinforcing edges of decking to Engineer's satisfaction				
E	^^^< or = 0.50m girth	10	nr		
F	^^^>0.50m, < or = 1.00m girth	20	nr		
G	^^^>1.00m, < or = 2.00m girth	5	nr		
H	^^^>2.00m girth	5	nr		
	WOODWORK:				
	Structural and First Fixings				
	The following shall be sawn white deal softwood unless otherwise stated; structural grade C24 to IS EN 14081-1, grade stamped; vac - vac treated; include for all necessary fixings; as per HL Structural Timber Specification SE-0009				
	First fixings; grounds				

	Description	Qty	Unit	Rate	Amount
A	^^^225 x 44 mm timber joists (Auditorium seats as per HL Drawing Nr. 1100)	260	m		
B	^^^225 x 50 mm support joists fixed with self-drilling structural screws to structural steel	323	m		
C	^^^225 x 75 mm support joists fixed with self-drilling structural screws to structural steel	57	m		
	Glulam laminated timber columns and beams to IS EN 14080, homogenous and combined, minimum grade GL28h unless noted otherwise (HL spec); strength class, service class, finished lamination thickness, member sizes and setting-out are all to S.E. detail as per per OCM G20/330. Tolerances to IS EN 390 / BS EN 14080 Table 12; warping to BS 6446; straightness deviation limited to 1/500 of span for beams/columns (HL spec 12.1). Timber FSC/PEFC chain-of-custody certified (OCM G20/105). All exposed surfaces to receive proprietary intumescent clear varnish fire protection to Class B-s2,d0 - 2 clear basecoats plus 1 clear overcoat (OCM G20/330.4) — with first coat applied before delivery to site (OCM G20/540); as per OCM Specification G20 & HL SP-HLC-SE-0009				
	Pre-fabricated				
D	^^^140 x 140 x 1982mm beam (BT1)	3	nr		
E	^^^140 x 140 x 3100mm beam (BT1)	3	nr		
F	^^^140 x 140 x 3160mm beam (BT1)	72	nr		
G	^^^240 x 1360 x 12300mm beam (BT2)	2	nr		
H	^^^240 x 1360 x 12500mm beam (BT2)	23	nr		
J	^^^200 x 560 x 3800mm beam (BT3)	4	nr		
K	^^^200 x 780 x 4800mm beam (BT4)	20	nr		
L	^^^200 x 780 x 5500mm beam (BT4)	2	nr		
M	^^^200 x 780 x 13100mm beam (BT4)	1	nr		
N	^^^200 x 780 x 13300mm beam (BT4)	1	nr		
P	^^^200 x 1810 x 12300mm beam (BT5)	1	nr		
Q	^^^280 x 280 x 3850mm columns (C31)	28	nr		
R	^^^250 x 60 x 4300mm columns (as per OCM Drawing Nr. 5604 & 5632)	50	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^^^^extra over for 150 x 550mm nothing last as per Detail on OCM Drawing Nr. 5604	25	nr		
	Boarding and Second Fixings				
	Structural plywood; 24 mm thick; to EN 636 / IS EN 13986; fixed to timber joists at 300mm centres; include for all necessary fixings; as per HL Structural Timber Specification SE-0009				
	Boarding and sheeting; walls				
B	^^^> 300 mm wide; horizontally (Auditorium seats as per HL Drawing Nr. 1100)	57	m2		
C	^^^> 300 mm wide; vertically (Auditorium seats as per HL Drawing Nr. 1100)	46	m2		
D	^^^> 300 mm wide; vertically, curved (Auditorium seats as per HL Drawing Nr. 1100)	7	m2		
	Structural plywood; 24 mm thick; to EN 636 / IS EN 13986; fixed to structural steel joists; include for all necessary fixings; as per HL Structural Timber Specification SE-0009				
E	^^^> 300 mm wide; horizontally (2nr layers - Auditorium seats as per HL Drawing Nr. 1100)	50	m2		
F	^^^> 300 mm wide; horizontally (3nr layers - Auditorium seats as per HL Drawing Nr. 1100)	10	m2		

	Description	Qty	Unit	Rate	Amount
	Cross-laminated timber (CLT) panels to walls, roof deck and associated upstands, in accordance with OCM Specification clause G20/334 and the Structural Engineer's design; panels to comply with BS EN 16351 :2021 (manufactured to EN 16351, HL Structural Timber Spec); minimum grade C24 unless noted otherwise; strength class to BS EN 338 as per the Engineer's design and specification. Timber sourced from sustainably managed forests with FSC or PEFC chain-of-custody certification. Surface quality to BS EN 13017-1, Standard grade. Moisture content not exceeding 14% at delivery. Manufacturer and product reference Contractor's Choice. Panels straight and true throughout; window/door openings and cut-outs formed at fabrication as drawings - site-cutting of perforations not permitted without the Engineer's approval. No lifting-point indications to remain on completion. Provide weather protection and on-site protection of panels in accordance with clause G20/334.11 and manufacturer's recommendations. Workmanship generally to G20/401, 402 & 420; panels to be jointed together with approved fixings and nclude for all required fixings and connections; as per OCM Specification G20 & HL SP-HLC-SE-0009				
	Walls				
A	^^^CLT wall panels; nominal 200mm thick (generally, per drawings); grade C24 to BS EN 16351; including all connections, structural fixings and weather/on-site protection; openings formed at fabrication	419	m2		
	Roofs				
B	^^^CLT roof deck panels; nominal 160mm thick (generally, per drawings); grade C24 to BS EN 16351; including all connections, structural fixings and weather/on-site protection	1362	m2		
C	^^^CLT upstand, size 200 x 530mm; as per OCM Detail 2 Drawing Nr. 3504	72	m		

	Description	Qty	Unit	Rate	Amount
	Ironmongery, Accessories and Sundries				
	The following proprietary concealed connection assemblies are to specialist/SE design; workmanship to conform to BS 8000 and accepted good practice (HL Structural Timber Specification 11); straightness deviation of connected members limited to 1/500 of length (HL 12.1); include all routing, slotting, drilling and boring of the glulam to receive the concealed connectors, steel plates, dowels, screws and holding-down assemblies; all jigs, templates, off-site fabrication, on-site erection, access, and temporary bracing to maintain members in position and ensure stability during construction (OCM G20/760); and inspection of bolted joints at end of Defects Liability Period (OCM G20/860); structural glued joints, where occurring, restricted to member types permitted under HL 7 and made to BS 6446 / IS EN 385 / IS EN 387; no site-formed structural glued joints without engineer's approval; chemical anchors and cast-in items at the RC interface to be read with the concrete works; dowels in Glulam will be pelleted with a cylindrical timber disc to cover all exposed steel connections for both fire protection and aesthetic requirement				
A	^^^Rothoblaas Alumaxi 960 concealed T-plate or equivalent dowelled to glulam beam, bolted to structural steel column with 8nr M16 grade 8.8 bolts (Concealed beam-to-steel-column connection)	47	nr		
B	^^^15nr M16 through dowels (Concealed dowelled connection, external glulam beam BT4 to glulam column C31)	25	nr		
C	^^^Rothoblaas Lock T Midi (LOCKT100215) or equivalent c/w 48nr 7mm dia × 80mm screws, with Rothoblaas steel hooked plates to full length of glulam beams; as per HL Detail 56 Drawing Nr. 3106 (Concealed 140 x 140mm beam to 240 x 1360mm beam connection)	153	nr		
D	^^^Rothoblaas Alumaxi 960 concealed T-plate or equivalent c/w 16mm dia dowels; bracket to RC wall fixed with 16nr M16 × 160 Vin-Fix chemical anchors; as per HL Detail 54 Drawing Nr. 3106 (240 x 1360mm Beam-to-RC-wall restraint)	5	nr		
E	^^^400 x 590 x 15mm concealed steel fin base plate fixed to RC wall with 4nr Hilti HIT-HY 200-A V3 + HAS-U 8.8 M16 anchors or equivalent , min. 100mm embedment; as per HL Detail 66 Drawing Nr. 3107 (200 x 780mm Beam-to-RC-wall baseplate connection)	3	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Rothoblast F70180L T-shaped baseplate or equivalent c/w 8nr 12mm dia dowels, 4nr M16 holding-down bolts c/w wax cores, 10mm steel plate, onto 380 × 380mm RC column; as per HL Detail 62 Drawing Nr. 3107 (Column base to)	28	nr		
B	^^^Rothoblast F70180L T-shaped baseplate or equivalent c/w 8nr 12mm dia dowels, 4nr M16 holding-down bolts c/w wax cores, 10mm steel plate, onto 380 × 380mm RC column; as per HL Detail 62 Drawing Nr. 3107 and OCM Drawing Nr. 5604 (Column base)	50	nr		
C	^^^fixing 160mm CLT floor panels down to top of glulam beam with 2nr pairs of self-tapping screws, 8mm dia × 280mm long (Rothoblaas TBS MAX 8280 or equivalent), at 150mm c/c; as per HL Detail 56 Drawing Nr. 3106 (CLT floor panel to top of 240 × 1360mm glulam beam)	330	m		
D	^^^fixing 160mm CLT floor panels down to top of glulam beam with 2nr pairs of self-tapping screws, 8mm dia × 280mm long (Rothoblaas TBS MAX 8280 or equivalent), at 150mm c/c; as per HL Detail 56 Drawing Nr. 3106 (External CLT floor panel to top of 200 × 740mm glulam beam)	117	m		
E	^^^fixing 160mm CLT floor deck panels to CLT wall with Hilti S-WCF-Z structural timber screws or equivalent, 8mm dia × 400mm long, at max. 600mm c/c; as per HL Detail 63 Drawing Nr. 3107 (160mm CLT floor deck to CLT wall)	200	nr		
F	^^^fixing 160mm CLT floor deck panels to CLT wall with Hilti S-WCF-Z structural timber screws (or equivalent), 8mm dia × 400mm long, at max. 600mm c/c; as per HL Detail 63 Drawing Nr. 3107 (160mm CLT floor deck to CLT wall)	200	nr		
G	^^^fixing 200 × 530mm timber glulam beam/upstand to 160mm CLT deck panels with proprietary structural angle brackets screwed into both the glulam beam and the CLT panel, fixed with 5mm dia × 50mm long screws at 1000mm c/c, including joint tape to junction; as per HL Detail 40 Drawing Nr. 3105 (200 × 530mm glulam beam to 160mm CLT deck)	73	nr		
H	^^^anchoring base of CLT wall panel down with M20 threaded rod bars, 800mm long, drilled into and bonded to CLT wall panel with epoxy resin mortar, at 600mm c/c; as per HL Detail 19 Drawing Nr. 3102 (CLT wall panel base hold-down anchorage)	64	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^dead-load support bracket to head of vertical timber post: L-bracket fixed to timber post head and fixed back to CLT substrate, to transfer post dead load into the CLT; 250 x 120 mm bracket, gauge and fixings to specialist; part of structural timber (glulam/CLT) works; as per legend Item 97 Drawing OCM-AR-5604 (dead-load timber post L-bracket to CLT parapet)	50	nr		
B	^^^Rothoblaas ALUMINI 215 or equivalent, concealed aluminium connector fixing 160mm CLT floor panel to top of 200 × 780mm glulam beam, 215mm high extruded aluminium-alloy concealed connector to ETA 09/0361, fixed with proprietary LBS screws / SBD self-drilling dowels to manufacturer's detail; one at each frame location from gridline Z9–Z12 ; as per HL Detail 66 Drawing Nr. 3107 (CLT floor panel to 200 × 780mm glulam beam)	4	nr		
C	Proprietary interlocking channel profile connecting 160mm CLT floor panel to 200 × 1810mm glulam beam; profile, material, section and fixings to specialist/manufacturer's detail; as per HL Detail 66 Drawing Nr. 3107 (CLT floor panel to 200 × 1810mm glulam beam)	13	m		
	STRUCTURAL:				
	Steelwork				
	Please note that all junctions between steel and concrete beams, columns etc are to be included within the rates hereunder this is a departure from ARM 4				
	The following shall be fabricated steel Grade S355 JR to BS EN 10025-2 hot rolled sections and plates; all joints v-butt welded, prepared and ground flush; include for all site welding and adjustments; include for all site fixing, forming mortice and all necessary bolts, all as per Engineers Specification for Structural Steelwork.				
	Fabricated members; stancions; < or = to 50 kg/m member profile.				
D	^^^254 x 146 x 31 kg/m UB (C16)	0.41	t		
E	^^^203 x 203 x 46 kg/m UC (C17)	1.42	t		
	Fabricated members; stancions; > 50 < or = to 100 kg/m member profile.				
F	^^^203 x 203 x 52 kg/m UC (C3)	13.26	t		
G	^^^203 x 203 x 86 kg/m UC (C4)	14.84	t		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^254 x 254 x 73 kg/m UC (C5)	25.43	t		
B	^^^254 x 254 x 89 kg/m UC (C6)	3.47	t		
C	^^^305 x 305 x 97 kg/m UC (C7)	4.51	t		
	Fabricated members; stancions; > 100 < or = to 200 kg/m member profile.				
D	^^^305 x 305 x 118 kg/m UC (C8)	3.96	t		
E	^^^305 x 305 x 198 kg/m UC (C9)	12.37	t		
F	^^^254 x 254 x 167 kg/m UC (C18)	3.02	t		
G	^^^356 x 368 x 129 kg/m UB (C19)	0.75	t		
	Fabricated members; stancions; > 200 < or = to 300 kg/m member profile.				
H	^^^356 x 368 x 202 kg/m UB (C20)	2.06	t		
	Fabricated members; beams; < or = to 25 kg/m member profile.				
J	^^^457 x 102 x 23 kg/m UB (B1)	3.02	t		
K	^^^203 x 103 x 23 kg/m UB (B2)	9.50	t		
L	^^^203 x 103 x 23 kg/m UB (B2 - Existing Arena Roof as per HL Drawing Nr. 4013)	0.25	t		
M	^^^254 x 102 x 25 kg/m UB (B12)	2.31	t		
N	^^^178 x 102 x 19 kg/m UB (B16)	0.47	t		
P	^^^203 x 133 x 25 kg/m UB (B36)	0.20	t		
	Fabricated members; beams; > 25 < or = to 50 kg/m member profile.				
Q	^^^305 x 165 x 46 kg/m UB (B4)	1.36	t		
R	^^^254 x 146 x 31 kg/m UB (B9)	0.31	t		
S	^^^305 x 165 x 40 kg/m UB (B10)	0.75	t		
T	^^^254 x 146 x 37 kg/m UB (B17)	0.40	t		
U	^^^305 x 127 x 37 kg/m UB (B24)	0.13	t		
V	^^^305 x 165 x 40 kg/m UB (B25)	0.15	t		
W	^^^254 x 146 x 31 kg/m UB (B26)	3.16	t		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^254 x 146 x 31 kg/m UB (B26 - Existing Arena Roof as per HL Drawing Nr. 4013)	0.30	t		
B	^^^305 x 102 x 28 kg/m UB (B34)	0.11	t		
C	^^^203 x 133 x 30 kg/m UB (B35)	4.82	t		
D	^^^203 x 203 x 46 kg/m UC (B45)	7.90	t		
	Fabricated members; beams; > 50 < or = to 100 kg/m member profile.				
E	^^^356 x 171 x 57 kg/m UB (B3)	0.35	t		
F	^^^457 x 152 x 60 kg/m UB (B7)	0.87	t		
G	^^^533 x 165 x 74 kg/m UB (B8)	0.79	t		
H	^^^457 x 191 x 98 kg/m UB (B11)	4.11	t		
J	^^^203 x 203 x 86 kg/m UB (B27)	1.67	t		
K	^^^457 x 152 x 67 kg/m UB (B30)	2.24	t		
L	^^^406 x 178 x 60 kg/m UB (B31)	0.51	t		
M	^^^533 x 210 x 92 kg/m UB (B40)	3.52	t		
N	^^^356 x 171 x 51 kg/m UB (B41)	0.47	t		
P	^^^406 x 178 x 67 kg/m UB (B42)	0.92	t		
Q	^^^457 x 191 x 74 kg/m UB (B44)	78.47	t		
R	^^^203 x 203 x 60 kg/m UC (B37)	0.56	t		
S	^^^254 x 254 x 73 kg/m UC (B46)	0.50	t		
T	^^^203 x 203 x 52 kg/m UC (Auditorium seats as per HL Drawing Nr. 1100)	1.47	t		
U	^^^203 x 203 x 52 kg/m UC, raking / cranked (Auditorium seats as per HL Drawing Nr. 1100)	1.46	t		
	Fabricated members; beams; > 100 < or = to 200 kg/m member profile.				
V	^^^533 x 210 x 109 kg/m UB (B5)	1.37	t		
W	^^^457 x 191 x 106 kg/m UB (B6)	15.67	t		
X	^^^762 x 267 x 197 kg/m UB (B15)	7.55	t		
Y	^^^610 x 229 x 140 kg/m UB (B19)	0.80	t		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^533 x 312 x 150 kg/m UBK (B20)	1.89	t		
B	^^^533 x 210 x 122 kg/m UB (B21)	7.72	t		
C	^^^686 x 254 x 125 kg/m UB (B23)	1.90	t		
D	^^^305 x 305 x 158 kg/m UB (B29)	3.37	t		
E	^^^457 x 191 x 161 kg/m UB (B47)	1.56	t		
F	^^^533 x 312 x 182 kg/m UB (B48)	2.33	t		
G	^^^254 x 254 x 130 kg/m UC (B32)	1.45	t		
H	^^^254 x 254 x 107 kg/m UC (B33)	1.21	t		
	Fabricated members; beams; > 200 < or = to 300 kg/m member profile.				
J	^^^610 x 305 x 238 kg/m UB (B18)	40.61	t		
K	^^^356 x 368 x 202 kg/m UB (B28)	3.11	t		
L	^^^305 x 605 x 240 kg/m UC (B22)	6.52	t		
	Fabricated members; square hollow sections; < or = to 25 kg/m member profile.				
M	^^^50 x 50 x 6.3 x 8.31 kg/m SHS (gantry)	0.92	t		
	Fabricated members; square hollow sections; > 25 < or = to 50 kg/m member profile.				
N	^^^200 x 200 x 5 x 30.4 kg/m SHS (B43)	2.22	t		
P	^^^200 x 200 x 10 x 58.8 kg/m SHS (B50)	0.17	t		
Q	^^^150 x 150 x 16 x 65.2 kg/m SHS (B56)	3.30	t		
	Fabricated members; square hollow sections; > 50 < or = to 100 kg/m member profile.				
R	^^^100 x 100 x 10 x 27.4 kg/m SHS (C23)	0.09	t		
S	^^^100 x 100 x 10 x 27.4 kg/m SHS (roller door support as per OMC Drawing Nr. 5627)	0.18	t		
T	^^^100 x 100 x 6.3 x 18.2 kg/m SHS (B52)	1.61	t		
U	^^^120 x 120 x 6.3 x 22.2 kg/m SHS (B54)	0.70	t		
	Fabricated members; rectangular hollow sections; < or = to 25 kg/m member profile.				
V	^^^200 x 100 x 5 x 22.6 kg/m RHS (C12)	0.07	t		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^160 x 80 x 6.3 x 22.2 kg/m RHS (B51)	0.17	t		
	Fabricated members; rectangular hollow sections; > 25 < or = to 50 kg/m member profile.				
B	^^^250 x 150 x 5 x 30.4 kg/ RHS (C13)	0.44	t		
	Fabricated members; rectangular hollow sections; > 50 < or = to 100 kg/m member profile.				
C	^^^250 x 150 x 10 x 51 kg/ RHS (C14)	1.03	t		
D	^^^400 x 200 x 6.3 x 57.8 kg/m RHS (B13)	4.97	t		
	Fabricated members; rectangular hollow sections; > 100 < or = to 200 kg/m member profile.				
E	^^^400 x 200 x 12.5 x 112 kg/ RHS (C15)	4.69	t		
F	^^^400 x 200 x 12.5 x 112 kg/m RHS (B14)	11.31	t		
	Fabricated members; channels; < or = to 25 kg/m member profile.				
G	^^^100 x 50 x 10 kg/m PFC (B38) - duct penetration as per Architects Drawing Nr. 5622 including secondary support steel between main steel	1.87	t		
H	^^^100 x 50 x 10 kg/m PFC (B38) - rooflights	0.78	t		
J	^^^125 x 65 x 15 kg/m PFC (C10) - rooflights	2.72	t		
K	^^^125 x 65 x 15 kg/m PFC (B39) - rooflights	2.00	t		
L	^^^125 x 65 x 15 kg/m PFC (gantry)	1.85	t		
M	^^^150 x 75 x 18 kg/m PFC (C11)	0.04	t		
	Fabricated members; channels; > 25 < or = to 50 kg/m member profile.				
N	^^^200 x 90 x 30 kg/m PFC (C2)	6.45	t		
P	^^^200 x 90 x 30 kg/m PFC (B49)	6.38	t		
Q	^^^300 x 90 x 41 kg/m PFC (B58)	0.21	t		
	Fabricated members; circular hollow sections; < or = to 25 kg/m member profile.				
R	^^^139.7 x 5 x 16.6 kg/m CHS (C32)	0.09	t		
S	^^^114.3 x 4 x 10.9 kg/m CHS (B53)	0.43	t		
T	^^^139.7 x 6.3 x 20.7 kg/m CHS (B57) - bracing	0.93	t		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Fabricated members; circular hollow sections; > 25 < or = to 50 kg/m member profile.				
A	^^^139.7 x 8 x 26 kg/m CHS (B55)	0.28	t		
	Fabricated members; circular hollow sections; > 50 < or = to 100 kg/m member profile.				
B	^^^273 x 12.5 x 80.3 kg/m CHS (C1)	9.75	t		
	Fabricated members; plates; < or = to 25 kg/m member profile.				
C	^^^150 x 10mm x 11.78 kg/m flat plate bracing	1.29	t		
D	^^^203 x 10mm x 15.94 kg/m flat plate and stiffener welded to raker beams to support timber joists (Auditorium seats as per HL Drawing Nr. 1100)	0.47	t		
E	^^^254 x 10mm x 19.94 kg/m flat plate and support plate for fire curtains welded to steel columns (as per OCM Drawing Nr. 9250)	2.46	t		
	Fabricated members; angles; < or = to 25 kg/m member profile.				
F	^^^100 x 75 x 10 x 17 kg/m UA, with 170 x 5mm plate welded to angle (planter support as per OCM Drawing Nr. 5609)	0.13	t		
G	^^^100 x 100 x 10 x 15 kg/m EA (roller door support as per OMC Drawing Nr. 5627)	0.26	t		
H	^^^120 x 120 x 10 x 18.2 kg/m EA, bolted to RC wall with Hilt HIT-HY-200--A-V3+HAS-U 8.8 chemical anchors with a minimum effective embedment of 100mm at 200mm c/c (glazing support as per OMC Drawing Nr. 5608)	0.28	t		
J	^^^150 x 150 x 10 x 23 kg/m EA (bolted to RC wall with Hilt HIT-HY-200--A-V3+HAS-U 8.8 chemical anchors with a minimum effective embedment of 100mm at 200mm c/c)	0.22	t		
	Fabricated members; fittings to the above				
K	Fittings includes caps, bases, haunches, gussets, end plates, splice plates, cleats, brackets, stiffeners, distance pieces and the like as required.	48.22	t		
	<u>Cold rolled members</u>				

	Description	Qty	Unit	Rate	Amount
	Cold-rolled steel cladding rails/purlins with proprietary bolt-on rail cleats and fixings connecting the rail system to the primary structure. Cold-formed sections to SE-0007 cl.2.5 (BS 1449 / BS 2994). Rail spacing, cleat type/depth, base plate thickness and fixing count Contractor-designed to suit imposed wind load, rail span and deflection limits, with connection forces per Horgan Lynch drawings; secondary steel and all steel-to-steel connections are a Contractor Designed item per Preliminaries Appendix 23, and cladding rails a pre-order package per SE-0008 (supplier details, DoPs and connection details submitted). External sections blast-cleaned SA 2.5 and hot-dip galvanised to BS EN ISO 1461 per cl.2.6.1.				
	Cold rolled members; purlins / cladding rails; < or = to 10 kg/m				
A	^^^M265/065/270 multi beam purlins (@ 1200 c/c); with tie holes - roof purlins (Main Building)	1694	m		
B	^^^M265/065/200 multi beam purlins (@ 1200 c/c); with tie holes - roof purlins (Main Building)	37	m		
C	^^^M205/065/200 multi beam purlins (@ 1200 c/c); with tie holes - wall rails (Main Building)	1559	m		
D	^^^Cleats bolted to structural steel with 2no. M12 HSA anchors include for all necessary drilling (S.R.) to wall rails	662	nr		
E	^^^Cleats bolted to structural steel with 2no. M12 HSA anchors include for all necessary drilling (S.R.) to roof purlins	415	nr		
F	^^^tubular struts fixed horizontally between pulins in roof	435	m		
G	^^^tubular struts fixed vertically between cladding rails in walls	294	m		
H	^^^diagonal tie wire; fixed through cladding rails in roof.	154	m		
J	^^^diagonal tie wire; fixed through cladding rails in walls.	191	m		

	Description	Qty	Unit	Rate	Amount
	Wire, Cables, Rods and Bars				
A	Headed welded shear studs (shear connectors) to top flange of primary composite steel beams; complying with BS EN ISO 13918; 19mm stud diameter at 600mm c/c and as-welded length to steelwork fabrication/detail drawings; welded in accordance with Structural Steelwork Specification SE-0007 cl.2.3 (BS EN 1011 Pts 1&2, BS EN 499 consumables; low-hydrogen electrodes to grade S355)	1721	nr		
	Protective coatings				
B	Surface treatment off site; shot blast and cleaning to remove all traces of loose rust, grit etc to BS 7079 Part A1 (SA 2.5), and apply one coat high build two pack epoxy zinc phosphate modified alkyd primer to B.S.5493 standard SF6, to NDFT 40 microns and apply 2 to 3 coats high build two pack epoxy of micaceous oxiode to NDFT 200 microns by airless spray to structural steelwork as per Engineers Specification for Structural Steelwork.	434.01	t		
C	^^^^^^EXTRA OVER for being White Ral colour	434.01	t		
D	^^^^^^EXTRA OVER last for galvanising in accordance with BS EN ISO 1461 with a minimum coating of 610 g/m2; all to the satisfaction of the Engineers Specification for Structural Steelwork.	1.00	t		
E	^^^^^^EXTRA OVER for Intumescent coating system for fire protection of structural steelwork; visible internal steelwork; off-site application of 3-layer system, achieving 60 minutes fire resistance to BS 476-21; steel blast cleaned to Sa2½ (BS EN ISO 8501-1) with 50–75 micron profile, corrosion protection class C4 and primer to 75 micron DFT (BS EN ISO 12944-5) by steelwork contractor (measured separately); proprietary intumescent basecoat applied to the dry film thickness required for each section factor (Hp/A) per the manufacturer's loading tables, high decorative finish (M61/460), RAL colour (allow 10no. shades of grey); top sealer coat to RAL colour (allow 20no. colour options), high decorative finish (M61/460); applied by a certified intumescent coating specialist who warranties and certifies each member, with independent third-party validation; including local reinstatement of coating to connections and areas exposed/damaged after erection (M61/520); all to OCM specification clause M61/160 and the manufacturer's certification.	277.53	t		
	Bolts				

	Description	Qty	Unit	Rate	Amount
	"Hilti" or equally approved expanding anchor bolts; include for bolting up on completion.				
A	^^^M20 HVU chemical anchor bolts with grade 8.8 M20 HAS rod (C2 as per Engineers Detail D17)	34	nr		
	Holding down bolt assemblies.				
B	Cast in holding down bolt arrangement consisting of 4 nr. M20 grade 8.8 hot dipped spun galvanised 400mm long; 2 nr. 400 x 150 x 15mm flat anchorage plates; having bolts set through angle and surround with 4nr. 40mm diameter uPVC grouting sleeves; include for all necessary placing and aligning; all per detail BP1 (C4) on Engineer Drawing Nr. 4000	17	nr		
C	Cast in holding down bolt arrangement consisting of 4 nr. M20 grade 8.8 hot dipped spun galvanised 400mm long; 2 nr. 425 x 150 x 15mm flat anchorage plates; having bolts set through angle and surround with 4nr. 40mm diameter uPVC grouting sleeves; include for all necessary placing and aligning; all per detail BP2 (C5 & C6) on Engineer Drawing Nr. 4000	41	nr		
D	Cast in holding down bolt arrangement consisting of 4 nr. M20 grade 8.8 hot dipped spun galvanised 400mm long; 2 nr. 350 x 150 x 15mm flat anchorage plates; having bolts set through angle and surround with 4nr. 40mm diameter uPVC grouting sleeves; include for all necessary placing and aligning; all per detail BP3 & 4 (C3) on Engineer Drawing Nr. 4000	14	nr		
E	Cast in holding down bolt arrangement consisting of 4 nr. M20 grade 8.8 hot dipped spun galvanised 400mm long; 2 nr. 500 x 150 x 15mm flat anchorage plates; having bolts set through angle and surround with 4nr. 40mm diameter uPVC grouting sleeves; include for all necessary placing and aligning; all per detail BP5 (C7) on Engineer Drawing Nr. 4000	5	nr		
F	Cast in holding down bolt arrangement consisting of 4 nr. M20 grade 8.8 hot dipped spun galvanised 400mm long; 2 nr. 550 x 150 x 15mm flat anchorage plates; having bolts set through angle and surround with 4nr. 40mm diameter uPVC grouting sleeves; include for all necessary placing and aligning; all per detail BP6 (C8 & C9) on Engineer Drawing Nr. 4000	7	nr		
G	Cast in holding down bolt arrangement consisting of 4 nr. M20 grade 8.8 hot dipped spun galvanised 400mm long; 2 nr. 425 x 150 x 15mm flat anchorage plates; having bolts set through angle and surround with 4nr. 40mm diameter uPVC grouting sleeves; include for all necessary placing and aligning; all per detail BP7 (C1) on Engineer Drawing Nr. 4000	9	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Cast in holding down bolt arrangement consisting of 4 nr. M20 grade 8.8 hot dipped spun galvanised 400mm long; 2 nr. 425 x 150 x 15mm flat anchorage plates; having bolts set through angle and surround with 4nr. 40mm diameter uPVC grouting sleeves; include for all necessary placing and aligning; all per detail BP7 (C32) on Engineer Drawing Nr. 4000	2	nr		
	Sundries				
	Shimming and grouting.				
B	^^^Grout under 400 x 400mm 15mm thick base plates with 25 mm thick non shrink grout; include for all necessary formwork etc. (BP1 as per Engineers Drawing Nr. 4000)	17	nr		
C	^^^Grout under 425 x 425mm 15mm thick base plates with 25 mm thick non shrink grout; include for all necessary formwork etc. (BP2 as per Engineers Drawing Nr. 4000)	41	nr		
D	^^^Grout under 350 x 350mm 15/20mm thick base plates with 25 mm thick non shrink grout; include for all necessary formwork etc. (BP3 & 4 as per Engineers Drawing Nr. 4000)	14	nr		
E	^^^Grout under 500 x 500mm 15mm thick base plates with 25 mm thick non shrink grout; include for all necessary formwork etc. (BP5 as per Engineers Drawing Nr. 4000)	5	nr		
F	^^^Grout under 550 x 550mm 25mm thick base plates with 25 mm thick non shrink grout; include for all necessary formwork etc. (BP6 as per Engineers Drawing Nr. 4000)	7	nr		
G	^^^Grout under 425 x 425mm 15mm thick base plates with 25 mm thick non shrink grout; include for all necessary formwork etc. (BP7 as per Engineers Drawing Nr. 4000)	11	nr		
	Drilling / forming holes in other construction for fixings.				
H	^^^21 mm diameter for M20 bolts; 300 mm deep into reinforced in-situ concrete; including for all necessary grouting and resin.	34	nr		

	Description	Qty	Unit	Rate	Amount
	PAINTING AND DECORATING:				
	Painting				
	Clean and apply intumescent coating system for fire protection of structural steelwork; concealed/non-visible internal locations; on-site application of 3-layer system (primer by steelwork contractor / proprietary water-based intumescent basecoat / top sealer coat), achieving 60 minutes fire resistance to BS 476-21; intumescent applied in sufficient coats to the dry film thickness required for each section factor (Hp/A) per the manufacturers current published loading tables; basic finish (M61/440); top sealer colour grey; bolt heads/nuts protected as main steelwork; surface preparation and priming by steelwork contractor (measured separately); applied by a certified intumescent coating specialist who warranties and certifies each member, Engineer present at DFT checks, with independent third-party validation of applied thickness; system independently tested/certified to BS 476 Pt 20-21 and ASFP Yellow Book; all to OCM specification clause M61/110 and the manufacturer's certification.				
	Structural metalwork				
A	^^^general surfaces; girth > 300 mm girth	26	m2		

Description	Qty	Unit	Rate	Amount
COLLECTION				
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Description	Qty	Unit	Rate	Amount
COLLECTION				
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(23) FLOORS AND GALLERIES & (28) FRAME Carried to Summary				

	Description	Qty	Unit	Rate	Amount
	(24) STAIRS, RAMPS				
	(24) STAIRS, RAMPS				
	CONCRETE WORK:				
	In - Situ Concrete				
	Reinforced in-situ concrete, grade C32/40 to IS EN 206, exposure class XC1, with 50% GGBS content; Mix A in accordance with Engineer's Specifications SE-0004 and SE-0005; placed between formwork and well vibrated around reinforcement in:				
	Screed				
A	^^^< or = 150mm (precast landings)	1	m3		
B	^^^reinforced, including associated steps, strings and landings (Internal Stairs to Studio 1 & 2 Level 1)	7	m3		
C	^^^reinforced, including associated steps, strings and landings (Internal Stairs to plantroom Level 2)	2	m3		
	Reinforced in-situ concrete, grade C40/50 to IS EN 206, exposure class XF3, with 50% GGBS content; Mix B in accordance with Engineer's Specifications SE-0004 and SE-0005; placed between formwork and well vibrated around reinforcement in:				
	Staircases				
D	^^^reinforced, including associated steps, strings and landings (North Externals Stairs - pedestrian stairs)	12	m3		
E	^^^reinforced, including associated steps, strings and landings (North Externals Stairs - planter stairs)	25	m3		
F	^^^reinforced, including associated steps, strings and landings (South Externals Stairs - pedestrian stairs)	14	m3		
	Upstands				
G	^^^< or = to 0.10m2 (planter)	1	m3		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Reinforced, in-situ cementitious wearing screed to external steps; C40 concrete screed to BS EN 206-1 and BS 8500-2; minimum 100 mm depth; laid over polyethylene separating sheet, on in-situ concrete slab substrate with tanking as J30-130 (concrete substrate, polythene and tanking measured elsewhere); screed fully bonded to treads, risers and landings as clause M10-382; risers formed using fine finish formwork; bay joints discreet at base of each step, maximum bay area 20 m2, length:breadth ratio not exceeding 3:2; screeding and compaction in two layers (each approximately equal), lower layer roughened prior to upper; surfaces maintained above 5°C for minimum four days after laying; design life 70 years; all as specification M10-180 and general conditions M10-205 to M10-700.				
	Screeds (North Stairs)				
A	^^^< or = to 150mm (100mm thick to landings)	4	m3		
B	^^^< or = to 150mm (100mm thick to 300mm wide treads)	3	m3		
C	^^^< or = to 150mm (100mm thick to 900mm wide treads)	5	m3		
D	^^^< or = to 150mm (100mm thick to 150mm high risers)	2	m3		
E	^^^< or = to 150mm (100mm thick to 450mm high risers)	4	m3		
F	^^^< or = to 150mm (100mm thick to 450mm high planters upstand)	1	m3		
G	^^^< or = to 150mm (100mm thick to walls)	2	m3		
H	^^^> 150mm (200mm thick to walls)	2	m3		
	Screeds (South Stairs)				
J	^^^< or = to 150mm (100mm thick to landings)	2	m3		
K	^^^< or = to 150mm (100mm thick to 300mm wide treads)	3	m3		
L	^^^< or = to 150mm (100mm thick to 150mm high risers)	2	m3		
M	^^^< or = to 150mm (100mm thick to walls)	1	m3		
N	^^^> 150mm (200mm thick to walls)	2	m3		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Sundries				
	Designed joints				
	Formed sawn crack -inducing joint to concrete screed, Saw-cut grooves to 30% of screed depth, 3–4 mm wide; sawn between 6–12 hours after placing; grooves cleaned and filled with sheet joint filler and sealant; as per Architects Specification E40/260				
A	^^^depth < or = to 150mm (External stairs concrete screeds)	25	m		
	Sealant movement joint with metal edging to external C40 screed; stainless steel angle 100 × 100 × 5 mm; bedded in 1:3 cement:sand mortar; centred over joints in substrate; set to exact finished level; fixed with stainless steel screws at 600 mm centres; joint width to manufacturer's standard; sealant to joints as Z22; colour to manufacturer's standard range; as per OCM Specification M10-468.				
B	^^^depth < or = to 150mm (External stairs concrete screed - top of planters & edge of exposed steps)	25	m		
	10 mm wide rib dowel bars to corners of unbonded C40 concrete screed; supply and fix at all internal and external corners of step treads, risers and upstands; as per OCM Specification M10-180 cl.6				
C	^^^				
	Surface finishes				
D	^^^trowelling (Internal precast landings)	11	m2		
E	^^^trowelling (Internal Stairs to Studio 1 & 2 Level 1)	15	m2		
F	^^^trowelling (Internal Stairs to plantroom Level 2)	8	m2		
G	^^^trowelling (North Externals Stairs - pedestrian stairs treads and landings)	38	m2		
H	^^^trowelling (North Externals Stairs - planter stairs treads)	71	m2		
J	^^^trowelling (South Externals Stairs - pedestrian stairs treads and landings)	43	m2		
K	^^^trowelliing (North Stairs - 300mm treads)	28	m2		
L	^^^trowelling (North Stairs - 900mm treads)	47	m2		
M	^^^trowelling (North Stairs - landings)	33	m2		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^trowelling (South Stairs - 300mm treads)	30	m2		
B	^^^trowelling (South Stairs - landings)	14	m2		
	Reinforcement				
	Reinforcement bars; high yield type 2 deformed steel bars BS 4449				
	Spacers and chairs at contractors discretion				
	Staircases (kg/m3 as per Engineers Structural Concrete Particular Specification)				
	Bar; straight or bent				
C	^^^nominal size > 12 < or = to 25 mm diameter	18.00	t		
	Upstands (kg/m3 as per Engineers Structural Concrete Particular Specification)				
	Bar; straight or bent				
D	^^^nominal size > 12 < or = to 25 mm diameter		t		
	Reinforcement fabric; BS 4483; hard drawn mild steel wire to BS 4482 on spacers				
	Fabric; reference A142 (2.22 kg/m2); 450mm side and end laps				
E	^^^horizontal (precast landings)	11	m2		
	Fabric; reference A252 (3.95 kg/m2); 450mm side and end laps				
F	^^^horizontal (North Stairs - 300mm treads)	28	m2		
G	^^^horizontal (North Stairs - 900mm treads)	47	m2		
H	^^^vertical (North Stairs - 150mm risers)	15	m2		
J	^^^vertical (North Stairs - 450mm risers)	32	m2		
K	^^^horizontal (North Stairs - landings)	33	m2		
L	^^^vertical (North Stairs - 450mm high planters wall)	11	m2		
M	^^^vertical (North Stairs - walls)	20	m2		
N	^^^horizontal (South Stairs - 300mm treads)	30	m2		
P	^^^vertical (South Stairs - 150mm risers)	17	m2		
Q	^^^horizontal (South Stairs - landings)	14	m2		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^vertical (South Stairs - walls)	13	m2		
	Formwork				
	Formwork surface finish to concrete; Type "Plain" finish as defined in Section 1.9 of the National Structural Concrete Specification (NSCS) 4th edition as Architects Specification				
	Edges of screed				
B	^^^< or = 250mm (Internal precast landings)	27	m		
	Edges of suspended slab and landings				
C	^^^height > 250 < or = to 500mm (North Externals in-situ Stairs - pedestrian stairs)	15	m		
D	^^^height > 250 < or = to 500mm (North Externals in-situ Stairs - planter stairs)	35	m		
E	^^^height > 250 < or = to 500mm (South Externals in-situ Stairs - pedestrian stairs)	17	m		
	Stairsflights including soffits, risers and strings				
F	^^^stairs flights (4nr), 2500mm wide, 250mm thick waist, 300mm treads, 150mm high risers (measure nosing to nosing of each flight - North Externals in-situ Stairs - pedestrian stairs)	12	m		
G	^^^stairs flights (4nr), 4800mm wide, 250mm thick waist, 900mm treads, 450mm high risers (measure nosing to nosing of each flight - North Externals in-situ Stairs - planter stairs)	11	m		
H	^^^stairs flights (1nr), 1725/2025mm wide, 250mm thick waist, 300mm treads, 150mm high risers (measure nosing to nosing of each flight - South Externals in-situ Stairs - pedestrian stairs)	3	m		
J	^^^stairs flights (1nr), 2300/2650mm wide, 250mm thick waist, 300mm treads, 150mm high risers (measure nosing to nosing of each flight - South Externals in-situ Stairs - pedestrian stairs)	3	m		
K	^^^stairs flights (1nr), 2900/3325mm wide, 250mm thick waist, 300mm treads, 150mm high risers (measure nosing to nosing of each flight - South Externals in-situ Stairs - pedestrian stairs)	3	m		
L	^^^stairs flights (1nr), 3525/3900mm wide, 250mm thick waist, 300mm treads, 150mm high risers (measure nosing to nosing of each flight - South Externals in-situ Stairs - pedestrian stairs)	3	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Soffit of landings				
A	^^^soffit height < or = 4.00 m (North Externals in-situ Stairs - pedestrian stairs)	14	m2		
B	^^^soffit height < or = 4.00 m (North Externals in-situ Stairs - planter stairs)	22	m2		
C	^^^soffit height < or = 4.00 m (South Externals in-situ Stairs - pedestrian stairs)	16	m2		
	Formwork surface finish to concrete; Type "Special" classification as defined in Section 8.6 of the National Structural Concrete Specification (NSCS) 4th edition as Architects Specification 03 33 00 & AFC -101				
	Stairsflights including soffits, risers and strings				
D	^^^stairs flights (1nr), 2950/2450mm wide, 250mm thick waist, 300mm treads, 150mm high risers (measure nosing to nosing of each flight - Internal Stairs to Studio 1 & 2 Level 1)	4	m		
E	^^^stairs flights (1nr), 600mm wide, 250mm thick waist, 600mm treads, 300mm high risers (measure nosing to nosing of each flight - Internal Stairs to Studio 1 & 2 Level 1)	4	m		
F	^^^stairs flights (1nr), 3350/3100mm wide, 250mm thick waist, 300mm treads, 150mm high risers (measure nosing to nosing of each flight - Internal Stairs to plantroom Level 2)	3	m		
	Edges of suspended slab and landings				
G	^^^height > 250 < or = to 500mm (North Externals Stairs - screed to pedestrian stairs)	15	m		
H	^^^height > 250 < or = to 500mm (North Externals Stairs - screed to planter stairs)	35	m		
J	^^^height > 250 < or = to 500mm (South Externals Stairs - screed pedestrian stairs)	17	m		
	Sides of upstands				
K	^^^height, > 250 < or = to 500mm (North Stairs - 450mm high planter walls)	25	m		
L	^^^height > 500mm (North Stairs - screed to walls)	20	m2		
M	^^^height > 500mm (South Stairs - screed to walls)	13	m2		
	Sides of treads				

	Description	Qty	Unit	Rate	Amount
A	^^^height < or = to 250mm (North Stairs - screed to 150mm risers)	98	m		
B	^^^height, > 250 < or = to 500mm (North Stairs - screed to 450mm risers)	71	m		
C	^^^height < or = to 250mm (South Stairs - screed to 150mm risers)	111	m		
	Extra on any of the foregoing formwork categories for:				
D	^^^50 x 50mm chamfer to concrete screed landings and steps as per Detail 2 Architects Drawing Nr. 5608 (North Stairs)	52	m		
E	^^^50 x 50mm chamfer to concrete screed landings and steps as per Detail 2 Architects Drawing Nr. 5608 (South Stairs)	43	m		
F	^^^100 x 100mm chamfer to concrete screed landings and steps as per Detail 2 Architects Drawing Nr. 5608 (South Stairs)	2	m		
G	^^^100 x 100mm chamfer to concrete screed landings and steps as per Detail 2 Architects Drawing Nr. 5608 (North Stairs)	4	m		
H	^^^20 x 20mm chamfer to exposed wall corners	20	m		
J	^^^forming 55 x 10mm cast-in rebate to leading edge of each step tread in unbonded C40 screed (M10/180) to receive rubber nosing as L30-590; rebate accurately formed to nosing manufacturer's dimensions; allow for temporary formwork or proprietary former as required to achieve true arris	278	m		
	Precast Concrete / Composite Construction				
	Prestressed precast concrete components; stairs and landings: to be supplied by an approved supplier; include for all necessary support angles; hoisting, placing and propping into position and the like; bedding ends in sand cement mortar; to the satisfaction of the Engineer and the design intent on the Architects Drawings				
	Main Stairs (Stairs 1)				
	Staircase flights				
K	1500 mm wide; 160mm waist; in 1 nr stairflights (27 degree pitch), with 5 nr risers 150 mm high with a going of 300mm wide; junction with wall one side; include for grouting / filling at joints and ends of units; and all necessary formwork; all as per the manufacturers instructions (Level 0 to 1).	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	1500 mm wide; 160mm waist; in 1 nr stairflights (27 degree pitch), with 8 nr risers 150 mm high with a going of 300mm wide; junction with wall one side; include for grouting / filling at joints and ends of units; and all necessary formwork; all as per the manufacturers instructions (Level 0 to 1).	1	nr		
B	1500 mm wide; 160mm waist; in 1 nr stairflights (27 degree pitch), with 11 nr risers 150 mm high with a going of 300mm wide; junction with wall one side; include for grouting / filling at joints and ends of units; and all necessary formwork; all as per the manufacturers instructions (Level 0 to 1).	1	nr		
C	Quarter landings approximate size 1800 x 1500 x 200 mm thick (area exposed on plan; additional bearing area to be included within rates as recommended by the precast concrete manufacturer, subject to the Structural Engineers approval); include for grouting / filling at joints and ends of units; and all necessary formwork; all as per the manufacturers instructions (intermediate landing at level 0 to 1).	2	nr		
D	1500 mm wide; 160mm waist; in 1 nr stairflights (27 degree pitch), with 11 nr risers 150 mm high with a going of 300mm wide; junction with wall one side; include for grouting / filling at joints and ends of units; and all necessary formwork; all as per the manufacturers instructions (Level 1 to 2).	2	nr		
E	1500 mm wide; 160mm waist; in 1 nr stairflights (27 degree pitch), with 5 nr risers 150 mm high with a going of 300mm wide; junction with wall one side; include for grouting / filling at joints and ends of units; and all necessary formwork; all as per the manufacturers instructions (Level 1 to 2).	1	nr		
F	Quarter landings approximate size 1800 x 1500 x 200 mm thick (area exposed on plan; additional bearing area to be included within rates as recommended by the precast concrete manufacturer, subject to the Structural Engineers approval); include for grouting / filling at joints and ends of units; and all necessary formwork; all as per the manufacturers instructions (intermediate landing at level 1 to 2).	2	nr		
	Gallery Stairs				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Staircase flights				
A	2725 mm wide; 160mm waist; in 1 nr stairflights (27 degree pitch), with 6 nr risers 150 mm high with a going of 300mm wide; junction with wall one side; include for grouting / filling at joints and ends of units; and all necessary formwork; all as per the manufacturers instructions (measured from ground floor level (Level 1).	1	nr		
	Fixings				
B	Grout and fix base of precast concrete stairs to in-situ concrete ground floor slab with 2 Nr T16 dowel bars 250 mm long; dowels anchored into floor slab with HIT-HY 150 injection mortar and grout in position with 10 mm thick 5 star non shrink grout; allow for 2 nr 22 mm diameter holes to be drilled into the base of the precast concrete stairs off site by the precast manufacturer; all to the satisfaction of the Engineer	1	nr		
	Precast decorative treads to Lobby Stairs				
	Precast decorative stair treads and landings; high-strength concrete with exposed aggregate finish (decorative); cast-in integral non-slip nosing of mill finish aluminium with pre-bonded carborundum insert, 55 x 55mm square profile, min. 55mm wide at leading edge; open riser; slip resistance of tread min. PTV 79 (wet) and nosing min. PTV 79 (wet) to BS 7976; fixed to steel support plate on structural stringers with 5mm epoxy adhesive for fixing precast concrete stair treads to 10mm steel plates with a two-component, 100% solids, high-strength structural epoxy mortar, moisture tolerant and suitable for bonding concrete to primed steel under site conditions; to Foyer entrance stair; as per Architects Specification L30 and Drawing Nr. 9001				
C	^^^size 1600 x 300 x 40mm thick treads, with 35 x 25mm lipping to 3 sides, as per Architects Drawing Nr. 9001	21	nr		
D	^^^aprox size 1950 x 1950 x 40mm thick landings (cut to suit landing shape), with 35 x 25mm lipping to 4 sides, as per Architects Drawing Nr. 9001	2	nr		
E	^^^aprox size 2465 x 1600 x 40mm thick landings (cut to suit landing shape), with 35 x 25mm lipping to 4 sides, as per Architects Drawing Nr. 9001	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	ROOFING CLADDING AND WATERPROOFING				
	Mastic Asphalt, Waterproof and Gas Proof Non Metal Flexible Sheet Coverings				
	Polythene sheeting				
	Polyethylene separating sheet beneath C40 concrete screed (M10/180); minimum 125 micrometres thick (500 gauge); laid on clean substrate; lapped minimum 100 mm at joints; turned up at abutments with walls, columns and upstands for full depth of screed; as clause M10-280.				
A	^^^horizontal, < or = to 300mm (North Stairs - 300mm treads)	28	m2		
B	^^^horizontal, > 300mm (North Stairs - 900mm treads)	47	m2		
C	^^^vertical, < or = to 300mm (North Stairs - 150mm risers)	15	m2		
D	^^^vertical, > 300mm (North Stairs - 450mm risers)	32	m2		
E	^^^horizontal, > 300mm (North Stairs - landings)	33	m2		
F	^^^vertical, > 300mm (North Stairs - walls)	20	m2		
G	^^^horizontal, < or = to 300mm (South Stairs - 300mm treads)	30	m2		
H	^^^vertical, < or = to 300mm (South Stairs - 150mm risers)	17	m2		
J	^^^horizontal, > 300mm (South Stairs - landings)	14	m2		
K	^^^vertical, > 300mm (South Stairs - walls)	13	m2		
L	^^^vertical > 300mm wide (North Stairs - 450mm high planters walls)	11	m2		
	WOODWORK:				
	Ironmongery, Accessories and Sundries				
	Insulation				

	Description	Qty	Unit	Rate	Amount
	High-performance rigid extruded polystyrene (XPS) insulation with smooth dense skin to both faces, highly resistant to water absorption and vapour transmission and unaffected by freeze/thaw cycles, blowing agent of zero ODP and low GWP, manufactured under ISO 9001/ISO 14001, BRE Green Guide A+, installed in 2nr. layers with joints staggered and overlapped; boards laid in staggered pattern, joints butted and taped, penetrations neatly formed with foil-faced tape bonded around the base, all in accordance with manufacturer's recommendations; performance: compressive strength 300kPa at 10% to EN 826:2013, water vapour resistance >120 MNs/g, U-value 0.11 W/m2K; all as per OCM Specification E20				
A	^^^255mm thick. vertical, > 300mm, as per OCM Detail Drawing Nr. 5609 (North Stairs - walls)	10	m2		
B	^^^255mm thick. vertical, > 300mm, similar to OCM Detail Drawing Nr. 5609 (South Stairs - walls)	9	m2		
	STRUCTURAL:				
	Steelwork				
	The following shall be fabricated steel Grade S355 JOH to BS EN 10210-1 hollow structural sections; all joints v-butt welded, prepared and ground flush; include for all site welding and adjustments; include for all site fixing, forming mortice and all necessary bolts, all as per Engineers Specification for Structural Steelwork.				
	Lobby Stairs as per Engineers Drawing Nr. SE-1010				
	Fabricated members; rectangular hollow sections; 25 to 50 kg/m member profile.				
C	^^^200 x 100 x 10 x 43.1 kg/m RHS	0.92	t		
D	^^^200 x 100 x 10 x 43.1 kg/m RHS, raking	0.64	t		
	Fabricated members; circular hollow sections; < or = to 25 kg/m member profile.				
E	^^^139.7 x 5 x 16.6 kg/m CHS	0.13	t		
	Fabricated members; plates; < or = to 25 kg/m member profile.				
F	^^^255 x 10mm x 17.67 kg/m (to treads)	0.57	t		
G	^^^1950 x 10mm x 153.08 kg/m (to landings)	0.97	t		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^225 x 10mm x 4.00 kg/m fillet pieces to be cut from 10mm steel plates, shaped to into triangular gussets with mitred edge, continuously fillet welded to top to top face of steel stringer at each tread support location, then ground flush prior to priming and painting to match stringer finish (46 nr.)	0.04	t		
	Roof Access Stairs as per Engineers Drawing Nr. SE-1011				
	Fabricated members; channels; < or = to 25 kg/m member profile.				
B	^^^200 x 75 x 23 kg/m PFC	0.20	t		
C	^^^200 x 75 x 23 kg/m PFC, raking	0.03	t		
	Fabricated members; angles; < or = to 25 kg/m member profile.				
D	^^^75 x 75 x 6 x 6.85 kg/m	0.08	t		
	External CLT Timber Stairs as per Architects Drawing Nr. 5626				
	Fabricated members; square hollow sections; < or = to 25 kg/m member profile.				
E	^^^90 x 90 x 6 x 15.1 kg/m SHS	0.16	t		
F	^^^90 x 90 x 6 x 15.1 kg/m SHS with weathering cowl welded (4nr)	0.02	t		
	Fabricated members; angles; < or = to 25 kg/m member profile.				
G	^^^200 x 100 x 10 x 23 kg/m UA tread support welded to SHS (48nr)	0.37	t		
	Fabricated members; angles; < or = to 25 kg/m member profile.				
H	^^^200 x 100 x 10 x 23 kg/m UA tread support welded to SHS (48nr)	0.37	t		
	Fabricated members; fittings to all of the above				
J	Fittings includes caps, bases, haunches, gussets, end plates, splice plates, cleats, brackets, stiffeners, distance pieces and the like as required.	0.62	t		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Protective coatings				
A	Surface treatment off site; shot blast and cleaning to remove all traces of loose rust, grit etc to BS 7079 Part A1 (SA 2.5), and apply one coat high build two pack epoxy zinc phosphate modified alkyd primer to B.S.5493 standard SF6, to NDFT 40 microns and apply 2 to 3 coats high build two pack epoxy of micaceous oxiode to NDFT 200 microns by airless spray to structural steelwork as per Engineers Specification for Structural Steelwork.	4.75	t		
B	^^^^^^EXTRA OVER for being Ral colour	4.54	t		
C	^^^^^^EXTRA OVER last for galvanising in accordance with BS EN ISO 1461 with a minimum coating of 610 g/m2; all to the satisfaction of the Engineers Specification for Structural Steelwork.	0.21	t		
	Bolts				
	"Hilti" or equivalent expanding anchor bolts; include for bolting up on completion.				
D	^^^M12 HIT-HY 200-A V3 + HAS-U, grade 8.8 chemical anchor bolts (as per Engineers Drawing Nr. SE-1011)	16	nr		
	Sundries				
	Shimming and grouting.				
E	^^^Grout under 150 x 150mm 8mm thick base plates with 25 mm thick non shrink grout; include for all necessary formwork etc. (BP8 as per Engineers Drawing Nr. SE-1011)	2	nr		
F	^^^Grout under 225 x 125mm 8mm thick base plates with 25 mm thick non shrink grout; include for all necessary formwork etc. (BP9 as per Engineers Drawing Nr. SE-1011)	2	nr		
	Drilling / forming holes in other construction for fixings.				
G	^^^13 mm diameter for M12 bolts; 75 mm deep into reinforced in-situ concrete; including for all necessary grouting and resin.	16	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	FLOOR WALL AND CEILING FINISHES:				
	Finishes				
	Supply and fix pultruded GRP open-mesh stair treads; 38mm deep × 5mm wall thickness; 30–40% open area; integral anti-slip gritted surface finish to top face (PTV wet >36 to BS 7976); contrasting safety yellow integrally moulded GRP nosing strip 55mm horizontal × 55mm vertical to leading edge; manufactured to EN 13706 (GRP pultruded profiles) and ISO 14122-3; structural capacity 3.0 kN point load at any point / 5.0 kN/m² UDL to BS EN 1991-1-1; fire retardant resin, Class 1 flame spread to BS 476-7 (60-second test), Class P to BS 476-5; UV-stabilised and corrosion-resistant for internal/external industrial use; fixed to hot-dip galvanised or stainless steel support steelwork with Grade A4-70 M8 stainless steel through-bolts or proprietary stainless steel anti-shearing clips at maximum 150mm centres; cut ends sealed with compatible GRP resin; Including fabrication, cutting to size, sealing of cut ends with compatible resin, delivery to site, hoisting, fixing, all stainless steel fixings, anti-shearing clips, bolts and washers, isolation materials, waste, and all labour, plant and materials; as per Architects Drawing Nr. 9003				
A	^^^treads (17nr), width 250mm (Plantroom stairs)	17	m		
B	^^^landings (Plantroom stairs)	1	m2		
	Thoroughly clean, dry and remove all laitances, traces of dirt, grease and contaminants etc in preparation for Micro-cement topping to all externally exposed horizontal and vertical surfaces of external steps; product: Ideal Work - Rasico or equivalent; application thickness 3-4 mm; surface finish: Classic; composition per manufacturer (25 kg neutral hardener, 3 kg Ideal binder, 3 kg water); performance: abrasion resistance Class AR0.5 (max. 50 u) to UNI EN 13892-4; bond strength 2.9 N/mm2 to UNI EN 13892-8; water vapour transmission 198 u to UNI EN 12086; flexural strength 9.34 N/mm2 to UNI EN 13892-2; compressive strength 38.67 N/mm2 to UNI EN 13892-2; freeze-thaw resistance Class 3 to UNI EN 1340; reaction to fire Class A2fl-s1 to UNI EN 13501-1; slip resistance 81/51 dry/wet to EN 14231; DIN 51130: R12; manufacturer-approved resin sealer applied before slip resistance test; nosing rebates as L30-590; allow for 1×1m colour samples in 5 no. colours for Architect's approval prior to commencement ; as OCM Specification M60-181				
	Walls				

	Description	Qty	Unit	Rate	Amount
A	^^^> 300mm wide (North Stairs - walls)	20	m2		
B	^^^> 300mm wide (South Stairs - walls)	13	m2		
C	^^^> 300mm wide (North Stairs - 450mm high planters walls)	11	m2		
	Landings				
D	^^^> 300mm wide (North Stairs - landings)	33	m2		
E	^^^> 300mm wide (South Stairs - landings)	14	m2		
	Treads				
F	^^^900mm width (North Stairs treads)	71	m		
G	^^^300mm width (North Stairs treads)	98	m		
H	^^^300mm width (South Stairs treads)	111	m		
	Risers				
J	^^^150mm height (North Stairs risers)	98	m		
K	^^^450mm height (North Stairs risers)	71	m		
L	^^^150mm height (South Stairs risers)	111	m		
	Hard wearing composite rubber rebated slip resistant nosing to each external stair tread; proprietary system; rebated into screed/topping at leading edge of each tread; slip resistance to BS 7976; full product specification, dimensions and fixing details to be confirmed by Architect; as drawing MTUHPAC-Z-31-Z-ZZZ-DR-OCM-AR-5608.				
	Nosings				
M	^^^size 55 × 10 mm	278	m		

	Description	Qty	Unit	Rate	Amount
	PAINTING AND DECORATING:				
	Painting				
	Clean and apply intumescent coating system for fire protection of structural steelwork; concealed/non-visible internal locations; on-site application of 3-layer system (primer by steelwork contractor / proprietary water-based intumescent basecoat / top sealer coat), achieving 60 minutes fire resistance to BS 476-21; intumescent applied in sufficient coats to the dry film thickness required for each section factor (Hp/A) per the manufacturers current published loading tables; basic finish (M61/440); top sealer colour grey; bolt heads/nuts protected as main steelwork; surface preparation and priming by steelwork contractor (measured separately); applied by a certified intumescent coating specialist who warranties and certifies each member, Engineer present at DFT checks, with independent third-party validation of applied thickness; system independently tested/certified to BS 476 Pt 20-21 and ASFP Yellow Book; all to OCM specification clause M61/110 and the manufacturer's certification.				
A	Structural metalwork				
B	^^^general surfaces; girth > 300 mm girth	5	m2		

Description	Qty	Unit	Rate	Amount
COLLECTION				
Page No. BQ/146				
Page No. BQ/147				
Page No. BQ/148				
Page No. BQ/149				
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Page No. BQ/160				
Page No. BQ/161				
(24) STAIRS, RAMPS **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(31) EXTERNAL WALLS COMPLETIONS				
	WOODWORK				
	Structural And First Fixings				
	The following shall be in wrot vac vac Pressure treated / impregnated to achieve Fire Resistance Class B (in accordance with EN 13501) red deal unless otherwise stated; plugged and screwed to composite metal cladding / main steel and / or secondary steel frame; include for all necessary fixings, counter sinking and making good with matching pellates; protected for finishes as per Architects Drawings				
	First fixings; fixing softwood grounds free from decay and active insect attack and with no knots wider than half the width of the section.				
A	^^^batten size 75 x 50 mm in 2nr horizontal rows to ope cills	29	m		
B	^^^batten size 75 x 50 mm in 2nr vertical rows to ope reveals / perimeter		m		
	The following shall be Solid Sapele hardwood window board (To BS 1186-3, 22mm thick × 300mm depth (and depths as detailed), finger-jointed and glued sections planed to an even flush finish; BS EN 942 Class J2, moisture content 9–13% at fixing; pencil-rounded edges; finished with M60-160 clear lacquer; fixed with stainless steel nails punched and filled, joints mitred, dowelled and glued all as per Architects Specification P20-208 & Drawing AR-5608 and 5609				
	Window board Hardwood				
C	^^^< or = 300 mm	29	m		
	METALWORK:				
	Non - Structural				
D	Window frames shall contain condensation channels and ducts with external weather proofing and rainwater drips	1	item		
E	In pricing the windows and doors the contractor is to include for the supply and fixing to structure with purpose made straps, bedding in mastic and pointing internally and externally in two part polysulphide pointing mastic and supply and fitting the ironmongery		Note		

	Description	Qty	Unit	Rate	Amount
A	In pricing the windows, doors and curtain walling, provision and installation of all interfacing constructions required to provide an air, vapour, thermal and water seal to the building. This shall include, but not be limited to, not less than 300mm EPDM or foil faced bituthene vapour (minimum 1.7mm thick) and air barrier with associated supports. The EPDM/bituthene vapour barrier is to be on the warm side of all insulation and no condensation shall be permitted to form beyond this point.		Note		
B	Door leaves together with associated frames are collectively described as doorsets and enumerated		Note		
C	Door manufacturer to provide fabrication details, full elevational drawings and requisition schedule prior to manufacture; door manufacturer to provide primary test evidence for all performance criteria for each door set type; door manufacturer responsible for provision of certification of full door set — door leaf and frame — certification from single point of responsibility, separate certifications for frame and door leaf will not be accepted; RC4 test certification, Declaration of Performance, thermal calculation certificate, air/water/wind test reports, corrosion resistance certification, installation instructions, maintenance manual and warranty documentation to be submitted for technical approval; Main Contractor and door manufacturer to visit site and carry out site survey of structural openings prior to manufacture; installed by FIRAS certified installation contractor or equivalent; door set to be fitted with metal tag noting manufacturer's name, year of manufacture, door type and fire rating in accordance with fire control regulations; comply with all specified performance requirements as H11 and L20; including all necessary fixings, brackets, lugs, screws, bolts, rivets, shim, sealing and commissioning; all as specification clauses L20-480, 481 and 482	1	Item		
D	All units are to be cleaned on completion and all protective films are to be removed		Note		

	Description	Qty	Unit	Rate	Amount
A	The rates for all window, door and curtain walling items in this section are deemed to include for fully-bonded airtightness tape sealing to the perimeter of each opening, all in accordance with Specification Clause 161. Included within the rates are: the extra-wide single-sided plasterable airtightness tape (min. 150mm wide × min. 0.7mm thick, sd value 0.3–20m, EMICODE EC1 Plus); all surface preparation, primer and proprietary contact adhesive; proprietary elastic waterproof adhesive-sealant to joints, with minimum 200mm end and side laps; and all bonding to the internal face and structural surrounds of the opening, lapped to the airtightness membrane and returned to the liquid waterproofing around the reveals, to form a continuous airtight seal around all elements. No separate measurement is made for the airtightness tape, primer or adhesive-sealant; all such work is deemed included in the enumerated rates.		note		
	Composite items; Steel Door Sets				

Description	Qty	Unit	Rate	Amount
Supply, deliver and install factory-assembled thermally broken external steel door set comprising thermally broken steel frame and double-skinned door leaf of minimum 1.5mm steel sheet, rebated and folded to achieve all specified performance requirements; all as specification clauses L20-480, 481 and 482; Door Leaf : double-skinned, minimum 1.5mm cold rolled steel sheet, rebated and precision folded to achieve performance requirements; all corners and edges precision welded and ground flush; leaf thickness to suit structural opening size and performance requirements; Door Frame: thermally broken steel frame, minimum 1.5mm cold rolled steel, flush welded and mitred corners; factory prepared and ironmongery fitted to frame within factory prior to delivery to site; door manufacturer to be issued with template of all fittings and devices to be fitted to frame; frame factory prepared with 6mm deep threaded bolt holes to receive door closers and mag locks (allowance for M3 and M5 bolts); frame secured to structural opening sub-frame; stainless steel door fixing bolts plugged with colour coded caps; frame to be fitted tight to structural opening ; frame cavity to be fully packed with mineral wool insulation or fire mortar as required by fire certification; Seals: dark grey rubber acoustic/smoke seal gasket fitted to full perimeter of door frame; automatic threshold drop seal fitted into underside of all single swing hinged door leafs; gap between door leaf and frame to be maintained at no greater than 3mm in accordance with door set certification; Performance: security performance minimum RC4 to BS EN 1627 :2011, independently third-party certified, tested and certified in accordance with BS EN 1628, BS EN 1629 and BS EN 1630; multi-point locking system certified as part of tested door set configuration; security hinges with anti-lift protection; air permeability minimum Class 3 to BS EN 12207 tested to BS EN 1026; wind resistance minimum Class C3 tested to BS EN 12211 and BS EN 12210; mechanical durability minimum Grade 7 in accordance with BS EN 12400; corrosion resistance minimum Category C4 tested in accordance with BS EN ISO 12944; acoustic performance minimum Rw 40 dB tested in accordance with BS EN ISO 10140; fire performance as scheduled; ironmongery as External Ironmongery Schedule and specification clause P21; all CE Certified ironmongery to comply with door set manufacturers door set test certification; door sets fully factory prepared and cut to receive ironmongery, ironmongery to be factory fitted where practical; Finish: polyester powder coated (PPC) in accordance with Z31; allow for dual colour internally and externally; RAL colour to match H11-110 curtain walling, Include for fully-bonded airtightness tape sealing to perimeter of opening; extra-wide single-sided plasterable tape, min. 150mm wide, min. 0.7mm thick,				

	Description	Qty	Unit	Rate	Amount
	sd value 0.3–20m, EMICODE EC1 Plus; bonded to internal face and structural surrounds with proprietary primer and adhesive-sealant, min. 200mm laps at joints, lapped to airtightness membrane and returned to liquid waterproofing to form continuous airtight seal; all to Specification Clause 161; all as architects specification clauses L20-480, 481 and 482 and Drawings DR-OCM-AR-2425 and Door Schedule Drawing SH-OCM-AR-4101 & 4102				
	Composite items; Door and Frame Sets				
	L20-480: External Steel Door set — Ventilated Switch room (with Louvres)				
A	^^^door set type L20-480 — external steel door and half door set to suit opening size 1990 x 2250 mm high; 44 mm thick, to ventilated switch room; with door leaf incorporating integrated ventilation louvres with free area to be determined by MEP Engineer; louvre performance Class A in accordance with BS EN 13030:2001; insect mesh included to all louvre openings; whole doorset thermal transmittance (Ud): not applicable; all as specification clause L20-480 - Ref: External Door Type 05 -ED02-VCOM-001	1	nr		
	L20-481: External Steel Door set — Solid Panel Insulated				
B	^^^door set type L20-481 — external steel single door to suit opening size 1225 x 2170 mm high; 44 mm thick; solid panel with insulated core; door leaf comprising double-skinned minimum 1.5mm steel sheet with factory-injected insulated core, rebated and folded to achieve performance requirements; whole door set thermal transmittance (Ud): 1.30 W/m²K to BS EN ISO 10077; thermal calculation certificate to be submitted demonstrating Ud ≤ 1.30 W/m²K; all as specification clause L20-481 - Ref: External Door Type 13 - ED-03-VCOM-001	1	nr		
C	^^^door set type L20-481 — external steel single door to suit opening size 900 x 2435 mm high; 44 mm thick; solid panel with insulated core; door leaf comprising double-skinned minimum 1.5mm steel sheet with factory-injected insulated core, rebated and folded to achieve performance requirements; whole door set thermal transmittance (Ud): 1.30 W/m²K to BS EN ISO 10077; thermal calculation certificate to be submitted demonstrating Ud ≤ 1.30 W/m²K; all as specification clause L20-481 - Ref: External Door Type 16 - ED-02-ARENA-002 - (ARENA PAHSE 1 - NEW DOOR FROM LOBBY TO PLANT at LEVEL 02)	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^door set type L20-481 — external steel door and half door to suit opening size 1460 x 2160 mm high; 44 mm thick; solid panel with insulated core; door leaf comprising double-skinned minimum 1.5mm steel sheet with factory-injected insulated core, rebated and folded to achieve performance requirements; whole door set thermal transmittance (Ud): 1.30 W/m²K to BS EN ISO 10077; thermal calculation certificate to be submitted demonstrating Ud ≤ 1.30 W/m²K; all as specification clause L20-481 - Ref: External Door Type 06 - WD00-ST-001 (integrated into CW05)	1	nr		
B	^^^door set type L20-481 — external steel double door to suit opening size 2130 x 2400 mm high; 44 mm thick; solid panel with insulated core; door leaf comprising double-skinned minimum 1.5mm steel sheet with factory-injected insulated core, rebated and folded to achieve performance requirements; whole door set thermal transmittance (Ud): 1.30 W/m²K to BS EN ISO 10077; thermal calculation certificate to be submitted demonstrating Ud ≤ 1.30 W/m²K; all as specification clause L20-481 - Ref: External Door Type 09 - ED-00-HPAC-009 & 010	2	nr		
	L20-482: External Steel Door set — Solid Panel Uninsulated				
C	^^^door set type L20-482 — external steel single door to suit opening size 1105 x 2130 mm high; 44 mm thick, solid panel without insulated core; door leaf comprising double-skinned minimum 1.5mm steel sheet, rebated and folded to achieve performance requirements; whole door set thermal transmittance (Ud): not applicable; all as specification clause L20-482 - Ref: External Door Type 14 - ED-01-HOCM-002	1	nr		
	Composite items; Aluminium Door Set				

Description	Qty	Unit	Rate	Amount
Supply, deliver and install factory-assembled aluminium framed glazed door set with integrated air-tight vent louvre assembly above; door set to match curtain walling type H11-110 clause 6.6 CSD1 — concealed frame door opening section with structurally bonded glass, with pull handles, fitted with automated swing door drive; double-glazed, min. 11.5mm extra clear (reduced iron) laminated heat strengthened glass (heat soak tested to EN14179) with Solar Neutral 60/28 coating to face no. 4 outer pane, 20mm 90% krypton filled cavity, black warm edge spacer, min. 11.5mm extra clear (reduced iron) laminated heat strengthened glass inner pane; active leaf to have minimum 1,000mm effective clear width; door compliant with EN 1125; satin stainless steel oval shaped push bar with motorised panic latch — full width of door, heavy duty motorised panic latch, 19mm deadlocking latch bolt, motor concealed in touch bar; access control and lever handle to external face — anodised aluminium square profiled handle min. 140mm long with 70mm offset from frame; linked to access control system with all cabling concealed within curtain walling frame; half cylinder to EN1303 unique profile system Grade 5 security, AP2000 6 pin anti-drill and anti-pick cylinder; power supply unit 24VDC energy efficient switch mode technology with certified LED indication; Integrated Vent Louvre: integrated air-tight vent louvre unit above door opening; free area to be determined by MEP Engineer; louvre performance Class A in accordance with BS EN 13030:2001; airtight insulated blanking panel included behind louvre when in closed position; activation: 2no. switches — 1no. kick switch at 450mm above finished floor level and 1no. elbow switch at 1,000mm above finished floor level; brushed stainless steel finish with printed symbol; IP65 rated; size 72 x 250 x 17mm; system manufacturer supplied flush mounted emergency stop switch; PPC aluminium angle fitted to door to accommodate full width sensors and drive arm; bespoke printed vinyl automation warning signage to Architect's selected text style and colour; system fully commissioned and integrated with all other electrical systems and functions; finish: polyester powder coating to BS EN 12206-1, minimum 60 micron thickness, Class 2 external / Class 1 internal; dual colour internally and externally to selected RAL colour to match H11-110 curtain walling; including all necessary fixings, brackets, lugs, screws, bolts, rivets, shim, sealants and commissioning; comply with all specified performance requirements as H11 and L20; all as specification clause L20-483 and Drawings DR-OCM-AR-2425 and Door Schedule Drawing SH-OCM-AR-4101 & 4102; Include for fully-bonded airtightness tape sealing to perimeter of opening; extra-wide single-sided plasterable tape, min. 150mm wide, min. 0.7mm thick, sd value 0.3–20m, EMICODE				

	Description	Qty	Unit	Rate	Amount
	EC1 Plus; bonded to internal face and structural surrounds with proprietary primer and adhesive-sealant, min. 200mm laps at joints, lapped to airtightness membrane and returned to liquid waterproofing to form continuous airtight seal; all to Specification Clause 161.				
	Composite items; Door and Frame Set				
	L20-483 — Aluminium Framed Glazed Door set with Integrated Air-Tight Vent Louvre Above				
A	^^^gazed double leaf door to suit opening size 2200 mm x 2340 mm approx. all as specification clause L20-483 - Ref: External Door Type 15 - ED-00-ARENA-001 - (ARENA PAHSE 1 - REPLACEMENT DOOR - LEVEL 00)	1	nr		
	Composite items; Curtain Walling (H11-110)				

Description	Qty	Unit	Rate	Amount
Proprietary thermally broken polyester powder coated extruded aluminium structural sealant glazed (SSG) curtain walling with toggle glass retention system to concrete/steel supporting structure; slim-line aluminium façade system with 50mm face width and flush fitted all-glass appearance; ultra-low carbon extruded aluminium alloy profiles to BS EN 755 (Type 6063 T5 & T6), GWP less than 2.00 kg CO_2e/kg verified by EPD to EN 15804 Modules A1–A3; polyester powder coating to BS EN 12206-1, minimum 60 micron thick, Class 2 external / Class 1 internal, in selected RAL colour (allow for dual/multiple colours internally/externally and between stick and opening section framing); all aluminium to be solid, no composite panels; external cover cap: wet seal structural sealant glazing system (SSG), four-side bonded with structural silicone sealant to neat smooth concave finish; glazing insulating double-glazed units to IGU configuration Glass Types CSG 1, CSG 2, CSG 3 and CSG 5 (m.e), with and including ceramic glazed spandrel panels (m.e) and automated glazed louvres (m.e), all toggle fixed with curtain walling manufacturer approved toggle channel and fixing; system performance: air permeability AE 1200, water tightness RE 1200, wind load resistance 2.4/3.6 kN/m², impact resistance I5/E5, fire resistance EI60 to EN 13501-2, frame Uf min. 0.91 W/m²K, average curtain wall U-Value 1.3 W/m²K (weighted), sound reduction Rw 42 dB(A); CWCT certified; CE marked; EN 1627 and EN 13830 compliant; Cradle to Cradle Silver certified; European Technical Assessment; toggle mullion drained and ventilated stick system — mullions square cut with jointing spigots, transoms notched and screw fixed to mullions, all loads transferred to main building structure; fixing brackets supplied by curtain walling sub-contractor to the approval of the Employer's Representative; glass set in position with hex head fixing screws against extruded gaskets internally fitted into gasket grooves in mullions and transoms; including parapets of min. 3mm pressed solid aluminium with PPC/anodic/anodized finish, secondary aluminium frames, U-channels and bracketry, fully drained, min. 23 kg/m³ mineral wool insulation backing, joints finished with wet structural silicone seal, EPDM secondary weathering barrier with mill-finish aluminium EPDM carrier plates; flashings: external min. 3mm pressed aluminium PPC finish, internal visible min. 2mm PPC or anodized, internal concealed min. 2mm mill finished; min. 1.5mm EPDM bonded with bituminous bonding agent; all insulation mineral/stone wool min. 80 kg/m³; The Curtain Walling Sub-Contractor is to allow for all interfacing weathering, closing, fixing and cavity insulation works at the curtain wall head, base/cills and jambs conditions, comprising the following works common to all interfacing works details: thermally broken aluminium shoe/fixing bracket				

	Description	Qty	Unit	Rate	Amount
	assembly incorporating thermal break pad at all bracket/structure interfaces to include the following (but not limited to) Tag Item 36 - Internal EPDM vapour-control layer / air seal dressed to perimeter framing and continuously sealed to the building air barrier; Tag Item 37 - 35 × 35 mm PPC aluminium perimeter angle / trim to system edges, Tag 38 - Mineral / stone wool full-fill insulation (min. 80 kg/m³) to perimeter and interface cavities. Tag Item 39 - Mullion-to-structure shoe bracket fixing with 5 mm thermal isolation packing; all bracketry, fixings and packings are sub-contractor design responsibility, Tag Item 41 - Black weathering silicone perimeter seal on closed-cell PE backer rod, Tag Item 66 - EDPM sealed to carrier panel; Tag Item 75 - mild-steel dead-load mullion T-Bracket system fixed to steel plate behind spandrel and Tag Item 106 - 1.7 mm EPDM dressed from the cladding breather membrane into the glazing perimeter, forming a continuous weather / air seal at the cladding-to-glazing interface; CW System to include for all necessary fixings, straps, clips, brackets, lugs, screws, nuts, bolts, rivets, metal washers, shim, flashings and sealing; Designed, fabricated, supplied, installed and commissioned by the Specialist Façade Sub-contractor; all as per Architects specification clause H11-110 and Drawings DR-OCM-AR-2425, 2660 to 2665 and Drawings 5600 to 5610; Include for fully-bonded airtightness tape sealing to perimeter of opening; extra-wide single-sided plasterable tape, min. 150mm wide, min. 0.7mm thick, sd value 0.3–20m, EMICODE EC1 Plus; bonded to internal face and structural surrounds with proprietary primer and adhesive-sealant, min. 200mm laps at joints, lapped to airtightness membrane and returned to liquid waterproofing to form continuous airtight seal; all to Specification Clause 161. CW01				
A	^^^to suit overall opening size 7535mm high x 4900mm wide; with 2nr. fixed glazed panels at Level 1 (1nr. x size 1700mm x 3405mm, 1nr. x size 1535mm x 3405mm) and 2nr. fixed glazed panels at Level 2 (1nr. x size 1700mm x 3405mm, 1nr. x size 1535mm x 3405mm), consisting of IGU glazing type CSG 2 — fixed section, clear heat strengthened glazing; outer pane: min. 6mm extra clear (reduced iron) heat strengthened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 2; cavity: nom. 22mm, 90% krypton filled, black warm edge spacer; inner pane: min. 8.8mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as per architects specification clause H11-110 (CSG 2) - Ref: CW01 as per Drawings DR-OCM-AR-2425 & 2660	1	nr		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW01 SSG System) For Automated Glazed Louvres				
	Supply and install factory-assembled thermally broken extruded aluminium framed automated operable glazed louvre window system incorporating multiple double-glazed lamella blades within an aluminium frame, integrated into the SSG curtain walling façade stick system as clause H11-110, to provide controllable natural ventilation, daylighting and smoke extract; lamella movement achieved by concealed mechanical/electric drive mechanism with smooth, synchronous operation; extruded aluminium alloy frame with max. 50mm visible thickness from inside; polyester powder coating to BS EN 12206-1, minimum 60 micron thick, in selected RAL colour (allow for dual colour inside/outside); all aluminium to be solid, no composite panels; including all necessary fixings, straps, clips, brackets, lugs, screws, nuts, bolts, rivets, metal washers, shim, flashings and sealing; all as per architects specification clause H11-437 as per Drawings DR-OCM-AR-2425 & 2660 and External Louvre Schedule SH-OCM-AR-4501				
A	^^^to suit overall opening size 3405mm high x 1535mm wide; with Ag: Geometric Free Area 4.4m2; all as per architects specification clause H11-437 - Ref: W-01-LAB-109-01 (at Level 1) to CW01 as per Drawings DR-OCM-AR-2425 & 2660 and External Louvre Schedule SH-OCM-AR-4501	1	nr		
B	^^^to suit overall opening size 3395mm high x 1535mm wide; with Ag: Geometric Free Area 4.4m2; all as per architects specification clause H11-437 - Ref: W-02-CLASS-210-01 (at Level 2) to CW01 as per Drawings DR-OCM-AR-2425 & 2660 and External Louvre Schedule SH-OCM-AR-4501	1	nr		
C	^^^^^^allow for the supply and installation of Pedestrian Guarding / Mesh Balustrade — including framed stainless steel rope mesh guarding to inside face of open louvres, fitted to curtain walling mullions, minimum 1,200mm height above datum, as clause Q41-135; stainless steel 50 × 30 × 8mm angle frame welded into 4-sided frame with pre-drilled holes; stainless steel rope mesh diamond pattern, ferruled, approx. 20mm apertures; performance to BS 6180: line load 1.5 kN/m, UDL 1.5 kN/m², point load 1.5 kN; to suit size 1535mm x 1200mm; all as per architects specification clause Q41-135 fixed to W-01-LAB-109-01 (at Level 1) and W-02-CLASS-210-01 (at Level 2) to CW01 as per Drawings DR-OCM-AR-2425 & 2660 and External Louvre Schedule SH-OCM-AR-4501	2	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW01 SSG System) For Spandrel Panels				
A	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; to suit overall opening size 735mm high x 4900mm long, as per Drawings DR-OCM-AR-2425 & 2660 and Drawings 2425, 2660 & 5601	1	nr		
B	^^^^^^allow for 2mm thick PPC Alu. closer pressing fixed to 2mm thick Alu. spandrel closer panel by glazing s/c. to curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawing 5601, 5602; 1 times bent ; girth < or = 150mm - (Ref: Tag Item 109)	5	m		
	Extra Over Last (on CW01 SSG System) For Flashings, closer pieces, cills, etc. & Other Interface Items				
C	^^^allow for 2mm thick PPC aluminium sill pressing to curtain wall as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 40)	5	m		
D	^^^allow for glazing carrier panel sealed with EDPM to curtain wall sill as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 66)	10	m		
E	^^^allow for 2mm thick aluminium continuous closer piece to heads/soffits & jambs of curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5601, 5602, 5603, 5604, 5605, 5606, 5608 - (Ref: Tag Item 71)	20	m		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW01 SSG System) For Automated Anti-Glare Blinds (N10-241)				
	Allow for Healthcare-grade automated anti-glare roller blind with and including PPC Aluminium Channel / Blind Guide Track as per Tag Item 212 on Drawing OCM-AR-4500 all to clause N10-241, to EN 13120, mechanism endurance Class 3; anti-microbial bacteriostatic glassfibre fabric with double-sided PVC backing, Cradle-to-Cradle certified, fabric fire performance Class B-s1,d0 to EN 13501; concealed asynchronous motor within extruded aluminium/steel headrail, 230V/50Hz, 23 rpm, IP44, wall rocker-switch control with bottom, second-bottom and upper limit switches set to EN 14202; side guides comprising bracket, side-guide wire, wire-rope fastener and end cover (no blackout U-channel), PPC aluminium bottom weight bar, adjustable vertical-adjustment bracketry, window-side fabric roll-off; all exposed metalwork PPC RAL 9016; motor wired to local junction box with conduit-shrouded cable; sized to suit the window pane(s) of CW01 per the window schedule Drawing 2660 & 4500				
A	^^^to suit the window pane(s) 3405mm high x 4900mm wide at L01 of CW01	1	nr		
B	^^^to suit the window pane(s) 3395mm high x 4900mm wide at L02 of CW01	1	nr		
	CW02				
C	^^^to suit overall opening size 2950mm high x 4900mm wide; with 3nr. fixed glazed panels at Level 0 (1nr. x size 1535mm x 2950mm, 1nr. x size 450mm x 2950mm,) consisting of IGU glazing type CSG 1 — fixed section, clear toughened glazing; outer pane: min. 6mm extra clear (reduced iron) toughened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 2; cavity: nom. 22mm, 90% krypton filled, black warm edge spacer; inner pane: min. 8.8mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as specification clause H11-110 (CSG 1); all as per architects specification clause H11-110 (CSG 1) - Ref: CW02 as per Drawings DR-OCM-AR-2425 & 2660	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^to suit overall opening size 7535mm high x 4900mm wide; with 2nr. fixed glazed panels at Level 1 (1nr. x size 1700mm x 3405mm, 1nr. x size 1535mm x 3405mm) and 2nr. fixed glazed panels at Level 2 (1nr. x size 1700mm x 3405mm, 1nr. x size 1535mm x 3405mm), consisting of IGU glazing type CSG 2 — fixed section, clear heat strengthened glazing; outer pane: min. 6mm extra clear (reduced iron) heat strengthened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 2; cavity: nom. 22mm, 90% krypton filled, black warm edge spacer; inner pane: min. 8.8mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as per architects specification clause H11-110 (CSG 2) - Ref: CW02 as per Drawings DR-OCM-AR-2425 & 2660	1	nr		
	Extra Over Last (on CW02 SSG System) For Integrated Door				
B	^^^allow for the supply and installation of single integrated glazed door to curtain wall (CW02) Type CSD1 Concealed frame door opening section with structurally bonded glass (with pull handles) fitted with automated swing door drive comprising of min. 11.5mm clear laminated, extra clear (reduced iron), heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 4 outer pane; 20mm 90% krypton filled cavity, black warm edge spacer; min. 11.5mm clear laminated, extra clear (reduced iron), heat strengthened glass (heat soak tested to EN14179) inner pane to glazing Type CSG 3; to suit size 1100mm wide x 2260mm high; all as per architects specification clause H11-110 (CSD 1) - Ref: Ext. Door Type 04 - 00-LAB-003 as per Drawings DR-OCM-AR-2425 & 2660	1	nr		
C	^^^allow for the supply and installation of an Integrated interstitial venetian Blind Type VP4 with and including PPC Aluminium Channel / Blind Guide Track as per Tag Item 212 on Drawing OCM-AR-4500 to architects specification clause L40-303 door size 1100mm wide x 2260mm high;	1	nr		
	Extra Over Last (on CW02 SSG System) For Automated Glazed Louvres				

	Description	Qty	Unit	Rate	Amount
	Supply and install factory-assembled thermally broken extruded aluminium framed automated operable glazed louvre window system incorporating multiple double-glazed lamella blades within an aluminium frame, integrated into the SSG curtain walling façade stick system as clause H11-110, to provide controllable natural ventilation, daylighting and smoke extract; lamella movement achieved by concealed mechanical/electric drive mechanism with smooth, synchronous operation; extruded aluminium alloy frame with max. 50mm visible thickness from inside; polyester powder coating to BS EN 12206-1, minimum 60 micron thick, in selected RAL colour (allow for dual colour inside/outside); all aluminium to be solid, no composite panels; including all necessary fixings, straps, clips, brackets, lugs, screws, nuts, bolts, rivets, metal washers, shim, flashings and sealing; to suit overall opening size 3405mm high x 1535mm wide; all as per architects specification clause H11-437 - Ref: W-01-LAB-110-01 (at Level 1) to CW02 as per Drawings DR-OCM-AR-2425 & 2660 and External Louvre Schedule SH-OCM-AR-4501				
A	^^^to suit overall opening size 3405mm high x 1535mm wide; all as per architects specification clause H11-437 - Ref: W-01-LAB-110-01 (at Level 1) to CW02 as per Drawings DR-OCM-AR-2425 & 2660 and External Louvre Schedule SH-OCM-AR-4501	1	nr		
B	^^^to suit overall opening size 3395mm high x 1535mm wide; all as per architects specification clause H11-437 - Ref: W-02-CLASS-211-01 (at Level 2) to CW02 as per Drawings DR-OCM-AR-2425 & 2660 and External Louvre Schedule SH-OCM-AR-4501	1	nr		
C	^^^to suit overall opening size 2950mm high x 1535mm wide; all as per architects specification clause H11-437 - Ref: XXXXX (at Level 0) to CW02 as per Drawings DR-OCM-AR-2425 & 2660 and External Louvre Schedule SH-OCM-AR-4501	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^^^^allow for the supply and installation of Pedestrian Guarding / Mesh Balustrade — including framed stainless steel rope mesh guarding to inside face of open louvres, fitted to curtain walling mullions, minimum 1,200mm height above datum, as clause Q41-135; stainless steel 50 × 30 × 8mm angle frame welded into 4-sided frame with pre-drilled holes; stainless steel rope mesh diamond pattern, ferruled, approx. 20mm apertures; performance to BS 6180: line load 1.5 kN/m, UDL 1.5 kN/m², point load 1.5 kN; to suit size 1535mm x 1200mm; all as per architects specification clause Q41-135 fixed to W-01-LAB-109-01 (at Level 1) and W-02-CLASS-210-01 (at Level 2) to CW02 as per Drawings DR-OCM-AR-2425 & 2660 and External Louvre Schedule SH-OCM-AR-4501	2	nr		
	Extra Over Last (on CW02 SSG System) For Spandrel Panels				
B	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; to suit overall opening size 685mm high x 4900mm long, - Ref: CW02 as per Drawings DR-OCM-AR-2425 & 2660 and Drawings 2425, 2660 & 5601	1	nr		
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	Description	Qty	Unit	Rate	Amount
A	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; to suit overall opening size 735mm high x 4900mm long, - Ref: CW02 as per Drawings DR-OCM-AR-2425 & 2660 and Drawings 2425, 2660 & 5601	1	nr		
B	^^^^^^allow for 2mm thick PPC Alu. closer pressing fixed to 2mm thick Alu. spandrel closer panel by glazing s/c. to curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawing 5601, 5602; 1 times bent ; girth < or = 150mm - (Ref: Tag Item 109)	10	m		
	<u>Extra Over Last (on CW02 SSG System) For Flashings, closer pieces, cills, etc. & Other Interface Items</u>				
C	^^^allow for 2mm thick PPC aluminium sill pressing to curtain wall as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 40)	5	m		
D	^^^allow for 1.2 mm EPDM membrane lapped over and sealed to blockwork upstand and DPC; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600 - (Ref: Tag Item 45)	5	m		
E	^^^allow for Continuous 175 × 50 × 6 mm folded aluminium support angle on PVC thermal pad, fixed to concrete with anchor bolts; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600 - (Ref: Tag Item 46)	2	m		

	Description	Qty	Unit	Rate	Amount
A	^^^allow for 3 mm PPC aluminium threshold cill to doors; fully welded stop ends, sealed laps and dressing; by glazing s/c (retained as a cill flashing) as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5602 - (Ref: Tag Item 55)	2	m		
B	^^^allow for glazing carrier panel sealed with EDPM to curtain wall sill as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 66)	10	m		
C	^^^allow for 2mm thick aluminium continuous closer piece to heads/soffits & jambs of curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5601, 5602, 5603, 5604, 5605, 5606, 5608 - (Ref: Tag Item 71)	28	m		
	Extra Over Last (on CW02 SSG System) For Automated Blackout Blinds (N10-240)				
	Healthcare-grade automated full-blackout roller blind with and including PPC Aluminium Channel / Blind Guide Track as per Tag Item 212 on Drawing OCM-AR-4500 to clause N10-240, to EN 13120, mechanism endurance Class 3; anti-microbial bacteriostatic glassfibre fabric with double-sided PVC backing, Cradle-to-Cradle certified, fabric fire performance Class B-s1,d0 to EN 13501; concealed asynchronous motor within extruded aluminium/steel headrail, 230V/50Hz, 23 rpm, IP44, wall-switch control with bottom, second-bottom and upper limit switches set to EN 14202; PPC aluminium blackout U-channel side guides comprising bracket, side-guide wire, wire -rope fastener and end cover, PPC aluminium bottom weight bar, adjustable vertical-adjustment bracketry, window-side fabric roll-off; all exposed metalwork polyester powder coated RAL 9016; motor wired to local junction box with flexible reinforced conduit -shrouded cable; sized to suit the window pane(s) per the window schedule of CW02 per the window schedule Drawing 2660 & 4500				
D	^^^sized to suit the window pane(s) 2950mm high x 4900mm wide at L00 of CW02 per the window schedule Drawing 2660 & 4500	1	nr		
	Extra Over Last (on CW02 SSG System) For Automated Anti-Glare Blinds (N10-241)				

	Description	Qty	Unit	Rate	Amount
	Allow for Healthcare-grade automated anti-glare roller blind with and including PPC Aluminium Channel / Blind Guide Track as per Tag Item 212 on Drawing OCM-AR-4500 all to clause N10-241, to EN 13120, mechanism endurance Class 3; anti-microbial bacteriostatic glassfibre fabric with double-sided PVC backing, Cradle-to-Cradle certified, fabric fire performance Class B-s1,d0 to EN 13501; concealed asynchronous motor within extruded aluminium/steel headrail, 230V/50Hz, 23 rpm, IP44, wall rocker-switch control with bottom, second-bottom and upper limit switches set to EN 14202; side guides comprising bracket, side-guide wire, wire-rope fastener and end cover (no blackout U-channel), PPC aluminium bottom weight bar, adjustable vertical-adjustment bracketry, window-side fabric roll-off; all exposed metalwork PPC RAL 9016; motor wired to local junction box with conduit-shrouded cable; sized to suit the window pane(s) of CW02 per the window schedule Drawing 2660 & 4500				
A	^^^sized to suit the window pane(s) 3405mm high x 4900mm wide at L01 of CW02 per the window schedule Drawing 2660 & 4500	1	nr		
B	^^^sized to suit the window pane(s) 3395mm high x 4900mm wide at L02 OF CW02 per the window schedule Drawing 2660 & 4500	1	nr		
	CW03				
C	^^^to suit overall opening size 2950mm high x 4900mm wide; with 3nr. fixed glazed panels at Level 0 (1nr. x size 1535mm x 2950mm, 1nr. x size 450mm x 2950mm,) consisting of IGU glazing type CSG 1 — fixed section, clear toughened glazing; outer pane: min. 6mm extra clear (reduced iron) toughened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 2; cavity: nom. 22mm, 90% krypton filled, black warm edge spacer; inner pane: min. 8.8mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as specification clause H11-110 (CSG 1); all as per architects specification clause H11-110 (CSG 1) - Ref: CW03 as per Drawings DR-OCM-AR-2425 & 2660	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^to suit overall opening size 7535mm high x 4900mm wide; with 2nr. fixed glazed panels at Level 1 (1nr. x size 1700mm x 3405mm, 1nr. x size 1535mm x 3405mm) and 2nr. fixed glazed panels at Level 2 (1nr. x size 1700mm x 3405mm, 1nr. x size 1535mm x 3405mm), consisting of IGU glazing type CSG 2 — fixed section, clear heat strengthened glazing; outer pane: min. 6mm extra clear (reduced iron) heat strengthened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 2; cavity: nom. 22mm, 90% krypton filled, black warm edge spacer; inner pane: min. 8.8mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as per architects specification clause H11-110 (CSG 2) - Ref: CW03 as per Drawings DR-OCM-AR-2425 & 2660	1	nr		
	Extra Over Last (on CW03 SSG System) For Integrated Door				
B	^^^allow for the supply and installation of single integrated glazed door to curtain wall (CW03) Type CSD1 Concealed frame door opening section with structurally bonded glass (with pull handles) fitted with automated swing door drive comprising of min. 11.5mm clear laminated, extra clear (reduced iron), heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 4 outer pane; 20mm 90% krypton filled cavity, black warm edge spacer; min. 11.5mm clear laminated, extra clear (reduced iron), heat strengthened glass (heat soak tested to EN14179) inner pane to glazing Type CSG 3; to suit size 1100mm wide x 2260mm high; all as per architects specification clause H11-110 (CSD 1) - Ref: Ext. Door Type 04 - 00-LAB-004 as per Drawings DR-OCM-AR-2425 & 2660	1	nr		
C	^^^allow for the supply and installation of an Integrated interstitial venetian Blind Type VP4 with and including PPC Aluminium Channel / Blind Guide Track as per Tag Item 212 on Drawing OCM-AR-4500 to architects specification clause L40-303 door size 1100mm wide x 2260mm high;	1	nr		
	Extra Over Last (on CW03 SSG System) For Automated Glazed Louvres				

	Description	Qty	Unit	Rate	Amount
	Supply and install factory-assembled thermally broken extruded aluminium framed automated operable glazed louvre window system incorporating multiple double-glazed lamella blades within an aluminium frame, integrated into the SSG curtain walling façade stick system as clause H11-110, to provide controllable natural ventilation, daylighting and smoke extract; lamella movement achieved by concealed mechanical/electric drive mechanism with smooth, synchronous operation; extruded aluminium alloy frame with max. 50mm visible thickness from inside; polyester powder coating to BS EN 12206-1, minimum 60 micron thick, in selected RAL colour (allow for dual colour inside/outside); all aluminium to be solid, no composite panels; including all necessary fixings, straps, clips, brackets, lugs, screws, nuts, bolts, rivets, metal washers, shim, flashings and sealing; to CW03 as per Drawings DR-OCM-AR-2425 & 2660 and External Louvre Schedule SH-OCM-AR-4501				
A	^^^ to suit overall opening size 2950mm high x 1535mm wide; all as per architects specification clause H11-437 - Ref: W-00-LAB-014-01 (at Level 0) to CW03 as per Drawings DR-OCM-AR-2425 & 2660 and External Louvre Schedule SH-OCM-AR-4501	1	nr		
B	^^^to suit overall opening size 3405mm high x 1535mm wide; all as per architects specification clause H11-437 - Ref: W-01-LAB-113-01 (at Level 1) to CW03 as per Drawings DR-OCM-AR-2425 & 2660 and External Louvre Schedule SH-OCM-AR-4501	1	nr		
C	^^^to suit overall opening size 3395mm high x 1535mm wide; all as per architects specification clause H11-437 - Ref: W-02-CLASS-212-01 (at Level 2) to CW02 as per Drawings DR-OCM-AR-2425 & 2660 and External Louvre Schedule SH-OCM-AR-4501	1	nr		
D	^^^^^^allow for the supply and installation of Pedestrian Guarding / Mesh Balustrade — including framed stainless steel rope mesh guarding to inside face of open louvres, fitted to curtain walling mullions, minimum 1,200mm height above datum, as clause Q41-135; stainless steel 50 × 30 × 8mm angle frame welded into 4-sided frame with pre-drilled holes; stainless steel rope mesh diamond pattern, ferruled, approx. 20mm apertures; performance to BS 6180: line load 1.5 kN/m, UDL 1.5 kN/m², point load 1.5 kN; to suit size 1535mm x 1200mm; all as per architects specification clause Q41-135 fixed to W-01-LAB-109-01 (at Level 1) and W-02-CLASS-210-01 (at Level 2) to CW02 as per Drawings DR-OCM-AR-2425 & 2660 and External Louvre Schedule SH-OCM-AR-4501	3	nr		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW03 SSG System) For Spandrel Panels				
	Allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; as per Drawings DR-OCM-AR-2425 & 2660 and Drawings 2425, 2660 & 5601				
A	^^^ to suit overall opening size 685mm high x 4905mm long, as per Drawings DR-OCM-AR-2425 & 2660 and Drawings 2425, 2660 & 5601	1	nr		
B	^^^ to suit overall opening size 735mm high x 4905mm long, as per Drawings DR-OCM-AR-2425 & 2660 and Drawings 2425, 2660 & 5601	1	nr		
C	^^^^^^allow for 2mm thick PPC Alu. closer pressing fixed to 2mm thick Alu. spandrel closer panel by glazing s/c. to curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawing 5601, 5602; 1 times bent ; girth < or = 150mm - (Ref: Tag Item 109)	10	m		
	Extra Over Last (on CW03 SSG System) For Flashings, closer pieces, cills, etc. & Other Interface Items				
D	^^^allow for 2mm thick PPC aluminium sill pressing to curtain wall as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 40)	5	m		
E	^^^allow for 1.2 mm EPDM membrane lapped over and sealed to blockwork upstand and DPC; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600 - (Ref: Tag Item 45)	5	m		

	Description	Qty	Unit	Rate	Amount
A	^^^allow for Continuous 175 × 50 × 6 mm folded aluminium support angle on PVC thermal pad, fixed to concrete with anchor bolts; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600 - (Ref: Tag Item 46)	2	m		
B	^^^allow for 3 mm PPC aluminium threshold cill to doors; fully welded stop ends, sealed laps and dressing; by glazing s/c (retained as a cill flashing) as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5602 - (Ref: Tag Item 55)	2	m		
C	^^^allow for glazing carrier panel sealed with EDPM to curtain wall sill as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 66)	5	m		
D	^^^allow for 2mm thick aluminium continuous closer piece to heads/soffits & jambs of curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5601, 5602, 5603, 5604, 5605, 5606, 5608 - (Ref: Tag Item 71)	28	m		
	Extra Over Last (on CW03 SSG System) For Automated Blackout Blinds (N10-240)				
	Healthcare-grade automated full-blackout roller blind with and including PPC Aluminium Channel / Blind Guide Track as per Tag Item 212 on Drawing OCM-AR-4500 to clause N10-240, to EN 13120, mechanism endurance Class 3; anti-microbial bacteriostatic glassfibre fabric with double-sided PVC backing, Cradle-to-Cradle certified, fabric fire performance Class B-s1,d0 to EN 13501; concealed asynchronous motor within extruded aluminium/steel headrail, 230V/50Hz, 23 rpm, IP44, wall-switch control with bottom, second-bottom and upper limit switches set to EN 14202; PPC aluminium blackout U-channel side guides comprising bracket, side-guide wire, wire -rope fastener and end cover, PPC aluminium bottom weight bar, adjustable vertical-adjustment bracketry, window-side fabric roll-off; all exposed metalwork polyester powder coated RAL 9016; motor wired to local junction box with flexible reinforced conduit -shrouded cable; sized to suit the window pane(s) per the window schedule of CW03 per the window schedule Drawing 2660 & 4500				
E	^^^sized to suit the window pane(s) 2950mm high x 4900mm wide at L00 of CW03 per the window schedule Drawing 2660 & 4500	1	nr		

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	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW03 SSG System) For Automated Anti-Glare Blinds (N10-241)				
	Allow for Healthcare-grade automated anti-glare roller blind with and including PPC Aluminium Channel / Blind Guide Track as per Tag Item 212 on Drawing OCM-AR-4500 all to clause N10-241, to EN 13120, mechanism endurance Class 3; anti-microbial bacteriostatic glassfibre fabric with double-sided PVC backing, Cradle-to-Cradle certified, fabric fire performance Class B-s1,d0 to EN 13501; concealed asynchronous motor within extruded aluminium/steel headrail, 230V/50Hz, 23 rpm, IP44, wall rocker-switch control with bottom, second-bottom and upper limit switches set to EN 14202; side guides comprising bracket, side-guide wire, wire-rope fastener and end cover (no blackout U-channel), PPC aluminium bottom weight bar, adjustable vertical-adjustment bracketry, window-side fabric roll-off; all exposed metalwork PPC RAL 9016; motor wired to local junction box with conduit-shrouded cable; sized to suit the window pane(s) of CW03 per the window schedule Drawing 2660 & 4500				
A	^^^to suit the window pane(s) 3405mm high x 4900mm wide at L01 of CW03	1	nr		
B	^^^to suit the window pane(s) 3395mm high x 4900mm wide at L02 of CW03	1	nr		
	CW04				
C	^^^to suit overall opening size 7840mm high x 4900mm wide; with 2nr. fixed glazed panels at Level 1 (1nr. x size 1700mm x 3400mm, 1nr. x size 1600mm x 3400mm) and 2nr. fixed glazed panels at Level 2 (1nr. x size 1700mm x 3400mm, 1nr. x size 1600mm x 3400mm), consisting of IGU glazing type CSG 2 — fixed section, clear heat strengthened glazing; outer pane: min. 6mm extra clear (reduced iron) heat strengthened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 2; cavity: nom. 22mm, 90% krypton filled, black warm edge spacer; inner pane: min. 8.8mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as per architects specification clause H11-110 (CSG 2) - Ref: CW04 as per Drawings DR-OCM-AR-2425 & 2661	1	nr		
	Extra Over Last (on CW04 SSG System) For Automated Glazed Louvres				

	Description	Qty	Unit	Rate	Amount
	Supply and install factory-assembled thermally broken extruded aluminium framed automated operable glazed louvre window system incorporating multiple double-glazed lamella blades within an aluminium frame, integrated into the SSG curtain walling façade stick system as clause H11-110, to provide controllable natural ventilation, daylighting and smoke extract; lamella movement achieved by concealed mechanical/electric drive mechanism with smooth, synchronous operation; extruded aluminium alloy frame with max. 50mm visible thickness from inside; polyester powder coating to BS EN 12206-1, minimum 60 micron thick, in selected RAL colour (allow for dual colour inside/outside); all aluminium to be solid, no composite panels; including all necessary fixings, straps, clips, brackets, lugs, screws, nuts, bolts, rivets, metal washers, shim, flashings and sealing; to CW04 as per Drawings DR-OCM-AR-2425 & 2661 and External Louvre Schedule SH-OCM-AR-4501				
A	^^^ to suit overall opening size 3400mm high x 1535mm wide; all as per architects specification clause H11-437 - Ref: W-01-LAB-113-02 (at Level 1) to CW04 as per Drawings DR-OCM-AR-2425 & 2661 and External Louvre Schedule SH-OCM-AR-4501	1	nr		
B	^^^to suit overall opening size 3395mm high x 1535mm wide; all as per architects specification clause H11-437 - Ref: W-02-CLASS-213-01 (at Level 2) to CW04 as per Drawings DR-OCM-AR-2425 & 2661 and External Louvre Schedule SH-OCM-AR-4501	1	nr		
C	^^^^^^allow for the supply and installation of Pedestrian Guarding / Mesh Balustrade — including framed stainless steel rope mesh guarding to inside face of open louvres, fitted to curtain walling mullions, minimum 1,200mm height above datum, as clause Q41-135; stainless steel 50 × 30 × 8mm angle frame welded into 4-sided frame with pre-drilled holes; stainless steel rope mesh diamond pattern, ferruled, approx. 20mm apertures; performance to BS 6180: line load 1.5 kN/m, UDL 1.5 kN/m², point load 1.5 kN; to suit size 1535mm x 1200mm; all as per architects specification clause Q41-135 fixed to W-01-LAB-113-02 (at Level 1) and W-02-CLASS-213-01 (at Level 2) to CW01 as per Drawings DR-OCM-AR-2425 & 2661 and External Louvre Schedule SH-OCM-AR-4501	2	nr		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW04 SSG System) For Spandrel Panels				
A	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; to suit overall opening size 735mm high x 4900mm long, as per Drawings DR-OCM-AR-2425 & 2661 and Drawings 2425, 2660 & 5601	1	nr		
B	^^^^^^allow for 2mm thick PPC Alu. closer pressing fixed to 2mm thick Alu. spandrel closer panel by glazing s/c. to curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawing 5601, 5602; 1 times bent ; girth < or = 150mm - (Ref: Tag Item 109)	5	m		
	Extra Over Last (on CW04 SSG System) For Flashings, closer pieces, cills, etc. & Other Interface Items				
C	^^^allow for 2mm thick PPC aluminium sill pressing to curtain wall as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 40)	5	m		
D	^^^allow for glazing carrier panel sealed with EDPM to curtain wall sill as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 66)	10	m		
E	^^^allow for 2mm thick aluminium continuous closer piece to heads/soffits & jambs of curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5601, 5602, 5603, 5604, 5605, 5606, 5608 - (Ref: Tag Item 71)	20	m		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW04 SSG System) For Automated Anti-Glare Blinds (N10-241)				
	Allow for Healthcare-grade automated anti-glare roller blind with and including PPC Aluminium Channel / Blind Guide Track as per Tag Item 212 on Drawing OCM-AR-4500 all to clause N10-241, to EN 13120, mechanism endurance Class 3; anti-microbial bacteriostatic glassfibre fabric with double-sided PVC backing, Cradle-to-Cradle certified, fabric fire performance Class B-s1,d0 to EN 13501; concealed asynchronous motor within extruded aluminium/steel headrail, 230V/50Hz, 23 rpm, IP44, wall rocker-switch control with bottom, second-bottom and upper limit switches set to EN 14202; side guides comprising bracket, side-guide wire, wire-rope fastener and end cover (no blackout U-channel), PPC aluminium bottom weight bar, adjustable vertical-adjustment bracketry, window-side fabric roll-off; all exposed metalwork PPC RAL 9016; motor wired to local junction box with conduit-shrouded cable; sized to suit the window pane(s) of CW04 per the window schedule Drawing 2660 & 4500				
A	^^^to suit the window pane(s) 3400mm high x 4900mm wide at L01 of CW04	1	nr		
B	^^^to suit the window pane(s) 3405mm high x 4900mm wide at L02 of CW04	1	nr		

	Description	Qty	Unit	Rate	Amount
	CW05				
A	^^^to suit overall opening size 11181mm high x 4900mm wide; with 3nr. fixed glazed panels at Level 0 (1nr. x size 1535mm x 2915mm, 1nr. x size 1700mm x 2915mm, 1nr. x size 1535mm x 2915mm) and 3nr. fixed glazed panels at Level 1 (1nr. x size 1535mm x 3405mm, 1nr. x size 1700mm x 3405mm, 1nr. x size 1535mm x 3405mm) and 3nr. fixed glazed panels at Level 2 (1nr. x size 1535mm x 3395mm, 1nr. x size 1700mm x 33395mm, 1nr. x size 1535mm x 3395mm), along with 3nr. fixed glazed panels to sprandel area below Level 1 (1nr. x size 1535mm x 685mm, 1nr. x size 1700mm x 685mm, 1nr. x size 1535mm x 685mm) and 3nr. fixed glazed panels to sprandel area below Level 2 (1nr. x size 1535mm x 735mm, 1nr. x size 1700mm x 735mm, 1nr. x size 1535mm x 735mm), consisting of IGU glazing type CSG 1 — fixed section, clear toughened glazing; outer pane: min. 6mm extra clear (reduced iron) toughened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 2; cavity: nom. 22mm, 90% krypton filled, black warm edge spacer; inner pane: min. 8.8mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as specification clause H11-110 (CSG 1); all as per architects specification clause H11-110 (CSG 1) - Ref: CW05 as per Drawings DR-OCM-AR-2425 & 2661	1	nr		
	Extra Over Last (on CW05 SSG System) For Automated Glazed Louvres				
B	^^^supply and install factory-assembled thermally broken extruded aluminium framed automated operable glazed louvre window system incorporating multiple double-glazed lamella blades within an aluminium frame, integrated into the SSG curtain walling façade stick system as clause H11-110, to provide controllable natural ventilation, daylighting and smoke extract; lamella movement achieved by concealed mechanical/electric drive mechanism with smooth, synchronous operation; extruded aluminium alloy frame with max. 50mm visible thickness from inside; polyester powder coating to BS EN 12206-1, minimum 60 micron thick, in selected RAL colour (allow for dual colour inside/outside); all aluminium to be solid, no composite panels; including all necessary fixings, straps, clips, brackets, lugs, screws, nuts, bolts, rivets, metal washers, shim, flashings and sealing; to suit overall opening size 3395mm high x 1535mm wide; all as per architects specification clause H11-437 - Ref: W-02-VCOM-231-01 (at Level 2) to CW05 as per Drawings DR-OCM-AR-2425 & 2661 and External Louvre Schedule SH-OCM-AR-4501	1	nr		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW05 SSG System) For Flashings, closer pieces, cills, etc. & Other Interface Items				
A	^^^allow for 2mm thick PPC aluminium sill pressing to curtain wall as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 40)	5	m		
B	^^^allow for 1.2 mm EPDM membrane lapped over and sealed to blockwork upstand and DPC; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600 - (Ref: Tag Item 45)	5	m		
C	^^^allow for glazing carrier panel sealed with EDPM to curtain wall sill as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 66)	10	m		
D	^^^allow for 2mm thick aluminium continuous closer piece to heads/soffits & jambs of curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5601, 5602, 5603, 5604, 5605, 5606, 5608 - (Ref: Tag Item 71)	28	m		
	CW06				
E	^^^to suit overall opening size 4130mm high x 4900mm wide; with 2nr. fixed glazed panels at Level 2 (1nr. x size 1700mm x 3395mm, 1nr. x size 1535mm x 3395mm), consisting of IGU glazing type CSG 2 — fixed section, clear heat strengthened glazing; outer pane: min. 6mm extra clear (reduced iron) heat strengthened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 2; cavity: nom. 22mm, 90% krypton filled, black warm edge spacer; inner pane: min. 8.8mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as per architects specification clause H11-110 (CSG 2) - Ref: CW06 as per Drawings DR-OCM-AR-2425 & 2661	1	nr		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW06 SSG System) For Automated Glazed Louvres				
A	^^^supply and install factory-assembled thermally broken extruded aluminium framed automated operable glazed louvre window system incorporating multiple double-glazed lamella blades within an aluminium frame, integrated into the SSG curtain walling façade stick system as clause H11-110, to provide controllable natural ventilation, daylighting and smoke extract; lamella movement achieved by concealed mechanical/electric drive mechanism with smooth, synchronous operation; extruded aluminium alloy frame with max. 50mm visible thickness from inside; polyester powder coating to BS EN 12206-1, minimum 60 micron thick, in selected RAL colour (allow for dual colour inside/outside); all aluminium to be solid, no composite panels; including all necessary fixings, straps, clips, brackets, lugs, screws, nuts, bolts, rivets, metal washers, shim, flashings and sealing; to suit overall opening size 3395mm high x 1535mm wide; all as per architects specification clause H11-437 - Ref: W-02-CLASS-217-01 (at Level 2) to CW06 as per Drawings DR-OCM-AR-2425 & 2661 and External Louvre Schedule SH-OCM-AR-4501	1	nr		
B	^^^^^^allow for the supply and installation of Pedestrian Guarding / Mesh Balustrade — including framed stainless steel rope mesh guarding to inside face of open louvres, fitted to curtain walling mullions, minimum 1,200mm height above datum, as clause Q41-135; stainless steel 50 × 30 × 8mm angle frame welded into 4-sided frame with pre-drilled holes; stainless steel rope mesh diamond pattern, ferruled, approx. 20mm apertures; performance to BS 6180: line load 1.5 kN/m, UDL 1.5 kN/m², point load 1.5 kN; to suit size 1535mm x 1200mm; all as per architects specification clause Q41-135 fixed to W-01-LAB-109-01 (at Level 1) and W-02-CLASS-217-01 (at Level 2) to CW02 as per Drawings DR-OCM-AR-2425 & 2661 and External Louvre Schedule SH-OCM-AR-4501	1	nr		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW06 SSG System) For Spandrel Panels				
A	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; to suit overall opening size 735mm high x 4900mm long, - Ref: CW06 as per Drawings DR-OCM-AR-2425 & 2661 and Drawings 2425, 2660 & 5601	1	nr		
B	^^^^^^allow for 2mm thick PPC Alu. closer pressing fixed to 2mm thick Alu. spandrel closer panel by glazing s/c. to curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawing 5601, 5602; 1 times bent ; girth < or = 150mm - (Ref: Tag Item 109)	5	m		
	Extra Over Last (on CW06 SSG System) For Flashings, closer pieces, cills, etc. & Other Interface Items				
C	^^^allow for 2mm thick PPC aluminium sill pressing to curtain wall as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 40)	5	m		
D	^^^allow for 1.2 mm EPDM membrane lapped over and sealed to blockwork upstand and DPC; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600 - (Ref: Tag Item 45)	5	m		
E	^^^allow for glazing carrier panel sealed with EDPM to curtain wall sill as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 66)	10	m		

	Description	Qty	Unit	Rate	Amount
A	^^^allow for 2mm thick aluminium continuous closer piece to heads/soffits & jambs of curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5601, 5602, 5603, 5604, 5605, 5606, 5608 - (Ref: Tag Item 71)	14	m		
	Extra Over Last (on CW06 SSG System) For Automated Blackout Blinds (N10-240)				
	Healthcare-grade automated full-blackout roller blind with and including PPC Aluminium Channel / Blind Guide Track as per Tag Item 212 on Drawing OCM-AR-4500 to clause N10-240, to EN 13120, mechanism endurance Class 3; anti-microbial bacteriostatic glassfibre fabric with double-sided PVC backing, Cradle-to-Cradle certified, fabric fire performance Class B-s1,d0 to EN 13501; concealed asynchronous motor within extruded aluminium/steel headrail, 230V/50Hz, 23 rpm, IP44, wall-switch control with bottom, second-bottom and upper limit switches set to EN 14202; PPC aluminium blackout U-channel side guides comprising bracket, side-guide wire, wire -rope fastener and end cover, PPC aluminium bottom weight bar, adjustable vertical-adjustment bracketry, window-side fabric roll-off; all exposed metalwork polyester powder coated RAL 9016; motor wired to local junction box with flexible reinforced conduit -shrouded cable; sized to suit the window pane(s) per the window schedule of CW06 per the window schedule Drawing 2660 & 4500				
B	^^^to suit the window pane(s) 3395mm high x 4900mm wide at L02 of CW06	1	nr		
	CW07				
C	^^^to suit overall opening size 3635mm high x 3600mm wide; with 2nr. fixed glazed panels at Level 0 (1nr. x size 1895mm x 640mm over double door, and 1nr. x size 1575mm x 450mm under ventilation louvre) consisting of IGU glazing type CSG 1 — fixed section, clear toughened glazing; outer pane: min. 6mm extra clear (reduced iron) toughened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 2; cavity: nom. 22mm, 90% krypton filled, black warm edge spacer; inner pane: min. 8.8mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as specification clause H11-110 (CSG 1); all as per architects specification clause H11-110 (CSG 1) - Ref: CW02 as per Drawings DR-OCM-AR-2425 & 2661	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^to suit overall opening size 4140mm high x 3600mm wide; with 1nr. fixed glazed panels at Level 1 (1nr. x size 1895mm x 3405mm) consisting of IGU glazing type CSG 2 — fixed section, clear heat strengthened glazing; outer pane: min. 6mm extra clear (reduced iron) heat strengthened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 2; cavity: nom. 22mm, 90% krypton filled, black warm edge spacer; inner pane: min. 8.8mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as per architects specification clause H11-110 (CSG 2) - Ref: CW02 as per Drawings DR-OCM-AR-2425 & 2661	1	nr		
	Extra Over Last (on CW07 SSG System) For Integrated Door				
B	^^^allow for the supply and installation of double integrated glazed door to curtain wall (CW07) Type CSD1 Concealed frame door opening section with structurally bonded glass (with pull handles) fitted with automated swing door drive comprising of min. 11.5mm clear laminated, extra clear (reduced iron), heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 4 outer pane; 20mm 90% krypton filled cavity, black warm edge spacer; min. 11.5mm clear laminated, extra clear (reduced iron), heat strengthened glass (heat soak tested to EN14179) inner pane to glazing Type CSG 3; to suit size 1895mm wide x 2260mm high; all as per architects specification clause H11-110 (CSD 1) - Ref: Ext. Door Type 08 - ED-00-HPAC-008 as per Drawings DR-OCM-AR-2425 & 2661	1	nr		
C	^^^allow for the supply and installation of an Integrated Blind Type VP4 to architects specification clause L40-303 door size 1895mm wide x 2260mm high;	1	nr		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW07 SSG System) For Automated Glazed Louvres				
A	^^^supply and install factory-assembled thermally broken extruded aluminium framed automated operable glazed louvre window system incorporating multiple double-glazed lamella blades within an aluminium frame, integrated into the SSG curtain walling façade stick system as clause H11-110, to provide controllable natural ventilation, daylighting and smoke extract; lamella movement achieved by concealed mechanical/electric drive mechanism with smooth, synchronous operation; extruded aluminium alloy frame with max. 50mm visible thickness from inside; polyester powder coating to BS EN 12206-1, minimum 60 micron thick, in selected RAL colour (allow for dual colour inside/outside); all aluminium to be solid, no composite panels; including all necessary fixings, straps, clips, brackets, lugs, screws, nuts, bolts, rivets, metal washers, shim, flashings and sealing; to suit overall opening size 3405mm high x 1535mm wide; all as per architects specification clause H11-437 - Ref: W-00-HPAC-015-24 (at Level 0) to CW07 as per Drawings DR-OCM-AR-2425 & 2661 and External Louvre Schedule SH-OCM-AR-4501	1	nr		
B	^^^supply and install factory-assembled thermally broken extruded aluminium framed automated operable glazed louvre window system incorporating multiple double-glazed lamella blades within an aluminium frame, integrated into the SSG curtain walling façade stick system as clause H11-110, to provide controllable natural ventilation, daylighting and smoke extract; lamella movement achieved by concealed mechanical/electric drive mechanism with smooth, synchronous operation; extruded aluminium alloy frame with max. 50mm visible thickness from inside; polyester powder coating to BS EN 12206-1, minimum 60 micron thick, in selected RAL colour (allow for dual colour inside/outside); all aluminium to be solid, no composite panels; including all necessary fixings, straps, clips, brackets, lugs, screws, nuts, bolts, rivets, metal washers, shim, flashings and sealing; to suit overall opening size 3395mm high x 1535mm wide; all as per architects specification clause H11-437 - Ref: W-01-HPAC-015-18 (at Level 1) to CW07 as per Drawings DR-OCM-AR-2425 & 2661 and External Louvre Schedule SH-OCM-AR-4501	1	nr		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW07 SSG System) For Spandrel Panels				
A	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; to suit overall opening size 735mm high x 3600mm long, - Ref: CW07 as per Drawings DR-OCM-AR-2425 & 2661 and Drawings 2425, 2660 & 5601	2	nr		
B	^^^^^^allow for 2mm thick PPC Alu. closer pressing fixed to 2mm thick Alu. spandrel closer panel by glazing s/c. to curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawing 5601, 5602; 1 times bent ; girth < or = 150mm - (Ref: Tag Item 109)	8	m		
	Extra Over Last (on CW06 SSG System) For Flashings, closer pieces, cills, etc. & Other Interface Items				
C	^^^allow for 2mm thick PPC aluminium sill pressing to curtain wall as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 40)	4	m		
D	^^^allow for 1.2 mm EPDM membrane lapped over and sealed to blockwork upstand and DPC; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600 - (Ref: Tag Item 45)	4	m		
E	^^^allow for Continuous 175 × 50 × 6 mm folded aluminium support angle on PVC thermal pad, fixed to concrete with anchor bolts; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600 - (Ref: Tag Item 46)	2	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^allow for 3 mm PPC aluminium threshold cill to doors; fully welded stop ends, sealed laps and dressing; by glazing s/c (retained as a cill flashing) as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5602 - (Ref: Tag Item 55)	2	m		
B	^^^allow for glazing carrier panel sealed with EDPM to curtain wall sill as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 66)	8	m		
C	^^^allow for 2mm thick aluminium continuous closer piece to heads/soffits & jambs of curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5601, 5602, 5603, 5604, 5605, 5606, 5608 - (Ref: Tag Item 71)	20	m		
	CW09				
D	^^^to suit overall opening size 2305mm high x 70155mm wide; with 16nr. fixed glazed panels at Level 1A (16nr. x size 1825mm x 2305mm), and 1nr. fixed glazed panels at Level 1A (1nr. x size 475mm x 2305mm - part of glazed corner junction), 1nr. fixed glazed panels at Level 1A (1nr. x size 1605mm x 2305mm), 1nr. fixed glazed panels at Level 1A (1nr. x size 870mm x 2305mm), 1nr. fixed glazed panels at Level 1A (1nr. x size 650mm x 2305mm), 1nr. fixed glazed panels at Level 1A (1nr. x size 1330mm x 2305mm), 1nr. fixed glazed panels at Level 1A (1nr. x size 1220mm x 2305mm), 1nr. fixed glazed panels at Level 1A (1nr. x size 460mm x 2305mm - part of glazed corner junction), consisting of IGU glazing type CSG 1 — fixed section, clear toughened glazing; outer pane: min. 6mm extra clear (reduced iron) toughened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 2; cavity: nom. 22mm, 90% krypton filled, black warm edge spacer; inner pane: min. 8.8mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as specification clause H11-110 (CSG 1); - Ref: CW09 as per Drawings DR-OCM-AR-2425 & 2662	1	nr		
E	^^^allow for forming glazed corner junction; size 475mm x 475mm x 2305mm high to CW08 & CW09 Curtain Walling System as per Drawings DR-OCM-AR-2425 & 2662	1	nr		
F	^^^allow for forming glazed corner junction; size 460mm x 475mm x 2305mm high to CW09 & CW10 Curtain Walling System as per Drawings DR-OCM-AR-2425 & 2662	1	nr		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW09 SSG System) For Integrated Door				
A	^^^allow for the supply and installation of single integrated glazed door to curtain wall (CW09) Type CSD1 Concealed frame door opening section with structurally bonded glass (with pull handles) fitted with automated swing door drive comprising of min. 11.5mm clear laminated, extra clear (reduced iron), heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 4 outer pane; 20mm 90% krypton filled cavity, black warm edge spacer; min. 11.5mm clear laminated, extra clear (reduced iron), heat strengthened glass (heat soak tested to EN14179) inner pane to glazing Type CSG 3; to suit size 2100mm wide x 2305mm high; all as per architects specification clause H11-110 (CSD 1) - Ref: Ext. Door Type 11 - ED-01-HCOM-002 & ED-01-STU-003 as per Drawings DR-OCM-AR-2425 & 2662	2	nr		
	Extra Over Last (on CW09 SSG System) For Automated Glazed Louvres				
B	^^^supply and install factory-assembled thermally broken extruded aluminium framed automated operable glazed louvre window system with Ag: Geometric Free Area 2.9m2 (015-01 to 015-17 & 117-01 & 02) & 4.6m2 (015-18); incorporating multiple double-glazed lamella blades within an aluminium frame, integrated into the SSG curtain walling façade stick system as clause H11-110, to provide controllable natural ventilation, daylighting and smoke extract; lamella movement achieved by concealed mechanical/electric drive mechanism with smooth, synchronous operation; extruded aluminium alloy frame with max. 50mm visible thickness from inside; polyester powder coating to BS EN 12206-1, minimum 60 micron thick, in selected RAL colour (allow for dual colour inside/outside); all aluminium to be solid, no composite panels; including all necessary fixings, straps, clips, brackets, lugs, screws, nuts, bolts, rivets, metal washers, shim, flashings and sealing; to suit overall opening size 2305mm high x 1575mm wide; all as per architects specification clause H11-437 - Ref: W-01-HPAC-015-01 to 015-18 and Ref: W-01-HPAC-STU-117-01 & 02 (at Level 1A) to CW09 as per Drawings DR-OCM-AR-2425 & 2662 and External Louvre Schedule SH-OCM-AR-4501	19	nr		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW09 SSG System) For Flashings, closer pieces, cills, etc. & Other Interface Items				
A	^^^allow for thermally broken threshold profile bedded on silicone sealant; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5602 - (Ref: Tag Item 47)	5	m		
B	^^^allow for 6mm thick Alu door perimeter plate back bonded to door frame; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5602 - (Ref: Tag Item 51)	14	m		
C	^^^allow for surface 2 of door glass unit ceramic frit to conceal bond to sash profile (at top & bottom of door); by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5602 - (Ref: Tag Item 53)	9	m		
D	^^^allow for 2mm thick PPC Alu glass edge protection angle; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5602 - (Ref: Tag Item 54)	71	m		
E	^^^allow for 3 mm PPC aluminium threshold cill to doors; fully welded stop ends, sealed laps and dressing; by glazing s/c (retained as a cill flashing) as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5602 - (Ref: Tag Item 55)	71	m		
F	^^^allow for glazing carrier panel sealed with EDPM to curtain wall sill as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 66)	71	m		
G	^^^allow for 2mm thick aluminium continuous closer piece to heads/soffits & jambs of curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5601, 5602, 5603, 5604, 5605, 5606, 5608 - (Ref: Tag Item 71)	75	m		
H	^^^allow for Continuous 200 × 200 × 6 mm folded aluminium support angle on PVC thermal pad, fixed to concrete with anchor bolts as per Architects Specification H11-110; curtain-wall support as per Drawings 2425, 2660 to 2665 and Details on Drawing 5602 - (Ref: Tag Item 119)	71	m		
	Extra Over Last (on CW09 SSG System) For Automated Anti-Glare Blinds (N10-241)				

	Description	Qty	Unit	Rate	Amount
	Allow for Healthcare-grade automated anti-glare roller blind to clause N10-241, to EN 13120, mechanism endurance Class 3; anti-microbial bacteriostatic glassfibre fabric with double-sided PVC backing, Cradle-to-Cradle certified, fabric fire performance Class B-s1,d0 to EN 13501; concealed asynchronous motor within extruded aluminium/steel headrail, 230V/50Hz, 23 rpm, IP44, wall rocker-switch control with bottom, second-bottom and upper limit switches set to EN 14202; side guides comprising bracket, side-guide wire, wire-rope fastener and end cover (no blackout U -channel), PPC aluminium bottom weight bar, adjustable vertical-adjustment bracketry, window-side fabric roll -off; all exposed metalwork PPC RAL 9016; motor wired to local junction box with conduit-shrouded cable; sized to suit the window pane(s) of CW09 per the window schedule Drawing 2660 & 4500				
A	^^^to suit the window pane(s) 2305mm high x 7800mm wide at L01 of CW09	1	nr		
B	^^^^^^Extra over last for 150mm x 25mm PPC Aluminium Flashing; RAL to match CW mullions as per Tag Item 215 outlined on Drawing SH-OCM-AR-4500	8	m		
C	^^^^^^Extra over last for 50mm x 25mm PPC Aluminium Flashing; RAL to match CW mullions as per Tag Item 216 outlined on Drawing SH-OCM-AR-4500	14	m		
	CW10				
D	^^^to suit overall opening size 2305mm high x 11545mm wide; with 6nr. fixed glazed panels at Level 1A (6nr. x size 1845mm x 2305mm) and 1nr. fixed glazed panels at Level 1A (1nr. x size 475mm x 2305mm - part of glazed corner junction), consisting of IGU glazing type CSG 1 — fixed section, clear toughened glazing; outer pane: min. 6mm extra clear (reduced iron) toughened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 2; cavity: nom. 22mm, 90% krypton filled, black warm edge spacer; inner pane: min. 8.8mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as specification clause H11-110 (CSG 1); - Ref: CW10 as per Drawings DR-OCM-AR-2425 & 2662	1	nr		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW010 SSG System) For Spandrel Panels				
A	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; - Ref: CW010 as per Drawings DR-OCM-AR-2425 & 2661 and Drawings 2425, 2660 & 5601	17	m2		
B	^^^^^^allow for 2mm thick PPC Alu. closer pressing fixed to 2mm thick Alu. spandrel closer panel by glazing s/c. to curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawing 5601, 5602; 1 times bent ; girth < or = 150mm - (Ref: Tag Item 109)	12	m		
	Extra Over Last (on CW010 SSG System) For Flashings, closer pieces, cills, etc. & Other Interface Items				
C	^^^allow for 2mm thick PPC aluminium sill pressing to curtain wall as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 40)	12	m		
D	^^^Coated aluminium sheet flashing to BS EN 14783/1396, alloy EN AW-1050, 3mm thick, polyester powder-coated finish (to Z31); Alu Pressing Flashing, girth [girth 305mm], with bottom edge welted 15mm and not less than 75mm cover to upstand; end-to-end joints lapped not less than 100mm; fixed to secondary aluminium frames, U-channels and bracketry ; including 80kg/m³ mineral wool backing and 1.7mm EPDM secondary weathering barrier with aluminium carrier plates to gaps exceeding 50mm as per Details on Drawing 5602 & Architects Spec. H72-422 - (Ref: Tag Item 49)	12	m		

	Description	Qty	Unit	Rate	Amount
A	^^^allow for glazing carrier panel sealed with EDPM to curtain wall sill as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 66)	24	m		
B	^^^allow for 2mm thick aluminium continuous closer piece to heads/soffits & jambs of curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5601, 5602, 5603, 5604, 5605, 5606, 5608 - (Ref: Tag Item 71)	14	m		
C	^^^allow for cill flashing by Glazing Sub-Contractor	12	m		
	Extra Over Last (on CW010 SSG System) For Automated Anti-Glare Blinds (N10-241)				
	Allow for Healthcare-grade automated anti-glare roller blind to clause N10-241, to EN 13120, mechanism endurance Class 3; anti-microbial bacteriostatic glassfibre fabric with double-sided PVC backing, Cradle-to-Cradle certified, fabric fire performance Class B-s1,d0 to EN 13501; concealed asynchronous motor within extruded aluminium/steel headrail, 230V/50Hz, 23 rpm, IP44, wall rocker-switch control with bottom, second-bottom and upper limit switches set to EN 14202; side guides comprising bracket, side-guide wire, wire-rope fastener and end cover (no blackout U-channel), PPC aluminium bottom weight bar, adjustable vertical-adjustment bracketry, window-side fabric roll-off; all exposed metalwork PPC RAL 9016; motor wired to local junction box with conduit-shrouded cable; sized to suit the window pane(s) of CW10 per the window schedule Drawing 2660 & 4500				
D	^^^to suit the window pane(s) 2305mm high x 11070mm wide at L01 of CW10	1	nr		
E	^^^^^^Extra over last for 150mm x 25mm PPC Aluminium Flashing; RAL to match CW mullions as per Tag Item 215 outlined on Drawing SH-OCM-AR-4500	12	m		
F	^^^^^^Extra over last for 50mm x 25mm PPC Aluminium Flashing; RAL to match CW mullions as per Tag Item 216 outlined on Drawing SH-OCM-AR-4500	19	m		

	Description	Qty	Unit	Rate	Amount
	CW11				
A	^^^to suit overall opening size 4120mm high x 68380mm wide; with 19nr. fixed glazed panels at Level 00 (19nr. x size 3400mm x 845mm), 1nr. fixed glazed panels at Level 00 (1nr. x size 3425mm x 845mm), 19nr. fixed glazed panels at Level 00 (19nr. x size 1825mm x 2825mm), 1nr. fixed glazed panels at Level 00 (1nr. x size 1850mm x 2825mm), 20nr. fixed glazed panels at Level 00 (20nr. x size 1575mm x 415mm) and 1nr. fixed glazed panels at Level 00 (1nr. x size 335mm x 4120mm), consisting of IGU glazing type CSG 1 — fixed section, clear toughened glazing; outer pane: min. 6mm extra clear (reduced iron) toughened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 2; cavity: nom. 22mm, 90% krypton filled, black warm edge spacer; inner pane: min. 8.8mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as specification clause H11-110 (CSG 1); - Ref: CW11 as per Drawings DR-OCM-AR-2425 & 2663	1	nr		
	Extra Over Last (on CW011 SSG System) For Flashings, closer pieces, cills, etc. & Other Interface Items				
B	^^^allow for 2mm thick PPC aluminium sill pressing to curtain wall as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 40)	69	m		
C	^^^allow for 1.2 mm EPDM membrane lapped over and sealed to blockwork upstand and DPC; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600 - (Ref: Tag Item 45)	69	m		
D	^^^allow for glazing carrier panel sealed with EDPM to curtain wall sill as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601, 5605 - (Ref: Tag Item 66)	69	m		
E	^^^allow for 2mm thick aluminium continuous closer piece to heads/soffits & jambs of curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5601, 5602, 5603, 5604, 5605, 5606, 5608 - (Ref: Tag Item 71)	77	m		

	Description	Qty	Unit	Rate	Amount
A	^^^allow for 2 mm counter-flashing with 1.7 mm EPDM; void packed with mineral wool; by glazing s/c (glazing-side lap of Tag 107) as per Drawings 2425, 2660 to 2665 and Details on Drawings 5604, 5605 - (Ref: Tag Item 105)	69	m		
B	^^^allow for 1.7 mm EPDM sealed to face of breather membrane to tie into glazing unit; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5604 - (Ref: Tag Item 106)	69	m		
	Extra Over Last (on CW11 SSG System) For Automated Glazed Louvres				
C	^^^supply and install factory-assembled thermally broken extruded aluminium framed automated operable glazed louvre window system with Ag: Geometric Free Area 3.8m2 incorporating multiple double-glazed lamella blades within an aluminium frame, integrated into the SSG curtain walling façade stick system as clause H11-110, to provide controllable natural ventilation, daylighting and smoke extract; lamella movement achieved by concealed mechanical/electric drive mechanism with smooth, synchronous operation; extruded aluminium alloy frame with max. 50mm visible thickness from inside; polyester powder coating to BS EN 12206-1, minimum 60 micron thick, in selected RAL colour (allow for dual colour inside/outside); all aluminium to be solid, no composite panels; including all necessary fixings, straps, clips, brackets, lugs, screws, nuts, bolts, rivets, metal washers, shim, flashings and sealing; to suit overall opening size 2305mm high x 1575mm wide; all as per architects specification clause H11-437 - Ref: W-00-HPAC-015-01 to 015-20 (at Level 00) to CW11 as per Drawings DR-OCM-AR-2425 & 2663 and External Louvre Schedule SH-OCM-AR-4501	20	nr		
	CW12				
D	^^^to suit overall opening size 2750mm high x 10060mm wide; with 3nr. fixed glazed panels at Level 00 (3nr. x size 1735mm x 2750mm), consisting of IGU glazing type CSG 1 — fixed section, clear toughened glazing; outer pane: min. 6mm extra clear (reduced iron) toughened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 2; cavity: nom. 22mm, 90% krypton filled, black warm edge spacer; inner pane: min. 8.8mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as specification clause H11-110 (CSG 1); - Ref: CW12 as per Drawings DR-OCM-AR-2425 & 2663	1	nr		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW012 SSG System) For Flashings, closer pieces, cills, etc. & Other Interface Items				
A	^^^allow for 2mm thick PPC aluminium sill pressing to curtain wall as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 40)	11	m		
B	^^^allow for glazing carrier panel sealed with EDPM to curtain wall sill as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601, 5605 - (Ref: Tag Item 66)	21	m		
C	^^^allow for 2mm thick aluminium continuous closer piece to heads/soffits & jambs of curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5601, 5602, 5603, 5604, 5605, 5606, 5608 - (Ref: Tag Item 71)	16	m		
D	^^^allow for 2 mm counter-flashing with 1.7 mm EPDM; void packed with mineral wool; by glazing s/c (glazing-side lap of Tag 107) as per Drawings 2425, 2660 to 2665 and Details on Drawings 5604, 5605 - (Ref: Tag Item 105)	11	m		
E	^^^allow for 1.7 mm EPDM sealed to face of breather membrane to tie into glazing unit; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5604 - (Ref: Tag Item 106)	11	m		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW12 SSG System) For Automated Glazed Louvres				
A	^^^supply and install factory-assembled thermally broken extruded aluminium framed automated operable glazed louvre window system with Ag: Geometric Free Area 3.7m2 incorporating multiple double-glazed lamella blades within an aluminium frame, integrated into the SSG curtain walling façade stick system as clause H11-110, to provide controllable natural ventilation, daylighting and smoke extract; lamella movement achieved by concealed mechanical/electric drive mechanism with smooth, synchronous operation; extruded aluminium alloy frame with max. 50mm visible thickness from inside; polyester powder coating to BS EN 12206-1, minimum 60 micron thick, in selected RAL colour (allow for dual colour inside/outside); all aluminium to be solid, no composite panels; including all necessary fixings, straps, clips, brackets, lugs, screws, nuts, bolts, rivets, metal washers, shim, flashings and sealing; to suit overall opening size 2305mm high x 1575mm wide; all as per architects specification clause H11-437 - Ref: W-00-HPAC-015-21, 015-22 & 015-23 (at Level 00) to CW12 as per Drawings DR-OCM-AR-2425 & 2663 and External Louvre Schedule SH-OCM-AR-4501	3	nr		

	Description	Qty	Unit	Rate	Amount
	CW13				
A	^^^to suit overall opening size 10660mm high x 12910mm wide; with 1nr. fixed glazed panels at Level 00 (1nr. x size 1155mm x 2590mm), 1nr. fixed glazed panels at Level 00 (1nr. x size 1155mm x 1950mm), 1nr. fixed glazed panels at Level 00 (1nr. x size 2480mm x 390mm), 1nr. fixed glazed panels at Level 00 (1nr. x size 2480mm x 800mm), 4nr. fixed glazed panels at Level 00 (4nr. x size 3635mm x 1950mm), 1nr. fixed glazed panels at Level 00 (1nr. x size 3635mm x 475mm), and 5nr. fixed glazed panels at Level 1 (5nr. x size 3405mm x 1950mm), 1nr. fixed glazed panels at Level 1 (1nr. x size 3635mm x 475mm), and 1nr. fixed glazed panels at Level 2 (1nr. x size 2920mm x 2590mm), 5nr. fixed glazed panels at Level 2 (5nr. x size 2920mm x 1950mm), 1nr. fixed glazed panels at Level 2 (1nr. x size 2920mm x 475mm) consisting of IGU glazing type CSG 3 — fixed section, clear laminated and heat strengthened glazing to main entrance; outer pane: min. 11.5mm extra clear (reduced iron) laminated heat strengthened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 4; cavity: nom. 16mm, 90% krypton filled, black warm edge spacer; inner pane: min. 11.5mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as specification clause H11-110 (CSG 3); - Ref: CW13 as per Drawings DR-OCM-AR-2425 & 2664	1	nr		
	Extra Over Last (on CW13 SSG System) For Integrated Doors				
B	^^^allow for the supply and installation of single integrated glazed door to curtain wall (CW13) Type CSD1 Concealed frame door opening section with structurally bonded glass (with pull handles) fitted with automated swing door drive comprising of min. 11.5mm clear laminated, extra clear (reduced iron), heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 4 outer pane; 20mm 90% krypton filled cavity, black warm edge spacer; min. 11.5mm clear laminated, extra clear (reduced iron), heat strengthened glass (heat soak tested to EN14179) inner pane to glazing Type CSG 3; to suit size 1150mm wide x 2480mm high; all as per architects specification clause H11-110 (CSD 1) - Ref: Ext. Door Type 02 - ED-ENT-00-002 as per Drawings DR-OCM-AR-2425 & 2664 and Drawing Schedule SH-OCM-AR-4101	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^allow for the supply and installation of DOUBLE integrated glazed door to curtain wall (CW13) Type CSD1 Concealed frame door opening section with structurally bonded glass (with pull handles) fitted with automated swing door drive comprising of min. 11.5mm clear laminated, extra clear (reduced iron), heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 4 outer pane; 20mm 90% krypton filled cavity, black warm edge spacer; min. 11.5mm clear laminated, extra clear (reduced iron), heat strengthened glass (heat soak tested to EN14179) inner pane to glazing Type CSG 3; to suit size 2200mm wide x 2560mm high; all as per architects specification clause H11-110 (CSD 1) - Ref: Ext. Door Type 12 - ED-01-HCOM-001 as per Drawings DR-OCM-AR-2425 & 2664 and Drawing Schedule SH-OCM-AR-4102	1	nr		
B	^^^^^^allow for steel angle threshold support to integrated doors of curtain wall system (CW13) as per Architects Specification H11-110 and Drawings 2425, 2660 and Details on Drawing 5601	4	m		
	<u>Extra Over Last (on CW13 SSG System) For Spandrel Panels</u>				
C	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid vertically; to suit overall opening size 390mm high x 2560mm high, - Ref: CW13 as per Drawings DR-OCM-AR-2425 & 2661 and Drawings 2425, 2664	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; to suit overall opening size 735mm high x 12910mm long, - Ref: CW13 as per Drawings DR-OCM-AR-2425 & 2664	1	nr		
B	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; to suit overall opening size 845mm high x 2660mm long, - Ref: CW13 as per Drawings DR-OCM-AR-2425 & 2664	1	nr		
C	^^^^^^allow for 2mm thick PPC Alu. closer pressing fixed to 2mm thick Alu. spandrel closer panel by glazing s/c. to curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawing 5601, 5602; 1 times bent ; girth < or = 150mm - (Ref: Tag Item 109)	16	m		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW13 SSG System) For Flashings, closer pieces, cills, etc. & Other Interface Items				
A	^^^allow for 2mm thick PPC aluminium sill pressing to curtain wall as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 40)	11	m		
B	^^^allow for 1.2 mm EPDM membrane lapped over and sealed to blockwork upstand and DPC; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600 - (Ref: Tag Item 45)	11	m		
C	^^^allow for Continuous 175 × 50 × 6 mm folded aluminium support angle on PVC thermal pad, fixed to concrete with anchor bolts; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600 - (Ref: Tag Item 46)	2	m		
D	^^^allow for 3 mm PPC aluminium threshold cill to doors; fully welded stop ends, sealed laps and dressing; by glazing s/c (retained as a cill flashing) as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5602 - (Ref: Tag Item 55)	2	m		
E	^^^allow for glazing carrier panel sealed with EDPM to curtain wall sill as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 66)	22	m		
F	^^^allow for 2mm thick aluminium continuous closer piece to heads/soffits & jambs of curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5601, 5602, 5603, 5604, 5605, 5606, 5608 - (Ref: Tag Item 71)	24	m		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW13 SSG System) For Automated Anti-Glare Blinds (N10-241)				
	Allow for Healthcare-grade automated anti-glare roller blind to clause N10-241, to EN 13120, mechanism endurance Class 3; anti-microbial bacteriostatic glassfibre fabric with double-sided PVC backing, Cradle-to-Cradle certified, fabric fire performance Class B-s1,d0 to EN 13501; concealed asynchronous motor within extruded aluminium/steel headrail, 230V/50Hz, 23 rpm, IP44, wall rocker-switch control with bottom, second-bottom and upper limit switches set to EN 14202; side guides comprising bracket, side-guide wire, wire-rope fastener and end cover (no blackout U -channel), PPC aluminium bottom weight bar, adjustable vertical-adjustment bracketry, window-side fabric roll -off; all exposed metalwork PPC RAL 9016; motor wired to local junction box with conduit-shrouded cable; sized to suit the window pane(s) of CW13 per the window schedule Drawing 2660 & 4500				
A	^^^to suit the window pane(s) 2885mm high x 12895mm wide at L01 of CW13	1	nr		
B	^^^^^^Extra over last for 150mm x 25mm PPC Aluminium Flashing; RAL to match CW mullions as per Tag Item 215 outlined on Drawing SH-OCM-AR-4500	13	m		
C	^^^^^^Extra over last for 50mm x 25mm PPC Aluminium Flashing; RAL to match CW mullions as per Tag Item 216 outlined on Drawing SH-OCM-AR-4500	24	m		

	Description	Qty	Unit	Rate	Amount
	CW14				
A	^^^to suit overall opening size 10660mm high x 5855mm wide; with 1nr. fixed glazed panels at Level 00 (1nr. x size 475mm x 3600mm), 2nr. fixed glazed panels at Level 00 (2nr. x size 2200mm x 3600mm), 1nr. fixed glazed panels at Level 00 (1nr. x size 980mm x 3600mm), and 1nr. fixed glazed panels at Level 1 (1nr. x size 475mm x 3405mm), 2nr. fixed glazed panels at Level 1 (2nr. x size 2200mm x 3405mm), and 1nr. fixed glazed panels at Level 1 (1nr. x size 980mm x 3405mm), and 1nr. fixed glazed panels at Level 2 (1nr. x size 475mm x 2885mm), 2nr. fixed glazed panels at Level 2 (2nr. x size 2200mm x 2885mm) and 1nr. fixed glazed panels at Level 1 (1nr. x size 980mm x 3405mm) consisting of IGU glazing type CSG 3 — fixed section, clear laminated and heat strengthened glazing to main entrance; outer pane: min. 11.5mm extra clear (reduced iron) laminated heat strengthened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 4; cavity: nom. 16mm, 90% krypton filled, black warm edge spacer; inner pane: min. 11.5mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as specification clause H11-110 (CSG 3); - Ref: CW14 as per Drawings DR-OCM-AR-2425 & 2664	1	nr		
B	^^^to suit overall opening size 2831mm high x 2620mm wide; with 1nr. fixed glazed panel over double door at Level 00 (1nr. x size 2620mm x 365mm) and 1nr. fixed glazed panel to side of double door at Level 00 (1nr. x size 385mm x 2466mm)	1	nr		
	Extra Over Last (on CW14 SSG System) For Integrated Doors				
C	^^^allow for the supply and installation of double integrated glazed door to curtain wall (CW14) Type CSD1 Concealed frame door opening section with structurally bonded glass (with pull handles) fitted with automated swing door drive comprising of min. 11.5mm clear laminated, extra clear (reduced iron), heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 4 outer pane; 20mm 90% krypton filled cavity, black warm edge spacer; min. 11.5mm clear laminated, extra clear (reduced iron), heat strengthened glass (heat soak tested to EN14179) inner pane to glazing Type CSG 3; to suit size 2170mm wide x 2480mm high; all as per architects specification clause H11-110 (CSD 1) - Ref: Ext. Door Type 03 - ED-ENT-00-002 as per Drawings DR-OCM-AR-2425 & 2664 and Drawing Schedule SH-OCM-AR-4101	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^^^^allow for steel angle threshold support to integrated doors of curtain wall system (CW14) as per Architects Specification H11-110 and Drawings 2425, 2660 and Details on Drawing 5601	3	m		
	Extra Over Last (on CW14 SSG System) For Spandrel Panels				
B	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; to suit overall opening size 355mm high x 2345mm long, - Ref: CW14 as per Drawings DR-OCM-AR-2425 & 2664	1	nr		
C	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; to suit overall opening size 735mm high x 5855mm long, - Ref: CW14 as per Drawings DR-OCM-AR-2425 & 2664	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^^^^allow for 2mm thick PPC Alu. closer pressing fixed to 2mm thick Alu. spandrel closer panel by glazing s/c. to curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawing 5601, 5602; 1 times bent ; girth < or = 150mm - (Ref: Tag Item 109)	9	m		
	Extra Over Last (on CW14 SSG System) For Flashings, closer pieces, cills, etc. & Other Interface Items				
B	^^^allow for 2mm thick PPC aluminium sill pressing to curtain wall as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 40)	9	m		
C	^^^allow for 1.2 mm EPDM membrane lapped over and sealed to blockwork upstand and DPC; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600 - (Ref: Tag Item 45)	9	m		
D	^^^allow for Continuous 175 × 50 × 6 mm folded aluminium support angle on PVC thermal pad, fixed to concrete with anchor bolts; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600 - (Ref: Tag Item 46)	3	m		
E	^^^allow for 3 mm PPC aluminium threshold cill to doors; fully welded stop ends, sealed laps and dressing; by glazing s/c (retained as a cill flashing) as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5602 - (Ref: Tag Item 55)	3	m		
F	^^^allow for glazing carrier panel sealed with EDPM to curtain wall sill as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 66)	17	m		
G	^^^allow for 2mm thick aluminium continuous closer piece to heads/soffits & jambs of curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5601, 5602, 5603, 5604, 5605, 5606, 5608 - (Ref: Tag Item 71)	20	m		
	Extra Over Last (on CW14 SSG System) For Automated Anti-Glare Blinds (N10-241)				

	Description	Qty	Unit	Rate	Amount
	Allow for Healthcare-grade automated anti-glare roller blind to clause N10-241, to EN 13120, mechanism endurance Class 3; anti-microbial bacteriostatic glassfibre fabric with double-sided PVC backing, Cradle-to-Cradle certified, fabric fire performance Class B-s1,d0 to EN 13501; concealed asynchronous motor within extruded aluminium/steel headrail, 230V/50Hz, 23 rpm, IP44, wall rocker-switch control with bottom, second-bottom and upper limit switches set to EN 14202; side guides comprising bracket, side-guide wire, wire-rope fastener and end cover (no blackout U -channel), PPC aluminium bottom weight bar, adjustable vertical-adjustment bracketry, window-side fabric roll -off; all exposed metalwork PPC RAL 9016; motor wired to local junction box with conduit-shrouded cable; sized to suit the window pane(s) of CW14 per the window schedule Drawing 2660 & 4500				
A	^^^to suit the window pane(s) 2885mm high x 5890mm wide at L01 of CW14	1	nr		
B	^^^^^^Extra over last for 150mm x 25mm PPC Aluminium Flashing; RAL to match CW mullions as per Tag Item 215 outlined on Drawing SH-OCM-AR-4500	6	m		
C	^^^^^^Extra over last for 50mm x 25mm PPC Aluminium Flashing; RAL to match CW mullions as per Tag Item 216 outlined on Drawing SH-OCM-AR-4500	15	m		
	CW15				
D	^^^to suit overall opening size 9035mm high x 8230mm wide; with 1nr. fixed glazed panels at Level 1 (1nr. x size 1855mm x 3405mm), 3nr. fixed glazed panels at Level 1 (3nr. x size 2125mm x 3405mm) and 1nr. fixed glazed panels at Level 2 (1nr. x size 1855mm x 2885mm), 3nr. fixed glazed panels at Level 1 (3nr. x size 2125mm x 2885mm) consisting of IGU glazing type CSG 2 — fixed section, clear heat strengthened glazing; outer pane: min. 6mm extra clear (reduced iron) heat strengthened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 2; cavity: nom. 22mm, 90% krypton filled, black warm edge spacer; inner pane: min. 8.8mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as per architects specification clause H11-110 (CSG 2) - Ref: CW15 as per Drawings DR-OCM-AR-2425 & 2665	1	nr		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW15 SSG System) For Spandrel Panels				
A	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; to suit overall opening size 735mm high x 8230mm long, - Ref: CW15 as per Drawings DR-OCM-AR-2425 & 2665	1	nr		
B	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; to suit overall opening size 810mm high x 8230mm long, - Ref: CW15 as per Drawings DR-OCM-AR-2425 & 2665	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; to suit overall opening size 1200mm high x 8230mm long, - Ref: CW15 as per Drawings DR-OCM-AR-2425 & 2665	1	nr		
B	^^^^^^allow for mild-steel dead-load mullion T-Bracket system fixed to steel plate behind spandrel panel by glazing s/c. to curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawing 5610 - (Ref: Tag Item 75)	21	m		
C	^^^^^^allow for 2mm thick PPC Alu. closer pressing fixed to 2mm thick Alu. spandrel closer panel by glazing s/c. to curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawing 5601, 5602; 1 times bent ; girth < or = 150mm - (Ref: Tag Item 109)	21	m		
	<u>Extra Over Last (on CW15 SSG System) For Flashings, closer pieces, cills, etc. & Other Interface Items</u>				
D	^^^allow for glazing carrier panel sealed with EDPM to curtain wall sill as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 66)	7	m		
E	^^^allow for 2mm thick aluminium continuous closer piece to heads/soffits & jambs of curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5601, 5602, 5603, 5604, 5605, 5606, 5608 - (Ref: Tag Item 71)	23	m		

	Description	Qty	Unit	Rate	Amount
A	^^^allow for 1.7 mm EPDM sealed to face of breather membrane to tie into glazing unit; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5610 - (Ref: Tag Item 106)	8	m		
	CW16				
B	^^^to suit overall opening size 9035mm high x 9330mm wide; with 1nr. fixed glazed panels at Level 1 (1nr. x size 830mm x 3405mm), 4nr. fixed glazed panels at Level 1 (4nr. x size 2125mm x 3405mm) and 1nr. fixed glazed panels at Level 2 (1nr. x size 830mm x 2885mm), 4nr. fixed glazed panels at Level 1 (4nr. x size 2125mm x 2885mm) consisting of IGU glazing type CSG 2 — fixed section, clear heat strengthened glazing; outer pane: min. 6mm extra clear (reduced iron) heat strengthened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 2; cavity: nom. 22mm, 90% krypton filled, black warm edge spacer; inner pane: min. 8.8mm extra clear (reduced iron) annealed laminated glass; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; all as per architects specification clause H11-110 (CSG 2) - Ref: CW16 as per Drawings DR-OCM-AR-2425 & 2665	1	nr		
	Extra Over Last (on CW16 SSG System) For Spandrel Panels				
C	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; to suit overall opening size 735mm high x 9330mm long, - Ref: CW16 as per Drawings DR-OCM-AR-2425 & 2665	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; to suit overall opening size 810mm high x 9330mm long, - Ref: CW16 as per Drawings DR-OCM-AR-2425 & 2665	1	nr		
B	^^^allow for the supply and installation of Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel; comprising of Double glazed; Curtain walling manufacturer approved toggle channel and fixing; with min. 6mm extra clear heat strengthened glass (heat soak tested to EN14179), with Solar Neutral 60/28 coating to face no. 2 outer pane, 24mm 90% krypton filled cavity, black warm edge spacer, with min. 8mm ultra clear (low iron) toughened (heat soak tested) glass inner pane - 100% ceramic frit to face no. 4. Frit colour to be coated twice to achieve true colour; with min. 155mm thick foil backed mineral wool insulation (80kg/m³) to be hermetically sealed and foil taped to the rear of the glazed panel with and including 0.9mm thick galvanised steel inner skin with continuous low modulus silicone seal to perimeter joints and transom to mullion joints with black silicone seal with polyethylene backer rod all as per Architects Specification H11-110 (CSG 5); spandrel panel laid horizontal; to suit overall opening size 1200mm high x 9330mm long, - Ref: CW16 as per Drawings DR-OCM-AR-2425 & 2665	1	nr		
C	^^^^^^allow for 2mm thick PPC Alu. closer pressing fixed to 2mm thick Alu. spandrel closer panel by glazing s/c. to curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawing 5601, 5602; 1 times bent ; girth < or = 150mm - (Ref: Tag Item 109)	28	m		

	Description	Qty	Unit	Rate	Amount
	Extra Over Last (on CW16 SSG System) For Flashings, closer pieces, cills, etc. & Other Interface Items				
A	^^^allow for glazing carrier panel sealed with EDPM to curtain wall sill as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 66)	10	m		
B	^^^allow for 2mm thick aluminium continuous closer piece to heads/soffits & jambs of curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5601, 5602, 5603, 5604, 5605, 5606, 5608 - (Ref: Tag Item 71)	28	m		
C	^^^allow for 1.7 mm EPDM sealed to face of breather membrane to tie into glazing unit; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5610 - (Ref: Tag Item 106)	10	m		
	Extra Over Last (on CW16 SSG System) For Automated Anti-Glare Blinds (N10-241)				
	Allow for Healthcare-grade automated anti-glare roller blind to clause N10-241, to EN 13120, mechanism endurance Class 3; anti-microbial bacteriostatic glassfibre fabric with double-sided PVC backing, Cradle-to-Cradle certified, fabric fire performance Class B-s1,d0 to EN 13501; concealed asynchronous motor within extruded aluminium/steel headrail, 230V/50Hz, 23 rpm, IP44, wall rocker-switch control with bottom, second-bottom and upper limit switches set to EN 14202; side guides comprising bracket, side-guide wire, wire-rope fastener and end cover (no blackout U-channel), PPC aluminium bottom weight bar, adjustable vertical-adjustment bracketry, window-side fabric roll-off; all exposed metalwork PPC RAL 9016; motor wired to local junction box with conduit-shrouded cable; sized to suit the window pane(s) of CW016 per the window schedule Drawing 2660 & 4500				
D	^^^to suit the window pane(s) 2885mm high x 9330mm wide at L01 of CW116	1	nr		
E	^^^^^^Extra over last for 150mm x 25mm PPC Aluminium Flashing; RAL to match CW mullions as per Tag Item 215 outlined on Drawing SH-OCM-AR-4500	10	m		
F	^^^^^^Extra over last for 50mm x 25mm PPC Aluminium Flashing; RAL to match CW mullions as per Tag Item 216 outlined on Drawing SH-OCM-AR-4500	18	m		

Description	Qty	Unit	Rate	Amount
Composite items; Curtain Walling (H11-111)				

Description	Qty	Unit	Rate	Amount
Proprietary thermally broken polyester powder coated extruded aluminium structural sealant glazed (SSG) fire-rated curtain walling system with toggle glass retention system to concrete/steel supporting structure; slim-line aluminium façade system with 50mm face width and flush fitted all-glass appearance; fire resistant to EN 13501-2: EI60 — 60 minutes integrity and 60 minutes insulation; fabricators and installers to be trained and approved by fire-rated curtain wall manufacturer; ultra-low carbon extruded aluminium alloy profiles to BS EN 755 (Type 6063 T5 & T6), GWP less than 2.00 kg CO_2e/kg verified by EPD to EN 15804 Modules A1–A3; polyester powder coating to BS EN 12206-1, minimum 60 micron thick, Class 2 external / Class 1 internal, in selected RAL colour (allow for dual/multiple colours internally/externally and between stick and opening section framing); all aluminium to be solid, no composite panels; external cover cap: wet seal structural sealant glazing system (SSG), four-side bonded with structural silicone sealant to neat smooth concave finish; glazing insulating double-glazed units, toggle fixed with curtain walling manufacturer approved toggle channel and fixing; system performance: air permeability AE 1200, watertightness RE 1200, wind load resistance 2.4/3.6 kN/m², impact resistance I5/E5, fire resistance EI60 to EN 13501-2, frame Uf min. 0.91 W/m²K, average curtain wall U-Value 1.3 W/m²K (weighted), sound reduction Rw 42 dB(A); CWCT certified; CE marked; EN 1627 and EN 13830 compliant; Cradle to Cradle Silver certified; European Technical Assessment; toggle mullion drained and ventilated stick system — mullions square cut with jointing spigots, transoms notched and screw fixed to mullions, all loads transferred to main building structure; fixing brackets supplied by curtain walling sub-contractor to the approval of the Employer's Representative, site-specific structural calculations provided for inclusion in BC(A)R submission; glass set in position with hex head fixing screws against extruded gaskets internally fitted into gasket grooves in mullions and transoms; fire stopping at all junctions with compartment and separating walls and floors — materials and methods to ensure fire resistance not less than that of the adjoining compartment construction, tested from both sides; including parapets of min. 3mm pressed solid aluminium with PPC/anodic/anodized finish, secondary aluminium frames, U-channels and bracketry, fully drained, min. 23 kg/m³ mineral wool insulation backing, joints finished with wet structural silicone seal, EPDM secondary weathering barrier with mill-finish aluminium EPDM carrier plates; flashings: external min. 3mm pressed aluminium PPC finish, internal visible min. 2mm PPC or anodized, internal concealed min. 2mm mill finished; min. 1.5mm EPDM bonded with bituminous bonding agent; all insulation				

Description	Qty	Unit	Rate	Amount
mineral/stone wool min. 80 kg/m³; min. 300mm EPDM or foil-faced bituthene vapour/air barrier (min. 2mm) on warm side of insulation at all interfaces; CWCT Sequence B weather performance testing (static and dynamic, including hose testing) by independent body; The Curtain Walling Sub-Contractor is to allow for all interfacing weathering, closing, fixing and cavity insulation works at the curtain wall head, base/cills and jambs conditions, comprising the following works common to all interfacing works details: thermally broken aluminium shoe/fixing bracket assembly incorporating thermal break pad at all bracket/structure interfaces to include the following (but not limited to) Tag Item 36 - Internal EPDM vapour-control layer / air seal dressed to perimeter framing and continuously sealed to the building air barrier; Tag Item 37 - 35 × 35 mm PPC aluminium perimeter angle / trim to system edges, Tag 38 - Mineral / stone wool full-fill insulation (min. 80 kg/m³) to perimeter and interface cavities. Tag Item 39 - Mullion-to-structure shoe bracket fixing with 5 mm thermal isolation packing; all bracketry, fixings and packings are sub-contractor design responsibility, Tag Item 41 - Black weathering silicone perimeter seal on closed-cell PE backer rod, Tag Item 66 - EDPM sealed to carrier panel; Tag Item 75 - mild-steel dead-load mullion T-Bracket system fixed to steel plate behind spandrel and Tag Item 106 - 1.7 mm EPDM dressed from the cladding breather membrane into the glazing perimeter, forming a continuous weather / air seal at the cladding-to-glazing interface; CW System to include for all necessary fixings, straps, clips, brackets, lugs, screws, nuts, bolts, rivets, metal washers, shim, flashings and sealing; Designed, fabricated, supplied, installed and commissioned by the Specialist Façade Sub-contractor; all as Architects Specification Clause H11-11 and Drawings DR-OCM-AR-2425, 2660 to 2665 and Drawings 5600 to 5610; Include for fully-bonded airtightness tape sealing to perimeter of opening; extra-wide single-sided plasterable tape, min. 150mm wide, min. 0.7mm thick, sd value 0.3–20m, EMICODE EC1 Plus; bonded to internal face and structural surrounds with proprietary primer and adhesive-sealant, min. 200mm laps at joints, lapped to airtightness membrane and returned to liquid waterproofing to form continuous airtight seal; all to Specification Clause 161.				

	Description	Qty	Unit	Rate	Amount
	CW08				
A	^^^to suit overall opening size 2305mm high x 3665mm wide; with 3nr. fixed glazed panels at Level 1A (2nr. x size 1595mm x 2305mm, 1nr. x size 475mm x 2305mm (part of glass corner unit)), consisting of IGU glazing type CFSG 3 — fixed section, fire-rated clear laminated and heat strengthened glazing achieving EI60 (60 minutes integrity and 60 minutes insulation) to EN 13501-2; double-glazed, four-side structurally bonded; curtain walling manufacturer approved toggle channel and fixing; outer pane: min. 11.5mm extra clear (reduced iron) laminated heat strengthened glass, heat soak tested to EN14179, with Solar Neutral SN60/28 low-e coating to face no. 4; cavity: nom. 16mm, 90% krypton filled, black warm edge spacer; inner pane: min. 11.5mm extra clear (reduced iron) annealed laminated glass; glass thicknesses subject to final design by Specialist Façade Sub-contractor; visible light transmittance: 0.76 or better; G-Value: 0.4035 or better; U-Value: 1.3 W/m²K (weighted average); fire test certificate to be provided — correctly designed supporting constructions are critical to conforming with fire test evidence; contractor responsible for frame sizes and fixings in accordance with field of application within system fire test report; all as Architects Specification Clause H11-111 (CFSG 3); - Ref: CW08 as per Drawings DR-OCM-AR-2425 & 2662	1	nr		
	Extra Over Last (on CW06 SSG System) For Flashings, closer pieces, cills, etc. & Other Interface Items				
B	^^^allow for 2mm thick PPC aluminium sill pressing to curtain wall as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 40)	4	m		
C	^^^allow for 1.2 mm EPDM membrane lapped over and sealed to blockwork upstand and DPC; by glazing s/c as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600 - (Ref: Tag Item 45)	4	m		

	Description	Qty	Unit	Rate	Amount
A	^^^Coated aluminium sheet flashing to BS EN 14783/1396, alloy EN AW-1050, 3mm thick, polyester powder-coated finish (to Z31); Alu Pressing Flashing, girth [girth 305mm], with bottom edge welted 15mm and not less than 75mm cover to upstand; end-to-end joints lapped not less than 100mm; fixed to secondary aluminium frames, U-channels and bracketry ; including 80kg/m³ mineral wool backing and 1.7mm EPDM secondary weathering barrier with aluminium carrier plates to gaps exceeding 50mm as per Details on Drawing 5602 & Architects Spec. H72-422 - (Ref: Tag Item 49)	4	m		
B	^^^allow for glazing carrier panel sealed with EDPM to curtain wall sill as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5600, 5601 - (Ref: Tag Item 66)	8	m		
C	^^^allow for 2mm thick aluminium continuous closer piece to heads/soffits & jambs of curtain wall system as per Architects Specification H11-110 and Drawings 2425, 2660 to 2665 and Details on Drawings 5601, 5602, 5603, 5604, 5605, 5606, 5608 - (Ref: Tag Item 71)	7	m		
D	^^^allow for cill flashing by Glazing Sub-Contractor	4	m		
	<u>Composite items; Revolving Door</u>				

Description	Qty	Unit	Rate	Amount
Supply, deliver and install proprietary aluminium factory-assembled automatic glazed three-wing pedestrian revolving entrance doorset, designed to provide controlled bi-directional pedestrian flow while maintaining effective separation between internal and external environments; complete with all framing, glazing, canopy, drive mechanism, safety devices, locking, accessories and associated works as specified; compliant with BS EN 16005 and BS EN 356; installed externally; anti-clockwise rotation; rigid doorset; operating temperature range -20°C to +50°C; power supply 200–240 VAC, 50/60 Hz; Configuration and Dimensions — three-wing revolving door; diameter 2,400mm; internal height 2,400mm; throat width 1,200mm; canopy height 200mm; capacity 36 persons per minute; Frame and Drum Walls — thermally broken extruded aluminium sections throughout; drum walls in aluminium to match door frame; polyester powder coating (PPC) in selected RAL colour; whole-unit thermal performance U-value 1.3 W/m²K; Glazing — double-glazed units to achieve specified U-value; wings glazed with 8.76mm curved laminated glass, vandal-resistant to BS EN 356, P2A; circular glazing manifestations applied at 900mm and 1,500mm above finished floor level; canopy — ceiling: radially segmented aluminium panels with sound insulation foils, finished in PPC RAL colour to match door frame; canopy void thermally insulated to U-value 0.13 W/m ²K; insulated interface junctions to seal around revolving door frame to façade at external throat opening; roof: external finish in bitumen weather seal covered with aluminium colour plate to match door frame; activation and Control System — automatic operation activated by sensors mounted on overhead canopy fascia; stopping force less than 1.6J; low torque drive unit with speed control and block detection; doorset parks when empty; drive unaffected by wind; safety devices comprising: SRB active vertical safety buffer on leading edge of drum wall; SRD active horizontal safety buffer on bottom leading edge of doorset; SRT passive vertical safety buffer on outer edge of each rotating door leaf; EBS anti-trapping sensors mounted above SRB; emergency stop button flush mounted on internal frame; glazing manifestations as above; all safety buffers and sensors compliant with EN 16005; Locking Mechanism — night locking by manual curved sliding doors to close open segment of revolving door when out of use; slimline aluminium framed profile with 8.76mm laminated P2A glass; manual espagnolette lock on 2no. rotating leaves; Intruder Resistance — burglar resistant to BS EN 1627, RC3; burglar resistance package (RC3) included; Accessories — including all of the following: air curtain; dust covers; 25mm stainless steel matwell ring submerged in concrete base; idle speed control; minimum 4no. LED low energy hi-lux lamps flush				

	Description	Qty	Unit	Rate	Amount
	mounted in ceiling tiles; 18mm heavy duty floor mat constructed from aluminium profiles with removable rubber scraper inserts in open construction, level surface in conformance with EN 16005; passive infrared or radar motion detectors; positioning, power assist and speed control unit; push and go sensor activation; presence sensor; roof covering; General Requirements — door manufacturer to submit fabrication details, full elevational drawings and requisition schedule prior to manufacture; door manufacturer to provide primary test evidence for all performance criteria; certification from single point of responsibility for full doorset — separate certifications for frame and door leaf will not be accepted; project-specific assessment by independent third party in line with manufacturer's primary test evidence; main contractor to engage door manufacturer prior to structural opening being formed; installation by manufacturer-approved and certified installer; including all necessary fixings, straps, clips, brackets, lugs, screws, nuts, bolts, rivets, metal washers, shim, flashings, sealing and commissioning; all as Architects Specification Clause L20-495 and Drawings DR-OCM-AR-2425, 2664 & SH-OCM-AR-4101				
A	^^^size 2200mm (internal diameter) x 2480mm high	1	nr		
	Composite items; Roller Sectional Door				
B	The following item is for a complete proprietary sectional overhead door installation. Rates are deemed to include for the door assembly and all associated panels, tracks, guides, counterbalance system, springs, cables, drums, roller carriers, hinges and fittings, electric operator, manual override, control gear, all safety devices (spring-break and cable-brake devices, personnel protection, finger-trap protection), weatherseals, threshold, powder-coat finish, all fixing and welding to the building structure, pre-installation site survey, and testing, commissioning and certification.		note		

	Description	Qty	Unit	Rate	Amount
	Industrial insulated sectional overhead door; vertically-opening via curved overhead tracking to suit reduced headroom; double-skinned polyurethane (PU) foam-insulated panels, hot-galvanised steel to BS EN 10147, 40mm section depth, outer sheets min. 0.5mm zinc-coated steel, CFC-free PU foam min. 40 kg/m³; polyester powder-coated finish both faces, RAL colour to Architect's approval; interlocking hinged panel joints with integral full-length weatherseals; high-tensile helical counterbalance springs (min. 50,000 cycles) on galvanised shaft with sealed bearings, aircraft-quality steel cables (7:1 safety factor); galvanised steel guide tracks welded to structure; stainless steel roller carriers and intermediate hinges; electrically operated with manual override, complete with controls, spring-break and cable-brake safety devices and finger-trap protection; achieving U-value ≤0.60 W/m²K (whole assembly), acoustic Rw 24 dB, wind load Class 3, watertightness Class 3, air permeability Class 2, surface spread of flame Class 1 to BS 476-7; tested and certified to UKCA/CE; overall structural opening 4800mm × mm (6.5m high clear opening); fixed to [substrate] all as Specification Clause 615 and Drawings 4101 & 4102; Include for fully-bonded airtightness tape sealing to perimeter of opening; extra-wide single-sided plasterable tape, min. 150mm wide, min. 0.7mm thick, sd value 0.3–20m, EMICODE EC1 Plus; bonded to internal face and structural surrounds with proprietary primer and adhesive-sealant, min. 200mm laps at joints, lapped to airtightness membrane and returned to liquid waterproofing to form continuous airtight seal; all to Specification Clause 161.				
	L20-615: External Steel Sectional Door				
A	^^^to suit overall structural opening 4800mm × 7015mm (6.5m high clear opening); fixed to [structural steel substrate] all as Specification Clause 615 and Drawings 4101 & 4102 and 5627	1	nr		

	Description	Qty	Unit	Rate	Amount
	PAINTING AND DECORATING:				
	Painting				
	Prepare, knot, prime, stop and apply one coat of primer / sealer and three coats of high-durability water-based clear anti-microbial wood lacquer (inert matting agents, acrylic-urethane co-polymer emulsion binder, water solvent; volume of solids not less than 32%; VOC not greater than 129 g/L, Category A/i; verified anti-microbial additive; minimal sheen, clear and flat finish); applied by brush/roller/spray to new bare internal natural hardwood timber and veneers; including all preparation (clean down, white-spirit degrease, abrade in direction of grain, round arises to 3mm radius, dust off, seal bare wood), knotting to resinous areas, cutting in and protection as per Architects Specification M60-160 (clear finish)				
	Window Boards, timber base				
A	^^^< or = 300 mm	29	m		

Description	Qty	Unit	Rate	Amount
COLLECTION				
Page No. BQ/163				
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(31) EXTERNAL WALLS COMPLETIONS **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(32) INTERNAL WALL COMPLETIONS				
	WOODWORK:				
	Structural And First Fixings				
	The following shall be in wrot vac vac Pressure treated / impregnated to achieve Fire Resistance Class B (in accordance with EN 13501) red deal unless otherwise stated; plugged and screwed to concrete / blockwork and studwork (partitions) walls; include for all necessary fixings, counter sinking and making good with matching pellates; protected for finishes:				
	First fixings; fixing softwood grounds free from decay and active insect attack and with no knots wider than half the width of the section.				
A	^^^100 x 50 mm	489	m		
	Composite items				
	Non fire rated doors (L20-280)				
	Solid core flush door; internal single action; door leaf core to be 50mm x min. 36.5mm MDF (720kg/m³) internal stiles and rails framework with composite flaxboard (650kg/m³) core 36.5mm thick & 4mm MDF sheets facings (HPL (Type L) bonded to bothsides of framework & flaxboard; hardwood Lime effect, UV cured American White Oak hardwood lipping to all edges 50 x 10 mm thick rebated with laminate overlap and factory chamfer; faced both sides with high pressure 0.81mm to 1mm PVC laminate ; neatly cut and fitted and chamfered (2mm) into timber lipping margins; in selected texture and colour; all glued together and hydraulically pressed to approval; nylon sweeps as required to door frame and leaves; with adjustable telescopic 1.5mm galvanised PPC steel frame with integral architrave, acoustic/smoke seal gasket, mineral wool frame packing, drop seals to single leaves; vision panel glazing to L40 with opaque vinyl manifestation where glazed; FM tag; supplied and fixed complete with the scheduled ironmongery set(ironmongery measured separately) signage, fixings, easing/adjusting and protection; in accordance with the Architects Drawings SH-OCM-AR-4100, DR-OCM-AR-5320, 5321 & 5322 and Specification Section L20-280, L40-300, L40-302 & L40-303				
	Composite items; doors				

	Description	Qty	Unit	Rate	Amount
	Door Type 01				
A	^^^Door Type 01; Single leaf doorset; to suit 850 x 2260mm structural opening; 44mm thick door leaf; frame to suit 130mm wall; acoustic rating 30dB (Rw); 250mm high kick plates; ironmongery set SET22. [D00-WC-008 (SET22), D00-WC-009 (SET22), D00-WC-012 (SET22), D00-WC-013 (SET22)] - Drawing Nr. SH-OCM-AR-4100, DR-OCM-AR-5320, 5321 & 5322	4	nr		
B	^^^Door Type 01; Single leaf doorset; to suit 1100 x 2260mm structural opening; 44mm thick door leaf; frame to suit 152mm wall; acoustic rating 30dB (Rw); 250mm high kick plates; ironmongery set SET16, SET17, SET18, SET19. [D01-WC-005 (SET18), D01-WC-006 (SET19), D02-WC-007 (SET16), D02-WC-008 (SET17)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	4	nr		
C	^^^Door Type 01; Single leaf doorset; to suit 1100 x 2260mm structural opening; 44mm thick door leaf; frame to suit 215mm wall; acoustic rating 30dB (Rw); 250mm high kick plates; ironmongery set SET14, SET15, SET15.1. [D00-HCOM-003 (SET14), D00-HCOM-004 (SET15.1), D00-HCOM-006 (SET15), D01-HCOM-003 (SET14), D02-HCOM-005 (SET14)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	5	nr		
	Door Type 03 (with VP1 Glazing)				
D	^^^Door Type 03; Single leaf doorset; to suit 1050 x 2260mm structural opening; 44mm thick door leaf; frame to suit 215mm wall; vision panel type VP1, size; 285mm wide x 1675mm high; acoustic rating 33dB (Rw); with access control preparation; 250mm high kick plates; ironmongery set SET09.1. [D00-OFF-001 (SET09.1)] - Vision panel glazing specification (L40) - Vision panel type VP1; single glazed clear unit; min. 6mm clear heat-strengthened toughened glass, or min. 8.8mm clear safety laminated glass, in reduced-iron / extra-clear glass to BS EN 12150; impact rating class 1B1 to BS EN 12600; heat-soaked to EN 14179 where toughened; solid hardwood beading type VP1A to match door frame / lipping, finished M60-160 anti-microbial lacquer with concealed fixings; glazing tape between glass and beads ; factory glazed to door leaf aperture; manifestation per L40-630. - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		
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	Description	Qty	Unit	Rate	Amount
A	^^^Door Type 03; Single leaf doorset; to suit 1050 x 2260mm structural opening; 44mm thick door leaf; frame to suit 215mm wall; vision panel type VP1, size; 285mm wide x 1675mm high; acoustic rating 30dB (Rw); access control per schedule; 250mm high kick plates; ironmongery set SET10, SET20. [D01-HCOM-004 (SET20), D02-HCOM-006 (SET20), D02-OFF-004 (SET10)] - Vision panel glazing specification (L40) - Vision panel type VP1; single glazed clear unit; min. 6mm clear heat-strengthened toughened glass, or min. 8.8mm clear safety laminated glass, in reduced-iron / extra-clear glass to BS EN 12150; impact rating class 1B1 to BS EN 12600; heat-soaked to EN 14179 where toughened; solid hardwood beading type VP1A to match door frame / lipping, finished M60-160 anti-microbial lacquer with concealed fixings; glazing tape between glass and beads; factory glazed to door leaf aperture; manifestation per L40-630 - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	3	nr		
	Door Type 31 (with VP1, VP3 & VP4 Glazing)				
B	^^^Door Type 31; Double leaf doorset (Door & Half); to suit 1510 x 2260mm structural opening; 44mm thick door leaf; frame to suit 152mm wall; vision panel type VP1; sizes; 135mm wide x 1675mm high and 690mm wide x 1675mm high; acoustic rating 33dB (Rw); with access control preparation; 250mm high kick plates; ironmongery set SET09. [D02-HCOM-013 (SET09), D02-HCOM-015 (SET09), D02-HCOM-017 (SET09), D02-HCOM-018 (SET09)] Vision panel glazing specification (L40) - Vision panel type VP1; single glazed clear unit; min. 6mm clear heat-strengthened toughened glass, or min. 8.8mm clear safety laminated glass, in reduced-iron / extra-clear glass to BS EN 12150; impact rating class 1B1 to BS EN 12600; heat-soaked to EN 14179 where toughened; solid hardwood beading type VP1A to match door frame / lipping, finished M60-160 anti-microbial lacquer with concealed fixings; glazing tape between glass and beads; factory glazed to door leaf aperture; manifestation per L40-630 - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	4	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^Door Type 31; Double leaf doorset (Door & Half); to suit 1510 x 2260mm structural opening; 44mm thick door leaf; frame to suit 152mm wall; vision panel type VP3; sizes; 135mm wide x 1675mm high and 690mm wide x 1675mm high; acoustic rating 33dB (Rw); with access control preparation; 250mm high kick plates; ironmongery set SET08. [D00-HCOM-015 (SET08), D00-HCOM-016 (SET08), D01-HCOM-011 (SET08), D01-HCOM-013 (SET08), D01-HCOM-017 (SET08)] Vision panel glazing specification (L40) - Vision panel type VP3; factory-sealed triple glazed privacy unit; outer panes of heat-strengthened toughened glass with sand-blasted bands applied to the inner face of one outer leaf; third interstitial closable banded glazed sheet providing a min. 25mm vision aspect; impact rating class 1B1 to BS EN 12600; manufacturer operating to ISO 9001; interstitial pane controlled by fully integrated spindle / cam mechanism (Grade 316 stainless steel, lifetime warranty) with soft-close damper, operable from both sides; solid hardwood beading type VP3A to match door frame / lipping, M60-160 anti-microbial lacquer, concealed fixings; glazing tape; factory glazed; manifestation per L40-630 - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	5	nr		
B	^^^Door Type 31; Double leaf doorset (Door & Half); to suit 1510 x 2260mm structural opening; 44mm thick door leaf; frame to suit 215mm wall; vision panel type VP4; sizes; 135mm wide x 1675mm high and 690mm wide x 1675mm high; acoustic rating 35dB (Rw); with access control preparation; 250mm high kick plates; ironmongery set SET13A. [D02-HCOM-024 (SET13A)] Vision panel glazing specification (L40) - Vision panel type VP4; factory-sealed double glazed unit with interstitial sealed Venetian blind system (slats available in min. 9 colours); impact rating class 1B1 to BS EN 12600; manufacturer operating to ISO 9001; tilt and retractor facility operated by magnetic slide with closed-loop belt operation (slider min. 3 colours), all exposed blind elements anti-bacterial treated, tested/certified to min. 20,000 tilt and lift cycles, operable from both sides; solid hardwood beading type VP4A to match door frame / lipping, M60-160 anti-microbial lacquer, concealed fixings; glazing tape; factory glazed; manifestation per L40-630 - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		

	Description	Qty	Unit	Rate	Amount
	Door Type 70 (with VP3 Side Screen & VP3 Glazing)				
A	^^^Door Type 70; Single leaf doorset and side screen; to suit 1510 x 2260mm structural opening; 44mm thick door leaf (1000mm wide); frame to suit 215mm wall; vision panel type VP3; size 690mm wide x 1675mm high; acoustic rating 33dB (Rw); with access control preparation; 250mm high kick plates; ironmongery set SET08.1. [D01-LAB-015 (SET08.1)] Vision panel glazing specification (L40) - Vision panel type VP3; factory-sealed triple glazed privacy unit; outer panes of heat-strengthened toughened glass with sand-blasted bands applied to the inner face of one outer leaf; third interstitial closable banded glazed sheet providing a min. 25mm vision aspect; impact rating class 1B1 to BS EN 12600; manufacturer operating to ISO 9001; interstitial pane controlled by fully integrated spindle / cam mechanism (Grade 316 stainless steel, lifetime warranty) with soft-close damper, operable from both sides; solid hardwood beading type VP3A to match door frame / lipping, M60-160 anti-microbial lacquer, concealed fixings; glazing tape; factory glazed; manifestation per L40-630 - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		
B	Side Screen with VP3 Glazing Unit		noid		
C	^^^Extra over last for side screen to Door Type 70; size 510mm wide x 2260mm high; with glazed Vision Panel, size 440mm x 2160mm high (Ref. VP3) - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		
	<u>30 minute fire rated doors (L20-281)</u>				

	Description	Qty	Unit	Rate	Amount
	30 minute Fire Rated Solid core flush door certified BS 476-22 / EN 1634-1; internal single action; door leaf core to be 50mm x min. 36.5mm MDF (720kg/m³) internal stiles and rails framework with composite flaxboard (650kg/m³) core 36.5mm thick & 4mm MDF sheets facings (HPL (Type L) bonded to bothsides of framework & flaxboard; hardwood Lime effect, UV cured American White Oak hardwood lipping to all edges 50 x 10 mm thick rebated with laminate overlap and factory chamfer; faced both sides with high pressure 0.81mm to 1mm PVC laminate ; neatly cut and fitted and chamfered (2mm) into timber lipping margins; in selected texture and colour; all glued together and hydraulically pressed to approval; nylon sweeps as required to door frame and leaves with factory-fitted intumescent and smoke seals; fire mortar / mineral wool frame backfill; with adjustable telescopic 1.5mm galvanised PPC steel frame with integral architrave, acoustic/smoke seal gasket, mineral wool frame packing, drop seals to single leaves; vision panel glazing to L40 with glazing EI30/EW30 where glazed; FM tag; supplied and fixed complete with the scheduled ironmongery set(ironmongery measured separately) signage, fixings, easing/adjusting and protection; in accordance with the Architects Drawings SH-OCM-AR-4100, DR-OCM-AR-5320, 5321 & 5322 and Specification Section L20-281, L40-300, L40-302 & L40-303				
	Door Type 01				
A	^^^Door Type 01; Single leaf doorset; to suit 850 x 2260mm structural opening; 44mm thick door leaf; frame to suit 215mm wall; acoustic rating 30dB (Rw); with access control preparation; 250mm high kick plates; ironmongery set SET12.1. [D00-STO-005 (SET12.1), D00-STO-010 (SET12.1)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	2	nr		
B	^^^Door Type 01; Single leaf doorset; to suit 850 x 2260mm structural opening; 44mm thick door leaf; frame to suit 152mm wall; acoustic rating 30dB (Rw); 250mm high kick plates; ironmongery set SET12. [D01-LAB-012 (SET12), D02-CLASS-014 (SET12)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	2	nr		
C	^^^Door Type 01; Single leaf doorset; to suit 1100 x 2260mm structural opening; 44mm thick door leaf; frame to suit 215mm wall; acoustic rating 30dB (Rw); 250mm high kick plates; ironmongery set SET16, SET17. [D00-WC-007 (SET17), D00-WC-011 (SET16)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	2	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^Door Type 01; Single leaf doorset; to suit 1100 x 2260mm structural opening; 44mm thick door leaf; frame to suit 250mm wall; acoustic rating 35dB (Rw); with access control preparation; 250mm high kick plates; ironmongery set SET10. [D01-ICT-020 (SET10)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		
B	^^^Door Type 01; Single leaf doorset; to suit 1100 x 2260mm structural opening; 44mm thick door leaf; frame to suit 152mm wall; acoustic rating 30dB (Rw); 250mm high kick plates; ironmongery set SET12. [D01-LAB-014 (SET12)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		
C	^^^Door Type 01; Single leaf doorset; to suit 1100 x 2260mm structural opening; 44mm thick door leaf; frame to suit 250mm wall; acoustic rating 30dB (Rw); with access control preparation; 250mm high kick plates; ironmongery set SET21.1. [D02-STO-021 (SET21.1)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		
	Door Type 21				
D	^^^Door Type 21; Double leaf doorset (Door & Half); to suit 1510 x 2260mm structural opening; 44mm thick door leaf; frame to suit 215mm wall; acoustic rating 30dB (Rw); with access control preparation; 250mm high kick plates; ironmongery set SET21. [D00-LAB-017 (SET21)] - - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		
	Door Type 23 (with VP1 Glazing)				
E	^^^Door Type 23; Double leaf doorset (Door & Half); to suit 1510 x 2260mm structural opening; 44mm thick door leaf; frame to suit 215mm wall; vision panel type VP1, size 285mm x 1675mm high; acoustic rating 30dB (Rw); with access control preparation; 250mm high kick plates; ironmongery set SET11. [D01-HCOM-002 (SET11)] Vision panel glazing specification (L40) - Vision panel type VP1; clear glazed fire-rated vision panel achieving 30 minutes integrity and 30 minutes insulation (EI30), tested to BS 476-22; glass impact rating class 1B1 to BS EN 12600; heat-soaked to EN 14179 where toughened; solid hardwood beading type VP1A to match door frame / lipping, M60-160 anti-microbial lacquer, concealed fixings; glazing tape; factory glazed; door leaf thickness adjusted to maintain the doorset fire certification; manifestation per L40-630. manifestation per L40-630 - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Side Screen with VP1 Glazing Unit		noid		
B	^^^Extra over last for side screen to Door Type 23; size 510mm wide x 2260mm high; with glazed side Vision Panel, size 440mm x 2160mm high (Ref. VP1 EI30), manifestation per L40-630. - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		
C	^^^Door Type 23; Double leaf doorset (Door & Half); to suit 1510 x 2260mm structural opening; 44mm thick door leaf; frame to suit 152mm wall; vision panel type VP1, size 285mm x 1675mm high; acoustic rating 30dB (Rw); with access control preparation; hold-open per schedule; 250mm high kick plates; ironmongery set SET13.3, SET13B. [D01-HCOM-024 (SET13B), D01-VCOM-023 (SET13.3)] Vision panel glazing specification (L40) - Vision panel type VP1; clear glazed fire-rated vision panel achieving 30 minutes integrity and 30 minutes insulation (EI30), tested to BS 476-22; glass impact rating class 1B1 to BS EN 12600; heat-soaked to EN 14179 where toughened; solid hardwood beading type VP1A to match door frame / lipping, M60-160 anti-microbial lacquer, concealed fixings; glazing tape; factory glazed; door leaf thickness adjusted to maintain the doorset fire certification; manifestation per L40-630 - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	2	nr		
D	^^^Door Type 23; Double leaf doorset (Door & Half); to suit 1510 x 2260mm structural opening; 44mm thick door leaf; frame to suit 100mm wall; vision panel type VP1, size 285mm x 1675mm high; acoustic rating 30dB (Rw); with access control preparation; 250mm high kick plates; ironmongery set SET13.3. [D02-VCOM-001 (SET13.3)] Vision panel glazing specification (L40) - Vision panel type VP1; clear glazed fire-rated vision panel achieving 30 minutes integrity and 30 minutes insulation (EI30), tested to BS 476-22; glass impact rating class 1B1 to BS EN 12600; heat-soaked to EN 14179 where toughened; solid hardwood beading type VP1A to match door frame / lipping, M60-160 anti-microbial lacquer, concealed fixings; glazing tape; factory glazed; door leaf thickness adjusted to maintain the doorset fire certification; manifestation per L40-630 - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		

	Description	Qty	Unit	Rate	Amount
	Door Type 31 (with VP1 & VP4 Glazing)				
A	^^^Door Type 31; Double leaf doorset (Door & Half); to suit 1510 x 2260mm structural opening; 44mm thick door leaf; frame to suit 250mm wall; vision panel type VP1, sizes; 135mm wide x 1675mm high and 690mm wide x 1675mm high; acoustic rating 30dB (Rw); with access control preparation; 250mm high kick plates; ironmongery set SET13. [D00-VCOM-020 (SET13), D00-VCOM-024 (SET13), D01-VCOM-021 (SET13), D02-VCOM-022 (SET13)] Vision panel glazing specification (L40) - Vision panel type VP1; clear glazed fire-rated vision panel achieving 30 minutes integrity and 30 minutes insulation (EI30), tested to BS 476-22; glass impact rating class 1B1 to BS EN 12600; heat-soaked to EN 14179 where toughened; solid hardwood beading type VP1A to match door frame / lipping, M60-160 anti-microbial lacquer, concealed fixings; glazing tape; factory glazed; door leaf thickness adjusted to maintain the doorset fire certification; manifestation per L40-630 - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	4	nr		
B	^^^Door Type 31; Double leaf doorset (Door & Half); to suit 1510 x 2260mm structural opening; 44mm thick door leaf; frame to suit 152mm wall; vision panel type VP1, sizes; 135mm wide x 1675mm high and 690mm wide x 1675mm high; acoustic rating 30dB (Rw); with access control preparation; 250mm high kick plates; ironmongery set SET13. [D01-VCOM-022 (SET13), D02-VCOM-029 (SET13)] Vision panel glazing specification (L40) - Vision panel type VP1; clear glazed fire-rated vision panel achieving 30 minutes integrity and 30 minutes insulation (EI30), tested to BS 476-22; glass impact rating class 1B1 to BS EN 12600; heat-soaked to EN 14179 where toughened; solid hardwood beading type VP1A to match door frame / lipping, M60-160 anti-microbial lacquer, concealed fixings; glazing tape; factory glazed; door leaf thickness adjusted to maintain the doorset fire certification; manifestation per L40-630 - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	2	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^Door Type 31; Double leaf doorset (Door & Half); to suit 1510 x 2260mm structural opening; 44mm thick door leaf; frame to suit 250mm wall; vision panel type VP4 sizes; 135mm wide x 1675mm high and 690mm wide x 1675mm high; acoustic rating 35dB (Rw); with access control preparation; 250mm high kick plates; ironmongery set SET13. [D02-VCOM-023 (SET13)] Vision panel glazing specification (L40) - Vision panel type VP4; factory-sealed double glazed integrated-blind unit as VP4 non-fire-rated, but achieving 30 minutes integrity and 30 minutes insulation (EI30), tested to BS 476-22; interstitial sealed Venetian blind (min. 9 colours); impact class 1B1 to BS EN 12600; ISO 9001 manufacturer; magnetic-slide tilt/retractor, closed-loop belt, anti-bacterial, min. 20,000 cycles, both sides; solid hardwood beading type VP4A; factory glazed; door leaf thickness adjusted to maintain doorset fire certification; manifestation per L40-630 - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		
	Door Type 50 (with VP1 Glazing)				
B	^^^Door Type 50; Double leaf doorset; to suit 2050 x 2260mm structural opening; 44mm thick door leaf; frame to suit 152mm wall; vision panel type VP1, sizes; 675mm wide x 1675mm high; acoustic rating 30dB (Rw); with access control preparation; 250mm high kick plates; ironmongery set SET01. [D00-HCOM-014 (SET01)] Vision panel glazing specification (L40) - Vision panel type VP1; clear glazed fire-rated vision panel achieving 30 minutes integrity and 30 minutes insulation (EI30), tested to BS 476-22; glass impact rating class 1B1 to BS EN 12600; heat-soaked to EN 14179 where toughened; solid hardwood beading type VP1A to match door frame / lipping, M60-160 anti-microbial lacquer, concealed fixings; glazing tape; factory glazed; door leaf thickness adjusted to maintain the doorset fire certification; manifestation per L40-630 - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		

	Description	Qty	Unit	Rate	Amount
	Door Type 54 (with VP1 Glazing)				
A	Door Type 54; Double leaf doorset; to suit 2050 x 2700mm structural opening; 44mm thick door leaf; frame to suit 152mm wall; vision panel type VP1, sizes; 675mm wide x 1675mm high; acoustic rating 30dB (Rw); access control per schedule; electromagnetic hold-open device; 250mm high kick plates; ironmongery set SET02, SET03. [D01-HCOM-008 (SET02), D01-HCOM-016 (SET03), D02-HCOM-010 (SET03), D02-LAB-016 (SET03)] Vision panel glazing specification (L40) - Vision panel type VP1; clear glazed fire-rated vision panel achieving 30 minutes integrity and 30 minutes insulation (EI30), tested to BS 476-22; glass impact rating class 1B1 to BS EN 12600; heat-soaked to EN 14179 where toughened; solid hardwood beading type VP1A to match door frame / lipping, M60-160 anti-microbial lacquer, concealed fixings; glazing tape; factory glazed; door leaf thickness adjusted to maintain the doorset fire certification; manifestation per L40-630 - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	4	nr		
	Over Screen / Fan Light with VP1 Glazing Unit				
B	^^^Extra over last for overhead screen to Door Type 54; size 2050mm wide x 480mm high; with glazed side Vision Panel, size 2060mm x 390mm high (Ref. VP1 EI30), manifestation per L40-630. - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	4	nr		
	60 minute fire rated doors (L20-282)				

	Description	Qty	Unit	Rate	Amount
	60 minute Fire Rated Solid core flush door certified BS 476-22 / EN 1634-1; internal single action; door leaf core to be 50mm x min. 46.5mm MDF (720kg/m³) internal stiles and rails framework with composite flaxboard (650kg/m³) core 46.5mm thick & 4mm MDF sheets facings (HPL (Type L) bonded to bothsides of framework & flaxboard; hardwood Lime effect, UV cured American White Oak hardwood lipping to all edges 50 x 10 mm thick rebated with laminate overlap and factory chamfer; faced both sides with high pressure 0.81mm to 1mm PVC laminate ; neatly cut and fitted and chamfered (2mm) into timber lipping margins; in selected texture and colour; all glued together and hydraulically pressed to approval; nylon sweeps as required to door frame and leaves with factory-fitted intumescent and smoke seals; fire mortar / mineral wool frame backfill and intumescent-protected lock/latch cases (L20-840); with adjustable telescopic 1.5mm galvanised PPC steel frame with integral architrave, acoustic/smoke seal gasket, mineral wool frame packing, drop seals to single leaves; vision panel glazing to L40 with glazing EI60/EW60 where glazed; FM tag; supplied and fixed complete with the scheduled ironmongery set(ironmongery measured separately) signage, fixings, easing/adjusting and protection; in accordance with the Architects Drawings SH-OCM-AR-4100, DR-OCM-AR-5320, 5321 & 5322 and Specification Section L20-282, L40-300, L40-302 & L40-303				
	Composite items; doors				
	Door Type 41				
A	^^^Door Type 41; Double leaf doorset; to suit 2050 x 2260mm structural opening; 54mm thick door leaf; frame to suit 250mm wall; acoustic rating 30dB (Rw); electromagnetic hold-open device; 250mm high kick plates; ironmongery set SET05.1. [D00-HCOM-019 (SET05.1)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		
B	^^^Door Type 41; Double leaf doorset; to suit 2050 x 2260mm structural opening; 54mm thick door leaf; frame to suit 210mm wall; acoustic rating 30dB (Rw); with access control preparation; 250mm high kick plates; ironmongery set SET05.2. [D00-HPAC-021 (SET05.2), D00-HPAC-022 (SET05.2)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	2	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^Door Type 41; Double leaf doorset; to suit 2050 x 2260mm structural opening; 54mm thick door leaf; frame to suit 215mm wall; acoustic rating 30dB (Rw); electromagnetic hold-open device; 250mm high kick plates; ironmongery set SET05. [D00-STO-018 (SET05)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		
B	^^^Door Type 41; Double leaf doorset; to suit 2050 x 2260mm structural opening; 54mm thick door leaf; frame to suit 215mm wall; acoustic rating 35dB (Rw); with access control preparation; 250mm high kick plates; ironmongery set SET13.1. [D02-PLANT-025 (SET13.1)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		
	Door Type 54 (with VP1 Glazing)				
C	^^^Door Type 54; Double leaf doorset; to suit 2050 x 2710mm structural opening; 54mm thick door leaf; frame to suit 215mm wall; vision panel type VP1, sizes; 675mm wide x 1675mm high; acoustic rating 30dB (Rw); access control per schedule; hold-open per schedule; 250mm high kick plates; ironmongery set SET01, SET13.2. [D01-HCOM-001 (SET01), D02-HCOM-002 (SET13.2)] Vision panel glazing specification (L40) - Vision panel type VP1; clear glazed fire-rated vision panel achieving 60 minutes integrity and 60 minutes insulation (EI60), tested to BS 476-22; glass impact rating class 1B1 to BS EN 12600; heat-soaked to EN 14179 where toughened; solid hardwood beading type VP1A, M60-160 anti-microbial lacquer, concealed fixings; glazing tape; factory glazed; door leaf thickness adjusted to maintain the doorset fire certification; manifestation per L40-630 - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	2	nr		
	Over Screen / Fan Light with VP1 Glazing Unit				
D	^^^Extra over last for overhead screen to Door Type 54; size 2050mm wide x 480mm high; with glazed side Vision Panel, size 2060mm x 390mm high (Ref. VP1 EI60), manifestation per L40-630. - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	2	nr		

	Description	Qty	Unit	Rate	Amount
	Ironmongery, Accessories and Sundries				
	Supply and fit the following ironmongery to internal doors; as per Architects Specification - Perrem Design Hardware Specification Schedule, Quote 2510005INT, Rev R1 (Internal) dated 27/04/2026				
	HINGES				
A	PDH/HI/007 PDH HI/007 102/302C 100x76mm concealed bearing hinge, radiused corners, ANSI profile, satin stainless steel; self-lubricating; CE/CertiFire; BS EN1935 Grade 13 (120kg); 25yr warranty	354	nr		
	LOCKS, LATCHES & DEADLOCKS (mechanical)				
B	PDH/LC/001 60mm backset RC SS euro cylinder sashlock, single throw 20mm bolt, 72mm c/c to BS8300 Part M; c/w strike and dust pocket; CE; EN12209 Class 3 extra heavy duty; Warrington EN12209 3/X/8/1/0/F/3/B/A/	2	nr		
C	PDH/LC/002 60mm backset RC SS euro cylinder deadlock, single throw 20mm bolt to EN179; satin stainless steel; c/w strike and dust pocket; CE; EN12209 Class 3 extra heavy duty; Warrington	16	nr		
D	PDH/LC/003 60mm backset RC SS full-case bathroom lock, single throw 20mm deadbolt; c/w strike and dust pocket; 78mm c/c; CE; EN12209 Class 3; Warrington EN12209 3/X/8/1/0/F/-/B/G/2/0	9	nr		
E	PDH/LC/005 60mm backset RC SS euro cylinder escape lock with split follower; c/w strike and dust pocket; 72mm c/c; CE; EN12209 Class 3; Warrington EN12209 3/X/8/1/0/F/3/B/A/2/0	3	nr		
F	PDH/LC/006 Euro profile SS mortice anti-thrust nightlatch 72mm c/c to BS8300 Part M; single-action egress to TGD-B & PSA-67 EN179; c/w strike and dust pocket; CE; EN12209 Class 3; Warrington EN12209 3/X/8/1/0/F/3/B/A/2/0	10	nr		
	CYLINDERS & KEYING				
G	KB/EK3/70/RP/NI/CNS KABA-GEGE EK3/70 35/35 RP NI PXT-Q thumbturn cylinder; EN1303 AP2000 6-pin extra-high security; EU patent EP4204648 (valid to 2042); anti-drill/anti-pick hardened pins; restricted profile; EU/EPD certified	2	nr		

	Description	Qty	Unit	Rate	Amount
A	GDN/EH2/45/NI/PXTQ KABA-GEGE EH2/45 45mm Pextra Q restricted multi-profile NI euro half cylinder; EN1303 6-pin high security; EU patent EP4204648 (valid to 2042); EU/EPD certified	29	nr		
	LEVER FURNITURE, ESCUTCHEONS & SPINDLES				
B	FSB/1146/ASL/ERW/O FSB 1146 ER lever handle and spindle on round heavy-duty ASL rose 55x7x2mm, DIN1.4301 satin stainless steel; rotably-fixed compensating bearing; EN1906 Grade 4, >1,000,000 cycles; EU/EPD certified	14	nr		
C	FSB/12/1735/PZ/10/ER FSB 1735/00010 ER ASL fixing escutcheon, 55x7x2.5mm, DIN1.4301 satin stainless steel; euro profile bolt-through; 38-58mm door; EU/EPD certified	7	nr		
D	EA288/03 PASS EA288/03 8mm split spindle, 67/50mm	3	nr		
	PULL HANDLES, FLUSH FURNITURE & DOOR STOPS				
E	PDH/PH/025 600x25mm SSS hollow back-to-back fix pull handle, satin stainless steel, c/w M8 fixing bolts CSK	43	nr		
F	PDH/CP/101 SS euro cylinder pull, satin stainless steel	16	nr		
G	PDH/FB/102 200x19mm SSS lever-action flushbolt, satin stainless steel	52	nr		
H	PDH/EC/101 SSS dust-excluding socket, sprung-loaded concealed fix with bevelled edges, satin stainless steel	26	nr		
J	PDH/DS/101 SS oval shielded floor doorstop, satin stainless steel	100	nr		
	DOOR CLOSERS, FLOORSPRINGS & HOLD-OPEN DEVICES				
K	DOR/CC/ITS96/2-4 DORMA ITS96 EN2-4 concealed closer body only, suitable for fire doors; adjustable closing speed and latching action; EN1154; CE; EU/EPD certified	68	nr		
L	DOR/G96N/SS DORMA G96N stainless steel arm and channel to suit ITS96; EU/EPD certified	56	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	DOR/G96 EMF DORMA G96 EMF concealed arm and channel to suit ITS96; EN1155 electromechanical hold-open; 24V d/c; holding angle 80-120 deg; EU/EPD certified	12	nr		
B	DORMA/FC/BTS75V/DA/S DORMA BTS 75V SS double-action floorspring; EN2-4 power-adjustable cam action; concealed; CE/EN1154; CertiFire CF127 fire-door approved; double-action top centre and bottom strap; SSS cover plate DCSK	4	nr		
C	DOR/BTS80EMB-4/DA/SS DORMA BTS80EMB complete double-action floorspring with integrated electromagnetic hold-open; EN4-6 cam action; adjustable closing/latching; concealed; CE/EN1155; CertiFire CF127; top centre, bottom strap and SSS cover plate DCSK	8	nr		
D	DOR/35800093 Cushioned limit stay to suit guide-rail arm on door closer; EU/EPD certified	58	nr		
E	DOR/2300 DORMA 2300 sealing compound 45090086	4	nr		
	DOOR SEALS				
F	PLANET/FT/FH/RD/950 Planet Dropseal FT FH +RD, fire-rated 950-850mm; Optimium seal 48dB; unilateral silent operation; 22mm drop; tested 2,000,000 cycles	71	nr		
G	PLANET/FT/FH/RD/550 Planet Dropseal FT FH +RD, fire-rated 550-450mm; Optimium seal 48dB; unilateral silent operation; 22mm drop; tested 2,000,000 cycles	21	nr		
	PROTECTION PLATES (kick & finger)				
H	PDH/KP/104 900x250mm SS kickplate DSCK, 1.2mm gauge, satin stainless steel	190	nr		
J	PDH/KP/114 450x250mm SS kickplate DSCK, 1.2mm gauge, satin stainless steel	42	nr		
K	PDH/FP/105 700x80mm SSS fingerplate DSCK, 1.2mm gauge, satin stainless steel	67	nr		
	SIGNS & NOTICES				
L	PDH/FS/001 75mm SSS 'Fire Door Keep Shut' disc sign, DSCK to BS5499, satin stainless steel	58	nr		
M	PDH/FS/002 75mm SSS 'Fire Door Keep Locked' disc sign, DSCK to BS5499, satin stainless steel	18	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	PDH/FS/003 75mm SSS 'Automatic Fire Door Keep Clear' disc sign, DSCK to BS5499, satin stainless steel	46	nr		
B	PDH/SS/001 75mm SSS disc DSCK engraved black infill MALE symbol, satin stainless steel	3	nr		
C	PDH/SS/002 75mm SSS disc DSCK engraved black infill FEMALE symbol, satin stainless steel	3	nr		
D	PDH/SS/004 75mm SSS disc DSCK engraved black infill UNISEX symbol, satin stainless steel	2	nr		
E	PDH/SS/005 75mm SS disc DSCK engraved black infill SHOWER symbol, satin stainless steel	1	nr		
F	PERREM/SS/00003/SS 75mm SSS disc DSCK engraved black infill DISABLED symbol, satin stainless steel	5	nr		
G	PDH/ENG/SIGN/SS Engraved satin stainless steel sign, drilled CSK screw fixed, black engraved letters 'CHANGING ROOM'	1	nr		
	SANITARY & ACCESSIBLE FITTINGS				
H	FSB/17/1735/09030/ER FSB 1735/54 55mm SS concealed fixed WC indicator and thumbturn set with elongated thumbturn and clip-on cover; brushed stainless steel with emergency release and indicator; DIN1.4301 SSS; euro profile bolt-through 38-58mm; EU/EPD certified	9	nr		
J	FSB/8201/6000/ER FSB 8201 600mm st.st. oval-section grab rail, DIN1.4301 SSS; moulded at 45 deg to prevent slippage; concealed heavy-duty fixing for max 100kg; EU/EPD certified	10	nr		
K	FSB/82/8224/07042 FSB 8224-07042 700mm LH drop-down support rail, removable hinged grab rail st.st.; oval diagonal ergonomic grip; DIN1.4301 SSS; antimicrobial to ISO22196 / JIS Z2801:2010; EU/EPD certified	5	nr		
L	PERREM/CH/00102/SS Satin stainless steel buffered hat and coat hook, CSK screw fixed	9	nr		
	ELECTRIC LOCKING, EXIT & ACCESS-CONTROL FIELD DEVICES				
M	EFF/351/M80/FS EFF 351M.80-N91+M25 motorised electric lock 12-48V d/c, 25mm receiver; fail-safe / fire-rated monitored security electric strike c/w double-action latch; CE; EN13637/EN179/EN1125; 200x422x23mm SSS; c/w cable and strikes; EU/EPD certified	47	nr		

	Description	Qty	Unit	Rate	Amount
A	ABT/S4FR2P2 SMARTair WIR+OPENOW online narrow-stile wall reader; i-READER WIR STD MT1 MF proximity with integrated BLE & RF; PIN/card/fob; online or offline; EU/EPD certified	33	nr		
B	ABT/S4ZB22SL2V728/SI SMARTair i-max WIR +OPENOW escutcheon, EUR WIP B MF STD L2V72 8 SF, 44/50 spindle kit; PZ72/MIFARE i-max R4N smart proximity reader; e-vis cylinder emergency override; wireless OPENOW (MIFARE); BLE futureproofed; EN1906 Grade 4 (200,000 cycles); EN1634-1 fire-door certified; EU/EPD certified	15	nr		
C	3E/0689/1/DR 3E 0689-1DR SS 1-gang no-touch hygienic exit switch; motion-sensor activation; satin stainless steel; EPD certified	33	nr		
D	3E/0784/TP/LED/C 3E 0784-TP ECO triple breakglass unit, green; resettable by key; 24V d/c c/w twin LEDs	33	nr		
E	ELM/G2402N/C ELM G2402N-C PSU 24V d/c 2A; energy-efficient switch-mode, full rated; +0.8A battery charging, 90-264V AC; LED status; CE certified	36	nr		
F	3E/1266/12V/3.2AH 3E 1266 12V 3.2Ah battery housed in 24V 5A regulated PSU c/w fire relay terminal; steel powder-coated case; concealed mounting; EU/EPD certified	34	nr		
	ACCESS-CONTROL INSTALLATION & COMMISSIONING (Perrem scope)				
G	BD/AC/2/I Access control double-door installation; termination and commissioning of 2 nr electrical locks, emergency breakglass, release button, PSU and proximity reader; all containment and cabling to points by others	5	nr		
H	BD/AC/1/I Access control single-door installation; termination and commissioning of 1 nr electrical lock, emergency breakglass, release button, PSU and proximity reader; containment and cabling to points by electrical contractor; morticing for locks by joiner/door fabricator	17	nr		
J	BD/SMARTAIR/READER/I SMARTair single reader installation, termination and commissioning; cabling to all points by M&E contractor; Belden cable required	32	nr		
K	BD/SMARTAIR/ESC/I SMARTair escutcheon installation, set-up and commissioning; door preparation by joiner	10	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	INTUMESCENT FIRE PROTECTION				
A	MM/INTUMAP/HINGE/1MM Mono-ammonium phosphate intumescent pack 1mm to suit hinge, in accordance with fire cert	231	nr		
B	MM/INTUMAP/LOCK/1MM Mono-ammonium phosphate intumescent pack 1mm to suit lockcase, in accordance with fire cert	24	nr		
C	MM/INTUMAP/FBOLT/2MM Mono-ammonium phosphate intumescent pack to suit 200x19 flush bolt 2mm (note: flush bolts not fire-tested)	10	nr		
D	MM/INTUMAP/FBOLT/1MM Mono-ammonium phosphate intumescent pack to suit flush bolt 1mm (note: flush bolts not fire-tested)	22	nr		
E	MM/INTUMESENT/351M80 Mono-ammonium phosphate intumescent pack to suit 351M80 electric lock	28	nr		
F	DORMA/IP/ITS96/2-430 DORMA ITS96 FD30 2-4 intumescent pack; EU/EPD certified	36	nr		
G	DOR/INT/BTS75V DORMA BTS75V intumescent pack (double-action)	4	nr		
	ACCESS-CONTROL SYSTEM, SOFTWARE & TRAINING (SET 28)				
H	ABT/STWIRELESSHUB6 SMARTair PWO OPENOW / communication hub ST/V6 PRO; wireless online on TCP/IP network with PoE; EU manufactured	8	nr		
J	BD/AC/3/I Access control hub installation; termination and commissioning on existing TCP/IP network; data points by electrical contractor	8	nr		
K	PDH/SMARTAIR/RFID/WH PDH RFID key cards, blank white, 56x84mm (MOQ 100)	1000	nr		
L	SNCCKITWIRUNMFD SMARTair wireless online management kit incl. TS1000 software, portable programmer, encoder and 50 cards; EU/EPD certified	1	nr		
M	ABT/SNCLS201 PDH RFID MIFARE stickers, white, 30x30mm	500	nr		
N	SETUP SMARTair system reader / system programming and training (0.5 day); data import from client Excel/CSV file; allocation of permissions; training of up to 3 staff	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	METALWORK:				
	Non - Structural				
	Composite items; Aluminium Framed Glazed Acoustic Doorset - NFR (L20-291)				
	Supply and fix Proprietary Non-Fire Rated polyester powder coated Aluminium framed, rebated Glazed Doorset SG based on Optima Edge Affinity Doorset or equivalent approved, non-fire rated, with associated PPC Aluminium frame sets; with performance standards to BS EN 1634-1, BS EN 13501-2, BS EN 12600 and BS EN 12150 / EN 14449; Glazing designed by the contractor to clause L40 to achieve the scheduled acoustic performance, reference specification 2 nr layers of 12.8mm acoustic laminated glass to BS EN 12150 / EN 14449, impact class to BS EN 12600, glass type to match the adjacent screen; opaque vinyl manifestation at 50% opacity; with Dark grey rubber acoustic / smoke seal gasket to the full frame perimeter, and an automatic threshold drop seal to the underside of single-swing hinged leaves; Frame factory-prepared to receive ironmongery (6mm deep threaded bolt holes for closers / maglocks, templated, M3 and M5 allowance), CE-certified ironmongery factory-fitted where practical (ironmongery measured separately, clause P21), stainless steel fixing bolts with colour-coded caps; FM identification tag (50 × 30mm, 1.5mm PPC aluminium plate, QR/barcode and room number); Frame secured to the partition sub-frame, fitted tight to the partition with the cavity packed with mineral wool insulation, Performance: acoustic to BS EN ISO 10140-2 achieving the scheduled Rw; durability DD 171 Severe Duty; including all necessary fixings, sealing, glazing beads and neoprene gaskets; as per Architects Specification L20-291 and Drawing SH-OCM-AR-4100 & SH-OCM-AR-4525				
	Door Type 97				
A	^^^Door Type 97; Single leaf glazed doorset; to suit 1075 x 2125mm structural opening; acoustic rating 41dB (Rw); with access control preparation; electromagnetic hold-open device; no kick plates; ironmongery set SET11.2. [D02-OFF-026 (SET11.2), D02-OFF-027 (SET11.2), D02-OFF-028 (SET11.2)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	3	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^Door Type 97; Single leaf glazed doorset; to suit 1100 x 2315mm structural opening; acoustic rating 41dB (Rw); with access control preparation; electromagnetic hold-open device; no kick plates; ironmongery set SET11.2. [D01-STU-022 (SET11.2), D01-STU-023 (SET11.2)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	2	nr		
B	^^^Door Type 97; Single leaf glazed doorset; 1130 x 2234mm structural opening; acoustic rating 39dB (Rw) ; with access control preparation; electromagnetic hold-open device; no kick plates; ironmongery set SET11.2. [D01-VCOM-026 (SET11.2)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		
C	^^^Door Type 97; Single leaf glazed doorset; to suit 1182 x 2260mm structural opening; acoustic rating 41dB (Rw); with access control preparation; electromagnetic hold-open device; no kick plates; ironmongery set SET11.2. [D02-OFF-003 (SET11.2)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		
	Composite items; Steel Framed Glazed FR Doorset - (FD30S, Technishield 65 non-rebated) (L20-292)				

	Description	Qty	Unit	Rate	Amount
	Supply and fix proprietary steel framed glazed fire-rated doorset to NBS specification clause L20-292 (Technishield 65 non-rebated or equal and approved); FD30S / EI30 (30 minutes integrity and 30 minutes insulation); enumerated as a complete doorset. Each doorset is deemed to include: Non-rebated (butt-meeting) double glazed leaves, latched and hinged as required; PPC steel frame, 65mm sight line, polyester powder coated to selected RAL / BS / NCS colour; Contractor-designed glazing to clause L40, reference specification Pyroguard T EI-30 18-2, glass type to match the adjacent screen, tested/assessed to BS EN 1634-1, BS EN 13501-2, BS EN 12600 and BS EN 12150 / EN 14449, achieving EI30 (30/30); opaque vinyl manifestation at 50% opacity (see note on manifestation below); Dark grey rubber acoustic / smoke seal gasket to the full frame perimeter, and an automatic threshold drop seal to the underside of single-swing hinged leaves; Fire rated steel frame back-filled with fire mortar (or mineral wool where the certification does not require mortar) to the frame fire certification; Frame factory-prepared to receive ironmongery (6mm deep threaded bolt holes for closers / maglocks, templated, M3 and M5 allowance), CE-certified and CERTIFIRE-approved ironmongery factory-fitted where practical (ironmongery measured separately, clause P21), stainless steel fixing bolts with colour-coded caps; FM identification tag (50 × 30mm, 1.5mm PPC aluminium plate, QR/barcode and room number) and a metal tag noting manufacturer, year, door type and fire rating; Frame secured to the partition sub-frame, fitted tight to the partition. Performance: fire and smoke certification to BS 476-22 and BS EN 1634-1; durability DD 171 Severe Duty; acoustic to BS EN ISO 10140-2 achieving the scheduled Rw; including all necessary fixings, sealing, glazing beads and neoprene gaskets; as per Architects Specification L20-292 and Drawing SH-OCM-AR-4100 & SH-OCM-AR-4525 Door Type 98				
A	^^^Door Type 98; Double leaf glazed doorset; to suit 2253 x 2224mm structural opening; acoustic rating 30dB (Rw); with access control preparation; electromagnetic hold-open device; no kick plates; ironmongery set SET04. [D00-HCOM-002 (SET04)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		
	Composite items; Insulated Steel Doorset (L20-481)				

	Description	Qty	Unit	Rate	Amount
	Supply and fix proprietary insulated steel doorset to NBS specification clause L20-481; enumerated as a complete doorset. Each doorset is deemed to include :Thermally broken steel frame with double-skinned door leaf of min. 1.5mm steel sheet, rebated and folded, with insulated core; Polyester powder coated finish to Z31, allowing for dual colour (internal / external), RAL colour to match H11-110; Multi-point locking system certified as part of the tested doorset configuration, and security hinges with anti-lift protection; Ironmongery as the external ironmongery schedule (measured separately); Perimeter seals and all fixings; frame secured to the structural ope. Performance (to be achieved by the complete doorset): Security: minimum RC4 to BS EN 1627:2011, with independent third-party certification tested to BS EN 1628, BS EN 1629 and BS EN 1630; Whole-doorset thermal transmittance (Ud): 1.30 W/m ²K to BS EN ISO 10077; Air permeability: minimum Class 3 to BS EN 12207 (tested BS EN 1026); Wind resistance: minimum Class C3 (tested BS EN 12211 and BS EN 12210); Mechanical durability: minimum Grade 7 to BS EN 12400; Corrosion resistance: minimum Category C4 (tested BS EN ISO 12944); Acoustic performance: as scheduled (schedule states 41dB Rw), tested to BS EN ISO 10140; Fire performance: as scheduled (schedule states FD60S) including all necessary fixings, sealing, glazing beads and neoprene gaskets; as per Architects Specification L20-481 and Drawing SH-OCM-AR-4100 & SH-OCM-AR-4525 Door Type 01				
A	^^^Door Type 01; Single leaf doorset; to suit 1100 x 2260mm structural opening; frame to suit 152mm wall; acoustic rating 41dB (Rw); with access control preparation; no kick plates; ironmongery set SET13.4. [D02-PLNT-030 (SET13.4)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525 Composite items; Specialist Steel Riser Doorset, Concealed Framing (FD30S) (L20-635)	1	nr		

	Description	Qty	Unit	Rate	Amount
	Supply and fix proprietary specialist fire-rated steel riser doorset to NBS specification clause L20-635; certified 30-minute fire-rated steel lockable riser door with smoke seal (FD30S), with concealed perimeter frame; enumerated as a complete doorset. Each doorset is deemed to include: Concealed 4-sided frame of min. 1.2mm cold-rolled mild steel with mitred and fully welded corners, integral flange to cover the edge of the opening, frame bolted through the face of the leading edge of the partition to the door-system fire certification; junction between frame and partition sealed with intumescent sealant; tear-drop rubber gaskets to the full frame perimeter with no gaps or breaks; pre-finished PPC 60–80 microns to Z31 (see finish note below); Integrated steel door leaf/leaves of min. 1.2mm cold-rolled mild steel facing with mineral wool insulated core, all corners and edges precision welded and finished flush, on concealed pivot hinges allowing 170° opening; Frame and leaf prepared for a min. 3-point locking mechanism with square-drive key and euro cylinder lock; Identification tag (50 × 30mm, 1.5mm PPC aluminium plate bonded to the leaf, QR/barcode and room number) and a metal tag noting manufacturer, year, door type and fire rating; leading edge of each leaf labelled "Fire Door Keep Locked"; Aluminium threshold protection plate across the partition at the base of each door, Performance: fire and smoke certification FD30S tested to BS EN 1634-1 and BS EN 1363-1; durability DD 171 Severe Duty; acoustic 35dB (Rw). System certified for up to 6 nr leaves (max. 1000mm leaf width) all in accordance with Architects Specification L20-635 and Drawings AR-4100, AR-4525 and AR-5346				
	Door Type 60				
A	^^^Door Type 60; Single leaf doorset; 900 x 2100mm structural opening; frame to suit 152mm wall; acoustic rating 30dB (Rw); no kick plates; ironmongery set SET07. [D01-RISER-007 (SET07), D02-RISER-009 (SET07)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	2	nr		
B	^^^Door Type 60; Single leaf doorset; 900 x 2100mm structural opening; frame to suit 215mm wall; acoustic rating 30dB (Rw); no kick plates; ironmongery set SET07. [D01-RISER-010 (SET07), D01-RISER-019 (SET07), D02-RISER-012 (SET07), D02-RISER-020 (SET07)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	4	nr		

	Description	Qty	Unit	Rate	Amount
	Door Type 61				
A	^^^Door Type 61; Double leaf doorset; 1700 x 2100mm structural opening; frame to suit 215mm wall; acoustic rating 30dB (Rw); no kick plates; ironmongery set SET06. [D00-RISER-023 (SET06)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	1	nr		
	Door Type 63				
B	Door Type 63; Four leaf doorset; 2500 x 2100mm structural opening; frame to suit 215mm wall; acoustic rating 30dB (Rw); no kick plates; ironmongery set SET06. [D01-RISER-009 (SET06), D01-RISER-018 (SET06), D02-RISER-011 (SET06), D02-RISER-019 (SET06)] - Drawing Nr. SH-OCM-AR-4100 & SH-OCM-AR-4525	4	nr		
	Extra over for				
C	^^^^^^infilling door with 1 layers of 15 mm gypsum fire and acoustic enhanced plasterboard (K10-413), screw fixed with drywall screws to metal door; taped and filled joints and spotting screw heads in preparation for skim finish; gypsum skim coat plaster finish 2-3 mm thick to EN 13279-1, by same manufacturer as the partition system, joints filled and taped except where coincident with metal beads, finished to Quality Level Q4 and allowing for walls directly lit by wall-washer luminaires, to room side only; as per OCM Drawing Nr. 5346	36	m2		
D	^^^^^^K13 stainless steel corner protect, size 40 x 40mm as per OC Drawing Nr. 5346	18	m		
	<u>Composite Items; Internal Panel Partitions (K30)</u>				
	<u>Relocatable partition system Type 1.1 (K30-130)</u>				

Description	Qty	Unit	Rate	Amount
Internal Panel Partitions / Glazed Screens; Single glazed NFR partition system; Top and bottom supported with vertical glass-to-glass joints. "W2W 50mm Single Glazed Atrium System"; strength grade - Guarding to satisfy BS 6180: 2011 Duty Rating to BS 5234-2 where applicable; partition system to have Barrier Loading to BS 6180:2011 (Line load 1.5kN/m / UDL 1.5kN/m² / Point load 1.5kN) with maximum allowable deflection under line load of L/120 or 25mm (whichever is least) and system sound insulation of 38dB(Rw) to BS EN ISO 10140-2 and ISO717-1 with and including all necessary acoustic test reports as required; glazed panels / glass type to 31.5mm Toughened Laminate Glass (Trosifol Interlay) based on 2-edge supported glass rigidly supported in the head and base tracks and the presumption that the glass is intact at the point the load is applied (i.e. no additional redundancy allowed for) with sound insulation of 44dB(Rw); manifestation to NBS Section L40; Trims to be Extruded Aluminium fascia type trim to cover slab edge as Clause P20/150; aluminium framing powder coated to standard RAL colour, 50 microns, 30% gloss, in accordance with NBS Section Z31; system to comply with sustainability requirements - SKA Good Practice Measure M09 (Ref. Sustainability Statement 117300) and BREEAM A+ rating against Green Guide Ratings 2008 (Ref. Sustainability Statement 117301); The Glazing Sub-Contractor is to allow for all interfacing works with these screens, closing, fixing and cavity insulation works at the glazed screens head, base/cills and jambs conditions, comprising the following works common to all interfacing works details to include the following (but not limited to) Tag Items outlined on Drawing 4153, 4154, 4155 - Aluminium glazing shoe (3); glazing transom (6); floor cover trim (8); mullion head post (9); PPC transom extension (10); mineral-wool cavity fill (15); mullion-to-shoe-bracket fixing (16); glazing mullion (18); compriband tape (19); silicone seal (20); mineral wool backer (21); PPC aluminium pressing (27) ; mineral wool backer & non-combustible setting blocks (29); fire seal (30); intumescent strip (31); glazing bead (32); clip-in door head (39); head trackwork (41); acoustic seal (42); double-glazing clip-in cover plate (43); base trackwork (44); base track clip-in bead (45); 2mm pressing (47); 3mm aluminium closer pressing (48) ; fire stop (60); and manifestations (220); include for all necessary assembly, erecting, fixings; silicone sealing 5mm glass-to-glass junction joints with structural silicone, calcium silicate packers, timber packers; fixing to concrete floor slab at base and soffit at head with 75 x 50mm channel for glass thicknesses up to 33mm with deflection allowance of 25mm at head; wall/vertical structure abutments to be Glass-to-Wall / Glass-to-Column butt joint; and allow for concealed cable route in frames to doorsets within glazed partition;				

	Description	Qty	Unit	Rate	Amount
	all blinds to Blinds Schedule; all doorsets to Door Schedule; partition height 3,500mm; all fixed in accordance with Architects Specification K30-130, SH-OCM-AR-4570 Screen Schedule and Drawings DR-OCM-AR-1425 & Drawings 4153, 4154, 4155				
A	^^^Glazed Screen; overall size 2633mm wide x 3365mm high; Non-Fire Rated as per SH-OCM-AR-4570_Screen Schedule	1	nr		
B	^^^^^^Extra over last for Metal Extruded fascia type slab edge cover trim; comprising of 3mm thick Polyester Powder Coated as Z31 Extruded Aluminium (dims approx. 75mm x 300mm) to Spec. Item 920-150, secret clip fixed to cill / base of glazed screen ; 3 times bent; girth 350mm - 500mm (455mm) as per Drawing AR4153 (Tag Item 4)	3	m		
C	^^^Glazed Screen; overall size 3146mm wide x 3557mm high; Non-Fire Rated as per SH-OCM-AR-4570_Screen Schedule	10	nr		
D	^^^^^^Extra over last for Metal Extruded fascia type slab edge cover trim; comprising of 3mm thick Polyester Powder Coated as Z31 Extruded Aluminium (dims approx. 75mm x 300mm) to Spec. Item 920-150, secret clip fixed to cill / base of glazed screen ; 3 times bent; girth 350mm - 500mm (455mm) as per Drawing AR4155 (Tag Item 4)	32	m		
E	^^^Glazed Screen; overall size 3148mm wide x 3557mm high; Non-Fire Rated as per SH-OCM-AR-4570_Screen Schedule	1	nr		
F	^^^Glazed Screen; overall size 3273mm wide x 3557mm high; Non-Fire Rated as per SH-OCM-AR-4570_Screen Schedule	2	nr		
G	^^^Glazed Screen; overall size 7197mm wide x 3365mm high; Non-Fire Rated as per SH-OCM-AR-4570_Screen Schedule	1	nr		
H	^^^^^^Extra over last for Metal Extruded fascia type slab edge cover trim; comprising of 3mm thick Polyester Powder Coated as Z31 Extruded Aluminium (dims approx. 75mm x 300mm) to Spec. Item 920-150, secret clip fixed to cill / base of glazed screen ; 3 times bent; girth 350mm - 500mm (455mm) as per Drawing AR4153 (Tag Item 4)	8	m		
J	^^^Glazed Screen; overall size 7302mm wide x 2300mm high; Non-Fire Rated as per SH-OCM-AR-4570_Screen Schedule	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^Glazed Screen; overall size 10096mm wide x 3200mm high; Non-Fire Rated as per SH-OCM-AR-4570_Screen Schedule	1	nr		
	Relocatable partition system Type 1.2 (K30-131)				
				To Collection €	

Description	Qty	Unit	Rate	Amount
Internal Panel Partitions / Glazed Screens; Single glazed FR curtain wall system. "Technishield Façade 45mm thermally insulated, pressure glazed curtain walling system"; strength grade - Guarding to satisfy BS 6180: 2011 Duty Rating to BS 5234-2 where applicable; partition system to have Barrier Loading to BS 6180 :2011 (Line load 0.74kN/m / UDL 1.0kN/m² / Point load 0.5kN) with maximum allowable deflection under line load of L/120 or 25mm (whichever is least) and system sound insulation of 42dB(Rw) to BS EN ISO 10140-2 and ISO717-1 with and including all necessary acoustic test reports as required; system to be CE marked to EN 13830 and tested to the following : water tightness EN 12154/ENV 13050 (static RE1200, Dynamic 313Pa/938Pa), air permeability EN 12152 class AE, resistance to wind load EN 13116 (design load 1.25kN/m², safety load 1.875kN/m²), impact resistance EN 14019 class E5/I5, thermal transmittance EN 12412-2 (Uf = 1.5–2.4 W/m²k), acoustic insulation Rw,r = 45dB, ballistic testing M1 –M3; fire resistance of complete system to BS 476-22 or BS EN 1634 rated at 30 minutes integrity and 30 minutes insulation; reaction to fire for rateable components to BS EN 13501-1 Class B or better; fire stopping to NBS Section P12; glazed panels / glass type to Pyroguard T EI-30 18-2 single glazed units with sound insulation of 42dB(Rw); manifestation to NBS Section L40; framing to be thermally insulated steel mullion/transom profiles, fabricated by welded and/or slotted arrangement, by contractor design determined by size, application and use, with maximum framing sightline width of 50mm; framing fixed to surrounding block/concrete structure by individually designed welded mullion head and base brackets; trims as detailed; steel framing powder coated to standard RAL colour, 50 microns, 30% gloss, in accordance with NBS Section Z31; The Glazing Sub-Contractor is to allow for all interfacing works with these screens, closing, fixing and cavity insulation works at the glazed screens head, base/cills and jambs conditions, comprising the following works common to all interfacing works details to include the following (but not limited to) Tag Items outlined on Drawing 4151, 4153 - Aluminium glazing shoe (3); glazing transom (6); floor cover trim (8); mullion head post (9); PPC transom extension (10); mineral-wool cavity fill (15); mullion-to-shoe-bracket fixing (16); glazing mullion (18) ; compriband tape (19); silicone seal (20); mineral wool backer (21); PPC aluminium pressing (27); mineral wool backer & non-combustible setting blocks (29); fire seal (30); intumescent strip (31); glazing bead (32); clip-in door head (39); head trackwork (41); acoustic seal (42); double-glazing clip-in cover plate (43); base trackwork (44); base track clip-in bead (45); 2mm pressing (47); 3mm aluminium closer pressing (48); fire				

	Description	Qty	Unit	Rate	Amount
	stop (60); and manifestations (220); include for all necessary assembly, erecting, fixings; structural load calculations to determine internal box profile section sizes having regard to spans, tie-back locations and wind load factors; head fixed with mullion head bracket to sloping concrete soffit with deflection allowance of 25mm; base fixed with mullion base bracket recessed into screed pocket below FFL; and allow for concealed cable route in frames to doorsets within glazed partition; all blinds to Blinds Schedule; all doorsets to Door Schedule; partition height 4,700mm; all fixed in accordance with Architects Specification K30-131, SH-OCM-AR-4570 Screen Schedule and Drawings DR-OCM-AR-1425 & Drawings 4151, 4153				
	Composite item; Glazed Screen				
A	^^^Glazed Screen - overall size 3103mm wide x 4805mm high; 30min Fire Rated as per SH-OCM-AR-4570_Screen Schedule	1	nr		
B	^^^^^^Extra over last for 2mm PPC Aluminium Pressing; 2 times bent; laid horizontal, girth 150mm - 300mm as per Drawing AR4151 (Tag Item 47)	4	m		
C	^^^^^^Extra over last for 3mm PPC Aluminium Closer Pressing; laid vertically, girth 150mm - 300mm as per Drawing AR4151 (Tag Item 48)	10	m		
	Relocatable partition system Type 1.3 (K30-132)				

Description	Qty	Unit	Rate	Amount
Internal Panel Partitions / Glazed Screens; Single glazed EI30 fire-rated partition system. "Technishield 65"; strength grade - Guarding to satisfy BS 6180: 2011 Duty Rating to BS 5234-2 where applicable; partition system to have Barrier Loading to BS 6180:2011 (Line load 0.74kN/m / UDL 1.0kN/m² / Point load 0.5kN) with maximum allowable deflection under line load of L/120 or 25mm (whichever is least) and system sound insulation of 42dB(Rw) to BS EN ISO 10140-2 and ISO717-1 with and including all necessary acoustic test reports as required; fire resistance of complete system to EN 1634-1 and EN 1364-1 rated at 30 minutes integrity and 30 minutes insulation; reaction to fire for rateable components to BS EN 13501-1 Class B or better; fire stopping at junctions of partitions with perimeter abutments, cavity barriers and service penetrations to be non-combustible or intumescent materials in accordance with NBS Section P12; fire test certificate to be provided and it is the contractor's responsibility to allow for frame sizes and fixings in accordance with the field of application within the system fire test report; glazed panels / glass type to Pyroguard EI-30 32-2 SWS single glazed units with sound insulation of 42dB(Rw); manifestation to NBS Section L40; framing to be insulated steel track sections with welded frames and spigot-jointed rails; structural load calculations required to determine profile section sizes, noting that long spans over 3,000mm require special consideration; The Glazing Sub-Contractor is to allow for all interfacing works with these screens, closing, fixing and cavity insulation works at the glazed screens head, base/cills and jambs conditions, comprising the following works common to all interfacing works details to include the following (but not limited to) Tag Items outlined on Drawing 4150 - Aluminium glazing shoe (3); glazing transom (6); floor cover trim (8); mullion head post (9); PPC transom extension (10); mineral-wool cavity fill (15); mullion-to-shoe-bracket fixing (16); glazing mullion (18) ; compriband tape (19); silicone seal (20); mineral wool backer (21); PPC aluminium pressing (27); mineral wool backer & non-combustible setting blocks (29); fire seal (30); intumescent strip (31); glazing bead (32); clip-in door head (39); head trackwork (41); acoustic seal (42); double-glazing clip-in cover plate (43); base trackwork (44); base track clip-in bead (45); 2mm pressing (47); 3mm aluminium closer pressing (48); fire stop (60); and manifestations (220); include for all necessary assembly, erecting, fixings; silicone sealing 5mm glass-to-glass junction joints with silicone in-line butt-joint, calcium silicate packers, timber packers; head abutment to 70mm deep x 65mm wide frame with deflection allowance of 25mm; floor abutment to 90mm deep x 65mm wide frame; wall/vertical structure abutment to 70mm deep x 65mm wide frame; steel				

	Description	Qty	Unit	Rate	Amount
	framing powder coated to standard RAL colour, 50 microns, 30% gloss, in accordance with NBS Section Z31; all blinds to Blinds Schedule; partition height 3,900mm; all fixed in accordance with Architects Specification K30-132, SH-OCM-AR-4570 Screen Schedule and Drawings DR-OCM-AR-1425. & Drawing 4150				
	Composite item; Glazed Screen				
A	^^^Glazed Screen; overall size 3147mm wide x 3162mm high; 30min Fire Rated as per SH-OCM-AR-4570_Screen Schedule	1	nr		
B	^^^Glazed Screen; overall size 4374mm wide x 1360mm high; 30min Fire Rated as per SH-OCM-AR-4570_Screen Schedule	1	nr		
C	^^^^^^Extra over last for PPC Aluminium Pressing cill / base; 3 times bent; girth 150mm - 300mm as per Drawing AR4150 (Tag Item 27)	5	m		
	Relocatable partition system Type 1.4 (K30-133)				

Description	Qty	Unit	Rate	Amount
Internal Panel Partitions / Glazed Screens; Single glazed EI60 partition system; "Technishield 65"; WITH guarding; strength grade - Guarding to satisfy BS 6180: 2011 Duty Rating to BS 5234-2 where applicable; partition system to have Barrier Loading to BS 6180 :2011 (Line load 1.5kN/m / UDL 1.5kN/m2 / Point load 1.5kN) with maximum allowable deflection under line load of L/120 or 25mm (whichever is least); fire resistance of complete system to EN 1634-1 and EN 1364-1 achieving 60 minutes integrity and 60 minutes insulation, reaction to fire of rateable components to BS EN 13501-1 Class B or better; system sound insulation of 43dB(Rw) to BS EN ISO 10140-2 and ISO717-1 with and including all necessary acoustic test reports as required; glazed panels / glass type to Pyroguard EI60 INT with sound insulation of 43dB(Rw); manifestation to NBS Section L40; steel framing (insulated steel track sections with welded frames and spigot-jointed rails) powder coated to standard RAL colour, 50 microns, 30 % gloss, in accordance with NBS Section Z31; The Glazing Sub-Contractor is to allow for all interfacing works with these screens, closing, fixing and cavity insulation works at the glazed screens head, base/cills and jambs conditions, comprising the following works common to all interfacing works details to include the following (but not limited to) Tag Items outlined on Drawing 4153 - Aluminium glazing shoe (3); glazing transom (6); floor cover trim (8); mullion head post (9); PPC transom extension (10); mineral-wool cavity fill (15); mullion-to-shoe-bracket fixing (16); glazing mullion (18); compriband tape (19); silicone seal (20); mineral wool backer (21); PPC aluminium pressing (27) ; mineral wool backer & non-combustible setting blocks (29); fire seal (30); intumescent strip (31); glazing bead (32); clip-in door head (39); head trackwork (41); acoustic seal (42); double-glazing clip-in cover plate (43); base trackwork (44); base track clip-in bead (45); 2mm pressing (47); 3mm aluminium closer pressing (48) ; fire stop (60); and manifestations (220); include for all necessary assembly, erecting, fixings; 5mm glass-to-glass silicone in-line butt-joints; include for contractor design structural load calculations to determine profile section sizes (note spans over 3000mm require special consideration) and contractor responsibility for frame sizes and fixings in accordance with the field of application within the system fire test report; fixing to concrete floor slab at base with 90mm deep x 65mm wide frame and to soffit at head with 70mm deep x 65mm wide frame with deflection allowance of 25mm at head; wall/vertical structure abutments with 70mm deep x 65mm wide frame; all blinds to Blinds Schedule; partition height 2,300mm; Screen G-01-Ph1; all fixed in accordance with Architects Specification K30-133, SH-OCM-AR-4570 Screen Schedule and Drawings				

	Description	Qty	Unit	Rate	Amount
	DR-OCM-AR-1425 & Drawing 4153				
	Composite item; Glazed Screen				
A	^^^Glazed Screen; overall size 4097mm wide x 2300mm high; 30min Fire Rated (guarded — G-01-Ph1) as per SH-OCM-AR-4570_Screen Schedule	1	nr		
	Ditto as above for (Single glazed EI60 partition system, "Technishield 65", 60 minutes integrity and 60 minutes insulation to EN 1634-1/EN 1364-1, Pyroguard EI60 INT, system sound insulation 43dB(Rw)) but partition system to have Barrier Loading to BS 6180:2011 (Line load 0.74kN/m / UDL 1.0kN/m2 / Point load 0.5kN) - no guarding; partition height 2,705mm; Screen G-01-Ph2; all fixed in accordance with Architects Specification K30-133, SH-OCM-AR-4570 Screen Schedule and Drawings DR-OCM-AR-1425				
B	^^^Glazed Screen; overall size 2990mm wide x 2705mm high; 30min Fire Rated (ungarded - G-01-Ph2) as per SH-OCM-AR-4570_Screen Schedule	1	nr		
	Relocatable partition system Type 2.1 (K30-134)				

Description	Qty	Unit	Rate	Amount
Internal Panel Partitions / Glazed Screens; Double glazed NFR partition system; Top and bottom supported with vertical glass-to-glass joints. "Optima Revolution 100"; strength grade - Guarding to satisfy BS 6180: 2011 Duty Rating to BS 5234-2 where applicable; partition system to have Barrier Loading to BS 6180:2011 (Line load 0.74kN/m / UDL 1.0kN/m² / Point load 0.5kN) with maximum allowable deflection under line load of L/120 or 25mm (whichever is least) and system sound insulation of 51dB(Rw) to BS EN ISO 10140-2 and ISO717-1 with and including all necessary acoustic test reports as required; note that the sound insulation performance specified applies to the entire partition construction including all framing and perimeter seals to surrounding constructions; fire resistance of complete system not required; reaction to fire not required; glazed panels / glass type to full height double glazed dry jointed units comprising 12.8mm acoustic laminate glass + 12.8mm acoustic laminate glass with sound insulation of 51dB(Rw) lab tested — see Performance Certificate 100050; manifestation to NBS Section L40; framing to be aluminium extruded track sections produced from Circal75R aluminium billet comprising a minimum of 75% post-consumer recycled content and a maximum carbon footprint of 1.9kgCO_2e/kg aluminium; intermediate junctions/corners to be glass-to-glass with 5mm junction width and ghost dry butt-joint; system to comply with sustainability requirements — SKA Good Practice Measure M09 (Ref. Sustainability Statement 117300) and BREEAM A+ rating against Green Guide Ratings 2008 (Ref. Sustainability Statement 117301); aluminium framing powder coated to standard RAL colour, 50 microns, 30 % gloss, in accordance with NBS Section Z31; The Glazing Sub-Contractor is to allow for all interfacing works with these screens, closing, fixing and cavity insulation works at the glazed screens head, base/cills and jambs conditions, comprising the following works common to all interfacing works details to include the following (but not limited to) Tag Items outlined on Drawing 4152, 4155 - Aluminium glazing shoe (3); glazing transom (6); floor cover trim (8); mullion head post (9); PPC transom extension (10); mineral-wool cavity fill (15); mullion-to-shoe-bracket fixing (16); glazing mullion (18); compriband tape (19); silicone seal (20); mineral wool backer (21); PPC aluminium pressing (27); mineral wool backer & non-combustible setting blocks (29); fire seal (30); intumescent strip (31); glazing bead (32); clip-in door head (39); head trackwork (41); acoustic seal (42); double-glazing clip-in cover plate (43); base trackwork (44); base track clip-in bead (45); 2mm pressing (47); 3mm aluminium closer pressing (48); fire stop (60); and manifestations (220); include for all necessary assembly, erecting, fixings; head abutment to 90 x 100mm frame				

	Description	Qty	Unit	Rate	Amount
	with deflection allowance of 25mm; floor abutment to 25 x 100mm frame; wall/vertical structure abutment to 25 x 100mm frame; and allow for concealed cable route in frames to doorsets within glazed partition; all blinds to Blinds Schedule; all doorsets to Door Schedule; partition height 3,200mm; all fixed in accordance with Architects Specification K30-134, SH-OCM-AR-4570 Screen Schedule and Drawings DR-OCM-AR-1425 & Drawings 4152, 4155				
	Composite item; Glazed Screen				
A	^^^Glazed Screen; overall size 2600mm wide x 2701mm high; Non-Fire Rated as per SH-OCM-AR-4570_Screen Schedule	2	nr		
B	^^^Glazed Screen; overall size 3200mm wide x 2701mm high; Non-Fire Rated as per SH-OCM-AR-4570_Screen Schedule	1	nr		
C	^^^Glazed Screen; overall size 3654mm wide x 3089mm high; Non-Fire Rated as per SH-OCM-AR-4570_Screen Schedule	1	nr		
D	^^^Glazed Screen; overall size 3991mm wide x 2683mm high; Non-Fire Rated as per SH-OCM-AR-4570_Screen Schedule	1	nr		
E	^^^Glazed Screen; overall size 5618mm wide x 3372mm high; Non-Fire Rated as per SH-OCM-AR-4570_Screen Schedule	1	nr		
F	^^^Glazed Screen; overall size 6338mm wide x 3089mm high; Non-Fire Rated as per SH-OCM-AR-4570_Screen Schedule	1	nr		
	Relocatable partition system Type 2.2 (K30-135)				

Description	Qty	Unit	Rate	Amount
Internal Panel Partitions / Glazed Screens; Double glazed NFR partition system; Top and bottom supported with vertical glass-to-glass joints. "Optima Revolution 100"; strength grade - Guarding to satisfy BS 6180: 2011 Duty Rating to BS 5234-2 where applicable; partition system to have Barrier Loading to BS 6180:2011 (Line load 1.5kN/m / UDL 1.5kN/m² / Point load 1.5kN) with maximum allowable deflection under line load of L/120 or 25mm (whichever is least) and system sound insulation of 53dB(Rw) to BS EN ISO 10140-2 and ISO717-1 (performance applies to the entire partition construction including all framing and perimeter seals to surrounding constructions) with and including all necessary acoustic test reports as required; glazed panels / glass type to full height double glazed dry-jointed units of 17.5mm Toughened laminate glass + 16.8mm acoustic laminate glass with sound insulation of 53dB(Rw) (assessed against lab test data - Performance Certificate 100063); manifestation to NBS Section L40; Trims to be Extruded Aluminium fascia type trim to cover slab edge as Clause P20/150; aluminium extruded track framing produced from Circal75R aluminium billet (min. 75% post-consumer recycled content, max. carbon footprint 1.9kgCO2e/kg aluminium) powder coated to standard RAL colour, 50 microns, 30% gloss, in accordance with NBS Section Z31; system to comply with sustainability requirements - SKA Good Practice Measure M09 (Ref. Sustainability Statement 117300) and BREEAM A+ rating against Green Guide Ratings 2008 (Ref. Sustainability Statement 117301); The Glazing Sub-Contractor is to allow for all interfacing works with these screens, closing, fixing and cavity insulation works at the glazed screens head, base/cills and jambs conditions, comprising the following works common to all interfacing works details to include the following (but not limited to) Tag Items outlined on Drawing 4156 - Aluminium glazing shoe (3); glazing transom (6); floor cover trim (8); mullion head post (9); PPC transom extension (10); mineral-wool cavity fill (15); mullion-to-shoe-bracket fixing (16); glazing mullion (18) ; compriband tape (19); silicone seal (20); mineral wool backer (21); PPC aluminium pressing (27); mineral wool backer & non-combustible setting blocks (29); fire seal (30); intumescent strip (31); glazing bead (32); clip-in door head (39); head trackwork (41); acoustic seal (42); double-glazing clip-in cover plate (43); base trackwork (44); base track clip-in bead (45); 2mm pressing (47); 3mm aluminium closer pressing (48); fire stop (60); and manifestations (220) (Drawing 4157); include for all necessary assembly, erecting, fixings; 50 x 100mm mullion to every module; fixing to concrete floor slab at base with 25 x 100mm frame (for up to 16.8mm glass on both faces) and to soffit at head with 94 x 100mm frame (for up to 16.8mm glass on both faces)				

	Description	Qty	Unit	Rate	Amount
	with deflection allowance of 25mm at head; wall/vertical structure abutments with 50 x 100mm frame with clip-on bead (for up to 16.8mm glass on both faces); all blinds to Blinds Schedule; partition height 3,200mm; all fixed in accordance with Architects Specification K30-135, SH-OCM-AR-4570 Screen Schedule and Drawings DR-OCM-AR-1425 & Drawing 4156				
A	^^^Glazed Screen; overall size 3119mm wide x 3557mm high; Non-Fire Rated as per SH-OCM-AR-4570_Screen Schedule	1	nr		
B	^^^Glazed Screen; overall size 3146mm wide x 3557mm high; Non-Fire Rated as per SH-OCM-AR-4570_Screen Schedule	1	nr		
C	^^^Glazed Screen; overall size 3273mm wide x 3557mm high; Non-Fire Rated as per SH-OCM-AR-4570_Screen Schedule	1	nr		
D	^^^^^^Extra over last for Metal Extruded fascia type slab edge cover trim; comprising of 3mm thick Polyester Powder Coated as Z31 Extruded Aluminium (dims approx. 75mm x 300mm) to Spec. Item 920-150, secret clip fixed to cill / base of glazed screen ; 3 times bent; girth 350mm - 500mm (455mm) as per Drawing AR4156 (Tag Item 4)	10	m		
	Composite Items; Internal Folding Wall (L20-546)				

	Description	Qty	Unit	Rate	Amount
	Semi-automated sliding / stacking moveable panel partition; proprietary 'PCTS Alma Folding Wall' or approved equal to Specification L20 clause 546. Non-fire-rated; system acoustic rating 54 dB Rw to BS EN ISO 10140-2 / ISO 717-1 (applied to the entire construction including all framing and perimeter seals). 8 no. equal, full-height, made-to-measure top-hung panels on single/double-point suspension; panels 100mm thick (unfinished), min. 50 kg/m2, self-supporting steel-reinforced aluminium frame with min. 12mm high-density particleboard both faces and acoustic backing/infill; tapered aluminium perimeter profiles (natural anodised, concealed within panel) with integral rubber sealing flaps, polarised magnetic centring strips and tongue-and-groove PVC lips; concealed interlocking concave/convex edge profiles; max. 4mm shadow gap; solid flush appearance when closed. Semi-electronic operation: electronic telescopic closure element with retractable top, bottom and lateral seals (min. 1500N contact pressure), manual rolling to parked position. Exposed steel box-section head track with concealed fixings (no ceiling flanges), PPC finish to NBS Z31; no floor track; all trolleys, wheels, closers, trims and manufacturer's ironmongery; wall jambs / abutments as Architect's drawings. Type L standard high-pressure-laminate finish both faces (0.8-1mm HPL, silver-ion antibacterial sanitised grade, EN438, PEFC/FSC accredited, colour/pattern by Architect). Stacking Type D - off-centre perpendicular. Incl. all electrical control boxes, wall control panels and face plates, installation and commissioning; incl. control samples and required acoustic test evidence. Screen S00-LAB-02, Classroom 00-CLASS-013; overall 8290 x 2860mm high (8 no. leaves). Complete, all fixed in accordance with Architects Specification L20-546, SH-OCM-AR-4570 Screen Schedule and Drawings DR-OCM-AR-1425 & 5341				
A	^^^Folding Partition Wall; overall size 8290mm wide x 2860mm high; Classroom 00-CLASS-013 (8no. leaves) Non-Fire Rated as per SH-OCM-AR-4570 _Folding Wall Schedule	1	nr		
B	^^^Ditto as above for (PCTS Alma Folding Wall to L20/546, 8 no. leaves, NFR, 54 dB Rw, Type L standard laminate finish both faces) but overall 8150 x 3345mm high; stacking Type F - in-line perpendicular. Screen S01-LAB-001, Project Lab 01-LAB-109. Complete.	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^Ditto as above for (PCTS Alma Folding Wall to L20/546, 8 no. leaves, NFR, 54 dB Rw, semi-electronic, exposed steel head track, no floor track) but with Type M GLASS MIRROR panel finish in lieu of laminate: 8mm glass mirror as L40/550, single glass sheet per panel with extruded aluminium edge protection to all 4 sides; glass to EN 12150, impact resistance class 1B1 to BS EN 12600. Overall 7594 x 2850mm high; stacking Type F - in-line perpendicular. Screen S01-STU-002, Studio 2 01-STU-117. Complete.	1	nr		
	Composite Items; Fire-rated automatic roller fire/smoke curtain (L20-610)				
B	Rates are deemed to include for the complete automatic fire/smoke curtain assembly and all fire-resistant fabric, guide tracks, head casing and hood, bottom rail, motor, controls, sensors, battery back-up, integration with the fire-alarm system, all fixing and supports, intumescent fire-sealing of all junctions between guides/housing/wall, PPC finish, and testing, commissioning and certification. Fire-alarm wiring/interface up to the connection point is measured elsewhere.		note		
	Fire-rated automatic roller fire/smoke curtain; vertical, fitted into reveal of primary steel opening; fire-resistant fabric curtain (silver finish); comprising rolled-steel fire curtain guide tracks (Tag 244), fire curtain head casing with full-width removable hood for maintenance access (Tag 245), and fire curtain bottom rail T-bar (Tag 246), all with manufacturers' fixing angles and PPC finish to RAL/BS colour to Architect's detail; 240V single-phase tube motor with adjustable limit switches, activated on fire-alarm signal, keyswitch reset, infra-red anti-collision sensor, fail-safe to closed position, complete with manufacturer-approved battery back-up; all junctions between guide rails, housing and wall fully intumescent fire-sealed; achieving fire integrity and insulation classification EI30 to EN 1634-1 / EN 13501-2; supplied with Certificate of Guarantee and Fire-Resistance; overall structural opening [width] × [height] mm; fixed to primary steelwork all as Specification Clause 610 and Drawing 9250 details 4, 6, 7, 8 & 12–14				
C	^^^Automatic Roller Fire/Smoke Curtain; overall size 3148mm wide x 3905mm high; (13no. leaves) Fire Rated as per Deg-AR-9250 (Detail 16 - Level 01)	13	nr		
D	^^^Automatic Roller Fire/Smoke Curtain; overall size 2712mm wide x 3905mm high; (1no. leaves) Fire Rated as per Deg-AR-9250 (Detail 03 - Level 01 on Plan)	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^Automatic Roller Fire/Smoke Curtain; overall size 869mm wide x 3905mm high; (1no. leaves) Fire Rated as per Deg-AR-9250 (Detail 03 - Level 01 on Plan)	1	nr		
B	^^^Automatic Roller Fire/Smoke Curtain; overall size 4360mm wide x 3169mm high; (1no. leaves) Fire Rated as per Deg-AR-9250 (Detail 9 - Level 01A)	1	nr		
	Composite items; Frames				
	The following shall be in Adjustable telescopic PPC steel frames - 1.5mm galvanised steel with flush welded, mitred corners with section sizes 157mm x 65mm with 15mm rebate (rebate width to suit door leaf thickness) / flush for double swing units and all frames to be fitted with a dark grey rubber acoustic / smoke seal gasket Polyester powder coated finish to selected RAL, BS and NCS colours; all fixed and secured to concrete / blockwork and studwork (partitions) walls in accordance with certification, all joints welded, include for all necessary fixings, counter sinkings and making good, protected for finishes all in accordance with the Architects Drawings SH-OCM-AR-4100, DR-OCM-AR-5320, 5321 & 5322 and Specification Clause L20				
	Framing; jambs and heads (Non Fire Rated)				
C	^^^157 x 65mm; 1 times rebated, fixed to 130mm thick stud partition walls with steel frame to overlap stud partition as outlined in Architects Specification L20-280 and Drawing Nr. AR-4100 & DR-OCM-AR-5320	22	m		
D	^^^157 x 65mm; 1 times rebated, fixed to 152mm thick stud partition walls with steel frame to overlap stud partition as outlined in Architects Specification L20-280 and Drawing Nr. AR-4100 & DR-OCM-AR-5320,	117	m		
E	^^^157 x 65mm; 1 times rebated, fixed to 215mm thick concrete / blockwork walls with steel frame fixed flush / butted against wall reveal with masonry anchors as outlined in Architects Specification L20-280 and Drawing Nr. AR-4100 & DR-OCM-AR-5320,	63	m		
	Framing; jambs and heads (FD30)				
F	^^^157 x 65mm; 1 times rebated, fixed to 100mm thick stud partition walls with steel frame to overlap stud partition as outlined in Architects Specification L20-280 and Drawing Nr. AR-4100 & DR-OCM-AR-5320	7	m		

	Description	Qty	Unit	Rate	Amount
A	^^^157 x 65mm; 1 times rebated, fixed to 152mm thick stud partition walls with steel frame to overlap stud partition as outlined in Architects Specification L20-280 and Drawing Nr. AR-4100 & DR-OCM-AR-5320	94	m		
B	^^^157 x 65mm; 1 times rebated, fixed to 215mm thick concrete / blockwork walls with steel frame fixed flush / butted against wall reveal with masonry anchors as outlined in Architects Specification L20-280 and Drawing Nr. AR-4100 & DR-OCM-AR-5320,	88	m		
C	^^^157 x 65mm; 1 times rebated, fixed to 250mm thick concrete / blockwork walls with steel frame fixed flush / butted against wall reveal with masonry anchors as outlined in Architects Specification L20-280 and Drawing Nr. AR-4100 & DR-OCM-AR-5320,	42	m		
	Framing; jambs and heads (FD60)				
D	^^^157 x 65mm; 1 times rebated, fixed to 152mm thick stud partition walls with steel frame to overlap stud partition as outlined in Architects Specification L20-280 and Drawing Nr. AR-4100 & DR-OCM-AR-5320,	6	m		
E	^^^157 x 65mm; 1 times rebated, fixed to 210mm thick concrete / blockwork walls with steel frame fixed flush / butted against wall reveal with masonry anchors as outlined in Architects Specification L20-280 and Drawing Nr. AR-4100 & DR-OCM-AR-5320,	14	m		
F	^^^157 x 65mm; 1 times rebated, fixed to 215mm thick concrete / blockwork walls with steel frame fixed flush / butted against wall reveal with masonry anchors as outlined in Architects Specification L20-280 and Drawing Nr. AR-4100 & DR-OCM-AR-5320,	29	m		
G	^^^157 x 65mm; 1 times rebated, fixed to 250mm thick concrete / blockwork walls with steel frame fixed flush / butted against wall reveal with masonry anchors as outlined in Architects Specification L20-280 and Drawing Nr. AR-4100 & DR-OCM-AR-5320,	7	m		
	<u>Sundry Items to Door Frames</u>				
	<u>Sundries; Bedding and Pointing</u>				

	Description	Qty	Unit	Rate	Amount
	Bed door frame in with mineral wool insulation and sealed with proprietary certified fire resistant sealant applied with backer / backing rods to both sides of door frame all as per Details outlined on Architects Drawing Nr. DR-OCM-AR-5320				
A	^^^to 30minute Fire Rated Doors Frames (FD30) 157mm wide	231	m		
B	^^^to 60minute Fire Rated Doors Frames (FD60) 157mm wide	56	m		
	Sundries; seals				
	Acoustic Mineral Wool Insulation packing to door frames as per manufacturers instructions all as per Details outlined on Architects Drawing Nr. DR-OCM-AR-5320				
C	^^^to Non Fire Rated Door Frames (NFR) 157mm wide	202	m		
	Sundries; sealant				
D	^^^Allow for compressible filler between door frames (both sides) and concrete / blockwork and stud partition walls with anti-microbial silicone sealant (all 3 facing sides of door frames); all as per Details outlined on Architects Drawing Nr. DR-OCM-AR-5320 & 5321	954	m		
	Fixings; drilled				
E	"Hilti" or equally approved expanding anchor bolt set type HT 10 / 92; including all necessary drilling and fixing; counter sink and making good	1590	nr		

	Description	Qty	Unit	Rate	Amount
	PAINTING AND DECORATING:				
	Painting				
	Prepare, knot, prime, stop and apply one coat of primer / sealer and three coats of high-durability water-based clear anti-microbial wood lacquer (inert matting agents, acrylic-urethane co-polymer emulsion binder, water solvent; volume of solids not less than 32%; VOC not greater than 129 g/L, Category A/i; verified anti-microbial additive; minimal sheen, clear and flat finish); applied by brush/roller/spray to new bare internal natural hardwood timber and veneers; including all preparation (clean down, white-spirit degrease, abrade in direction of grain, round arises to 3mm radius, dust off, seal bare wood), knotting to resinous areas, cutting in and protection as per Architects Specification M60-160 (clear finish)				
	General surfaces; edge lipping to doors.				
A	^^^< or = 300 mm	604	m		
	General surfaces; doors (including any glazing beads to doors)				
B	^^^< or = 300 mm	945	m2		

Description	Qty	Unit	Rate	Amount
COLLECTION				
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Description	Qty	Unit	Rate	Amount
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Page No. BQ/277				
(32) INTERNAL WALL COMPLETIONS **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(33) FLOORS AND GALLERIES COMPLETIONS				
	(33) FLOORS AND GALLERIES COMPLETIONS				
	METAL WORK:				
	Non-structural				
	Composite items; handrail				
	Composite mild steel wall-fixed handrail to south external stair; 40mm diameter mild steel tube to BS EN 10255 medium grade or solid bar equivalent, hot dip galvanised; continuous run at 930mm AFF along concrete stair wall with returns/eased ends at start and terminations; supported on profiled mild steel brackets fabricated from 50 × 10mm flat bar with welded 40mm diameter tube scroll arm, minimum projection 115mm from wall face to handrail centreline, mild steel to BS EN 10025 Grade S275, shaped to clear stair nosings, fixed to galvanised flat strap grounds with two M10 countersunk stainless steel Grade A4 bolts per bracket, brackets at maximum 1200mm centres; galvanised steel fixing grounds/straps 75 × 6mm or 100 × 6mm flat mild steel, plugged and drilled into concrete wall with M12 stainless steel Grade A4 chemical resin anchors at maximum 600mm centres, packed with non-shrink cementitious grout, countersunk flush to wall face; all joints mitred and welded for smooth curve at turns and landings, handrail extending 300mm beyond nosing as required by TGD Part K; all welding by coded welders to BS EN 1090-2, welds ground smooth, all edges radiused to minimum 2mm; hot dip galvanised to BS EN ISO 1461; sweep blast prepared, one coat etch primer, two coats two-pack polyurethane finish paint to match adjacent railing, colour RAL to Architect's instruction; all fixings stainless steel Grade A4 countersunk and flush; as per OCM Drawing Nr. 9231				
	South External Stairs as per OCM Drawing Nr. 9231				
A	^^^handrails	4	m		
B	^^^handrails; raking	13	m		
	Extra on handrail for:				
C	^^^ends	4	nr		
D	^^^ramps between straight and raking	8	nr		
	Composite items; balustrades				

	Description	Qty	Unit	Rate	Amount
	Composite proprietary vertical cantilever unframed glass balustrade and hardwood handrail, Q-railing Easy Glass Smart full glass railing system or equivalent, comprising a proprietary aluminium base channel system secured (fascia-mounted) to the vertical face of the concrete slab edge, with removable clamping blocks to permit glass replacement; (note - pour-in resin fixing systems not accepted); glass infill of low-iron, toughened, heat-soak-tested laminated glass, minimum 31.25mm overall thickness, 3100mm wide single unit per bay, polished edges, set to achieve a finished guarding height of 1100mm above FFL; laminate interlayer to be submitted to meet performance requirements; Solid American White Oak (Quercus alba) hardwood handrail capping, approximately 100x75mm elliptical profile, rebated underside slotted over and bonded/clamped to the top edge of the glazing; lacquered to M60-160 UV-cured white lacquer to achieve Lime Effect Finish (samples for Architect's approval); extruded aluminium fascia-type trim concealed-fixed to the support channel and extending over the slab edge (ref P20/150); guarding to satisfy BS 6180:2011, horizontal imposed line load 1.5 kN/m, UDL 1.5 kN/m2, point load 1.5 kN; (note glass-to-wall abutment restraints/support brackets not accepted); complete in accordance with clause 555, including all proprietary fixings, gaskets, setting blocks and accessories; design, fabrication, testing and installation by Specialist Balustrade Sub-contractor under Contractors design responsibility (clause 7), including any secondary steel and interfacing constructions; as per OCM Specification L30/555				
	Level 01 Gallery				
A	^^^1450mm overall height / 1150 mm high above FFL (as per Architects Drawing Nr. 9250)	50	m		
	Extra on balustrade for:				
B	^^^ends at junction with structural steel / concrete wall	34	nr		

	Description	Qty	Unit	Rate	Amount
	Composite mild steel framed mesh stair balustrade to the open edges of the internal stepped seating (Lecture Theatre), mild steel frame fabricated from solid steel flats (design-intent 75 x 10mm uprights / top rail profile per specification; 10 x 70mm upright frame and 10 x 60mm steel top rail - sections subject to Main Contractors completion of design), all welds ground flush and polished not visible, predrilled to loop and secure mesh infill. Stainless steel rope mesh infill, diamond pattern, ferruled, approx. 20mm apertures, such that a 100mm dia sphere cannot pass; anchored to secondary steel structure with countersunk flush stainless steel fixings; bolted connections pre-drilled countersunk stainless steel sleeve bolts; guarding height to top of mesh frame between 900–1000mm above pitch line; overall top of guarding 1250mm; raking to follow stepped seating; 900mm bay module. Designed/installed to IS EN 1991-1 imposed load of 1.5 kN/m; includes all framing, mesh, fixings, brackets and connections to secondary steel; raking and level transitions; as shop primed and painted in selected colour; Solid American White Oak (Quercus alba) handrail, 42mm diameter profile, rebated 20x5mm continuous plate backing with countersunk screw fixings, corners mitred; mounted to steel frame via vertical rod handrail brackets (per Section A); lacquered to M60-160 UV-cured white lacquer to achieve Lime Effect Finish (samples for Architect approval); as per OCM Specification Q41/137 & M60-160/165				
	Lecture hall 02-CLASS-217				
A	^^^1560mm overall height / 1250 mm high above FFL ; MS frame + SS ferruled rope mesh infill (20mm aperture); raking (as per Architects Drawing Nr. 9228)	6	m		
	Extra on balustrade for:				
B	^^^ends	4	nr		
C	^^^extend hardrails 250mm beyond balustrade	4	nr		

	Description	Qty	Unit	Rate	Amount
	Purpose-made mild steel freestanding handrail on profiled uprights to south external stair; 40mm diameter mild steel tube to BS EN 10255 medium grade or solid bar equivalent, hot dip galvanised; continuous run at 930mm AFF with returns/eased ends at start and terminations; profiled mild steel upright posts fabricated from required section sizes to BS EN 10025 Grade S275, shaped and contoured as shown on drawings with smooth rounded top edge at hand contact, welded to mild steel base plates minimum 12mm thick hot dip galvanised with countersunk holes for anchor bolts; base plates fixed to cast concrete steps/substrate with countersunk stainless steel Grade A4 resin anchors, all anchor bolt heads fully countersunk below top surface of base plate, polished concrete finish to cover all base plates where applicable, grout under base plates with non-shrink cementitious or epoxy grout to full contact; handrail fixed to upright brackets by continuous welding, continuous smooth-running surface free from projections ; all joints mitred and welded for smooth curve at turns and landings, handrail extending 300mm beyond nosing as required by TGD Part K; all welding by coded welders to BS EN 1090-2, welds ground smooth, all edges radiused to minimum 2mm; hot dip galvanised to BS EN ISO 1461; sweep blast prepared, one coat etch primer, two coats two-pack polyurethane finish paint to match adjacent railing, colour RAL to Architect's instruction; all fixings stainless steel Grade A4 countersunk and flush; as per OCM Drawing Nr. 9230 & 9231				
	North External Stairs Link as per OCM Drawing Nr. 9230				
A	^^^balustrade 930 AFF, double sided handrail, raking, fixed to timber	3	m		
	Extra on handrail for:				
B	^^^ends double sided handrail	2	nr		
C	^^^ramps between straight and raking, double sided handrail	2	nr		
	North External Stairs as per OCM Drawing Nr. 9230				
D	^^^balustrade 930 AFF, single sided handrail, raking	14	m		
E	^^^balustrade 930 AFF, double sided handrail, raking	14	m		
	Extra on handrail for:				
F	^^^ends single sided handrail	8	nr		
G	^^^ends double sided handrail	8	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^ramps between straight and raking, single sided handrail	8	nr		
B	^^^ramps between straight and raking, double sided handrail	8	nr		
	South External Stairs as per OCM Drawing Nr. 9231				
C	^^^balustrade 930 AFF, single sided handrail, raking	14	m		
D	^^^balustrade 930 AFF, double sided handrail, raking	11	m		
	Extra on handrail for:				
E	^^^ends single sided handrail	8	nr		
F	^^^ends double sided handrail	6	nr		
G	^^^ramps between straight and raking, single sided handrail	8	nr		
H	^^^ramps between straight and raking, double sided handrail	6	nr		

	Description	Qty	Unit	Rate	Amount
	Composite mild steel balustrade and handrail; grade S275 to comply with BS EN 10025; comprising 50 × 10mm flat bar continuous top rail, 75 × 10mm flat bar main support posts at maximum 1135mm centres with mild steel base plates minimum 12mm thick, 50 × 10mm flat bar vertical infill bars at maximum 100mm clear spacing, 150 × 75mm PFC bottom rail with web vertical, all continuously fillet welded, joints within top rail profile; 40mm diameter mild steel tube handrail; all welds ground flush, grind smooth and radius all exposed corners and edges to minimum 2mm; hot dip galvanised to BS EN ISO 1461, minimum average coating thickness 85 microns; sweep blast prepared galvanised surfaces, one coat compatible etch primer followed by two coats two-pack polyurethane finish paint system (M60-165), in selected RAL colour; 42mm diameter mild steel handrail, separation membrane between handrail and balustrade steelwork, all joints fully welded and polished flush; all fixings Grade A4 (marine grade) stainless steel countersunk and flush bolts; fixed to cross laminated timber roof deck with stainless steel anchors, proprietary stainless steel expansion anchors or resin anchors as appropriate to substrate; include for all necessary assembly, bolts, bolting up, welding, screws, fixings and labours; all secondary weathered steel brackets included, design to avoid fixings through CLT deck visible on underside; fixings and balustrade designed and installed to meet IS EN 1991-1 loading of 3.0 kN/m; contractor's specialist design, shop drawings and structural calculations required; as Architects' drawings and Specification clause L30/550.				
	North External Platform Guardrails				
A	^^^1530mm overall height / 1210 mm high above decking (as per Architects Drawing Nr. 9230 & 9232)	85	m		
	Extra on balustrade for:				
B	^^^ends	4	nr		
C	^^^bends	8	nr		
D	^^^pre-drilled holes for recessed light fittings as luminaire schedule	1	item		
E	^^^with machined continuous slot to underside pre-galvanising for integrated LED strip lighting, extruded aluminium channel bonded internally, pre-wired 24V DC LED strips, IP68 rated joints, remote driver in wall box, minimum 50 lux uniform nosing illumination at 900mm AFF to TGD Part K, L70 rating greater than 50,000 hours; refer to M&E for full LED detail	1	item		

	Description	Qty	Unit	Rate	Amount
	Composite mild steel balustrade and handrail; grade S275 to comply with BS EN 10025; comprising 50 × 10mm flat bar continuous top rail, 75 × 10mm flat bar main support posts at maximum 1135mm centres with mild steel base plates minimum 12mm thick, 50 × 10mm flat bar vertical infill bars at maximum 100mm clear spacing, all continuously fillet welded, joints within top rail profile; 40mm diameter mild steel tube handrail; all welds ground flush, grind smooth and radius all exposed corners and edges to minimum 2mm; hot dip galvanised to BS EN ISO 1461, minimum average coating thickness 85 microns; sweep blast prepared galvanised surfaces, one coat compatible etch primer followed by two coats two-pack polyurethane finish paint system (M60-165), in selected RAL colour; 42mm diameter mild steel handrail, separation membrane between handrail and balustrade steelwork, all joints fully welded and polished flush; ; all fixings Grade A4 (marine grade) stainless steel countersunk and flush bolts; fixed to reinforced concrete with stainless steel anchors, proprietary stainless steel expansion anchors or resin anchors as appropriate to substrate; include for all necessary assembly, bolts, bolting up, welding, screws, fixings and labours; all secondary weathered steel brackets included, design to avoid fixings through CLT deck visible on underside; fixings and balustrade designed and installed to meet IS EN 1991-1 loading of 3.0 kN/m; contractor's specialist design, shop drawings and structural calculations required; as Architects' drawings and Specification clause L30/550.				
	North External Stairs Guardrails				
A	^^^1205mm high, fixed to concrete (as per Architects Drawing Nr. 9230)	11	m		
B	^^^1205mm high, raking, fixed to concrete (as per Architects Drawing Nr. 9230)	13	m		
C	^^^1205mm high, fixed to timber (as per Architects Drawing Nr. 9230)	11	m		
D	^^^1205mm high, raking, fixed to timber (as per Architects Drawing Nr. 9230)	5	m		
	Extra on balustrade for:				
E	^^^ends	7	nr		
F	^^^bends	4	nr		
G	^^^ramps between straight and raking	12	nr		
	Composite items; gates				

	Description	Qty	Unit	Rate	Amount
	Composite mild steel flat bar swing gate to match adjacent railing; gate leaf framed with 75 × 50mm SHS mild steel sections to BS EN 10025 Grade S275, with continuous 75 × 10mm flat bar vertical infill bars at consistent spacing matching adjacent railing, maximum 100mm clear gap; hinge stile reinforced for hinge fixings; hung on heavy-duty adjustable pintle hinges, galvanised steel, suitable for gate leaf weight and width; stainless steel Grade A4 drop bolts to both leaves engaging into ground or post base sockets; centre latch operable from both sides, automatic latching on closing, pad lockable, stainless steel Grade A4; all gate-to-post fixings countersunk stainless steel Grade A4, flush to all faces; all welds ground flush, all exposed corners and edges radiused to minimum 2mm; hung plumb and true to line, maximum 3mm deviation from plumb over full height, full 90–180 degree swing without binding; fabricated as complete assemblies prior to galvanising; hot dip galvanised to BS EN ISO 1461, minimum average coating thickness 85 microns; sweep blast prepared galvanised surfaces, one coat compatible etch primer followed by two coats two-pack polyurethane finish paint system (Architects Specification M60-165), colour RAL to Architect's instruction, to match adjacent railing; as Architects' drawings and Specification clause L30/550.				
	North External Stairs Guardrails				
A	^^^2700 x 1205mm high, with 1 nr. 1115mm wide single gate and 1300mm wide bi-folding gate (as per Architects Drawing Nr. 9230)	1	nr		
	South External Stairs Guardrails				
B	^^^3300 x 1205mm high, with 2 nr. 1300mm wide bi-folding gates (as per Architects Drawing Nr. 9231)	1	nr		
	Open grid flooring				
	Proprietary steel open-bar flooring: Redman Fisher FlowForge 35mm Ball-Proof, 25 x 3mm bearing bar at 37mm pitch (mesh 37/125) or equivalent, transverse bars at 125mm pitch; manufactured to BS 4592-1:2006 and BS EN ISO 14122-2:2016; hot-dip galvanised to BS EN ISO 1461; compliant equivalent to 41/100(W); fixed to secondary-steel gantry frame with proprietary saddle/clip fixings; including cutting, notching, and perimeter binding bar around panel edges, cut openings and 150mm toe plate; support-bar spacing, section adequacy and fixings to be verified by CDP designer (L35/212); serrated for slip resistance; as per OCM Drawing Nr. 5606				
	Sheeting; floor plates				

	Description	Qty	Unit	Rate	Amount
A	^^^width > 300 mm (Open bar grating decking to high level gantry walkway (L35/140 cl.6)	63	m2		
	Extra Over				
B	^^^notching around steel columns	18	nr		
C	^^^150mm toe plate	60	m		
	Ladder				
	Supply and installation of one bespoke fixed utilitarian access ladder; fixed utilitarian access systems (clause 130); wall-mounted retractable hooped ladder; fabricated off site and assembled on site (cl. 130.2); construction: galvanized carbon steel throughout (cl. 130.4); hollow-tube rungs (cl. 130.5); rectangular hollow section stiles (cl. 130.6); open-bar grating landings/platforms (cl. 130.7); rectangular safety hoops (cl. 130.8); all joints full-welded (cl. 130.9), carbon-steel metal-arc welding to BS EN 1011-1 and -2, welds ground smooth, components free from distortion, burrs and sharp arrises (cl. 620.5); fixed to superstructure with chemical bolts (cl. 130.10), holding-down and wall-fixing positions coordinated with services (cl. 660); design of member sections, strengths and fixing types/sizes/numbers is Contractor's design (cl. 212), to BS EN ISO 14122-1, -2 and -3 and BS 5395-3. Shop drawings, calculations and manufacturers' literature to be submitted (cl. 212.4, 510.1); O&M instructions and record drawings on completion (cl. 930). to OCM Architectural Specification Billing Issue L35				
D	^^^600mm wide o/a approx vertical height of 4555mm in providing access to the high-level gantry walkway (clause 140) at level 01A ribbon window in the Athletics Centre dimensions as Architect's drawing 9150 (cl. 130.3)	1	nr		
E	^^^^^^extra over for retractable bottom 2 m section on sprung sliding mechanism, lockable to prevent public access (cl. 130.11)	1	nr		
F	^^^^^^extra over for for gate across landing (cl. 130.12)	1	nr		
G	^^^^^^extra over for long-reach hook-arm to pull down sliding section (cl. 130.12)	1	nr		

Description	Qty	Unit	Rate	Amount
COLLECTION				
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Page No. BQ/288				
(33) FLOORS AND GALLERIES COMPLETIONS **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(34) STAIRS AND RAMPS COMPLETIONS				
	(34) STAIRS AND RAMPS COMPLETIONS				
	WOODWORK:				
	Boarding and Second Fixings				
	Purpose-made hardwood handrail, bracket-fixed to perimeter reinforced concrete wall; solid American White Oak (Quercus alba), 50 × 45mm oval profile, both faces planed flat to 38mm finished depth, specialist prefinished with UV-cured white lacquer lime effect finish (as per Architects Specification M60-160); supported on mild steel bracketry, 75 × 55mm angled 10mm dia. rod on 55mm dia. × 6mm thick facing plate with continuous 32 × 6mm welded flat plate, factory polyester powder coated (PPC) finish, brackets fixed at max. 1000mm centres and within 250mm of all corners/turns, secured with 3no. × 75 × 5mm countersunk stainless steel screw fixings per bracket; handrail secured to bracket with 30 × 4mm countersunk s/s wood screws at 500mm centres and fully bedded in adhesive; all joints mitred, dowelled and glue-jointed, flush finished; handrail routered at bracket locations to conceal top plate; moisture content 9–13%; all arrises and sharp edges removed; include for all necessary fixings, grounds, counter sinking and making good with matching pellates; protected for finishes; as per Architects Specification L30/572 and workmanship to Z10 and Z11.				
A	Second fixings; handrails				
B	^^^50 x 45 mm oval profile (Stairs 1 as per Architects Drawing Nr. 9000)	10	m		
C	^^^50 x 45 mm oval profile, raking (Stairs 1 as per Architects Drawing Nr. 9000)	10	m		
	METALWORK:				
	Non - Structural				
	Composite items; balustrades				

	Description	Qty	Unit	Rate	Amount
	Composite glazed balustrade and hardwood handrail; toughened laminated glass panels min. 15mm thick, to comply with BS EN 12150 / BS EN 14449 or national equivalent, all arises polished; continuous 15 x 10mm U-profile stainless steel channel over top edge of glass; performance to 3.0 kN/m line load in accordance with BS 6187; Grade 316 stainless steel disc fixings for vertically cantilevered glass panels blind fixed into structural RHS, glass held in adjustable PVC clamping insert; 40mm diameter solid hardwood handrail, smooth sanded and specialist prefinished clear lacquered (as per Architects Specification M60-160), supported on proprietary stainless steel disc point fixings for stair glass balustrade to comprise 316 grade 50mm diameter brushed discs with adjustable pvc clamping inserts for min 5mm toughened, secured by m10/m12 through-bolts into 20–22 mm pre-drilled glass holes spaced at required centres, providing 3.0 kn line load capacity per bs 6187, bolted through glass balustrade panels, including isolation gaskets; system, anchors and substrate to be engineered to resist the design loads; fixings into structure to be in accordance with manufacturers tested details and structural engineers requirements; all fixings stainless steel and flush; contractor's specialist design, shop drawings and structural calculations required; include for all necessary assembly, s/s bolts, bolting up, welding, screws, fixings and labours; as Architects' drawings and Specification clause L30/250.				
	Stairs 2				
A	^^^1420 mm high, horizontal (as per Architects Drawing Nr. 9001)	14	m		
B	^^^1610 mm high, raking (as per Architects Drawing Nr. 9001)	15	m		
	Extra on balustrade for:				
C	^^^ends	4	nr		
D	^^^ramps between straight and raking	10	nr		
E	^^^bends	4	nr		

	Description	Qty	Unit	Rate	Amount
	Composite mild steel balustrade and hardwood handrail ; grade S355 to comply with BS 5950: Part 1; shop primed and prefinished painted in selected RAL colour (as per Architects Specification M60-165), consisting of 50 x 10mm flat uprights at 100mm centres; 50mm x 10mm flat frame top rail factory welded to uprights; 10mm thick string cut to profile of 300mm going and 150mm rise steps; all fixed to the side of the reinforced precast concrete stair flight and landings with 2 nr. Hilti HUS-3C galvanised M10's at 400mm c/c; with and including 42mm diameter oval profile, specialist prefinished UV-cured white lacquer lime effect finish (as per Architects M60-160); rebated 20 × 5mm continuous mild steel plate backing with countersunk screw fixings; corners mitred; supported on 12mm thick plate proprietary bracket at 500mm centres; include for all necessary assembly, bolts, bolting up, welding, screws, fixings and labours; contractor to complete design to meet IS 1991-1 loading of 1.5 kN/m; as per Architects Drawing Nr 9000, Specification L30 & M60				
	Stairs 1				
A	^^^1480 mm high, horizontal (as per Architects Drawing Nr. 9009)	15	m		
B	^^^1560 mm high, raking (as per Architects Drawing Nr. 9000)	30	m		
	Extra on balustrade for:				
C	^^^ends	11	nr		
D	^^^ramps between straight and raking	14	nr		
E	^^^bends	7	nr		
	Composite mild steel balustrade and hardwood handrail ; grade S355 to comply with BS 5950: Part 1; shop primed and prefinished painted in selected RAL colour (as per Architects Specification M60-165), consisting of 50 x 10mm flat uprights at 100mm centres; 50mm x 10mm flat frame top rail factory welded to uprights; 50mm x 10mm flat frame bottom rail factory welded to uprights; all fixed of floor with M12 blind bolts at max 1.20m centres; include for all necessary assembly, bolts, bolting up, welding, screws, fixings and labours; contractor to complete design to meet IS 1991-1 loading of 3.0 kN/m; as per Architects Drawings, Specification L30 & M60				
	Stairs 3				
F	^^^1155 mm high, horizontal (as per Architects Drawing Nr. 9002)	1	m		

	Description	Qty	Unit	Rate	Amount
	Extra on balustrade for:				
A	^^^ends	2	nr		
	Stairs 5				
B	^^^1155 mm high, horizontal (as per Architects Drawing Nr. 9003)	6	m		
	Extra on balustrade for:				
C	^^^ends	4	nr		
	Composite mild steel balustrade and hardwood handrail ; grade S355 to comply with BS 5950: Part 1; shop primed and prefinished painted in selected RAL colour (as per Architects Specification M60-165), consisting of 50 x 10mm flat uprights at 100mm centres; 50mm x 10mm flat frame top rail factory welded to uprights; 50mm x 10mm flat frame bottom rail factory welded to uprights; with and including double railing consisting of 2 nr. 40mm diameter profile hand rails supported on 12mm thick plate proprietary bracket at 500mm centres ; all fixed of floor with M12 blind bolts at max 1.20m centres; include for all necessary assembly, bolts, bolting up, welding, screws, fixings and labours; contractor to complete design to meet IS 1991-1 loading of 3.0 kN/m; as per Architects Drawings, Specification L30 & M60				
	Stairs 5				
D	^^^1250 mm high, raking (as per Architects Drawing Nr. 9003)	3	m		
	Extra on balustrade for:				
E	^^^ends, with 270mm return	2	nr		
	Composite hot dip galvanised mild steel industrial balustrade; comprising of 40-42mm diameter S355 mild steel top and mid rails with uprights posts at max 1.20 m centres, hot dip spun galvanised to BS EN ISO 1461 (minimum 85 µm coating), all joints continuously stitch welded; all fixings galvanised steel; free from arrises, weld spits, finger and hand pinch points and sharp edges ; include for all necessary assembly, bolts, bolting up, welding, screws, fixings and labours; contractor to complete design to meet IS 1991-1 loading of 2.0 kN/m uniform line load and 1.4 kN point load; as per Architects Drawings, Specification L30 & M60				
	Stairs 6				

	Description	Qty	Unit	Rate	Amount
A	^^^1275 mm high, horizontal fixed to concrete with approved fixing (as per Architects Drawing Nr. 9003)	6	m		
B	^^^1275 mm high, horizontal fixed to 200 x 75mm PFC with approved fixing (as per Architects Drawing Nr. 9003)	3	m		
C	^^^1275 mm high, raking fixed to 200 x 75mm PFC with approved fixings (as per Architects Drawing Nr. 9000)	9	m		
	Extra on balustrade for:				
D	^^^ends	4	nr		
E	^^^ramps between straight and raking	6	nr		
F	^^^bends	2	nr		
G	^^^lockable access gate; size 1000mm wide; with 1 nr. footbolt complete with floor socket	1	nr		
H	^^^1275mm high galvanised steel perforated mesh cladding fixed to main steel supports for security	18	m		
J	^^^140mm high galvanised toe board at base	6	m		
	Composite item; hardrails				
	Composite satin-finished stainless steel (grade 1.4401/316L) continuous round handrail, 40–42mm diameter x 1.5–2.0mm wall thickness with 50mm return ends at terminations, supported by 316 stainless steel single-sided wall brackets (100 x 50mm rectangular profile) at 800mm centres, mechanically fixed to fairface blockwork / concrete using M8 chemical resin anchors (50mm embedment) into pre-drilled 10mm holes cleaned of dust, set at 900–1000mm above finished floor level to TGD requirements; include for all necessary assembly, bolts, bolting up, welding, screws, fixings and labours; as per Architects Drawing Nr. 9002 and Specification L30				
	Stairs 3				
K	^^^handrails; raking (as per Architects Drawing Nr. 9002)	5	m		
	Extra on balustrade for:				
L	^^^ends	2	nr		
	Stairs 4				
M	^^^handrails; raking	3	m		

	Description	Qty	Unit	Rate	Amount
	Extra on balustrade for:				
A	^^^ends	2	nr		
	Composite satin-finished stainless steel (grade 1.4401/316L) continuous round handrail, double handrail consisting of 2 nr. 40-42mm diameter x 1.5mm wall thickness with 200mm return ends, supported on 316 stainless steel square-profiled uprights size 50 x 50 x 10mm with base plate at 650mm centres, independently fixed off floor using 2nr M10 chemical resin anchors, set at 900–1000 mm handrail height to TGD K stair guarding requirements; include for all necessary assembly, bolts, bolting up, welding, screws, fixings and labours; as per Architects Drawing Nr. 9002 and Specification L30				
	Stairs 3				
B	^^^handrails; raking (as per Architects Drawing Nr. 9002)	6	m		
	Extra on balustrade for:				
C	^^^ends with 200mm return	2	nr		
	Stairs 4				
D	^^^handrails; raking	3	m		
	Extra on balustrade for:				
E	^^^ends with 200mm return	2	nr		
	Composite mild steel (grade S355) continuous round handrail; shop primed and prefinished painted in selected RAL colour (as per Architects Specification M60-165); 40–42mm diameter x 1.5–2.0mm wall thickness with 50mm return ends at terminations, supported by mild steel single-sided wall brackets (100 x 50mm rectangular profile) at 800mm centres, mechanically fixed to fairface blockwork / concrete using M8 chemical resin anchors (50mm embedment) into pre-drilled 10mm holes cleaned of dust, set at 900 –1000mm above finished floor level to TGD requirements; include for all necessary assembly, bolts, bolting up, welding, screws, fixings and labours; as per Architects Drawing Nr. 9003 and Specification L30				
	Stairs 5				
F	^^^handrails; raking (as per Architects Drawing Nr. 9003)	7	m		
	Extra on handrail for:				

	Description	Qty	Unit	Rate	Amount
A	^^^ends	4	nr		
B	^^^being welded to balustrade	3	m		

Description	Qty	Unit	Rate	Amount
COLLECTION				
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Page No. BQ/296				
(34) STAIRS AND RAMPS COMPLETIONS **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(37) ROOF COMPLETIONS				
	ROOF COMPLETIONS				
A	For detailed description of materials and workmanship refer to Works Requirements		Note		
	METALWORK:				
	Non-Structural				
	Composite items; rooflights				

	Description	Qty	Unit	Rate	Amount
	Supply and install proprietary modular aluminium atrium strip rooflight system to gridline C, duo-pitched at 140° included angle about the ridge, outward-opening thermally-broken aluminium framing on the AWS 50 RL profile with manufacturer-specified frame profiles, vents, gaskets, glazing beads, weather thresholds and compatible ironmongery, supplied and installed as factory-assembled EN 12101-2 tested assemblies (frame + vent + actuator + bracket kit + fixings); functioning as natural smoke and heat exhaust ventilators (NSHEV) and for natural ventilation. Fire/smoke-rated opening lights to BS EN 14351-1, BS EN 16034 and BS 4873; NSHEV to EN 12101-2; air permeability to EN 12207 minimum Class 4; water tightness to EN 12208 Class 7A or better; resistance to wind load to EN 12210; exposure category to BS 6375-1 / design wind load 1250 Pa. Polyester powder coating to BS EN 12206-1, dual RAL inside/outside. Whole-unit thermal performance Uw 1.3 W/m²K maximum. Insulating glass units achieving the unit U-value, g-value 0.4035 or better, VLT 0.76 or better, acoustic attenuation 34 dB (Rw), glazing loading Class 3 to BS EN 1991-1-1 (non-walk-on, protected by perimeter guardrail); glazing weight/thickness not to exceed the EN 12101-2 tested values. Concealed frame-mounted actuators using only the actuator/bracket-kit combinations listed in the EN 12101-2 report for the AWS 50 RL. System to achieve a clear opening area of not less than 31 m2 for natural ventilation and 4 m2 for smoke ventilation. Bedded, fixed and weathered to the steel box-section upstand supports (S.E. detail, measured elsewhere), Including all fixing into prepared opening, EPDM perimeter seals, weathering, together with all necessary trims, cover caps, gaskets and glazed sealants for watertightness, fixed to upstand, hoisted, bedded and fixed at roof level and weathering, including all flashings and steel support angles; As per OCM Specification L10/335; glazing as L10 cl.12 / L40-370.				
A	^^^overall length aprox 53.0 x 1.75m m on plan (comprising 2nr - 2.70m & 28nr - 3.40m long sections;) complete modular NSHEV + natural-vent system; as per OCM Drawing Nr. 5616 & 5617	1	nr		
B	^^^^^^extra over for NSHEV smoke-vent opening light, concealed electric actuator + EN 12101-2 bracket/control kit; to achieve 4 m2 total smoke vent area	1	item		
C	^^^^^^extra over for natural-ventilation opening light, actuated; to achieve 31 m2 total natural vent area	1	item		

	Description	Qty	Unit	Rate	Amount
A	^^^overall length aprox 3.40 x 1.75m m on plan (comprising 2nr - 2.70m long sections;) complete modular NSHEV + natural-vent system; as per OCM Drawing Nr. 5618	4	nr		
	Composite items; stairs				
	Proprietary prefabricated roof access step-over, Type A, fabricated from galvanised carbon steel and designed by the Contractor's specialist sub-contractor to determine section sizes, strengths and fixing types/sizes/numbers in accordance with BS EN ISO 14122-1, -2 and -3 and BS 5395-3 (L35/212); comprising flat steel stringers (or as required by the manufacturer), ascending and descending flights with open risers and intermediate/crossover landing arranged to step over the parapet; treads and landings formed in 3mm thick hot-dip galvanised steel grated tread-plank system to BS EN 1461 with 5mm dia. punched raised and depressed holes, welded bull-nosed nosing, galvanised toe-plate riser to back and sides and slip resistance of PTV 79 (water-wet) to BS 7976, treads designed for loading to BS EN 1991-1-1 with no bounce/movement (L30/251); minimum 100mm skirting to landings; galvanised steel guarding/handrail system minimum 1100mm high to all flights and landings (drawing item 147); galvanised steel bolt assembly connectors; all galvanised to BS EN ISO 1461; including 6mm thick rubber isolation pads under all feet bearing on the roof membrane; assembled, set level and fixed complete; number and dimensions of flights, treads, risers, stringers and landings to the Contractor's design and as detailed on the drawings; as per OCM Specification L35/150/212 & L30/251.				
B	^^^comprising of 10nr steps one side (300mm treads / 195mm rise), 2450 x 800mm landing, 2nr steps other side (300mm treads / 195mm rise) and 10nr big foot system with sacrificial membrane; as per OCM Drawing Nr. 5619	1	nr		
C	^^^comprising of 8nr steps one side (300mm treads / 195mm rise), 1520 x 800mm landing, 3nr steps other side (300mm treads / 195mm rise) and 6nr big foot system with sacrificial membrane; as per OCM Drawing Nr. 5620	1	nr		
D	^^^comprising of 2nr steps one side (300mm treads / 195mm rise), 1420 x 800mm landing, 5nr steps other side (300mm treads / 195mm rise) and 6nr big foot system with sacrificial membrane; as per OCM Drawing Nr. 5621	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^comprising of 3nr steps one side (300mm treads / 195mm rise), 2300 x 800mm landing, 3nr steps other side (300mm treads / 195mm rise) and 4nr big foot system with sacrificial membrane; as per OCM Drawing Nr. 1428	1	nr		
B	^^^comprising of 3nr steps one side (300mm treads / 195mm rise) and 4nr big foot system with sacrificial membrane; as per OCM Drawing Nr. 5613	1	nr		
	Composite items; railings				
	Rooftop fabricated fixed safety railing, galvanised carbon steel to BS EN ISO 1461, comprising tubular handrail and tubular knee rail, minimum 1100mm high overall, fixed via base plate anchored into the structural concrete roof slab below the waterproofing membrane, including cowl to each standard for weathering over the membrane upstand including all flashings / weathering. Section sizes, strengths and fixings to contractor's design to satisfy BS EN ISO 14122-1/-2/-3, BS 5395-3 and IS EN 1991-1 imposed loadings. Welded joints ground smooth, free from sharp arrises; mitred at corner junctions; as per OCM Specification L35/170 & L35/212				
C	^^^height 1100mm as per OCM Drawing Nr. 9226 & 5611 (Link roof)	18	m		
	Extra on balustrade for:				
D	^^^ends	4	nr		
E	^^^weathering cowl to upstand penetration	17	nr		
	Rooftop fabricated fixed safety guard railing system, galvanised carbon steel, comprising tubular handrail and tubular knee rail, minimum 1100mm high overall, free-standing counterweighted type (non-penetrating), bedded on 6mm thick rubber isolation matts to protect the deck/membrane. Section sizes, counterweight masses and spacings to contractor's design to satisfy BS EN ISO 14122-1/-2/-3, BS 5395-3 and IS EN 1991-1 imposed loadings; as per OCM Specification L35/171 & L35/212				
F	^^^height 1100mm as per OCM Drawing Nr. 9225 & 9226 (Main roof - various locations)	77	m		
G	^^^height 1100mm as per OCM Drawing Nr. 9225 & 9226 (Main roof - around isolated roof lights)	57	m		
	Extra on balustrade for:				
H	^^^ends	10	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^bends	17	nr		

Description	Qty	Unit	Rate	Amount
COLLECTION				
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Page No. BQ/302				
(37) ROOF COMPLETIONS **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(41) EXTERNAL WALL CLADDING				
	DEMOLITIONS AND ALTERATIONS				
	Alterations				
	Phase 1 Existing Building - Existing Zinc Cladding & Existing Carrier Cladding Panel to Zinc Cladding				
	Item A - Take down Existing Zinc flat-lock shingle cladding				
A	^^^Carefully take down existing direct-fixed zinc flat-lock shingle wall cladding (0.8–1.0 mm Anthra-Zinc zinc-titanium-copper pre-formed L-profile shingles, 925 × 635 mm, laid in diagonally-staggered stacked pattern; ref. Spec. H74-130), including release of all concealed clips and stainless-steel fixings; remove complete without damage or permanent deformation, clean off, set aside, adequately protect and stack/store on site clear of the works for subsequent re-use; all to the hatched area on Elevation A between Level 00 (19.800 m) and Roof (31.300 m) as outlined on Drawing DR-OCM-AR-0510	96	m2		
B	^^^^^^Extra over last for Carefully taking down, remove and dispose off site existing zinc parapet cap flashing as outlined on Drawing DR-OCM-AR-0510	12	m		
C	^^^Allow for Carefully take down zinc/metal edge trims, closures and associated flashings at abutments, reveals and heads of the removal zone, set aside and store for re-use as outlined on Drawing DR-OCM-AR-0510	12	m		
D	^^^Allow for re-fixing and installing zinc/metal edge trims, closures and associated flashings at abutments, reveals and heads	12	m		
E	Item A(ii) — Re-install zinc flat-lock shingle cladding from store				

	Description	Qty	Unit	Rate	Amount
A	^^^Take from store and re-install previously taken-down zinc flat-lock shingle wall cladding (0.8 –1.0 mm Anthra-Zinc zinc-titanium-copper pre-formed L-profile shingles, 925 × 635 mm; ref. Spec. H74-130) removed and stored under Item A; re-lay to match the existing diagonally-staggered stacked laying pattern (overlapping bottom-left to top-right facing the façade), including new stainless-steel clips and concealed fixings (min. 2 no. per clip, min. 50 N pull-out; ref. Spec. clauses 710/715), re-forming folds and welts without thinning or splitting; re-fix all flashings and trims to match (ref. clause 410); make good and weather-in to adjacent retained cladding, the Phase 2 tie-in and all perimeter abutments, reveals and base drip to provide a fully supported, weathertight installation able to resist wind uplift and accommodate thermal movement; all to the hatched area on Elevation A between Level 00 (19.800 m) and Roof (31.300 m) as outlined on Drawing DR-OCM-AR-0510	22	m2		
B	^^^^^^Extra over last for for the disposal off site on the balance of existing zinc flat-lock shingle wall cladding previously taken down and re-installed	74	m2		
	Item B — Take down Insulated metal carrier (sandwich) panel				
C	^^^Carefully take down existing self-supporting 100mm thick double-skin insulated metal sandwich carrier panels forming the façade support substrate (0.7 mm galvalloy steel outer and inner faces, non-combustible mineral-wool core, nominal 240 mm thick, 1200 mm cover width, castellated tongue-and-groove side joints; ref. Spec. H43-110), including release of primary self-drilling fixings and separation of butt-jointed/membrane-weathered end laps; remove complete without twisting, bending or abrasion, set aside, adequately protect, ventilate and stack/store on site clear of the works for subsequent re-use; all to the hatched area on Elevation A between Level 00 (19.800 m) and Roof (31.300 m) as outlined on Drawing DR-OCM-AR-0510	96	m2		
	Item B(ii) — Re-install insulated metal carrier (sandwich) panel from store				

	Description	Qty	Unit	Rate	Amount
A	Take from store and re-install previously taken-down self-supporting 100mm thick double-skin insulated metal sandwich carrier panels (0.7 mm galvalloy steel outer and inner faces, non-combustible mineral-wool core, nominal 240 mm thick, 1200 mm cover width; ref. Spec. H43-110) removed and stored under Item B ; re-fix in original position to the retained/altered supporting steelwork including new self-drilling stainless-steel primary fasteners with EPDM-faced sealing washers and colour-matched caps, re-forming castellated tongue-and-groove side joints and re-weathering butt-jointed end laps with new polyester-based membrane fully adhered to panel faces ; re-seal all laps with new butyl sealant tapes and stitching fixings at manufacturer's centres; make good and weather-in to adjacent retained panels, the Phase 2 tie-in and all perimeter abutments to provide an airtight, watertight and structurally secure installation capable of supporting the direct-fixed zinc façade (H74-130); all to the hatched area on Elevation A between Level 00 (19.800 m) and Roof (31.300 m) as outlined on Drawing DR-OCM-AR-0510	22	m2		
B	^^^^^^Extra over last for the disposal off site on the balance of existing double-skin insulated metal sandwich carrier panels previously taken down and re-installed	74	m2		
	<u>Phase 1 Existing Building - Existing Kingspan Panels</u> Item A — Take down and store existing insulated panels				
C	^^^Carefully take down existing Quadcore AWP Kingspan factory-insulated composite wall panels (assumed trapezoidal/micro-rib profiled steel faced panel with rigid insulant core — type, profile, thickness and finish to be confirmed by site survey/as-built records), including release of concealed and exposed fixings and separation of side/end lap joints; remove complete without distortion, denting or damage to faces or joint profiles; label/mark to record position and orientation, clean off, adequately protect, and stack/store on site clear of the works for subsequent re-instatement; all to the tapering area below the slanted diagonal line shown on Elevation A as outlined on Drawing DR-OCM-AR-0510	55	m2		
	Item B — Re-instate previously removed insulated panels				

	Description	Qty	Unit	Rate	Amount
A	Re-fix and re-instate in original position the Quadcore AWP Kingspan factory-insulated wall panels previously taken down and stored under Item A, including new stainless-steel primary fasteners, new lap sealant tapes/gaskets and stitching fixings to match the original build-up, re-forming weathertight side and end laps; make good and weather-in all junctions with adjacent retained cladding, the Phase 2 tie-in and perimeter abutments to provide a fully weathertight and structurally secure finished installation as outlined on Drawing DR-OCM-AR-0510	39	m2		
B	^^^^^^Extra over last for the disposal off site on the balance of existing Quadcore AWP Kingspan factory-insulated wall panels previously taken down and re-installed	16	m2		
C	^^^Allow for Carefully take down kingspan/aluminium metal edge trims, closures and associated flashings at abutments, reveals and heads of the removal zone, set aside and store for re-use as outlined on Drawing DR-OCM-AR-0510	25	m		
D	^^^Allow for re-fixing and installing kingspan/aluminium metal edge trims, closures and associated flashings at abutments, reveals and heads as outlined on Drawing DR-OCM-AR-0510	25	m		
	Existing Door & Grille				
E	^^^Take down and remove existing external door, complete with frame, ironmongery, threshold, weather seals and all fixings, from opening at ground-floor level (Level 00, 19.800 m) to the hatched area on Elevation A; and remove from site and dispose; leave opening clean and ready to receive temporary weather protection in preparation for new door to be installed (DD-AR-ENA/00) as outlined on Drawing DR-OCM-AR-0510 and Dwg AR-1425	1	item		
F	^^^Take out existing external ventilation grille (louvre) over the door, size 2.209m long x 884mm high, including louvre frame, bird/insect mesh, fixings and any perimeter flashings/trims; remove from site and set aside for re-use / re-installation; leave opening clean and square to the associated duct as outlined on Drawing DR-OCM-AR-0510	1	item		
G	^^^Take existing external ventilation grille (louvre); size 2.209m long x 884mm high over the door for store and re-install in original position including all necessary trims and flashing pieces to same	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Disconnect and cap off the associated ventilation duct behind the removed grille; form a temporary, sealed, weather tight and airtight blank/cap to the exposed duct terminal (including any necessary temporary support, gaskets and sealing), leaving the duct capped and made safe and allow for new ventilation grille to be installed thereafter; size 2203mm x 945mm high; the cap to be removable to permit subsequent connection of the new grille as outlined on Drawing DR-OCM-AR-0510	1	item		
	Temporary weather protection to openings				
B	^^^Provide, maintain and subsequently remove temporary weather tight and secure closure to the door and grille openings for the duration between removal and installation of the new works, including all necessary boarding/sheeting, framing, fixings and weather sealing to prevent water and unauthorised access as outlined on Drawing DR-OCM-AR-0510	1	item		
	ROOFING, CLADDING AND WATERPROOFING:				
	Rigid Sheet Coverings and Decking				
	INSULATED METAL CLADDING (carrier panel system to zinc cladding) - H43-110				

	Description	Qty	Unit	Rate	Amount
	Carbon steel insulating sandwich panel wall cladding (Karrier-type façade support system) as karrier for zinc cladding (e.m.) - comprising of 240mm thick panel Factory-engineered, self-supporting double-skin insulated sandwich panel system with non-combustible stone mineral wool core (Euroclass A1/A2-s1,d0); 0.7 mm flat steel external face in ZA275 Galvalloy hot-dip zinc-coated steel to BS EN 10326 with organic coating 70 micron nominal (RC5+ / RUV5, RAL colour to Architect's selection, differing from inner skin) and 0.7 mm flat steel internal face (RAL 9010 white); overall panel thickness to achieve U-value 0.18 W/m²K (allow 240 mm); panels up to 12.5 m long × 1200 mm cover width; castellated symmetrical tongue-and-groove side joints and butt end-joints weathered with fully-adhered polyester membrane; including primary stainless-steel self-drilling/tapping fasteners with EPDM-faced sealing patches / washers and colour-matched caps, factory applied air-seals and weather seals integrated into cladding panel and panel joints, twin butyl sealant tapes to end and side laps (min. 100 mm end laps), stitching fasteners at max. 450 mm centres, isolating tape to dissimilar-metal contacts, and all raking/curved cutting and waste; fixed vertically to supporting steelwork and cladding / multibeam rail system (e.m.) sealing any joints in the secondary steel frame and cleader angles with film backed butyl tape/PermSeal SWRPIO or similar, including all necessary mastic seals; external face prepared to receive direct-fixed zinc shingle façade (Architects Specification H74-130); to BS 5427 and BS EN 14509; all in strict accordance with manufacturers instructions/recommendations; and Architects Specification H43-110 and Drawing DR-OCM-AR-2425				
	Coverings				
A	^^^Wall Cladding ; vertical; > 300mm girth	1525	m2		
	Extra over for:				
B	^^^^^^external corners, vertical	42	m		
C	^^^^^^external corners, vertical (junction corner)	13	m		
	Metal Flashings (H43-110) to insulating sandwich panel wall cladding (karrier panel system to zinc cladding) (H72 – Aluminium strip/sheet flashings)				

	Description	Qty	Unit	Rate	Amount
	Coated aluminium sheet flashing to BS EN 14783/1396, alloy EN AW-1050, 2-3mm thick, polyester powder-coatedfinish (to Z31); cover flashing, girth, with bottom edge welted 15mm and not less than 75mm cover to upstand; end-to-end joints lapped not less than 100mm; fixed to secondary aluminium frames, Uchannels and bracketry; including 80kg/m3 mineral wool backing and 1.7mm EPDM secondary weatheringbarrier with aluminium carrier plates to gaps exceeding 50mm (H72-422).				
	Base				
A	Tag Item 29 — Aluminium starter track to base of insulated panel; fixed to substrate, continuous; by cladding s/c (H43-110).	58	m		
B	Ditto but sloping to external staircase	10	m		
C	Tag Item 30 — PPC aluminium drip base cill to foot of zinc shingle cladding; welted drip, sealed laps and dressing; by cladding s/c (H74-130).	58	m		
D	Tag Item 26 — 1.5 mm EPDM sealed to rear of panel base and to face of DPC, min. 100 mm overlaps; by cladding s/c (H43-110).	58	m		
E	Ditto but sloping to external staircase	10	m		
F	Tag Item 45 — 1.2 mm EPDM membrane lapped over and sealed to blockwork upstand and DPC; by glazing s/c (H11-110).	58	m		
G	Ditto but sloping to external staircase	10	m		
	Cills				
H	Tag Item 65 — 2 mm PPC aluminium cill pressing with up-turned sides to sit under cladding; fully welded stop ends ground smooth before PPC (H72-420).	10	m		
	Jambs, Heads & Soffits				
J	Tag Item 72 — 2 mm aluminium closer flashing (jambs, heads & soffits) to panel; finish to match; sealed laps and dressing; by cladding s/c. - Dwg 5602	303	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	At Parapet Level				
A	Tag Item 69 - Closer Flashing - Coated aluminium sheet flashing to BS EN 14783/1396, alloy EN AW-1050, 3mm thick, polyester powder-coated finish (to Z31); Alu Pressing Flashing, girth [girth 335mm], with bottom edge welted 15mm and not less than 75mm cover to upstand; end-to-end joints lapped not less than 100mm; fixed to secondary aluminium frames, U-channels and bracketry; including 80kg/m³ mineral wool backing and 1.7mm EPDM secondary weathering barrier with aluminium carrier plates to gaps exceeding 50mm as per Details on Drawing 5602 & Architects Spec. H72-422	200	m		
	External Corner Flashing				
B	Tag Item 165 - 3 mm aluminium External corner flashing to panel; finish to match; sealed laps and dressing	42	m		
	Holes				
	Weather to pipes, stub or opening in roof build-up, include for all weathering, flashing and insulation etc; all in accordance with manufactures instructions				
C	^^^< 0.50 m girth	25	nr		
D	^^^0.50 - 1.00 m girth	10	nr		
E	^^^1.00 - 2.00 m girth	5	nr		
	INSULATED METAL CLADDING (Roof Cladding Panel) - H43-110				

	Description	Qty	Unit	Rate	Amount
	Carbon steel insulating sandwich panel wall cladding, fitted vertically (Tag 157, exposed finish); factory-engineered self-supporting double-skin panel with non-combustible stone mineral wool core (Euroclass A1/A2-s1,d0); 0.7 mm flat steel external face in ZA275 Galvalloy hot-dip zinc-coated steel to BS EN 10346 with 70 micron nominal organic coating (RC5+ / RUV5, RAL colour to Architect's selection) and 0.7 mm flat steel internal liner face (RAL 9010 white); overall thickness to achieve U-value 0.18 W/m ²K (allow 240 mm); panels up to 12.5 m long × 1200 mm cover width; castellated symmetrical tongue-and-groove side joints and butt end-joints weathered with fully-adhered polyester membrane; including primary stainless-steel self-drilling fasteners with EPDM-faced sealing washers and colour-matched caps, factory applied air-seals and weather seals integrated into cladding panel and panel joints, twin butyl sealant tapes to end/side laps (min. 100 mm end laps), stitching fasteners @ max. 450 mm centres, isolating tape to dissimilar-metal contacts and all raking/curved cutting and waste; fixed vertically to supporting structure Multibeam rail system (e.m.) sealing any joints in the secondary steel frame and cleader angles with film backed butyl tape/PermSeal SWRPIO or similar, including all necessary mastic seals; air permeability < 1 m3/hr/m2 @ 50 Pa, watertight to 600 Pa; to BS 5427 and BS EN 14509, (measured net on face) all as per Architects Specification H43-110; all in strict accordance with manufacturers instructions / recommendations and Architects Drawings DR-OCM-AR-2425, 3425, 3426, 3427				
	Wall Coverings				
A	^^^vertical > 300mm wide to walls of Plant Room	101	m2		
B	^^^vertical > 300mm wide to walls (existing Arena 1 Plant Room tie in L02)	20	m2		
	Extra over for:				
C	^^^^^^external corners, vertical	10	m		
D	^^^^^^external corners, vertical (junction corner)	3	m		
	Flashings to Roof Cladding (H72 – Aluminium strip/sheet flashings)				

	Description	Qty	Unit	Rate	Amount
	H72-422 - Coated aluminium sheet flashing to BS EN 14783/1396, alloy EN AW-1050, 2-3mm thick, polyester powder-coated finish (to Z31); with and including Tag Items 92,156,158,164,166,167, 169 & 171; allow for fixing with self drilling self tapping screws, include for all necessary butt straps and sealed with 9mm wide x 3mm thick butyl rubber sealant tape, cover flashing, girth, with bottom edge welted 15mm and not less than 75mm cover to upstand; end-to-end joints lapped not less than 100mm; fixed to secondary aluminium frames, Uchannels and bracketry; including 80kg/m³ mineral wool backing and 1.7mm EPDM secondary weathering barrier with aluminium carrier plates to gaps exceeding 50mm.				
	Horizontal External Closure Flashing at bottom of cladding, 5 times bent, dressed to face of external cladding sitting to top of drip flashing; including ledger angle and internal clousre flashing - Tag Item 159 Dwg 5637				
A	^^^girth 450 - 500mm.	32	m		
	Drip flashing at bottom of cladding, 5 times bent, dressed up behind vertical cladding; including ledger angle and internal clousre flashing - Tag Item 160 Dwrg 5637				
B	^^^girth 450 - 500mm.	32	m		
C	^^^girth 450 - 500mm (existing Arena 1 Plant Room tie in L02)	5	m		
	Soffit lashing at bottom of cladding, 5 times bent, dressed to the underside of the drip flashing; including ledger angle and internal clousre flashing - Tag Item 161 Dwg 5637				
D	^^^girth 450 - 500mm.	32	m		
	Vertical External corner flashing, 1 times bent; including Z support lapped at 100mm joints; internal cleader angle - Tag Item 165 Dwg 5636				
E	^^^girth 150 - 300mm.	10	m		
	Vertical External / Internal corner closure flashing, 1 times bent; including Z support lapped at 100mm joints; internal cleader angle - Tag Item 168				
F	^^^girth 150 - 300mm, at abuttment with other cladding	3	m		
G	^^^girth 150 - 300mm, at abuttment with other cladding (existing Arena 1 Plant Room tie in L02)	10	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Jamb Flashing to ope; 4 times bent; including internal flashing				
A	^^^girth 450-600mm, door opes	5	m		
B	^^^girth 450-600mm, door opes (existing Arena 1 Plant Room tie in L02)	5	m		
	Head / Soffit flashing to ope; 4 times bent; with head and internal flashing				
C	^^^girth 450-600mm, door opes	2	m		
D	^^^girth 450-600mm, door opes (existing Arena 1 Plant Room tie in L02)	1	m		
	Holes				
	Weather to pipes, stub or opening in roof build-up, include for all weathering, flashing and insulation etc; all in accordance with manufactures instructions				
E	^^^< 0.50 m girth	10	nr		
F	^^^0.50 - 1.00 m girth	5	nr		
G	^^^1.00 - 2.00 m girth	3	nr		
	Flexible Sheet Metal Coverings				
	ZINC CLADDING - H74-130 (Phase 2 Building - New Cladding)				
H	The Contractor shall note that the zinc coverings are to be attached to a lightning protection system to provide continuity through welting of joints as per the manufacturers instructions	1	item		

	Description	Qty	Unit	Rate	Amount
	Pre-formed bespoke L-profile flat-lock zinc shingle cladding system; with Fire performance (to BS EN 13501-1): Class B-s3, d2 and wind loading calculations to BS 6399-2; individual panels 925 × 635 mm overall (305 × 100 mm cut-out; useful coverage 610 × 900 mm) with 25 mm folded interior perimeter edge to all sides including interior corner; zinc-titanium-copper standard-temper alloy 0.8–1.0 mm thick to BS EN 501 and BS EN 988, manufactured under ISO 9001 / ISO 14001; Anthra-Zinc pre-weathered black/dark-grey patina finish (no paint finish) with 60 micron protective lacquer to underside; fixed with concealed stainless-steel clips (minimum 6 No. per panel at approximately 330 mm centres) to steel insulated sandwich karrier panel substrate (elsewhere measured) through breather membrane; vapour Permeable membrane to zinc cladding (0.7 mm steel outer face) as Section H43-110; laid horizontally, overlapping in a diagonally staggered pattern from bottom-left to top-right of façade to match MTU Arena Phase 1; including all preparation of substrate, cutting, forming, welts, folds, laps and dressing; all to achieve a weather tight, fully-supported installation in accordance with Specification H74 clauses 130, 510, 520, 535, 710 & 715, CP 143-5 and FTMRC Good Practice Guide, fixed with approved fixings, seals, trims and the like; all in strict accordance with the manufacturers written instructions and Drawings OCM-AR-2425				
	Coverings (MAIN Phase 2 BUILDING)				
A	^^^Wall Cladding ; vertical; > 300mm girth	1525	m2		
	Extra over for:				
B	^^^^^^external corners; formed with continuous folded/welted edge to suit detail; measured the height of the corner.	42	m		
C	^^^^^^forming cladding to reveal jambs; including all raking/intersection cutting and edge welts to suit detail.	163	m		
D	^^^^^^for forming cladding to reveal heads / soffits; including supplementary fixing and edge welts to suit detail.	141	m		
	Flashing to Zinc Cladding				

	Description	Qty	Unit	Rate	Amount
	H74-130 - Zinc shingle cladding (H74-130) Zinc -titanium-copper standard-temper alloy flashing 0.7/0.8 mm, to BS EN 501/988, 0.7–0.8mm, pre-weathered Anthra-Zinc finish to match adjacent shingle cladding, 60-micron lacquer to underside; apron/cover/drip/reveal flashing as applicable, lengths ≤2.5m, end laps ≥100mm, upstand ≥100mm; fixed via continuous/stainless clips at 200mm centres; welts to visible free edges 15mm; including all necessary supporting brackets, upstands, welts, mitred/soldered angles and dressing, EPDM Membranes & seals, Butyl air seal flashing, insulations and the like complete with perforated zinc insect mesh, 300 - 450mm girth				
	Base				
A	Tag Item 30 — PPC aluminium drip base cill to foot of zinc shingle cladding; welted drip, sealed laps and dressing; by cladding s/c (H74-130).	58	m		
B	Ditto but sloping to external staircase	10	m		
	Cills, Jambs, Heads & Soffits				
C	Tag Item 70 — Continuous zinc welt piece (cills, jambs, Heads & Soffits); zinc-titanium-copper to match shingles, formed/welted, dressed; by cladding s/c.	313	m		
	Parapet				
D	Tag Item 89 — Zinc shingle parapet pressing; Anthra-Zinc to match cladding; welted, on continuous clip (Tag 90) @ 200 mm crs; end laps ≥ 100 mm; forming and dressing over parapet.	200	m		
	ALUMINIUM SOFFIT (Link Bridge)				
E	Preamble / spec reference: Rainscreen cladding generally to Specification Section H92 clause 115 (Rainscreen soffit PPC Aluminium Cassette Panel), read with the Design/Performance Requirements and drawing		note		
	Item A — Aluminium rainscreen soffit panel system				

	Description	Qty	Unit	Rate	Amount
	Proprietary drained and back-ventilated rainscreen soffit cladding system; factory-manufactured metal cassette panels of minimum 3mm solid aluminium, flat profile, with baffled horizontal joints and double-return folds to vertical edges with cut-out slots for concealed fixing; polyester powder-coated finish to Class 2 Seaside/Marine grade (RAL colour to Architect's selection, to Z31); fixed to the underside of structural concrete slab with extruded aluminium "helping-hand" soffit support brackets on thermal-break pads, extruded aluminium corner support/drainage channels with EPDM baffle gaskets, fully adjustable support hooks, and anti-lift/anti-rattle fixings; including 20mm open shadow-gap / baffle joints and all interfacing trims, closers and accessories necessary for a complete weathertight installation; to soffit, horizontal, overhead, at 2.770m and 3.075m U/S soffit level; measured on the exposed face of the finished panel all as per Architects Drawing MTUHPAC-Z-31-Z-ZZZ-DR-OCM-AR-5610 EXTERNAL DETAILS - LINK DETAILS				
A	Soffit Coverings				
B	^^^laid horizontal > 300mm wide to soffit of link bridge (overhead height, at 3.075m)	77	m2		
C	^^^laid horizontal > 300mm wide (500mm wide) fixed to bottom of beams to soffit of link bridge (overhead height, at 2.770m)	19	m2		
D	^^^laid vertical < or = 300mm wide (305mm) to sides of beams to soffit of link bridge	28	m		
	Item B — Thermal insulation to soffit				
	Thermal insulation to rainscreen soffit water-repellent, non-combustible high-density stone wool insulation slab to BS EN 13162, thermal conductivity λD 0.032 W/mK, reaction to fire Euroclass A1 (to BS EN 13501-1), water-vapour resistance 5.9 MNs/g, for use within an open ventilated rainscreen façade; 210mm total thickness, built up in 2 no. layers of varying thickness with staggered/overlapping joints; fixed to the outer face of the backing wall and/or supported within the soffit support framing so as not to bulge, sag, delaminate or detach in situ, with proprietary insulation retention fixings; horizontal, to soffit of the PPC aluminium cassette rainscreen soffit panel system (H92-115); all as per Architects Drawing MTUHPAC-Z-31-Z-ZZZ-DR-OCM-AR-5610 EXTERNAL DETAILS - LINK DETAILS				
E	Soffit Coverings				
F	^^^horizontal > 300mm wide to soffit of link bridge	96	m2		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Item C — PPC pressed aluminium flashings / perimeter closers				
	Minimum 3mm thick PPC pressed aluminium flashings and perimeter closers forming the 20mm shadow gap to all sides and the junctions with the adjoining curtain wall / spandrel, colour to match panels; all as per Architects Drawing MTUHPAC-Z-31-Z-ZZZ-DR-OCM-AR-5610 EXTERNAL DETAILS - LINK DETAILS				
	Soffit Flashings				
A	^^^laid horizontal < or = 300mm	75	m		
	Flashing to Timber Cladding (Larch)				
	Powder-coated aluminium or stainless steel to match, forming continuous 15 mm ventilation gap with insect mesh; including fixing to carrier battens, cutting, jointing and stop ends; to Specification Clause H21-110				
B	^^^girth < or = to 150mm (Timber cladding - Metal drip angle / base ventilation trim to bottom edge of weatherboarding)	188	m		
C	^^^girth < or = to 150mm (Timber cladding - to suit sloped profile of External South Stairs	12	m		
D	^^^girth < or = to 150mm (Timber cladding - to suit profile of Steps of Timber Cladding under CW10 to External North Stairs	13	m		
	Ventilated closer / trim with insect mesh to top edge, vertical sides and reveals of cladding and around openings, maintaining 10 mm ventilation gap; including timber cladding boards material and finish to match adjacent work; including fixing, cutting, angles and stop ends; to Specification Clause H21-215				
E	^^^girth not exceeding 150 - 300 mm; laid vertical and horizontal	228	m		
	Angle trim / closer to external corners of cladding, maintaining ventilation and insect mesh continuity; including mitres (to timber cladding) and fixing; with and including 72mm x 72mm square timber cladding piece; laid vertically; to Specification Clause H21-210				
F	^^^girth < or = to 150mm (Timber cladding - laid vertically)	28	m		
G	^^^girth < or = to 150mm (Timber cladding - to internal corners, laid vertically)	19	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^girth < or = to 150mm (Timber cladding - to raking / sloped profiles)	16	m		
B	^^^girth < or = to 150mm (Timber cladding - to Steps Profile of North Stairs)	15	m		
	Flashings to Insulated Sandwhich Panel				
	H43-110 - Pressed flashing / trim to metal insulating sandwich panel cladding, material and finish to match panel outer skin (ZA275 Galvalloy hot-dip zinc-coated steel to BS EN 10346, 0.7mm, organic-coated); horizontal laps 150mm and vertical / sloping laps as adjacent panels, sealed; fixed to structure in conjunction with panels (otherwise to panels) with manufacturer's stainless steel fasteners; including sealant-tape beddingto laps				
C	Tag Item 107 — Counter flashing to cladding/glazing junction; 2 mm aluminium with 1.7 mm EPDM; sealed and dressed to a weathertight lap with the glazing-side flashing (Tag 105); void packed with mineral wool; by cladding s/c (H43). - - Dwg 5604	121	m		
	H72-421 - Coated aluminium sheet flashing to BS EN 14783/1396, alloy EN AW-1050, 3mm thick, polyester powder-coatedfinish (to Z31); parapet capping, girth [girth ___mm], with bottom edge welted 15mm and not less than 75mmcover; end-to-end joints lapped not less than 100mm; fixed with 3mm aluminium butt straps at 2m centres tosecondary aluminium frames, U-channels and bracketry, on 3mm galvanised steel cavity-closer pressing support(where indicated on drawings); including 80kg/m³ mineral wool backing and 1.7mm EPDM secondaryweathering barrier with mill-finish aluminium carrier plates bridging gaps exceeding 50mm				
D	Cill as base of Timber Cladding under CW8 & CW10 as per Dwg. 5609; 4 times bent; girth 300mm - 450mm	16	m		
E	Capping to top of Timber Cladding to CW8 & CW10 as per Dwg. 5609; 5 times bent; girth 300mm - 450mm	16	m		
	H71-420 - Milled lead capping (saddle) to top of timber post				

	Description	Qty	Unit	Rate	Amount
	Milled lead capping to BS EN 12588, Code 5 (2.24mm), to top of 65mm wide timber post; dressed over the post top with one edge turned up as an upstand behind the adjacent vertical timber cladding (H21-110), the front edge welted and dressed down 35mm over the 250mm wide post edge, and dressed down 35mm over each of the two 135mm long returning (side) edges; including welted/bossed angles at corners, all lead joints folded, and finished with patination oil.				
A	Developed lead piece: 65mm wide (along top edge of post) × 135mm returns (at sides of post); 35mm turn -down to front and to both side returns; upstand height 65mm behind timber cladding; lead bent 4 / 5 times (to 50no. posts) all as per detail on Dwg AR-5604	50	nr		

	Description	Qty	Unit	Rate	Amount
	WOODWORK:				
	Boarding and Second Fixings				
	Vertical timber cladding (charred Siberian larch) - Complete sub-contractor-designed open-joint charred timber rainscreen cladding system to Architect's Specification H21. Open-jointed charred Siberian larch (Larix sibirica) weatherboarding to BS EN 14915, timber quality to BS 1186-3 Class 2; parallelogram profile, 140 mm finished face width × 22 mm finished thickness; open joints 3–4 mm; moisture content 13–19 % at fixing; surface charred, wire-brushed and oiled to all faces (front, back and edges) to a fully blackened finish; pressure-impregnated fire-retardant treatment to achieve reaction to fire Class B-s1,d0 to BS EN 13501-1; minimum density 610 kg/m³; formaldehyde class E1; 30-year service life; twice-nailed to each support with 50 mm grade A2 stainless steel lost-head annular ring-shank nails; on treated softwood carrier system of battens (and counter battens where required to form the ventilated cavity) 50 × 50 mm at 400 mm centres, copper-organic preservative treated to WPA C6 / NBS Z12, fixed with grade A2 stainless steel screws; 10 mm ventilated open joints with insect mesh to top edge and sides; reaction-to-fire performance of the complete system to clause 220. The rates are further to include for all support brackets, secondary carrier framing and associated bracketry (façade sub-contractor designed to clause 110), grade A2 / A4 stainless steel, together with all fixing to the structure appropriate to the background stated in each item (concrete or CLT). Measured net on the exposed face; straight cutting deemed included. The vapour-open breather / air-barrier membrane (clause 130) is measured separately under specification H21-130 all in accordance with Architects Specification H21 clauses 110, 112, 130, 135, 141, 142, 150, 160 and 220 and Drawings DR-0CM-AR-2425, 5604, 5605, 5609				
	Coverings				
A	Charred Siberian larch weatherboarding system as described, incorporating 240 mm thick non-combustible stone wool rainscreen insulation slab (thermal conductivity ≤ 0.032 W/mK; reaction to fire Euroclass A1; factory-bonded black mat facer), tightly butted and mechanically retained with stainless steel / thermally-broken fixings and washers; fixing to CLT (cross-laminated timber); laid vertically; > 300mm girth (Main CLT Structure)	439	m2		
B	Extra over last for Horizontal Timber Cladding above CLT Posts fixed back to notched timber post as shown on Dwg. 2425 (East Elevation) & 5604 (Grid Line F)	46	m2		

	Description	Qty	Unit	Rate	Amount
A	Charred Siberian larch weatherboarding system as described, with no rainscreen insulation; fixing to concrete structure; laid vertically; > 300mm girth (External Stairs & Under Stairs)	151	m2		
B	Ditto, but fixing to CLT (cross-laminated timber) structure; laid vertically; > 300mm girth (to parapet)	127	m2		
C	Ditto, but fixing to Type CSG 5: Fixed section - Ceramic glazing - 'Look-a-like' insulated glazed spandrel panel structure; laid vertically; > 300mm girth	17	m2		
D	Allow for 22mm thick Timber Cladding Board to be installed and fixed to back of 4no. CLT Post along East Elevation on Drwg. 2425 and to Detail outlined on Drwg. 5631	18	m		
	Extra over for				
E	Horizontal cutting on weatherboarding.	391	m		
F	Vertical cutting on weatherboarding.	72	m		
G	Raking cutting on weatherboarding.	28	m		
H	To profile of Steps to External Stairs	40	m		
	Ironmongery, Accessories and Sundries				
	Vapour barrier				
	Vapour-open, self-adhesive breather / air-barrier membrane to clause 130; water penetration resistance Class W1 (before and after ageing); vapour resistance Sd ≤ 0.06 m; air permeability < 0.001 $m^3/m^2 \cdot h \cdot Pa$ at 50 Pa; reaction to fire Euroclass B-s1,d0; applied direct to the structural substrate; side and head laps 100 mm / 150 mm fully bonded with compatible tape; sealed at junctions, corners, penetrations and openings, with continuity of the air barrier maintained at all interfaces with adjoining envelope elements (roof, floor, foundation). Note the differing substrate preparation for each background.				
J	^^^Vapour-open breather / air-barrier membrane as described, over general wall areas; on concrete structure, including surface preparation and priming to receive self-adhesive membrane.	151	m2		
K	^^^Ditto, on CLT (cross-laminated timber) structure.	566	m2		

	Description	Qty	Unit	Rate	Amount
A	^^^Vapour-open breather / air-barrier membrane as described, in narrow widths / dressed returns closing to reveals, jambs, heads and sills of openings; girth not exceeding 300 mm; including laps, bonding tape, sealing and welting to substrate.	256	m		
B	^^^Ditto, girth 300–600 mm.	228	m		
C	^^^Vapour-open breather / air-barrier membrane as described, dressed to parapets, abutments and upstands, including welting and bonding to substrate; girth not exceeding 600 mm.	121	m		
D	^^^Extra over for forming airtight seal and bonding membrane around pipe, duct and service penetrations, all sizes.	25	Nr		
	Thermal				
	Mineral wool cavity barrier; 100mm thick unfaced plain-fibre mineral wool to BS EN 13162, reaction to fire Euroclass A1 to EN 13501-1, thermal conductivity A 0.035 W/m.K; fixed with proprietary MP brackets; compressed to fully close cavity and form continuous barrier providing up to 120 minutes integrity / 60 minutes' insulation fire resistance to EN 1366-4; all as Specification clause P10/432				
E	Tag Item 63 - 60-minute cavity barrier (P10-432); fixed within cavity, continuous, to maintain complementation; by cladding s/c.; laid vertically (Red Dashed Line); cavity with 150 - 305mm as per Dwg 2425 & 5601, 5602, 5606	173	m		
F	Tag Item 63 - 60-minute cavity barrier (P10-432); fixed within cavity, continuous, to maintain complementation; by cladding s/c.; laid horizontally (Red Dashed Line); cavity with 150 - 305mm as per Dwg 2425 & 5601, 5602, 5606	212	m		
G	Tag Item 86 - Cavity barrier to ends of profiled metal deck (P10-432); continuous, sealed to deck profile as per Dwg 5603	200	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Open-state intumescent cavity fire barrier; 100mm thick foil-faced stone wool lamella (density 90 kg/m3) with bonded intumescent graphite strip (1.3 g/cm3) to exposed face, maintaining nominal 50mm ventilated air gap; activation temperature 180°C; tested and certified to ASFP TGD19, third-party certificate IFCC 1827, providing up to 120 minutes' integrity / 60 minutes' insulation; weather-resistant; fixed to suit cavity width; all as Specification clause P10/435.				
A	Tag 150 - Open-state cavity barrier (P10-435) behind open-jointed cladding; intumescent, continuous.; laid horizontally (Green Dashed Line) as per Dwg 2425 & 5604, 5605	121	m		
	Proprietary open-state ventilated cavity fire barrier to BS EN 13501-2, achieving not less than 30 minutes integrity and 15 minutes insulation, suitable for use in a ventilated rainscreen cavity; including intumescent facing, brackets / fixings and continuity at all junctions; as per OCM Specification 220				
B	Cavity fire barrier as described to perimeter of openings (Larch Timber Cladding)	107	m		
C	Vertical or horizontal movement joint in cladding, formed with matching cover profile and backing; including fixings and stop ends (Larch Timber Cladding)	75	m		

Description	Qty	Unit	Rate	Amount
COLLECTION				
Page No. BQ/304				
Page No. BQ/305				
Page No. BQ/306				
Page No. BQ/307				
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Page No. BQ/323				
Page No. BQ/324				
(41) EXTERNAL WALL CLADDING **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(42) WALL FINISHES INTERNALLY				
	(42) WALL FINISHES INTERNALLY				
	ROOFING, CLADDING AND WATERPROOFING:				
	Rigid Sheet Coverings and Decking				
	Corrugated steel sheet internal lining to the secondary steel rooflight frame; Panels: galvanised steel, 0.7 mm thick, Class A1 to EN 13501-1; 13.5/3 sinuous-wave profile (not trapezoidal), 19 mm wave height, pitch < 76 mm; front face prefinished Colourcoat PE (or equivalent) in selected RAL colour, UV-stable and suitable for internal use, back face finish to manufacturer's proposals ; fixed with discreet mechanical fixings through the troughs of the corrugations, fixing heads colour-matched to the panel finish; sheets lapped min. 100 mm at joints; fixed to secondary steel frame substrate; softwood battens, tophats / 100 × 44 mm finished, max 18% MC, at 600 mm centres - packing / support to lining; all in accordance with OCM Architectural Specification clause K13/151				
	Coverings				
A	^^^vertical > 300mm as per OCM Details Drawing Nr. 5616 (Large roof light)	138	m2		
B	^^^perimeter edge trim; extruded aluminium, polyester powder-coated to match panel finish; to perimeter of corrugated lining; girth 150 - 300mm; as per spec clause K13/151 (4.6)	110	m		
C	^^^^^^extra over for raking cutting	4	m		

	Description	Qty	Unit	Rate	Amount
	WOODWORK:				
	Boarding and Second Fixings				
	12mm fire-retardant veneered plywood wall lining, secret-fixed to CLT wall panels on aluminium split battens. Birch (Betula spp.) veneered plywood to BS EN 942, appearance class J2 / Grade A, finished panel size 1220 × 2440mm, 2–3mm butt joints. Pressure-impregnated FR treatment (surface-applied not acceptable), fire performance Class B-s1,d0 to EN 13501; formaldehyde release Class E1 (EN 13986+A1); bonding quality Class 3. Secret-fixed via aluminium split battens at 600mm centres, screwed into the back of the panel and set out to suit the void and achieve a flush internal face with the 18mm FR flush skirting (clause 120A); include for all necessary fixings; Joinery workmanship as section Z10; as per OCM Specification K13/120				
	Boarding and sheeting				
A	^^^walls > 300mm wide; as per OCM Drawing Nr. 3502	188	m2		
	12mm fire-retardant veneered plywood wall lining, Birch (Betula spp.) veneered plywood to BS EN 942, appearance class J2 / Grade A, finished panel size 1220 × 2440mm, 2–3mm butt joints. Pressure-impregnated FR treatment (surface-applied not acceptable), fire performance Class B-s1,d0 to EN 13501; formaldehyde release Class E1 (EN 13986+A1); bonding quality Class 3; fixed to secondary steel frame substrate; softwood battens, tophats / 100 × 44 mm finished, max 18% MC, at 600 mm centres - packing / support to lining; all in accordance with OCM Architectural Specification clause K13/120				
	Boarding and sheeting				
B	^^^walls > 300mm wide; as per OCM Details Drawing Nr. 5618 (4nr. small roof lights)	47	m2		
	Extra over				
C	^^^^^^raking cutting	14	m		

	Description	Qty	Unit	Rate	Amount
	12mm fire-retardant veneered plywood liner forming cavity closer to tops of walls and reveals at the roof/parapet junction (including across glazing heads). Birch (Betula spp.) veneered plywood to BS EN 942, appearance class J2 / Grade A; pressure-impregnated FR treatment (surface-applied not acceptable), fire performance Class B-s1,d0 to EN 13501; formaldehyde release Class E1 (EN 13986+A1); bonding quality Class 3; 2–3mm butt joints. Fix back to 3no. 100 × 35mm treated softwood timber battens, mechanically fixed to substrate, set out to suit void and form a continuous closer; include for all necessary fixings; Joinery workmanship as section Z10; as per OCM Specification K13/120				
	Second fixings				
A	^^^trims 600mm wide to reveals; as per OCM details Drawing Nr. 5603	225	m		
B	^^^trims 450mm wide to tops of walls, vertically; as per OCM details Drawing Nr. 5603	143	m		
C	^^^trims 1000mm wide to of walls, vertically; as per OCM Details Drawing Nr. 5622 (Lecture Hall - 02-CLASS-217)	33	m		
D	^^^trims 750mm wide to tops of walls, horizontally; as per OCM details Drawing Nr. 1551	27	m		
E	^^^trims 200mm wide furniture surround, vertically; as per OCM Room Data Sheet Drawing Nr. 6117	3	m		
F	^^^trims 1000mm wide furniture surround, vertically; as per OCM Room Data Sheet Drawing Nr. 6117	8	m		
	Extra over				
G	^^^^^^raking cutting to profile of roof slope	113	m		
	Labours; making good/ cutting around obstructions				
H	^^^girth; < or = 300mm	25	nr		

	Description	Qty	Unit	Rate	Amount
	FLOOR WALL AND CEILING FINISHES:				
	Board Finishes:				
	2 layers of 15 mm gypsum plasterboard standard (K10-401); inner and outer layers staggered so joints do not coincide; fixing with drywall screws to metal framework at 600 mm centres (framework measured elsewhere); include all blocking and bracing as necessary; acoustic/fire sealant to base of liner sheets kept exposed for inspection; taped and filled joints and spotting screw heads in preparation for skim finish; gypsum skim coat plaster finish 2–3 mm thick to EN 13279-1, by same manufacturer as the partition system, joints filled and taped except where coincident with metal beads, finished to Quality Level Q4 and allowing for walls directly lit by wall-washer luminaries; all as per Architects Specification K10 (boards K10-401, skim K10-680).				
	Walls				
A	^^^< or = to 300 mm wide (around openings)	5	m2		
B	^^^> 300 mm wide (STW-01-92-152)	458	m2		
C	^^^> 300 mm wide (STW-08-92-152)	80	m2		
D	^^^> 300 mm wide (IWL-01-70-100)	67	m2		
E	^^^> 300 mm wide, existing Arena Building (IWL-01-70-100)	42	m2		
	Bulkheads				
F	^^^> 300 mm wide (STW-01-92-152)	133	m2		
	2 layers of 15 mm gypsum improved sound insulation and moisture resistant plasterboard (K10-410); inner and outer layers staggered so joints do not coincide; fixing with drywall screws to metal framework at 600 mm centres (framework measured elsewhere); include all blocking and bracing as necessary; acoustic/fire sealant to base of liner sheets kept exposed for inspection; taped and filled joints and spotting screw heads in preparation for skim finish; gypsum skim coat plaster finish 2–3 mm thick to EN 13279-1, by same manufacturer as the partition system, joints filled and taped except where coincident with metal beads, finished to Quality Level Q4 and allowing for walls directly lit by wall-washer luminaires; all as per Architects Specification K10 (boards K10-410, skim K10-680)				
	Walls				

	Description	Qty	Unit	Rate	Amount
A	^^^< or = to 300 mm wide (around openings)	5	m2		
B	^^^> 300 mm wide (STW-02-92-152)	364	m2		
C	^^^> 300 mm wide, existing Arena Building (STW-02-92-152)	15	m2		
D	^^^> 300 mm wide (STW-08-92-152)	80	m2		
E	^^^> 300 mm wide (IWL-02-70-100)	34	m2		
	2 layers of 15 mm gypsum improved sound insulation plasterboard (K10-409); inner and outer layers staggered so joints do not coincide; fixing with drywall screws to metal framework at 600 mm centres (framework measured elsewhere); include all blocking and bracing as necessary; acoustic/fire sealant to base of liner sheets kept exposed for inspection; taped and filled joints and spotting screw heads in preparation for skim finish; gypsum skim coat plaster finish 2–3 mm thick to EN 13279-1, by same manufacturer as the partition system, joints filled and taped except where coincident with metal beads, finished to Quality Level Q4 and allowing for walls directly lit by wall-washer luminaires; all as per Architects Specification K10 (boards K10-409, skim K10-680).				
	Walls				
F	^^^< or = to 300 mm wide (around openings)	10	m2		
G	^^^> 300 mm wide (STW-04-92-152)	721	m2		
H	^^^> 300 mm wide, existing Arena Building (STW-04-92-152)	34	m2		
J	^^^> 300 mm wide (STW-32-92-152)	62	m2		

	Description	Qty	Unit	Rate	Amount
	1 layer of 15 mm gypsum improved sound insulation plasterboard (K10-409) and 1 layer of 15 mm gypsum improved sound insulation and moisture resistant plasterboard (K10-410); inner and outer layers staggered so joints do not coincide; fixing with drywall screws to metal framework at 600 mm centres (framework measured elsewhere); include all blocking and bracing as necessary; acoustic/fire sealant to base of liner sheets kept exposed for inspection; taped and filled joints and spotting screw heads in preparation for skim finish; gypsum skim coat plaster finish 2-3 mm thick to EN 13279-1, by same manufacturer as the partition system, joints filled and taped except where coincident with metal beads, finished to Quality Level Q4 and allowing for walls directly lit by wall-washer luminaires; all as per Architects Specification K10 (boards K10-409 + K10-410, skim K10-680).				
	Walls				
A	^^^< or = to 300 mm wide (around openings)	2	m2		
B	^^^> 300 mm wide (STW-32-92-152)	62	m2		
	Shaftwall lining, comprising room side: 2 layers of 15 mm gypsum fire and acoustic enhanced plasterboard (K10-413), inner and outer layers staggered so joints do not coincide, screw fixed with drywall screws to metal framework at 600 mm centres (framework measured elsewhere); blind (shaft) side: 1 layer of 19 mm core board (K10-412) inset between the studs and secured with Type J5 retaining channels within the stud depth; include all blocking and bracing as necessary; all junctions between liner board and metal framing fully sealed with manufacturer-approved intumescent fire sealant; taped and filled joints and spotting screw heads in preparation for skim finish; gypsum skim coat plaster finish 2-3 mm thick to EN 13279-1, by same manufacturer as the partition system, joints filled and taped except where coincident with metal beads, finished to Quality Level Q4 and allowing for walls directly lit by wall-washer luminaires, to room side only; all to achieve 90/60 min fire resistance; all as per Architects Specification K10 (boards K10-413 + K10-412, skim K10-680).				
	Walls				
C	^^^> 300 mm wide (SHW-02-70-102)	44	m2		

	Description	Qty	Unit	Rate	Amount
	1 layers of 15 mm gypsum plasterboard standard (K10-401); inner and outer layers staggered so joints do not coincide; fixing with drywall screws to metal channel wall lining system to solid wall, single side, comprising K10-432 Type H1 45mm metal frame 'C' channel (0.50mm gauge) on Type H4 fixing brackets at 400mm centres, lined top and bottom with Type H2 metal tracks, the lining stood off the supporting wall on a 35mm cavity to the detail drawings, offset as necessary to accommodate services behind (max. 125mm); strength grade Severe to BS 5234-2 with pull-out resistance (Annex H); include all blocking and bracing as necessary; acoustic/fire sealant to base of liner sheets kept exposed for inspection; taped and filled joints and spotting screw heads in preparation for skim finish; gypsum skim coat plaster finish 2–3 mm thick to EN 13279-1, by same manufacturer as the partition system, joints filled and taped except where coincident with metal beads, finished to Quality Level Q4 and allowing for walls directly lit by wall-washer luminaries; all as per Architects Specification K10 (boards K10-401, skim K10-680).				
	Walls				
A	^^^> 300 mm wide (LIN-01-35-50)	79	m2		
	Plasterboard box-out (casing) to isolated structural steel column (unframed), enclosing the column to number sides as stated, formed in 1 layer of 15mm gypsum plasterboard, with paper joining strips to all board joints ; inner edges/returns formed square; fixing with drywall screws; box-out set off the steel to the profile shown; taped and filled joints and spotting screw heads in preparation for skim finish; gypsum skim coat plaster finish 2-3mm thick to EN 13279-1, by same manufacturer as the partition system, joints filled and taped except where coincident with metal beads, finished to Quality Level Q4 and allowing for walls directly lit by wall-washer luminaires; plasterboard jointing-compound fillet to base junction; all as per Architects Specification K10 (boards K10-401, skim K10-680)				
	Isolated columns				
B	^^^4 sides column box out, girth aprox 1000mm; as per typical OCM details on Drawing Nr. 5078	49	m		
C	^^^4 sides column box out, girth aprox 1400mm; as per typical OCM details on Drawing Nr. 5078	11	m		

	Description	Qty	Unit	Rate	Amount
	Labours				
	Labours; making good and / or cutting around obstructions				
A	^^^girth; < or = 300 mm	100	nr		
B	^^^girth 300 mm - 1000 mm	50	nr		
C	^^^girth; 1000 mm - 2000 mm	25	nr		
	Sundries				
	Galvanised steel beads to plasterboard dry lining, bedded in manufacturer-approved bead adhesive, set true to line and level, finished flush with the skim coat plaster to K10-680; type as described below; as per OCM Specification K10/670				
	beads				
D	^^^angle bead	636	m		
E	^^^stop bead	50	m		
F	^^^movement / expansion bead	25	m		
	Powder-coated metal angle to the deflection head of the independent wall lining system, fixed to the underside of the structural soffit independently of the plasterboard so the lining takes up the deflection allowance (≈25mm) behind the angle; plasterboard cut short and not fixed to the deep-flange head channel; angle dressing the junction between the head of the lining and the soffit to a clean finished line; bedded on manufacturer-approved fire/acoustic sealant at the head; polyester powder-coated finish to Z31 — aluminium to BS 6496 / BS EN 12206-1, or steel to BS EN 13438 - colour RAL to architect's selection.; as per OCM Specification K10				
G	^^^size 50 x 30mm as per Typical OCM Detail on Drawing Nr. 5020	608	m		
	Jointing-compound fillet: plasterboard jointing-compound fillet to base junctions and internal angles, and to fill gaps exceeding 6mm between floor and underside of plasterboard after sealing, feathered out flush ready for skim to K10-680.				
H	^^^fillet	758	m		

	Description	Qty	Unit	Rate	Amount
	Fire / acoustic sealant: manufacturer-approved fire/acoustic sealant to the dry lining, applied as a continuous bead with no gaps to clean, dry, dust-free surfaces; to the sides and head of the liner sheets on each side of the metal stud, to perimeter abutments and around all openings; kept exposed for inspection where so required; as per OCM Specification K10				
A	^^^15 x 10mm thick at junctions with other finishes	758	m		
B	^^^30 x 10mm thick at base	608	m		
	Strip of self-adhesive, pre-compressed, soft and flexible open-cell polyurethane foam joint-sealing tape to the movement/sealing joint between the plasterboard column box-out and the adjacent blockwork, applied continuously from FFL to the underside of the ply cill; tape sized to suit the joint width and to remain partially compressed within the joint, maintaining a continuous seal that accommodates movement.				
C	^^^size aprox 25 x 25mm; as per OCM Detail Drawing Nr. 5078	120	m		
	Tile, Slab and Mosaic Finishes:				
	Back-painted glass splashback behind sinks; 6mm toughened glass (as L40-165/L40-155), impact resistant to BS EN 12150-1 Class 1(C)1, free from defects; back-painted to RAL colour; polished, 6mm bevelled edges; directly bonded to substrate with neutral-cure mirror adhesive/silicone (to protect back-paint); 2mm perimeter expansion gap sealed with matching sanitary-grade silicone; CNC water-jet cut-outs for electrical fittings formed before toughening. Supply, deliver, fix and seal complete; length as drawing; 450mm high; as per OCM-AR N10-280				
D	^^^> 300mm wide, isolated areas < or = to 2.00m2	4	nr		

	Description	Qty	Unit	Rate	Amount
	Porcelain wall tiles; Italian-manufactured (manufacturer/supplier to submit proposals); 100 × 300mm × minimum 9mm thick; smooth gloss finish; in selected colour (ex range of minimum 10nr. colours). Bedded to plasterboard background with high-performance cementitious adhesive, class C2TE to ISO 13007 (no vertical slip, extended open time, suitable for plasterboard), applied by floated/notched-trowel and buttering method to clause 651 at 3mm finished thickness; background prepared and primed with 2 coats of drywall sealer to substrate prior to tiling as recommended by the adhesive manufacturer. Joints 1.5mm wide, grouted with anti-bacterial and anti fungal two-component acid-resistant epoxy-resin grout, classification RG to EN 13888, colour ex range of minimum 17no. colours. Including all primers and additives recommended by the tile, adhesive and grout manufacturers; cutting, fair edges and grouting complete. Tiling laid to true line, joints horizontal and vertical and aligned around corners, cut tiles minimised, maximised and located unobtrusively. Flatness/regularity to clause 550, level across joints to clause 560; as per OCM Specification M40/125/530/550/560/651/805/875				
	Walls; to plasterboard base,				
A	^^^< or = to 300 mm wide	3	m2		
B	^^^> 300mm wide	234	m2		
	Sundries				
C	Silicone sealant to internal corners; in selected colour to match grout ; include for all necessary masking in forming joint.	68	m		
D	Ditto at junction with other finishes to form watertight seal	10	m		
E	Stainless steel square-edged stop beads; to perimeter edges and junctions; bedded in adhesive; including colour-coded mastic pointing to junctions with other materials to clause 805 / Z22	89	m		
F	Stainless steel square-edged stop beads; to perimeter edges and junctions; bedded in adhesive; including colour-coded mastic pointing to top of tiling to clause 805 / Z22	107	m		
G	Stainless steel square-edged external corner (angle) beads; bedded in adhesive	38	m		

	Description	Qty	Unit	Rate	Amount
A	Sealant movement joints with stainless steel angle edgings; angle bedded in 1:3 cement:sand, set to finished face; joint width to match structural movement joint in base; sealant colour to match grout, prepared and applied as section Z22; clause 805	10	m		
	Labours				
	Labours; making good and / or cutting around obstructions				
B	^^^girth; < or = 300 mm	25	nr		
C	^^^girth 300 mm - 1000 mm	10	nr		
	Flexible Sheet Finishes:				
	Heavy-duty PVC-free wall protection sheet to plastered blockwork/skimmed plasterboard. 2mm through-colour impact-resisting liner sheet, suede finish, typical panel 3000 × 1300mm (height cut to suit), min. 36no. colours, fire EN 13501-1 B-s1,d0, Cradle-to-Cradle Bronze, EPD certified. Fully adhesively bond with full-coverage manufacturer-approved adhesive plus perimeter double-sided tape; factory 45° chamfered bevel edges butted with 2mm gap and colour-matched weld; factory-thermoformed internal/external corners (no jointing on corners, min. 100mm off corner); overlap floor skirting by 10mm; apply N13/580 anti-microbial seal to top, bottom and exposed vertical joints; as per OCM Specification K13/160				
	Walls				
D	^^^ > 300 mm.	98	m2		
	Extra over for:				
E	^^^internal angles	37	m		
F	^^^junction with door opes	17	m		
G	^^^junction with skirting	33	m		
H	^^^junction at ceilings	36	m		

	Description	Qty	Unit	Rate	Amount
	PAINTING AND DECORATING:				
	Painting				
	Thoroughly clean down; remove any grease or dirt, substrate to be sound, dry, clean and free of dust/grease/salts/algae. Apply two coats of high-performance breathable penetrating protective sealer to all exposed fairfaced blockwork and in-situ concrete wall surfaces. fluorinated acrylic copolymers and silica sol in a colloidal aqueous solution; clear, water-based, oil - and water-repellent, vapour permeable 93–99% (DIN 52615 / EN ISO 7783-2), VOC <1g/L; does not alter substrate appearance. Apply undiluted by brush, roller or airless spray; Coverage allowance: smooth concrete 300–400 SF/gal; masonry/block 150–200 SF/gal; as per OCM Specification M60/175				
	Walls; blockwork base				
A	^^^girth < or = 300 mm	25	m2		
B	^^^girth > 300 mm	2682	m2		
	Walls; concrete base				
C	^^^girth < or = 300 mm	10	m2		
D	^^^girth > 300 mm	1044	m2		
	Walls; blockwork / plasterboard base				
E	^^^girth > 300 mm (duct risers)	281	m2		
	Thoroughly clean down; remove any grease or dirt, Substrate to be sound, dry, clean and free of dust/grease/salts/algae, apply high-durability matt finish paint system to new plastered/skimmed and fairfaced wall surfaces as specified. Tough, water-based, low-sheen washable emulsion, EPD verified, volume of solids not less than 41%, VOC not greater than 7g/L (Category A/a). Prepare surfaces in accordance with the clause (clean, fill defects, key and dust off); apply 1no. thinned mist coat and 3no. finishing coats; as per OCM Specification M60/151				
	Walls; plastered base				
F	^^^girth < or = 300 mm	20	m2		
G	^^^girth > 300 mm	2048	m2		
H	^^^girth > 300 mm (bulk heads)	133	m2		

	Description	Qty	Unit	Rate	Amount
A	^^^girth > 300 mm, existing Arena Building	104	m2		
	Cutting to line in multi-coloured work				
B	^^^allow for cutting in a multitude of separate colours at junctions, corners and changes of plane (in excess of 100no. colours to be allowed across the contract; full RAL/BS/NCS and proprietary ranges), and for sharp clean cutting-in with rejection/repainting of any flashed surfaces at no cost	800	m		
	Thoroughly clean down; remove any grease or dirt, Substrate to be sound, dry, clean and free of dust/grease/salts/algae, apply high-durability eggshell/satin paint system above 2.1m AFFL tile line and to walls as scheduled. Tough, water-based, mid-satin quick-drying emulsion, EPD verified, volume of solids not less than 37%, VOC not greater than 17g/L (Category A/a). Preparation, 1no. mist coat and 3no. finishing coats as the clause; colours and cutting-in; as per OCM Specification M60/150.				
	Walls; plastered base				
C	^^^girth < or = 300 mm	3	m2		
D	^^^girth > 300 mm	27	m2		
	Thoroughly clean down; remove any grease or dirt, Substrate to be sound, dry, clean and free of dust/grease/salts/algae; sand in direction of grain; apply 1nr. initial coat and 3no. finishing coats of high-durability water-based clear wood lacquer (decorative woodstain/varnish, anti-microbial/biocidal grade) to exposed face of FR birch ply liner; clear and flat, minimal sheen, volume of solids not less than 32%, VOC not greater than 129g/L (Category A/i), verified anti-microbial additive; apply by brush, roller or spray, sharp cutting-in to adjacent finishes with no overspill; as per OCM Specification M60/160.				
	Walls; timber base				
E	^^^girth > 300 mm; as per OCM Drawing Nr. 3502	188	m2		
F	^^^girth > 300 mm; as per OCM Details Drawing Nr. 5618 (4nr. small roof lights)	47	m2		
	Second fixing; timber base				
G	^^^girth < or = 300 mm (trims 200mm wide furniture surround, vertically; as per OCM Room Data Sheet Drawing Nr. 6117)	3	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^girth > 300 mm (trims 450mm wide to reveals; as per OCM details Drawing Nr. 5603)	84	m2		
B	^^^girth > 300 mm (trims 600mm wide to reveals; as per OCM details Drawing Nr. 5603)	135	m2		
C	^^^girth > 300 mm (trims 750mm wide to tops of walls, horizontally; as per OCM details Drawing Nr. 1551)	20	m2		
D	^^^girth > 300 mm (trims 1000mm wide to of walls, vertically; as per OCM Details Drawing Nr. 5622 (Lecture Hall - 02-CLASS-217)	33	m2		
E	^^^girth > 300 mm (trims 1000mm wide furniture surround, vertically; as per OCM Room Data Sheet Drawing Nr. 6117)	8	m2		
				To Collection €	

Description	Qty	Unit	Rate	Amount
COLLECTION				
Page No. BQ/326				
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Page No. BQ/339				
(42) WALL FINISHES INTERNALLY **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(43) FLOOR FINISHES				
	DEMOLITION AND ALTERATIONS:				
	Treatment / Repairs				
	Blastrac concrete floor slab to thoroughly clean, dry and remove all laitances, traces of dirt, grease, oils, salts and contaminants etc all in accordance with BS 8203 or DIN 18 365 in preparation for the approved floor finishes as per Architects Specification				
	Floors				
A	^^^> 300mm wide;	5101	m2		
	WOODWORK:				
	Boarding and Second Fixings				
	The following shall be 25mm thick x 100mm high plant-on skirting in Solid Hardwood unless otherwise stated; Profile to be square edged, with edges finished with 3mm chamfer; American White Oak to EN 942; Class 1; moisture content at time of fixing to be 9-13%; countersunk screw fixed and plugged fitted to blockwork / partition to match surround; all jointing mitred, dowelled and glued; include for all necessary fixings and making good to punch holes; painted finish as M60-166 all as per Architects Specification P20-121 and Drawing DR-OCM-AR-1550, 1551 & 1552				
	Second fixings; skirting				
B	^^^100 x 25 mm, profiled	233	m		
C	^^^100 x 25 mm; profiled; short lengths	100	nr		
	The following shall be plant-on skirting; in hardwood-faced birch plywood (Betula spp.) to EN 942, Class J2 / Grade A; square-edged profile with 3mm chamfered edges; finished size 18 x 200mm; finished with 3 No. coats of lacquer as M60-160; countersunk screw-fixed and plugged fitted to blockwork / partition to match surround; joints mitred, dowelled and glued. Measured net the girth, in metres; ends, angles and mitres deemed included. as per Architects Specification P20-122 and Drawing DR-OCM-AR-1550, 1551 & 1552				
	Second fixings; skirting				
D	^^^200 x 18 mm	698	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^200 x 18 mm to link between new & existing buildings	9	m		
B	^^^200 x 18 mm; short lengths	150	nr		
	The following shall be Fire-retardant veneered plywood flush skirting forming the base course to the K13 FR plywood wall lining on cross-laminated-timber (CLT) wall panels; 18mm veneered birch plywood (Betula spp.) to BS EN 942, appearance class J2; panel size 1220 × 2440mm; pressure-impregnated fire-retardant treatment (surface-applied not acceptable) achieving Class B-s1,d0 to EN 13501; formaldehyde release Class E1 to EN 13986+A1; 2–3mm butt joints; finished to match the wall lining (factory-applied multiple-coat UV-cured clear lacquer to veneered panels). Fixed on aluminium split-batten system at 600mm centres screwed to the back of the panel, set out to achieve a flush internal face between the 18mm skirting and the 12mm wall-lining panel above (clause 120) with the specified perimeter shadow gap; joinery workmanship to section Z10. Measured net the girth, in linear metres; ends, angles, mitres and the batten/sub-frame deemed included as aper Architects Specification K13-120A and Drawings DR-OCM-AR-1625, 1550 & 5600				
	Second fixings; skirting				
C	^^^505 x 18 mm FR veneered plywood flush skirting, 18mm, to CLT wall panelling; split-batten fixed; B -s1,d0; lacquered to match lining	30	m		
	Solid Beech Flooring (K21-111)				

	Description	Qty	Unit	Rate	Amount
	Pre finished sprung 22mm two-strip solid hardwood Beech tongued and grooved flooring boarding system; factory finished with several coats UV light cured lacquer and one coat of two-component plus Junckers polyurethane iso-lacquer - Silk Matt to 45 microns; typical size 1830 x 129 x 22mm thick floorboards (to BS EN 14342) with reaction to fire classification to DIN EN 13501-1, Class Cfl-S1, and resistance to indentation to min. 3.7mm Hardness Brinell; well cramped and fixed together with staggered joints in running lengths; laid and secret nailed to prefabricated battens (moisture content of floorboards at time of fixing to be 6-9%); single layer of pressure / pre-treated 50 x 37.5mm engineered batten system (preservative treatment as per K21-325) at 336mm centres with resilient rubber shock absorbing bands / foam strips pre-mounted in grooves on the underside of the batten; on and including lapped and taped joints, 0.20mm PE moisture barrier membrane or 1000g polythene laid on concrete floor with overlap of 200mm at all joints and turned up at edges; floor system to be an area elastic type sports floor with high shock absorbency to national and premier level competition standard conforming to EN 14904: Class A4 FIBA: Level 1 & CE marked; the installed floor system will comply with the requirements of Eurocode 1 Part 1-1; all in accordance with Architects Specification K21-111				
	Floors				
A	^^^> 300mm wide (Athletic Centre, Studio 1 115 & Studio 2 116)	124	m2		
B	^^^^^^extra over for floor bushings, removable access cover discs, size 170mm diameter; pre-drilled brass frame with 4 spring loaded catches for secure fixing; allow for cutting a circular hole in floor to suit and screw fix frame to edge of floor; as per Architects Specification ??????	10	nr		
C	^^^Prefinished profiled Combi Sports skirting, size 38 x 46 mm high, ventilated with 12 x 16mm stainless steel spacers at 400mm centres between wall and skirting; plugged and screwed to blockwork / partition; include for all necessary fixings and making good to punch holes.	65	m		
	Labours; making good and / or cutting around obstructions				
D	^^^girth < or = to 300mm	10	nr		
E	^^^girth 300 to 1000 mm	5	nr		

	Description	Qty	Unit	Rate	Amount
	FLOOR, WALL AND CEILING FINISHES:				
	Flexible sheet finishes				
	LINO (Marbled) - M50-150				
	Linoleum vinyl floor covering to BS EN 685 Class 23, 34 and 42, slip resistance DIN 51130: R9 and R10, EN 13893: μ>0.30; heavy-duty 2 layer cork free homogenous linoleum flooring with marbled / mottled pattern made from linseed oil, rosin, wood flour, limestone and non heavy metal pigments on jute backing, with a 25 plus year life cycle; 2.5 mm thick in selected colours, lino must have a moisture tolerance of up to 4% on a CM Meter using manufacturers adhesive as per the manufacturer's recommendation; fixing with approved adhesive and primer as required and manufactured by flooring manufacturer; hot seam weld all joints to match flooring colour with welding bead to ensure watertight seams, groove cut with approved groove cutting machine with and including all trims and edgings; portland cement base, polymer-modified self levelling compound; on concrete floor with and including for preparing floor; to be smooth, clean, free from grease and dirt and in accordance with BS 8203 or DIN 18 365.Smoothing underlayment compound: Where necessary apply asmoothing and levelling compound as clause 461.Moisture suppressing DPM: Where necessary with rising or residual moisture apply 2 coat epoxy primer DPM; all in accordance with the manufacturers instructions and Architects Specification M50-150				
	Floors; concrete base				
A	^^^> 300mm wide	1178	m2		
	Labours; making good and / or cutting around obstructions				
B	^^^girth < or = to 300mm	50	nr		
C	^^^girth 300 to 1000 mm	25	nr		
	Skirtings				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	100 mm high 20mm radius coved former skirting securely bonded to plastered / blockwork wall with approved contact adhesive, uPVC capping strip seal to be finished with a neat, concave finished colour coded anti-microbial sealant (N13/580) and continuously welded seam joint at junction of main floor covering; include for cove former with capping strip at joint of walls and floor; all in strict accordance with the manufacturers instructions and requirements as outlined in Architects Specification M50-150				
	Skirtings to floor covering,				
A	^^^< or = 300mm wide	33	m		
	ACOUSTIC LINO - M50-155				
	Linoleum vinyl floor covering to BS EN 685 Class 23, 33 and 41, Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum) to BS7976: Flooring to meet or exceed ADA recommendations of 0.6 for flat surfaceswhen tested in accordance with ASTM D 2047; heavy-duty 2 layer cork free homogenous linoleum flooring with 3no. marbled / mottled pattern ranges with min. 25no. marbled and mottle effect colors, made from linseed oil, rosin, wood flour, limestone and non heavy metal pigments on jute backing, with a 25 plus year life cycle, to be bonded to a 1mm layer of polyolefin foam; Flooring to produce a reduction in impact sound to ENISO 717-2 by 17dB - 3.5 mm thick in selected colours, lino must have a moisture tolerance of up to 4% on a CM Meter using manufacturers adhesive as per the manufacturer's recommendation; fixing with approved adhesive and primer as required and manufactured by flooring manufacturer; hot seam weld all joints to match flooring colour with welding bead to ensure watertight seams, groove cut with approved groove cutting machine with and including all trims and edgings; portland cement base, polymer-modified self levelling compound; on concrete floor with and including for preparing floor; to be smooth, clean, free from grease and dirt and in accordance with BS 8203 or DIN 18 365.Smoothing underlayment compound: Where necessary apply asmoothing and levelling compound as clause 461.Moisture suppressing DPM: Where necessary with rising or residual moisture apply 2 coat epoxy primer DPM; all in accordance with the manufacturers instructions and Architects Specification M50-155				
	Floors; concrete base				
B	^^^> 300mm wide	930	m2		
	Labours; making good and / or cutting around obstructions				
C	^^^girth < or = to 300mm	50	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^girth 300 to 1000 mm	25	nr		
	Skirtings				
	150 mm high square edged skirting securely bonded to plastered / blockwork wall with approved contact adhesive, uPVC capping strip seal to be finished with a neat, concave finished colour coded anti-microbial sealant (N13/580) and continuously welded seam joint at junction of main floor covering; include for a proprietary rubber 30x2.5mm jointing strip is to be used where linoleum flooring to abut against a vinyl floor at joint of walls and floor; all in strict accordance with the manufacturers instructions and requirements as outlined in Architects Specification M50-155				
	Skirtings to floor covering,				
B	^^^< or = 300mm wide	10	m		
	ANTI-STATIC - M50-156				
	Anti-static PVC Homogenous vinyl flooring, static dissipative, 2mm thick with speckled colour pattern with min. 14no. colourways; flooring to have Binder content (EN ISO 10581) : Type 1 with Electrical behaviour - static dissipative (EN 1081) : <1x10⁹Ω and Cleanroom particle emission (ISO 14644-1) : ISO 6, all to EN ISO 10874: Class 34 and 43 (very heavy); slip resistance DIN 51130: R9, EN 13893: μ>0.30; fixing with roller applied static conductive primer including top surface copper strips 10mm wide fixed to base with static conductive adhesive and linked to ground; fixing with approved solvent free low ession conductive adhesive hot seam weld all joints to match flooring colour with welding bead to ensure watertight seams, groove cut with approved groove cutting machine with and including all trims and edgings; portland cement base, polymer-modified self levelling compound; on concrete floor with and including for preparing floor; to be smooth, clean, free from grease and dirt and in accordance with BS 8203 or DIN 18 365.Smoothing underlayment compound: Where necessary apply asmoothing and levelling compound as clause 461.Moisture suppressing DPM: Where necessary with rising or residual moisture apply 2 coat epoxy primer DPM; all in accordance with the manufacturers instructions and Architects Specification M50-156				
	Floors; concrete base				
C	^^^> 300mm wide	15	m2		

	Description	Qty	Unit	Rate	Amount
	Labours; making good and / or cutting around obstructions				
A	^^^girth < or = to 300mm	10	nr		
B	^^^girth 300 to 1000 mm	3	nr		
	Skirtings				
	150 mm high 38mm radius coved former skirting securely bonded to plastered / blockwork wall with approved contact adhesive, uPVC capping strip seal to be finished with a neat, concave finished colour coded anti-microbial sealant (M13-580) and continuously welded seam joint at junction of main floor covering; include for cove former with capping strip at joint of walls and floor; all in strict accordance with the manufacturers instructions and requirements as outlined in Architects Specification M50-156				
	Skirtings to floor covering,				
C	^^^< or = 300mm wide	5	m		
	VINYL - ENCHANCED SLIP RESISTANCE - M50-160				

	Description	Qty	Unit	Rate	Amount
	Enhanced Slip Resistant Vinyl Flooring - Heterogeneous safety vinyl collection PVC, 2.0mm thick, combining decorative coloured chips with coloured quartz particles with PUR pearl surface finish to EN ISO 10582, EN 13845 and 14041, with a fine structured surface offered in both Neutral and pastel colours; With clear slip resistant particles and PUR pearl surface finish, vinyl to combine durable slip resistance guaranteed for the product lifetime and ease of maintenance all to slip potential: EN 13845 Annex C : Class ESb / ESf (shod) to EN 13845 Annex D : 50,000 revolutions @<10% loss = Pass, Pendulum test values (Wet) : Slider 96 and 55 : >36, Surface Roughness: =20µm; Ramp test (DIN 51130) : R10, vinyl flooring to be phthalate free and to EN 685 Class: Class 34 and 43 and have a BREEAM rating of A+; fixing with approved adhesive and primer as required and manufactured by flooring manufacturer; hot seam weld all joints to match flooring colour with welding bead to ensure watertight seams, groove cut with approved groove cutting machine with and including all trims and edgings; portland cement base, polymer-modified self levelling compound; on concrete floor with and including for preparing floor; to be smooth, clean, free from grease and dirt and in accordance with BS 8203 or DIN 18 365.Smoothing underlayment compound: Where necessary apply asmoothing and levelling compound as clause 461.Moisture suppressing DPM: Where necessary with rising or residual moisture apply 2 coat epoxy primer DPM; all in accordance with the manufacturers instructions and Architects Specification M50-160				
	Floors; concrete base				
A	^^^> 300mm wide	154	m2		
	Labours; making good and / or cutting around obstructions				
B	^^^girth < or = to 300mm	25	nr		
C	^^^girth 300 to 1000 mm	10	nr		
	Skirtings				

	Description	Qty	Unit	Rate	Amount
	150 mm high 20mm radius coved former skirting securely bonded to plastered / blockwork wall with approved contact adhesive, uPVC capping strip seal to be finished with a neat, concave finished colour coded anti-microbial sealant (N13/580) and continuously welded seam joint at junction of main floor covering; include for cove former with capping strip at joint of walls and floor; all in strict accordance with the manufacturers instructions and requirements as outlined in Architects Specification M50-160				
A	Skirtings to floor covering,				
B	^^^< or = 300mm wide	114	m		
	VINYL - ENCHANCED SLIP RESISTANCE - BAREFOOT WET AREAS - M50-161				
	Barefoot Slip Resistant Vinyl Flooring - Heterogeneous safety vinyl collection PVC, 2.0mm thick (0.7mm wear layer thickness) with Surface roughness (Rz) (minimum) to BS 1134: >20 micrometres, combining decorative coloured chips with coloured quartz particles with PUR pearl surface finish to EN ISO 10582 and BS EN 13845, with a structured embossed surface offered in bothNeutral and pastel colours. With clear slip resistant particles and PUR pearl surfacefinish, vinyl to combine durable slip resistance guaranteed for the product lifetime andease of maintenance.The vinyl is to be designed for use in areas of barefoot wet slipresistance is required such as showers and pool surrounds, all to slip potential: Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum) to BS 7976; BS EN 13845: Classes ESb (barefoot); Wet pendulum values Slider 55: >36; Surface roughness : >20 µm; Ramp test (DIN 51130): R10 Ramp test (DIN 51097 - Barefoot): Class C and to EN 685 Class : Class 34 and 43; fixing with approved adhesive and primer as required and manufactured by flooring manufacturer - A polyurethaneresin and hardener, water-resistant 2-part component PU-adhesive; hot seam weld all joints to match flooring colour with welding bead to ensure watertight seams, groove cut with approved groove cutting machine with and including all trims and edgings; portland cement base, polymer-modified self levelling compound; on concrete floor with and including for preparing floor; to be smooth, clean, free from grease and dirt and in accordance with BS 8203 or DIN 18 365.Smoothing underlayment compound: Where necessary apply asmoothing and levelling compound as clause 461.Moisture suppressing DPM: Where necessary with rising or residual moisture apply 2 coat epoxy primer DPM; all in accordance with the manufacturers instructions and Architects Specification M50-161				
	Floors; concrete base				

	Description	Qty	Unit	Rate	Amount
A	^^^> 300mm wide	39	m2		
	Labours; making good and / or cutting around obstructions				
B	^^^girth < or = to 300mm	10	nr		
C	^^^girth 300 to 1000 mm	3	nr		
	Skirtings				
	150 mm high square edged skirting securely bonded to plastered / blockwork wall with approved contact adhesive, uPVC capping strip seal to be finished with a neat, concave finished colour coded anti-microbial sealant (N13/580) and continuously welded seam joint at junction of main floor covering; include for a proprietary rubber 30x2.5mm jointing strip is to be used where linoleum flooring to abut against a vinyl floor at joint of walls and floor; all in strict accordance with the manufacturers instructions and requirements as outlined in Architects Specification M50-161				
	Skirtings to floor covering,				
D	^^^< or = 300mm wide	20	m		
	Royal prefabricated resilient rubber tiles floor covering; pass slip resistance; size 605 x 605 x 75mm thick in selected colours; comprised of +- 8mm thick synthetic EPDM rubber top surface supported by a recycled rubber base layer; laid loose; portland cement base, polymer-modified self levelling compound; on concrete floor with and including for preparing floor; all in accordance with the manufacturers instructions and Architects Specification M50-165				
	Floors; concrete base				
E	^^^> 300mm wide	64	m2		
	Labours; making good and / or cutting around obstructions				
F	^^^girth < or = to 300mm	15	nr		
G	^^^girth 300 to 1000 mm	5	nr		
	Special Surfacings: (Q26/120 Athletics Track Surfacing)				
	Special surfacings / pavings for sport/ general amenity - Sports surfacing				

	Description	Qty	Unit	Rate	Amount
	Prefabricated synthetic athletics track surfacing; full-depth two-layer system, comprising a manufactured closed-cell homogenous solid mat of isoprenic rubbers, mineral fillers, vulcanising and stabilising agents and pigments, produced from two rubber-based sheets following vulcanising and calendering, with a pigmented solid-rubber wear layer not less than 50% of the total effective thickness; to World Athletics Performance Requirements and BS EN 15330-1; fully bonded to prepared concrete base (measured separately) with a two-component thixotropic epoxy-polyurethane adhesive, joints pre-compressed and adhesive sealed; red, textured, non-permeable finish; fire rating Cfl-s1 to EN 13501-1 and ≥ 0.45 W/cm² to ASTM E-648; laid to falls/cambers and to the flatness/regularity tolerances of the World Athletics Track and Field Facilities Manual and complying with World Athletics performance requirements, I.S. EN 15330-1 and BS 7044-4; including cutting, waste and finishing flush at all surrounds; all as per Architects Drawing and Specification Q26				
	Floors; concrete base				
A	^^^> 300mm wide - Track surfacing generally; 13.5mm nominal total thickness, not less than 13mm over 99% of area and nowhere less than 11mm; laid to falls/cambers of base	2222	m2		
B	^^^^^^Extra over last for deliberately thickened and reinforced surfacing not less than 20mm thick to the triple jump take-off zone (last 13m), in line with World Athletics requirements (Q26-120, cl. 4.5.1)	2222	m2		
	Rubber sand-capture surround (Tag 206 / Q10-110B)				
C	^^^> 300mm wide - Proprietary rubber sand-capture top to sand-trap; ACO Sport Sand Capture (rubber top only) or equal approved; 1000 × 560 × 20mm units; laid loose/serviceable directly onto concrete floor, flush with landing-bed kerb, to trap sand and permit removal and re-charging of sand to the beds; placed to perimeter of landing beds; natural colour.	14	m2		
	Samples, certification & submittals (Q26-110)				
D	^^^Allow for: certification of Athletics Sports Floor system to World Athletics, technical data sheet, installation methodology and warranty details; and provision during the works of 3 no. 0.5m × 0.5m samples of the full track system	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Kerbs / edgings (interface with the Q26 surfacing) - Q10				
	Sport kerb stone to landing bed (Tag 204 / Q10-110)				
A	^^^Allow for Rubber-topped pin edging kerb to long/triple jump landing bed; ACO Sport Kerbstone or equal approved; designation EF edging, flat top; 50 × 150 × 915mm; minimum 3% recycled content to I.S. EN ISO 14021; to I.S. EN 1340 and in keeping with I.S. EN 1433:2002; natural colour, as-cast finish; bedded in cement mortar on GEN0/ST1 concrete foundation (to I.S. EN 206 / BS 8500-2), dry joints 2 –3mm; secured with continuous concrete haunching cast monolithically; to full perimeter of landing beds; including cutting, ends and forming neat junctions	22	m		
	Sundries to Athletics Flooring				
	Aluminium angle edge trim (Tag 205 / Q26-230)				
B	^^^Aluminium angle edge trim/restraint to synthetic surfacing; size/profile as detailed on drawing MTUHPAC-…-AR-5510; mechanically fixed to concrete/screed substrate; forming flush edge/restraint to athletics flooring at sand-box / event landing-area perimeter; including all fixings, cutting, mitres and ends	26	m		
	Athletics flooring transition strip, "G.S" trim (Tag 284 / Q26-120)				
C	^^^Athletics rubber flooring transition strip ("G.S" trim) at change of surface / junction with adjacent finish (incl. pole-vault planter box surround); as Detail 4 on drawing 5510; bonded/fixed to substrate forming a level flush transition between the synthetic surfacing and the adjacent finish; including cutting and ends.	121	m		
	Testing				
	Compliance testing & certification (Q26-910E / 930A)				
D	Allow for World Athletics compliance testing on completion — Class 1 Performance Testing and Class 2 Dimensional Survey — by an independent UKAS/accredited laboratory (Sports Labs Ltd or equal), independent of the contracting team; 3 no. samples per track tested for thickness, density, shock absorption, deformation, tensile strength & elongation, texture depth, slip resistance and colour match; obtaining World Athletics TrackMark certification; and O&M documentation per cl. 930A	1	item		

	Description	Qty	Unit	Rate	Amount
	Fitted Carpeting: (M50-130)				
	Turfed loop pile carpet tile to BS EN 1307 - category 33 - Commercial - Heavy with luxury rating to Class LC4, in various sizes 480mm x 480mm, 960mm x 960mm x 240mm x 960mm x 5.50mm thick, cradle 2 cradle certified (full scope) in bronze, version 4.0, carpet tile to have a textured appearance pattern with subtle colour variation with dusty shades, in selected colours; manufactured from 100% Econyl solution dyed polyamide to BS EN ISO 14021, on a modified bitumen polyester primary and secondary backing; supplied and installed with an additional backing layer which also acts as an underlay, with acoustic insulation from impact noise to 27 dB (ISO 717-2) and acoustical absorption to 0.30 aW (ISO 354), carpet tile to have a fire classification EN 13501-1 Euroclass B-s1, carpet tile to be fixed to power floated concrete floor / screed with release adhesive as per Architects Specification M50-130 including preparation of floor where necessary; all in strict accordance with manufacturers written and installation instructions as outlined Architects Specification M50-130 and Drawing DR-OCM-AR-1627				
	Floors; concrete base				
A	^^^> 300mm wide (Offices)	127	m2		
	Labours; making good and / or cutting around obstructions				
B	^^^girth < or = to 300mm	20	nr		
C	^^^girth 300 to 1000 mm	10	nr		
	Accessories				
	Edging Strip at thresholds as clause 740				
D	Approved Proprietary architectural floor transition Edging / threshold strip to carpet tiling; proprietary carpet edge trim at thresholds and doorways; secured and bonded to base; forming a neat, protected junction between carpet tiling and the adjoining floor finish, dressed and finished flush; all in accordance with Architect's Specification M50 clause 130 and Drawing DR-OCM-AR-1627	5	m		

	Description	Qty	Unit	Rate	Amount
	Sundries (General to Floor Finishes)				
A	Proprietary stainless steel E100 / V4A special profile edging dividing strips; fixed at junction of floor finishes and plugged and screwed to concrete floors at 600 mm c/c with and including for sealing with a silicone sealant; as per Architects Specification	8	m		
B	Dividing strip between dissimilar floor finishes; proprietary rubber jointing strip, 30mm wide × 2.5mm thick; bedded and bonded with adhesive to screed/concrete base at the junction where homogeneous linoleum sheet flooring abuts vinyl sheet flooring; including forming clean, straight cut edges to both adjoining finishes to suit and finishing flush; all in accordance with Architect's Specification M50 clauses 150/155.	37	m		
C	Cover strip to floor; proprietary architectural aluminium floor covering strip, 40mm wide × 2mm gauge, with chamfered edges and anodised aluminium finish; screw fixed through to concrete substrate via pre-drilled, countersunk holes; set level and flush with adjoining floor finishes; all in accordance with Architect's Specification M50 clause 746	75	m		
D	206 Angle to Long Jump Sand Box	32	m		
E	210 Floor Transition Joint	38	m		
	Floor Boxes				
F	Proprietary recessed floor service outlet box; cast/galvanised steel or polycarbonate body with rimless framing to box and lid; height-adjustable levelling screws to achieve a flush lid; lid recessed minimum 15mm to receive and sit flush with the rubber athletics flooring (M50-165); maximum box depth 75mm; bedded and grouted into 75mm screed over structural floor; including forming the recess, levelling, edge framing and making good the floor finish to the lid; all builder's work in connection. Type 1, AR-5520 detail 1. Level 00 HPAC athletics hall; size 350mm x 350mm approx.	6	nr		
G	Ditto as above; with lid recessed minimum 6.5mm to receive and sit flush with the selected floor finish (refer AR-1625); maximum box depth 85mm; bedded and grouted into 85mm screed over structural floor. Type 2, AR-5520 detail 2. Level 00 lab; size 350mm x 350mm approx.	4	nr		

	Description	Qty	Unit	Rate	Amount
A	Ditto; lid recessed minimum 6.5mm to receive and sit flush with the selected floor finish (refer AR-1626/1627); bedded and grouted into 90mm screed over hollowcore flooring. Type 3, AR-5520 detail 3. Levels 01 & 02; size 350mm x 350mm approx.	21	nr		
	MATWELL				
	Entrance Matwell flooring system; depth 17mm; with anodised aluminium scraper bars and double wiper strips; double wiper strips "Grey Coloured" fibres; 100 % polyamide buffed; closed construction; 12mm ramped aluminium frame 20 x 20mm ARF50 matwell frame drilled and plugged to concrete floor with approved fixings; 6mm silicone seal at perimeter of frame; all in accordance with Architects Specification M50-170 and Architects Drawing DR-OCM-AR-1625				
	Matwell Flooring				
B	^^^2028 x 2028 mm (4m2)	1	nr		
C	^^^^^^extra over for being curved at revolving door	7	m		
	PAINTING AND DECORATING:				
	Painting				
	M50-195 Latex DPM				
	Apply Latex DPM to all floors comprising of 2no. coats (200 microns per coat) of latex self-levelling DPM screed resistant to moisture, grease and oils, fully bonded to concrete screed as per manufacturers recommendations, to accommodate Hygrometer readings of 98% RH and to be inaccordance with BS 8203:2001. Latex DPM to be compatible with all Flooring Manufacturers floor finishes all as outlined in Architects Specification M50-195				
D	Floors; concrete base				
E	^^^> 300mm wide; all floor areas	5101	m2		
	M60-180 Floor Paint				

	Description	Qty	Unit	Rate	Amount
	Apply Anti-slip epoxy resin floor coating finish with and including primer coat comprising of 100% solids epoxy resin, made up with curing agent and resin in a high gloss anti-slip coloured finish, to manufacturers recommended thickness, with a slip resistance to achieve better than 60PTV in wet conditions; Impact Resistance (ISO 6272), to minimum Class 2 (>10Nm), Scratch Resistance (Sclerometer - ISO 4586-2), To achieve better than, orequal to, 7N and have an excellent chemical resistance all as per requirements outlined in Architects Specification M60-180; All surfaces to be Ccean before installation; all surfaces to be sealed must be clean, dry and free from dust, grease and other contaminants; Include for cleaning surface prior to installation all applied in strict accordance with the manufactures written instructions. Refer to Architect Drawing DR-OCM-AR-1627				
	Floors; concrete base				
A	^^^> 300mm wide; floor area	70	m2		
	J30-110 Liquid Applied Tanking				
	Cold-applied tanking system to plantroom (wet areas) as recommended in Architects Specification J30-110 and apply using a stiff brush, roller or squeegee two (2no.) coats in contrasting colour (white & blue) of 200micron thickness (total dry film thickness 400 microns (0.4mm)) Two-pack, solvent-free epoxy resin coating providing a high-build, waterproofing and protective lining for reinforced concrete structures and steel substrates, suitable for Type A waterproofing to BS 8102:2022 to performance standards as per J30-110 Item 2.1; chemical resistance to <50% shore hardness; impact resistance to Class III: > 20Nm,; Fire classification to be A2 and Adhesion strength (pull-off) to be > 2.0N/mm2 (rigid trafficked systems) and finish surfaces in Anti-slip epoxy resin floor coating as per requirements outlined in Architects Specification M60-180 all applied in strict accordance with the manufactures written instructions. Refer to Architect Drawing DR-OCM-AR-1627				
	Floors; concrete base				
B	^^^< 300mm wide; to concrete upstand; 150mm high	63	m		
C	^^^> 300mm wide; plant room floor area	174	m2		

	Description	Qty	Unit	Rate	Amount
	Prepare, knot, prime, stop and apply one coat of primer / sealer and three coats of high-durability water-based clear anti-microbial wood lacquer (inert matting agents, acrylic-urethane co-polymer emulsion binder, water solvent; volume of solids not less than 32%; VOC not greater than 129 g/L, Category A/i; verified anti-microbial additive; minimal sheen, clear and flat finish); applied by brush/roller/spray to new bare internal natural hardwood timber and veneers; including all preparation (clean down, white-spirit degrease, abrade in direction of grain, round arises to 3mm radius, dust off, seal bare wood), knotting to resinous areas, cutting in and protection as per Architects Specification M60-160 (clear finish)				
	Second fixing, to timber base				
A	^^girth < or = to 300 mm, skirtings - (25mm x 100mm)	233	m		
B	^^girth < or = to 300 mm, skirtings - (18mm x 200mm)	698	m		
C	^^girth < or = to 300 mm, skirtings - (18mm x 200mm - to link between new & existing building))	9	m		
D	^^girth < or = to 300 mm, skirtings, primer only to backs of skirtings - (25mm x 100mm)	233	m		
E	^^girth < or = to 300 mm, skirtings, primer only to backs of skirtings - (18mm x 200mm)	698	m		
F	^^girth < or = to 300 mm, skirtings, primer only to backs of skirtings - (18mm x 200mm - to link between new & existing building)	9	m		
	Sport hall line marking; thoroughly clean down floor with sylva neutraliser; remove any grease or dirt; surface of floor to be abraded to form key; apply Junkers of equivalent HP Sports Line paint in selected colours; apply 1 coat system of high performance sports seal lacquer after the application of the line markings; include for all necessary marking out and mastic taping as required and removal on completion; applied in strict accordance with the manufacturers instructions, as per Architects Drawing Nr. DR-OCM-AR-1625 and Specification Q26 clause 420A				
	Athletic Centre Line Markings				
G	^^^50mm wide continuous line, straight	989	m		
H	^^^50mm wide continuous line, curved	26	m		

	Description	Qty	Unit	Rate	Amount
A	^^^100mm wide continuous line, straight - Long Jump Lane Markings	8	m		
B	^^^200mm wide continuous line, straight - Long Jump Lane Markings	8	m		
C	^^^Race Lane Numbers	16	nr		

Description	Qty	Unit	Rate	Amount
COLLECTION				
Page No. BQ/341				
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(43) FLOOR FINISHES **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(44) STAIRS FINISHES				
	(44) STAIRS FINISHES				
	WOODWORK:				
	Boarding and Second Fixings				
	The following shall be 25mm thick x 100mm high plant-on skirting in Solid Hardwood unless otherwise stated; Profile to be square edged, with edges finished with 3mm chamfer; American White Oak to EN 942; Class 1; moisture content at time of fixing to be 9-13%; countersunk screw fixed and plugged fitted to blockwork / partition to match surround; all jointing mitred, dowelled and glued; include for all necessary fixings and making good to punch holes; painted finish as M60-166 all as per Architects Specification P20-121 and Drawing DR-OCM-AR-1550, 1551 & 1552				
	Second fixings; skirting				
A	^^^100 x 25 mm, to profile of steps (Stairs 3 & 5)	19	m		
B	^^^100 x 25 mm; profiled; short lengths	20	nr		
	The following shall be plant-on skirting; in hardwood-faced birch plywood (Betula spp.) to EN 942, Class J2 / Grade A; square-edged profile with 3mm chamfered edges; finished size 18 x 200mm; finished with 3 No. coats of lacquer as M60-160; countersunk screw-fixed and plugged fitted to blockwork / partition to match surround; joints mitred, dowelled and glued. Measured net the girth, in metres; ends, angles and mitres deemed included. as per Architects Specification P20-122 and Drawing DR-OCM-AR-1550, 1551 & 1552				
	Second fixings; skirting				
C	^^^200 x 18 mm; to profile of steps Lecture hall seating	19	m		
D	^^^200 x 18 mm; to profile of steps (Stairs 4)	7	m		
E	^^^200 x 18 mm; short lengths	5	nr		
	FLOOR, WALL AND CEILING FINISHES:				
	Flexible sheet finishes:				
	LINO (Marbled) - M50-150				

	Description	Qty	Unit	Rate	Amount
	Linoleum vinyl floor covering to BS EN 685 Class 23, 34 and 42, slip resistance DIN 51130: R9 and R10, EN 13893: μ>0.30; heavy-duty 2 layer cork free homogenous linoleum flooring with marbled / mottled pattern made from linseed oil, rosin, wood flour, limestone and non heavy metal pigments on jute backing, with a 25 plus year life cycle; 2.5 mm thick in selected colours, lino must have a moisture tolerance of up to 4% on a CM Meter using manufacturers adhesive as per the manufacturer's recommendation; fixing with approved adhesive and primer as required and manufactured by flooring manufacturer; hot seam weld all joints to match flooring colour with welding bead to ensure watertight seams, groove cut with approved groove cutting machine with and including all trims and edgings; portland cement base, polymer-modified self levelling compound; on concrete floor with and including for preparing floor; to be smooth, clean, free from grease and dirt and in accordance with BS 8203 or DIN 18 365.Smoothing underlayment compound: Where necessary apply asmoothing and levelling compound as clause 461.Moisture suppressing DPM: Where necessary with rising or residual moisture apply 2 coat epoxy primer DPM; all in accordance with the manufacturers instructions and Architects Specification M50-150 and Drawing DR-OCM-AR-9002				
	Stairs 1, 3 & 4				
	Landings				
A	^^^> 300mm wide to Stairs 01	11	m2		
	Treads and Risers				
B	^^^tread (330mm wide) with integral nosing Stairs 1, 3 & 4	144	m		
C	^^^riser (150mm high) Stairs 1, 3 & 4	154	m		
	Stringer				
D	^^^stringer profile A 5013 U, to profile of steps	28	m		
E	^^^stairs angles TG7003 / 7004 U	138	nr		
F	^^^50mm high TW 7005 / 7006 U skirting angles	138	nr		
	Labours; making good and / or cutting around obstructions				
G	^^^girth < or = to 300mm	50	nr		
H	^^^girth 300 to 1000 mm	5	nr		
	Sundries				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Proprietary non-slip nosings, 50-65mm contrasting inserts to TGD Part M & K, continuous full stair width, mechanically fixed. Stainless-steel tactile studs (corduroy) at top & bottom landings to TGD M Diag 2.2/2.3. to Stairs 01 - Refer DRW 9000, 9002 & 9003				
A	^^^generally to Stairs 01, 03, 04 & 05	154	m		
	Proprietary stainless steel proprietary tactile studs (corduroy profile) at top and bottom landings of all internal stairs, to tgd part m diagram 2.2/2.3. continuous across full stair width, mechanically fixed per manufacturer. refer to drw 9000				
B	^^^generally to Stairs 01 - 1500mm x 400mm wide (2.4m2) as per Dwg 9000	4	Nr		
	Proprietary stainless steel E100 / V4A special profile edging dividing strips between different floor types; fixed at junction of different floor finishes and plugged and screwed to concrete floors at 600 mm c/c with and including for sealing with a silicone sealant; as per Architects Specification				
C	^^^generally	4	m		
	ACOUSTIC LINO - M50-155				

	Description	Qty	Unit	Rate	Amount
	Linoleum vinyl floor covering to BS EN 685 Class 23, 33 and 41, Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum) to BS7976: Flooring to meet or exceed ADA recommendations of 0.6 for flat surfaceswhen tested in accordance with ASTM D 2047; heavy-duty 2 layer cork free homogenous linoleum flooring with 3no. marbled / mottled pattern ranges with min. 25no. marbled and mottle effect colors, made from linseed oil, rosin, wood flour, limestone and non heavy metal pigments on jute backing, with a 25 plus year life cycle, to be bonded to a 1mm layer of polyolefin foam; Flooring to produce a reduction in impact sound to ENISO 717-2 by 17dB - 3.5 mm thick in selected colours, lino must have a moisture tolerance of up to 4% on a CM Meter using manufacturers adhesive as per the manufacturer's recommendation; fixing with approved adhesive and primer as required and manufactured by flooring manufacturer; hot seam weld all joints to match flooring colour with welding bead to ensure watertight seams, groove cut with approved groove cutting machine with and including all trims and edgings; portland cement base, polymer-modified self levelling compound; on concrete floor with and including for preparing floor; to be smooth, clean, free from grease and dirt and in accordance with BS 8203 or DIN 18 365.Smoothing underlayment compound: Where necessary apply asmoothing and levelling compound as clause 461.Moisture suppressing DPM: Where necessary with rising or residual moisture apply 2 coat epoxy primer DPM; all in accordance with the manufacturers instructions and Architects Specification M50-155 and Drawing 1627 & 4532				
	Steps - Lecture Hall				
	Treads and Risers				
A	^^^treads (various widths) with integral nosing	56	m2		
B	^^^^^^Extra over last for forming curved edge to treads	55	m		
C	^^^riser (150mm high)	11.24	m		
D	^^^riser (300mm high)	55	m		
E	^^^^^^Extra over last for forming curved edge to riser	55	m		
	Stringer				
F	^^^stringer profile A 5013 U, to profile of steps	9	m		
G	^^^stairs angles TG7003 / 7004 U	18	nr		
H	^^^50mm high TW 7005 / 7006 U skirting angles	18	nr		

	Description	Qty	Unit	Rate	Amount
	Labours; making good and / or cutting around obstructions				
A	^^^cutting to curved tread & nosing	55	m		
B	^^^girth < or = to 300mm	20	nr		
C	^^^girth 300 to 1000 mm	5	nr		
	Sundries				
	Proprietary non-slip nosings, 50-65mm contrasting inserts to TGD Part M & K, continuous full stair width, mechanically fixed. Stainless-steel tactile studs (corduroy) at top & bottom landings to TGD M Diag 2.2/2.3. to Stairs 01 - Refer DRW 9000, 9002 & 9003				
D	^^^generally to Steps	76	m		
	PAINTING AND DECORATING:				
	Painting				
	Blastrac concrete floor slab to thoroughly clean, dry and remove all laitances, traces of dirt, grease, oils, salts and contaminants etc all in accordance with BS 8203 or DIN 18 365 in preparation for the approved floor finishes as per Architects Specification				
	Treads				
E	^^^< or = to 300mm wide (300mm wide)	144	m		
	Risers				
F	^^^< or = to 300mm wide (175mm high)	154	m		
	Landings				
G	^^^> 300mm wide	11	m2		
	M60-180 Floor Paint - Stairs 05 - Plant				

	Description	Qty	Unit	Rate	Amount
	Apply Anti-slip epoxy resin floor coating finish with and including primer coat comprising of 100% solids epoxy resin, made up with curing agent and resin in a high gloss anti-slip coloured finish, to manufacturers recommended thickness, with a slip resistance to achieve better than 60PTV in wet conditions; Impact Resistance (ISO 6272), to minimum Class 2 (>10Nm), Scratch Resistance (Sclerometer - ISO 4586-2), To achieve better than, orequal to, 7N and have an excellent chemical resistance all as per requirements outlined in Architects Specification M60-180; All surfaces to be Ccean before installation; all surfaces to be sealed must be clean, dry and free from dust, grease and other contaminants; Include for cleaning surface prior to installation all applied in strict accordance with the manufactures written instructions. Refer to Architect Drawing DR-OCM-AR-1627				
	Floors; concrete base				
A	^^^> 300mm wide; floor area	14	m2		
B	^^^Ditto to 150mm high bund	12	m		
	Treads				
C	^^^< or = to 300mm wide (300mm wide)	23	m		
	Risers				
D	^^^< or = to 300mm wide (175mm high)	26	m		
	Prepare, knot, prime, stop and apply one coat of primer / sealer and three coats of high-durability water-based clear anti-microbial wood lacquer (inert matting agents, acrylic-urethane co-polymer emulsion binder, water solvent; volume of solids not less than 32%; VOC not greater than 129 g/L, Category A/i; verified anti-microbial additive; minimal sheen, clear and flat finish); applied by brush/roller/spray to new bare internal natural hardwood timber and veneers; including all preparation (clean down, white-spirit degrease, abrade in direction of grain, round arises to 3mm radius, dust off, seal bare wood), knotting to resinous areas, cutting in and protection as per Architects Specification M60-160 (clear finish)				
	Second fixing, to timber base				
E	^^girth < or = to 300 mm, skirtings to profile of steps (Stairs 3 & 5)	19	m		
F	^^girth < or = to 300 mm, skirtings, primer only to backs of skirtings (Stairs 3 & 5)	19	m		

	Description	Qty	Unit	Rate	Amount
A	^^girth < or = to 300 mm, skirtings to profile of steps (Stairs 4)	7	m		
B	^^girth < or = to 300 mm, skirtings, primer only to backs of skirtings (Stairs 4)	7	m		

Description	Qty	Unit	Rate	Amount
COLLECTION				
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(44) STAIRS FINISHES **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(45) CEILING FINISHES				
	(45) CEILING FINISHES				
	WOODWORK:				
	Structural And First Fixings				
	The following shall be in wrot vac vac Pressure treated / impregnated to achieve Fire Resistance Class B (in accordance with EN 13501) red deal unless otherwise stated; plugged and screwed to blockwork / precast / in situ concrete walls & floors; include for all necessary fixings, counter sinking and making good with matching pellates; protected for finishes:				
	First fixings; fixing grounds				
A	^^^32 x 50 mm	244	m		
	First fixings; bearers				
B	^^^50 x 50 mm	244	m		
	12mm CE marked European Marine plywood panels laid in suspended ceilings in supporting miscellaneous fittings and include for wiring to suspension system as per Architects Specification K10-216 and K40-395				
	First fixings; bearers				
C	^^^250 x 250 mm panel size	25	nr		
D	^^^300 x 300 mm panel size	119	nr		
E	^^^450 x 450 mm panel size	34	nr		
F	^^^600 x 600 mm panel size	16	nr		
G	^^^850 x 850 mm panel size	40	nr		
H	^^^1000 x 1000 mm panel size	11	nr		
	Structurally Support Service Opes in Ceilings; consisting of additional hangers (e.g double unistrut (both sides of ope), with 2mm galvanised flashing supported from roof structure above to include 4no. 10mm threaded droprods), providing flanges to support ceiling system including all necessary associated fixings and fittings beamclamps,, turnbuckles, ceiling supports and the like etc. all in accordance with Architects Specification K40-390 & 395				
J	^^^girth; < or = 300 mm	35	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^girth 300 mm - 1000 mm (within plasterboard ceilings)	101	nr		
	Boarding and Second Fixings				
	(120) Wood Panelling to FR Wall Lining				
	FR Plywood wall lining to rooflight opes - Cross laminated timber deck substrate comprising of softwood battens (screwed into back of panel) 75mm x 50mm Pressure impregnated to achieve Fire Resistance Class B (in accordance with EN 13501); finished with a 12mm thick Birch (Betula spp.) veneered plywood Class J2 to BS EN 942; finished panel size 1220 x 2440mm; fire performance to Class B-s1,d0 (in accordance with EN 13501) with sound absorption 250-500Hz : 10 to 1000-2000Hz : 0.30 and thermal conductivity 0.19W/(mk) with Panel system fixed to rooflight frame with aluminium split battens including all cutting, any additional support and battens/grounds as necessary all in accordance with manufacturers instructions as per Architects Drawings DR-OCM-AR-1428 & DR-OCM-AR-5618 and Architects Specification K13-120				
	Boarding & sheeting				
B	^^^> 300mm high, vertical to Classroom (4no) Roof Light Wells	16	m2		
C	^^^making good, cutting around obstructions; < or = 300mm	16	nr		
D	^^^Ditto; 300mm - 1.00m	8	nr		
E	^^^Ditto; 1.00m - 2.00m	4	nr		
	(110) Wood Panel Ceiling FR Lining				

	Description	Qty	Unit	Rate	Amount
	FR Plywood Ceiling Lining to CLT Deck - Cross laminated timber deck substrate comprising of softwood battens 75mm x 50mm Pressure impregnated to achieve Fire Resistance Class B (in accordance with EN 13501); finished with a 12mm thick Birch (Betula spp.) veneered plywood Class J2 to BS EN 942; finished panel size 1220 x 2440mm; fire performance to Class B-s1,d0 (in accordance with EN 13501) with sound absorption 250-500Hz : 10 to 1000-2000Hz : 0.30 and thermal conductivity 0.19W/(mk) with Panel system fixed to proprietary carrier piece which is fixed with spring clips. Carrier piece at centres to panel system manufacturers details. Parallel distance profiles at manufacturers recommended centre spacing. Panel system to be suspended on ceiling hangers to requiredceiling pitch; Fasteners: To be installed with proprietary profiles and clips as recommended by the manufacturer of the timber panel system including all cutting, any additional support and battens/grounds as necessary all in accordance with manufacturers instructions as per Architects Drawings DR-OCM-AR-7050 and Architects Specification K13-110				
	Boarding & sheeting				
A	^^^> 300mm high, laid horizontally over running track area	756	m2		
	Labours				
B	^^^making good, cutting around obstructions; < or = 300mm	160	nr		
C	^^^Ditto; 300mm - 1.00m	20	nr		
D	^^^Ditto; 1.00m - 2.00m	50	nr		
	(115) Specialist Acoustic Ceiling Panelling System (to ceilings, level soffit)				

	Description	Qty	Unit	Rate	Amount
	Specialist Acoustic Ceiling Panelling System with an overall approx. thickness of 73/75mm - which are a series of panels configured in an agreed pattern. The panels are to be made up of natural wood veneer and laminates of varying colours fixed to buildings structural frame (concrete floor slab). Panels consisting of Veneer Finish (quarter cut) are to be 13mm thick Birch (Betula spp.) natural wood veneered plywood Class J2 to BS EN 942, with Micro-perforations in veneer with a nominal diameter of 0.5mm; Averaging 300,000 holes per m² with Edges: Over veneered solid wooden edges on 4 sides. Edging wood to match that of the selected veneer. Panels consisting of Laminate Finish; Continuous pressed laminate (CPL), with Micro-perforations in the CPL with a nominal diameter of 0.5mm, Averaging 300,000 holes per m², equating to circa 5.9% of surface area with Edges: Edging to reflect and match the face finish, Core of both panels (veneer & laminate) to have a core consisting of a Re-enforced fibre gypsum board, high density, 1150kg/m³, Perforated to facilitate acoustic absorption and White acoustic fleece bonded to back of board with 45mm thick acoustic mineral wool (void behind insulation : min 200mm) and reaction to fire classification to be Class B-s1, d0 or better; profile of panels to be Rebated/ Grooved to facilitate installation on the panelling systems profiles and Finished face width : in Square panels: 600 x 600mm and Triangular panels: 600 x 600mm on outer edges, with 45 degree split (Factory formed) and all jointing; Closed on the vertical, horizontal and diagonal edges, with and including panelling substrate support framework consisting of Primary, system manufacturer approved, inverted 'h' profiled aluminium ceiling grid rail, suspended from structure using manufacturer approved fixing hangers and Secondary, toothed rail to be installed perpendicular to, and across the top of the primary rail in strict accordance with the manufacturers requirements and instructions as per Architects Drawings DR-OCM-AR-7050 and Architects Specification K13-115				
	Boarding & sheeting				
A	^^^> 300mm high, laid horizontally over running track area	345	m2		
B	^^^^^^Extra over last for 10mm minimum continuous shadow gap framing	258	m		
	Labours				
C	^^^making good, cutting around obstructions; < or = 300mm	75	nr		
D	^^^Ditto; 300mm - 1.00m	10	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^Ditto; 1.00m - 2.00m	25	nr		
	Ironmongery, Accessories and Sundries				
	Soffit Insulation (F30-157)				
	Supply & Install Non-combustible mineral wool soffit slab insulation, high impact grade, with bonded 6mm fibre cement board facing; 220mm nominal thickness; thermal conductivity 0.034 W/mK; achieving a U-value of 0.14 W/m²K in the overall soffit build-up; reaction to fire Euroclass A1 (high impact face A2-s1, d0), tested to EN 1363-1; fixed to concrete soffit with proprietary thermally-broken insulation fixings; joints between boards, at closures and penetrations left with no gaps and free from mortar and debris in strict accordance with the manufacturers requirements and instructions as per Architects Drawings DR-OCM-AR-7050 and Architects Specification F30-157				
B	^^^> 300mm high, laid horizontally / sloped to exposed concrete ceilings in Equipment Stores & Main Switch Room	83	m2		
	Labours				
C	^^^making good, cutting around obstructions; < or = 300mm	15	nr		
D	^^^Ditto; 300mm - 1.00m	3	nr		
	FLOOR, WALL AND CEILING FINISHES:				
	Suspended Ceilings				
	Plasterboard Ceiling Type C (K10)				

	Description	Qty	Unit	Rate	Amount
	Type G Metal frame suspended ceiling system or equivalent approved to Architects Specification K10-432; complete with M/F ceiling section; Type G2 Perimeter Channel to be fixed to the perimeter wall in accordance with the Lining System Manufacturers requirements, and K10-432 Type G7 Soffit Cleats secured to the soffit at appropriate centres to suit the install. K10-432 Type G5 Strap Hangers orproprietary steel angles are to be pre-cut and secured to the soffit cleats and Type G3 Primary Support Channels are to be installed over the Type G2 Perimeter Channels. Hangers to be fixed to Primary Support Channel using manufacturer approved Wafer Head Jack Point Screws. Type G1 Ceiling Sections are to be run at right angles tothe underside of the Primary Support Channels to form a secondary grid. The Ceiling Sections are to be secured to be Primary Support Channels using Wafer head Jack-PointScrews and / or Type G6 Connecting Clips; with and including 1 layer of K10-403 of 12.5mm moisture resistant plasterboard (certified to BES 6001) - aerated gypsum core with water repellent additives encased in, and firmly bonded strong paper liners with repellent additives; plasterboard fire performance to EN 13501-1 :- A2-s1,d0 (Type A and H1); include for staggered joints; fixing with gyproc drywall screws to metal framework ceiling channel system, as above described, all according to manufacturers requirements, include all blocking and bracing as necessary; taped and filled joints and spotting nail holes in preparation for K10-608 3mm thick plaster skim finish with skim coat to comply with EN 13279-1 Type B1/ 20/2, fire performance to A1 (EN 13279-1: 2008), thermal conductivity to be 0.51W/mK (EN 13279-1: 2008) and thermal resistance to be 0.56W/mK (EN 13279-1: 2008); all applied to plasterboard base in accordance with manufacturers requirements and as per Architects Specifications K10-216, K10-403, K10-432 and K10-608 and Architects RCP Drawings DR-OCM-AR-7050, 7051 7052 and Ceiling Details Drawing -DR-OCM-AR-5200				
	Ceilings; to underside metal deck / reinforced concrete soffit; depth of suspension				
A	^^^> 300 mm; depth of suspension 500mm - 1000mm	133	m2		
B	^^^> 300 mm; depth of suspension 1000mm - 1500mm	72	m2		
	Labours				
C	^^^making good, cutting around obstructions; < or = 300mm	25	nr		
D	^^^Ditto; 300mm - 1.00m	119	nr		
E	^^^Ditto; 1.00m - 2.00m	101	nr		

	Description	Qty	Unit	Rate	Amount
	Accessories				
	Access panels				
	^^^Plaster finished access panel as per Architects Specification L20-630; Type AH05 1.2mm zintec electro galvanised mild steel concealed frame (to allow for skim finish coverage) with Resistance to fire: EI 30 (Integrity & Insulation) and sealed for smoke control, access hatch door with 50mm wide profile and perforated frame finished in polyester powder coat in selected RAL; door tray shall encapsulate 1 layer of 15mm plasterboard with a 3mm skim finish; door to include metal earthing tags; factory fitted piano hinge / removable plate with inserted steel pins; square drive operated anti-tamper lock with concealed keyhole; screw fixed frame to ceiling and apply 6mm continuous intumescent acoustic mastic sealant around perimeter of frame; with Rubber EPDM gasket to b fitted between hatch and frame to minimize moisture ingress include for all necessary additional supports, fixings and hangers; in accordance with Manufacturers Instructions and Architects Specification K10-216 and L20-630 and Architects RCP Drawings DR-OCM-AR-7050, 7051 7052 and Ceiling Details Drawing -DR-OCM-AR-5201				
A	^^^size 450 x 450mm; as per K10-216 AH05	40	nr		
B	^^^size 600 x 600mm; as per K10-216 AH05	11	nr		
C	^^^^^^extra over last for skimmed bead perimeter trim to ceiling access hatch to Architects Specification L20-630 / 631 and as outlined on Ceiling Details Drawing -DR-OCM-AR-5201	99	m		
	Sundries				
	Galvanized mild steel; expanded metal lathing and beading fixed in accordance with manufacturers instruction; as per Architects Specification K10-692				
	Beads/Stops				
D	^^^angle beads to EN 13658-1	104	m		
	Demountable Suspended Ceilings - Acoustic Panels (K40)				
	(115) Raft or Island Suspended Ceiling Systems				

	Description	Qty	Unit	Rate	Amount
	Suspended raft or island ceiling systems; comprising of Square or Bevelled Edges; Type A size 600 x 600 x 40mm thick (square); Type B 1160 x 1760 x 40mm thick (rectangle); Type C 1160 x 2360 x 40mm thick (rectangle) high density A1 non-combustible stonewool demountable tiles; fleece backed, micro textured, deep matt super white painted acoustic finish, moisture and fire resistant acoustic ceiling panels with sound absorption to ISO 11654, Class A; equivalent NRC typical 0.90-1.00 and panels are to provide reverberation control in open-ceiling environments, with a reaction to fire Class A1 to EN 13501-1; all complete with spiral anchor suspension / support fixings; fixed direct in accordance with manufacturers approved adjustable hangers e.g. spiral anchors, wires or quick hangers all as outlined in Architects Specification K40-115 and Drawing DR-OCM-AR-7050, 7051, 7052 and 3428 & 3429				
	Ceilings; to underside metal deck / reinforced concrete soffit; depth of suspension				
	Ground Floor				
A	^^^> 300 mm; depth of suspension 500mm - 800mm; panel size 1160 x 1160mm Square (11no.)	11	nr		
B	^^^> 300 mm; depth of suspension 500mm - 800mm; panel size 1160 x 2360mm Rectangle (19no.)	19	nr		
	First Floor				
C	^^^150 - 500mm; size 1160 x 1160mm Square (10no.)	10	nr		
D	^^^150 - 500mm; size 1160 x 1760mm Rectangle (4no.)	4	nr		
E	^^^150 - 500mm; size 1160 x 2360mm Rectangle (60no.)	60	nr		
F	^^^150 - 500mm; size 1160 x 2780mm Rectangle (4no.)	4	nr		
G	^^^150 - 500mm; size 1160 x 1280mm Rectangle (4no.)	4	nr		
	Second Floor				
H	^^^150 - 500mm; size 1160 x 1160mm Square (23no.)	23	nr		
J	^^^150 - 500mm; size 1160 x 2360mm Rectangle (57no.)	57	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Labours				
A	^^^making good, cutting around obstructions; < or = 300mm	25	nr		
B	^^^Ditto; 300mm - 1.00m	5	nr		
C	^^^Ditto; 1.00m - 2.00m	5	nr		
	Structurally Support Service Opes in Ceilings; consisting of additional hangers (e.g double unistrut (both sides of ope), with 2mm galvanised flashing supported from roof structure above to include 4no. 10mm threaded droprods), providing flanges to support ceiling system including all necessary associated fixings and fittings beamclamps,, turnbuckles, ceiling supports and the like etc. all in accordance with Architects Specification K40-390 & 395				
D	^^^girth; < or = 300 mm	85	nr		
E	^^^girth 300 mm - 1000 mm (within demountable ceilings)	95	nr		
	(125) Suspended Ceiling System - Perforated Metal - Anti-microbial 300 x 1200mm (Acoustic)				
	Suspended perforated metal ceiling tile system (concealed clip-in) to EN 13964; comprising of Clip-in, perforated metal ceiling tile size 300 x 1200mm with anti-microbial painted finish and acoustic fleece backing (a black fire rated fleece), fleece is to be backed with a 40mm thick, lined mineral wool acoustic pillow, perforations to ceiling tile to be 1.5mm diameter, with 22% open area with 20mm unperforated border complete with 35mm chicago metallic T24 Click 2890 semi-concealed grid support system, main runners T24 ECR Click shall be positioned at 1200mm centres and securely fastened to the structural soffit using straightened 2mm diameter galvanised mild steel wire positioned at 1200mm maximum centres; 1200mm T24 ECR Click cross tees shall be connected to and span the main runners at 1200mm centres and shall be sub-divided by 300mm ECR cross tees forming a module of 300mm x 1200mm x 33mm; including all necessary proprietary hangers, fixings, main runners, cross members, primary channels, perimeter trims, splines, noggins, clips, bracing, bridging, plenum barrier etc; fixed in accordance with Architects Specification				
	Ceilings; to underside reinforced concrete soffit; depth of suspension				
F	^^^> 300 mm; depth of suspension 500mm - 950mm	5	m2		

	Description	Qty	Unit	Rate	Amount
	Labours				
A	^^^making good, cutting around obstructions; < or = 300mm	2	nr		
B	^^^Ditto; 300mm - 1.00m	1	nr		
	Accessories				
	Edge/Perimeter Trims				
C	^^^allow for factory finished, corrosion resistant, bevel edge (3mm) metal trim with concealed, skimmed frame to edge of concealed suspended ceiling support grid; including angle brackets and fixings as outlined in Architects Specification K40-125	10	m		
	PAINTING AND DECORATING:				
	Painting				
	Thoroughly clean down; remove any dust, grease, oils or dirt and other substances that would prevent bonding ; prepare and apply with brush, roller or spray one (1no.) coat of lightly thinned matt paint coat (1no. part clean water to 10no. parts paint) and three (3no.) coats neat approved High Durability Eggshell Bacteria Resistant Tough, water-based, mid-sheen, quick drying emulsion paint containing in-film bactericidewith active silver-ion content, EPD Verified; in selected colours; as per Architects Specification M60-195 and Architects Drawing DR-OCM-AR-5200				
	Ceilings; to plaster base,				
D	^^^> 300 mm, plasterboard ceilings	204	m2		
	Thoroughly clean down; remove any dust, grease, oils, salts, moss, algae, dirt and other substances that would prevent bonding; prepare and apply with brush, roller or spray two coats neat approved High performance breathable sealer water based paint with deep penetration for very high oil & water repellent without altering the surface appearance or glossiness. Multi-purpose clear water proofing and protective finish for porous mineral surfaces; in selected clear colour / finish; as per Architects Specification M60-175				
	Ceilings; to concrete base,				
E	^^^> 300 mm, exposed concrete ceilings	1894	m2		
F	^^^> 300 mm, exposed concrete to underside of Stairs 01	37	m2		

	Description	Qty	Unit	Rate	Amount
	Prepare, knot, prime, stop and apply one coat of primer / sealer and three coats of high-durability water-based clear anti-microbial wood lacquer (inert matting agents, acrylic-urethane co-polymer emulsion binder, water solvent; volume of solids not less than 32%; VOC not greater than 129 g/L, Category A/i; verified anti-microbial additive; minimal sheen, clear and flat finish); applied by brush/roller/spray to new bare internal natural hardwood timber and veneers; including all preparation (clean down, white-spirit degrease, abrade in direction of grain, round arises to 3mm radius, dust off, seal bare wood), knotting to resinous areas, cutting in and protection as per Architects Specification M60-160 (clear finish)				
A	Ceilings; to timber base,				
B	^^^> 300mm high, vertical to Classroom (4no) Roof Light Wells	16	m2		
C	^^^> 300mm high, laid horizontally over running track area ((110) Wood Panel Ceiling FR Lining)	756	m2		
D	^^^> 300mm high, laid horizontally over running track area ((115) Specialist Acoustic Ceiling Panelling System)	345	m2		

Description	Qty	Unit	Rate	Amount
COLLECTION				
Page No. BQ/368				
Page No. BQ/369				
Page No. BQ/370				
Page No. BQ/371				
Page No. BQ/372				
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Page No. BQ/378				
(45) CEILING FINISHES **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(47) ROOF FINISHES				
	ROOF FINISHES				
	ROOFING, CLADDING AND WATERPROOFING:				
	Mastic Asphalt, Waterproof and Gas Proof Non Metal Flexible Sheet Coverings				
	Prepare, grit blast, clean and ensure surfaces are dry and free from contamination such as oil, grease, loose particles, decayed matter, moss or algal growth, laitance and traces of mould oils and curing compounds; cold-applied damp-proofing; two-pack solvent-free epoxy resin coating, high-build, ground-gas resistant waterproofing and protective lining; Type A waterproofing to BS 8102:2022 and ground gas protection to BS 8485:2015+A1:2019 Table 7 (unjointed); to EN 1504-2 and BS 6920:2014; performance based on Fosroc Nitocote EP405; total dry film thickness 400 microns applied in two coats of 200 microns in contrasting colours (white and blue); fire classification A2; applied by stiff brush, roller or squeegee to grit-blasted reinforced concrete substrate, including concrete repair mortar to defects as necessary; on cast in-situ concrete.				
	Tanking				
A	^^^horizontal, < or = to 300mm (North Stairs - 300mm treads)	28	m2		
B	^^^horizontal, > 300mm (North Stairs - 900mm treads)	47	m2		
C	^^^vertical, < or = to 300mm (North Stairs - 150mm risers)	15	m2		
D	^^^vertical, > 300mm (North Stairs - 450mm risers)	32	m2		
E	^^^horizontal, > 300mm (North Stairs - landings)	33	m2		
F	^^^vertical, > 300mm (North Stairs - walls)	20	m2		
G	^^^horizontal, < or = to 300mm (South Stairs - 300mm treads)	30	m2		
H	^^^vertical, < or = to 300mm (South Stairs - 150mm risers)	17	m2		
J	^^^horizontal, > 300mm (South Stairs - landings)	14	m2		
K	^^^vertical, > 300mm (South Stairs - walls)	13	m2		

	Description	Qty	Unit	Rate	Amount
A	^^^vertical > 300mm wide (North Stairs - 450mm high planters walls) Preparation and priming of substrate (CLT deck moisture content readings taken to core of CLT, recorded and confirmed <20% prior to waterproofing; deck protected from wetting during installation), clean, dry and free from contaminants; activator-primer (canister) spray applied to all surfaces receiving waterproofing at a coverage rate of approximately 96g/m2 applied at manufacturer's recommended coverage rate as per J41/530; nailed isolating layer, loose laid fleece-side down and nailed to the CLT deck prior to application of the air and vapour control layer; air and vapour control layer (AVCL): minimum 2.5mm thick, aluminium-lined, 200g/m² glassfibre reinforced and polyester coated, self-adhesive SBS elastomeric bitumen vapour barrier; laps minimum 100mm, heat-sealed with continuous bitumen bead extrusion; cold bend resistance -25 degrees C; heat stability +70 degrees C; AVCL first layer random nailed to CLT; second AVCL layer cold applied and fully bonded (self-adhesive); rigid PIR flat board insulation, glass tissue faced, fire resistant and self-extinguishing, zero ODP, GWP <5, minimum U-value 0.14 W/m2K, thickness as required; bonded to upper surface of AVCL using manufacturer's polyurethane insulation adhesive in continuous beads; boards close butt jointed with staggered end joints, long edges running at right angles to metal deck troughs; incorporating tapered insulation to achieve minimum 1:80 crossfalls to internal gutters in accordance with manufacturers tapered insulation layout drawing; First (under) layer waterproofing membrane: minimum 3mm thick, 200g/m2 glassfibre reinforced, self-adhesive SBS elastomeric bitumen underlayer; cold bonded and fully adhered; side laps 80mm, head laps 100mm, all laps heat-sealed/torched with continuous bitumen bead; dressed up all upstands minimum 150mm above finished roof surface; Top layer / cap sheet: minimum 5.2mm thick, 250g/m² polyester reinforced, SBS elastomeric torch-applied capping sheet; fully bonded to underlayer; side laps 80mm, head laps 100mm; graphite fire retardant within bitumen coating; compliant with Ext. FAA fire rating to BS 476 Part 3; colour charcoal grey; cold bending -25 degrees C top / -30 degrees C bottom; heat stability +120 degrees C; include for all necessary fixings, sealing and cover strips, laps, jointing and the like all in strict accordance with the manufactures written instructions; 20-year Insurance Supported Company Guarantee; all as per Architects Specification J41 Roofing	11	m2		

	Description	Qty	Unit	Rate	Amount
A	^^^horizontal; to falls; girth > 300 mm (Specification Legend 101 - J41-110)	1091	m2		
B	^^^horizontal; to falls; girth > 300 mm (Specification Legend 113 - J41-110A)	222	m2		
C	^^^^^^extra over last for forming sump, size 600 x 600 x 120mm (Drainage Contractor calculations); continuous liner to sump sole, internal angles - 4nr, angle fillet - 2nr, arrises -2nr; per typical detail 1 Drawing Nr. 1428 & 5606 and Specification J41	26	nr		
D	^^^vertical; girth < or = to 300 mm with membrane dress up and over timber upstand (as per OCM Detail 2 Drawing Nr. 5609)	25	m2		
E	^^^vertical; girth > 300 mm with 80mm thick insulation (as per OCM Detail 1 Drawing Nr. 5604)	72	m2		
F	^^^^^^extra over last for 50mm x 50mm tilting / angle fillets	106	m		
G	^^^vertical; girth > 300 mm with 80mm thick insulation including membrane dress over onto concrete screed (as per OCM Detail 1 Drawing Nr. 5608)	2	m2		
H	^^^^^^extra over last for 50mm x 50mm tilting / angle fillets	5	m		
J	^^^vertical; girth > 300 mm with 80mm thick insulation including membrane dress up under flashing (as per OCM Detail 1 & 3 Drawing Nr. 5606)	26	m2		
K	^^^^^^extra over last for 50mm x 50mm tilting / angle fillets	72	m		
L	^^^vertical; girth > 300 mm with 80mm thick insulation including membrane dress up under flashing (as per OCM Detail 2 Drawing Nr. 5605)	5	m2		
M	^^^^^^extra over last for 50mm x 50mm tilting / angle fillets	13	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Preparation and priming of profiled metal deck substrate (D60 perforated), clean, dry and free from contaminants ; bitumen primer applied at manufacturer's recommended coverage rate as per J41/530; Air and vapour control layer (AVCL): minimum 2.5mm thick, aluminium-lined, 200g/m² glassfibre reinforced and polyester coated, self-adhesive SBS elastomeric bitumen vapour barrier; laps minimum 100mm, heat-sealed with continuous bitumen bead extrusion; cold bend resistance -25 degrees C; heat stability +70 degrees C; rigid PIR flat board insulation, glass tissue faced, fire resistant and self-extinguishing, zero ODP, GWP <5, minimum U-value 0.14 W/m2K, thickness as required; bonded to upper surface of AVCL using manufacturer's polyurethane insulation adhesive in continuous beads; boards close butt jointed with staggered end joints, long edges running at right angles to metal deck troughs; incorporating tapered insulation to achieve minimum 1:80 crossfalls to internal gutters in accordance with manufacturers tapered insulation layout drawing; First (under) layer waterproofing membrane: minimum 3mm thick, 200g/m2 glassfibre reinforced, self-adhesive SBS elastomeric bitumen underlayer; cold bonded and fully adhered; side laps 80mm, head laps 100mm, all laps heat-sealed/torched with continuous bitumen bead; dressed up all upstands minimum 150mm above finished roof surface; Top layer / cap sheet: minimum 5.2mm thick, 250g/m² polyester reinforced, SBS elastomeric torch-applied capping sheet; fully bonded to underlayer; side laps 80mm, head laps 100mm; graphite fire retardant within bitumen coating; compliant with Ext. FAA fire rating to BS 476 Part 3; colour charcoal grey; cold bending -25 degrees C top / -30 degrees C bottom; heat stability +120 degrees C; include for all necessary fixings, sealing and cover strips, laps, jointing and the like all in strict accordance with the manufactures written instructions; 20-year Insurance Supported Company Guarantee; all as per Architects Specification J41				
	Roofing				
A	^^^horizontal; to falls; girth > 300 mm (Specification Legend 76 - J41-111)	1511	m2		
B	^^^^^^extra over last for forming gutter, size 700 x 120mm (Drainage Contractor calculations); continuous liner to gutter sole, internal angles - 4nr, angle fillet - 2nr, arrises -2nr, splash pads; per typical detail 1 Drawing Nr. 1428 & 5607 and Specification J41/680 & 778 & 779	138	m		

	Description	Qty	Unit	Rate	Amount
A	^^^^^^extra over last for forming gutter, size 700 x 120mm (Drainage Contractor calculations); continuous liner to gutter sole, internal angles - 4nr, angle fillet - 2nr, arrises -2nr, splash pads; per typical detail 1 Drawing Nr. 1428 & 5607 and Specification J41/680 & 778 & 779 (Existing Arena roof as per Drawing Nr. 5623)	4	m		
B	^^^horizontal; to falls; girth > 300 mm on precast concrete (Specification Legend 76 - J41-111)	77	m2		
C	^^^horizontal; to falls; girth > 300 mm, plant room roof (Specification Legend 76 - J41-111)	32	m2		
D	^^^horizontal; to falls; girth > 300 mm, tissue-wrapped rockfibre acoustic infill installed directly into troughs of metal deck prior to other layers, 12mm thick high-mass continuous board sheeting acoustic layer (dry density 1,360 kg/m3; fire performance Class A1 to BS EN 13501-1; T&G joints; modulus of rupture >7.55 MPa; compressive strength 54.9 N/mm2) installed between metal deck and insulation layer; system to achieve minimum rain noise performance of 35dB(A) tested to ISO 140-18; wind load tested to MOAT 64 at 6kPa; fire rated Ext.F.AA to EN 13501-5; S5/P5 classified capsheet to BS 8747:2007; system durability statement in excess of 30 years (High Acoustic Performance specification over lecture theatre)	124	m2		
E	^^^horizontal; to falls; girth > 300 mm on (Existing Arena roof as per Drawing Nr. 5623)	11	m2		
F	^^^vertical; girth < or = to 300 mm with membrane dress up and over timber upstand	13	m		
G	^^^vertical; girth > 300 mm with 150mm thick insulation, allow for continuing membrane dressed aprox 650mm over top up under flashing (as per OCM Parapet Details Drawing Nr. 5603 & 5607)	453	m2		
H	^^^^^^extra over last for 50mm x 50mm tilting / angle fillets	188	m		
J	^^^vertical; girth > 300 mm with 120mm thick insulation, allow for continuing membrane membrane dressed aprox 320mm over top and under flashing (as per OCM Parapet Details Drawing Nr. 5611)	13	m2		
K	^^^^^^extra over last for 50mm x 50mm tilting / angle fillets	18	m		

	Description	Qty	Unit	Rate	Amount
A	^^^vertical; girth > 300 mm with 150mm thick insulation, allow for continuing membrane membrane dressed aprox 250mm over top and under flashing (as per OCM Bottom Level Plantroom Parapet Detail 1, 2, 3 & 5 Drawing Nr. 5614 & 5615)	16	m2		
B	^^^^^^extra over last for 50mm x 50mm tilting / angle fillets	28	m		
C	^^^^^^3mm galvanised steel cavity closer pressing to form support for upstand; formed from 3mm hot-dip galvanised mild steel sheet; cut, pressed and fixed in position prior to installation of upstand; girth 750 - 900mm, 1 times bent	28	m		
D	^^^vertical; girth > 300 mm with 150mm thick insulation, allow for continuing membrane dressed aprox 650mm over top and under flashing (as per OCM Top Level Plantroom Parapet Detail 2 & 5 Drawing Nr. 5614 & 5615)	8	m2		
E	^^^^^^extra over last for 50mm x 50mm tilting / angle fillets	14	m		
F	^^^^^^3mm galvanised steel cavity closer pressing to form support for upstand; formed from 3mm hot-dip galvanised mild steel sheet; cut, pressed and fixed in position prior to installation of upstand; girth 750 - 900mm, 1 times bent	11	m		
G	^^^^^^3mm galvanised steel cavity closer pressing to form support for upstand; formed from 3mm hot-dip galvanised mild steel sheet; cut, pressed and fixed in position prior to installation of upstand; girth 900 - 1050mm, 1 times bent	4	m		
H	^^^vertical; girth > 300 mm with 150mm thick insulation, allow for continuing membrane dressed aprox 280mm over top and under flashing (as per OCM Atrium Strip Details 3 & 4 Drawing Nr. 5616)	106	m2		
J	^^^^^^extra over last for 50mm x 50mm tilting / angle fillets	107	m		
K	^^^^^^3mm galvanised steel cavity closer pressing to form support for upstand; formed from 3mm hot-dip galvanised mild steel sheet; cut, pressed and fixed in position prior to installation of upstand; girth 900 - 1050mm, 2 times bent	64	m		
L	^^^^^^3mm galvanised steel cavity closer pressing to form support for upstand; formed from 3mm hot-dip galvanised mild steel sheet; cut, pressed and fixed in position prior to installation of upstand; girth 1650 - 1800mm, 2 times bent	44	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^horizontal / vertical; girth > 300 mm with 150mm thick insulation, allow for continuing membrane dressed aprox 250mm under flashing both ends (as per OCM Atrium Strip Detail 2 Drawing Nr. 5617)	3	m2		
B	^^^^^^extra over last for 50mm x 50mm tilting / angle fillets	3	m		
C	^^^horizontal / vertical; girth > 300 mm with 150mm thick insulation, allow for continuing membrane dressed aprox 650mm over top up under flashing (as per OCM Atrium Strip Detail 1 Drawing Nr. 5617)	5	m2		
D	^^^^^^extra over last for 50mm x 50mm tilting / angle fillets	3	m		
E	^^^vertical; girth > 300 mm with 80mm thick insulation, allow for continuing membrane dressed aprox 600mm over top and under flashing (as per OCM Stairs Parapet Detail 2 Drawing Nr. 5617)	17	m2		
F	^^^^^^extra over last for 50mm x 50mm tilting / angle fillets	28	m		
G	^^^^^^3mm galvanised steel cavity closer pressing to form support for upstand; formed from 3mm hot-dip galvanised mild steel sheet; cut, pressed and fixed in position prior to installation of upstand; girth 750 - 900mm, 2 times bent	28	m		
H	^^^vertical; girth > 300 mm with 150mm thick insulation, allow for continuing membrane dressed aprox 280mm over top and under flashing (as per OCM Classroom Light Details Drawing Nr. 5618)	33	m2		
J	^^^^^^extra over last for 50mm x 50mm tilting / angle fillets	51	m		
K	^^^^^^3mm galvanised steel cavity closer pressing to form support for upstand; formed from 3mm hot-dip galvanised mild steel sheet; cut, pressed and fixed in position prior to installation of upstand; girth 750 - 900mm, 2 times bent	51	m		
L	^^^vertical; girth > 300 mm with 150mm thick insulation (as per OCM Roof Step in Level Detail 3 Drawing Nr. 5622)	10	m2		
M	^^^^^^extra over last for 50mm x 50mm tilting / angle fillets	13	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^^^^3mm galvanised steel cavity closer pressing to form support for upstand; formed from 3mm hot-dip galvanised mild steel sheet; cut, pressed and fixed in position prior to installation of upstand; girth 900 - 1050mm, 2 times bent	13	m		
B	^^^horizontal / vertical; girth > 300 mm with 150mm thick insulation, allow for continuing membrane dressed aprox 250mm under flashing both ends (as per OCM Step to link roof Detail 2 & 3 Drawing Nr. 5613)	4	m2		
C	^^^^^^extra over last for 50mm x 50mm tilting / angle fillets	9	m		
D	^^^^^^3mm galvanised steel cavity closer pressing to form support for upstand; formed from 3mm hot-dip galvanised mild steel sheet; cut, pressed and fixed in position prior to installation of upstand; girth 600 - 750mm, 2 times bent	8	m		
E	^^^^^^3mm galvanised steel cavity closer pressing to form support for upstand; formed from 3mm hot-dip galvanised mild steel sheet; cut, pressed and fixed in position prior to installation of upstand; girth 900 - 1050mm, 2 times bent	2	m		
F	^^^vertical; girth > 300 mm with 80mm thick insulation (as per OCM Link Access Door Jambs & soffit head Details Drawing Nr. 5613)	5	m2		
G	^^^vertical; girth > 300 mm with 150mm thick insulation including, allow for continuing membrane dressed aprox 650mm over top and under flashing (as per OCM at Plantroom similar to Detail 2 & 5 Drawing Nr. 5614 & 5615)	10	m2		
H	^^^^^^extra over last for 50mm x 50mm tilting / angle fillets	16	m		
J	^^^^^^3mm galvanised steel cavity closer pressing to form support for upstand; formed from 3mm hot-dip galvanised mild steel sheet; cut, pressed and fixed in position prior to installation of upstand; girth 750 - 900mm, 2 times bent	16	m		
K	^^^horizontal / vertical; girth > 300 mm with 150mm thick insulation, allow for continuing membrane dressed aprox 250mm under flashing both ends (as per OCM Junction with existing building Detail 2 & 3 Drawing Nr. 3506)	4	m2		
L	^^^^^^extra over last for 50mm x 50mm tilting / angle fillets	9	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^^^^3mm galvanised steel cavity closer pressing to form support for upstand; formed from 3mm hot-dip galvanised mild steel sheet; cut, pressed and fixed in position prior to installation of upstand; girth 600 - 750mm, 2 times bent	9	m		
B	^^^vertical; girth < or = to 300 mm with membrane dress up and over secondary steel support including 3mm galvanised steel cavity closer pressing to form support for upstand; formed from 3mm hot-dip galvanised mild steel sheet; cut, pressed and fixed in position prior to installation of upstand; girth 300 - 450mm, 1 times bent; with and including 3mm thick aluminium pressing cover flashing dress over upstand; girth < or = to 150mm, 3 times bent; for duct roof penetration as per Detail 2 Drawing Nr. 5622	57	m		
	Flashings				
	Press aluminium metal flashings; 2 or 3mm (ref. Details) coated aluminium strip/sheet, alloy designation EN AW-1050, manufacturer's standard temper, polyester powder coated finish to BS EN 1396 and Z31; in selected colour; individual lengths not exceeding 2m; end-to-end joints lapped not less than 100mm; cover to roofing upstand not less than 75mm; bottom edge welted 15mm; fixed to secondary aluminium frames, U-channels and bracketry; 3mm aluminium butt strap joints at not more than 2m centres; 1.7mm EPDM secondary weathering barrier, unsupported span not exceeding 50mm, mill finished aluminium EPDM carrier plates bridging gaps exceeding 50mm; 80kg/m³ mineral wool insulation backing; fabricated and fixed to provide a secure, free-draining and completely weathertight installation; include for all necessary grounds sealing, EPDM Membranes & seals, sealing stitching and riviting to provider water tight weather seals; all as Specification Clause H72/422.				
	Upstand flashing; 4 times bent				
C	^^^girth 300 - 450mm; as per OCM Detail 1 Drawing Nr. 5604	106	m		
	Drip flashing; 4 times bent				
D	^^^girth 300 - 450mm; as per OCM Detail 1 Drawing Nr. 5605	14	m		
E	^^^girth 900 - 1050mm; as per OCM Details Drawing Nr. 5626	12	m		
F	^^^^^^extra over for working around 280 x 365mm stubs	4	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^girth 600 - 750mm; raking to steps as per OCM Details Drawing Nr. 5626	5	m		
B	^^^girth 300 - 450mm; raking to steps as per OCM Detail 1 Drawing Nr. 5608	5	m		
C	^^^girth 150 - 300mm; as per OCM Detail 3 Drawing Nr. 9232	81	m		
	Drip flashing; 6 times bent				
D	^^^girth 900 - 1050mm; as per OCM Detail 3 Drawing Nr. 9232	81	m		
	Press aluminium metal flashings; 3mm coated aluminium strip/sheet, alloy designation EN AW-1050, manufacturer's standard temper, polyester powder coated finish to BS EN 1396 and Z31; in selected colour; individual lengths not exceeding 2m; end-to-end joints lapped not less than 100mm; cover to roofing upstand not less than 75mm; bottom edge welted 15mm ; fixed to secondary aluminium frames, U-channels and bracketry; 3mm aluminium butt strap joints at not more than 2m centres; 1.7mm EPDM secondary weathering barrier, unsupported span not exceeding 50mm, mill finished aluminium EPDM carrier plates bridging gaps exceeding 50mm; 80kg/m3 mineral wool insulation backing; 3mm galvanised steel cavity closer pressing to parapet substrate where indicated on Architect's drawings with joint overlapped and sealed; 4mm thick aluminium capping support on thermal packers fixed through parapet PFC (to be patched over with EPDM), 2mm aluminium drainage channel fixed to parapet capping down turn with 4mm aluminium rivets; 3mm thick PCC aluminium butt straps at 2.0m c/c where indicated; fabricated and fixed to provide a secure, free-draining and completely weathertight installation; include for all necessary grounds sealing, EPDM Membranes & seals, sealing stitching and riviting to provider water tight weather seals; all as Specification Clause H72/421.				
	Parapet flashing; 6 times bent				
E	^^^girth 1050 - 1200mm; fixed to CLT, as per OCM Detail 1 Drawing Nr. 5605	107	m		
F	^^^girth 1050 - 1200mm; fixed to RC walls, raking, as per OCM Detail 1 Drawing Nr. 5605 (South External Steps)	22	m		
G	^^^girth 1050 - 1200mm; as per OCM Detail 1 Drawing Nr. 5605	13	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^girth 1350 - 1500mm; as per OCM Detail 2 Drawing Nr. 5615	11	m		
B	^^^girth 1350 - 1500mm; as per OCM Detail 1 Drawing Nr. 5615	33	m		
C	^^^girth 1350 - 1500mm; as per OCM Detail 5 Drawing Nr. 5614	4	m		
D	^^^girth 1350 - 1500mm; as per OCM Detail 1 & 2 Drawing Nr. 5603	197	m		
	Parapet flashing; 5 times bent				
E	^^^girth 900 - 1050mm; as per OCM Detail 1 Drawing Nr. 5611	18	m		
F	^^^girth 900 - 1050mm (Existing Arena roof as per Drawing Nr. 5623)	16	m		
	Holes				
	Weather to pipes, stub or opening in roof build-up, include for all weathering, flashing and insulation etc; all in accordance with manufactures instructions				
G	^^^< 0.50 m girth	100	nr		
H	^^^0.50 - 1.00 m girth	50	nr		
J	^^^>1.00m, < or = 2.00m girth	25	nr		
K	^^^1.00 - 2.00 m girth	10	nr		
	Collars around pipes, standards and the like				
L	^^^100 mm diameter, 150 mm high	100	nr		
M	^^^150 mm diameter, 150 mm high	75	nr		
N	^^^250 mm diameter, 150 mm high	25	nr		
	WOODWORK:				
	Structural and First Fixings				
	The following shall be in wrot vac vac treated red deal as per Architects Specification unless otherwise stated; plugged and screwed to precast / in situ concrete floor; include for all necessary fixings, counter sinking and making good with matching pellates; protected for finishes:				
	First fixings				

	Description	Qty	Unit	Rate	Amount
A	^^^120 x 140mm high upstand as per OCM Detail 3 Drawing Nr. 9232	82	m		
B	^^^80 x 45mm high edge bearer as per OCM Detail 3 Drawing Nr. 9232	81	m		
	Boarding and Second Fixing				
	Supply and lay slip-resistant hardwood deck boards, ribbed top profile, 28 x 145mm, in hardwood of density >900 kg/m3 (Bangkirai or similar), FSC or PEFC certified for source and chain of custody; each board incorporating minimum 2no safe strips of high-grip resin-bonded aggregate injected into grooves along the board length; timber treated to achieve the specified fire performance. Boards laid with 4mm gaps, each board spanning not less than two bays with heading joints staggered and butted over supports, fixed by stainless steel screws to and including 120 x 60mm fire resistant timber bearers / battens fixed to rails, onto a proprietary raised paving support system comprising non-combustible adjustable pedestals (steel or equivalent non-combustible metal, zinc nickel electroplated, adjustment range 75–637mm, square 120 x 120mm or circular 170/220mm base to suit substrate, isolation pad under each foot) and recyclable aluminium lattice rail framework spanning up to 1200mm. System to achieve wind uplift resistance ≥6 kPa, concentrated load ≥2.0 kN, UDL ≥4.0 kN/m², system reaction to fire Class B-s3,d2 or better to BS EN 13501-1, deck slip resistance PTV 92 (dry) / 86 (wet) to BS 7976, BRoof(T4) to EN 13501-5:2016, 60-year design life and minimum 30-year system warranty. All perimeter and field units mechanically restrained; final finish visually flush. Substrate to be waterproofed and prepared in accordance with system providers recommendations; as per OCM Specifications Q55/110/657/670				
	Boarding and sheeting				
C	^^^floors, > 300mm wide, as per OCM Details Drawing Nr. 5605, 5609	217	m2		
D	^^^treads, > 300mm wide, as per OCM Details Drawing Nr. 5626 (on structural secondary steel m/e)	5	m2		
E	^^^risers, < or = to 300mm wide, as per OCM Details Drawing Nr. 5626 (on structural secondary steel m/e)	17	m		
	Ironmongery, Accessories and Sundries				
	Seals				

	Description	Qty	Unit	Rate	Amount
	Fire cavity barrier; mineral wool cavity barrier type; mineral wool to BS EN 13162, unfaced plain fibre, 100mm thick, 1200mm lengths, width 81-305mm selected to suit cavity; reaction to fire Euroclass A1 to EN 13501-1; fire resistance up to 120mm integrity and 60 minutes insulation to EN 1366-4; thermal conductivity A=0.035 W/(m.k) to EN 13162; fixed with proprietary MP brackets and all associated fixing; installed continuous and fully sealed to close cavity full depth / height; as per OCM Specification P10/432				
A	^^^60-minute cavity barrier; fixed within cavity, between roof finish and edge of PCC floor; as per OCM Detail 3 Drawing Nr. 5606	12	m		
B	^^^60-minute cavity barrier; fixed within cavity, between cladding and edge of PCC floor; as per OCM Detail 3 Drawing Nr. 5606	31	m		
C	^^^60-minute cavity barrier; fixed within cavity, between RC wall and edge of concrete screed upstand; as per OCM Detail 2 Drawing Nr. 5608	12	m		
D	^^^60-minute cavity barrier; fixed within cavity, top of purlin and underside of metal decking; as per OCM Detail 2 Drawing Nr. 5613	10	m		
E	^^^60-minute cavity barrier; fixed within cavity, top of blockwork and underside of purlin; as per OCM Detail 2 Drawing Nr. 5613	10	m		
F	^^^60-minute cavity barrier; fixed within cavity, top of purlin and underside of metal decking; as per OCM Detail 3 Drawing Nr. 5613	69	m		
G	^^^60-minute cavity barrier; fixed within cavity, between roof finish and edge of PCC floor; as per OCM Detail 3 & 4 Drawing Nr. 5614	13	m		
H	^^^60-minute cavity barrier; fixed within cavity, between flanges of structural steel; as per OCM Detail 5 Drawing Nr. 5614	25	m		
J	^^^60-minute cavity barrier; fixed within cavity, top of blockwork and underside of metal decking; as per OCM Detail 2 Drawing Nr. 5615	5	m		
K	^^^60-minute cavity barrier; fixed within cavity, between roof finish and edge of RC wall; as per OCM Detail 1 Drawing Nr. 5615	5	m		
L	^^^60-minute cavity barrier; fixed within cavity, top of structural steel and underside of metal decking; as per OCM Detail 2 Drawing Nr. 5616	27	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^60-minute cavity barrier; fixed within cavity, top of structural steel and underside of structural steel; as per OCM Detail 2 Drawing Nr. 5616	54	m		
B	^^^60-minute cavity barrier; fixed within cavity, between roof finish; as per OCM Detail A Drawing Nr. 5620	4	m		
C	^^^60-minute cavity barrier; fixed within cavity, top of RC wall and underside of metal decking; as per OCM Detail 3 Drawing Nr. 5621	12	m		
	Linear gap fire seal; gap filler ablative-coated mineral wool rigid batt to P12/365 — high-density stone wool core pre-coated both sides with ablative coating, 60mm thick installed in 2no. layers, tested to BS EN 1366-3/-4 and BS 476-20/22, Certifire tested and CE marked; system fire performance to P12/240 — resistance to fire 60 to 90 minutes integrity and insulation to BS 476-20/-22, reaction to fire Class 0, smoke/air-leakage sealed; batt installed with metal brackets and fixing clamps to fully seal junction, perimeter sealed to wall ope surrounds with intumescent mastic to P12/338; capping sealant colour grey (product on submittal); installed strictly to manufacturer's certified detail.to OCM Architectural Specification clause P12/160				
D	^^^60-minute cavity barrier; fixed within cavity, top of RC wall and underside of structural steel; as per OCM Detail 3 Drawing Nr. 5622	12	m		
E	^^^60-minute cavity barrier; fixed within cavity, top of structural steel and underside of metal decking; as per OCM Detail 3 Drawing Nr. 5622	12	m		
F	^^^60-minute cavity barrier; fixed within cavity, top of RC wall and underside of metal decking; including 15mm thick fire rated plasterboard (K40/404) fixed to underside of metal decking; as per OCM Detail 4 Drawing Nr. 5622	12	m		
	Mineral wool cavity barrier to open ends of profiled metal roof deck (D60 profile), unfaced plain fibre to BS EN 13162, 100mm thick, width 81–305mm to suit deck void, fixed with MP brackets; up to 120 min integrity / 60 min insulation fire resistance to EN 1366-4, reaction to fire Euroclass A1 to EN 13501-1; all to OCM P10 cl.432 and Dwg 5622 item 86				
G	^^^60-minute cavity barrier; fixed to open ends of decking; as per OCM Drawing Nr. 5620	32	m		
H	^^^60-minute cavity barrier; fixed to open ends of decking; as per OCM Drawing Nr. 5620	218	m		

	Description	Qty	Unit	Rate	Amount
	Insulation				
	Acoustic infill to troughs of perforated metal roof deck, tissue-wrapped rockfibre, TATA D60 profile, black, tissue-faced all sides, 60kg/m³, 1200mm lengths; installed directly in troughs to fill completely, joints tightly butted, to OCM J41 cl.633 & cl.111.7 and BS EN ISO 11654; taken to all areas of perforated metal decking per Dwg 5622-V3 item 78				
A	^^^horizontally	1773	m2		
B	^^^vertically	457	m2		
	SURFACE PAVING, FENCING AND LANSCAPING:				
	Pre-formed Paving and Edging Units				
	Concrete paving slabs to BS EN 1339:2003, 600 x 400mm x 80mm thick, pigmented concrete with 50% granite stone aggregate (cement content >390 kg/m³), in one of five natural colours to architect's selection; freeze-thaw durability Class 3 (≤1.0 kg/m² mean, no individual value >1.5 kg/m²); carbon footprint 13.19 $kgCO_2e/m^2$; unpolished skid resistance value (USRV) ≥45; reaction to fire Class A1 or better to BS EN 13501-1. Slabs laid to staggered (stretcher bond) pattern with 2mm open joints, mechanically restrained to rails by concealed clips. All on proprietary raised paving support system comprising non-combustible adjustable pedestals (steel or equivalent non-combustible metal, zinc nickel electroplated, adjustment range 75–637mm, square 120 x 120mm or circular 170/220mm base to suit substrate, isolation pad under each foot) and recyclable aluminium lattice rail framework spanning up to 1200mm, with integral concealed flange-headed mechanical fixings and spacers for wind uplift restraint. System to achieve wind uplift resistance ≥6 kPa, concentrated load ≥2.0 kN, UDL ≥4.0 kN/m², fire performance BRoof(T4) to EN 13501-5:2016, 60-year design life and minimum 30-year system warranty. Perimeter and field units fully restrained; final finish visually flush with concealed fixings throughout; all in accordance with system providers recommendations.				
	Pavings				
C	^^^600 x 400mm x 80mm thick	841	m2		

Description	Qty	Unit	Rate	Amount
COLLECTION				
Page No. BQ/380				
Page No. BQ/381				
Page No. BQ/382				
Page No. BQ/383				
Page No. BQ/384				
Page No. BQ/385				
Page No. BQ/386				
Page No. BQ/387				
Page No. BQ/388				
Page No. BQ/389				
Page No. BQ/390				
Page No. BQ/391				
Page No. BQ/392				
Page No. BQ/393				
Page No. BQ/394				
(47) ROOF FINISHES **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(52) DRAINAGE AND REFUSE DISPOSAL				
	DRAINAGE:				
	Disposal Above Ground				
	SIPHONIC ROOF RAINWATER DRAINAGE				
	Contractors Design Responsibilities				
	The following is a non-exhaustive list of the contractors design responsibilities. Reference should also be made to the design contract specifications.				
	The Contractor will be required to submit detailed proposals for the following systems for review :				
A	The system is performance-designed: with All work to comply with Section R10 and Clasue 230 & 241. Clause 210 requires the designer to complete the design to EN 12056-3 and EN 12056-5 and to submit drawings, calculations and manufacturers' literature.	1	item		
	Design, supply, install, test and commission a complete siphonic roof rainwater drainage system to Section R10, EN 12056-3 and EN 12056-5; including all proprietary siphonic outlets, carrier and tail pipework (HDPE or material to specialist's proposals; electrofusion / butt-welded jointed), brackets and support rail systems to siphonic pipework (including longitudinal restraint/anchor brackets, sliding brackets and rail, fixed to soffit/structure; including fixings, packs and isolation from dissimilar metals (clause 605)), fixings, transition to atmospheric/gravity connection, overflow provision, insulation to internal pipelines and connection to the below-ground drainage; system to operate on siphonic principles and be regularly self-cleansing; pipework airtight at maximum and minimum operating pressures and accommodating thermal movement; all in accordance with the design parameters scheduled (clauses 230 & 241) and the specialist's submitted calculations and drawings. (Contractor-designed / Performance Specified Work.)				
B	^^^150mm diameter pipes, laid horizontal to underside of roof structure including all necessary hangers and fixings	160	m		
C	^^^150mm diameter pipes, laid vertical	50	m		
D	^^^^^^Extra over for 150mm dia. 90 degree bends	9	nr		
E	^^^^^^Extra over for 150 x 150 x 150mm Tees	13	nr		
F	^^^^^^Extra over for 150 mm to 200mm reducer	15	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^200mm diameter pipes, laid horizontal to underside of roof structure including all necessary hangers and fixings	150	m		
B	^^^200mm diameter pipes, laid vertical	30	m		
C	^^^^^^Extra over for 200mm dia. 90 degree bends	15	nr		
D	^^^^^^Extra over for 200 x 200 x 200mm Tees	10	nr		
E	^^^Allow for connection of 200mm diameter siphonic system to below-ground rainwater drainage; including all adaptors, transition fittings and making good.	7	nr		
F	Allowance for design development, hydraulic calculations and manufacturer's commissioning attendance, including air-pressure/leakage testing to clause 905 and submission of test records and maintenance instructions (clause 915).	1	item		
	Roof rainwater outlet; Siphonix SX75 stainless steel Siphonic Roof Outlet, c/w membrane clamp plate, HDPE Air Baffle Lif & Spigot Flexseal Coupling, including for dressing finishes to same and all necessary flashings and the like in strict accordance with the Manufacturers written instructions; jointing to HDPE pipes and all associated fittings, to Architects approval				
G	^^^150mm diameter siphonic RWO; set into Roof Gutter System	15	nr		
H	^^^Allow for 150mm diameter Intumescent fire collar to pipe penetration of fire-rated element; as section P12.	15	nr		
	GRAVITY ROOF RAINWATER DRAINAGE				
	Supply and Install Sealed Kitemark certified PVC-U rainwater pipework to BS EN 1329-1, ring-seal socketed joints, black, min. 10% recycled content to BS EN ISO 14021, black; fixed to underside of slab with galvanised steel rods and fixing clips, chemical anchor fixed at max. 1200 mm centres; All work to comply with Section R10				
J	^^^nominal bore 100mm (DN110); laid horizontal fixed to structure incl. brackets, ring-seal joints; internal	35	m		
K	^^^nominal bore 100mm (DN110); laid vertical	95	m		
L	^^^^^^Extra over for 110mm diameter 22.5 degree bends	2	nr		
M	^^^^^^Extra over for 110mm diameter 45 degree bends	4	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^^^^Extra over for 110mm diameter 90 degree bends	40	nr		
B	^^^^^^Extra over for 110 x 110 x 110mm Tees	5	nr		
C	^^^nominal bore 150mm (DN160); laid horizontal fixed to structure incl. brackets, ring-seal joints; internal	30	m		
D	^^^nominal bore 150mm (DN160); laid vertical	10	m		
E	^^^^^^Extra over for 160mm diameter 90 degree bends	6	nr		
F	^^^^^^Extra over for 160 x 160 x 160mm Tees	5	nr		
G	Connection of siphonic system to below-ground 110mm rainwater drainage; including all adaptors, transition fittings and making good.	17	nr		
H	Connection of siphonic system to below-ground 160mm rainwater drainage; including all adaptors, transition fittings and making good.	3	nr		
	Proprietary Roof rainwater outlet; stainless steel Gravity Roof Outlet, c/w membrane clamp plate, HDPE Air Baffle Lif & Spigot Flexseal Coupling, including for dressing finishes to same and all necessary flashings and the like in strict accordance with the Manufacturers written instructions; jointing to HDPE pipes and all associated fittings, to Architects approval				
J	^^^110mm diameter gravity RWO; set into Roof System	5	nr		
K	^^^110mm diameter gravity RWO; set into Roof Gutter System	8	nr		
L	^^^110mm diameter gravity RWO; cast into concrete steps	3	nr		
M	^^^110mm diameter gravity RWO; cast into base of planter	2	nr		
N	Intumescent fire collar to pipe penetration of fire-rated element; as section P12.	13	nr		
	INSULATION				

	Description	Qty	Unit	Rate	Amount
	Insulation to internal pipelines; preformed flexible mineral fibre split tube, 30 mm thick, thermal conductivity ≤ 0.045 W/m·K, Class 1 / Class CL fire performance; joints sealed with aluminium foil tape (clause 450); fixed after testing (clause 680); include for all necessary trimming and sealing around joints, fittings, supports and the like, as per the manufacturers recommendations and Architects Specification R10				
	Standard Foilfaced Insulation				
	Siiphonic System				
A	^^^150mm diameter pipes, laid horizontal to underside of roof structure including all necessary hangers and fixings	160	m		
B	^^^150mm diameter pipes, laid vertical	50	m		
C	^^^^^^Extra over for 150mm dia. 90 degree bends	9	nr		
D	^^^^^^Extra over for 150 x 150 x 150mm Tees	13	nr		
E	^^^^^^Extra over for 150 mm to 200mm reducer	15	nr		
F	^^^200mm diameter pipes, laid horizontal to underside of roof structure including all necessary hangers and fixings	150	m		
G	^^^200mm diameter pipes, laid vertical	30	m		
H	^^^^^^Extra over for 200mm dia. 90 degree bends	15	nr		
J	^^^^^^Extra over for 200 x 200 x 200mm Tees	10	nr		
	Gravity Drainage				
K	^^^nominal bore 100mm (DN110); laid horizontal fixed to structure incl. brackets, ring-seal joints; internal	35	m		
L	^^^nominal bore 100mm (DN110); laid vertical	95	m		
M	^^^^^^Extra over for 110mm diameter 22.5 degree bends	2	nr		
N	^^^^^^Extra over for 110mm diameter 45 degree bends	4	nr		
P	^^^^^^Extra over for 110mm diameter 90 degree bends	40	nr		
Q	^^^^^^Extra over for 110 x 110 x 110mm Tees	5	nr		
R	^^^nominal bore 150mm (DN160); laid horizontal fixed to structure incl. brackets, ring-seal joints; internal	30	m		

	Description	Qty	Unit	Rate	Amount
A	^^^nominal bore 150mm (DN160); laid vertical	10	m		
B	^^^^^^Extra over for 160mm diameter 90 degree bends	6	nr		
C	^^^^^^Extra over for 160 x 160 x 160mm Tees	5	nr		
	General				
D	Testing, flushing and commissioning of the completed installation; air-pressure test to clause 905 (38 mm water gauge held ≥ 3 minutes without loss); supply of clean water, apparatus and labour; submission of test records (clause 900) and maintenance instructions (clause 915).	1	item		
E	Testing, cleaning and commissioning	1	item		
F	Operating and maintenance manuals	1	item		
G	Working drawings	1	item		
H	Co-ordination drawings	1	item		
J	As built drawings & data books	1	item		
K	Identification plates, labels and the like	1	item		
L	Mock-ups	1	item		
M	End User & Employer demonstrations and training	1	item		
N	Co-ordination of Services	1	item		
P	Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	Downpipes & Fittings to Plant Room Roof Area				
	Rainwater pipework; extruded aluminium, 1.2 mm thick, Agreement certified; polyester powder-coated finish, colour to Architect's detail; jointed and fixed with extruded aluminium pipe clips coated as pipe and stainless steel screws 50 × 5 mm; fixed to cladding all as per the manufacturers written instructions, and as per Architects Specification R10				
	Pipes				
Q	^^^ 76 mm square section aluminium rainwater pipes; fixed to cladding	6	m		
	Extra over pipe on which they occur				
R	^^^^^^fittings; shoes	2	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^^^^fittings; adaptors to gutter outlets (from Flat Roof) - Scupper Outlets	2	nr		
B	^^^^^^fittings; square hoppers	2	nr		
	Channels				
	Linear slot drainage channel; ACO Linear Brickslot or equivalent; channel drain system with stainless steel edge rail and stainless steel single-slot offset finish; roddable PVC-U trap. Class B125 to BS EN 124; manufactured / installed to BS EN 1433:2002; including setting and maintaining in exact position during casting into reinforced concrete floor slab / steps average 300mm thick with 150mm long stainless steel fish tail anchors 150mm long at 500mm centres and at each corner, set 3mm below finished level, laid to falls; BSM L-0002 clause 114 / R12-185				
C	^^^1800mm, straight (South external steps)	1	nr		
D	^^^2400mm, straight (South external steps)	1	nr		
E	^^^2900mm, straight (South external steps)	1	nr		
F	^^^3500mm, straight (South external steps)	1	nr		
G	^^^7100mm, straight (North external steps)	4	nr		
H	^^^^^extra over for ends	16	nr		
J	^^^^^extra over for drain gully connected to last	8	nr		

Description	Qty	Unit	Rate	Amount
COLLECTION				
Page No. BQ/396				
Page No. BQ/397				
Page No. BQ/398				
Page No. BQ/399				
Page No. BQ/400				
Page No. BQ/401				
(52) DRAINAGE AND REFUSE DISPOSAL **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(59) MECHANICAL INSTALLATION				
	(59) MECHANICAL INSTALLATION				
	GENERAL				
A	The following section measured in accordance with ARM4 Supplement 2 - Agreed Alternative Rules for the Measurement of Services Installations.		note		
B	The prices hereunder shall include for all work in the design, execution and testing of mechanical installation in accordance with the Specification.		note		
C	The prices hereunder shall include for the co-ordination of the design and installation of the mechanical installation. The Contractor shall ensure compatibility of design performance and consistency of any design assumptions for the mechanical installation.		note		
D	The work is to be undertaken as a Domestic Sub-Contract to the Main Contractor. The prices hereunder shall be deemed to include for profit, general attendance and special attendances as necessary by the Main Contractor.		note		
E	The Contractors shall read the other Elements of the Bill of Quantities when pricing this section of the project, in particular (but not limited to) Elements (61 - 69) Electrical Installations, (50.1 - 50.3) Site Services Mainly Piped and Ducted, and (00) Temporary Accommodation ???		note		
F	For preliminaries particulars, please refer to tender documentation.		note		
	PREAMBLE				
G	PERFORMANCE / DESIGN-INTENT DRAWINGS ONLY. Working and installation drawings are the Contractors responsibility. Final positions are for guidance and pricing only; exact locations are the Contractors responsibility, coordinated with the Main Contractor and all other trades.		note		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	In the context of any mechanical and electrical drawings issued by JV Tierney, the revision/drawing status "Issued for Construction" is defined as drawings issued at the construction stage of the project and does not in any way imply that the drawings and information is suitable for the purpose of construction. It is the mechanical and electrical sub-contractors responsibility to produce a fully co-ordinated set of working drawings for construction purposes. Refer to mechanical specification clauses 1.17 - 1.19 & electrical specification clause 1.15-1.17.		note		
B	Drawings must not be scaled for installation; read in conjunction with the specification and all other relevant drawings and documents.		note		
C	The Mechanical Services Contractor is fully responsible for all on-site coordination of his own and all other services.		note		
D	All pumps to be 3-phase power supply; each pump installed with isolation valves on inlet & outlet, and a strainer on the inlet unless otherwise indicated.		note		
E	All flow meters to be connected to the BMS; ASHP multichiller controller BMS connection (24Vac / 230V)		note		
F	Include expansion loops on all straight LPHW pipe runs exceeding 20m (refer to detail sheet)		note		
G	Temperature sensors to BMS on MWS / CWS / HWS / HWSR index runs.		note		
H	Water services: all sanitary fittings served from pipework in ceiling space; all pipework in ceilings / stud partitions insulated throughout.		note		
J	Branch connections valved in accessible locations; quarter-turn (Balofix) isolation at each fixture; final positions per Architects room layouts		note		
K	HWR connections to individual fittings to HTM4 limitations; distance from hot outlet to hot return not to exceed 300mm (Legionella prevention).		note		
L	DHW systems to have thermal balancing valves to allow thermal disinfection and manage temperature profiles.		note		
M	WRAS-approved stop-cock drain valve & double check valve on vending-machine MWS feeds; external bib taps frost-proof and drainable from the inner leaf.		note		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Firemans dry riser: twin breach valve connection (outside building), landing valves, air relief valve, drain at lowest point of system.		note		
B	Mains water break tank (MWBT-01) with trapped overflow; packaged cold water booster pump set (MWBP-001); drip trays under tanks.		note		
C	Irrigation tank (300L) with submersible pump and controller - by others / refer to Landscape specification		note		
D	Ventilation: minimum plantroom vent free-area to BS 6644; metal sleeves by the Mechanical Specialist; fire collars on all soil pipes through building fabric.		note		
E	Provide framed opes for the installation of fire & smoke dampers in accordance with DW144; allow 15mm door undercuts; roof cowls with weathering to Architects detail.		note		
F	All access hatches to be fire-rated to maintain the fire rating of the substrate and finished to architectural detail (subject to architectural approval)		note		
G	Acoustic detail at all service penetrations to match or exceed the substrate (Architect / Acoustic Consultant requirements).		note		
	CONTRACTOR DESIGN RESPONSIBILITIES				
	The following is a non-exhaustive list of the contractors design responsibilities. Reference should also be made to the design contract specifications.				
	^^^The Mechanical Contractor will be required to submit detailed proposals for the following systems for review :				
H	^^^Location and detail of drain and vent points and pipework gradients	1	item		
J	^^^Detailed design, supply and installation of all steelwork supports, brackets, hangers, clips etc and any plinths/inertia bases	1	item		
K	^^^Detailed design, location and installation of expansion anchors and guide locations, allowing adequate provision for contraction, hydraulic and building movements including cold draw calculations	1	item		
L	^^^Submit details of all expansion anchors and guides, including fixing details, load and thrust calculations for comment prior to installation	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Sizing, selection and installation of all control valves, commissioning sets and dampers etc including proportioning of mains losses etc, utilising pipe and ductwork layouts as detailed and the selected plant and equipment installed	1	item		
B	^^^Final calculations of all fan and pump heads, based on the final equipment selection and Contractors own, approved installation drawings	1	item		
C	^^^Calculating system water capacities and quantities and chemical additives	1	item		
D	^^^Detailed design and sizing of refrigerant pipework between items of equipment provided as part of the works	1	item		
E	^^^Detailed design of all fire rated ductwork systems including insulation and dampers as necessary to achieve 1 hour rating, in compliance with standards	1	item		
F	^^^Full liaison with the BMS specialist to achieve the specific functions and suit the final system configuration in accordance with the BMS requirements. This shall include the size, selection and installation of inverter drives and field bus cards	1	item		
G	^^^Final locations of: Test points, Control sensors, Pipe connections, Condensate connections, Balancing devices (VCD)	1	item		
H	^^^Final calculation of external resistances for fan coil units, pumps and air handling (HRV	1	item		
J	^^^Checking absorbed power consumptions and where necessary, reselecting fans, Pumps and other components and equipment at full duty against Part L 2017 limits.	1	item		
	<u>Design & Coordination (Design-Portion Responsibility)</u>				
K	Development of the design-intent BIM model to a coordinated construction model (Stage 4b/c per BSRIA BG 6/2018). Mechanical Contractor is LEAD COORDINATOR for the whole M&E coordination process and the finalised coordination drawings.	1	item		
L	Issue of coordinated M&E layouts, sections, clash reports and working BIM model (RVT / IFC / NWC / NWF) to the Design Team a minimum of 6 weeks before commencement of each section.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Confirmation / verification by specialist and manufacturer of the HVRF / AC design (pipe runs, HBC boxes, expansion vessels); pump pressures to be confirmed by the Contractor from actual system pressure drops prior to materials submission.	1	item		
B	Builders Work drawings for all mechanical services derived from the coordinated model	1	item		
	Mechanical Specialists Requiring Design Responsibility / Certification				
C	HVRF / AC specialist (Mitsubishi or equal - HBC package by the same supplier).	1	item		
D	Refrigerant leak-detection specialist.	1	item		
E	ASHP specialist (cascade controller by the same supplier)	1	item		
F	BMS / controls specialist (supply of MCCs / panels / VSDs; commissioning).	1	item		
G	Water treatment / dosing specialist.	1	item		
H	Dry riser / fire suppression interface (with the Fire Engineer).	1	item		
J	Irrigation tank (to the Landscape Architects specification).	1	item		
	DESCRIPTION				
	Provide everything necessary for the proper installation of the Mechanical services system, all in accordance with the Service Engineer Information as issued by JVT Tierney Consulting Engineers; refer to the following documents:				
	Drawings:				
K	MTUHPAC-Z-52-Z-L00-DR-JVT-ME-0001	1	item		
L	MTUHPAC-Z-52-Z-L01-DR-JVT-ME-0001	1	item		
M	MTUHPAC-Z-52-Z-L02-DR-JVT-ME-0001	1	item		
N	MTUHPAC-Z-53-Z-LOO-DR-JVT-ME-OOO1	1	item		
P	MTUHPAC-Z-53-Z-LO1-DR-JVT-ME-OOO1	1	item		
Q	MTUHPAC-Z-53-Z-LO2-DR-JVT-ME-OOO1	1	item		
R	MTUHPAC-Z-55-Z-LOO-DR-JVT-ME-OOO1	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	MTUHPAC-Z-55-Z-LO1-DR-JVT-ME-OOO1	1	item		
B	MTUHPAC-Z-55-Z-LO2-DR-JVT-ME-OOO1	1	item		
C	MTUHPAC-Z-56-Z-L00-DR-JVT-ME-0001	1	item		
D	MTUHPAC-Z-56-Z-L01-DR-JVT-ME-0001	1	item		
E	MTUHPAC-Z-56-Z-L02-DR-JVT-ME-0001	1	item		
F	MTUHPAC-Z-57-Z-L00-DR-JVT-ME-0001	1	item		
G	MTUHPAC-Z-57-Z-L01-DR-JVT-ME-0001	1	item		
H	MTUHPAC-Z-57-Z-L02-DR-JVT-ME-0001	1	item		
J	MTUHPAC-Z-59-Z-ZZZ-DR-JVT-ME-5301	1	item		
K	MTUHPAC-Z-59-Z-ZZZ-DR-JVT-ME-5601	1	item		
L	MTUHPAC-Z-59-Z-ZZZ-DR-JVT-ME-5602	1	item		
M	MTUHPAC-Z-59-Z-ZZZ-DR-JVT-ME-5701	1	item		
N	MTUHPAC-Z-59-Z-ZZZ-DR-JVT-ME-5702	1	item		
P	MTUHPAC-Z-59-Z-ZZZ-DR-JVT-ME-5703	1	item		
Q	MTUHPAC-Z-ZZ-Z-R00-DR-JVT-ME-0001	1	item		
R	MTUHPAC-Z-59-Z-ZZZ-DR-JVT-ME-5101 - BMS Schematic	1	item		
S	MTUHPAC-Z-59-Z-ZZZ-DR-JVT-ME-5102 - BMS Schematic	1	item		
	Schedules:				
T	^^^MECHANICAL SERVICES SCHEDULE - MTUHPAC-Z-Z-Z-ZZZ-SH-JVT-ME-0001	1	item		
U	^^^MECHANICAL SERVICES BUILDERS WORKS SCHEDULE - MTUHPAC-X-X-X-XXX-SH-JVT-BW-0001	1	item		
	Specification:				
V	^^^JVT Mechanical Specification 4353-JVT-XX-XX-SP-M-0001	1	item		
	PRELIMINARIES				
W	^^^For preliminaries particulars, please refer to tender documentation.	1	item		

To Collection €

	Description	Qty	Unit	Rate	Amount
	SPARES				
	Spare Mechanical Items (to be provided within tender)				
A	Suggested: spare mechanical / pump seals, sensors, actuators, damper motors, filters, TMV cartridges, valve spares, and spare BMS field devices.	9	nr		
	PLANT ROOM INSTALLATION (ELEMENT 51)				
	General Items for Plant Room Installation (System)				
B	Plant-room installation – complete supply, install, test and commission the mechanical plant and associated equipment per the Mechanical Services Schedule and drawings; incl. technical submissions, co-ordination, suitability of externally-located plant (IP-rated), painting of plant-room pipework/metalwork, and handover of wiring diagrams to the Electrical Contractor	1	item		
	(Primary Equipment)				
C	Air-source heat pump – inverter monobloc air-to-water, R290 (propane, A3) refrigerant, ErP A++ +, EN 14511/14825, marine-grade casing, manufacturer's controller with BACnet/Modbus (cl. 1.11). (controls confirm R290 (propane) ASHPs – an A3 flammable refrigerant; handling/charge-limit/ventilation to BS EN 378)	1	item		
D	LPHW circulating pump – Type A canned-rotor variable speed, single/twin (cl. 1.5.2).	1	item		
E	LPHW circulating pump – Type B in-line glanded, single/twin (cl. 1.5.3).	1	item		
F	LPHW circulating pump – Type C variable in-line glanded, single/twin (cl. 1.5.4).	1	item		
G	Packaged variable-speed cold-water booster set with pre-wired control panel (cl. 1.7).	1	item		
H	DHW storage cylinder – AISI 316 stainless, 10 bar, PU-insulated, PED (cl. 1.9.1).	1	item		
J	LPHW buffer vessel – carbon steel, 6 bar, PU-insulated, PED (cl. 1.9.2).	1	item		
K	Plate heat exchanger – gasketed demountable, AISI 316 plates, min. 25% spare, PED (cl. 1.10.1).	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Packaged DHW plate heat exchanger (fast heater) skid – HX, twin primary + secondary pumps, 3-way valve, controls (cl. 1.10.2).	1	item		
B	Sectional GRP mains-water break / cold-water storage tank to Byelaw 30, subdivided, level sensors & valves, ladders (cl. 1.8).	1	item		
C	Packaged pressurisation / autofill unit – dual pumps, Cat 5 break tank, controls, BACnet/Modbus (cl. 1.3).	1	item		
D	Factory-fabricated low-loss header with AAV, drain, sensor pockets, insulation (cl. 4.7).	1	item		
	(Accessories associated with Primary Equipment)				
E	Automatic air separator (cl. 4.8).	1	item		
F	Dirt separator with removable magnetic core (cl. 4.8).	1	item		
G	Combined air & dirt separator (cl. 4.8).	1	item		
H	Fabricated carbon-steel dosing pot with isolation on all connections (cl. 4.9).	1	item		
J	Diaphragm expansion vessel – LPHW/CHW, EPDM, PED (cl. 1.4.2).	1	item		
K	Potable-water (DHW) expansion vessel – WRAS (cl. 1.4.1).	1	item		
L	Primary circulation pump where not integral to ASHP (cl. 1.11.1).	1	item		
M	Water meter to IS EN 14154 on mains, BMS-linked (cl. 1.11.3).	1	item		
N	Ultrasonic heat meter to EN 1434 with paired sensors & calculator, BMS-linked, on LPHW/ASHP circuits (cl. 1.11.4).	1	item		
	(Distribution System)				
P	Note All joints/fittings in running lengths, brackets, supports, couplers, sleeves, wall/floor plates, anchors, expansion loops/bellows, cutting and marking-out are deemed included (Supp.2 p.7)		note		
Q	Plant-room LPHW/CHW interconnecting distribution pipework and final connections to all plant, insulated (Sec 13), all as drawings and cl. 4.3.	1	item		
R	Connections to irrigation tank (tank by others) (cl. 4.1).	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Gunmetal drain cock with hose union on flow/return of each circuit (cl. 4.4).	1	item		
B	100mm bi-metal dial thermometer in pocket, 0–120°C (cl. 4.5).	1	item		
C	100mm dial pressure gauge to BS EN 837-1 with isolation (cl. 4.6).	1	item		
	(Insulation)				
D	Thermal insulation of plant-room pipework and hot-water vessels.	1	item		
	(General) – testing, commissioning & documentation (cl. 4.14–4.15, 1.2)				
E	Hydraulic pressure test of plant-room pipework, held ≥24h drop-tight; flush & seal (cl. 4.14).	1	item		
F	Clean, flush, fill and chemically dose the LPHW system (approved inhibitor), incl. two fills where required (cl. 1.2).	1	item		
G	Balancing & regulating; engraved valve discs and heat-sealed valve chart in glazed frame (cl. 4.15).	1	item		
H	Commissioning, O&M manuals and record drawings.	1	item		
	General Items as per ARM4 Supplement 2				
J	^^^Testing and commissioning	1	item		
K	^^^Flushing & Sterilisation of water carrying systems prior to handover	1	item		
L	^^^Operating and maintenance manuals	1	item		
M	^^^Working drawings	1	item		
N	^^^Co-ordination drawings	1	item		
P	^^^As built drawings & data books	1	item		
Q	^^^Identification plates, labels and the like	1	item		
R	^^^Mock-ups	1	item		
S	^^^Staff demonstrations and training	1	item		
T	^^^Recommissioning of all systems following one full year of operation	1	item		
U	^^^Co-ordination of Services	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Decommissioning and removal of all redundant services	1	item		
B	^^^Builders work	1	item		
C	^^^Fire stopping and other associated fire protection work	1	item		
D	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	SYSTEM - DRAINAGE INSTALLATION - SOILS & WASTES SERVICES (ELEMENT 52)				
	General Notes - Drainage Services as outlined on Drawing Nrs. MTUHPAC-Z-52-Z-L00-DR-JVT-ME-0001, MTUHPAC-Z-52-Z-L01-DR-JVT-ME-0001, and MTUHPAC-Z-52-Z-L02-DR-JVT-ME-0001.				
E	The contractor shall include for all necessary 110mm SVP boss branches and SVP tapping collars, as required to complete the new installations.		note		
F	The contractor shall include for supply, install and connecting traps to all WCs, washbasins, sinks and shower trays etc as required.		note		
G	All soil/waste pipes greater than 50mm shall be fire stopped where passing through fire rated structure to an integrity matching same. 100mm and above shall have a fire collar/wrap		note		
H	The contractor shall extend all SVP/stacks to roof level as required and shall terminate same in cowl, 400mm above adjacent roof level.		note		
J	Cleaning eyes shall be provided on all waste and soil branch connections where practical.		note		
K	Rodding access shall be provided on all SVPs/stacks rising through the building, installed at a height of 1.5m metres above the finished floor level where practical. Minimum 400x400mm access hatches shall be installed local to all internal SVP branch connections and associated stack cleaning eyes where practical.		note		
L	The complete installation with exception of fixture connection shall be solvent welded MuPVC/uPVC throughout. The contractor shall coordinate this aspect with the design team in advance of commencing the installation.		note		
M	Access to be provided to branch cleaning eyes/rodding positions in voids where practical.		note		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	All SVP stacks and exposed horizontal main runs shall be insulated where practical.		note		
B	Soils and waste from the WHB and showers shall be as per the mock-up on site and will connect to dedicated ground floor stack.		note		
C	Soils and waste from upper floors to connect to rising stack.		note		
D	All air conditioning condensate waste pipes shall be fitted with HepvO traps.		note		
E	For mechanical equipment details, see mechanical schedule document.		note		
F	All internal soil and waste stacks to be insulated refer to mechanical specification.		note		
G	Soil and waste pipework shall be tested to BS 5572 / BS EN 12056		note		
	General Items for Drainage Soil & Waste Services (System)				
H	Above-ground soil, waste and vent installation – complete supply, install, test and commission; incl. technical submissions, co-ordination with drainage from manholes, final waste connections to all sanitary ware and to white goods/kitchen equipment, and slung basement drainage. (spec. cl. 5.1/5.12).	1	item		
	Above ground soils and waste drainage installation in accordance with the drawings and specifications; Terminal equipment and fittings; Installation of free issue sanitary ware				
	Final Connections to Sanitary Fittings				
J	^^^Final connection to WC and cistern	20	nr		
K	^^^Final connection to Accessible WC and cistern	5	nr		
L	^^^Final connection to wash hand basin including tap	18	nr		
M	^^^Final connection to Accessible wash hand basin including tap	5	nr		
N	^^^Final connection to cleaners sinks including tap	1	nr		
P	^^^Final connection to Lab-room sink including tap	5	nr		
Q	^^^Final connection to staff-room sink including tap	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Final connection to water drinking fountain including tap	2	nr		
B	^^^Final connection to staff-room DW including tap	1	nr		
C	^^^Final connection to showers etc. including shower head and fittings	4	nr		
D	^^^Final connection to Accessible showers etc. including shower head and fittings	2	nr		
E	^^^Final connection to FG - Floor Gullies	7	nr		
F	^^^Final connection to Builders Upstands - 50mm diameter	10	nr		
G	^^^Final connection to Builders Upstands - 100mm diameter	12	nr		
H	^^^Final connection to AHU Unit (Condensate Drain)	1	nr		
J	^^^Final connection to AC Units (Condensate Drain)	1	nr		
K	^^^Final connection to Fan Coil Units (FCU) (Condensate Drain)	34	nr		
L	^^^Final connection to Branch Controller Units (BCU) (Condensate Drain)	5	nr		
M	^^^Final connection to Soil Vent Pipe (SV) - 50mm diameter	5	nr		
N	^^^Final connection to Soil Vent Pipe (SV) - 110mm diameter	20	nr		
P	^^^Final connection to Vent Pipe (VP) - 50mm diameter	3	nr		
Q	^^^Final connection to Vent Pipe (VP) - 110mm diameter	1	nr		
	Installation of Sanitary Fittings				
R	^^^Installation of WC and cistern	20	nr		
S	^^^Installation of Accessible WC and cistern	5	nr		
T	^^^Installation of wash hand basin including tap	18	nr		
U	^^^Installation of Accessible wash hand basin including tap	5	nr		
V	^^^Installation of cleaners sinks including tap	1	nr		
W	^^^Installation of Lab-room sink including tap	5	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Installation of staff-room sink including tap	1	nr		
B	^^^Installation of staff-room DW (Dishwasher) including fittings etc.	1	nr		
C	^^^Final connection to water drinking fountain including tap	2	nr		
D	^^^Installation of showers etc. including shower head and fittings	4	nr		
E	^^^Installation of Accessible showers etc. including shower head and fittings	2	nr		
F	^^^Installation of FG - Floor Gullies	7	nr		
	Accessories associated with terminal equipment and fittings				
	Drainage accessories associated terminal equipment and fittings in accoradance with drawings and specifications				
	Fittings, Access & Terminals (cl. 5.2, 5.7–5.11)				
G	^^^Access / clean-out door for internal cleaning, at bends, branches, each floor level and ≤ every 10m, not smaller than the pipe (cl. 5.2/5.7).	1	item		
H	^^^Cleaning eye on bends, of approved design, not less than pipe diameter (cl. 5.7).	1	item		
J	^^^Rodding eye on waste branches to WHBs and urinals (cl. 5.8).	1	item		
K	^^^Soil/vent terminal extended to roof, weathered sleeve, cowl and wire/bird guard, projecting ≥400mm above roof (cl. 5.9).	1	item		
L	^^^Self-sealing waste valve on all showers and wash-hand basins prior to soil-stack connection (cl. 5.1).	1	item		
M	^^^Deep-seal (75mm) polypropylene trap – tubular to sinks/WHBs/urinals; bottle trap to exposed WHBs (cl. 5.10).	1	item		
N	^^^PP floor gully, trapped and inspectable, with swivel/grommet horizontal connection and stainless-steel grid (Valsir VS0700368 or equal) (cl. 5.1).	1	item		
P	^^^150 x 150 stainless-steel dry-seal floor gully (cl. 5.11).	1	item		

	Description	Qty	Unit	Rate	Amount
A	^^^Legionella protection device / arrestor to CWST and WC overflow pipes discharging to atmosphere (cl. 5.2).	1	item		
B	Intumescent fire collar (ETA 17/0879, up to EI 240 / BS 476-20), metal-framed, at fire-compartment penetrations (horizontal & vertical) (cl. 5.1/5.6).	1	item		
	Distribution System				
	Soils and wastes pipework and fittings installations in accordance with Specifications and Drawings Nrs. MTUHPAC-Z-52-Z-L00-DR-JVT-ME-0001, MTUHPAC-Z-52-Z-L01-DR-JVT-ME-0001, and MTUHPAC-Z-52-Z-L02-DR-JVT-ME-0001 (to spec. cl. 5.2, 5.4				
C	Allow for Pipework and fittings by material and nominal size; incl. brackets/supports (zinc-plated MS to BS 5372 / BS EN 12056-2), solvent-weld / ring-seal / mechanical joints, cutting and jointing.		item		
D	^^^PVC-U soil pipework to BS 4514, ring-seal / solvent-weld jointed, 82mm dia.	1	item		
E	^^^PVC-U soil pipework to BS 4514, 110mm dia.	1	item		
F	^^^PVC-U soil pipework to BS 4514, 160mm dia.	1	item		
G	^^^MuPVC waste pipework to BS EN 1329-1, solvent-weld jointed, 32mm dia.	1	item		
H	^^^MuPVC waste pipework to BS EN 1329-1, 40mm dia.	1	item		
J	^^^MuPVC waste pipework to BS EN 1329-1, 50mm dia.	1	item		
K	^^^Socketless cast-iron pipework to BS EN 877 (basement / mechanical-damage areas), flexible mechanical joints, 75–100mm.	1	item		
L	^^^Socketless cast-iron pipework to BS EN 877, 150mm.	1	item		
M	^^^Allow and include for all necessary pipe fittings (bends, branches, boss branches, adaptors)	1	item		

	Description	Qty	Unit	Rate	Amount
	Insulation				
	Soils and wastes pipework and fittings installations in accordance with Specifications and Drawings Nrs. MTUHPAC-Z-52-Z-L00-DR-JVT-ME-0001, MTUHPAC-Z-52-Z-L01-DR-JVT-ME-0001, and MTUHPAC-Z-52-Z-L02-DR-JVT-ME-0001 (to spec. cl. 5.2, 5.4)				
	Insulation to Pipework - Foil-backed acoustic rigid sectional fibreglass insulation (Class A1), 25mm thick, to all soil pipework ≥80mm dia. for acoustic purposes (cl. 5.3).				
A	^^^PVC-U soil pipework to BS 4514, ring-seal / solvent-weld jointed, 82mm dia.	1	item		
B	^^^PVC-U soil pipework to BS 4514, 110mm dia.	1	item		
C	^^^PVC-U soil pipework to BS 4514, 160mm dia.	1	item		
D	^^^MuPVC waste pipework to BS EN 1329-1, solvent-weld jointed, 32mm dia.	1	item		
E	^^^MuPVC waste pipework to BS EN 1329-1, 40mm dia.	1	item		
F	^^^MuPVC waste pipework to BS EN 1329-1, 50mm dia.	1	item		
G	^^^Socketless cast-iron pipework to BS EN 877 (basement / mechanical-damage areas), flexible mechanical joints, 75–100mm.	1	item		
H	^^^Socketless cast-iron pipework to BS EN 877, 150mm.	1	item		
J	^^^Allow 50mm rigid foil-backed fibreglass to concealed stacks/main horizontal runs where the acoustic/fire performance of the system is not achieved (cl. 5.1).	1	item		
	Testing & Identification (cl. 5.2, 5.13)				
K	^^^Air test of all pipework to 100mm W.G. held 5 minutes, floor-to-floor as work proceeds, to BS EN 12056-2, incl. temporary traps on each stack and witnessed test certificates (cl. 5.13).	1	item		
L	^^^Typed labels (service, level, grid reference) with transparent protective covers to all services and termination points (cl. 5.2).	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	General as per ARM4 Supplement 2				
A	^^^Testing and commissioning	1	item		
B	^^^Operating and maintenance manuals	1	item		
C	^^^Working drawings	1	item		
D	^^^Co-ordination drawings	1	item		
E	^^^As built drawings & data books	1	item		
F	^^^Identification plates, labels and the like	1	item		
G	^^^Mock-ups	1	item		
H	^^^Staff demonstrations and training	1	item		
J	^^^Recommissioning of all systems following one full year of operation	1	item		
K	^^^Co-ordination of Services	1	item		
L	^^^Builders work	1	item		
M	^^^Fire stopping and other associated fire protection work	1	item		
N	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	WATER SERVICES (COLD WATER, HOT WATER & HOT WATER RETURN) (ELEMENT 53)				
	General Notes - Water Services as outlined on Drawing Nrs. XXX				
P	Location of all pipework drops to be confirmed prior to installation.		note		
Q	All drops to be within stud partitions where possible.		note		
R	Separate stop cocks shall be provided to isolate each fitting.		note		
S	Provide manual air vents at all high points. Provide drains at all low points.		note		
T	Architects drawings must be referred to for exact position of all equipment.		note		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	All flexi connections to be braided stainless steel and a maximum length of 200mm.		note		
B	Hot & cold water services pipework to be copper to I.S 238, 1980 to be suitable for compression fitting or bronze welding.		note		
C	All sanitary work to be supplied by 15Ømm pipes, unless otherwise stated.		note		
D	Refer to schematics for valve requirements and connection details.		note		
E	Dynamic valves to be provided on all outlets.		note		
F	Any TMV can only serve a maximum of 2No. WHB.		note		
G	Connection of wastewater at the extraction points directly into downpipes, collection pipes and ground lines (wastewater).		note		
H	All water distribution and hot water pipes and fittings must be fitted with insulation to avoid the formation of condensate and loss of heat.		note		
J	Insulation thickness for the water distribution network (water pipes including fittings) in accordance with regulations and/or technical requirements.		note		
K	The expansion compensation of the pipes be ensured by fitting expansion joints every 30m of pipe.		note		
	General Water Services (System)				
L	Water services installation – hot, cold, HWR and mains water; complete supply, install, test and commission; incl. technical submissions, Legionella-prevention design (HTM 04-01, IS EN 806), dead-leg avoidance, design responsibility for anchors/expansion/trace-heating with CIF certification, cleaning of exposed copper, and colour-banded labelling.	1	item		
	Primary Equipment (which include boiler, main storage tank. ahu, fan etc.)				
	Hot and cold water services primary equipment in accordance with JVT Drawings and Specification 4353-JVT-XX-XX-SP-M-0001				
	Water Storage Tank				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	CWT-01 - sectional cold water tank, 2000 x 2500 x 2000mm, nominal capacity 10,000 litres (8,900 litres actual), c/w divider plate, drip tray & overflow (L2 Tank Room)	1	nr		
B	BWT-01 - sectional mains water break tank, 1000 x 1000 x 1500mm, nominal capacity 1,500 litres (1,000 litres actual), c/w divider plate, drip tray & overflow (L2 Tank Room)	1	nr		
	Hot Water Tank				
C	HWST -01- size 650 x 2320mm, nominal capacity 500 litres, 40 deg C storage temperature, immersion 9kW (second floor plantroom)	1	nr		
D	HWST-02 - size 650 x 2320mm, nominal capacity 500 litres, 60 deg C storage temperature, immersion 9kW (Second Floor Plantroom)	1	nr		
	Irrigation System				
E	300 Litre Irrigation Storage Tank complete with submersible pump and controller to Landscape Architects Specification (by others / specialist supplier & contractor)	1	item		
	Accessories associated with primary equipment (which include controls, valves, pumps, other)				
F	Hot and cold accessories associated with primary equipment in accordance with JVT Drawings and Specification 4353-JVT-XX-XX-SP-M-0001		noid		
	Pump schedule (water services)				
G	CWBP-001 - CWS booster pump set (3 pump, duty & assist & assist), 2.40 l/s, 380 kPa, 3-phase, WRAS approved (Plant Room)	1	nr		
H	MWBP-001 - MWS booster pump set (2 pump, duty & assist), 0.60 l/s, 250 kPa, single phase, WRAS approved (Plant Room)	1	nr		
J	HWSR-01 - DHWS return pump, single head/variable speed, 0.62 l/s, 75 kPa, single phase (Plant Room)	1	nr		
K	HWSP-01 - HWS pasteurisation pump, single head, 0.63 l/s, 40 kPa, single phase (Plant Room)	1	nr		
	Pump schedule (LPHW services)				
L	P-01 A & B - LPHW Circuit 1 (Radiators), duty & standby/variable speed, 1.50 l/s, 160 kPa, single phase (Plant Room)	2	nr		

	Description	Qty	Unit	Rate	Amount
A	P-02 A & B - LPHW Circuit 2 (Radiant Panels), duty & standby/variable speed, 6.00 l/s, 230 kPa, single phase (Plant Room)	2	nr		
B	P-03 A & B - LPHW Circuit 3 (Heater Battery & Trench Heaters), duty & standby/variable speed, 0.50 l/s, 120 kPa, single phase (Plant Room)	2	nr		
	Water & heat meters				
C	WM-01 - pulse type water meter, mains water supply, 0.9 l/s, 42mm pipe (Plant Room)	1	nr		
D	WM-02 - pulse type water meter, cold water supply, 2.4 l/s, 67mm pipe (Plant Room)	1	nr		
E	WM-03 - pulse type water meter, cold feed to DHW tank, 1.29 l/s, 54mm pipe (Plant Room)	1	nr		
F	WM-04 - pulse type water meter, irrigation system, 0.3 l/s, 22mm pipe (Plant Room)	1	nr		
G	HM-01 - ultrasonic heat meter, LPHW — ASHPs, 1.7 l/s, 50mm pipe (Plant Room)	7	nr		
H	HM-02 - ultrasonic heat meter, LPHW — radiator circuit, 1.3 l/s, 50mm pipe (Plant Room)	1	nr		
J	HM-03 - ultrasonic heat meter, LPHW — radiant panel circuit, 5.2 l/s, 100mm pipe (Plant Room)	1	nr		
K	HM-04 - ultrasonic heat meter, LPHW — heater battery & trench heaters, 0.43 l/s, 32mm pipe (Plant Room)	1	nr		
L	HM-05 - ultrasonic heat meter, LPHW — HEX-01 loop, 1.7 l/s, 50mm pipe (Plant Room)	1	nr		
M	HM-06 - ultrasonic heat meter, LPHW — HEX-02 loop, 1.2 l/s, 65mm pipe (Plant Room)	1	nr		
	Controls				
N	Building management system (BMS)	1	item		
P	Temperature stat (T)	1	nr		
Q	Room stat (RS)	1	nr		
R	Temperature gauze (TI)	4	nr		
S	Pipe inline temperature sensor pressure (TT)	3	nr		
T	Pressure gauze (PI)	2	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	High pressure switch (HP)	3	nr		
B	Low pressure switch (LP)	3	nr		
C	Differental pressure sensor (DP)	4	nr		
D	Temperature Sensor (TS)	6	nr		
E	Pump (triangle green)	4	nr		
F	Electrical heater	2	nr		
G	Drain	2	nr		
H	Pressure Sensor (PS)	2	nr		
J	Control panel (Packaged cold water booster pump - MWBP-001)	1	nr		
K	Control panel (Packaged cold water booster pump - CWBP-001)	1	nr		
L	Control panel (HEX-02)	1	nr		
M	Control panel (HEX-01)	1	nr		
N	Expansion Vessel on By-Pass Water Pipework System from HWST-01 & 02	1	nr		
	Primary (Plantroom)				
	Mains cold water (1 - Dark Blue Solid)				
	Isolating valve				
P	22mm diameter	7	nr		
Q	35mm diameter	6	nr		
R	42mm diameter	2	nr		
	Lock sheild valave				
S	42 mm diameter	1	nr		
	Meter (WM)				
T	22mm diameter	1	nr		
U	42mm diameter	1	nr		
	Single head pump (VFD)				
V	35mm diameter	2	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Non return valve				
A	22mm diameter	3	nr		
B	35mm diameter	3	nr		
	Drain cock				
C	15mm diameter	1	nr		
	Domestic cold water supply (2 - Light Blue Solid)				
	Isolating valve				
D	54mm diameter	8	nr		
E	67mm diameter	12	nr		
F	15mm diameter	1	nr		
	Isolating valve (straight T)				
G	54mm diameter	1	nr		
	Drain cock				
H	54mm diameter	1	nr		
J	15mm diameter	3	nr		
	Non return valve				
K	67mm diameter	3	nr		
L	54mm diameter	4	nr		
M	54mm diameter	2	nr		
	Meter (WM/01)				
N	54mm diameter	1	nr		
P	Preassure release wave	1	nr		
Q	15mm diameter	1	nr		
R	Single head pump (VFD)	1	nr		
S	67mm diameter	3	nr		
	Meter (WM/02)				
T	67mm diameter	1	nr		
	Domestic hot water return (3 - Pink Dashed)				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Isolating valve				
A	35mm diameter	2	nr		
	Non return valve				
B	35mm diameter	2	nr		
	Strainer				
C	35mm diameter	1	nr		
D	Anti vacumm vent	1	nr		
E	15mm diameter	1	nr		
	Automatic air vent				
F	15mm diameter	1	nr		
G	Pressure release wave	1	nr		
H	15mm diameter	1	nr		
	Single head pump				
J	35mm diameter	1	nr		
	Domestic hot water supply (4 - Red Solid)				
	Non return valve				
K	54mm diameter	2	nr		
	Isolating valve				
L	54mm diameter	13	nr		
M	67mm diameter	3	nr		
N	54mm diameter	1	nr		
P	64mm diameter	1	nr		
	Drain cock				
Q	15mm diameter	2	nr		
	Dry Riser (Pink - Solid)				
	Isolation / Drain valve				
R	100mm diameter	1	nr		
	Dry riser landing valve				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	65mm diamter	3	nr		
	Air relief valve				
B	100mm diameter	1	nr		
	Air valve				
C	100mm diameter	1	nr		
	Fire mains Dry Riser Twin Breach Valve Connection				
D	100mm diameter	1	nr		
	Controls - BMS System				
E	Temperature Stats (T) - (End-of-line thermostat recording HWS temperature, linked to BMS (cl. 1.11.17).	19	nr		
	Irrigation System				
F	42mm Isolation Valve	1	nr		
G	Overflow	1	nr		
H	Pipe inline temperature sensor pressure (TT)	1	nr		
J	High pressure switch (HP)	1	nr		
K	Low pressure switch (LP)	1	nr		
L	Single Head Pump 42mm diameter	1	nr		
	Terminal Equipment and fittings (which include Rads, Taps, Grilles, Other)				
	Hot and cold terminal equipment and fittings in accordance with JVT Drawings and Specification 4353-JVT-XX-XX-SP-M-0001				
M	^^^Final connection (cold) to WC and cistern	20	nr		
N	^^^Final connection (cold) to Accessible WC and cistern	5	nr		
P	^^^Final connection (hot & cold) to wash hand basin including tap	18	nr		
Q	^^^Final connection (hot & cold) to Accessible wash hand basin including tap	5	nr		
R	^^^Final connection (hot & cold) to cleaners sinks including tap	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Final connection (hot & cold) to Lab-room sink including tap	5	nr		
B	^^^Final connection (hot & cold) to staff-room sink including tap	1	nr		
C	^^^Final connection (cold) to water drinking fountain including tap	2	nr		
D	^^^Final connection (hot & cold) to staff-room DW including tap	1	nr		
E	^^^Final connection (hot & cold) to showers etc. including shower head and fittings	4	nr		
F	^^^Final connection (hot & cold) to Accessible showers etc. including shower head and fittings	2	nr		
	Accessories associated with terminal equipment and fittings (which include Valves, Thermostats, Controls, Other)				
	Hot and cold accessories associated terminal equipment and fittings in accordance with JVT Drawings and Specification 4353-JVT-XX-XX-SP-M-0001				
	Mains cold water (1 - Dark Blue Solid)				
	Isolating valve				
G	15mm diameter	23	nr		
H	22mm diameter	3	nr		
	Non return valve (NRV)				
J	15mm diameter	6	nr		
	Domestic cold water supply (2 - Light Blue Solid)				
	Isolating valve				
K	15 mm diameter	84	nr		
L	22mm diameter	12	nr		
M	28mm diameter	4	nr		
N	35mm diameter	7	nr		
P	42mm diameter	2	nr		
	Double regulating valve				

	Description	Qty	Unit	Rate	Amount
A	35mm diameter	1	nr		
	Pressure reducing valve				
B	22mm diameter	1	nr		
C	35mm diameter	2	nr		
D	42mm diameter	1	nr		
	Thermostatic Valve (TMV3) - Max output Temp. 42degrees complete with NRV/Check Valves & Strainers				
E	15mm diameter	23	nr		
F	15mm diameter	6	nr		
	Domestic hot water return (3 - Pink Dashed)				
	Isolating valve				
G	22 mm diameter	7	nr		
H	28mm diameter	1	nr		
	Pressure reducing valve				
J	22mm diameter	1	nr		
	Temperature Balancing Valve (TBV)				
K	15mm diameter	56	nr		
L	22 mm diameter	1	nr		
	Double regulating valve				
M	15mm diameter	1	nr		
N	22mm diameter	8	nr		
P	28mm diameter	1	nr		
	Lock shield valve				
Q	15mm diameter	29	nr		
	Domestic hot water supply (4 - Red Solid)				
	Isolating valve				
R	15mm diameter	68	nr		
S	22mm diameter	10	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	28mm diameter	6	nr		
B	35mm diameter	8	nr		
C	42mm diameter	2	nr		
	Preassure reducing valve				
D	28mm diameter	1	nr		
E	35mm diameter	3	nr		
F	42mm diameter	1	nr		
	Float-operated (ball) valve to BS 1212 with silencer (cl. 1.11.14).				
G	15mm diameter	10	nr		
H	22mm diameter	10	nr		
J	Venturi flow-splitter balancing valve on CWS (anti-stagnation) (cl. 1.11.17).		noid		
K	15mm diameter	10	nr		
L	22mm diameter	10	nr		
	Drinking Water Fountain Isolation Valve				
M	15mm diameter	2	nr		
	Drinking Water Fountain Double Non-Return Valve for backflow prevention				
N	15mm diameter	4	nr		
	Drinking Water Fountain Locksheild Valve				
P	15mm diameter	2	nr		
	Distribution System (which include pipework, ductwork)				
	Hot and cold pipework installations - Copper distribution pipework (MWS/CWS/HWS/HWR) – hard-drawn seamless to IS EN 1057, DZR fittings to IS EN 1254, brazed/soldered, concealed; all sizes, unions, flanges (>54mm), anchors and sleeves including all joints/fittings in running lengths, brackets, supports, couplers, sleeves, wall/floor plates, anchors, expansion loops/bellows, cutting and marking-out all in accordance with JVT Drawings and Specification 4353-JVT-XX-XX-SP-M-0001 - cl. 6.2.				

	Description	Qty	Unit	Rate	Amount
	Mains cold water supply (MCW)				
A	15mm diameter	1	item		
B	22mm diameter	1	item		
C	28mm diameter	1	item		
D	32mm diameter	1	item		
E	35mm diameter	1	item		
F	42mm diameter	1	item		
	Domestic cold water supply (DCWS)				
G	15mm diameter	1	item		
H	22mm diameter	1	item		
J	28mm diameter	1	item		
K	35mm diameter	1	item		
L	42mm diameter	1	item		
M	54mm diameter	1	item		
N	67mm diameter	1	item		
P	Domestic hot water flow (DHWF)				
Q	15mm diameter	1	item		
R	22mm diameter	1	item		
S	28mm diameter	1	item		
T	35mm diameter	1	item		
U	42mm diameter	1	item		
V	54mm diameter	1	item		
	Domestic hot water return (DHWR)				
W	15mm diameter	1	item		
X	22mm diameter	1	item		
Y	28mm diameter	1	item		
Z	35mm diameter	1	item		
AA	54mm diameter	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Irrigation water supply (Specialist System)				
A	42mm diameter	1	item		
	Fire Fighting Dry Riser (FIDR)				
B	65mm diameter	1	item		
C	100mm diameter	1	item		
D	Allow for Electrical trace heating (12 W/m) to external CWS without frost protection, with ambient thermostat (cl. 6.18) - Note Electrical connection by electrical contractor.	1	item		
	Insulation (to pipework, ductwork)				
	Hot and cold pipework thermal insulation installations to all water services pipework in accordance with JVT Drawings and Specification 4353-JVT-XX-XX-SP-M-0001				
	Mains cold water supply (MCW)				
E	15mm diameter	1	item		
F	22mm diameter	1	item		
G	28mm diameter	1	item		
H	32mm diameter	1	item		
J	35mm diameter	1	item		
K	42mm diameter	1	item		
	Domestic cold water supply (DCWS)				
L	15mm diameter	1	item		
M	22mm diameter	1	item		
N	28mm diameter	1	item		
P	35mm diameter	1	item		
Q	42mm diameter	1	item		
R	54mm diameter	1	item		
S	67mm diameter	1	item		
	Domestic hot water flow (DHWF)				
T	15mm diameter	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	22mm diameter	1	item		
B	28mm diameter	1	item		
C	35mm diameter	1	item		
D	42mm diameter	1	item		
E	54mm diameter	1	item		
	Domestic hot water return (DHWR)				
F	15mm diameter	1	item		
G	22mm diameter	1	item		
H	28mm diameter	1	item		
J	35mm diameter	1	item		
K	54mm diameter	1	item		
	Irrigation water supply (Specialist System)				
L	42mm diameter	1	item		
	Fire Fighting Dry Riser (FIDR)				
M	65mm diameter	1	item		
N	100mm diameter	1	item		
	(General) – testing, disinfection & documentation (cl. 6.19)				
P	Hydraulic pressure testing to BSRIA TR/6, separately for mains/CWS/HWS/HWR and for pipework in ceilings & partitions per floor; witnessed certificates (cl. 1.11.18).	1	item		
Q	Filling, flushing and sterilisation/chlorination of the entire installation twice, by accredited specialist, to BS 6700 (cl. 1.11.20).	1	item		
R	Water-temperature verification survey to HTM 04-01 Part A (cl. 1.11.19); HWS supply/return balancing to min. 60°C (cl. 1.11.21).	1	item		
S	Routine flushing regime of completed (not handed over) areas – twice weekly (cl. 1.11.22).	1	item		
T	Bacteriological and chlorination tests of mains (cl. 1.11.23/1.11.24); commissioning to CIBSE Code M, O&M and record drawings (cl. 6.19).	1	item		

To Collection €

	Description	Qty	Unit	Rate	Amount
A	Cold-water booster set, break/storage tanks and DHW storage – measured in Element 51 (Plant Room).	1	item		
	General Items as per ARM4 Supplement 2				
B	^^^Testing and commissioning	1	item		
C	^^^Flushing & Sterilisation of water carrying systems prior to handover	1	item		
D	^^^Operating and maintenance manuals	1	item		
E	^^^Working drawings	1	item		
F	^^^Co-ordination drawings	1	item		
G	^^^As built drawings & data books	1	item		
H	^^^Identification plates, labels and the like	1	item		
J	^^^Mock-ups	1	item		
K	^^^Staff demonstrations and training	1	item		
L	^^^Recommissioning of all systems following one full year of operation	1	item		
M	^^^Co-ordination of Services	1	item		
N	^^^Decommissioning and removal of all redundant services	1	item		
P	^^^Builders work	1	item		
Q	^^^Fire stopping and other associated fire protection work	1	item		
R	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	MECHANICAL COOLING INSTALLATION (ELEMENT 55)				
	Drawing Notes - Cooling Installations outlined on Drawing Nrs. XXX				
S	The system shall consist of R410A dedicated power inverter split heat pumps to each of the spaces identified on drawings and per schedules. All works shall be inline with the mechanical and electrical specifications. Each indoor unit shall be installed complete with a proprietary I/O interface supplied by the same air conditioning manufacturer to provide for BMS control and monitoring interface functionality.		note		

To Collection €

	Description	Qty	Unit	Rate	Amount
A	Contractor to include for tray to support all refrigerant piping along entire length of same.		note		
B	On return of power supply, after a mains failure event, all controllers shall automatically revert to the last setting prior to the power failure occurring i.e on or off. The contractor shall ensure all controller programming logic includes the above, to the approval of the engineers. Units located in the comms rooms shall operate under a master/slave strategy with master 'On' and slave 'Off' during operation schedule.		note		
C	The contractor shall coordinate all services routes and shall ensure sufficient ceiling depth is available for the proposed units prior to ordering same.		note		
D	All cooling capacities/values scheduled are based on a U.K. location i.e 27°C DB summer external condition for 21°C DB/15°C WB indoor condition. Refer to schedules.		note		
E	All units shall be installed complete with integral condensate pump.		note		
F	Condensates shall be individually piped from each AC unit to local SVP and be complete with through flow type bladder trap, Hepvo or equal. Piping shall be 32mm XLPE piping from AC unit to local bladder trap to 32mm diameter solvent welded MuPVC piping to final termination point. XLPE piping shall be kept to a minimum lenght, and up to 3 metres maximum.		note		
G	Wiring to each system comprises 2x4.0&E sq.mm LSF circuits wired in trunking and conduit from local DB to each external condenser unit, terminating in a local external IP65 rated isolator. 2X4.0&E sqmm shall be wired in the same manner from each external condenser to each associated indoor unit, terminated via switched spurs complete with neon indicator and flex outlets. 1 No. spur shall be provided for the indoor unit and 1No. for the associated condensate pump where necessary. Final wiring shall be in 3 core flex to each item. Refer also to electrical specification.		note		
H	The electrical contractor shall include for labelling all outlets, equipotential bonding of all refrigerant piping/drain piping/ducting.		note		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	The electrical contractor shall include for erection of a wall mounted controller for each air conditioning unit (controller free issue by mechanical contractor) the controller shall be complete with a wiring loom. The contractor shall supply and install a 20mm conduit (in stud/chase/surface) from 1200mm A.F.F.L. approx to ceiling void level/AC unit to accommodate controller loom. The electrical contractor shall survey all locations and install controller adjacent to existing light switches at the same mounting height unless otherwise indicated on room data sheets/elevations.		note		
B	The contractor shall also refer to the electrical drawings and M&E specifications for further detail.		note		
	<u>General Mechanical Cooling / Refrigeration Installation (System)</u>				
C	Cooling installation – complete supply, install, commission and demonstrate the R32 Hybrid VRF system (condensers, HBCs, water-cooled indoor units) and any scheduled AC/DX systems, with CHW and refrigerant distribution and controls; installed by a manufacturer-approved, F-Gas-certified installer to BS EN 378 (cl. 7.1/7.5).	1	item		
	<u>Primary Equipment (which include boiler, main storage tank. ahu, fan etc.)</u>				
	Outdoor units - HVRF system				
D	OCU-01 - HVRF outdoor condensing unit, R32 DX, inverter-scroll compressors, HP/LP protection (in Labs), heating 63.0kW / cooling 56.0kW, R32, COP 3.45 / EER 2.51, 4850 l/s, 1750 x 740 x 1858mm, 337kg, 400V 3ph (cl. 7.4.1).	1	nr		
E	OCU-02 - HVRF outdoor condensing unit, R32 DX, inverter-scroll compressors, HP/LP protection (in Offices), heating 63.0kW / cooling 56.0kW, R32, COP 3.45 / EER 2.51, 4850 l/s, 1750 x 740 x 1858mm, 337kg, 400V 3ph	1	nr		
F	OCU-03 - HVRF outdoor condensing unit, R32 DX, inverter-scroll compressors, HP/LP protection (in Classrooms), heating 45.0kW / cooling 40.0kW, R32, COP 3.42 / EER 2.67, 4000 l/s, 1240 x 740 x 1858mm, 273kg, 400V 3ph	1	nr		
G	Main Hybrid Branch Controller (HBC), 6/8/16-port, plate HXs, DC-inverter pumps, valve blocks, acoustic jacket c/w expansion vessels & valve arrangement (cl. 7.4.2).	1	item		
H	Sub-HBC (further 8 ports) (cl. 7.4.2).	1	item		

	Description	Qty	Unit	Rate	Amount
A	AC/DX outdoor condensing unit / air-cooled condenser (cl. 7.20).	1	item		
B	Refrigeration compressor (as scheduled) with capacity control & safety cut-outs (cl. 7.18).	1	item		
C	DX cooling coil / air-cooling evaporator (cl. 7.19).	1	item		
D	Chilled-water buffer vessel to BS 853 / BS 417-2 (cl. 7.22).	1	item		
	Split units				
E	AC-1-01/ OCU-04 - wall mounted split AC system, indoor unit c/w outdoor condenser OCU-04, cooling 6kW, R32, 650 l/s, c/w interconnecting pipework, controls & refrigerant leak detection, 400V 3ph outdoor (ICT Room)	1	item		
	Accessories associated with primary equipment (which include controls, valves, pumps, other)				
F	HVRF water-side field set per master HBC (expansion vessel, backflow protection, 40-mesh strainer, PRV, isolation valve, gauge) (cl. 7.4.2). (1 set per master HBC.)	1	item		
G	Condensate pump (min. 900 L/hr) where HBC falls not achievable (cl. 7.4.2).	1	item		
H	Refrigeration pressure-relief device (IS EN 13136) with HP/LP cut-outs (cl. 7.24).	1	item		
J	Oil separator; capped charging valve; recovery connections (>10kg) (cl. 7.24).	1	item		
K	'Y'-pattern CHW strainer with isolation both sides (cl. 7.30).	1	item		
	HVRF proprietary controls (cl. 7.4.7–7.4.9)				
L	HVRF touch-screen centralised controller (200 groups, Ethernet/Web) (cl. 7.4.7).	1	item		
M	Local / hard-wired remote controller per space (cl. 7.4.8).	1	item		
N	BMS interface (open protocol) for HVRF/AC systems (cl. 7.4.9). (↳ Site-BMS integration Element 59.)	1	item		
	HVRF system				
P	FCU-0-01 - fan coil unit, cooling 2.8kW / heating 3.2kW, 200 l/s, served by OU-01 (Bio Mechanics Lab)	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	FCU-0-02 - fan coil unit, cooling 2.8kW / heating 3.2kW, 200 l/s, served by OU-01 (Bio Mechanics Lab)	1	nr		
B	FCU-0-03 - fan coil unit, cooling 2.8kW / heating 3.2kW, 200 l/s, served by OU-01 (Bio Mechanics Lab)	1	nr		
C	FCU-0-04 - fan coil unit, cooling 7.1kW / heating 8.0kW, 300 l/s, served by OU-01 (Classroom)	1	nr		
D	FCU-0-05 - fan coil unit, cooling 7.1kW / heating 8.0kW, 300 l/s, served by OU-01 (Classroom)	1	nr		
E	FCU-0-06 - fan coil unit, cooling 2.2kW / heating 2.5kW, 242 l/s, served by OU-02 (Meeting Room Office)	1	nr		
F	FCU-1-01 - fan coil unit, cooling 3.6kW / heating 4.0kW, 242 l/s, served by OU-01 (Physiology Lab)	1	nr		
G	FCU-1-02 - fan coil unit, cooling 4.5kW / heating 5.0kW, 242 l/s, served by OU-01 (Physiology Lab)	1	nr		
H	FCU-1-03 - fan coil unit, cooling 4.5kW / heating 5.0kW, 300 l/s, served by OU-01 (Physiology Lab)	1	nr		
J	FCU-1-04 - fan coil unit, cooling 4.5kW / heating 5.0kW, 300 l/s, served by OU-01 (Physiology Lab)	1	nr		
K	FCU-1-05 - fan coil unit, cooling 2.2kW / heating 2.5kW, 150 l/s, served by OU-01 (Bio Chemistry Lab)	1	nr		
L	FCU-1-06 - fan coil unit, cooling 3.6kW / heating 4.0kW, 300 l/s, served by OU-01 (Project Lab 108)	1	nr		
M	FCU-1-07 - fan coil unit, cooling 3.6kW / heating 4.0kW, 242 l/s, served by OU-01 (Project Lab 108)	1	nr		
N	FCU-1-08 - fan coil unit, cooling 3.6kW / heating 4.0kW, 242 l/s, served by OU-01 (Project Lab 107)	1	nr		
P	FCU-1-09 - fan coil unit, cooling 3.6kW / heating 4.0kW, 242 l/s, served by OU-01 (Project Lab 107)	1	nr		
Q	FCU-1-10 - fan coil unit, cooling 8.0kW / heating 9.0kW, 467 l/s, served by OU-02 (Studio 3)	1	nr		
R	FCU-1-11 - fan coil unit, cooling 8.0kW / heating 9.0kW, 467 l/s, served by OU-02 (Studio 3)	1	nr		
S	FCU-1-12 - fan coil unit, cooling 7.1kW / heating 8.0kW, 300 l/s, served by OU-02 (Studio 2)	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	FCU-1-13 - fan coil unit, cooling 7.1kW / heating 8.0kW, 300 l/s, served by OU-02 (Studio 2)	1	nr		
B	FCU-1-14 - fan coil unit, cooling 5.6kW / heating 6.3kW, 300 l/s, served by OU-02 (Studio 1)	1	nr		
C	FCU-1-15 - fan coil unit, cooling 5.6kW / heating 6.3kW, 300 l/s, served by OU-02 (Studio 1)	1	nr		
D	FCU-2-01 - fan coil unit, cooling 5.6kW / heating 6.3kW, 300 l/s, served by OU-03 (Classroom 210)	1	nr		
E	FCU-2-02 - fan coil unit, cooling 5.6kW / heating 6.3kW, 300 l/s, served by OU-03 (Classroom 210)	1	nr		
F	FCU-2-03 - fan coil unit, cooling 5.6kW / heating 6.3kW, 300 l/s, served by OU-03 (Classroom 209)	1	nr		
G	FCU-2-04 - fan coil unit, cooling 5.6kW / heating 6.3kW, 300 l/s, served by OU-03 (Classroom 209)	1	nr		
H	FCU-2-05 - fan coil unit, cooling 5.6kW / heating 6.3kW, 300 l/s, served by OU-03 (Classroom 208)	1	nr		
J	FCU-2-06 - fan coil unit, cooling 5.6kW / heating 6.3kW, 300 l/s, served by OU-03 (Classroom 208)	1	nr		
K	FCU-2-07 - fan coil unit, cooling 5.6kW / heating 6.3kW, 300 l/s, served by OU-03 (Classroom 207)	1	nr		
L	FCU-2-08 - fan coil unit, cooling 5.6kW / heating 6.3kW, 300 l/s, served by OU-03 (Classroom 207)	1	nr		
M	FCU-2-09 - fan coil unit, cooling 2.8kW / heating 3.2kW, 200 l/s, served by OU-02 (Staff Room)	1	nr		
N	FCU-2-10 - fan coil unit, cooling 7.1kW / heating 8.0kW, 300 l/s, served by OU-02 (6 Person Office)	1	nr		
P	FCU-2-11 - fan coil unit, cooling 4.5kW / heating 5.0kW, 300 l/s, served by OU-02 (2 Person Office)	1	nr		
Q	FCU-2-12 - fan coil unit, cooling 5.6kW / heating 6.3kW, 300 l/s, served by OU-02 (Meeting Room)	1	nr		
R	FCU-2-13 - fan coil unit, cooling 5.6kW / heating 6.3kW, 300 l/s, served by OU-02 (4 Person Office)	1	nr		
	Terminal Equipment and fittings (which include Rads, Taps, Grilles, Other)				
S	HVRF indoor unit – ducted (ESP 150 Pa), EEV + PID, condensate lift pump (cl. 7.4.3).	1	item		
T	HVRF indoor unit – ceiling cassette (cl. 7.4.3).	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	HVRF indoor unit – floor/wall-mounted (cl. 7.4.3).	1	item		
B	AC/DX split or cassette indoor unit with controller (cl. 7.1/7.3).	1	item		
	Accessories associated with terminal equipment and fittings (which include Valves, Thermostats, Controls, Other)				
C	Drain cock at lowest point per indoor unit (cl. 7.4.2).	1	item		
D	Automatic air vent at highest point per indoor unit (cl. 7.4.2).	1	item		
E	Liquid-line assembly per evaporator (hand valve, solenoid, filter drier, sight glass, EEV) (cl. 7.24).	1	item		
F	Automatic balancing valve (PICV-type) at CHW terminals (cl. 7.12).	1	item		
G	Self-sealing P/T test point at control-valve ports and terminal inlets/outlets (cl. 7.32).	1	item		
	Isolation valves (flow & return) per HBC/Sub-HBC port (cl. 7.4.2). (2 per port.)				
H	20mm diamter	24	nr		
J	22mm diamter	1	nr		
	Distribution System (which include pipework, ductwork)				
	All joints/fittings in running lengths, brackets, supports, couplers, sleeves, wall/floor plates, anchors, expansion loops/bellows, cutting and marking-out are deemed included (Supp.2 p.7). Materials/sizes/routes as drawings & Specification. Incl. galvanised cable tray/banding to refrigerant lines.				
K	Chilled-water distribution pipework (20mm diameter) – black steel heavy grade / HFERW, welded, insulated, all as drawings and cl. 7.11.	1	item		
L	HVRF refrigerant distribution pipework (20mm diameter) – seamless refrigerant copper, brazed under OFN, on cable tray, cl. 7.13–7.17.	1	item		
M	HVRF water distribution pipework (20mm diameter) – copper/MLC to EN ISO 21003 (10 bar), cl. 7.4.5.	1	item		
N	Condensate distribution pipework – 25mm copper/plastic, insulated, 1:80 fall, anti-siphon, cl. 7.4.6.	1	item		

	Description	Qty	Unit	Rate	Amount
	In-line CHW valves & devices				
A	Isolating valve (ball ≤50mm / butterfly ≥65mm) (cl. 7.12).	1	item		
B	Check valve (cl. 7.12).	1	item		
C	Double regulating valve (DRV) (cl. 7.12).	1	item		
D	FODRV / commissioning set with test points (cl. 7.2/7.12).	1	item		
E	Heavy-brass automatic air vent with lockshield (cl. 7.34).	1	item		
F	Line-size drain cock / lockshield drain valve (cl. 7.31).	1	item		
	Insulation (to pipework, ductwork)				
	Thermal insulation installations to all water services pipework in accordance with JVT Drawings and Specification 4353-JVT-XX-XX-SP-M-0001				
G	Thermal insulation of CHW, HVRF-water, refrigerant and condensate pipework.	1	item		
	(General) – testing, charging & documentation (cl. 7.10, 7.21, 7.35)				
H	Refrigerant strength & leak tests to IS EN 378, evacuation to ≤2 kN/m2 for 24h and charging; HVRF water test to 3 bar; CHW test at 1.5×; flushing, dosing, balancing and demonstration (cl. 7.10/7.21/7.35).	1	item		
J	O&M manuals; working, co-ordination and as-built drawings.	1	item		
K	Builders' work in connection and fire-stopping of penetrations.	1	item		
	General Items as per ARM4 Supplement 2				
L	^^^Testing and commissioning	1	item		
M	^^^Flushing & Sterilisation of water carrying systems prior to handover	1	item		
N	^^^Operating and maintenance manuals	1	item		
P	^^^Working drawings	1	item		
Q	^^^Co-ordination drawings	1	item		
R	^^^As built drawings & data books	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Identification plates, labels and the like	1	item		
B	^^^Mock-ups	1	item		
C	^^^Staff demonstrations and training	1	item		
D	^^^Recommissioning of all systems following one full year of operation	1	item		
E	^^^Co-ordination of Services	1	item		
F	^^^Decommissioning and removal of all redundant services	1	item		
G	^^^Builders work	1	item		
H	^^^Fire stopping and other associated fire protection work	1	item		
J	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	MECHANICAL HEATING INSTALLATION (ELEMENT 56)				
	Drawing Notes - Heating Services				
K	The mechanical services contractor is fully responsible for all on-site coordination of his and all other services.		note		
L	All pumps to be 3 phase power supply.		note		
M	All flow meters to be connected to BMS.		note		
N	Include expansion loops on all straight LPHW pipe runs exceeding 20m. Refer to detail sheet.		note		
P	Heating Services drawing should be read in conjunction with detail sheet.		note		
Q	For mechanical equipment schedules, refer to mechanical schedules document.		note		
R	All pipework to be insulated as specified		note		
S	All individual circuits to be fitted with drain cocks at end of circuit.		note		
T	Location of all visible services to be set out as per architects drawings.		note		
U	Contractor to check radiator dimensions on site prior to ordering.		note		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	The contractor to allow for adequate provision for expansion of pipework by means of expansion loops on straight lengths of pipework over 30m with associated anchor points.		note		
B	The contractor to allow adequate commissioning valves to allow commissioning of heating system.		note		
C	All valves are to be accessible for maintenance.		note		
D	The contractor shall agree all penetrations through structural beams prior to installation of pipework.		note		
E	The contractor to allow for rerouting of pipework where it clashes with furniture layouts.		note		
F	For mechanical equipment details, see mechanical schedule document.		note		
G	Each pump must be installed with isolation valves on the inlet and outlet connections. Unless otherwise indicated, a strainer must be fitted on the inlet connection.		note		
	<u>(System) – HEATING INSTALLATION (LPHW) (cl. 8.1, 8.4–8.7)</u>				
H	LPHW mechanical heating installation – complete supply, install, test and commission the pipework and connections to radiators, radiant panels, trench heaters, heater batteries and AHU coils; incl. technical submissions, and design responsibility for supports/bracketry, anchors, expansion and trace heating with CIF 01(Cs)/CIF 02(Css) Annex 2 certification, and certified welding/brazing (cl. 8.1/8.4 –8.7).	1	item		
	<u>Primary Equipment (which include boiler, main storage tank. ahu, fan etc.)</u>				
	Air Source Heat Pumps				
J	ASHP-01 - cascade system, heating capacity 35kW, flow/return 45/40 deg C, SCOP 4.10, refrigerant R290, 2060 x 1067 x 1525mm, 275kg, 400V/3ph (Roof Area)	1	nr		
K	ASHP-02 - cascade system, heating capacity 35kW, flow/return 45/40 deg C, SCOP 4.10, refrigerant R290, 2060 x 1067 x 1525mm, 275kg, 400V/3ph (Roof Area)	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	ASHP-03 - cascade system, heating capacity 35kW, flow/return 45/40 deg C, SCOP 4.10, refrigerant R290, 2060 x 1067 x 1525mm, 275kg, 400V/3ph (Roof Area)	1	nr		
B	ASHP-04 - cascade system, heating capacity 35kW, flow/return 45/40 deg C, SCOP 4.10, refrigerant R290, 2060 x 1067 x 1525mm, 275kg, 400V/3ph (Roof Area)	1	nr		
C	ASHP-05 - cascade system, heating capacity 35kW, flow/return 45/40 deg C, SCOP 4.10, refrigerant R290, 2060 x 1067 x 1525mm, 275kg, 400V/3ph (Roof Area)	1	nr		
D	ASHP-06 - cascade system, heating capacity 35kW, flow/return 65/60 deg C, SCOP 3.30, refrigerant R290, 2060 x 1067 x 1525mm, 275kg, 400V/3ph (Roof Area)	1	nr		
E	ASHP-07 - cascade system, heating capacity 35kW, flow/return 65/60 deg C, SCOP 3.30, refrigerant R290, 2060 x 1067 x 1525mm, 275kg, 400V/3ph (Roof Area)	1	nr		
	Buffer vessel				
F	BV_LPHW - buffer vessel, size 1330 x 2800mm, nominal capacity 3,000 litres, 50 deg C, LPHW/ASHP system, pre-insulated & pressure tested (Second Floor Plantroom)	1	nr		
	Accessories associated with primary equipment (which include controls, valves, pumps, other)				
	Primary (Drawing Nr. 59-ME-5601)				
	Flow and Return (Red and Green - Solid)				
	Controls				
G	Building management system (BMS)	1	Item		
H	temperature stat (T)	2	nr		
J	Flow switch (FS)	7	nr		
K	Temperature sensor (to BMS) (TS)	24	nr		
L	Temperature gauge (TI)	27	nr		
M	Pressure gauge (pI)	24	nr		
N	Flow probe (FP)	1	nr		

	Description	Qty	Unit	Rate	Amount
	Equipment / Fittings				
	Isolating valve				
A	15mm diameter	4	nr		
B	32mm diameter	11	nr		
C	35mm diameter	2	nr		
D	50mm diameter	59	nr		
E	54mm diameter	7	nr		
F	65mm diameter	8	nr		
G	67mm diameter	2	nr		
H	100mm diameter	7	nr		
J	150mm diameter	6	nr		
	Non return valve				
K	15mm diameter	1	nr		
L	32mm diameter	1	nr		
M	35mm diameter	1	nr		
N	50mm diameter	8	nr		
P	54mm diameter	3	nr		
Q	67mm diameter	1	nr		
R	100mm diameter	1	nr		
	Tie points				
S	50mm diameter	17	nr		
T	100mm diameter	3	nr		
U	32mm diameter	3	nr		
	Twin head pump				
V	50mm diameter	1	nr		
W	100mm diameter	1	nr		
X	32mm diameter	1	nr		
	Strainer				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	32mm diameter	2	nr		
B	35mm diameter	1	nr		
C	50mm diameter	8	nr		
D	54mm diameter	1	nr		
E	100mm diameter	1	nr		
	3- port motorised mixing valve / diverting valve				
F	50mm diameter	5	nr		
G	100mm diameter	1	nr		
	Double regulating wave				
H	15mm diameter	1	nr		
J	32mm diameter	2	nr		
K	50mm diameter	3	nr		
L	100mm diameter	2	nr		
	Drain cock				
M	15mm diameter	6	nr		
N	Preassure relief wave	5	nr		
P	15mm diameter	3	oid		
Q	Single head pump (DHWR-01)	5	nr		
R	35mm diameter	1	nr		
	2 port motorised valve				
S	15mm diameter	1	nr		
T	32mm diameter	1	nr		
	2 port motorised valve (PICV)				
U	32mm diameter	1	nr		
	Double regulating wave (DRV)				
V	150mm diameter	1	nr		
	Single head pump (DHRW-02)				
W	54mm diameter	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Automatic air vent	1	nr		
	Sight glass				
B	150mm diamter	1	nr		
	Plate heat exchanger/ fast heater				
C	PHE-01 - plate heat exchanger/fast heater, 50kW, hot/cold flow 2.4 / 0.4 l/s, hot side 50/45 deg C, cold side 40/10 deg C, single phase, c/w control panel & circulating pumps (Plantroom)	1	item		
D	PHE-02 - plate heat exchanger/fast heater, 50kW, hot/cold flow 2.4 / 0.47 l/s, hot side 68/63 deg C, cold side 65/40 deg C, single phase, c/w control panel & circulating pumps (Plantroom)	1	item		
	Expansion vessels				
E	EV-01 - expansion vessel, LPHW primary, 200 litres, 2.5 bar static height, 90 deg C max (Plantroom)	1	item		
F	EV-02 - expansion vessel, LPHW primary, 200 litres, 2.5 bar static height, 90 deg C max (Plantroom)	1	item		
G	EV-03 - expansion vessel, LPHW secondary, 150 litres, 2.5 bar static height, 90 deg C max (Plantroom)	1	item		
	Pressurisation units				
H	PU-01 - pressurisation unit, LPHW, 2 pump (2 x 0.37kW), 17.5 litre break tank, 5 bar max fill, 85 deg C max, 332 x 470 x 832mm, 230V 1ph (Plantroom)	1	item		
J	PU-02 - pressurisation unit, LPHW, 2 pump (2 x 0.37kW), 17.5 litre break tank, 5 bar max fill, 85 deg C max, 333 x 470 x 832mm, 230V 1ph (Plantroom)	1	item		
	Dosing pots				
K	DP-01 - multi-purpose dosing pot, deaerator & side-stream filter, LPHW, 10 litre dosing capacity, 4 bar max, 0–95 deg C, flow ≤24 l/min (Plantroom)	1	item		
L	DP-02 - multi-purpose dosing pot, deaerator & side-stream filter, LPHW, 5 litre dosing capacity, 4 bar max, 0–95 deg C, flow ≤24 l/min (Plantroom)	1	item		
	Other accessories with primary equipment as per Schematic DR-JVT-ME-5601				
M	Multi-chiller Controller and Allow for BMS Connection	1	item		

	Description	Qty	Unit	Rate	Amount
A	T - Temperature Stat	1	nr		
B	F - Frost Stat and Allow for BMS Connection	1	nr		
C	O - Outside Sensor and Allow for BMS Connection	1	nr		
D	PI - Pressure Guage	1	nr		
E	FS - Flow Switch	1	nr		
F	TT - Transistor-based Temperature Sensor (BMS)	4	nr		
G	HL - High Level Sensor (BMS)	3	nr		
H	Tundish Fitting from Relief Valve	2	nr		
	Terminal Equipment and fittings (which include Rads, Taps, Grilles, Other)				
	Radiators (Steel Panel)				
J	RAD-L00-01 - vertical steel panel radiator, 2000 x 503 x 138mm, output 638W at T22 (45/40/21), RAL 9006, c/w lockshield & 2-port modulating control valve (Male WC & Showers)	1	nr		
K	RAD-L00-02 - vertical steel panel radiator, 2000 x 503 x 138mm, output 638W at T22 (45/40/21), RAL 9006 Grey (Male WC & Showers)	1	nr		
L	RAD-L00-03 - vertical steel panel radiator, 2000 x 575 x 138mm, output 729W at T22 (45/40/21), RAL 9006 Grey (Female WC & Showers)	1	nr		
M	RAD-L00-04 - vertical steel panel radiator, 2000 x 575 x 138mm, output 729W at T22 (45/40/21), RAL 9006 Grey (Female WC & Showers)	1	nr		
N	RAD-L00-05 - vertical steel panel radiator, 2000 x 428 x 138mm, output 546W at T22 (45/40/21), RAL 9006 Grey (Accessible WC & Shower)	1	nr		
P	RAD-L00-06 - vertical steel panel radiator, 2000 x 575 x 138mm, output 729W at T22 (45/40/21), RAL 9006 Grey (Changing Place)	1	nr		
Q	RAD-L00-07 - vertical steel panel radiator, 2000 x 289 x 138mm, output 364W at T22 (45/40/21), RAL 9006 Grey (Accessible WC)	1	nr		
R	RAD-L00-11 - vertical steel panel radiator, 2200 x 717 x 80mm, output 722W at T22 (45/40/21), RAL 9006 Grey (Corridor)	1	nr		

	Description	Qty	Unit	Rate	Amount
A	RAD-L00-12 - vertical steel panel radiator, 2200 x 717 x 80mm, output 722W at T22 (45/40/21), RAL 9006 Grey (Corridor)	1	nr		
B	RAD-L00-13 - RADIAVECTOR convector, 210 x 1000 x 232mm, output 566W at T22 (45/40/21), RAL 9006 Grey (Gallery)	1	nr		
C	RAD-L00-14 - RADIAVECTOR convector, 210 x 1000 x 232mm, output 566W at T22 (45/40/21), RAL 9006 Grey (Gallery)	1	nr		
D	RAD-L00-15 - vertical steel panel radiator, 2200 x 575 x 80mm, output 577W at T22 (45/40/21), RAL 9006 Grey (Gallery)	1	nr		
E	RAD-L00-16 - vertical steel panel radiator, 2200 x 575 x 80mm, output 577W at T22 (45/40/21), RAL 9006 Grey (Gallery)	1	nr		
F	RAD-L00-17 - vertical steel panel radiator, 2200 x 575 x 80mm, output 577W at T22 (45/40/21), RAL 9006 Grey (Gallery)	1	nr		
G	RAD-L00-18 - vertical steel panel radiator, 2000 x 503 x 138mm, output 638W at T22 (45/40/21), RAL 9006 Grey (Equipment Store 012)	1	nr		
H	RAD-L00-19 - vertical steel panel radiator, 2000 x 503 x 138mm, output 638W at T22 (45/40/21), RAL 9006 Grey (Equipment Store 012)	1	nr		
J	RAD-L00-20 - vertical steel panel radiator, 2000 x 503 x 138mm, output 638W at T22 (45/40/21), RAL 9006 Grey (Lab Store 011)	1	nr		
K	RAD-L00-21 - horizontal steel panel radiator, 499 x 2200 x 125mm, output 1200W at T22 (45/40/21), RAL 9006 Grey (Stairs 1)	1	nr		
L	RAD-L00-22 - vertical steel panel radiator, 2000 x 289 x 138mm, output 364W at T22 (45/40/21), RAL 9006 Grey (Equipment Store 013)	1	nr		
M	RAD-L01-01 - vertical steel panel radiator, 2000 x 289 x 138mm, output 364W at T22 (45/40/21), RAL 9006 Grey (Accessible WC)	1	nr		
N	RAD-L01-02 - vertical steel panel radiator, 2000 x 503 x 138mm, output 638W at T22 (45/40/21), RAL 9006 Grey (Male WC)	1	nr		
P	RAD-L01-03 - vertical steel panel radiator, 2000 x 360 x 138mm, output 456W at T22 (45/40/21), RAL 9006 Grey (Female WC)	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	RAD-L01-04 - vertical steel panel radiator, 2200 x 575 x 80mm, output 577W at T22 (45/40/21), RAL 9006 Grey (Corridor 051)	1	nr		
B	RAD-L01-05 - vertical steel panel radiator, 2200 x 575 x 80mm, output 577W at T22 (45/40/21), RAL 9006 Grey (Corridor 051)	1	nr		
C	RAD-L01-06 - vertical steel panel radiator, 2200 x 575 x 80mm, output 577W at T22 (45/40/21), RAL 9006 Grey (Corridor 051)	1	nr		
D	RAD-L01-07 - vertical steel panel radiator, 2200 x 360 x 80mm, output 433W at T22 (45/40/21), RAL 9006 Grey (Gallery 152)	1	nr		
E	RAD-L01-08 - RADIAVECTOR convector, 210 x 800 x 232mm, output 453W at T22 (45/40/21), RAL 9006 Grey (Gallery 152)	1	nr		
F	RAD-L01-09 - RADIAVECTOR convector, 210 x 800 x 232mm, output 453W at T22 (45/40/21), RAL 9006 Grey (Gallery 152)	1	nr		
G	RAD-L01-10 - vertical steel panel radiator, 2200 x 360 x 80mm, output 361W at T22 (45/40/21), RAL 9006 Grey (Gallery 153)	1	nr		
H	RAD-L01-11 - RADIAVECTOR convector, 210 x 1300 x 232mm, output 735W at T22 (45/40/21), RAL 9006 Grey (Gallery 153)	1	nr		
J	RAD-L01-12 - vertical steel panel radiator, 2000 x 289 x 138mm, output 364W at T22 (45/40/21), RAL 9006 Grey (Lab Store 110)	1	nr		
K	RAD-L02-01 - vertical steel panel radiator, 2000 x 213 x 138mm, output 273W at T22 (45/40/21), RAL 9006 Grey (Accessible WC)	1	nr		
L	RAD-L02-02 - vertical steel panel radiator, 2000 x 503 x 138mm, output 638W at T22 (45/40/21), RAL 9006 Grey (Male WC)	1	nr		
M	RAD-L02-03 - vertical steel panel radiator, 2000 x 360 x 138mm, output 456W at T22 (45/40/21), RAL 9006 Grey (Female WC)	1	nr		
N	RAD-L02-04 - vertical steel panel radiator, 2200 x 860 x 80mm, output 866W at T22 (45/40/21), RAL 9006 Grey (Corridor 250)	1	nr		
P	RAD-L02-05 - vertical steel panel radiator, 2200 x 860 x 80mm, output 866W at T22 (45/40/21), RAL 9006 Grey (Corridor 250)	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	RAD-L02-06 - vertical steel panel radiator, 2200 x 860 x 80mm, output 866W at T22 (45/40/21), RAL 9006 Grey (Corridor 250)	1	nr		
B	RAD-L02-07 - vertical steel panel radiator, 2200 x 503 x 80mm, output 505W at T22 (45/40/21), RAL 9006 Grey (Gallery 251)	1	nr		
C	RAD-L02-08 - RADIAVECTOR convector, 210 x 900 x 232mm, output 509W at T22 (45/40/21), RAL 9006 Grey (Gallery 251)	1	nr		
D	RAD-L02-09 - RADIAVECTOR convector, 210 x 900 x 232mm, output 509W at T22 (45/40/21), RAL 9006 Grey (Gallery 251)	1	nr		
E	RAD-L02-10 - RADIAVECTOR convector, 210 x 1200 x 232mm, output 679W at T22 (45/40/21), RAL 9006 Grey (Gallery 252)	1	nr		
F	RAD-L02-11 - RADIAVECTOR convector, 210 x 1200 x 232mm, output 679W at T22 (45/40/21), RAL 9006 Grey (Gallery 252)	1	nr		
G	RAD-L02-12 - RADIAVECTOR convector, 210 x 1200 x 232mm, output 679W at T22 (45/40/21), RAL 9006 Grey (Gallery 252)	1	nr		
H	RAD-L02-13 - vertical steel panel radiator, 2000 x 289 x 138mm, output 364W at T22 (45/40/21), RAL 9006 Grey (Storage 214)	1	nr		
J	RAD-L02-14 - vertical steel panel radiator, 2000 x 1004 x 138mm, output 1276W at T22 (45/40/21), RAL 9006 Grey (Stairs 1)	1	nr		
	Radiators (Low water Convector Heater)				
K	RAD-L00-13 - RADIAVECTOR convector, 210 x 1000 x 232mm, output 566W at T22 (45/40/21), RAL 9005 Black (Gallery)	1	nr		
L	RAD-L00-14 - RADIAVECTOR convector, 210 x 1000 x 232mm, output 566W at T22 (45/40/21), RAL 9005 Black (Gallery)	1	nr		
M	RAD-L01-08 - RADIAVECTOR convector, 210 x 800 x 232mm, output 453W at T22 (45/40/21), RAL 9005 Black (Gallery 152)	1	nr		
N	RAD-L01-09 - RADIAVECTOR convector, 210 x 800 x 232mm, output 453W at T22 (45/40/21), RAL 9005 Black (Gallery 152)	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	RAD-L01-11 - RADIAVECTOR convector, 210 x 1300 x 232mm, output 735W at T22 (45/40/21), RAL 9005 Black (Gallery 153)	1	nr		
B	RAD-L02-09 - RADIAVECTOR convector, 210 x 900 x 232mm, output 509W at T22 (45/40/21), RAL 9005 Black (Gallery 251)	1	nr		
C	RAD-L02-10 - RADIAVECTOR convector, 210 x 1200 x 232mm, output 679W at T22 (45/40/21), RAL 9005 Black (Gallery 252)	1	nr		
D	RAD-L02-11 - RADIAVECTOR convector, 210 x 1200 x 232mm, output 679W at T22 (45/40/21), RAL 9005 Black (Gallery 252)	1	nr		
E	RAD-L02-12 - RADIAVECTOR convector, 210 x 1200 x 232mm, output 679W at T22 (45/40/21), RAL 9005 Black (Gallery 252)	1	nr		
	Duct mounted heater batteries				
F	HB-01 - duct mounted heater battery, 8kW, 650 l/s, 300 x 800mm duct connection, 45/40 deg C LPHW, copper/aluminium fin, galvanised casing c/w drip tray (Entrance Lobby)	1	nr		
	Radiant pannels				
G	RP-T01 - radiant panel type ZFP, 1050 x 2000 x 125mm, 500W output at T22 (50/45/21), RAL 9006 Grey, c/w flex connections, lockshield, control valve & hanging chains (Athletic Centre #1, single height)	72	nr		
H	RP-T02 - radiant panel type ZFP, 1050 x 11000 x 125mm, 2730W output at T22 (50/45/21), RAL 9006 Grey (Athletic Centre #2, full height)	24	nr		
J	RP-T03 - radiant panel type ZFP, 1050 x 5000 x 125mm, 1240W output at T22 (50/45/21), RAL 9006 Grey (Athletic Centre, under Lecture Room)	4	nr		
K	RP-T04 - radiant panel type ZFP, 1500 x 2000 x 125mm, 690W output at T22 (50/45/21), RAL 9006 Grey (Athletic Centre, under Gym)	3	nr		
L	RP-T05 - radiant panel type Carboline, 600 x 1800 x 40mm, 274W output at T22 (50/45/21), RAL 9006 Grey (Gallery Bridge L1-154)	2	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Trench Radiators				
A	TR-0-01 & 02 - trench heater, 400 x 2000 x 300mm, output 578W at T22 (45/40/21), with anodised-aluminium grille, c/w lockshield, pipe adaptors & 2-port valve (Entrance)	2	nr		
B	TR-0-03 & 04 - trench heater, 400 x 2750 x 300mm, output 832W at T22 (45/40/21), with anodised-aluminium grille, c/w lockshield, pipe adaptors & 2-port valve (Entrance)	2	nr		
	Other Terminal Equipment and Fittings as per Schematic DR-JVT-ME-5601				
	Heating Pressure Set - PU-01 (From ASHP-01 to ASHP-05 Heating Pipeline				
C	Control Panel (Connect to BMS)	1	item		
D	2 x 200 Litre Expansion Vessels	2	nr		
E	Automatic Filler Unit	1	item		
F	Single Head Pump	1	nr		
G	22mm Isolation Valves (IV) to Single Head Pump	2	nr		
H	DP - Differential Pressure Sensor	1	nr		
J	Pressure Cut Out Switches	2	nr		
K	AAV - Automatic Air Vent	1	nr		
L	Anti-Gravity Loop	1	item		
M	Quick Fill Connection c/w flexible coupling / hose union	1	item		
N	22mm Isolation Valve (IV) - NC (normally closed)	2	nr		
P	22mm Isolation Valve (IV) - NO (normally open)	2	nr		
Q	22mm DC - Drain Cock Valve	3	nr		
R	22mm LSV - Lock Shield Valve	3	nr		
S	22mm NRV - Non Return Valve	2	nr		
	Heating Pressure Set - PU-02 (From ASHP-06 to ASHP-07 Heating Pipeline				
T	Control Panel (Connect to BMS)	1	item		
U	1 x 150 Litre Expansion Vessels	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Automatic Filler Unit	1	item		
B	Single Head Pump	1	nr		
C	22mm Isolation Valves (IV) to Single Head Pump	2	nr		
D	DP - Differential Pressure Sensor	1	nr		
E	Pressure Cut Out Switches	2	nr		
F	AAV - Automatic Air Vent	1	nr		
G	Anti-Gravity Loop	1	item		
H	Quick Fill Connection c/w flexible coupling / hose union	1	item		
J	22mm Isolation Valve (IV) - NC (normally closed)	2	nr		
K	22mm Isolation Valve (IV) - NO (normally open)	2	nr		
L	22mm DC - Drain Cock Valve	2	nr		
M	22mm LSV - Lock Shield Valve	2	nr		
N	22mm NRV - Non Return Valve	2	nr		
	Accessories associated with terminal equipment and fittings (which include Valves, Thermostats, Controls, Other)				
	Terminal (Drawing Nr. 59-ME-5602)				
	Flow and Return (Red and Orange - Solid)				
	Isolating valve				
P	20mm diameter	20	nr		
Q	25mm diameter	430	nr		
R	50mm diameter	4	nr		
S	100mm diameter	2	nr		
	2 - port motorised valve				
T	20mm diameter	8	nr		
U	25mm diameter	47	nr		
	Drain cock				
V	20mm diameter	3	nr		

To Collection €

	Description	Qty	Unit	Rate	Amount
A	25mm diameter	167	nr		
	Temperature stat (T)				
B	20mm diameter	6	nr		
C	25mm diameter	46	nr		
	Pressure Stat (P)				
D	20mm diameter	6	nr		
E	25mm diameter	47	nr		
F	(PICV) - Pressure Independent Valve				
G	20mm diameter	3	nr		
H	25mm diameter	95	nr		
J	Strainer				
K	25mm diameter	72	nr		
L	Double regulating valve (DRV)				
M	25mm diameter	72	nr		
	Flush by-pass				
N	25mm diameter	72	nr		
	Binder test point (BP)				
P	25mm diameter	288	nr		
	Temperature & Carbon Dioxide Sensors				
Q	T&CO2 Sensors (connected to BMS)	5	nr		
	Fittings from Typical Details (Drawing Nr. 59-ME-5601)				
	Connection Details to Radiators				
R	15mm Isolation Valves (IV) (Flow & Return)	90	nr		
S	15mm Locksheild Valves (LSV) (Flow & Return)	90	nr		
T	15mm 2Port Control Valve (CV) (Flow)	45	nr		
U	T - Room Stat (connected to 2Port Control Valve)	45	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Connection Details to LPHW Heater Battery - HB-01				
A	15mm Isolation Valves (IV) (Flow & Return)	4	nr		
B	15mm NC (Normally Closed) Flushing Bypass Valve (between Flow & Return)	1	nr		
C	15mm BP - Binder Test Point (Flow & Return)	4	nr		
D	15mm Temperature Sensor (connected to BMS System) (Flow & Return)	2	nr		
E	Room Stat (connected to BMS System)	1	nr		
F	15mm DRV - Double Regulating Valve (Return)	1	nr		
G	15mm STR - Strainer (Flow)	1	nr		
H	15mm PICV - Pressure Independent Control Valve (Flow)	1	nr		
	Other Fittings Items Outlined in Mech. Specification				
J	Chromium-plated hand-wheel radiator control valve, angle, to BS 2767 (cl. 8.10.10).	45	nr		
K	Thermostatic radiator valve (TRV), RAL 9006 grey/Black, pre-settable, EN 215, incl. remote capillary head where scheduled (cl. 8.10.10).	45	nr		
L	Pressure-independent TRV (PITRV) with dP regulation (cl. 8.10.10).	45	nr		
M	Recessed gunmetal air cock to each radiator (cl. 8.10.10).	45	nr		
N	Radiant-panel thermoelectric actuator, 2-point 0–10V, 'First-Open' (cl. 8.10.11). (BMS signal co-ordinated with Element 59.)	105	nr		
P	Disconnect and re-fix (45no.) radiators twice for plastering/painting (cl. 8.11.1).	1	Item		
	<u>Distribution System (which include pipework, ductwork)</u>				
	Pipework				
	All joints/fittings in running lengths, brackets, supports, couplers, sleeves, wall/floor plates, anchors, expansion loops/bellows, cutting and marking-out are deemed included (Supp.2 p.7). Materials/sizes/routes as per JVT Drawings & Specification				

	Description	Qty	Unit	Rate	Amount
	LPHW distribution pipework – black steel medium grade to BS EN 10255 (≤150mm) and HFERW (200 –450mm), welded, insulated; all sizes, fittings, supports, sleeves, plates, anchors and expansion devices as drawings and cl. 8.2–8.9.				
	Low temperature hot water return (LTHW-F & R)				
A	15mm diameter	1	item		
B	20mm diameter	1	item		
C	25mm diameter	1	item		
D	32mm diameter	1	item		
E	40mm diameter	1	item		
F	50mm diameter	1	item		
G	65mm diameter	1	item		
H	80mm diameter	1	item		
J	100mm diameter	1	item		
K	150mm diameter	1	item		
	DHW				
L	54mm diameter	1	item		
	CWS				
M	54mm diameter	1	item		
N	67mm diameter	1	item		
	DHWR				
P	35mm diameter	1	item		
Q	Allow for Electrical trace heating (20 W/m) to pipework in non-heated/external areas with ambient thermostat (cl. 8.15).	1	item		
	Insulation (to pipework, ductwork)				
	Pipework				
	Thermal Insulation to Heating Installations Pipes				
	Low temperature hot water return (LTHW-F & R)				
R	15mm diameter	1	item		

	Description	Qty	Unit	Rate	Amount
A	20mm diameter	1	item		
B	25mm diameter	1	item		
C	32mm diameter	1	item		
D	40mm diameter	1	item		
E	50mm diameter	1	item		
F	65mm diameter	1	item		
G	80mm diameter	1	item		
H	100mm diameter	1	item		
J	150mm diameter	1	item		
	DHW				
K	54mm diameter	1	item		
	CWS				
L	54mm diameter	1	item		
M	67mm diameter	1	item		
	DHWR				
N	35mm diameter	1	item		
	(General) – testing, commissioning & documentation (cl. 8.16–8.17)				
P	Hydraulic pressure test (1.5×, excl. then incl. emitters); valve functional testing incl. DRV/PICV authority (cl. 8.17.4).	1	item		
Q	Flushing, chemical cleaning and dosing to BSRIA BG 29; balancing to CIBSE Commissioning Code W with recorded flows (cl. 8.17.1/8.17.4).	1	item		
R	Cleaning down of exposed pipes for painting (cl. 8.16); reflected-ceiling drawings for radiant panels (cl. 8.12).	1	item		
S	Commissioning records, O&M manuals and record drawings.	1	item		
	General Items as per ARM4 Supplement 2				
T	^^^Testing and commissioning	1	item		
U	^^^Flushing & Sterilisation of water carrying systems prior to handover	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Operating and maintenance manuals	1	item		
B	^^^Working drawings	1	item		
C	^^^Co-ordination drawings	1	item		
D	^^^As built drawings & data books	1	item		
E	^^^Identification plates, labels and the like	1	item		
F	^^^Mock-ups	1	item		
G	^^^Staff demonstrations and training	1	item		
H	^^^Recommissioning of all systems following one full year of operation	1	item		
J	^^^Co-ordination of Services	1	item		
K	^^^Decommissioning and removal of all redundant services	1	item		
L	^^^Builders work	1	item		
M	^^^Fire stopping and other associated fire protection work	1	item		
N	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	MECHANICAL VENTILATION SERVICES INSTALLATION (ELEMENT 57)				
	Drawing Notes - Mechanical Ventilation Services				
P	All ductwork dimensions are internal.		note		
Q	All ductwork to be supported as specified.		note		
R	Supply, return and extract diffusers or grilles shall be complete with duct mounted volume control dampers.		note		
S	Mechanical contractor shall note to the electrical contractor the location of fire & smoke dampers.		note		
T	Fire & smoke dampers to be fitted to all ductwork entering/leaving through fire compartments.		note		
U	All air handling equipment to ductwork shall be complete with flexible connections.		note		
V	Access panels to be provided in all suitable locations for VCD's and fire dampers.		note		
W	Refer to architectural detail for louvre locations.		note		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Adequate precautions must be taken to prevent transmission of noise and vibration from ductwork to occupied spaces and structure.		note		
B	All services referred to in drawings to be decoupled/mounted on anti vibration mounts to ensure noise from activities are contained in room and do not affect function of room below.		note		
	(System) – Ventilation Installation (cl. 9.1–9.3)				
C	Mechanical ventilation installation – complete supply, install, test, balance and commission all systems; incl. technical submissions and coordinated services drawings, design responsibility for ventilation bracketry (CIF 01(Cs) Annex 2), and earthing of metallic ductwork by the electrical contractor (cl. 9.1/9.3).	1	item		
D	Complete modifications to the existing ventilation services in the Phase 1 Lobby, connecting to the link to Phase 2 (REV 1, Sec 8.1).	1	item		
E	Rerouting of 3 No. extract ducts and coordination with new electrical services passing through the area (REV 1, Sec 8.1).	1	item		
	Primary Equipment (which include boiler, main storage tank. ahu, fan etc.)				
	AHU				
F	AHU-01 - indoor horizontal AHU, general areas, 4000/4000 l/s supply/return, 300Pa ESP, thermal wheel heat recovery, heating 19.5kW / cooling 52kW (DX R32), 3150 x 2452 x 2300mm, 2079kg dry (Plantroom)	1	nr		
G	AHU-02 - outdoor horizontal AHU, toilet areas, 2300/2300 l/s supply/return, 300Pa ESP, thermal wheel heat recovery, heating 11.7kW, cooling capacity 30kW [see flag], 2650 x 2052 x 1800mm, 1254kg dry (Roof)	1	nr		
H	AHU-03 - outdoor horizontal AHU, lecture theatre, 1200/1200 l/s supply/return, 300Pa ESP, thermal wheel heat recovery, heating 11.7kW / cooling 15.3kW (DX R32), 2250 x 1552 x 1400mm, 824kg dry (Roof)	1	nr		
	Outdoor units - AHU units				
J	OCU-09, 10 & 11 — outdoor DX condensing unit serving AHU-01, heating 22.4kW / cooling 19.0kW, R32, COP 3.92, 1550 x 1010 x 370mm, 142kg, 400V 3ph, digital inverter	3	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	OCU-07 & 08 — outdoor DX condensing unit serving AHU-02, heating 14.0kW / cooling 12.0kW, R32, COP 3.90, 890 x 900 x 320mm, 70kg, 400V 3ph, digital inverter	2	nr		
B	OCU-05 & 06 — outdoor DX condensing unit serving AHU-03, heating 16.0kW / cooling 14.0kW, R32, COP 3.90, 1340 x 900 x 320mm, 100kg, 400V 3ph, digital inverter	2	nr		
	Schedule of extracts fans				
C	EF-01 - duct mounted extract fan, 0.5 m³/s, 150Pa ESP, EC motor, SFP <0.5 W/l/s, VSD, single phase, c/w back draft damper (Plantroom)	1	nr		
	Other Primary Equipment from JVT Mech. Specification				
D	Axial-flow fan, aerofoil impeller, AV mounts, balanced to BS 6861-2 (cl. 9.9.2).	1	nr		
E	Centrifugal fan (backward-curved aerofoil where >7.5kW) (cl. 9.9.3).	1	nr		
F	Packaged twin-fan extract unit, auto changeover, back-draught dampers (cl. 9.9.4).	1	nr		
G	Roof extract unit, weatherproof, back-draught dampers, inverter-ready (cl. 9.9.6).	1	nr		
H	Protectively-coated fan for corrosive/hazardous extract (cl. 9.9.5).	1	nr		
J	Charging-station extract system – radial roof ventilator with silencer & check valve, exhaust collection grilles (cl. 9.9.7).	1	nr		
	Accessories associated with primary equipment (which include controls, valves, pumps, other)				
	Controls				
K	Combined temperature CO2 sensor	2	nr		
L	C02 sensor	9	nr		
M	HVRF or AC unit controller	10	nr		
N	Window actuator	10	nr		
P	Window override switch	10	nr		
Q	Temperature	1	nr		

	Description	Qty	Unit	Rate	Amount
A	150mm Floor difusers for displacement ventilation under seats	50	nr		
	Other Accessories associated with Primary Equipment from JVT Mech. Specification				
B	AHU HEPA filter section (extra over) where scheduled (cl. 9.11.13.1).	1	item		
C	AHU override panel (cl. 9.11.10).	1	item		
D	LPHW air heater battery (duct/AHU), copper/aluminium, sensor pockets, air cocks, drain valves (cl. 9.10.2).	1	item		
	Terminal Equipment and fittings (which include Rads, Taps, Grilles, Other)				
	Supply air gilles				
E	(SG-0-01) - circular diffuser Ø160mm, 0.05 m³/s, c/w acoustic plenum box (Equipment Storage 2, 00-STO-013-2)	1	nr		
F	(SG-0-02) - circular diffuser Ø160mm, 0.05 m³/s, c/w acoustic plenum box (Lab Store, 00-STO-011)	1	nr		
G	(SG-0-05) - double deflection grille 400 x 200mm, 0.05 m³/s, c/w acoustic plenum box (Gallery, 00-HCOM-052)	1	nr		
H	(SG-0-06)-(SG-0-14) - circular diffuser Ø250mm, 0.07 m³/s, c/w acoustic plenum box (Bio Mechanics Lab, 00-LAB-010)	9	nr		
J	(SG-0-15)-(SG-0-20) - circular diffuser Ø250mm, 0.10 m³/s, c/w acoustic plenum box (Classroom, 00-CLASS-009)	5	nr		
K	(SG-0-22) - double deflection grille 400 x 200mm, 0.05 m³/s, c/w acoustic plenum box (Gallery, 00-HCOM-052)	1	nr		
L	(SG-0-23)-(SG-0-24) - double deflection grille 750 x 250mm, 0.33 m³/s, c/w acoustic plenum box (Entrance Lobby, 00-HCOM-050)	2	nr		
M	(SG-0-25)-(SG-0-26) - rectangular 4-way diffuser 600 x 600mm, 0.105 m³/s, c/w acoustic plenum box (Female WC & Showers, 00-WC-006)	2	nr		
N	(SG-0-27)-(SG-0-28) - rectangular 4-way diffuser 600 x 600mm, 0.11 m³/s, c/w acoustic plenum box (Male WC & Showers, 00-WC-008)	2	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	(SG-0-29) - circular diffuser Ø150mm, 0.095 m³/s, c/w acoustic plenum box (Accessible WC & Shower, 00-WC-005)	1	nr		
B	(SG-0-30) - circular diffuser Ø150mm, 0.09 m³/s, c/w acoustic plenum box (Changing Place, 00-WC-003)	1	nr		
C	(SG-0-31) - circular air valve Ø250mm, 0.03 m³/s (Accessible WC, 00-WC-002)	1	nr		
D	(SG-0-32)-(SG-0-33) - circular diffuser Ø250mm, 0.08 m³/s, c/w acoustic plenum box (Reception Office, 00-OFF-001)	2	nr		
E	SG-0-34 - circular diffuser Ø250mm, 0.15 m³/s, c/w acoustic plenum box (Equipment Storage 012)	5	nr		
F	(SG-1-02) - double deflection grille 400 x 200mm, 0.06 m³/s, c/w acoustic plenum box (Gallery, 01-HCOM-153)	1	nr		
G	(SG-1-05)-(SG-1-016) - circular diffuser Ø250mm, 0.10 m³/s, c/w acoustic plenum box (Physiology Lab, 01-LAB-112)	12	nr		
H	(SG-1-17) - circular diffuser Ø160mm, 0.02 m³/s, c/w acoustic plenum box (Lab Store, 01-STO-110)	1	nr		
J	(SG-1-18)-(SG-1-19) - rectangular 4-way diffuser 600 x 600mm, 0.08 m³/s, c/w acoustic plenum box (Bio Chemistry Lab, 01-LAB-111)	2	nr		
K	(SG-1-20)-(SG-1-25) - circular diffuser Ø250mm, 0.08 m³/s, c/w acoustic plenum box (Project Lab, 01-LAB-100)	6	nr		
L	(SG-1-26)-(SG-1-31) - circular diffuser Ø250mm, 0.08 m³/s, c/w acoustic plenum box (Project Lab, 01-LAB-108)	6	nr		
M	(SG-1-32) - double deflection grille 400 x 200mm, 0.06 m³/s, c/w acoustic plenum box (Gallery, 01-HCOM-152)	1	nr		
N	(SG-1-34)-(SG-1-35) - double deflection grille 400 x 200mm, 0.06 m³/s, c/w acoustic plenum box (Gallery, 01-HCOM-151)	2	nr		
P	(SG-1-36)-(SG-1-39) - circular diffuser Ø250mm, 0.08 m³/s, c/w acoustic plenum box (Studio 3, 01-STU-101)	3	nr		
Q	(SG-1-40) - circular air valve Ø160mm, 0.04 m³/s (Accessible WC, 01-WC-102)	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	(SG-1-41)-(SG-1-42) - rectangular 4-way diffuser 600 x 600mm, 0.07 m³/s, c/w acoustic plenum box (Male WC, 01-WC-104)	2	nr		
B	(SG-1-43)-(SG-1-44) - rectangular 4-way diffuser 600 x 600mm, 0.09 m³/s, c/w acoustic plenum box (Female WC, 01-WC-105)	2	nr		
C	(SG-1-45)-(SG-1-48) - circular diffuser Ø250mm, 0.10 m³/s, c/w acoustic plenum box (Studio 1, 01-STU-115)	3	nr		
D	(SG-1-49)-(SG-1-52) - circular diffuser Ø250mm, 0.08 m³/s, c/w acoustic plenum box (Studio 2, 01-STU-116)	4	nr		
E	(SG-T01) - floor diffuser circular Ø160mm, 0.02 m³/s (Lecture Hall, 02-CLASS-215)	50	nr		
F	(SG-2-01)-(SG-2-06) - circular diffuser Ø250mm, 0.10 m³/s, c/w acoustic plenum box (Classroom, 02-CLASS-212)	6	nr		
G	(SG-2-07)-(SG-2-12) - circular diffuser Ø250mm, 0.10 m³/s, c/w acoustic plenum box (Classroom, 02-CLASS-211)	6	nr		
H	SG-2-13)-(SG-2-18) - circular diffuser Ø250mm, 0.10 m³/s, c/w acoustic plenum box (Classroom, 02-CLASS-210)	6	nr		
J	(SG-2-19)-(SG-2-24) - circular diffuser Ø250mm, 0.10 m³/s, c/w acoustic plenum box (Classroom, 02-CLASS-209)	6	nr		
K	(SG-2-25) - double deflection grille 400 x 200mm, 0.06 m³/s, c/w acoustic plenum box (Corridor, 02-HCOM-250)	1	nr		
L	(SG-2-26)-(SG-2-28) - circular diffuser Ø250mm, 0.10 m³/s, c/w acoustic plenum box (6 Person Office, 02-OFF-201)	3	nr		
M	(SG-2-29)-(SG-2-30) - circular diffuser Ø250mm, 0.10 m³/s, c/w acoustic plenum box (Staff Room, 02-STAFF-202)	2	nr		
N	(SG-2-31) - circular air valve Ø160mm, 0.03 m³/s (Accessible WC, 02-WC-203)	1	nr		
P	(SG-2-32)-(SG-2-33) - rectangular 4-way diffuser 600 x 600mm, 0.065 m³/s, c/w acoustic plenum box (Male WC, 02-WC-205)	2	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	SG-2-34)-(SG-2-35) - rectangular 4-way diffuser 600 x 600mm, 0.09 m³/s, c/w acoustic plenum box (Female WC, 02-WC-206)	2	nr		
B	(SG-2-36)-(SG-2-37) - circular diffuser Ø350mm, 0.15 m³/s, c/w acoustic plenum box (2 Person Office, 02-OFF-218)	2	nr		
C	(SG-2-38)-(SG-2-39) - circular diffuser Ø350mm, 0.15 m³/s, c/w acoustic plenum box (Meeting Room, 02-OFF-217)	2	nr		
D	(SG-2-40)-(SG-2-41) - circular diffuser Ø350mm, 0.15 m³/s, c/w acoustic plenum box (4 Person Office, 02-OFF-216)	2	nr		
E	(SG-2-42) - double deflection grille 400 x 200mm, 0.06 m³/s, c/w acoustic plenum box (Gallery 252)	1	nr		
F	(SG-2-43) - double deflection grille 400 x 200mm, 0.06 m³/s, c/w acoustic plenum box (Gallery 251)	1	nr		
G	(SG-2-44) - double deflection grille 800 x 300mm, 0.50 m³/s (Plantroom passive air intake)	1	nr		
	Return air gilles				
H	(EG-0-01) - circular diffuser Ø160mm, 0.02 m³/s, c/w acoustic plenum box (Equipment Storage 2, 00-STO-013-2)	1	nr		
J	(EG-0-02) - double deflection grille 500 x 200mm, 0.09 m³/s, c/w acoustic plenum box (Gallery, 00-HCOM-052)	1	nr		
K	(EG-0-03) - circular diffuser Ø160mm, 0.02 m³/s, c/w acoustic plenum box (Lab Store, 00-STO-011)	1	nr		
L	(EG-0-04) - rectangular bellmouth 300 x 300mm, 0.15 m³/s (Bio Mechanics Lab, 00-LAB-010)	1	nr		
M	(EG-0-05) - rectangular bellmouth 700 x 300mm, 0.4 m³/s (Classroom, 00-CLASS-009)	1	nr		
N	(EG-0-06)-(EG-0-10) - circular air valve Ø160mm, 0.042 m³/s (Female WC & Showers, 00-WC-006)	5	nr		
P	(EG-0-11)-(EG-0-15) - circular air valve Ø160mm, 0.042 m³/s (Male WC & Showers, 00-WC-008)	1	nr		
Q	(EG-0-16) - circular air valve Ø250mm, 0.095 m³/s (Accessible WC & Shower, 00-WC-005)	1	nr		
R	(EG-0-17) - circular air valve Ø250mm, 0.09 m³/s (Changing Place, 00-WC-003)	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	(EG-0-18) - circular air valve Ø160mm, 0.03 m³/s (Accessible WC, 00-WC-002)	1	nr		
B	(EG-0-19)-(EG-0-20) - circular diffuser 200 x 150mm, 0.06 m³/s (Reception Office, 00-OFF-001)	1	nr		
C	(EG-0-21) - circular air valve Ø160mm, 0.095 m³/s (Clean Storage, 00-STO-007)	1	nr		
D	(EG-0-22) - circular air valve Ø160mm, 0.09 m³/s (Storage, 00-STO-004)	1	nr		
E	(EG-1-02) - double deflection grille 300 x 200mm, 0.06 m³/s, c/w acoustic plenum box (Gallery, 01-HCOM-153)	1	nr		
F	(EG-1-03)-(EG-1-04) - rectangular bellmouth 300 x 250mm, 0.11 m³/s (Physiology Lab, 01-LAB-112)	2	nr		
G	(EG-1-05) - double deflection grille 400 x 200mm, 0.06 m³/s, c/w acoustic plenum box (Gallery, 01-HCOM-152)	1	nr		
H	(EG-1-06) - rectangular bellmouth 300 x 250mm, 0.12 m³/s (Project Lab, 01-LAB-100)	1	nr		
J	(EG-1-07)-(EG-1-08) - rectangular 4-way diffuser 600 x 600mm, 0.03 m³/s, c/w acoustic plenum box (Bio Chemistry Lab, 01-LAB-111)	2	nr		
K	(EG-1-09) - circular diffuser Ø160mm, 0.02 m³/s, c/w acoustic plenum box (Lab Store, 01-STO-110)	1	nr		
L	(EG-1-10) - rectangular bellmouth 300 x 250mm, 0.12 m³/s (Project Lab, 01-LAB-108)	1	nr		
M	(EG-1-11) - double deflection grille 400 x 200mm, 0.06 m³/s, c/w acoustic plenum box (Gallery, 01HCOM-150)	1	nr		
N	(EG - XX) - double deflection grille 400 x 200mm, 0.06 m³/s, c/w acoustic plenum box (Gallery, 01-HCOM-154) [ref missing on schedule — see flag]	1	nr		
P	(EG-1-12)-(EG-1-14) - circular diffuser Ø250mm, 0.085 m³/s, c/w acoustic plenum box (Studio 3, 01-STU-101)	2	nr		
Q	(EG-1-15) - circular air valve Ø160mm, 0.03 m³/s (Accessible WC, 01-WC-102)	1	nr		
R	(EG-1-16)-(EG-1-18) - circular air valve Ø160mm, 0.045 m³/s (Male WC, 01-WC-104)	3	nr		

To Collection €

	Description	Qty	Unit	Rate	Amount
A	(EG-1-19)-(EG-1-22) - circular air valve Ø160mm, 0.055 m³/s (Female WC, 01-WC-105)	4	nr		
B	(EG-1-23)-(EG-1-25) - circular diffuser Ø250mm, 0.13 m³/s, c/w acoustic plenum box (Studio 1, 01-STU-115)	2	nr		
C	(EG-1-26)-(EG-1-27) - circular diffuser Ø250mm, 0.14 m³/s, c/w acoustic plenum box (Studio 2, 01-STU-116)	2	nr		
D	(EG-2-01) - rectangular bellmouth 2400 x 800mm, 1.0 m³/s (Lecture Hall, 02-CLASS-215)	1	nr		
E	(EG-2-02)-(EG-2-04) - circular diffuser Ø250mm, 0.02 m³/s, c/w acoustic plenum box (6 Person Office, 02-OFF-201)	3	nr		
F	(EG-2-05) - circular diffuser Ø250mm, 0.06 m³/s, c/w acoustic plenum box (Staff Room, 02-STAFF-202)	1	nr		
G	(EG-2-06) - circular air valve Ø160mm, 0.03 m³/s (Accessible WC, 02-WC-203)	1	nr		
H	(EG-2-07)-(EG-2-09) - circular air valve Ø160mm, 0.045 m³/s (Male WC, 02-WC-205)	3	nr		
J	(EG-2-10)-(EG-2-13) - circular air valve Ø160mm, 0.04 m³/s (Female WC, 02-WC-206)	4	nr		
K	(EG-2-14) - circular diffuser Ø160mm, 0.02 m³/s, c/w acoustic plenum box (2 Person Office, 02-OFF-218)	1	nr		
L	(EG-2-15) - circular diffuser Ø160mm, 0.08 m³/s, c/w acoustic plenum box (Meeting Room, 02-OFF-217)	1	nr		
M	(EG-2-16) - circular diffuser Ø160mm, 0.04 m³/s, c/w acoustic plenum box (4 Person Office, 02-OFF-216)	1	nr		
N	(EG-2-17) - double deflection grille 400 x 200mm, 0.06 m³/s, c/w acoustic plenum box (Corridor, 02-HCOM-250)	1	nr		
P	(EG-2-18) - double deflection grille 400 x 200mm, 0.06 m³/s, c/w acoustic plenum box (Gallery 252)	1	nr		
Q	(EG-2-19) - double deflection grille 400 x 200mm, 0.06 m³/s, c/w acoustic plenum box (Gallery 251)	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Accessories associated with terminal equipment and fittings (which include Valves, Thermostats, Controls, Other)				
	Automatic fire and smoke dampers				
A	FSD-0-01 - fire/smoke damper Ø160, 60 min, installed within vertical wall (Equipment Storage 013-2)	1	nr		
B	FSD-0-02 - fire/smoke damper Ø160, 60 min, installed within vertical wall (Equipment Storage 013-2)	1	nr		
C	FSD-0-03 - fire/smoke damper Ø160, 60 min, installed within vertical wall (Lab Store 011)	1	nr		
D	FSD-0-04 - fire/smoke damper Ø160, 60 min, installed within vertical wall (Lab Store 011)	1	nr		
E	FSD-0-05 - fire/smoke damper 450 x 250, 60 min, installed within vertical wall (Equipment Storage 012)	1	nr		
F	FSD-0-06 - fire/smoke damper 450 x 250, 60 min, installed within vertical wall (Equipment Storage 012)	1	nr		
G	FSD-0-07 - fire/smoke damper 400 x 200, 30 min, installed within vertical wall (Clean Storage 007)	1	nr		
H	FSD-0-08 - fire/smoke damper 400 x 200, 30 min, installed within vertical wall (Clean Storage 007)	1	nr		
J	FSD-0-09 - fire/smoke damper 400 x 200, 30 min, installed within vertical wall (Clean Storage 007)	1	nr		
K	FSD-0-10 - fire/smoke damper 400 x 200, 30 min, installed within vertical wall (Clean Storage 007)	1	nr		
L	FSD-0-11 - fire/smoke damper 600 x 200, 30 min, installed within vertical wall (Clean Storage 007)	1	nr		
M	FSD-0-12 - fire/smoke damper 600 x 200, 30 min, installed within vertical wall (Male WC & Shower 008)	1	nr		
N	FSD-0-13 - fire/smoke damper 600 x 200, 30 min, installed within vertical wall (Corridor 051)	1	nr		
P	FSD-0-15 - fire/smoke damper 300 x 200, 30 min, installed within vertical wall (Storage 004)	1	nr		
Q	FSD-0-16 - fire/smoke damper 300 x 200, 30 min, installed within vertical wall (Storage 004)	1	nr		
R	FSD-1-02 - fire/smoke damper 1200 x 400, 60 min, installed within vertical wall (Stair Core 125)	1	nr		

	Description	Qty	Unit	Rate	Amount
A	FSD-1-04 - fire/smoke damper 1200 x 400, 60 min, installed within vertical wall (ICT Room 114)	1	nr		
B	FSD-1-07 - fire/smoke damper 200 x 150, 30 min, installed within vertical wall (Physiology Lab 112)	1	nr		
C	FSD-1-08 - fire/smoke damper 200 x 150, 30 min, installed within vertical wall (Physiology Lab 112)	1	nr		
D	FSD-1-09 - fire/smoke damper 300 x 200, 30 min, installed within vertical wall (Physiology Lab 112)	1	nr		
E	FSD-1-10 - fire/smoke damper 300 x 200, 30 min, installed within vertical wall (Physiology Lab 112)	1	nr		
F	FSD-1-11 - fire/smoke damper 300 x 200, 30 min, installed within vertical wall (Physiology Lab 112)	1	nr		
G	FSD-1-12 - fire/smoke damper 450 x 200, 30 min, installed within vertical wall (Biochemistry Lab 111)	1	nr		
H	FSD-1-13 - fire/smoke damper Ø160, 30 min, installed within vertical wall (Lab Store 110)	1	nr		
J	FSD-1-14 - fire/smoke damper Ø160, 30 min, installed within vertical wall (Lab Store 110)	1	nr		
K	FSD-1-15 - fire/smoke damper 300 x 200, 30 min, installed within vertical wall (Mech Riser 107)	1	nr		
L	FSD-1-16 - fire/smoke damper 400 x 300, 30 min, installed within vertical wall (Mech Riser 107)	1	nr		
M	FSD-1-17 - fire/smoke damper 400 x 200, 30 min, installed within vertical wall (Mech Riser 106a)	1	nr		
N	FSD-1-18 - fire/smoke damper 400 x 200, 30 min, installed within vertical wall (Mech Riser 106a)	1	nr		
P	FSD-1-19 - fire/smoke damper 400 x 200, 30 min, installed within vertical wall (Accessible WC 102)	1	nr		
Q	FSD-1-20 - fire/smoke damper 400 x 200, 30 min, installed within vertical wall (Accessible WC 102)	1	nr		
R	FSD-1-32 - fire/smoke damper 600 x 400, 60 min, installed within slab (Mech Riser 106a Slab)	1	nr		
S	FSD-1-33 - fire/smoke damper 600 x 400, 60 min, installed within slab (Mech Riser 106a Slab)	1	nr		
T	FSD-1-30 - fire/smoke damper 700 x 300, 60 min, installed within slab (Mech Riser 107 Slab)	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	FSD-1-31 - fire/smoke damper 500 x 250, 60 min, installed within slab (Mech Riser 107 Slab)	1	nr		
B	FSD-1-23 - fire/smoke damper 200 x 150, 60 min, installed within slab (Studio 1 Slab)	1	nr		
C	FSD-1-24 - fire/smoke damper 200 x 150, 60 min, installed within slab (Studio 1 Slab)	1	nr		
D	FSD-1-25 - fire/smoke damper 400 x 200, 60 min, installed within slab (Studio 2 Slab)	1	nr		
E	FSD-1-27 - fire/smoke damper 400 x 200, 60 min, installed within slab (Studio 2 Slab)	1	nr		
F	FSD-1-28 - fire/smoke damper 500 x 350, 60 min, installed within slab (Mech Riser 113 Slab)	1	nr		
G	FSD-1-29 - fire/smoke damper 450 x 250, 60 min, installed within slab (Mech Riser 113 Slab)	1	nr		
	Automatic fire and smoke dampers				
H	FSD-2-01 - fire/smoke damper 400 x 200, 30 min, installed within vertical wall (Mech Riser 207a)	1	nr		
J	FSD-2-02 - fire/smoke damper 400 x 200, 30 min, installed within vertical wall (Mech Riser 207a)	1	nr		
K	FSD-2-03 - fire/smoke damper 350 x 200, 60 min, installed within vertical wall (Staff Room 202)	1	nr		
L	FSD-2-04 - fire/smoke damper 350 x 200, 60 min, installed within vertical wall (Staff Room 202)	1	nr		
M	FSD-2-05 - fire/smoke damper 400 x 200, 60 min, installed within vertical wall (4 Person Office 216)	1	nr		
N	FSD-2-06 - fire/smoke damper 400 x 200, 60 min, installed within vertical wall (4 Person Office 216)	1	nr		
P	FSD-2-07 - fire/smoke damper 1200 x 400, 60 min, installed within slab (Storage 214 Slab)	1	nr		
Q	FSD-2-08 - fire/smoke damper 1200 x 400, 60 min, installed within slab (Lecture Hall 215 Slab)	1	nr		
R	FSD-2-09 - fire/smoke damper 600 x 400, 60 min, installed within slab (Mech Riser 207a Slab)	1	nr		
S	FSD-2-10 - fire/smoke damper 600 x 400, 60 min, installed within slab (Mech Riser 207a Slab)	1	nr		
T	FSD-2-11 - fire/smoke damper 500 x 250, 60 min, installed within slab (Mech Riser 208 Slab)	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	FSD-2-12 - fire/smoke damper 800 x 500, 60 min, installed within slab (Mech Riser 208 Slab)	1	nr		
B	FSD-2-13 - fire/smoke damper 800 x 250, 60 min, installed within slab (Riser beside Accessible WC 203 Slab)	1	nr		
C	FSD-2-14 - fire/smoke damper 400 x 200, 60 min, installed within slab (Riser beside Accessible WC 203 Slab)	1	nr		
D	FSD-2-15 - fire/smoke damper 500 x 350, 60 min, installed within slab (Mech Riser 2013a Slab)	1	nr		
E	FSD-2-16 - fire/smoke damper 500 x 350, 60 min, installed within slab (Mech Riser 2013a Slab)	1	nr		
F	FSD-2-17 - fire/smoke damper 200 x 150, 60 min, installed within slab (Space 308 Slab)	1	nr		
G	FSD-2-18 - fire/smoke damper 200 x 150, 60 min, installed within slab (Plantroom Slab)	1	nr		
H	FSD-2-19 - fire/smoke damper 350 x 200, 60 min, installed within slab (Plantroom Slab)	1	nr		
J	FSD-2-20 - fire/smoke damper 400 x 200, 60 min, installed within slab (Plantroom Slab)	1	nr		
K	FSD-2-21 - fire/smoke damper 350 x 200, 60 min, installed within slab (Plantroom Slab)	1	nr		
	Schedule of roof cowls (exhaust air roof cowls)				
L	RC-R01 - exhaust air roof cowl, AHU-01 fresh air intake, 3.7 m³/s, 1.46 m² free area, grille 2.93 m² at 50 % free area, NR40, c/w transition pieces & weather protection (Roof)	1	nr		
M	RC-R02 - exhaust air roof cowl, AHU-01 exhaust air, 3.7 m³/s, 1.46 m² free area, grille 2.93 m² at 50% free area, NR40, c/w transition pieces & weather protection (Roof)	1	nr		
N	RC-R03 - exhaust air roof cowl, Plantroom intake, 0.6 m³/s, 0.24 m² free area, grille 0.48 m² at 50% free area, NR40 (Roof)	1	nr		
P	RC-R04 - exhaust air roof cowl, Plantroom exhaust, 0.6 m³/s, 0.24 m² free area, grille 0.48 m² at 50% free area, NR40 (Roof)	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Schedule of attenuators				
A	ATT-001 - duct attenuator, 1200 x 600mm, 900mm long, 3.65 m³/s, NR35 (General Areas / 02-PLANT-215)	1	nr		
B	ATT-002 - duct attenuator, 1200 x 600mm, 900mm long, 3.6 m³/s, NR35 (General Areas / 02-PLANT-216)	1	nr		
C	ATT-003 - duct attenuator, 600 x 400mm, 900mm long, 1.295 m³/s, NR40 (Toilet Areas / 03-Roof Level)	1	nr		
D	ATT-004 - duct attenuator, 600 x 400mm, 900mm long, 1.295 m³/s, NR40 (Toilet Areas / 03-Roof Level)	1	nr		
E	ATT-005 - duct attenuator, 1200 x 400mm, 900mm long, 1.2 m³/s, NR35 (Lecture Hall / 03-Roof Level)	1	nr		
F	ATT-006 - duct attenuator, 1200 x 400mm, 900mm long, 1.2 m³/s, NR35 (Lecture Hall / 03-Roof Level)	1	nr		
G	ATT-007 - duct attenuator, 1200 x 400mm, 900mm long, 1.2 m³/s, NR20 (Lecture Hall / 02-CLASS -215 ceiling void)	1	nr		
H	ATT-008 - duct attenuator, 1200 x 400mm, 900mm long, 1.2 m³/s, NR20 (Lecture Hall / 02-CLASS-215 floor plenum)	1	nr		
	VCD's				
J	160mm diameter	32	nr		
K	200mm diameter	14	nr		
L	250mm diameter	92	nr		
M	350mm diameter	6	nr		
N	200 x 200mm main duct/200mm final connection	2	nr		
P	200mmx250mm main duct/250mm final connection	2	nr		
Q	200x300mm main duct/250mm final connection	6	nr		
R	250x250mm main duct/250mm final connection	4	nr		
S	200x150mm diameter	23	nr		
T	200mmx200mm diameter	3	nr		
U	150x300mm diameter	2	nr		
V	100mmx200mm diameter	6	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	100x250mm diameter	3	nr		
B	200x250mm diameter	6	nr		
C	200x400mm diameter	2	nr		
D	400x100mm diameter	2	nr		
	Attenuator				
	Attenuator – rectangular splitter or circular, system-side/atmospheric on AHUs and fans, or duct-mounted (cl. 9.5).				
E	600 x 400mm	2	nr		
F	1200 x 400mm	5	nr		
G	1400 x 500mm	1	nr		
	SA Bellmounth				
H	1400 x 600mm	1	nr		
	RA Bellmounth				
J	250x300mm diameter	4	nr		
K	300mmx300mm diameter	1	nr		
L	800x300mm diameter	1	nr		
M	300x700mm diameter	1	nr		
	Distribution System (which include pipework, ductwork)				
	Ductwork Within Building				
	All joints/fittings in running lengths, brackets, supports, couplers, sleeves, wall/floor plates, anchors, expansion loops/bellows, cutting and marking-out are deemed included (Supp.2 p.7). Materials/sizes/routes as drawings & Specification. Access openings, test holes, turning vanes and weathering aprons deemed included in the ductwork item.				
	Ductwork distribution – galvanised sheet-steel to BESA DW/144 (rectangular & circular), smoke-extract ductwork to IS EN 12101-7 (tested EN 1366-8/-9, third-party certified), fire-resisting ductwork to prEN 15871, and flexible ductwork; all classes/sizes with fittings, joints, supports, access openings and test holes as drawings and cl. 9.2.				

	Description	Qty	Unit	Rate	Amount
A	160mm diameter	1	item		
B	200mm diameter	1	item		
C	250mm diameter	1	item		
D	100 x 200mm	1	item		
E	150 x 300mm	1	item		
F	100 x 250mm	1	item		
G	200 x 150mm	1	item		
H	200 x 200mm	1	item		
J	200 x 250mm	1	item		
K	200 x 300mm	1	item		
L	200 x 400mm	1	item		
M	200 x 500mm	1	item		
N	200 x 600mm	1	item		
P	200 x 700mm	1	item		
Q	250 x 250mm	1	item		
R	400 x 100mm	1	item		
S	400 x 300mm	1	item		
T	450 x 200mm	1	item		
U	450 x 250mm	1	item		
V	500 x 250mm	1	item		
W	500 x 350mm	1	item		
X	600 x 400mm	1	item		
Y	700 x 250mm	1	item		
Z	800 x 500mm	1	item		
AA	800 x 300mm	1	item		
BB	800 x 250mm	1	item		
CC	1000x 550mm	1	item		
DD	1100 x 500mm	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	1200 x 400mm	1	item		
B	1200 x 600mm	1	item		
C	1400 x 500mm	1	item		
D	1400 x 600mm	1	item		
	Ducting On Roof				
E	110mm (on new roof)	1	item		
F	200 x 450mm (on new roof)	1	item		
G	300 x 500mm (on new roof)	1	item		
H	400 x 200mm (on new roof)	1	item		
J	500 x 350mm (on new roof)	1	item		
K	500 x 250mm (on new roof)	1	item		
L	600 x 400mm (on new roof)	1	item		
M	700 x 350mm (on new roof)	1	item		
N	800 x 500mm (on new roof)	1	item		
P	800 x 250mm (on new roof)	1	item		
Q	1000 x 550mm (on new roof)	1	item		
R	1200 x 400mm (on new roof)	1	item		
S	1200 x 500 (on new roof)	1	item		
T	1400 x 500mm (on new roof)	1	item		
	Insulation (to pipework, ductwork)				
	Insulation to Ductwork				
	Thermal & Acoustic Insulation to Ducting Within Building				
U	160mm diameter	1	item		
V	200mm diameter	1	item		
W	250mm diameter	1	item		
X	100 x 200mm	1	item		
Y	150 x 300mm	1	item		

To Collection €

	Description	Qty	Unit	Rate	Amount
A	100 x 250mm	1	item		
B	200 x 150mm	1	item		
C	200 x 200mm	1	item		
D	200 x 250mm	1	item		
E	200 x 300mm	1	item		
F	200 x 400mm	1	item		
G	200 x 500mm	1	item		
H	200 x 600mm	1	item		
J	200 x 700mm	1	item		
K	250 x 250mm	1	item		
L	400 x 100mm	1	item		
M	400 x 300mm	1	item		
N	450 x 200mm	1	item		
P	450 x 250mm	1	item		
Q	500 x 250mm	1	item		
R	500 x 350mm	1	item		
S	600 x 400mm	1	item		
T	700 x 250mm	1	item		
U	800 x 500mm	1	item		
V	800 x 300mm	1	item		
W	800 x 250mm	1	item		
X	1000x 550mm	1	item		
Y	1100 x 500mm	1	item		
Z	1200 x 400mm	1	item		
AA	1200 x 600mm	1	item		
BB	1400 x 500mm	1	item		
CC	1400 x 600mm	1	item		
	Ducting On Roof				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	110mm (on new roof)	1	Item		
B	200 x 450mm (on new roof)	1	item		
C	300 x 500mm (on new roof)	1	item		
D	400 x 200mm (on new roof)	1	item		
E	500 x 350mm (on new roof)	1	item		
F	500 x 250mm (on new roof)	1	item		
G	600 x 400mm (on new roof)	1	item		
H	700 x 350mm (on new roof)	1	item		
J	800 x 500mm (on new roof)	1	item		
K	800 x 250mm (on new roof)	1	item		
L	1000 x 550mm (on new roof)	1	item		
M	1200 x 400mm (on new roof)	1	item		
N	1200 x 500 (on new roof)	1	item		
P	1400 x 500mm (on new roof)	1	item		
	(General) – testing, balancing & documentation (cl. 9.11.14)				
Q	Ductwork leakage testing to BESA DW/143; air-balancing to CIBSE Commissioning Code A with on-site fan-duty tuning (cl. 9.11.14).	1	item		
R	Ductwork cleanliness verified to BESA TR/19; commissioning records, O&M manuals and record drawings.	1	item		
	General Items as per ARM4 Supplement 2				
S	^^^Testing and commissioning	1	item		
T	^^^Flushing & Sterilisation of water carrying systems prior to handover	1	item		
U	^^^Operating and maintenance manuals	1	item		
V	^^^Working drawings	1	item		
W	^^^Co-ordination drawings	1	item		
X	^^^As built drawings & data books	1	item		
Y	^^^Identification plates, labels and the like	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Mock-ups	1	item		
B	^^^Staff demonstrations and training	1	item		
C	^^^Recommissioning of all systems following one full year of operation	1	item		
D	^^^Co-ordination of Services	1	item		
E	^^^Decommissioning and removal of all redundant services	1	item		
F	^^^Builders work	1	item		
G	^^^Fire stopping and other associated fire protection work	1	item		
H	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	PROTECTIVE SERVICES (ELEMENT 58)				
	(System) – PROTECTIVE SERVICES (FIRE PROTECTION) (cl. 10.1–10.2)				
J	Protective-services installation – provide all labour, materials, transport and access for the works shown on the drawings and schedules; engage a specialist fire-protection supplier to determine extinguisher provision from the fire risk assessment, with design responsibility and CIF 01(Cs) Annex 2 certification (cl. 10.1/10.2).	1	item		
	CATEGORY 4 (Terminal Equipment & Fittings) – (nr) (cl. 10.2–10.4)				
	Portable fire extinguisher to I.S. 291 / EN 3, with bracket/stand, fixings and label; commissioned & certified (type/rating per FRA) (cl. 10.2).				
K	00-HPAC-015 - 2kg CO_2 fire extinguisher (Athletic centre)	5	nr		
L	00-HPAC-015 - 6 litre water fire extinguisher (Athletic centre)	5	nr		
M	00-HCOM-050 - 2kg CO_2 fire extinguisher (Entrance lobby)	2	nr		
N	00-HCOM-050 - 6 litre water fire extinguisher (Entrance lobby)	2	nr		
P	00-HCOM-052 - 2kg CO_2 fire extinguisher (Gallery)	2	nr		

	Description	Qty	Unit	Rate	Amount
A	00-HCOM-052 - 6 litre water fire extinguisher (Gallery)	1	nr		
B	00-VCOM-025 - 2kg CO_2 fire extinguisher (Stair 1)	1	nr		
C	00-VCOM-025 - 6 litre water fire extinguisher (Stair 1)	2	nr		
D	OO-ICT-016 - 5kg CO_2 fire extinguisher (Main switch room)	1	nr		
E	OO-LAB-010 - 6 litre water fire extinguisher (Bio-mechanics lab)	1	nr		
F	01-HCOM-154 - 2kg CO_2 fire extinguisher (Gallery bridge)	1	nr		
G	01-HCOM-154 - 6 litre water fire extinguisher (Gallery bridge)	1	nr		
H	01-HCOM-151 - 2kg CO_2 fire extinguisher (Gallery)	2	nr		
J	01-HCOM-151 - 6 litre water fire extinguisher (Gallery)	2	nr		
K	01-HCOM-152 - 2kg CO_2 fire extinguisher (Gallery)	1	nr		
L	01-HCOM-152 - 6 litre water fire extinguisher (Gallery)	1	nr		
M	01-HCOM-153 - 2kg CO_2 fire extinguisher (Gallery)	1	nr		
N	01-HCOM-153 - 6 litre water fire extinguisher (Gallery)	1	nr		
P	01-LAB-112 - 2kg CO_2 fire extinguisher (Physiology lab)	1	nr		
Q	01-LAB-109 - 2kg CO_2 fire extinguisher (Project lab)	1	nr		
R	02-PLANT-215 - 9kg dry powder fire extinguisher (Plant)	1	nr		
S	02-PLANT-215 - 5kg CO_2 fire extinguisher (Plant)	1	nr		
T	02-HCOM-250 - 2kg CO_2 fire extinguisher (Corridor)	1	nr		
U	02-HCOM-250 - 6 litre water fire extinguisher (Corridor)	1	nr		
V	02-HCOM-251 - 2kg CO_2 fire extinguisher (Gallery)	1	nr		
W	02-HCOM-251 - 6 litre water fire extinguisher (Gallery)	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	02-HCOM-252 - 2kg CO_2 fire extinguisher (Gallery)	1	nr		
B	02-HCOM-252 - 6 litre water fire extinguisher (Gallery)	1	nr		
C	O2-HCOM-252 - 5kg CO_2 fire extinguisher (Gallery)	1	nr		
	Glass-fibre fire blanket to IS EN 1869, 1.5m × 1.5m, in cylinder with wall bracket (cl. 10.3).				
D	00-LAB-010 - fire blanket 1 x 1m (Bio- mechanics lab)	1	nr		
E	01-LAB-112 - fire blanket 1 x 1m (Physiology lab)	1	nr		
F	01-LAB-109 - fire blanket 1 x 1m (Project lab)	1	nr		
G	Dry-riser two-way inlet breeching (100mm), 2 × 65mm inlets with NRVs, in BS 5041 cabinet, RAL 3002 (cl. 10.4).	1	item		
H	Dry-riser horizontal landing valve to BS 5041, with wall box, at each landing (cl. 10.4).	1	item		
	(Accessories associated with Terminal Equipment) – (nr)				
J	Fire safety signage – extinguisher ID signs, fire-action notices, fire-point signs to I.S. 291 (cl. 10.2).	1	item		
K	Dry-riser drain valve at low points and automatic air-release valve at top of riser (cl. 10.4).	1	nr		
	(Distribution System) – dry-riser main = item (cl. 10.4)				
	All joints/fittings in running lengths, brackets, supports, couplers, sleeves, wall/floor plates, anchors, expansion loops/bellows, cutting and marking-out are deemed included (Supp.2 p.7). Materials/sizes/routes as drawings & Specification.)				
L	Dry-riser rising main – heavy-grade galvanised steel to IS EN 10255 with galvanised malleable-iron fittings to IS EN 10241, screwed/flanged, supports, identification (BS 1710); all as drawings and BS 9990/BS 5041. (NOTE - Earthing by Electrical Contractor.)	1	item		
	(General) – testing & documentation (cl. 10.4)				
M	Pressure test, flush, commission and certify the dry riser to BS 9990/BS 5041, with method statements and documentation (cl. 10.4).	1	item		
N	Commissioning/certification of extinguishers and blankets; O&M manuals and record drawings.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	General Items as per ARM4 Supplement 2				
A	^^^Testing and commissioning	1	item		
B	^^^Flushing & Sterilisation of water carrying systems prior to handover	1	item		
C	^^^Operating and maintenance manuals	1	item		
D	^^^Working drawings	1	item		
E	^^^Co-ordination drawings	1	item		
F	^^^As built drawings & data books	1	item		
G	^^^Identification plates, labels and the like	1	item		
H	^^^Mock-ups	1	item		
J	^^^Staff demonstrations and training	1	item		
K	^^^Recommissioning of all systems following one full year of operation	1	item		
L	^^^Co-ordination of Services	1	item		
M	^^^Decommissioning and removal of all redundant services	1	item		
N	^^^Builders work	1	item		
P	^^^Fire stopping and other associated fire protection work	1	item		
Q	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	AUTOMATIC CONTROLS (BMS SYSTEM) (ELEMENT 59)				
	General - BMS / AUTOMATIC CONTROLS INSTALLATION (System) (cl. 11.1–11.3)				
R	BMS system installation – complete design, supply, install, test, commission and demonstrate the building management system on the Tridium Niagara 4 Framework: Enterprise Integration Platform, database, control-strategy software for all plant, metadata tagging / Data Plan, cyber-security, fibre-network link, and attendance at design meetings; incl. 30% spare I/O and spare panel capacity (cl. 11.1–11.3/11.14).	1	item		

	Description	Qty	Unit	Rate	Amount
	Primary Equipment (which include boiler, main storage tank. ahu, fan etc.)				
A	Niagara Web Supervisor / front-end BMS PC-supervisor controller (cl. 11.2.1/11.3).	1	item		
B	Intelligent BMS outstation (≤24 I/O, battery back-up, local display, 30% spare I/O) (cl. 11.2.2).	1	item		
C	Niagara JACE controller (cl. 11.2.2).	1	item		
D	Main BMS MCC plant-room panel, Form 3B Type 2, IP54, up to 250A, with starters/protection/metering (cl. 11.5).	1	item		
E	BMS outstation MCC panel to suit plant served (cl. 11.5).	1	item		
	Accessories associated with primary equipment (cl. 11.4, 11.8)				
F	BMS-programmable unitary fan-coil controller (cl. 11.4.6) - One per FCU.	34	nr		
G	BMS workstation laptop (specified minimum) with software and dongle (cl. 11.8).	1	item		
H	A3 colour laser printer with driver (cl. 11.8).	1	item		
J	Pager interface to Client's existing system (cl. 11.8).	1	item		
K	Ultrasonic oil-level monitoring of the Generator Oil Storage Tank with local display and BMS connection (cl. 11.11.2).	1	item		
	Accessories associated with Terminal Equipment & Fittings (which include field devices (cl. 11.11) (Field sensors/detectors/thermostats – MCC Schedule of Equipment.)				
L	Room thermostat / duct & frost thermostat / immersion thermostat / safety thermostat (cl. 11.11).	1	item		
M	CO_2 sensor (room and return-air bellmouth per level), 0–2500 ppm with display (cl. 11.11).	1	item		
N	Pressure switch (pipework/ductwork) / differential-pressure switch across fans / flow switch / current switch (cl. 11.11).	1	item		
P	Humidistat / humidity sensor / temperature sensor / pressure sensor (cl. 11.11).	1	item		
Q	Differential-pressure sensor (4–20mA) for variable-speed pump control (cl. 11.11).	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Presence / occupancy detector for mixed-mode ventilation control (cl. 11.11).	1	item		
B	ELV power supply unit / transformer for controls devices (cl. 11.11.1).	1	item		
	Accessories associated with Terminal Equipment – actuators (cl. 11.12)				
C	Modulating control-valve actuator, 24V, 0–10V/4 –20mA, manual override, position feedback; factory-matched to valve (cl. 11.12) - Valve bodies measured in Elements 56/55.	1	item		
D	On/off control-valve actuator with limit switches (cl. 11.12).	1	item		
E	Damper actuator – modulating (≤4 m²/actuator) (cl. 11.11.2).	1	item		
F	Damper actuator – on/off with limit switches (cl. 11.11.2).	1	item		
	Distribution System – network, wiring & software (cl. 11.6–11.13)				
G	BMS field wiring co-ordination and final terminations (Belden 9402 or equal); schematic wiring diagram (MTUHPAC-Z-59-Z-ZZZ-DR-JVT-ME-5101 & 5102) per panel (cl. 11.13) - Field-cable supply/install/test measured in the Electrical Bill.	1	item		
H	BMS Specialist to prepare a BMS Points List based upon JVT BMS Schematic Drawings MTUHPAC-Z-59-Z-ZZZ-DR-JVT-ME-5101 & 5102 and submit it as part of the MCC panel technical submittal for JVT & Co. Consulting Engineers Approval. - Field-cable supply/install/test measured in the Electrical Bill.	1	item		
J	BMS software – graphics/user interface for all plant, alarm management (FDA 21 CFR Part 11), energy-management software and Energy Monitoring & Targeting (M&T) (cl. 11.7/11.9/11.10).	1	item		
K	Remote Access Room Scheduling System incl. software licences (cl. 11.2.1) - 6 licences.	1	item		
L	System interfacing & integration – AHUs, natural ventilation, fire alarm, and electrical metering, to the Niagara platform (cl. 11.6).	1	item		

To Collection €

	Description	Qty	Unit	Rate	Amount
	(General) – testing, training & documentation (cl. 11.1, 11.15–11.17)				
A	Testing & commissioning – I/O testing, factory panel testing (LV), on-site field/BMS commissioning and acceptance demonstrations (cl. 11.16).	1	item		
B	Client training (5 days) and formal acceptance training for 3 people (2 days) (cl. 11.1/11.16).	1	item		
C	Record documentation, as-commissioned drawings, points list, O&M manuals, and open-Niagara licence handover with administrator credentials (cl. 11.15/11.17).	1	item		
D	Post-contract / defects attendance – 6 non-consecutive days within first 24 months (cl. 11.1).	1	item		
E	Meetings with Client/Engineer – 6 half-day design/strategy meetings (cl. 11.2.1).	1	item		
	General Items as per ARM4 Supplement 2				
F	^^^Testing and commissioning	1	item		
G	^^^Flushing & Sterilisation of water carrying systems prior to handover	1	item		
H	^^^Operating and maintenance manuals	1	item		
J	^^^Working drawings	1	item		
K	^^^Co-ordination drawings	1	item		
L	^^^As built drawings & data books	1	item		
M	^^^Identification plates, labels and the like	1	item		
N	^^^Mock-ups	1	item		
P	^^^Staff demonstrations and training	1	item		
Q	^^^Recommissioning of all systems following one full year of operation	1	item		
R	^^^Co-ordination of Services	1	item		
S	^^^Decommissioning and removal of all redundant services	1	item		
T	^^^Builders work	1	item		
U	^^^Fire stopping and other associated fire protection work	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	NATURAL VENTILATION - Section 11 of Mechanical Spec.				
	(System) – NATURAL VENTILATION SYSTEM				
B	Natural ventilation system – coordinate the integration of the complete natural ventilation control system (serving teaching spaces and the sports hall) with the Building Management System, so that motorised openable louvres and rooflights automatically maintain acceptable internal conditions and operate without conflict with the mechanical ventilation, HVRF and radiant-heating systems	1	item		
C	SCOPE BOUNDARY: the physical natural ventilation control system is provided by the Main Contractor to the Architect's specification (see Items below) – the priced mechanical/BMS scope is the coordination, interface, control-strategy programming, interlocks and commissioning of the integration.	1	item		
	(Primary Equipment) - Supplied by Others				
D	Provided by the Main Contractor / natural-ventilation specialist to the Architect's specification.		note		
E	Natural-ventilation local control panels (power supplies, protective devices, sensor/actuator interfaces, local status & fault indication, manual override facilities)	1	item		
F	Weather station providing external environmental conditions (wind, rain, temperature) to the nat-vent system	1	item		
G	Master window controller providing the BMS interface (window status, time-limited override)	1	item		
H	Dedicated smoke-ventilation (AOV) control panel interfaced with the fire alarm, for dual-purpose AOV rooflights	1	item		
	(Terminal Equipment & Field Devices) - By Others				
J	Combined internal temperature + CO_2 room sensors (one per room served), signalling to BOTH the nat-vent control system and the BMS - (Sec 11).	1	item		
K	Motorised window/louvre and rooflight actuators (0 –10V incremental opening, position feedback, EN 14351-1 anti-trap), façade louvres, rooflights and local override switches (11.1).	1	item		

To Collection €

	Description	Qty	Unit	Rate	Amount
A	AOV / natural-ventilation dual-purpose rooflights (11.2.2).	1	item		
	<u>(Controls, Software & Integration) – PRICED BMS SCOPE (Sec. 11.1–11.2)</u>				
B	BMS software interface, graphics, monitoring and control functions for the natural ventilation system – status, operating mode, measured temperature/CO_2 values, setpoints, window/louvre/rooflight positions and fault alarms (actuator/sensor/communication/power-supply faults), via the master window controller; web-based and expandable (Sec 11 / 11.1).	1	item		
C	Control-strategy programming – Second-floor classrooms: Summer Mode, Winter Mode and Night-Purge Cooling (progressive CO_2/temperature modulation of window opening, HVRF enable/disable interlock, adjustable deadbands, setpoints, min/max opening positions and delays) (Sec. 11.2.1).	1	item		
D	Control-strategy programming – Sports Hall: summer/winter changeover (default 16°C, adjustable), Summer & Winter modes with radiant-heating interlock, multi-sensor CO_2/temperature modulation of façade louvres & rooflights, weather protection and manual override (Sec. 11.2.2).	1	item		
E	Control-strategy programming – Teaching spaces/laboratories, classrooms, lecture theatre and Studio 2: monitoring of louvres, sensors and override switches, with disable of the associated air-conditioning unit upon manual louvre opening and auto-restore on closure/timeout (Sec. 11.2.3).	1	item		
F	Interlocks & coordination to prevent conflicting/simultaneous operation between the natural ventilation, HVRF, mechanical ventilation, air-conditioning and radiant-heating systems (Sec. 11.1/11.2).	1	item		
G	Time-limited manual-override integration – override status of windows to the BMS via override switch/master controller, adjustable override duration, automatic restoration of the programmed sequence on expiry, with safety functions (wind/rain/frost) not over ridable (Sec. 11.1).	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	(Interfaces) – smoke-vent & weather-station (Sec. 11.2.2)				
A	Smoke-ventilation (AOV) status & alarm MONITORING interface to the BMS – BMS to monitor status/alarms only; the smoke-ventilation function is controlled by the AOV / fire-alarm system and takes priority over all normal natural ventilation functions (Sec. 11.2.2). - Fire-alarm interface coordinated with Element 59.	1	Item		
B	Weather-station data integration to the BMS for the weather-protection override sequence (high wind, rain, frost) taking priority over normal ventilation control (Sec 11 / 11.2.2).	1	Item		
	<u>(General) – coordination, commissioning & documentation</u>				
C	Coordination with the natural-ventilation system manufacturer to obtain all control requirements, and complete commissioning of the interface between the natural ventilation system and the BMS (Sec 11).	1	item		
D	Testing, demonstration, O&M manuals and record drawings for the natural-ventilation BMS interface and integration.	1	item		
	<u>General Items as per ARM4 Supplement 2</u>				
E	^^^Testing and commissioning	1	item		
F	^^^Flushing & Sterilisation of water carrying systems prior to handover	1	item		
G	^^^Operating and maintenance manuals	1	item		
H	^^^Working drawings	1	item		
J	^^^Co-ordination drawings	1	item		
K	^^^As built drawings & data books	1	item		
L	^^^Identification plates, labels and the like	1	item		
M	^^^Mock-ups	1	item		
N	^^^Staff demonstrations and training	1	item		
P	^^^Recommissioning of all systems following one full year of operation	1	item		
Q	^^^Co-ordination of Services	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Decommissioning and removal of all redundant services	1	item		
B	^^^Builders work	1	item		
C	^^^Fire stopping and other associated fire protection work	1	item		
D	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	GENERAL				
E	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	Testing, Commissioning and Warranties				
	Testing (System-Specific)				
F	Water services: pressure testing (nitrogen) and balancing of the complete installation.	1	item		
G	HWS / HWSR: testing & balancing with recorded balanced temperatures at each outlet and overall system temperature profile	1	item		
H	Sterilisation / chlorination of the entire water services installation to BS 6700 - TWICE.	1	item		
J	Ventilation: testing, balancing and commissioning (TAB) of the ventilation installation; ductwork leakage testing (confirm class / standard - DW143/DW144).	1	item		
K	Fire / smoke dampers: commissioning with control panel, remote indicators, BMS interface and 230V actuators.	1	item		
L	Cooling / AC: refrigerant leak-detection system testing & commissioning; full T&C and demonstration of HVRF + split AC + AHU DX systems.	1	item		
M	Heating: dosing of LPHW system; ASHP commissioning (cascade / multichiller controller); flow / heat-meter commissioning.	1	item		
N	Plant: testing, balancing & commissioning of plant room (pumps, buffer vessels, heat exchangers, DHW tanks, pressurisation units, booster sets, CWST).	1	item		
P	Equipment certification: ASHPs to EN 16147 (DHW) & EN 14825:2018 (space heating); vessels pre-insulated & pressure tested; WRAS-approved wetted equipment.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Commissioning				
A	Mechanical Contractor to COORDINATE the overall commissioning programme with electrical, main contractor and all specialists (mechanical, refrigerant / F-gas, BMS, controls).	1	item		
B	BMS (Element 59): installation of control / field devices, site graphics, re-programming of central control, integration of all plant (HVRF, AHUs, dampers, pumps, ASHP, metering) via Modbus / BACnet, full T&C and demonstration to Engineers and Client.	1	item		
C	Preliminary (pre-witness) testing before inviting the Engineer; seminar / attendance of specialist suppliers.	1	item		
D	Confirm whether an independent commissioning specialist and CIBSE Commissioning Codes / BSRIA guides apply (referenced generally but not itemised in the mechanical ST).	1	item		
	Warranties, Defects, Maintenance & Seasonal Commissioning				
E	Warranties commence at Practical Completion (not at completion of testing & commissioning).	1	item		
F	Defects Liability Period 12 months; full maintenance of mechanical plant during the DLP; 24-hour fault rectification within the warranty period.	1	item		
G	Seasonal commissioning post-handover (peak heating / cooling + part-load) by the original team - heating, ventilation, cooling and BMS / energy systems.	1	item		
	Inspection and Certification				
	Inspection, Witnessing & BC(A)R				
H	Same inspection hold-points as electrical (first / second / final fix, pre-ceiling / wall closures, pre-commissioning) - 5 working days notice.	1	item		
J	Witness testing of all mechanical services & plant.	1	item		
K	Works Inspection Plan / BC(A)R duties; bi-weekly photographic evidence of concealed mechanical services.	1	item		
L	Mock-up sample rooms complete with approved mechanical services for inspection and sign-off.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Certification & Statutory				
A	BC(A)R design & completion certificates for the mechanical scope; cooperation with the Ancillary Certifier.	1	item		
B	F-gas / refrigerant handling certification for AC / HVRF / DX works (recommend itemising).	1	item		
C	Building Energy Rating minimum Part L NZEB compliance evidence.	1	item		
	Attendances				
	Attendances, Builders Work & Plinths				
D	Same specific-attendances basis as electrical: access equipment, off-loading / distribution, own waste, banksman, PPE, samples, temporary works design.	1	item		
E	Forming holes / cores < 50mm; big-foot / secondary steel supports (concrete plinths by Main Contractor); acoustic treatment of plant.	1	item		
F	Making good / dressing of penetrations; firestopping of mechanical penetrations (EN 1366 / ASFP Red Book).	1	item		
G	External gas / fire mains; sleeving and sealing of opes.	1	item		
H	Cross-reference the Builders Work Attendances Schedule (mechanical sections: installation plinths, handling of plant, plant room installation, soils & wastes, water services, cooling / refrigerant, heating, ventilation, M&E openings).	1	item		
	Sundries an Builders Work				
	Builders work, cutting, forming or leaving holes, mortices, chases or the like and subsequent making good to structure, including firestopping, fire barriers, smoke barriers, dust barriers and similar items				
J	^^^generally	1	item		
	Chases;				
K	Chase in 215mm fair-faced collar blockwork; size 100mm wide × 60mm deep; vertical chases only, depth not exceeding one-third wall thickness, cut with proper chasing tool (no impact tools), to SE-0003 cl.22; make good to match fair-faced finish.	150	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Chase in 250mm in-situ reinforced concrete; size 100mm wide × 60mm deep — note: chasing structural RC to be avoided; confirm cast-in conduit or surface containment with the Engineer before pricing (see OPE-06).	250	m		
	Form or cut hole for ductwork through 215mm fair-faced collar blockwork wall; ope built-in during construction or neatly cut to smallest practicable size in a position approved by the Engineer (SE-0003 cl.22 - no impact tools, no horizontal/diagonal chasing); provide lintel/approved bridging over ope; fire-stop with P12-365/366 ablative-coated mineral-wool fire batt closer cut tightly to ope and duct, perimeter sealed to ope surround with P12-338 acoustic intumescent sealant both sides and residual gap filled solid with mineral wool; to achieve min 60/60; all to P12 and manufacturer's certified detail, specialist-installed; make good fair-faced finish to match adjacent.				
B	^^^girth < or = to 1.00m	1	nr		
C	^^^girth < or = to 1.00m, rectangular	12	nr		
D	^^^girth > 1.00 , or = to 2.00m, rectangular	11	nr		
E	^^^girth > 2.00 , or = to 3.00m, rectangular	5	nr		
F	^^^girth > 3.00 , or = to 4.00m, rectangular	1	nr		
G	^^^girth < or = to 1.00m, circular	27	nr		
	Form ope for ductwork through 250mm reinforced in-situ concrete wall (S.E. specification SE-0005) by cast-in box-out including all necessary formwork, or drilled/sawn where box-out not provided (locate reinforcement before cutting; no impact cutting); fire-stop with P12-365/366 ablative batt closer, perimeter sealed with P12-338 both sides and gap filled solid with mineral wool; to achieve rating not less than element penetrated; to achieve min 60/60; P12, specialist-installed; make good fair-faced concrete finish (E05) to match adjacent.				
H	^^^girth < or = to 1.00m, circular	4	nr		

	Description	Qty	Unit	Rate	Amount
	Form or cut ope for ductwork through 150mm precast concrete floor unit with 75mm screed; cutting/drilling of precast units strictly to proposals agreed with the unit manufacturer and the Consultant (HL cl.9.5.3); fire-stop with P12-365/366 ablative batt (or P12-342 load-bearing fire mortar to floors where required), P12-338 sealant and mineral-wool gap fill, to achieve min 60/60 floor fire-resistance rating; make good screed and floor finish around penetration; P12, specialist-installed.				
A	^^^girth < or = to 1.00m	5	nr		
B	^^^girth < or = to 1.00m, rectangular	12	nr		
C	^^^girth > 1.00 , or = to 2.00m, rectangular	26	nr		
D	^^^girth > 2.00 , or = to 3.00m, rectangular	13	nr		
E	^^^girth > 3.00 , or = to 4.00m, rectangular	11	nr		
F	^^^girth < or = to 1.00m, circular	11	nr		
	Form ope for ductwork through insulated metal-stud partitions (K10 70mm C-stud), double-slabbed and skim both sides; frame ope on all sides with stud channel and H.W. grounds screw-fixed within the C-stud framing, K10 plasterboard wrapped around ope perimeter; fire-stop with P12-365/366 ablative batt closer, P12-338 acoustic sealant neatly around duct perimeter and mineral-wool gap fill (where partition is non-fire-rated, close with P12 acoustic batt in lieu — K10 cl.14.2); to achieve min 60/60 partition rating; specialist-installed; make good.				
G	^^^girth < or = to 1.00m	5	nr		
H	^^^girth < or = to 1.00m, rectangular	26	nr		
J	^^^girth > 1.00 , or = to 2.00m, rectangular	22	nr		
K	^^^girth > 2.00 , or = to 3.00m, rectangular	5	nr		
L	^^^girth > 3.00 , or = to 4.00m, rectangular	1	nr		
M	^^^girth < or = to 1.00m, circular	33	nr		

	Description	Qty	Unit	Rate	Amount
	Form or cut hole for pipe through 215mm fair-faced collar blockwork wall; ope built-in or neatly cut to smallest practicable size in Engineer-approved position (SE-0003 cl.22); lintel/bridging over ope; fit P12-370 CE-certified fire-stop collar to suit pipe diameter, close gap between pipe and ope with mineral wool and seal with P12-338 60-min intumescent sealant both sides; pipe rigidly supported 300mm each side of ope; to achieve min 60/60; P12, specialist-installed; make good fair-faced finish to match.				
A	^^^< or = to 55mm, circular	143	nr		
B	^^^> 55 < or = to 110mm, circular	20	nr		
C	^^^> 110mm, circular	28	nr		
	Form ope for pipe through 250mm reinforced in-situ concrete wall (SE-0005) by cast-in box-out including formwork, or drilled/sawn where not cast-in (locate reinforcement first); fit P12-370 fire-stop collar to suit diameter, mineral-wool gap fill, P12-338 sealant both sides; pipe supported 300mm each side; to achieve min 60/60; P12, specialist-installed; make good fair-faced concrete (E05).				
D	^^^< or = to 55mm, circular	27	nr		
E	^^^> 55 < or = to 110mm, circular	2	nr		
F	^^^> 110mm, circular	6	nr		
	Form or cut ope for pipe through 150mm precast concrete floor unit with 75mm screed; cutting/drilling of precast units only to proposals agreed with manufacturer and Consultant (HL 9.5.3); fit P12-370 floor fire-collar; fixed through concrete with min. 4 no. fixings to manufacturer's certification, gap between pipe and concrete closed with mineral wool and fire-sealed with P12 60-min intumescent sealant; to achieve min 60/60; make good screed/floor finish; specialist-installed.				
G	^^^< or = to 55mm, circular	30	nr		
H	^^^> 55 < or = to 110mm, circular	17	nr		
J	^^^> 110mm, circular	21	nr		

	Description	Qty	Unit	Rate	Amount
	Form ope for pipe through insulated metal-stud partition (K10 70mm C-stud), double-slabbed and skim both sides; frame ope 4 sides with stud channel and grounds to provide solid fixing for collar/fixing plate, K10 plasterboard wrapped around ope perimeter; fit P12-370 fire-stop collar to suit diameter. mineral wool and P12-338 sealant, pipe supported 300mm each side ; to achieve min 60/60; specialist-installed; make good.				
A	^^^< or = to 55mm, circular	298	nr		
B	^^^> 55 < or = to 110mm, circular	30	nr		
C	^^^> 110mm, circular	27	nr		
	Form or cut hole for building service through built-up reinforced-bitumen-membrane warm-deck roof covering on tapered insulation on VCL on perforated metal deck (J41-111); include forming/trimming the deck ope, insulation and VCL to the smallest practicable size, timber/proprietary kerb or upstand as required, and all necessary sealing, flashing and dressing to make the penetration fully weathertight; cap sheet and VCL dressed a minimum 20mm above insulation and sealed to the penetration; reinstate roof cavity/fire barriers (P10-432/410) where breached; roof covering, flashings and upstands made good to the roofing manufacturer's certified detail and warranty (J41 roofing sub); measured per girth.				
D	^^^< or = to 55mm, circular	15	nr		
E	^^^> 55 < or = to 110mm, circular	20	nr		
F	^^^> 110mm, circular	15	nr		
	Form or cut hole for building service through built-up reinforced-bitumen-membrane warm-deck roof covering on insulation on VCL on CLT deck (J41-110); cutting/drilling of the structural CLT deck strictly to proposals agreed with the CLT fabricator and the Consultant (SE-0009; CDP); timber/proprietary kerb or upstand, sealing, flashing and dressing to make weathertight, cap sheet/VCL min. 20mm above insulation sealed to penetration; roof covering made good to roofing manufacturer's certified detail and warranty; make good FR pressure-impregnated plywood ceiling liner (K13-110) and discreet fixings to underside around penetration; measured per girth.				
G	^^^< or = to 55mm, circular	10	nr		
H	^^^> 55 < or = to 110mm, circular	5	nr		
J	^^^> 110mm, circular	10	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Crane lift for unloading, distributing, hoisting and placing in position specialists materials				
A	^^^all plant, equipment and fittings as listed above	1	item		

Description	Qty	Unit	Rate	Amount
COLLECTION				
Page No. BQ/403				
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Description	Qty	Unit	Rate	Amount
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Description	Qty	Unit	Rate	Amount
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Description	Qty	Unit	Rate	Amount
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Page No. BQ/493				
(59) MECHANICAL INSTALLATION **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(66) TRANSPORT SERVICES				
	General				
A	The Contractor should note that the following sections have not been measured in accordance with ARM 4 Method of Measurement. The Contractor must full price this section in accordance with the Drawings and Specifications provided and this departure from Arm 4 will not be used as a basis for a claim or change order to the Contract.		note		
B	The prices hereunder shall include for all work in the design, execution and testing of mechanical installation in accordance with the Specification.		note		
C	The prices hereunder shall include for the co-ordination of the design and installation of the lift services installation. The Contractor shall ensure compatibility of design performance and consistency of any design assumptions for the lift installation.		note		
D	The work is to be undertaken as a Domestic Sub-Contract to the Main Contractor. The prices hereunder shall be deemed to include for profit, general attendance and special attendances as necessary by the Main Contractor.		note		
	Contractor Design Responsibilities				
	Design and provide for lift installation complete as detailed on the attached JV Tierney Consulting Engineers documents, drawings, specification and schedule. The following summary will be deemed to include all plant and specialist components exactly as per the specification and is inclusive of overheads, profit and attendances.				
	Preliminaries				
E	Design, coordination and production of lift supplier construction drawings	1	item		
F	Full Co-ordination with all other contractors on site including the main, mechanical, electrical contractors	1	item		
G	Production of Installation & Builder's Work drawings	1	item		
H	Technical Submittals	1	item		
J	Manufacturers and equipment drawings	1	item		
K	O&M manuals (1No. hard copy, 3 electronic copies(memory sticks), and platform upload	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Lift Commissioning / Co-ordination Manager	1	item		
B	Tenant walkthrough / demonstrations	1	item		
C	Fire stopping of service penetrations	1	item		
D	Safety Signage	1	item		
E	Protection of Own Work	1	item		
F	Task specific lighting / temporary lighting	1	item		
G	Distribution of temporary power from main distribution boards	1	item		
H	Unloading and distribution of materials	1	item		
J	Cleaning of works prior to handover	1	item		
K	Provision of €20 million Public Liability insurance	1	item		
L	Provision of €15 million Employers Liability insurance	1	item		
M	Provision of €6.5 million Professional Indemnity insurance for each and every claim for period of 12 years for Practical Completion Participation in the Design Meetings with the MTU Design team including submissions and presentations for project requirments	1	item		
N	10% Bond required	1	item		
P	General preliminaries and site overheads not detailed above	1	item		
Q	Any other items required to complete the works (list items)	1	item		
	<u>Lift services installation (1no passenger lifts)</u>				
R	Supply and installation of 1No. Passenger lifts	1	item		
S	Supply and installation of internal car finishes	1	item		
T	Supply and installation of controls systems	1	item		
U	Supply and installation of wrap-around architraves	1	item		
V	Supply and installation of pit ladder	1	item		
W	Supply and installation of car ladder	1	item		
X	Supply and installtion of mirrors to compliance with Part-M	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Supply and installation of general purpose sockets	1	item		
B	Supply and installation of lighting	1	item		
C	Supply and installation of emergency lighting	1	item		
D	Supply and installation of dual GSM SIM card modules	1	item		
E	Additional finishes on landing doors and interior car	1	item		
F	Supply and installtion of hard wired digidialler also that dials out via building VoIP system	1	item		
G	Supply of handset in pit and associated receiver handset	1	item		
H	Supply and installation of impaired hearing induction loops in lift cars	1	item		
J	Supply of 1No. Set of full height protective drapes and associated fixing points	1	item		
K	Testing and commissioning of installation	1	item		
L	Any other items required to complete the installation (list items)	1	item		
	Temporary works, co-ordination and pre-commissioning				
M	Supply of lifting eyes (free issue to the Building contractor)	1	item		
N	Testing of lifting eyes	1	item		
P	Provide access to lift for other disciplines e.g. builder, fire alarm supplier, etc to providea and facility for a full and complete installation	1	item		
Q	Supply and installation cantideck to test lifting eyes	1	item		
R	Protective temporary doors for each lfit landing	1	item		
S	Lift Car Plastic Corriboard Protection (to be included)	1	item		
T	Construction Time use for 1 lifts - 6months	1	item		
U	Engineer time to integrate Cause & Effect, and 3No. demonstrations	1	item		
V	Access Control Integration	1	item		
W	Supply and installation of any handrails & abseiling eye hooks that are required under EN standards for lifts	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	CCTV installation in lifts by Lift Contractor. Electrical contractor will connect to a single point (data connection). Cabling for CCTV & Access control to be inlcuded in Lift Wiring loom	1	item		
B	Any other items required to complete the installation (list items)	1	item		
	Scope of Contract				
C	a) The Lift Contractor shall provide all Materials and Labour necessary except any as are specially excluded by the Specification for the Lifts Systems Installations in the proposed new MTU Phase 2 and as scheduled hereafter.	1	item		
D	b) A Lift Performance Energy Efficiency Analysis shall be carried out, with the most Energy Efficient Lift Motor and Control System specified.	1	item		
E	c) The Lift Contractor shall provide design, manufacturing, supply, delivery, erection, testing & commissioning, putting into service, maintenance of the Lifts Installations as outlined hereafter and as shown on the drawings which shall be taken as forming part of the Specification.	1	item		
F	d) The Lift Contractor shall include all labour, materials, import charges and transport which may be required for and in the construction of the works detailed in the specification and drawings and for the use of all necessary scaffolding, ladders, plant, tackles, machinery, tools and other appliances for the workmen together with the carriage thereof to the spot where they are required to be used and their subsequent removal.	1	item		
G	e) The Lifts Work Requirements for the Project shall consist of the Supply, Installation and Commissioning of the following Lift(s) described in the Lift Schedules under the Appendix of this Specification:- Thru Car Entry Lift: 1 nr. 2,500kg / 33-Person Lift, Traction, Motor Room Less, in accordance with; HSE Health Business Services lift specification reference HSE L-04 2500KG or 33 Person Lift (Bed Lift), Essential Health & Safety Requirements of the relevant European Directives, inclusive of the recommendations of the relevant International, European & National Standards; UK Guidelines as described Health Technical Memoranda; Health Information and Quality Authority (HIQA); Ireland and National institute for Health and Care Excellence (NICE).	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Temporary lighting				
A	The lift vendor shall design, install, test, commission and certify temporary lighting for each lift shaft for the construction phase of the works.	1	item		
	General lighting				
B	The lift vendor shall design, install, test, commission and certify the full general lighting requirements for each lift shaft. A full design proposal shall be submitted as part of the technical submittal process and demonstrate compliance with the required illumination levels set out within the EN-81 regulations. The lift vendor shall furnish as-built Lux level measurement drawings from within the lift shaft to demonstrate compliance with their design.	1	item		
	Emergency lighting				
C	The lift vendor shall design, install, test, commission and certify the full emergency lighting requirements for each lift shaft. A full design proposal shall be submitted as part of the technical submittal process and demonstrate compliance with the required illumination levels set out within the latest version of the IS 3217 regulations. A full 4 part suite of certificates shall be provided by the lift vendor at handover stage and clearly demonstrate compliance with IS 3217. The lift vendor shall furnish as-built Lux level measurement drawings from within the lift shaft to demonstrate compliance with their design. They shall utilise fully qualified emergency lighting installers/testers registered with the National Standards Authority of Ireland (NSAI).	1	item		
	Electrical wiring				
D	The complete electrical wiring installation within the lift shaft shall be undertaken by the Lift Vendor. They shall utilise fully qualified electricians registered with Safe Electric/RECI to undertake and electrical works within the lift shaft. All switchgear, emergency lighting relays/contactors, central test units, protective devices shall be provided fully by the lift vendor and their electrical installer throughout. An Electrical Completion certificate shall be furnished prior to handover to demonstrate compliance with the electrical wiring regulations.	1	item		
	Telecommunications				
E	The lift vendor shall provide for Dual GSM sim card modules for external telecommunication / wireless phone.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	General/maintenance sockets				
A	The lift vendor shall supply and install maintenance sockets in each lift pit and on roof of lift car including protection devices	1	item		
	Closed circuit tv				
B	The lift vendor shall accommodate a Closed Circuit TV in each lift by allowing for cable installation/connections and ground for the camera. The CCTV camera itself shall be supplied by others under the electrical/security contract. The lift vendor shall allow access to the electrical/security contractor to install, test and commissioning the camera which may entail a number of separate occasions.	1	item		
				To Collection €	

Description	Qty	Unit	Rate	Amount
COLLECTION				
Page No. BQ/498				
Page No. BQ/499				
Page No. BQ/500				
Page No. BQ/501				
Page No. BQ/502				
Page No. BQ/503				
(66) TRANSPORT SERVICES **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(69) ELECTRICAL INSTALLATION				
	ELECTRICAL INSTALLATION:				
	GENERAL				
A	The following section measured in accordance with ARM4 Supplement 2 - Agreed Alternative Rules for the Measurement of Services Installations.		note		
B	The prices hereunder shall include for all work in the design, execution and testing of electrical installation in accordance with the Specification.		note		
C	The prices hereunder shall include for the co-ordination of the design and installation of the electrical installation. The Contractor shall ensure compatibility of design performance and consistency of any design assumptions for the electrical installation.		note		
D	The work is to be undertaken as a domestic sub-contractor to the Main Contractor. The prices hereunder shall be deemed to include for profit, general attendance and special attendances as necessary by the Main Contractor.		note		
E	The Contractors shall read the other Elements of the Bill of Quantities when pricing this section of the project, in particular (but not limited to) Elements (50.1 to 50.3) Site Services Mainly Piped and Ducted, (60) Site Services Mainly Electrical, and (00) Temporary Accommodation ???		note		
F	For preliminaries particulars, please refer to tender documentation.		note		
	PREAMBLE				
G	PERFORMANCE / DESIGN-INTENT DRAWINGS ONLY. Working and installation drawings are the Contractor's responsibility. Final positions of all items shown are for guidance and pricing only; exact final locations are the Contractor's responsibility and shall be coordinated with the Main Contractor and all other trades.		Note		
H	Do not scale – work from figured dimensions only; all dimensions to be confirmed on site		Note		
J	Any discrepancies or omissions to be reported to JV Tierney Consulting Engineers immediately.		Note		
K	All switchgear metering equipment to be connected into the Building Energy Monitoring & Metering System.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Main Electrical Switchboard to EN 61439 and the LV Switchgear & Metering Specification		Note		
B	Allow 25% spare circuit breakers within each section of the distribution boards (all breaker types)	1	item		
C	Class II & III surge protection to all sub-distribution boards and MCC panels per the Lightning Protection Risk Assessment (IS EN 62305 Parts 1–4); all SPDs connected to BMS with status indication.		Note		
D	All MCCBs 3-pole unless indicated; SDB MCCBs plug-in type c/w LSI electronic trip; allow toe pieces on outgoing MCCBs; Contractor to verify cable sizes are compatible with switchgear		Note		
E	MCBs / RCBOs 10kA minimum; Lighting / General Services / Small Power = B trip characteristic; Mechanical Power = C trip characteristic (IS 10101 :2020).		Note		
F	Sub-Distribution Boards Form 3B; Mechanical Plant MCCs & Main Switchboard Form 4B (EN 61439); switchgear minimum IP54, consumer units minimum IP40		Note		
G	Enabling / early-stage site works: disconnect, remove and make safe existing astro-pitch switchboard, pitch flood lights and lamp standards (cabling stripped to source); relocate camera / services poles.	1	item		
H	Pull back and re-route existing 3×4c 150mm² substation cables through new ducting via a new 1800 ×1800mm chamber, fed from the Phase 2 MDB; install 3×4c 185mm² new cables substation → Phase 2 MDB.	1	item		
J	Install new earth bar in the existing MTU LV switchroom (existing terminations full) and new earth cables (incl. 2 No. 95mm² Phase 1 → Phase 2); equipotential bonding to be established between buildings	1	item		
K	Standby generator connection to the Phase 1 Main Switchboard via spare / future 160A EVC breaker for backup supply during changeover.	1	item		
L	Provide IP-rated junction box c/w isolator and terminations for future extension of the track-lighting cable	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Lightning protection detail: copper-clad earth rods 19mm × 2.4m, 25×3mm copper tape, test links, 70mm ² PVC-insulated copper cable to ground grid, 6m free-standing air terminals, AHU-mounted isolated 2m rods.	1	item		
B	Electrical Contractor to engage the Lighting Control Specialist to fully supply, install and commission the lighting control system; refer to G-series drawings for lighting layouts and lighting power distribution.		Note		
C	BMS / controls supply - positioned by the Mechanical Contractor, installed / wired by the Electrical Contractor, commissioned by the BMS specialist.		Note		
	CONTRACTOR DESIGN RESPONSIBILITIES				
	Design & Coordination (Design-Portion Responsibility)				
	The following is a non-exhaustive list of the contractors design responsibilities. Reference should also be made to the design contract specifications.				
D	The electrical contractor will be required to submit detailed proposals for the following systems for review :		Note		
E	^^^Preparing detailed electrical wiring diagrams of all equipment supplied showing all interconnections between equipment to enable all necessary wiring to be undertaken		Note		
F	^^^Capacity, location, routes and design of electrical ladder, cable tray, modular wiring, conduit systems with supporting calculations for cable carrying capacity, including trunking where used in lieu of conduit installation with supporting calculations for cable carrying capacity		Note		
G	^^^Appropriate cable termination sizes for the rating of fuses installed in plug tops and installed in fused connection units and for the current rating of the connected equipment		Note		
H	^^^Dimensioning of and final installation details of electrical switchgear incuding cable entry details and provision of adequate safe operating & maintenance clearances		Note		
J	^^^Detailed design including connection details of earthing and bonding requirements for Building Services, Lift Installations, Architectural elements & Structural elements		Note		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Ensuring cable size selections as specified are not invalidated by the selection of alternative routes during installation or selection of alternative manufacturers, or if the change dictates, then cable sizing calculations shall be provided by the Contractor to the approval of the Engineer		Note		
B	^^^Final detailed design of fire alarm and PA/VA system component and cabling requirements to meet with the particular manufacturer and the Engineering Specification requirements		Note		
	Electrical Specialists Requiring Design Responsibility / Certification				
C	Solar PV specialist – emergency isolation design to TGD B & IS 10101; specialist responsible for design integrity.	1	item		
D	Lightning protection & earthing specialist – EN 62305; responsible for integrity of design / installation	1	item		
E	Fire detection & alarm specialist – IS 3218	1	item		
F	Disabled refuge specialist – BS 5839-9.	1	item		
G	CCTV / security specialist – 3-year warranty + maintenance proposal; Access control; Intruder alarm.	1	item		
H	Structured cabling / ICT specialist – 25-year manufacturer system warranty	1	item		
	DESCRIPTION				
	Provide everything necessary for the proper installation of the Electrical services system, all in accordance with the Service Engineer Information as issued by JV Tierney Consulting Engineers; refer to the following documents:				
	Drawings				
J	MTUHPAC-Z-60-Z-ZZZ-DR-JVT-EE-0001	1	item		
K	MTUHPAC-Z-60-Z-ZZZ-DR-JVT-EE-0002	1	item		
L	MTUHPAC-Z-60-Z-ZZZ-DR-JVT-EE-0002	1	item		
M	MTUHPAC-Z-60-Z-ZZZ-DR-JVT-EE-0004	1	item		
N	MTUHPAC-Z-60-Z-ZZZ-DR-JVT-EE-0005	1	item		
P	MTUHPAC-Z-61-Z-L00-DR-JVT-EE-0001	1	item		
Q	MTUHPAC-Z-61-Z-L00-DR-JVT-EE-0002	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	MTUHPAC-Z-61-Z-L01-DR-JVT-EE-0002	1	item		
B	MTUHPAC-Z-61-Z-L02-DR-JVT-EE-0001	1	item		
C	MTUHPAC-Z-62-Z-L01-DR-JVT-EE-0001	1	item		
D	MTUHPAC-Z-62-Z-L02-DR-JVT-EE-0001	1	item		
E	MTUHPAC-Z-63-Z-LOO-DR-JVT-EE-0001	1	item		
F	MTUHPAC-Z-63-Z-L01-DR-JVT-EE-0001	1	item		
G	MTUHPAC-Z-63-Z-L02-DR-JVT-EE-0001	1	item		
H	MTUHPAC-Z-65-Z-L00-DR-JVT-EE-0001	1	item		
J	MTUHPAC-Z-65-Z-L01-DR-JVT-EE-0001	1	item		
K	MTUHPAC-Z-65-Z-L02-DR-JVT-EE-0001	1	item		
L	MTUHPAC-Z-66-Z-ZZZ-SP-JVT-LT-0001	1	item		
M	MTUHPAC-Z-66-Z-ZZZ-ST-JVT-LT-0001	1	item		
N	MTUHPAC-Z-67-Z-L00-DR-JVT-EE-0001	1	item		
P	MTUHPAC-Z-67-Z-L01-DR-JVT-EE-0001	1	item		
Q	MTUHPAC-Z-67-Z-L02-DR-JVT-EE-0001	1	item		
R	MTUHPAC-Z-68-Z-L02-DR-JVT-EE-0001	1	item		
S	MTUHPAC-Z-68-Z-L01-DR-JVT-EE-0001	1	item		
T	MTUHPAC-Z-68-Z-L02-DR-JVT-EE-0001	1	item		
U	MTUHPAC-Z-68-Z-ZZZ-DR-JVT-EE-0001	1	item		
V	MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0001	1	item		
W	MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	item		
X	MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	item		
Y	MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0004	1	item		
Z	MTUHPAC-Z-ZZ-Z-R00-DR-JVT-EE-0001	1	item		
AA	MTUHPAC-Z-ZZ-Z-R00-DR-JVT-EE-0002	1	item		
BB	MTUHPAC-Z-ZZ-Z-ZZZ-DR-JVT-EE-0001	1	item		
CC	MTUHPAC-Z-59-Z-ZZZ-DR-JVT-ME-5101 - BMS Schematic	1	item		

	Description	Qty	Unit	Rate	Amount
A	MTUHPAC-Z-59-Z-ZZZ-DR-JVT-ME-5102 - BMS Schematic	1	item		
	Schedules				
B	MTUHPAC-X-63-X-XXX-SH-JVT-EE-0001	1	item		
C	MTUHPAC-X-X-X-XXX-SH-JVT-BW-0001	1	item		
	Specification				
D	MTUHPAC-X-X-X-XXX-SP-JVT-EE-0001	1	item		
	PRELIMINARIES:				
E	^^^Refer to Volume 1 Specification Preliminaries	1.13	item		
	SPARES				
	Spare Electrical Items (to be provided within tender)				
F	External lighting – 2 No. of each type (lamp standard heads and bollards) - - Refer to JVT Lighting Schedule - MTUHPAC-X-63-X-XXX-SH-JVT-EE-0001 - LIGHTING SCHEDULE	1	item		
G	Internal lighting – 2 No. of each type - Refer to JVT Lighting Schedule XXXXX	1	item		
H	Emergency lighting – 2 No. of each standalone type (incl. exit signs) + 2 No. of each combined type	1	item		
J	Fire alarm devices – 5 No. smoke, 5 No. heat, 5 No. combi-detectors	1	item		
K	CCTV – 2 No. of each type; Access control – 2 No. of each door-type system.	1	item		
L	Intruder alarm – 2 No. of each field device; Intercom – 2 No.	1	item		
	ELECTRICAL SERVICES POWER DISTRIBUTION TO EXISTING MAIN SWITCHBOARD FOR MTU CAMPUS				
M	Electrical Services Power Distribution to Existing Main Switchboard for MTU Campus in accordance with the drawings and specifications		Note		
N	Generally refer to Drawing Nr. MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0001 & JV Tierney Specification		Note		
	Primary Equipment				

	Description	Qty	Unit	Rate	Amount
A	^^^Provision of new Phase 2 - HPAC Building MDB (Main Distribution Board) - MBD-L00-00 for power supplies as per Drawing Nr. MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0001	1	item		
B	^^^Provision for relocating Existing External Feeder Panel for All Weather Pitch & Athletic Track and Allow fro New External Panel and Switchboard as per Drawing Nr. MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0001	1	item		
	Accessories Associated with Primary Equipment				
C	^^^Provision of new external lockable enclosure to re-located external feeder panel & 3no. 3phase isolators for athletics track & field	1	item		
	Terminal Equipment and Fittings				
	Supply, installation and connection of power fittings as per Drawing Nr. MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0001				
D	^^^Electrical Meter	1	item		
E	^^^Circuit Breaker 630A / 630A TP&N	1	item		
	Supply, installation and connection of fittings as per Specification				
F	^^^Provision of new external lockable enclosure to re-located external feeder panel & 3no. 3phase isolators for athletics track & field	1	item		
	Final Circuits (including points terminations)				
	Final circuits including temination points in accordance with the drawings and specification				
G	^^^Allow for disconnection and pull back 3x4c 150mm² existing cables from substation to chamber and divert to Phase 2 MDB. For further details, refer to MTUHPAC-Z-60-SI-DR-JVT-EE-0003 for further details as outlined on Drawing Nr. MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0001	1	item		
H	^^^Allow for re-routing Existing Phase 1 3 x 4C 150mm2 Cables through ducting (elsewhere) measured and fed from Phase 2 MDB as per Drawing Nr. MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0001 & 0002	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Allow for disconnection and removal of existing athletics track & astro-turf field switchboard and cabling - Note works to be completed at an early stage as per Drawing Nr. MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0001 & 2	1	item		
B	^^^New IP65 3PH isolator mounted in c/w lockable cabinet for athletic track event power fed from new feeder pillar unit as per Drawing Nr. MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0001	1	item		
C	^^^Allow for a new Earth Bar shall be installed in the Existing Main LV Switch room adjacent to the CIT/MTU substation, as the current earth bar terminations are full as per Drawing Nr. MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0001 & 0002	1	item		
D	^^^Allow for Supply & Installation of 3no. 4C 185mm2 XLPE/SWA and 3no. 95mm2 Earth Cables between the Phase 2 Switchboard and the MYU Main LV Switchboard fed from ESB Substation as per Drawing Nr. MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0001 & 0002	1	item		
E	^^^Allow for disconnection and pull back exiting earth and reouted to Phase 2 LV switchboard as per 60-EE-003	1	item		
F	^^^Allow for further 2nr. 95mm earth cables from Phase 1 LV Switchboard to the Phase 2 LV switchboard	1	item		
G	^^^Allow for discconection and removal of existing MV & LV cabling (Clouded area Drawing 60-EE-0002 - redundant cables after the completion of the diversion works)	1	item		
H	^^^Allow for RHS of the existing pillar / panel to be disconnected and the cables pulled back to the nearest chamber (as per Drawing Nr. 60-EE-0003)	1	item		
J	^^^Allow for sub-mains cabling serving the track lighting to be jointed, extended to the new panel location (as per Drawing Nr. 60-EE-0003)	1	item		
K	Allow for supply and installnew sub-main cabling between track lighting. Contractor to allow for submarine joint as close as possible to the pole (as per JVT 60-EE-0002)	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Allow for new ESB mini-pillar relocation and associated sub-mains supply (per JVT drawing MTUHPAC-Z-60-Z-ZZZ-DR-JVT-EE-0003): programme, co-ordinate and carry out the phased works to relocate the existing mini-pillar while maintaining supply; installation of the new pillar/panel; the phased disconnection and removal of the existing mini-pillar and pillar/panel (making cables safe at the Create switchboard and pulling back to the nearest chamber); feeding and pulling the slack cable (There is 20m slack cable in the create switch room) through the existing U/G ducts; termination at the new pillar/panel and re-termination at the Create switchboard; and test, commissioning and putting into service — so as to maintain continuity of the existing supply throughout, in liaison with the ESB/utility provider and MTU. (Contractor Designed). (JVT Dwg 60-EE-0002 & 0003)	1	item		
B	All outgoing cables on the right-hand side of this panel shall be retained. They shall be pulled back to the nearest manhole and re-routed to the new mini-pillar location via new underground ducting, with the Contractor allowing for jointing (cast resin joints) each of the cables to extend them to the new location. The circuit breakers/cables are listed as follows: main isolator: 250A three phase MCCB — main board isolator. Row 1: 63A three phase MCCB — services Row 4 within the board; 63A three phase MCCB — track store; 63A three phase MCCB — track lighting. Row 2: 16A three phase MCB (in use); 16A three phase MCB (in use); 16A three phase MCB (not in use); 20A single phase MCB (not in use); 20A single phase RCBO — track duct sockets; 6A single phase MCB — control; H.O.A. — three-way switch for track lighting; contactor — track lighting; digital timeclock — track lighting. Row 3: empty. Row 4: 32A three phase MCCB — three phase socket; 32A three phase MCCB — three phase socket; single phase isolator (as per JVT 60-EE-0002)	1	item		
	LV DISTRIBUTION - PHASE 2 MAIN SINGLE LINE				
C	LV Distribution Phase 2 Main Single Line in accordance with the drawings and specifications		Note		
D	Generally refer to Drawing Nr. MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002 & JV Tierney Specification		Note		
	Primary Equipment				

	Description	Qty	Unit	Rate	Amount
A	^^^main distribution board (MDB), located in ground floor switch room, as per Drawing Nr.MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002 including trunking headers, energy meters, DIN53481 rubber mat.	1	item		
	Accessories Associated with Primary Equipment				
	Include for the supply, installation, testing and commissioning of the following equipment				
B	^^^Provision of new Phase 2 - HPAC Building SDB (Sub-Distribution Board) - SDB-L00-00	1	item		
C	^^^Provision of new Phase 2 - HPAC Building SDB (Sub-Distribution Board) - SDB-L01-00	1	item		
D	^^^Provision of new Phase 2 - HPAC Building SDB (Sub-Distribution Board) - Bio. Lab. SDB-L01-01	1	item		
E	^^^Provision of new Phase 2 - HPAC Building SDB (Sub-Distribution Board) - Comms. Room SDB-L01-02	1	item		
F	^^^Provision of new Phase 2 - HPAC Building SDB (Sub-Distribution Board) - SDB-L02-00	1	item		
G	^^^Provision of new Phase 2 - HPAC Building MCC (Motor Control Center) Control Panel - MCC-L02-00	1	item		
H	^^^Provision of new Phase 2 - HPAC Building Lift Control Panel	1	item		
J	^^^Provision of new Phase 2 - HPAC Building ASHP Control Panel	1	item		
K	^^^Provision of new Phase 2 - HPAC Building WSHP Control Panel	1	item		
L	^^^Provision of new Phase 2 - HPAC Building WSHP Earthing Block	1	nr		
M	^^^Provision of new Phase 2 - HPAC Building WSHP Earthing Bar	2	nr		
N	^^^Provision of new Phase 2 - HPAC Building Solid Copper Busbar 3PH and Neutral 800A Rated 63kVA for 1 Sec	1	item		
P	^^^Provision of new Phase 2 - HPAC Building Solid Copper Busbar 3PH and Neutral 630A Rated 50kVA for 1 Sec	1	item		
	Equipment and Fittings				

	Description	Qty	Unit	Rate	Amount
	Supply, installation and connection of LV Distribution fittings as per Specification and Drawing Nr. MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002				
A	^^^Provision of new Isolator fitted on the cable to the Lift Control Panel	1	nr		
B	^^^Provision of new ATS - Automatic Transfer Switch installed on cable connecting to Comms Room SDB-L01-01	1	nr		
C	^^^Provision of new MFM - Multi-Function Meter to all cables connecting to SDB's (Sub-Distribution Boards) on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	10	nr		
D	^^^Provision of new HRC 500A - High Rapturing Capacity Fuse as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	nr		
E	^^^Provision of new SPD - Surge Protective Device as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	nr		
F	^^^Provision of new MCCB 50A/50A as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	nr		
G	^^^Provision of new MCCB 63A/63A as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	nr		
H	^^^Provision of new MCCB 100A/100A as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	6	nr		
J	^^^Provision of new MCCB 125A/125A as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	nr		
K	^^^Provision of new MCCB 400A/400A as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	nr		
L	^^^Provision of new MCCB 630A/630A as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	nr		
	Sub-Mains Cables				
	Sub mains wiring in accordance with drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002 and specification				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^C-1 from Phase 2 MDB to SDB-GF-00 as per Power Distribution Schematic MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	item		
B	^^^C-2 from Phase 2 MDB to SDB-GF-01 as per Power Distribution Schematic MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	item		
C	^^^C-1 from Phase 2 MDB to SDB-FF-00 as per Power Distribution Schematic MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	item		
D	^^^C-2 from Phase 2 MDB to SDB-FF-01 as per Power Distribution Schematic MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	item		
E	^^^C-2 from Phase 2 MDB to SDB-FF-02 as per Power Distribution Schematic MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	item		
F	^^^C-1 from Phase 2 MDB to SDB-SF-00 as per Power Distribution Schematic MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	item		
G	^^^C-1 from Phase 2 MDB to MCC-SF-00 as per Power Distribution Schematic MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	item		
H	^^^C-3 from Phase 2 MDB to Lift as per Power Distribution Schematic MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	item		
J	^^^Allow for cabling from ATS to connect to Phase 1 Comms DB as shown on Schematic Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	item		
K	^^^Allow for cabling from MFM's to BMS Connection as shown on Schematic Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	item		
L	^^^Allow for cabling from Earth Block to Earth Bar in Phase 2 Main Switchroom as shown on Schematic Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	item		
M	^^^Allow for Earth Equalisation between Blocks 95mm2 LSZH Earth as shown on Schematic Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	item		
N	^^^Allow for cabling (16mm2 LSF CPC) between Main Earth Bar in Phase 2 Main Switchroom to Earth Bar in 1st Floor Comms Room as shown on Schematic Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Allow for cabling (6mm2 LSF CPC) from Comms Racks to Earth Bar in 1st Floor Comms Room as shown on Schematic Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0002	1	item		
	LV DISTRIBUTION - SUB-DISTRIBUTION BOARDS SCHEDULE				
B	LV Distribution - Sub-Distribution Boards Schedule in accordance with the drawings and specifications		Note		
C	Generally refer to Drawing Nr. MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003 & JV Tierney Specification		Note		
	Accessories Associated with Primary Equipment				
	Include for the supply, installation, testing and commissioning of the following equipment				
	Elec Items to SDB-GF-00 on Ground Floor				
D	^^^Allow for the provision of Earth Bar	1	item		
E	^^^Allow for the provision of Neutral Bar	1	item		
F	^^^Allow for the provision of Terminal Section (DIN Rail Connectors)	1	item		
G	^^^Allow for 100mm Plinth for Floor Mounting	1	item		
H	^^^Provision of new MFM - Multi-Function Meter to all cables connecting to SDB-GF-00 as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	3	nr		
J	^^^Provision of new MCCB 80A/80A as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	3	nr		
K	^^^Provision of new MCCB 100A as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
L	^^^Provision of new 8 x 1 x 20A RCBO (Type B) for General Services as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
M	^^^Provision of new 21 x 1 x 20A MCB for General Services as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
N	^^^Provision of new 15 x 1 x 20A MCB for Small Power as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Provision of new 12 x 1 x 20A RCBO for Small Power as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
B	^^^Provision of new 50 x 1 x 10A MCB for Lighting as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
C	^^^Provision of new 30 x 1 x 16A MCB for Lighting as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
D	^^^Allow for Contractors Central Test Unit for Lighting as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
	Sub-Mains Cables				
	Sub mains wiring in accordance with drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003 and specification				
E	^^^Allow for cabling to MCCB's, MFM, MCB's & RCBO's	1	item		
F	^^^Allow for cabling for BMS Connection	1	item		
	<u>Elec Items to SDB-FF-00 on First Floor</u>				
G	^^^Allow for the provision of Earth Bar	1	item		
H	^^^Allow for the provision of Neutral Bar	1	item		
J	^^^Allow for the provision of Terminal Section (DIN Rail Connectors)	1	item		
K	^^^Allow for 100mm Plinth for Floor Mounting	1	item		
L	^^^Provision of new MFM - Multi-Function Meter to all cables connecting to SDB-FF-00 as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	3	nr		
M	^^^Provision of new MCCB 80A/80A as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	3	nr		
N	^^^Provision of new MCCB 100A as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
P	^^^Provision of new 11 x 1 x 20A RCBO (Type B) for General Services as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Provision of new 4 x 1 x 16A MCB for General Services as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
B	^^^Provision of new 5 x 1 x 20A MCB for General Services as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
C	^^^Provision of new 8 x 1 x 16A RCBO for Small Power as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
D	^^^Provision of new 7 x 1 x 20A RCBO for Small Power as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
E	^^^Provision of new 5 x 1 x 32A RCBO for Small Power as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
F	^^^Provision of new 21 x 1 x 10A MCB for Lighting as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
G	^^^Provision of new 21 x 1 x 10A MCB for Lighting as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
H	^^^Allow for Contractors Central Test Unit for Lighting as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
	Sub-Mains Cables Sub mains wiring in accordance with drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003 and specification				
J	^^^Allow for cabling to MCCB's, MFM, MCB's & RCBO's	1	item		
K	^^^Allow for cabling for BMS Connection	1	item		
	<u>Elec Items to SDB-SF-00 on Second Floor</u>				
L	^^^Allow for the provision of Earth Bar	1	item		
M	^^^Allow for the provision of Neutral Bar	1	item		
N	^^^Allow for the provision of Terminal Section (DIN Rail Connectors)	1	item		
P	^^^Allow for 100mm Plinth for Floor Mounting	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Provision of new MFM - Multi-Function Meter to all cables connecting to SDB-SF-00 as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	3	nr		
B	^^^Provision of new MCCB 100A/100A as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	3	nr		
C	^^^Provision of new MCCB 100A as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
D	^^^Provision of new 15 x 1 x 16A RCBO for General Services as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
E	^^^Provision of new 5 x 1 x 20A MCB for General Services as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
F	^^^Provision of new 5 x 1 x 20A RCBO for General Services as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
G	^^^Provision of new 3 x 1 x 20A MCB for Small Power as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
H	^^^Provision of new 2 x 1 x 16A MCB for Small Power as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
J	^^^Provision of new 3 x 1 x 16A RCBO for Small Power as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
K	^^^Provision of new 2 x 1 x 20A RCBO for Small Power as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003				
L	^^^Provision of new 25 x 1 x 10A MCB for Lighting as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
M	^^^Provision of new 15 x 1 x 16A MCB for Lighting as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
N	^^^Allow for Contractors Central Test Unit for Lighting as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
	Sub-Mains Cables				

	Description	Qty	Unit	Rate	Amount
	Sub mains wiring in accordance with drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003 and specification				
A	^^^Allow for cabling to MCCB's, MFM, MCB's & RCBO's	1	item		
B	^^^Allow for cabling for BMS Connection	1	item		
	Elec Items to SDB-FF-02 - BioChemistry Lab on First Floor				
C	^^^Allow for the provision of Earth Bar	1	item		
D	^^^Allow for the provision of Neutral Bar	1	item		
E	^^^Allow for the provision of Terminal Section (DIN Rail Connectors)	1	item		
F	^^^Allow for 100mm Plinth for Floor Mounting	1	item		
G	^^^Provision of new MFM - Multi-Function Meter to all cables connecting to SDB-FF-02 as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	2	nr		
H	^^^Provision of new 4 Pole Contractor (EKO) as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
J	^^^Provision of new MCCB 80A/80A as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	2	nr		
K	^^^Provision of new MCCB 100A as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
L	^^^Provision of new 2 x 1 x 20A RCBO (Type B) for General Services as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
M	^^^Provision of new 3 x 1 x 20A RCBO for Small Power as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
N	^^^Provision of new 1 x 1 x 32A RCBO for Small Power as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	nr		
	Sub-Mains Cables				
	Sub mains wiring in accordance with drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003 and specification				

	Description	Qty	Unit	Rate	Amount
A	^^^Allow for cabling to MCCB's, MFM, MCB's & RCBO's	1	Item		
B	^^^Allow for cabling for BMS Connection	1	Item		
	Elec Items to MCC-SF-00 - Plant Room on Second Floor				
C	^^^Allow for the provision of Earth Bar	1	Item		
D	^^^Allow for the provision of Neutral Bar	1	Item		
E	^^^Allow for the provision of Terminal Section (DIN Rail Connectors)	1	Item		
F	^^^Allow for 100mm Plinth for Floor Mounting	1	Item		
G	^^^Provision of new MFM - Multi-Function Meter to all cables connecting to MCC-SF-00 as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	3	Nr		
H	^^^Provision of new MCCB 80A/80A as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	3	Nr		
J	^^^Provision of new MCCB 100A as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	Nr		
K	^^^Provision of new 15 x 1 x 20A RCBO (Type B) for General Services as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	Nr		
L	^^^Provision of new 15 x 3 x 20A MCB for Small Power as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	Nr		
M	^^^Provision of new 5 x 1 x 20A MCB for Small Power as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	Nr		
N	^^^Provision of new 16 x 1 x 10A MCB for Lighting as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	Nr		
P	^^^Provision of new 4 x 1 x 16A RCBO for Lighting as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	Nr		
Q	^^^Allow for Contractors Central Test Unit for Lighting as outlined on Drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003	1	Nr		
	Sub-Mains Cables				

	Description	Qty	Unit	Rate	Amount
	Sub mains wiring in accordance with drawing MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0003 and specification				
A	^^^Allow for cabling to MCCB's, MFM, MCB's & RCBO's	1	Item		
B	^^^Allow for cabling for BMS Connection	1	Item		
	ELECTRICAL ENERGY CENTRE & POWER DISTRIBUTION - ELEMENT 61				
	(System) – LV DISTRIBUTION SYSTEM (cl. 6.1 –6.3)				
C	Provision of, and connection to, the incoming LV mains supply from Block A Substation to the new LV switchboard; nature, type & location of supply stated (internal/external as drawings).	1	item		
D	Allow for connection to public mains / works executable only by ESB Networks or Public Undertaking (ARM4 p.107 r.4).	1	item		
	(Equipment)				
E	Main / Intake LV Switchboard – floor-mounted metalclad switchgear/main supply board to EN 61439-1/-2, Form 4b (Type 4), IP54 (cl. 6.3.1).	1	item		
F	Sub-Distribution Boards – to EN 61439-1/-3, Form 3b/2b, IP44; each type/rating (cl. 6.3.4).	5	nr		
G	Standby generator installation, where scheduled (cl. 6.1).	1	item		
H	Uninterruptible Power Supply (UPS) – extension of essential/UPS supply to Phase 2 Communications Room (cl. 6.6).	1	item		
J	Electrical energy monitoring & metering system / BMS interface – meters, CTs, loggers, head-end & software, networked & integrated (cl. 6.3.19).	1	item		
K	Power harmonic filtering, if required to meet THD limits (cl. 6.3.2).	1	item		
L	Electrical insulating rubber matting to switchgear / control panels (cl. 6.3.3).	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	(Mains & Sub-mains Cables)				
A	Sub-main feeder cable to Sub-Distribution Board – XLPE/LSZH/SWA/LSZH 600/1000V, sized for full SDB load (min 160A on tray), glanded & terminated [BW 13.3: 5 SDBs] (cl. 6.5.1).	5	nr		
B	Sub-main feeder cable to MCC (mechanical) – XLPE/SWA/LSZH, sized for MCC load (cl. 6.5.1).	1	nr		
C	Sub-main feeder cable to UPS / essential-supply board (cl. 6.5.1, 6.6).	1	item		
D	Sub-main feeder cable to PV distribution board (cl. 6.5.1, 6.7).	1	item		
E	Fire-resistant (PH120) cabling installation to BS 8519 – life-safety feeders (smoke vent / evac lift etc.) (cl. 6.5.3).	1	item		
F	Cat 6A structured cabling – data outlets; (cl. 6.5.2).	1	item		
	(General Earthing & Bonding)				
G	General earthing & equipotential bonding to the energy-centre / switchroom installation (cl. 6.1).	1	item		
	(General) – testing, commissioning & documentation				
H	Testing & commissioning – factory & site testing, thermographic survey and FTA/switchgear certification (cl. 6.3.20–24).	1	item		
J	Operating & maintenance manuals.	1	item		
K	Working / shop drawings (cl. 6.3.21).	1	item		
L	Co-ordination drawings.	1	item		
M	As-built / record drawings.	1	item		
N	Builders work in connection – all electrical installations under one heading (attendance only).	1	item		
P	Fire-stopping to switchroom / riser penetrations (cl. 6.4.11).	1	item		
	General as per ARM4 Supplement 2				
Q	^^^Testing and commissioning	1	item		
R	^^^Operating and maintenance manuals	1	item		
S	^^^Working drawings	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Co-ordination drawings	1	item		
B	^^^As built drawings & data books	1	item		
C	^^^Identification plates, labels and the like	1	item		
D	^^^Supply and installation of all earthing and equipotential bonding to meet ET101:2008 and BS 7671 requirements	1	item		
E	^^^Surge protection	1	item		
F	^^^Electrical safety equipment	1	item		
G	^^^Mock-ups	1	item		
H	^^^Staff demonstrations and training	1	item		
J	^^^Recommissioning of all systems following one full year of operation	1	item		
K	^^^Co-ordination of Services	1	item		
L	^^^Decommissioning and removal of all redundant services	1	item		
M	^^^Builders work	1	item		
N	^^^Fire stopping and other associated fire protection work	1	item		
P	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	ELECTRICAL SERVICES CONTAINMENT - CABLE LADDER / TRAY / TRUNKING INSTALLATIONS - ELEMENT 61				
	Drawing Notes - Electrical Services Containment				
Q	This drawing is schematic only. contractor to allow for all tee-offs required whether indicated on the drawing or not.		Note		
R	25% capacity shall be left in all containment		Note		
S	The contractor shall co-ordinate the installation of all power services with all other equipments and trades.		Note		
T	Contractor shall allow for all containment drops and risers not indicated on the drawings.		Note		
U	Main cable containment routes shown only. contractor shall allow for all additional branch containment as necessary to complete the installation.		Note		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Contractor to allow for co-ordination of containment runs in high ceiling and rooflight areas.		Note		
B	Fire alarm containment to be allowed for as necessary.		Note		
C	The electrical works specialist is responsible for co-ordinating with all other disciplines.		Note		
D	Electrical works specialist to seal penetrations through fire rated walls with suitable rated materials.		Note		
E	The size and extent of the tray/trunking as indicated on the drawing is the minimum size and extent of the trunking acceptable to the engineer. It is not intended to indicate the complete tray/trunking installation & the electrical works specialist shall be responsible for providing trunking to supplement the scheme. In all cases the cable tray/trunking systems shall comply with the current ETCI requirements.		Note		
F	Builders works to include sealing around ope with rockwool to achieve acoustic seal.		Note		
G	All external cable trays to come c/w cable tray lid for the entire length of the run.		Note		
H	All cable entries from external shall be fully weather sealed with sealable cable entry devices (as Roxtec transit sealing systems or equal or approved).		Note		
J	Each cable tray shall be separately labelled to indicate the type of service that will be installed. Cable trays shall be labelled at intervals of entry 10 meters & at every change in direction. Spare capacity shall be left on the cable trays at the completion of the project for future services.		Note		
K	The cable tray sizes indicated shall be the minimum size acceptable.		Note		
L	Cable trays shall be medium duty galvanized perforated sheet steel to EN 50085-1.		Note		
M	No cables are to be free fitted i.e. all cables running between supply points and switches, sockets, power outlets, distribution boards, panels, heaters etc are to be laid in proprietary cable trays, galvanized steel conduit in ceiling voids & if embedded in partitions, surface mounted galvanized steel conduit to be used. All drops in precast to be cast in conduits as per precast specialist electrical details.		Note		
N	Supports shall be in accordance with manufacturers recommendations & in any event shall not be greater than 600mm apart.		Note		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Separate cable tray shall be provided for each of the services.		Note		
B	Power and voice/data cables shall not be run on the same tray & must retain 300mm separation throughout the installation.		Note		
C	Cable trunking shall be galvanized sheet steel to EN 50085-1.		Note		
D	Where cable tray passes within 1 meter of water or other pipe services, each shall be securely bonded to each other.		Note		
E	Cable ladder and cable trays shall have earth continuity maintained throughout their length with manufacturers copper flexible straps across joints & shall be bonded to the structural steelwork. The resistance of the tray to earth, measured at any point in the system shall not exceed 0.5 ohms.		Note		
F	All containment routes to be coordinated with mechanical services drawings, rain water, soils & waste etc, so as not to inhibit future cable installations.		Note		
G	Trays & trunking in risers to run continuously from bottom to top of riser.		Note		
H	Supplementary containment shall be allowed for & installed as necessary for general services, lighting & power services etc as required.		Note		
J	All containment routes and electrical services penetrations through the building envelope shall be weather and building sealed, to ensure that air-tightness is maintained in accordance with the architects specifications.		Note		
K	Floor boxes shall be fed by conduits originating from tray drops. Allow for: one 25mm conduit to serve a maximum of four floor boxes (power); one 25mm conduit to serve a maximum of two floor boxes (data – CAT6A).		Note		
	<u>System - Containment / Cable Compartments (cl. 6.4)</u>				
	Cable trays, drops and risers as per Specification and Drawings				
	Ground Floor as per Drawing Nr. MTUHPAC-Z-61-ZL00-DR-JVT-EE-0001				
L	^^^150mm ELV Tray	1	item		
M	^^^150mm FA Tray	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^300mm ELV Tray	1	item		
B	^^^300mm FA Tray	1	item		
C	^^^600mm LV Tray	1	item		
D	^^^600mm ELV Tray	1	item		
E	^^^600mm FA Tray	1	item		
F	^^^Allow for Cable Tray Bends	1	item		
G	^^^Allow for Cable Tray Drops & Risers	1	item		
	Ground Floor - Phase 1 Existing Building as per Drawing Nr. MTUHPAC-Z-61-Z-L00-DR-JVT-EE-0002				
H	^^^150mm ELV Tray	1	item		
J	^^^150mm FA Tray	1	item		
K	^^^200mm LV Tray	1	item		
L	^^^Allow for Cable Tray Bends	1	item		
M	^^^Allow for Cable Tray Drops & Risers	1	item		
	First Floor as per Drawing Nr. MTUHPAC-Z-61-Z-L01-DR-JVT-EE-0001				
N	^^^150mm ELV Tray	1	item		
P	^^^150mm FA Tray	1	item		
Q	^^^300mm ELV Tray	1	item		
R	^^^300mm FA Tray	1	item		
S	^^^600mm LV Tray	1	item		
T	^^^600mm ELV Tray	1	item		
U	^^^600mm FA Tray	1	item		
V	^^^Allow for Cable Tray Bends	1	item		
W	^^^Allow for Cable Tray Drops & Risers	1	item		
	First Floor - Phase 1 Existing Building as per Drawing Nr. MTUHPAC-Z-61-Z-L01-DR-JVT-EE-0002				
X	^^^150mm ELV Tray	1	item		
Y	^^^150mm FA Tray	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^200mm LV Tray	1	item		
B	^^^Allow for Cable Tray Bends	1	item		
C	^^^Allow for Cable Tray Drops & Risers	1	item		
D	Second Floor as per Drawing Nr. MTUHPAC-Z-61-Z-L02-DR-JVT-EE-0001				
E	^^^150mm ELV Tray	1	item		
F	^^^150mm FA Tray	1	item		
G	^^^300mm ELV Tray	1	item		
H	^^^300mm FA Tray	1	item		
J	^^^600mm LV Tray	1	item		
K	^^^600mm ELV Tray	1	item		
L	^^^600mm FA Tray	1	item		
M	^^^Allow for Cable Tray Bends	1	item		
N	^^^Allow for Cable Tray Drops & Risers	1	item		
P	Roof Plan as per Drawings Nr. MTUHPAC-Z-ZZ-Z-R00-DR-JVT-EE-0001 & 0002		noid		
Q	^^^300mm (PV containment to existing roof) LV Tray	1	item		
R	^^^300mm (PV containment to new roof) LV Tray	1	item		
S	^^^600mm (PV containment to new roof) LV Tray	1	item		
T	^^^600mm (PV containment to new roof) ELV Tray	1	item		
U	^^^600mm (PV containment to new roof) FA Tray	1	item		
V	^^^Allow for Cable Tray Bends	1	item		
W	^^^Allow for Cable Tray Drops & Risers	1	item		
X	^^^Allow for Cable Tray Tie-ins (with Cable Trays on Existing Phase 1 Roof)	1	item		
	Trunking, drops and risers as per Specification and Drawings				
	Ground Floor as per Drawing Nr. MTUHPAC-Z-61-ZL00-DR-JVT-EE-0001				
Y	^^^100mm x 100mm LV Trunking	1	item		

	Description	Qty	Unit	Rate	Amount
A	^^^200mm x 100mm LV Trunking	1	item		
B	^^^200mm x 200mm LV Trunking	1	item		
C	^^^Allow for Trunking Bends	1	item		
D	^^^Allow for Trunking Drops & Risers	1	item		
	First Floor as per Drawing Nr. MTUHPAC-Z-61-Z-L01-DR-JVT-EE-0001				
E	^^^100mm x 100mm LV Trunking	1	item		
F	^^^200mm x 200mm LV Trunking	1	item		
G	^^^Allow for Trunking Bends	1	item		
H	^^^Allow for Trunking Drops & Risers	1	item		
J	Second Floor as per Drawing Nr. MTUHPAC-Z-61-Z-L02-DR-JVT-EE-0001				
K	^^^100mm LV Trunking	1	item		
L	^^^100mm x 100mm LV Trunking	1	item		
M	^^^150mm LV Trunking	1	item		
N	^^^200mm x 200mm LV Trunking	1	item		
P	Roof Plan as per Drawings Nr. MTUHPAC-Z-ZZ-Z-R00-DR-JVT-EE-0001 & 0002				
Q	^^^100mm x 100mm LV Trunking (PV trunking to new roof)	1	item		
R	^^^Allow for Trunking Bends	1	item		
S	^^^Allow for Trunking Drops & Risers	1	item		
T	Cable ladder & steel conduit – heavy-duty galv ladder (note 22) and screwed-welded Class 4 conduit drops to floor boxes/final circuits (cl. 6.4.3/.7).	1	item		
	(Accessories / Flexible Connections)				
U	Flexible conduit – LSZH, IP66, flexible final connection at equipment/vibrating plant (cl. 6.4.8).	1	item		
	(Cables within containment)				
V	LSZH single-core cabling drawn into conduit / laid in trunking, complete (final-circuit points measured under their own elements) (cl. 6.4.10).	1	item		

To Collection €

	Description	Qty	Unit	Rate	Amount
	(General)				
A	Containment testing & commissioning – continuity/earth to IS 10101, earth straps, inspection & finish repair (cl. 6.4.9).	1	item		
B	Fire-stopping / fire barriers to containment penetrations through fire compartments (cl. 6.4.11).	1	item		
	General as per ARM4 Supplement 2				
C	^^^Testing and commissioning	1	item		
D	^^^Operating and maintenance manuals	1	item		
E	^^^Working drawings	1	item		
F	^^^Co-ordination drawings	1	item		
G	^^^As built drawings & data books	1	item		
H	^^^Identification plates, labels and the like	1	item		
J	^^^Supply and installation of all earthing and equipotential bonding to meet ET101:2008 and BS 7671 requirements	1	item		
K	^^^Surge protection	1	item		
L	^^^Electrical safety equipment	1	item		
M	^^^Mock-ups	1	item		
N	^^^Staff demonstrations and training	1	item		
P	^^^Recommissioning of all systems following one full year of operation	1	item		
Q	^^^Co-ordination of Services	1	item		
R	^^^Decommissioning and removal of all redundant services	1	item		
S	^^^Builders work	1	item		
T	^^^Fire stopping and other associated fire protection work	1	item		
U	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	ELECTRICAL SERVICES - GENERAL SERVICES - POWER INSTALLATION - ELEMENT 62				
	General Notes - General Services Power Installation				
A	The contractor shall liaise with university technical staff on all aspects of the installation		Note		
B	Any discrepancies or omissions to be reported to JVTierney Consulting Engineers immediately.		Note		
C	This drawing to be read in conjunction with all civil engineers, structural engineers, architects & all other relevant drawings & specifications relating to the project.		Note		
D	All dimensions to be confirmed on site.		Note		
E	The electrical works specialist is responsible for co-ordinating with all other disciplines.		Note		
F	The contractor shall be responsible for providing all the necessary information to allow the main contractor to coordinate all the services.		Note		
G	The contractor shall ensure the external lighting installations complies with CIBSE guides.		Note		
H	All outlets to be recessed 25mm Class 4 steel conduit drops to be fitted into chased block work internal walls and stud partitions.		Note		
J	It should be noted that equipment layout is as per architects drawings and shall be subject to final agreement on site.		Note		
K	All dado trunking to be mounted 150mm above working plane unless otherwise noted		Note		
L	Electrical contractor shall take full cognizance of the health and safety plan and provide full method statements for all hazardous operations listed therein. Method statements shall also be provided for any hazardous operation which becomes apparent throughout the construction period.		Note		
M	Contractor to seal all penetrations through fire rated walls with suitable materials		Note		
N	All fused spur outlets supplying CCTV cameras shall be fed from the same phase. All external CCTV cameras supplies to be IP65 rated.		Note		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	The electrical contractor shall allow for sufficient slack on voice and data cables to comms cabinet. All cables to be dressed and loomed.		Note		
B	Power supplies for fire alarm door holds devices to be positioned at high level. PSU to be wired in fire resistant cabling.		Note		
C	Power points, sockets, etc can be wired in groups as per manufacturers recommendations up to a maximum of 5 per circuit.		Note		
D	Termination of final connections to specialist equipment to be by electrical contractor unless otherwise specified.		Note		
E	Leak detection to be provided to room and AC drip tray. To be linked to BMS system.		Note		
F	Areas where the screed depth is 85mm to 90mm, allowance shall be made for one 20mm² conduit to serve a maximum of four floor boxes for power, and one 25mm² conduit to serve each floor box for data (CAT6A).		Note		
G	Areas where the screed depth is 75mm, the maximum permissible conduit size shall be limited to 20mm². Allowance shall be made for one 20mm² conduit to serve a maximum of two floor boxes for power and one 20mm² conduit per floor box for data (CAT6A).		Note		
H	Arena/athletic centre floor boxes shall not include data outlets.		Note		
	(System) – POWER / SMALL POWER INSTALLATION (cl. 7.1–7.9)				
J	General small-power / socket-outlet installation – complete radial circuits from sub-DBs (20A RCBO), LSZH in galvanised conduit/trunking CPC & terminations DB→outlet are measured in the Final-Circuit Points below (not duplicated here) (cl. 7.1).	1	item		
K	Emergency power isolation system – firefighter's switches & main-isolation remote operating devices in fire-rated cabling, per schematics (cl. 7.8).	1	item		
L	Automatic Opening Vent (AOV) installation – all power, fire & control cabling to AOV motors, MCUs, sensors, keypads & break-glass, final termination & functional checking (cl. 7.7).	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Gas detection / gas-proving system – power, cabling & FA/BMS interface (allowance; referenced cl. 7.5, 13.7).	1	item		
	Equipment				
	Supply and installation including all brackets and supports as necessary of the following equipment as per data sheets and specification.				
	Controls				
B	Consumer unit panel	2	nr		
C	Install & wire free-issue MCC/BMS panels, VSDs and room-mounted control devices (supplied by the Mechanical/BMS Contractor) – install/wire only (cl. 7.10.11).	1	item		
	Fittings & Terminal Equipment				
	Supply and installation of service outlets and points as per Drawings and Specification				
D	Single switched socket 13A 2P+E, anti-bacterial, Part M/LRV; single & twin, incl. cleaner-socket & 2-USB variants [BW 15.1-15.3] (cl. 7.1).	89	nr		
E	Twin switched socket	96	nr		
F	Twin switched socket - containing 2NO. USB ports	42	nr		
G	Fused connection unit	18	nr		
H	Fused switched connection unit	3	nr		
J	Fused connection unit - indicating	73	nr		
K	16 AMP commando socket	10	nr		
L	Electric bind switch	19	nr		
M	Data outlet single	13	nr		
N	HDMI outlet	15	nr		
P	Data outlet twin	60	nr		
Q	WIFI twin data outlet (CAT 6a/RJ 45)	42	nr		
R	Single phase SP+N isolator (25A IP66) unless otherwise stated	2	nr		
S	Three phase TP+N isolator (25A IP66) unless otherwise stated	4	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Floor box (1x twin USB socket , 1x twin socket & 1x twin data)	25	nr		
B	Floor-screed conduit under floor – 25/20mm² conduits DTLL in screed to floor boxes (GA drwg notes 21-23).	103	m		
C	Desk grommet (single socket with dual USB type A&B)	55	nr		
D	PS Momentary / retractive switch [BW 15.12] (cl. 7.1).	10	nr		
E	Local isolator – rotary, SP+N (1-ph) or TP+N (3-ph) 25A, IP54/IP67 [BW 15.13-15.14] (cl. 7.6).	30	nr		
F	3- compartment dado trunking anti-microbial chamfered at the top - 3-compartment anti-bacterial cPVC with faceplates & back-fed conduits (cl. 7.3).	64	m		
G	32A (isololater) as per R00-DR-JVT-EE-0001	8	nr		
H	16A (isololater) as per R00-DR-JVT-EE-0001	11	nr		
J	Firefighter's switch – 150×100mm, red, engraved, lockable OFF (cl. 7.8).	1	item		
	Final Circuits (including conduits, cables, termination points)				
	Final circuits including termination points in accordance with the drawings and specification - each point rate INCLUDES final-circuit cable, conduit, CPC & terminations DB→outlet				
K	Socket-outlet final-circuit point – 3×4mm² LSZH in galvanised conduit from 20A 2P RCBO (cl. 7.1 o).	227	nr		
L	Single switched socket 13A 2P+E, anti-bacterial, Part M/LRV; single & twin, incl. cleaner-socket & 2-USB variants [BW 15.1-15.3] (cl. 7.1).	89	nr		
M	Twin switched socket	96	nr		
N	Twin switched socket - containing 2NO. USB ports	42	nr		
P	Fused connection unit	18	nr		
Q	Fused switched connection unit	3	nr		
R	Fused connection unit - indicating	73	nr		
S	16 AMP commando socket	6	nr		
T	PS momentary switch	7	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Electric bind switch	19	nr		
B	Data outlet single	13	nr		
C	HDMI outlet	15	nr		
D	Data outlet twin	60	nr		
E	WIFI twin data outlet (CAT 6a/RJ 45)	42	nr		
F	Single phase SP+N isolator (25A IP66) unless otherwise stated	2	nr		
G	Three phase TP+N isolator (25A IP66) unless otherwise stated	4	nr		
H	Floor box (1x twin USB socket , 1x twin socket & 1x twin data)	22	nr		
J	Desk grommet (single socket with dual USB type A&B)	51	nr		
K	3- compartment dado trunking anti-microbial chamfered at the top	64	m		
L	32A (isololater) as per R00-DR-JVT-EE-0001	8	nr		
M	16A (isololater) as per R00-DR-JVT-EE-0001	11	nr		
	<u>(System) – TRANSPORT / LIFT INSTALLATION WIRING (cl. 7.10.1)</u>				
N	Lift power supply – 400V 3-phase to lift motor cabinet in each shaft, incl. distribution & circuit protection (cl. 7.10.1 a-b). Rate per lift.	1	item		
P	Evacuation lift dual fire-rated (PH120, BS 8519) supplies via diversified routes with Automatic Transfer Switch (cl. 7.10.1 c). Rate per lift.	1	item		
Q	Lift shaft wiring, shaft lighting & socket circuits in galvanised conduit/trunking (cl. 7.10.1 d-e, g). Rate per lift.	1	item		
R	Lift shaft/pit/car emergency lighting – DALI group on addressable test system (cl. 7.10.1 f-h; interface El.63). Rate per lift.	1	item		
S	GSM dual-SIM emergency dialler + antennas & dedicated analogue phone line, per lift (cl. 7.10.1 i). Rate per lift.	1	item		
T	Evacuation-lift sump-pump power & control point, with BMS fault/run signals (cl. 7.10.1 j-l).	1	item		

	Description	Qty	Unit	Rate	Amount
A	Lift fire-interface units – 2 No. per lift + associated fire-alarm cabling (cl. 7.10.1 m; interface El.68). Rate per lift.	1	item		
	General				
B	Testing & commissioning of the power-services installation; attendance on AOV/lift specialists (cl. 7.7, 7.10).	1	item		
	General as per ARM4 Supplement 2				
C	^^^Testing and commissioning	1	item		
D	^^^Operating and maintenance manuals	1	item		
E	^^^Working drawings	1	item		
F	^^^Co-ordination drawings	1	item		
G	^^^As built drawings & data books	1	item		
H	^^^Identification plates, labels and the like	1	item		
J	^^^Supply and installation of all earthing and equipotential bonding to meet ET101:2008 and BS 7671 requirements	1	item		
K	^^^Surge protection	1	item		
L	^^^Electrical safety equipment	1	item		
M	^^^Mock-ups	1	item		
N	^^^Staff demonstrations and training	1	item		
P	^^^Recommissioning of all systems following one full year of operation	1	item		
Q	^^^Co-ordination of Services	1	item		
R	^^^Decommissioning and removal of all redundant services	1	item		
S	^^^Builders work	1	item		
T	^^^Fire stopping and other associated fire protection work	1	item		
U	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	ELECTRICAL SERVICES - GENERAL & EMERGENCY LIGHTING - ELEMENT 63				
	General Notes -				
A	The contractor shall liaise with university technical staff on all aspects of the installation.		Note		
B	Any discrepancies or omissions to be reported to JVTierney Consulting Engineers immediately.		Note		
C	This drawing to be read in conjunction with all civil engineers, structural engineers, architects & all other relevant drawings & specifications relating to the project.		Note		
D	All dimensions to be confirmed on site.		Note		
E	The electrical works specialist is responsible for co-ordinating with all other disciplines.		Note		
F	Exact location of lighting control detectors to be confirmed by lighting control supplier prior to installation.		Note		
G	All luminaires to be supplied with plasterboard ceiling brackets in all areas except corridors.		Note		
H	All modular luminaires to be independently supported from the ceiling structure, and fixed directly to the building structure via manufacturers proprietary fixing kits, which must be included in all areas.		Note		
J	All switches to be large rocker type.		Note		
K	The luminaires can be wired in groups as per manufacturers recommendations up to a maximum of 10 luminaires per circuit.		Note		
L	All light fittings shall be as a minimum IP54 rated.		Note		
M	IP65 minimum luminaires to be provided and installed in all switchrooms, plantrooms & comms rooms.		Note		
N	All external luminaires mounted below 2.8m shall be wired via 18amp RCBO's, in accordance with ETCI rules.		Note		
	(System) – LIGHTING INSTALLATIONS (cl. 8.1 –8.3)				
P	General lighting installation – complete LED installation with tray/trunking, conduit, LSZH wiring & ancillary equipment (cl. 8.1).	1	item		

	Description	Qty	Unit	Rate	Amount
A	Emergency lighting installation – fully addressable self-contained DALI system with automatic test to IS 3217 / EN 62034 (cl. 8.2).	1	item		
B	Lighting management / control system – DALI, presence/daylight/scene control & head-end (cl. 8.3).	1	item		
	Equipment & Controls				
	Supply and installation including all brackets and supports as necessary of the following equipment as per specification .				
C	Lighting switch – 20A wide-rocker, 1-way / 2-way / 2-way-2-gang, Part M (cl. 8.1 f).	35	nr		
D	Lighting-control detector – 360° movement (M) & 360 ° absence (A) types (cl. 8.1.6).	40	nr		
E	Daylight motion sensor	4	nr		
F	Emergency-lighting automatic-test head-end / central test unit (cl. 8.2.2).	1	item		
G	Lighting-control module / DALI controller / gateway (cl. 8.3).	1	item		
	Fittings				
	Supply, installation and connection of light fittings as per Specification and Lighting Schedule Nr. XXXXXXX				
H	light switch (single arm)	7	nr		
J	light dimming switch (single arm and triangle)	16	nr		
K	Two way gang switch	4	nr		
L	Directional emergency exit sign	60	nr		
	(Luminaires) – general / internal, type per Schedule of Luminaires				
M	Lighting - circular recessed downlight (D:154, H:63) (D) - LED recessed downlight, round, 15W, 1550lm, 4000K, CRI 80, DALI, satin opal polycarbonate diffuser TP(a), IP54, Ø154 x 63mm; design ref Intralight 1481A0343011 or equal approved (WC)	57	nr		
N	Lighting - circular recessed downlight (D:88, H:92) (E) - LED recessed downlight, round, 6W, 610lm, 4000K, CRI 80, DALI, metalized polycarbonate optic, 20° beam, IP44, Ø88 x 92mm; design ref Intralight 16A230FD011 or equal approved (Above WC sinks)	18	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Lighting - circular suspended (D:212 H:159) (I) - LED surface/suspended cylinder downlight, 37W, 5587lm, 4000K, CRI 92, DALI-2, Fresnel lens beam C0 54°, UGR<19, IP20, cast aluminium powder-coated RAL9011, Ø212 x 159mm; design ref ERCO B4000979 Iku or equal approved (Running track)	204	nr		
B	Lighting - circular suspended (L:234, H:148) (j) - LED suspended downlight with anti-glare cone, 17.5W, 2596lm, 4000K, CRI 82, DALI dimmable, Fresnel wide flood C0 52°, UGR<19, IP20, cast aluminium powder-coated RAL9011, Ø234 x 148mm; design ref ERCO IKU B4000100 or equal approved (Lecture theatre)	25	nr		
C	Lighting - circular recessed (D:88, H:92) (k) - LED recessed pelmet spotlight, 1W, 107lm, 4000K, CRI 92, DALI, collimating lens wide flood, IP20, polymer/metal coated black RAL9005 matt, 80W x 35D x 40H mm; design ref ERCO B3000086 Axis or equal approved (Pelmet light)	16	nr		
D	Lighting - handrail symmetrical mounted LED (H:26, D :16) (N/E) - LED handrail luminaire, wide symmetrical 105° beam, 1.4W, 172lm, 3000K, CRI 80+, DALI, IP65 (polycarbonate) / IP67 (borosilicate), Ø16 x 26mm, with allowance for emergency module (N/E); design ref PUCK WIDE-CF-30 / WIDE-FF-30 or equal approved (Handrails)	59	nr		
E	Lighting- handrail ssymmetrical mounted LED (H:26, D :16) (N1/E) - LED handrail luminaire, forward asymmetrical 70° beam, 1.4W, 155lm, 3000K, CRI 80+, DALI, IP65 (polycarbonate) / IP67 (borosilicate), Ø16 x 26mm, with allowance for emergency module (N1/E); design ref PUCK HLS-FA-SNP or equal approved (Handrails)	39	nr		
F	Lighting- handrail ssymmetrical mounted LED (H:26, D :16) (N1/E) - LED handrail luminaire, forward asymmetrical 70° beam, 1.4W, 155lm, 3000K, CRI 80+, DALI, IP65 (polycarbonate) / IP67 (borosilicate), Ø16 x 26mm (N1); design ref PUCK HLS-FA-SNP or equal approved (Handrails)	71	nr		
G	Lighting - rectangular suspended (L:1130, W:47, H;65) (A) - Type A — LED linear pendant luminaire, 18W, 2460lm, 4000K, CRI 90, DALI-2 dimmable driver, medium 60° optic UGR<19, IP40, extruded aluminium powder-coated, 1130 x 47 x 65mm; design ref Intralight 151121210T0032 or equal approved (Classrooms)	279	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Lighting - rectangular suspended (L:3089, W:47, H:65) (C) - LED linear pendant luminaire, direct & indirect, 143.6W (47W/m), 11114lm, 4000K, CRI 90, DALI-2 dimmable driver, medium 60° optic (UGR 15.4 transverse / 18.8 longitudinal), IP40, extruded aluminium powder-coated, 3089 x 47 x 65mm; design ref Intralight 151221210T0002 or equal approved (Skylights – L02)	8	nr		
B	Lighting - circular suspended (D:254 H:314) (F) - LED suspended cylinder downlight with indirect uplight, downlight module 122W (10226lm) + indirect module 12.1W (1572lm), 4000K, CRI 92, DALI-2, 28° beam / 40° cut-off, UGR C0<10, IP20, aluminium powder-coated RAL9011, Ø254 x 314mm; design ref ERCO 69945.000 or equal approved (Athletics area)	84	nr		
C	Lighting - circular suspended (D:167 H:314) (G) - LED suspended cylinder downlight with indirect uplight, downlight module 24.3W (3144lm) + indirect module 12.1W (1572lm), 4000K, CRI 82, DALI-2, 30° cut-off, UGR C0<10, IP20, aluminium powder-coated RAL9011, Ø167 x 314mm; design ref ERCO 49054.000 or equal approved (Entrance lobby)	8	nr		
D	Lighting - circular suspended (L:172, H:144) (H) - LED surface/suspended cylinder downlight, oval wide flood, 9.7W, 1350lm, 4000K, CRI 92, DALI-2, beam C0 80°/C90 59°, UGR C0 20/C90 16, IP20, cast aluminium powder-coated RAL9011, Ø172 x 144mm; design ref ERCO B4000957 Iku or equal approved (Corridors)	99	nr		
E	Lighting - rectangular wall mounted (L:3089, W:47, H :65) (P) - LED surface-mounted downlight, oval flood, 11.2W, 970lm, 3000K, CRI 92, DALI, anti-glare cone (polymer black RAL9005), IP65, double powder-coated graphite, Ø128 x 200mm; design ref ERCO B0000240 or equal approved (External areas – under mezzanine)	23	nr		
F	Lighting - rectangular wall mounted (L:3089, W:47, H :65) (P/E) - (Luminaires) – emergency & feature, (nr); self-contained DALI 3hr to IS 3217	16	nr		
G	Emergency lighting - circular recessed (E1) - LED recessed emergency downlight, 2W, 180lm, 5000K, DALI, integral 3-hour battery backup to IS 3217:2013 +A1:2017, IP40, RAL9006 grey/aluminium, Ø55 x 34mm; design ref Ventilux Delta Gen 2 DE2NM3 or equal approved (General)	60	nr		

	Description	Qty	Unit	Rate	Amount
A	Emergency lighting - circular recessed (E2) - LED recessed emergency downlight, 3W, 230lm, 6000K, DALI, integral 3-hour battery backup to IS 3217:2013 +A1:2017, IP65, white RAL9016, Ø50 x 46mm; design ref Ventilux HA2NM3 HALO IP65 Gen 2 or equal approved (Showers / Toilet cubicles)	19	nr		
B	Emergency lighting - ceiling mounted (E3) - LED surface-mounted emergency downlight, 2 x 2W, 510lm, 5000K, DALI, integral 3-hour battery backup to IS 3217:2013+A1:2017, IP40, RAL9006 grey/aluminium, 150 x 150 x 39mm; design ref Ventilux Delta SM Gen 2 or equal approved (General)	26	nr		
C	Emergency lighting - ceiling mounted (E4) - LED twin-head emergency bulkhead, swivel & tilt, 6 x 1.5W (9W), 1200lm, 6000K, DALI, integral 3-hour battery backup to IS 3217:2013+A1:2017, IP65, polycarbonate lenses, RAL9006 grey/aluminium, 370 x 150 x 102mm; design ref Ventilux SKYLUX SS2 9W or equal approved (General)	19	nr		
D	Lighting - rectangular recessed (L:1130, W:47, H:65) (B) - LED linear recessed luminaire, 18W, 2460lm, 4000K, CRI 90, DALI-2 dimmable driver, medium 60 ° optic UGR<19, IP40, extruded aluminium powder-coated, 1130 x 47 x 65mm; design ref Intralight 151121210T0032 or equal approved (Classrooms)	10	nr		
E	Lighting - circular suspended (D:167 H:314) (L/E) - LED circular wall/bulkhead luminaire with movement sensor, 14W, 2250lm, 4000K, CRI 90, maintained DALI, 3-hour emergency (630lm), IP65, satin opal polycarbonate diffuser, RAL9006, Ø352 x 67.5mm; design ref Galaxy 2 Circular LED DALI Emergency Bulkhead or equal approved (Stair cores / Risers)	35	nr		
F	Lighting - rectangular suspended (L:3089, W:47, H:65) (M) (+ M/E emergency variant) - LED batten luminaire, wall-mounted or suspended, 42W, 5133lm, 4000K, CRI 90, DALI, opal polycarbonate diffuser, IP66, 1277 x 101 x 84mm, with allowance for 3-hour emergency module; design ref Intralight 15711618000 or equal approved (Plant Room)	43	nr		

	Description	Qty	Unit	Rate	Amount
A	Lighting - surface-mounted LED downlight (Type P) providing an oval flood beam via mid-power LEDs behind a Fresnel lens of optical polymer, with a polymer anti-glare cone coated black (RAL9005). Double powder-coated graphite housing, IP65 rated for external application (underneath mezzanine). 11.2 W, 970 lm, 87 lm/W, 3000 K, CRI 92, DALI control gear, 50,000 h rated life. Nominal dimensions H=200 mm, D=128 mm. Design compliance based on ERCO B0000240 (or equal approved).	30	nr		
	(Luminaires) – EXTERNAL / SITE (Element 60 Site Lighting Interface)				
B	Lighting Type O / O/E – Radial Bollard Luminaire - A radial bollard luminaire for external area lighting, providing 360° low-level radial light distribution. The body is powder-coated and black lacquered, housing an integral LED source rated at 27W circuit wattage and delivering 608 lumens at an efficacy of 23 lm/W. Light output is warm white at 3000K with a colour rendering index of CRI 92. The luminaire carries an IP65 ingress protection rating, an RG1 (low risk) photobiological classification, and a rated LED lifetime of 50,000 hours. Dimming and control are via DALI gear. Nominal dimensions are 900mm high × 169mm diameter, Design to be based on ERCO 33933.000 "Bollard radial focus" with allowance for emergency light module, or equal approved; all as per JV Tierney & Co. MTUHPAC-X-63-X-XXX-SH-JVT-EE-0001 - LIGHTING SCHEDULE	36	nr		
C	Lighting Type Q – Beam External Luminaire - A pole-mounted beam projector for external area lighting, using an integral LED source rated at 21.7W circuit wattage and delivering 2342 lumens at an efficacy of 51 lm/W. Light output is warm white at 3000K with a colour rendering index of CRI 92. The luminaire body is double powder-coated, with an IP65 ingress protection rating and a rated LED lifetime of 50,000 hours. Control is via DALI gear; The optical system comprises a collimating lens of optical polymer with an internal lens unit (polymer, black) that is rotatable through 360°, together with a darklight lens of optical polymer giving an optical cut-off at 40° for low-UGR performance. The luminaire is supplied with a G1/2 connection thread. Nominal dimensions are 144mm diameter × 312mm long, with a fixture height of 285mm and a 91mm base; Design to be based on ERCO A4000651 "Beamer Projector," or equal approved, all as per JV Tierney & Co. MTUHPAC-X-63-X-XXX-SH-JVT-EE-0001 - LIGHTING SCHEDULE	6	nr		

	Description	Qty	Unit	Rate	Amount
A	Lighting - circular recessed (D:167 H:314) (R) - LED wall-recessed walkway luminaire, 5.8W, 737lm, 3000K, CRI 80, 30° beam (C0-180), IP66, tempered safety glass, powder-painted grey, Ø200 x 45.6mm; design ref iGuzzini SS82.01 or equal approved (External areas)	13	nr		
B	Lighting Type S – Beam External Light - A Road & Street light, Post-top mounted (for 60 to 76mm diameter) for external area lighting, using an integral LED source rated at 79W circuit wattage and delivering 8600 lumens at an efficacy of 109 lm/W. Light output is warm white at 3000K with a colour rendering index of CRI 80. The luminaire body is double powder-coated (grey), with an IP66 ingress protection rating and a rated LED lifetime of 50,000 hours, The optical system comprises of a Polymethyl methacrylate diffuser type, giving a beam angle distribution of wide 50. Nominal dimensions are 742mm long x 238mm high x 295mm wide; Design to be based on Luma gen2 - BGP703 LED100-4S/830 II DW50 GF SRT SRB or equal approved, all as per JV Tierney & Co. MTUHPAC-X-63-X-XXX-SH-JVT-EE-0001 - LIGHTING SCHEDULE	10	nr		
	<u>Final Circuits (including conduits, cables, termination points)</u> Final circuits including temination points in accordance with the drawings and specification				
C	Lighting point – LSZH in galvanised conduit/trunking, incl. flexible drop & through-box (≤10 fittings/circuit) (cl. 8.1.5).	1135	nr		
D	Lighting switch point / switch-drop (cl. 8.1 s).	35	nr		
E	One way switch	7	nr		
F	Two way gang switch	4	nr		
G	light dimming switch (single arm and triangle)	16	nr		
H	Lighting switch – 20A wide-rocker, 1-way / 2-way / 2-way-2-gang, Part M (cl. 8.1 f).	35	nr		
J	Lighting-control detector – 360° movement (M) & 360 ° absence (A) types (cl. 8.1.6).	40	nr		
K	Daylight motion sensor	4	nr		
L	Directional emergency exit sign	60	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Emergency lighting - circular recessed (E1) - LED recessed emergency downlight, 2W, 180lm, 5000K, DALI, integral 3-hour battery backup to IS 3217:2013 +A1:2017, IP40, RAL9006 grey/aluminium, Ø55 x 34mm; design ref Ventilux Delta Gen 2 DE2NM3 or equal approved (General)	60	nr		
B	Emergency lighting - circular recessed (E2) - LED recessed emergency downlight, 3W, 230lm, 6000K, DALI, integral 3-hour battery backup to IS 3217:2013 +A1:2017, IP65, white RAL9016, Ø50 x 46mm; design ref Ventilux HA2NM3 HALO IP65 Gen 2 or equal approved (Showers / Toilet cubicles)	19	nr		
C	Emergency lighting - ceiling mounted (E3) - LED surface-mounted emergency downlight, 2 x 2W, 510lm, 5000K, DALI, integral 3-hour battery backup to IS 3217:2013+A1:2017, IP40, RAL9006 grey/aluminium, 150 x 150 x 39mm; design ref Ventilux Delta SM Gen 2 or equal approved (General)	26	nr		
D	Emergency lighting - ceiling mounted (E4) - LED twin-head emergency bulkhead, swivel & tilt, 6 x 1.5W (9W), 1200lm, 6000K, DALI, integral 3-hour battery backup to IS 3217:2013+A1:2017, IP65, polycarbonate lenses, RAL9006 grey/aluminium, 370 x 150 x 102mm; design ref Ventilux SKYLUX SS2 9W or equal approved (General)	19	nr		
E	Lighting - rectangular suspended (L:1130, W:47, H;65) (A) - Type A — LED linear pendant luminaire, 18W, 2460lm, 4000K, CRI 90, DALI-2 dimmable driver, medium 60° optic UGR<19, IP40, extruded aluminium powder-coated, 1130 x 47 x 65mm; design ref Intralight 151121210T0032 or equal approved (Classrooms)	279	nr		
F	Lighting - rectangular recessed (L:1130, W:47, H:65) (B) - LED linear recessed luminaire, 18W, 2460lm, 4000K, CRI 90, DALI-2 dimmable driver, medium 60 ° optic UGR<19, IP40, extruded aluminium powder-coated, 1130 x 47 x 65mm; design ref Intralight 151121210T0032 or equal approved (Classrooms)	10	nr		

	Description	Qty	Unit	Rate	Amount
A	Lighting - rectangular suspended (L:3089, W:47, H:65) (C) - LED linear pendant luminaire, direct & indirect, 143.6W (47W/m), 11114lm, 4000K, CRI 90, DALI-2 dimmable driver, medium 60° optic (UGR 15.4 transverse / 18.8 longitudinal), IP40, extruded aluminium powder-coated, 3089 x 47 x 65mm; design ref Intralight 151221210T0002 or equal approved (Skylights – L02)	8	nr		
B	Lighting - circular recessed downlight (D:154, H:63) (D) - LED recessed downlight, round, 15W, 1550lm, 4000K, CRI 80, DALI, satin opal polycarbonate diffuser TP(a), IP54, Ø154 x 63mm; design ref Intralight 1481A0343011 or equal approved (WC)	57	nr		
C	Lighting - circular recessed downlight (D:88, H:92) (E) - LED recessed downlight, round, 6W, 610lm, 4000K, CRI 80, DALI, metalized polycarbonate optic, 20° beam, IP44, Ø88 x 92mm; design ref Intralight 16A230FD011 or equal approved (Above WC sinks)	18	nr		
D	Lighting - circular suspended (D:254 H:314) (F) - LED suspended cylinder downlight with indirect uplight, downlight module 122W (10226lm) + indirect module 12.1W (1572lm), 4000K, CRI 92, DALI-2, 28° beam / 40° cut-off, UGR C0<10, IP20, aluminium powder-coated RAL9011, Ø254 x 314mm; design ref ERCO 69945.000 or equal approved (Athletics area)	84	nr		
E	Lighting - circular suspended (D:167 H:314) (G) - LED suspended cylinder downlight with indirect uplight, downlight module 24.3W (3144lm) + indirect module 12.1W (1572lm), 4000K, CRI 82, DALI-2, 30° cut-off, UGR C0<10, IP20, aluminium powder-coated RAL9011, Ø167 x 314mm; design ref ERCO 49054.000 or equal approved (Entrance lobby)	8	nr		
F	Lighting - circular suspended (L:172, H:144) (H) - LED surface/suspended cylinder downlight, oval wide flood, 9.7W, 1350lm, 4000K, CRI 92, DALI-2, beam C0 80°/C90 59°, UGR C0 20/C90 16, IP20, cast aluminium powder-coated RAL9011, Ø172 x 144mm; design ref ERCO B4000957 Iku or equal approved (Corridors)	99	nr		
G	Lighting - circular suspended (D:212 H:159) (I) - LED surface/suspended cylinder downlight, 37W, 5587lm, 4000K, CRI 92, DALI-2, Fresnel lens beam C0 54°, UGR<19, IP20, cast aluminium powder-coated RAL9011, Ø212 x 159mm; design ref ERCO B4000979 Iku or equal approved (Running track)	204	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Lighting - circular suspended (L:234, H:148) (j) - LED suspended downlight with anti-glare cone, 17.5W, 2596lm, 4000K, CRI 82, DALI dimmable, Fresnel wide flood C0 52°, UGR<19, IP20, cast aluminium powder-coated RAL9011, Ø234 x 148mm; design ref ERCO IKU B4000100 or equal approved (Lecture theatre)	25	nr		
B	Lighting - circular recessed (D:88, H:92) (k) - LED recessed pelmet spotlight, 1W, 107lm, 4000K, CRI 92, DALI, collimating lens wide flood, IP20, polymer/metal coated black RAL9005 matt, 80W x 35D x 40H mm; design ref ERCO B3000086 Axis or equal approved (Pelmet light)	16	nr		
C	Lighting - circular suspended (D:167 H:314) (L/E) - LED circular wall/bulkhead luminaire with movement sensor, 14W, 2250lm, 4000K, CRI 90, maintained DALI, 3-hour emergency (630lm), IP65, satin opal polycarbonate diffuser, RAL9006, Ø352 x 67.5mm; design ref Galaxy 2 Circular LED DALI Emergency Bulkhead or equal approved (Stair cores / Risers)	35	nr		
D	Lighting - rectangular suspended (L:3089, W:47, H:65) (M) (+ M/E emergency variant) - LED batten luminaire, wall-mounted or suspended, 42W, 5133lm, 4000K, CRI 90, DALI, opal polycarbonate diffuser, IP66, 1277 x 101 x 84mm, with allowance for 3-hour emergency module; design ref Intralight 15711618000 or equal approved (Plant Room)	43	nr		
E	Lighting - handrail symmetrical mounted LED (H:26, D :16) (N/E) - LED handrail luminaire, wide symmetrical 105° beam, 1.4W, 172lm, 3000K, CRI 80+, DALI, IP65 (polycarbonate) / IP67 (borosilicate), Ø16 x 26mm, with allowance for emergency module (N/E); design ref PUCK WIDE-CF-30 / WIDE-FF-30 or equal approved (Handrails)	59	nr		
F	Lighting- handrail ssymmetrical mounted LED (H:26, D :16) (N1/E) - LED handrail luminaire, forward asymmetrical 70° beam, 1.4W, 155lm, 3000K, CRI 80+, DALI, IP65 (polycarbonate) / IP67 (borosilicate), Ø16 x 26mm, with allowance for emergency module (N1/E); design ref PUCK HLS-FA-SNP or equal approved (Handrails)	39	nr		
G	Lighting- handrail ssymmetrical mounted LED (H:26, D :16) (N1/E) - LED handrail luminaire, forward asymmetrical 70° beam, 1.4W, 155lm, 3000K, CRI 80+, DALI, IP65 (polycarbonate) / IP67 (borosilicate), Ø16 x 26mm(N1); design ref PUCK HLS-FA-SNP or equal approved (Handrails)	71	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Lighting - bollard lights (D:169 H:900) (O/E) - LED radial bollard, 360° distribution, 27W, 608lm, 3000K, CRI 92, DALI, IP65, powdercoated black lacquered, 900mm high x Ø169mm, with allowance for emergency module (O/E); design ref ERCO 33933.000 or equal approved (External areas)	13	nr		
B	Lighting - rectangular wall mounted (L:3089, W:47, H :65) (P) - LED surface-mounted downlight, oval flood, 11.2W, 970lm, 3000K, CRI 92, DALI, anti-glare cone (polymer black RAL9005), IP65, double powder-coated graphite, Ø128 x 200mm; design ref ERCO B0000240 or equal approved (External areas – under mezzanine)	23	nr		
C	Lighting - rectangular wall mounted (L:3089, W:47, H :65) (P/E) -	16	nr		
D	Lighting Type O / O/E – Radial Bollard Luminaire - A radial bollard luminaire for external area lighting, providing 360° low-level radial light distribution. The body is powder-coated and black lacquered, housing an integral LED source rated at 27W circuit wattage and delivering 608 lumens at an efficacy of 23 lm/W. Light output is warm white at 3000K with a colour rendering index of CRI 92. The luminaire carries an IP65 ingress protection rating, an RG1 (low risk) photobiological classification, and a rated LED lifetime of 50,000 hours. Dimming and control are via DALI gear. Nominal dimensions are 900mm high × 169mm diameter, Design to be based on ERCO 33933.000 "Bollard radial focus" with allowance for emergency light module, or equal approved; all as per JV Tierney & Co. MTUHPAC-X-63-X-XXX-SH-JVT-EE-0001 - LIGHTING SCHEDULE	36	nr		

	Description	Qty	Unit	Rate	Amount
A	Lighting Type Q – Beam External Luminaire - A pole-mounted beam projector for external area lighting, using an integral LED source rated at 21.7W circuit wattage and delivering 2342 lumens at an efficacy of 51 lm/W. Light output is warm white at 3000K with a colour rendering index of CRI 92. The luminaire body is double powder-coated, with an IP65 ingress protection rating and a rated LED lifetime of 50,000 hours. Control is via DALI gear; The optical system comprises a collimating lens of optical polymer with an internal lens unit (polymer, black) that is rotatable through 360°, together with a darklight lens of optical polymer giving an optical cut-off at 40° for low-UGR performance. The luminaire is supplied with a G1/2 connection thread. Nominal dimensions are 144mm diameter × 312mm long, with a fixture height of 285mm and a 91mm base; Design to be based on ERCO A4000651 "Beamer Projector," or equal approved, all as per JV Tierney & Co. MTUHPAC-X-63-X-XXX-SH-JVT-EE-0001 - LIGHTING SCHEDULE	6	nr		
B	Lighting - circular recessed (D:167 H:314) (R) - LED wall-recessed walkway luminaire, 5.8W, 737lm, 3000K, CRI 80, 30° beam (C0-180), IP66, tempered safety glass, powder-painted grey, Ø200 x 45.6mm; design ref iGuzzini SS82.01 or equal approved (External areas)	13	nr		
C	Lighting Type S – Beam External Light - A Road & Street light, Post-top mounted (for 60 to 76mm diameter) for external area lighting, using an integral LED source rated at 79W circuit wattage and delivering 8600 lumens at an efficacy of 109 lm/W. Light output is warm white at 3000K with a colour rendering index of CRI 80. The luminaire body is double powder-coated (grey), with an IP66 ingress protection rating and a rated LED lifetime of 50,000 hours, The optical system comprises of a Polymethyl methacrylate diffuser type, giving a beam angle distribution of wide 50. Nominal dimensions are 742mm long x 238mm high x 295mm wide; Design to be based on Luma gen2 - BGP703 LED100-4S/830 II DW50 GF SRT SRB or equal approved, all as per JV Tierney & Co. MTUHPAC-X-63-X-XXX-SH-JVT-EE-0001 - LIGHTING SCHEDULE	10	nr		

	Description	Qty	Unit	Rate	Amount
A	Lighting - surface-mounted LED downlight (Type P) providing an oval flood beam via mid-power LEDs behind a Fresnel lens of optical polymer, with a polymer anti-glare cone coated black (RAL9005). Double powder-coated graphite housing, IP65 rated for external application (underneath mezzanine). 11.2 W, 970 lm, 87 lm/W, 3000 K, CRI 92, DALI control gear, 50,000 h rated life. Nominal dimensions H=200 mm, D=128 mm. Design compliance based on ERCO B0000240 (or equal approved).	30	nr		
	Control				
B	^^^Emergency lighting self-testing system control area network cabling from 3 no. control modules to each control node ????	1	item		
	(General)				
C	Sample luminaires – one operational sample of each specified type, erected & connected, with the Tender; and three (3) after-dark lighting demonstrations (Schedule / cl. 8.1.8).	1	item		
D	Testing & commissioning – lux-level verification to CIBSE Code L, certification, handover & O&M (cl. 8.1.7, 8.2.5).	1	item		
	General as per ARM4 Supplement 2				
E	^^^Testing and commissioning	1	item		
F	^^^Operating and maintenance manuals	1	item		
G	^^^Working drawings	1	item		
H	^^^Co-ordination drawings	1	item		
J	^^^As built drawings & data books	1	item		
K	^^^Identification plates, labels and the like	1	item		
L	^^^Supply and installation of all earthing and equipotential bonding to meet ET101:2008 and BS 7671 requirements	1	item		
M	^^^Surge protection	1	item		
N	^^^Electrical safety equipment	1	item		
P	^^^Mock-ups	1	item		
Q	^^^Staff demonstrations and training	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Recommissioning of all systems following one full year of operation	1	item		
B	^^^Co-ordination of Services	1	item		
C	^^^Decommissioning and removal of all redundant services	1	item		
D	^^^Builders work	1	item		
E	^^^Fire stopping and other associated fire protection work	1	item		
F	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	ELECTRICAL SERVICES - (ICT) INFORMATION & COMMUNICATION TECHNOLOGY - ELEMENT 64				
	(System) – Structured Cabling (ICT Specialist – see Notes cl.6) (cl. 9.1–9.19)				
G	End-to-end Category 6A structured cabling system – 25-year applications-assured, incl. Wi-Fi wired network (cl. 9.14–9.18).	1	item		
H	Fibre backbone / campus subsystem – singlemode fibre, containment & terminations into Comms Room (cl. 9.10, 9.15).	1	item		
	(Equipment)				
J	Communications cabinet – floor/wall, complete with PDU & management (cl. 9.12).	3	nr		
K	RJ45 patch panel – 24-port 1U Cat 6A with cable management (cl. 9.10).	1	item		
L	19" fibre optic termination panel (cl. 9.10).	1	item		
	(Fittings & Terminal Equipment)				
M	Cat 6A information outlet – RJ45, flush faceplate (cl. 9.10).	80	nr		
N	Wireless access point – 2 No. Cat6A per WAP (cl. 6.5.2 / 9.17).	45	nr		
	(Accessories / Flexible Connections				
P	Flexible conduit – LSZH, IP66, flexible final connection at equipment/vibrating plant (cl. 6.4.8).	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Category 6A patch cord set – 200% provision, 3m (cl. 9.10, 9.13).	1	item		
	(Cables within containment)				
B	LSZH single-core cabling drawn into conduit / laid in trunking, complete (final-circuit points measured under their own elements) (cl. 6.4.10).	1	item		
	Cables				
C	Horizontal Cat 6A U/UTP cabling installation – star topology, ≤90m runs, tested (cl. 9.10, 9.14).	1	item		
D	Trace existing fibre optic cable and reinstall	1	item		
	(General)				
E	Containment testing & commissioning – continuity/earth to IS 10101, earth straps, inspection & finish repair (cl. 6.4.9).	1	item		
F	Testing, certification & applications-assurance warranty ; labelling & administration (cl. 9.16).	1	item		
	General as per ARM4 Supplement 2				
G	^^^Testing and commissioning	1	item		
H	^^^Operating and maintenance manuals	1	item		
J	^^^Working drawings	1	item		
K	^^^Co-ordination drawings	1	item		
L	^^^As built drawings & data books	1	item		
M	^^^Identification plates, labels and the like	1	item		
N	^^^Supply and installation of all earthing and equipotential bonding to meet ET101:2008 and BS 7671 requirements	1	item		
P	^^^Surge protection	1	item		
Q	^^^Electrical safety equipment	1	item		
R	^^^Mock-ups	1	item		
S	^^^Staff demonstrations and training	1	item		
T	^^^Recommissioning of all systems following one full year of operation	1	item		
U	^^^Co-ordination of Services	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Decommissioning and removal of all redundant services	1	item		
B	^^^Builders work	1	item		
C	^^^Fire stopping and other associated fire protection work	1	item		
D	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	ELECTRICAL SERVICES - MECHANICAL WIRING SERVICES - ELEMENT 65				
	General Notes - MECHANICAL WIRING SERVICES				
E	The contractor shall liaise with University technical staff on all aspects of the installation.		note		
F	This drawing to be read in conjunction with all civil engineers, structural engineers, architects & all other relevant drawings & specifications relating to the project. All dimensions to be confirmed on site.		note		
G	This drawing is the property of JVTierney Consulting Engineers and it or its contents cannot be copied, reproduced or otherwise used without the permission & consent of JVTierney Consulting Engineers		note		
H	The electrical works specialist is responsible for co-ordinating with all other disciplines.		note		
J	Mechanical plant shall be supplied 'powered' from the MCC panels.		note		
K	The electrical contractor shall wire, provide containment, and terminate all power and control wiring associated with the mechanical plant.		note		
L	Refer to BMS schematics for wiring details.		note		
M	The electrical contractor shall mount MCC and panels associated with mechanical services in place.		note		
N	Thermostats will be wired back to MCC on respective floor.		note		
	Primary Equipment				
	Install & wire free-issue MCC/BMS panels, VSDs and room-mounted control devices (supplied by the Mechanical/BMS Contractor) – install/wire only (cl. 7.10.11).				

	Description	Qty	Unit	Rate	Amount
A	^^^Provision to Install & wire free-issue new Phase 2 - HPAC Building MCC (Motor Control Center) Control Panel - MCC-L02-00	1	item		
B	^^^Provision to Install & wire free-issue new Phase 2 - BMS Panel	1	item		
C	Leak detection panel	1	nr		
D	FAP - Fire Alarm Panel or Flush Access Panel	1	nr		
E	Control Panels for Window Louvres	3	nr		
F	Weather Station on Roof	1	nr		
	Fittings				
	Suppy, installation and connection of fittings as per Specification and layout drawings Drawing Nr.				
G	Fused switched connection unit (ACU)	1	nr		
H	Fused connection unit (FSD)	66	nr		
J	Fused connection unit (FCU)	34	nr		
K	Fused connection unit (BC)	4	nr		
L	Fused connection unit (HB)	1	nr		
M	Fused connection unit (PU)	2	nr		
N	Fused connection unit (PHE)	2	nr		
P	Fused connection unit (WSHP)	1	nr		
Q	Fused connection unit (CWBP)	1	nr		
R	Three phase TP+N isolator (25A IP66) unless otherwise stated	1	nr		
S	Thermostat	25	nr		
T	Air conditioning controller	20	nr		
U	C02 sensor	16	nr		
V	Leak detection sensor	3	nr		
W	Spurs for Window Control Panels	3	nr		
X	Data Points for Window Control Panels	3	nr		
Y	C02 Sensors	17	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Override Switches	17	nr		
B	Spurs for Window Frames	93	nr		
C	Data Points for Window Frames	93	nr		
	Final Circuits (including conduits, cables, termination points)				
	Final circuits including termination points in accordance with the drawings and specification				
D	Fused switched connection unit (ACU)	1	nr		
E	Fused connection unit (FSD)	66	nr		
F	Fused connection unit (FCU)	34	nr		
G	Fused connection unit (BC)	4	nr		
H	Fused connection unit (HB)	1	nr		
J	Fused connection unit (PU)	2	nr		
K	Fused connection unit (PHE)	2	nr		
L	Fused connection unit (WSHP)	1	nr		
M	Fused connection unit (CWBP)	1	nr		
N	Three phase TP+N isolator (25A IP66) unless otherwise stated	1	nr		
P	Thermostat	25	nr		
Q	Air conditioning controller	20	nr		
R	C02 sensor	16	nr		
S	Leak detection sensor	3	nr		
T	Spurs for Window Control Panels	3	nr		
U	Data Points for Window Control Panels	3	nr		
V	C02 Sensors	17	nr		
W	Override Switches	17	nr		
X	Spurs for Window Frames	93	nr		
Y	Data Points for Window Frames	93	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Final control circuits including termination points in accordance with the drawings and specification				
A	^^^Control wiring to ACU	1	item		
B	^^^Control wiring to FSD's	1	item		
C	^^^Control wiring to FCU's	1	item		
D	^^^Control wiring to BC's	1	item		
E	^^^Control wiring to HB	1	item		
F	^^^Control wiring to PU's	1	item		
G	^^^Control wiring to PHE's	1	item		
H	^^^Control wiring to WSHP	1	item		
J	^^^Control wiring to CWBP	1	item		
K	^^^Control wiring to Leak Detection Panel	1	item		
L	^^^Control wiring to FAP	1	item		
M	^^^Control wiring to Spurs for Window Control Panels	1	item		
N	^^^Control wiring to Data Points for Window Control Panels	1	item		
P	^^^Control wiring to C02 Sensors	1	item		
Q	^^^Control wiring to Override Switches	1	item		
R	^^^Control wiring toSpurs for Window Frames	1	item		
S	^^^Control wiring to Data Points for Window Frames	1	item		
	mechanical-plant final connections				
T	Power point – final connection to internal mechanical plant; tray, 63A IP66 isolator & LSZH-in-flexible connection (cl. 7.10.2 f).	1	item		
U	Power point – final connection to external / roof-mounted plant – air-source heat pumps (ASHP ~6), outdoor condensing units (OCU ~6) & AHU-02, 16A/32A isolators; XLPE/SWA (cl. 7.10.2 h; R00 plans).	13	nr		
V	BMS control point – final connection to plant, internal/external, armoured/flexible (cl. 7.10.2 g/i).	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Point – fan coil unit (FCU): power via fused spur + BMS control final connection (~37 No. shown; MW drwgs).	37	nr		
B	Point – fire smoke damper (complete): fire-rated power, FA signal & BMS status incl. FCU, network & fused spur (~72 No. shown) (cl. 7.10.3).	72	nr		
C	Point – extract fan (run/standby & speed-controlled): supplies, changeover/speed-control install, isolator & final connection (cl. 7.10.4/.5).	1	item		
D	Point – WC extract fan: FCU, motion/run-on-timer control wiring, door isolator, flexible connection (cl. 7.10.6).	6	nr		
E	Point – A/C cassette / unit + condenser & ceiling branch controllers (ACU ~8, BC ~12 shown): power to FCU/isolator & control conduit way/backbox (cl. 7.10.7).	20	nr		
F	Point – duct / AHU electric heater battery (HB ~6 shown): power final connection (cl. 7.10.2/.8).	8	nr		
G	Point – LPHW / plant-room plant (AHU ~7, HRU ~3, PHE ~7, pumps ~4, water booster pumps ~5, ASHP/WWHP heat pumps): power & screened control wiring, isolators & final connections (cl. 7.10.8).	28	nr		
H	Point – motorised valve: 4×1.0mm² screened to MCC, 24V open/close & status (cl. 7.10.9).	1	item		
J	Point – BMS control device wiring (free-issue): thermostats, CO2 sensors (~22) & AC controllers wired back to MCC (cl. 7.10.2/.9).	22	nr		
K	Point – miscellaneous mechanical services (sump pumps, interceptor alarms, utility meters, 3rd-party): power & data (cl. 7.10.10).	1	item		
L	Point – trace-heating system: power via RCBO-fed FCU + thermostat/BMS control (pipe/gutter/condensate trace heating) (cl. 7.5, 7.10; spec trace-heating).	1	item		
M	Point – pressurisation unit (2 No. per BW plant list): power & BMS control, plant room (cl. 7.10.8).	1	item		
N	Point – water heater / boiler: power via RCBO-fed FCU + local isolator (cl. 7.5 c).	1	item		
P	Point – window-ventilator / natural-vent actuator: power & control (cl. 7.5).	1	item		

To Collection €

	Description	Qty	Unit	Rate	Amount
A	Point – radiant ceiling panels (105 No. per BW): VERIFY electric vs LPHW – if electric, power point per panel; if LPHW, no electrical (heating schedule).	1	item		
	General				
B	Attendance on Mechanical/BMS specialists for co-ordination, final connections & commissioning; testing of all mechanical/BMS wiring (cl. 7.10.11).	1	item		
	General as per ARM4 Supplement 2				
C	^^^Testing and commissioning	1	item		
D	^^^Operating and maintenance manuals	1	item		
E	^^^Working drawings	1	item		
F	^^^Co-ordination drawings	1	item		
G	^^^As built drawings & data books	1	item		
H	^^^Identification plates, labels and the like	1	item		
J	^^^Supply and installation of all earthing and equipotential bonding to meet ET101:2008 and BS 7671 requirements	1	item		
K	^^^Surge protection	1	item		
L	^^^Electrical safety equipment	1	item		
M	^^^Mock-ups	1	item		
N	^^^Staff demonstrations and training	1	item		
P	^^^Recommissioning of all systems following one full year of operation	1	item		
Q	^^^Co-ordination of Services	1	item		
R	^^^Decommissioning and removal of all redundant services	1	item		
S	^^^Builders work	1	item		
T	^^^Fire stopping and other associated fire protection work	1	item		
U	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	ELECTRICAL SERVICES - ELV/COMMUNICATIONS SECURITY SERVICES - ELEMENT 67				
	General Notes - Security Services				
A	The contractor shall liaise with University technical staff on all aspects of the installation.		note		
B	The electrical works specialist is responsible for co-ordinating with all other disciplines.		note		
C	Break glass units to be provided with clear plastic anti tamper covers.		note		
D	Automatic doors and access controlled doors to be linked to the fire alarm whereby upon activation of the fire alarm, the doors shall release.		note		
E	Automatic doors and controls supplied by building contractor, interface wiring shall be completed by electrical contractor.		note		
F	The door entry system shall be interfaced with the fire alarm panel.		note		
G	External CCTV cameras to be housed in an IP66 vandal resistant unit.		note		
H	CCTV system to be networked to existing system.		note		
J	Access control system to be networked to existing system.		note		
	(System) – SECURITY INSTALLATIONS (open protocol; cl. 10.1–10.6)				
K	IP Door Access Control system – design/supply/install/commission incl. head-end software, MiFare/BLE/NFC, FA integration (cl. 10.2).	1	item		
L	Door Entry IP audio/video Intercom system (drwgs show IP audio intercom units ~9) (cl. 10.3).	1	item		
M	IP Camera Surveillance (CCTV) system incl. Milestone corporate VMS & network monitoring (cl. 10.4).	1	item		
N	Intrusion / hold-up alarm system installation (cl. 10.6).	1	item		
P	Audio Frequency Induction Loop (AFIL / hearing loop) system – loop panels & amplifiers to reception, gallery & studios (~3 zones; shown on GA drwgs, not separately specified).	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	(System) – COMMUNICATIONS / SPECIALIST SYSTEMS				
A	Audio-Visual (AV) installation – dual-HDMI faceplates, HDMI-over-CAT6 links, projector & electric-screen power, speaker & lecture-station wiring, AV key-switch override, MK Prestige 3D containment; co-ordinated with AV integrator (spec §AV / cl. 7.2).	1	item		
B	Audio-Frequency Induction Loop (AFIL / hearing loop) system – loop amplifiers & perimeter loops to reception, gallery & studios (~3 zones).	1	item		
C	Nurse Call / assistance-alarm system – master, outstations, cabling, surge & interface (disabled-WC assistance alarm)	1	item		
D	PA / Voice-Alarm allowance – wall & ceiling speakers & sounders (same speakers as the door-entry intercom above).	1	item		
	(Equipment, Fittings & Terminal Equipment)				
E	Controlled-door set – access reader (AR ~29), electric strike (ES) or magnetic lock (1500kg), request-to-exit, break-glass door release & PSU w/ 3-hr battery, FA I/O	1	item		
F	Wand / wave-to-exit sensor	37	nr		
G	Disabled-access push pad / accessible door operator interface	3	nr		
H	IP audio intercom unit (cl. 10.3).	9	nr		
J	IP surveillance camera – internal/external, dome/fixed/360, by type (cl. 10.4.2).	1	item		
K	NVR / recording server & VMS workstation (cl. 10.4.4).	1	item		
L	Intruder alarm panel (IAP) & repeater (IARP), keypads, PIR detectors, door contacts, internal & external sounders, PSU (cl. 10.6.4–10.6.10).	11	nr		
M	Panic / hold-up push button (PB) (cl. 10.6).	6	nr		
N	Access-control desktop PC, software licence & card printer (cl. 10.2).	1	item		
P	AV / HDMI outlet & dual-input faceplate [BW 15.9] (classrooms/studios/lecture rooms).	20	nr		
Q	Projector power point + electric-screen point (per AV room).	1	item		

	Description	Qty	Unit	Rate	Amount
A	AFIL loop panel / amplifier (per zone).	1	item		
B	Nurse-call outstation / ceiling pull & reset unit	1	item		
C	PA / VA speaker (wall & ceiling; verify vs intercom).	1	item		
	(Accessories to Equipment)				
D	Electronic surge protection to security / ELV systems (fire-alarm surge is in El.68) (cl. 10.5).	1	item		
E	Access reader (swipe/sensor/access card)	29	nr		
F	Intruder Alarm contact	19	nr		
	Fittings				
	Suppy, installation and connection of fittings as per Specification				
G	Door release break glass (green)	36	nr		
H	Ceiling mounted speaker	12	nr		
J	Electric strike	13	nr		
K	External CCTV camera fixed	24	nr		
L	Internal CCTV camera dome 360	5	nr		
M	Internal CCTV camera dome fixed	5	nr		
N	Magnetic lock (1500kg type) C/W power supply unit	49	nr		
P	Internal sounder	2	nr		
Q	External sounder	1	nr		
R	Wall mounted speaker	2	nr		
S	Door release wand sensor (W)	32	nr		
T	Panic push button (PB)	3	nr		
U	Push pad for disabled access	3	nr		
V	^^^Passive infra red detector {intruder alarm)	28	nr		
	(Cables)				
W	Structured / ELV cabling to all security & communications devices, open-protocol IP (ICT structured cabling is in El.64) (cl. 10.1).	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Final circuits including termination points in accordance with the drawings and specification				
A	Door release break glass (green)	36	nr		
B	Ceiling mounted speaker	12	nr		
C	Electric strike	13	nr		
D	External CCTV camera fixed	24	nr		
E	Internal CCTV camera dome 360	5	nr		
F	Internal CCTV camera dome fixed	5	nr		
G	Magnetic lock (1500kg type) C/W power supply unit	49	nr		
H	Internal sounder	2	nr		
J	External sounder	1	nr		
K	Wall mounted speaker	2	nr		
L	Door release wand sensor (W)	32	nr		
M	Panic push button (PB)	3	nr		
N	Push pad for disabled access	3	nr		
P	^^^Passive infra red detector {intruder alarm)	28	nr		
	(General)				
Q	Testing, commissioning, programming, training, warranty & maintenance of all security & communications systems; attendance on AV / hearing-loop / PA specialists (cl. 10.2.5, 10.4.9, 10.6.13–14).	1	item		
	General as per ARM4 Supplement 2				
R	^^^Testing and commissioning	1	item		
S	^^^Operating and maintenance manuals	1	item		
T	^^^Working drawings	1	item		
U	^^^Co-ordination drawings	1	item		
V	^^^As built drawings & data books	1	item		
W	^^^Identification plates, labels and the like	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Supply and installation of all earthing and equipotential bonding to meet ET101:2008 and BS 7671 requirements	1	item		
B	^^^Surge protection	1	item		
C	^^^Electrical safety equipment	1	item		
D	^^^Mock-ups	1	item		
E	^^^Staff demonstrations and training	1	item		
F	^^^Recommissioning of all systems following one full year of operation	1	item		
G	^^^Co-ordination of Services	1	item		
H	^^^Decommissioning and removal of all redundant services	1	item		
J	^^^Builders work	1	item		
K	^^^Fire stopping and other associated fire protection work	1	item		
L	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	ELECTRICAL SERVICES - PROTECTIVE SERVICES - FIRE ALARM & DETECTION - ELEMENT 68				
	General Notes - Protective Services				
M	The contractor shall liaise with University technical staff on all aspects of the installation.		note		
N	This drawing to be read in conjunction with all civil engineers, structural engineers, architects & all other relevant drawings & specifications relating to the project.		note		
P	All dimensions to be confirmed on site.		note		
Q	This drawing is the property of JVTierney Consulting Engineers and it or its contents cannot be copied, reproduced or otherwise used without the permission & consent of JVTierney Consulting Engineers.		note		
R	The electrical works specialist is responsible for co-ordinating with all other disciplines.		note		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	All equipment required to provide a complete and working fire alarm system as indicated on the drawings is to be supplied, installed and commissioned under this contract.		note		
B	Breakglass units shall be installed at 900–1200mm A.F.F.L and shall be located in easy, accessible, well illuminated and conspicuous positions free from obstruction. All call points shall have protective covers.		note		
C	All audible warning devices shall have a similar sound and be distinct from any other audible alarms.		note		
D	Interface units / relays shall be installed for linking to access control panels.		note		
E	Door hold open devices shall be linked to the fire alarm system to release automatically in the event of a fire.		note		
F	The fire alarm system shall network into the existing system. Incumbent specialist must be contacted prior to the tie-in of the systems.		note		
G	Sounders shall provide minimum sound level of 65dBA throughout all areas.		note		
H	The new fire alarm devices to connect to existing Honeywell system		note		
J	Contractor to put new loop on existing panel. Contractor to engage incumbent.		note		
	<u>(System) – FIRE DETECTION & ALARM (L1 analogue addressable, open protocol; cl. 11.1 -11.29)</u>				
K	Intelligent analogue-addressable Fire Detection & Alarm system – Category L1 to IS 3218 / EN 54, design/supply/install/commission, incl. tie-in with the existing Honeywell system (cl. 11.1; drwg note).	1	item		
L	Disabled Refuge (EVC) system – master & outstations (cl. 11.29).	1	item		
M	Disabled-WC / accessible assistance-alarm system – remote pull-cord & reset units (cl. 11.29; GA drwgs).	1	item		
N	Water Leak Detection system – head-end & field wiring (resolves 'LDP' on mech-wiring drwgs; BW 18.18-18.19).	1	item		
	<u>(Equipment)</u>				
P	Fire Alarm Panel (FAP) [BW 18.15] (cl. 11.6).	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Fire Alarm Repeater Panel (FARP) [BW 18.16] (cl. 11.8).	1	item		
B	Refuge Alarm Panel (RAP) [BW 18.17] (cl. 11.29).	1	item		
C	Aspiration System Panel [BW 18.14] (cl. 11.14).	25	Nr		
D	Water Leak Detection Panel [BW 18.18].	1	item		
E	Power supply & standby battery unit (cl. 11.7).	1	item		
	(Fittings & Terminal Equipment)				
F	Smoke Detector + base [BW 18.7] (cl. 11.9).	39	nr		
G	Smoke/Sounder Combined Detector [BW 18.8] (cl. 11.9/.11).	37	nr		
H	Smoke/Sounder/Beacon Combined Detector [BW 18.9] (cl. 11.9/.11/.12).	12	nr		
J	Heat Detector + base [BW 18.4] (cl. 11.9).	3	nr		
K	Heat/Sounder Combined Detector [BW 18.5] (cl. 11.9/.11).	6	nr		
L	Heat/Sounder/Beacon Combined Detector [BW 18.6] (cl. 11.9/.11/.12).	19	nr		
M	Linear Beam Detector – Transmitter [BW 18.2] (cl. 11.9).	2	nr		
N	Linear Beam Detector – Receiver [BW 18.1] (cl. 11.9).	2	nr		
P	Manual Call Point / break-glass [BW 18.12] (cl. 11.10).	29	nr		
Q	External Sounder w/ Strobe Light [BW 18.20] (cl. 11.11/.12).	7	nr		
R	Internal Sounder w/ Strobe Light [BW 18.21] (cl. 11.11/.12).	5	nr		
S	Over-Door Indicating Light [BW 18.13] (cl. 11.15).	5	nr		
T	Interface / I-O unit / relay [BW 18.11] – to fire-smoke dampers, mag-locks (~27), revolving doors, lift secondary, fire curtains, AOVs & plant (drwgs ~112) (cl. 11.15).	112	nr		
U	Door Hold Device [BW 18.10] (cl. 11.17).	18	nr		
V	Water Leak Detection Point [BW 18.19].	2	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	(Accessories)				
A	Electronic surge protection to fire-alarm system (cl. 11.23).	1	item		
	(Cables) – aspirating pipe & loop cabling				
B	Aspirating smoke-sampling pipe (250m approx.) & capillary points [BW 18.3] (cl. 11.14).	1	nr		
C	Fire-rated loop & sounder cabling (2-core, PH-rated) in containment (cl. 11.21–11.22).	1	nr		
	(General)				
D	Testing & commissioning (cause & effect), submittals, samples, certification to IS 3218 & warranty (cl. 11.24 –11.28).	1	item		
	General as per ARM4 Supplement 2				
E	^^^Testing and commissioning	1	item		
F	^^^Operating and maintenance manuals	1	item		
G	^^^Working drawings	1	item		
H	^^^Co-ordination drawings	1	item		
J	^^^As built drawings & data books	1	item		
K	^^^Identification plates, labels and the like	1	item		
L	^^^Supply and installation of all earthing and equipotential bonding to meet ET101:2008 and BS 7671 requirements	1	item		
M	^^^Surge protection	1	item		
N	^^^Electrical safety equipment	1	item		
P	^^^Mock-ups	1	item		
Q	^^^Staff demonstrations and training	1	item		
R	^^^Recommissioning of all systems following one full year of operation	1	item		
S	^^^Co-ordination of Services	1	item		
T	^^^Decommissioning and removal of all redundant services	1	item		
U	^^^Builders work	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Fire stopping and other associated fire protection work	1	item		
B	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	ELECTRICAL SERVICES - EARTHING, BONDING & LIGHTNING PROTECTION - ELEMENT 69				
	General Notes -				
C	Lightning protection system to be designed and installed in accordance with IS EN 62305 (Protection Against Lightning) and all relevant Irish standards.		note		
D	Down conductors shall be provided at maximum 20 m spacing around the perimeter of the building, coordinated with architectural features and structural elements.		note		
E	All metallic services and structural steelwork shall be bonded to the lightning protection system to ensure equipotential bonding.		note		
F	The lightning protection system shall be connected to the main earthing system of the building.		note		
G	Surge protection devices (SPDs) shall be installed in accordance with the single line diagram and coordinated with the electrical design.		note		
	(General Earthing & Bonding) (cl. 12.1)				
H	Earthing system – TN-C-S to IS 10101, complete (cl. 12.1.1).	1	item		
J	Main earthing terminal / earth busbar (100×10mm Cu) with isolating link – to intake, LV switchboard, risers, plant & comms rooms (cl. 12.1.2).	1	item		
K	Protective conductors to all main/sub-main & final circuits (LSZH G/Y) (cl. 12.1.3).	1	item		
L	Equipotential & supplementary bonding – local bonding, metal partitions & structural steel (cl. 12.1.4).	1	item		
	(System) – LIGHTNING PROTECTION (Specialist; to IS EN 62305; cl. 12.2; LP roof/site drwg)				
M	Lightning protection system – air-termination network incl. free-standing 6m air-terminal rods & AHU-mounted 2m isolated-pole rods, 25×3mm copper-tape network & lightning arresters, to IS EN 62305, complete & certified (cl. 12.2.1–12.2.3).	1	item		

	Description	Qty	Unit	Rate	Amount
A	Down conductors – copper tape bonded to structural steel columns, with test links & earth chambers (cl. 12.2.2).	1	item		
B	Earth electrode assembly – copper-clad earth rods (19mm × 2.4m) in test pits, cross connectors & 70mm² PVC-insulated connection to buried earth ring/ground grid (cl. 12.2.4).	1	item		
C	Equipotential bonding between Phase 1 & Phase 2 buildings to common potential (LP drwg note).	1	item		
D	Service-entry lightning-current surge protection device (SPD) (cl. 12.2.5).	1	item		
E	Foundation cage bonding	1	item		
	(General)				
F	Testing & commissioning – soil resistivity, earth-electrode readings & EN 62305 completion certification (cl. 12.2.8).	1	Item		
	General as per ARM4 Supplement 2				
G	^^^Testing and commissioning	1	item		
H	^^^Operating and maintenance manuals	1	item		
J	^^^Working drawings	1	item		
K	^^^Co-ordination drawings	1	item		
L	^^^As built drawings & data books	1	item		
M	^^^Identification plates, labels and the like	1	item		
N	^^^Supply and installation of all earthing and equipotential bonding to meet ET101:2008 and BS 7671 requirements	1	item		
P	^^^Surge protection	1	item		
Q	^^^Electrical safety equipment	1	item		
R	^^^Mock-ups	1	item		
S	^^^Staff demonstrations and training	1	item		
T	^^^Recommissioning of all systems following one full year of operation	1	item		
U	^^^Co-ordination of Services	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Decommissioning and removal of all redundant services	1	item		
B	^^^Builders work	1	item		
C	^^^Fire stopping and other associated fire protection work	1	item		
D	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	ELECTRICAL SERVICES - PV SYSTEM				
	Syetem				
E	PV electrical infrastructure – inverters (per roof), PV distribution board, PV control panel, DC & AC isolators, DC/AC cabling & 300mm roof containment (SWA), connection to LV system; new-building & existing Phase-1 roofs (R00 sheets 1&2) (cl. 6.7).	1	item		
F	PV generating array (Specialist) – supply, install, commission & certify (G10) roof-mounted PV modules (476 No. per BW schedule), optimisers/MPPT & mounting on new-building and existing Phase-1 roofs, incl. 25-yr warranty (cl. 6.7.1–12).	1	item		
	Equipment				
G	Supply and installation including all brackets and supports as necessary of the following equipment as per specification and Drawings MTUHPAC-Z-69-Z-ZZZ-DR-JVT-EE-0001 and MTUHPAC-Z-ZZ-Z-R00-DR-JVT-EE-0001 & 0002				
H	^^^Roof Top Photovoltaic Panels; size 1902mm long x 1133mm wide	476	nr		
J	^^^DC Distribution Panel	1	item		
K	^^^Inverter Panel	1	item		
L	^^^AC Distribution Panel	1	item		
	Accessories associated with terminal equipment				
	Suppy, installation and connection of accessories as per Specification				
M	^^^Combiner Junction Box	1	item		
N	^^^Display Unit associated with Inverter Panel	1	item		

	Description	Qty	Unit	Rate	Amount
	Fittings				
	Suppy, installation and connection of fittings as per Specification				
A	^^^Isolator to Combiner Junction Box	1	nr		
B	^^^DC Isolator	1	nr		
C	^^^AC Isolator	1	nr		
D	^^^Surge Protective Device	4	nr		
E	^^^DC MCCB	1	nr		
F	^^^AC MCCB	1	nr		
G	^^^G10 Protection Relay	1	nr		
H	^^^N/0 4 Pole Contractor	1	nr		
J	^^^PV Array Generation Meter	1	nr		
K	^^^MCCB 64A / 63A	1	nr		
L	^^^PV Array Shunt Trip	1	nr		
	Final Circuits (including conduits, cables, termination points)				
	Final circuits including temination points in accordance with the drawings and specification				
M	^^^Roof Top Photovoltaic Panels; size 1902mm long x 1133mm wide	476	nr		
N	^^^DC Distribution Panel	1	item		
P	^^^Inverter Panel	1	item		
Q	^^^AC Distribution Panel	1	item		
R	^^^Combiner Junction Box	1	item		
S	^^^Display Unit associated with Inverter Panel	1	item		
T	^^^Isolator to Combiner Junction Box	1	nr		
U	^^^DC Isolator	1	nr		
V	^^^AC Isolator	1	nr		
W	^^^Surge Protective Device	4	nr		
X	^^^DC MCCB	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^AC MCCB	1	nr		
B	^^^G10 Protection Relay	1	nr		
C	^^^N/0 4 Pole Contractor	1	nr		
D	^^^PV Array Generation Meter	1	nr		
E	^^^MCCB 64A / 63A	1	nr		
F	^^^PV Array Shunt Trip	1	nr		
G	^^^Allow for PV System to Link to Main Fire Alarm Panel	1	item		
H	^^^Allow for G10 Protection Relay Cable Link to PV MCCB Shunt Trip	1	item		
J	^^^Allow for G10 Protection Relay Sensor Cabling	1	item		
K	^^^Allow for cabling from Earthing Block to G10 Protection Relay	1	item		
	General as per ARM4 Supplement 2				
L	^^^Testing and commissioning	1	Item		
M	^^^Operating and maintenance manuals	1	Item		
N	^^^Working drawings	1	Item		
P	^^^Co-ordination drawings	1	Item		
Q	^^^As built drawings & data books	1	Item		
R	^^^Identification plates, labels and the like	1	Item		
S	^^^Supply and installation of all earthing and equipotential bonding to meet ET101:2008 and BS 7671 requirements	1	Item		
T	^^^Surge protection	1	Item		
U	^^^Electrical safety equipment	1	Item		
V	^^^Mock-ups	1	Item		
W	^^^Staff demonstrations and training	1	Item		
X	^^^Recommissioning of all systems following one full year of operation	1	Item		
Y	^^^Co-ordination of Services	1	Item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Decommissioning and removal of all redundant services	1	Item		
B	^^^Builders work	1	Item		
C	^^^Fire stopping and other associated fire protection work	1	Item		
D	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	Item		
	INSPECTION, TESTING & COMMISSIONING (Section 13) – whole electrical installation				
	(General) – OVERALL COMMISSIONING & HANDOVER (cl. 13.1–13.8)				
E	Commissioning specification & programme – detailed procedures, schedules, bar-chart & commissioning seminar (cl. 13.1).	1	item		
F	Construction site inspections – first/second/final fix attendances (cl. 13.2).	1	item		
G	Witness testing of all electrical systems (cl. 13.3).	1	item		
H	PAT testing of the installation (cl. 13.4).	1	item		
J	Commissioning procedures & sequence – integrated system commissioning (cl. 13.5–13.6).	1	item		
K	Sub-system certification – all specialist & statutory certificates (cl. 13.7).	1	item		
L	Steel conduit installation – screwed welded Class 4; drops to floor boxes & final circuits, supplementary runs (cl. 6.4.7; drwg notes 25-27).	1	item		
M	Re-programming of systems to Client room-numbering after Practical Completion (cl. 13.1).	1	item		
	(General) – GENERAL & CONTRACTUAL ALLOWANCES (Sections 2-3)				
N	BIM deliverables – modelling to EIR/BEP, co-ordination & clash detection (cl. 2.17).	1	item		
P	LSZH single-core cabling drawn into conduit / laid in trunking, complete (final-circuit points measured under their own elements) (cl. 6.4.10).	1	item		
Q	Mock-up room(s) – electrical fit-out for approval (cl. 3.11).	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Containment testing & commissioning – continuity/earth to IS 10101, earth straps, inspection & finish repair (cl. 6.4.9).	1	item		
B	Fire-stopping / fire barriers to containment penetrations through fire compartments (cl. 6.4.11).	1	item		
C	Technical submittals, samples & prototypes (cl. 2.11).	1	item		
D	Spare parts & Defects-Liability-Period maintenance (cl. 2.31).	1	item		
E	Project Safety File & BC(A)R / sub-system completion certification (cl. 2.16, 13.7).	1	item		
	Testing, Commissioning and Warranties				
	Testing (System-Specific)				
F	Testing and certification to IS 10101:2020 (5th Edition National Rules) by a permanently-employed Qualified Certifier; certifier registration number on all certs; copy of IS 10101 kept on site.	1	item		
G	PAT testing of all portable equipment – for 3 years after Practical Completion.	1	item		
H	Main switchboard: factory / pre-delivery witness testing (1 week's notice), injection tests (0/50/100%), functional and control-circuit testing, metering verification; site testing of switchboard controls with all interfaces connected.	1	item		
J	Solar PV acceptance testing: I-V tracing, DC isolator under full load, insulation resistance, loss-of-comms test, fireman's switch operation – plus witness demonstration to MTU and JVT	1	item		
K	Lightning protection / earthing: soil resistivity (Wenner 4-pole), individual earth-electrode readings (≤10 Ω each), calibrated instrument with current calibration certificate; EN 62305 completion certificates	1	item		
L	Site / external lighting: lux-level readings taken during hours of darkness.	1	item		
M	Structured cabling: 100% continuity / permanent-link testing to Cat 6A (ISO/IEC 11801, TIA-568); bidirectional fibre testing @ 850/1300nm; results on disc and hard copy.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Commissioning				
A	Detailed commissioning procedures specification for approval (operating programme, weekly bar chart, schedules per item of plant, instruments, logging method, certificate-issue method).	1	item		
B	Commissioning seminar with all specialist suppliers / installers in attendance to outline their own procedures	1	item		
C	Coordinated commissioning (with Mechanical Contractor's programme) of switchgear, power, lighting & lighting control, communications, protective / security services, energy metering & monitoring, BMS-related electrical and transport (lift) systems	1	item		
D	Preliminary (pre-witness) testing before inviting the Engineer; phased commissioning with separate record documents where phased handover applies	1	item		
E	Re-programming of systems to the Client's room-numbering system after Practical Completion.	1	item		
	Warranties, Defects, Maintenance & Seasonal Commissioning				
F	24-month warranty on all equipment (warranties commence at Practical Completion, not at completion of testing & commissioning).	1	item		
G	12-month Defects Liability Period from certified Practical Completion; full maintenance of all electrical plant during the DLP.	1	item		
H	1st-year FM maintenance of all live systems post-handover.	1	item		
J	12-month seasonal commissioning post-handover (peak heating / cooling + part-load) including an energy audit; carried out by the original team.	1	item		
	<u>Inspection and Certification</u>				
	Inspection, Witnessing & BC(A)R (S.I. 9 of 2014)				
K	Construction site inspection hold-points: first fix, second fix, final fix, prior to ceiling closures, prior to wall closures, prior to commissioning – as line items on the programme, minimum 5 working days' notice	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Witness testing – write to the Engineer 5 working days in advance.	1	item		
B	Works Inspection Plan duties (commencement / during construction / completion); cooperation with the Assigned Certifier; Certificate of Compliance (Completion).	1	item		
C	Bi-weekly photographic evidence of concealed works (above ceilings, below ground, in voids / walls, fire collars) for inclusion in the O&M manual.	1	item		
D	Mock-up sample rooms complete with approved M &E services, for inspection and sign-off before wider installation.	1	item		
	Certification (Statutory & Standards)				
E	IS 10101:2020 completion certificate(s) plus sub-system completion certificates (CER Common Procedure No. 1) for all sub-systems (lift, HVAC, intruder, access, CCTV, fire detection, UPS, standby generation, etc.)	1	item		
F	Fire alarm: IS 3218:2013 + A1:2019 installation & commissioning certificate; log book handover; cause-andeffect walk-down witnessed by the Client	1	item		
G	Disabled refuge / emergency call system to BS 5839-9	1	item		
H	BC(A)R design & completion certificates	1	item		
	GENERAL				
J	^^^Allow for all other items necessary to complete the Works Requirements for this element of the Works	1	item		
	Attendances				
K	Attendances provided FREE by the Main Contractor: shared tower crane, standing scaffold, off-loading hard-standing,temporary power at designated points, temporary general lighting, space for offices/storage, welfare facilities. All otherattendances by the sub-contractor, including:		Note		
L	Access equipment (scaffold, podiums, mobile towers, MEWPs); horizontal / vertical distribution and offloading of materials and plant.	1	item		
M	Own major waste removal / skips; own banksman for crane / hoisting; own site set-up and storage; PPE; supervision of own deliveries.	1	item		
N	Forming holes / cores < 50mm (> 50mm by Main Contractor); temporary works design; samples	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Big-foot / plant support bases and secondary steel supports (concrete plinths by Main Contractor); acoustic treatment of plant; making good / dressing of penetrations	1	item		
B	Firestopping of own service penetrations – signed & dated approved-installer labels, EN 1366 third-party certification, ASFP 'Red Book' (4th ed.).	1	item		
C	Out-of-hours working; sealing & caulking; fixings to backgrounds incl. design & certification; fees & licences.	1	item		
	Sundries an Builders Work				
	Builders work, cutting, forming or leaving holes, mortices, chases or the like and subsequent making good to structure, firestopping, fire barriers, smoke barriers, dust barriers and similar items				
D	^^^generally for lighting points, sockets, fittings, equipment and control gear	1	item		
	Chases Recesses;				
E	^^^In 215 mm thick blockwork chase size 100 mm wide x 60 mm deep.	150	m		
F	^^^In 250 mm thick in-situ structural concrete chase size 100 mm wide x 60 mm deep.	250	m		
	Form or cut hole for cable tray through 215mm fair-faced collar blockwork wall; ope neatly cut/built-in to smallest practicable size, Engineer-approved position (SE-0003 cl.22), lintel/bridging over; fire-stop with P12-365/366 ablative batt closer and P12-345 intumescent pillows fitted to all trays passing through the fire-rated ope, perimeter sealed P12-338, gap filled with mineral wool; to achieve min 60/60; P12, specialist-installed; make good to match.				
G	^^^girth < or = to 1.00m	25	nr		
H	^^^girth < or = to 1.00m, rectangular	29	nr		
J	^^^girth > 1.00 , or = to 2.00m, rectangular	13	nr		
K	^^^girth > 1.00 , or = to 2.00m, rectangular (Existing Arena 1 Building)	8	nr		
L	^^^girth > 2.00 , or = to 3.00m, rectangular	15	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Form ope for cable tray through 250mm reinforced in-situ concrete wall (SE-0005) by cast-in box-out incl. formwork or drilled/sawn where not cast-in; fire-stop with P12-365/366 ablative batt closer, P12-345 intumescent pillows to trays, P12-338 perimeter seal and mineral-wool gap fill; to achieve min 60/60; P12, specialist-installed; make good fair-faced concrete (E05)				
A	^^^girth < or = to 1.00m	2	nr		
B	^^^girth < or = to 1.00m, rectangular	4	nr		
C	^^^girth > 1.00 , or = to 2.00m, rectangular	1	nr		
D	^^^girth > 2.00 , or = to 3.00m, rectangular	2	nr		
	Form ope for cable tray through 250mm reinforced in-situ concrete floor (SE-0005) by cast-in box-out incl. formwork or drilled/sawn where not cast-in; fire-stop with P12-365/366 ablative batt closer, P12-345 intumescent pillows to trays, P12-338 perimeter seal and mineral-wool gap fill; to achieve min 60/60; P12, specialist-installed; make good fair-faced concrete (E05)				
E	^^^girth > 1.00 , or = to 2.00m, rectangular (Existing Arena 1 Building)	2	nr		
	Form or cut ope for cable tray through 150mm precast concrete floor unit with 75mm screed; cutting/drilling only to manufacturer/Consultant-agreed proposals (HL 9.5.3); fire-stop with P12-365/366 ablative batt, P12-345 intumescent pillows, P12-338 seal, mineral-wool gap fill; to achieve min 60/60; make good screed/floor finish; specialist-installed.				
F	^^^girth < or = to 1.00m	10	nr		
G	^^^girth < or = to 1.00m, rectangular	5	nr		
H	^^^girth > 1.00 , or = to 2.00m, rectangular	3	nr		
J	^^^girth > 2.00 , or = to 3.00m, rectangular	5	nr		

	Description	Qty	Unit	Rate	Amount
	Form ope for cable tray through insulated metal-stud partition (K10 70mm C-stud), double-slabbed and skim both sides; frame ope 4 sides with stud channel/grounds, K10 board wrapped to perimeter; fire-stop with P12-365/366 ablative batt closer, P12-345 intumescent pillows to trays, P12-338 seal, mineral-wool gap fill (P12 acoustic batt where non-fire-rated); to achieve min 60/60; specialist-installed; make good.				
A	^^^girth < or = to 1.00m	15	nr		
B	^^^girth < or = to 1.00m, rectangular	32	nr		
C	^^^girth > 1.00 , or = to 2.00m, rectangular	8	nr		
D	^^^girth > 1.00 , or = to 2.00m, rectangular (Existing Arena 1 Building)	6	nr		
E	^^^girth > 2.00 , or = to 3.00m, rectangular	5	nr		
	Form or cut hole for conduit / trunking through 215mm fair-faced collar blockwork wall; ope neatly cut/built-in to smallest size, Engineer-approved (SE-0003 cl.22), lintel/bridging over; seal penetration with P12-338 acoustic intumescent sealant, conduit opening fully sealed, gap filled with mineral wool; where grouped in a framed ope add P12-365/366 batt closer; to achieve min 60/60; P12, specialist-installed; make good to match.				
F	^^^girth < or = to 1.00m	43	nr		
G	^^^girth > 1.00 , or = to 2.00m	15	nr		
H	^^^girth > 2.00 , or = to 3.00m	10	nr		
	Form ope for conduit / trunking through 250mm reinforced in-situ concrete wall (SE-0005), cast-in box-out incl. formwork or drilled where not cast-in; seal with P12-338 intumescent sealant, conduit opening sealed, mineral-wool gap fill (P12-365/366 batt closer to grouped opes); to achieve min 60/60; P12, specialist-installed; make good fair-faced concrete (E05).				
J	^^^girth < or = to 1.00m	6	nr		
K	^^^girth > 1.00 , or = to 2.00m	6	nr		
L	^^^girth > 2.00 , or = to 3.00m	4	nr		

	Description	Qty	Unit	Rate	Amount
	Form or cut ope for conduit / trunking through 150mm precast concrete floor unit with 75mm screed; cutting/drilling only to manufacturer/Consultant-agreed proposals (HL 9.5.3); seal with P12-338 (or P12-342 fire mortar to floor) and mineral-wool gap fill to floor rating; to achieve min 60/60; make good screed/floor finish; specialist-installed.				
A	^^^girth < or = to 1.00m	6	nr		
B	^^^girth > 1.00 , or = to 2.00m	5	nr		
C	^^^girth > 2.00 , or = to 3.00m	5	nr		
	Form ope for conduit / trunking through insulated metal-stud partition (K10 70/90mm C-stud), double-slabbed and skim both sides; frame/line ope ("letterbox" detail, K10 cl.14.2); seal with P12-338 intumescent sealant, conduit opening sealed to achieve min 60/60 (P12 acoustic batt where non-fire-rated); make good.				
D	^^^girth < or = to 1.00m	42	nr		
E	^^^girth > 1.00 , or = to 2.00m	15	nr		
F	^^^girth > 2.00 , or = to 3.00m	10	nr		
	Form or cut hole for conduit / trunking through built-up reinforced-bitumen-membrane warm-deck roof covering on tapered insulation on VCL on perforated metal deck (J41-111); include forming/trimming the deck ope, insulation and VCL to the smallest practicable size, timber/proprietary kerb or upstand as required, and all necessary sealing, flashing and dressing to make the penetration fully weathertight; cap sheet and VCL dressed a minimum 20mm above insulation and sealed to the penetration; reinstate roof cavity/fire barriers (P10-432/410) where breached; roof covering, flashings and upstands made good to the roofing manufacturer's certified detail and warranty (J41 roofing sub); measured per girth.				
G	^^^< or = to 55mm, circular	10	nr		
H	^^^girth < or = to 1.00m	10	nr		

	Description	Qty	Unit	Rate	Amount
	Form or cut hole for conduit / trunking through built-up reinforced-bitumen-membrane warm-deck roof covering on insulation on VCL on CLT deck (J41-110); cutting/drilling of the structural CLT deck strictly to proposals agreed with the CLT fabricator and the Consultant (SE-0009; CDP); timber/proprietary kerb or upstand, sealing, flashing and dressing to make weathertight, cap sheet/VCL min. 20mm above insulation sealed to penetration; roof covering made good to roofing manufacturer's certified detail and warranty; make good FR pressure-impregnated plywood ceiling liner (K13-110) and discreet fixings to underside around penetration; measured per girth.				
A	^^^< or = to 55mm, circular				
B	^^^girth < or = to 1.00m	10	nr		
C	^^^> 55 < or = to 110mm, circular	10	nr		
	Form or cut hole for conduit / trunking through zinc-shingle rainscreen cladding (H74-130) and H43-110 sandwich cladding panel; cut/trim ope to smallest practicable size through backing; fill around service with site-applied non-combustible insulation and sealer, EPDM flexible pipe flashing, internal cover flashing to match liner with 100mm min. overlap fixed with stitching screws and EPDM-backed washers at max. 450mm c/c, all sealed with 6mm bead of butyl rubber sealant; include all necessary fixings, sealing, flashing and upstands to Architect's detail; neatly cut, re-dress and make good zinc shingles/pressings (H72-421) to match adjacent by the cladding specialist (H74; CDP) — co-ordinate; measured per girth.				
D	^^^< or = to 55mm, circular	10	nr		
E	^^^girth < or = to 1.00m	25	nr		

	Description	Qty	Unit	Rate	Amount
	Form or cut hole for conduit / trunking through CLT wall panel with timber rainscreen; cutting/drilling of the structural CLT panel strictly to proposals agreed with the CLT fabricator and the Consultant (SE-0009; CDP) maintain continuity of self-adhesive breather membrane (H21-130); scribe tight and tape to penetration, forming full-bond fillet; fill around service with site-applied non-combustible insulation, EPDM flexible pipe flashing, all sealed with 6mm bead of butyl rubber sealant; include necessary fixings, sealing, flashing to Architect's detail; neatly cut and make good 240mm mineral-wool rainscreen insulation, vertical battens and timber cladding to match adjacent by the cladding specialist (H21; CDP); make good FR ply internal liner (K13-120) secret-fixed to CLT around penetration; measured per girth.				
A	^^^< or = to 55mm, circular				
B	^^^girth < or = to 1.00m	15	nr		
	Crane lift for unloading, distributing, hoisting and placing in position specialists materials; including but not limited to the following				
C	^^^all plant, equipment and fittings as listed above	1	item		

Description	Qty	Unit	Rate	Amount
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Page No. BQ/581				
(69) ELECTRICAL INSTALLATION **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(74) SANITARY FITTINGS				
	(74) SANITARY FITTINGS				
	GLAZING:				
	Special glazing				
	Mirrors				
	Mirror; low-iron 6mm silver safety glass, class 3(B)3 to EN 12600 and to EN 1036, polished edges, foil backing, free from distortion/tarnishing; fixed with 4no. concealed spring-tensioned clips (SS screws) plus full adhesive bed; anti-microbial concave perimeter pointing ; include for all necessary fixings; all in accordance with the manufactures instructions; as per OCM Sanitary Schedule Drawing Nr. 4675 and Specification				
A	^^^Glass mirror, size 1300 x 500mm; as per OCM Specification N13/440M (MIR026)	5	nr		
B	^^^Glass mirror, size 800 x 500mm; as per OCM Specification N13/440S [MIR905]	18	nr		
C	^^^Studio/gym mirror, size ; as per OCM Specification N13/440L [MIR910]	6	nr		
D	^^^Mirror, size 900 x 300mm; as per OCM Specification N13 [MIR002]	3	nr		
	FITTINGS:				
	Fittings, Equipment and furniture				
	Sanitary				
	Supply and fix the following sanitary fittings and accessories; including all assembly, connections, traps, brackets, connecting to waste pipes; providing grounds, plugs, screws, mortices, bearers and the like, making good structure and finishes; including sealing with anti-fungicidal silicone sealant as necessary; as per OCM Sanitary Schedule Drawing Nr. 4675 and Specification				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Water Closets Suites (WC's)				
A	Wall-hung WC suite; HTM64 / HBN 00-10:Part C compliant; hospital pattern rimless vitreous china pan to EN 33 / EN 997 with anti-microbial glaze, 520-525mm projection x 360-375mm wide, rim set 450mm AFFL; washable PVC ring seat, no cover, soft-close metal hinges; inlet pan connector to BS 5627 ; concealed plastic dual-flush cistern (3/6L) with pneumatic flush valve and internal overflow; brushed-chrome dual flushplate, 246 x 164 x 13.5mm, embossed die-cast zinc buttons; proprietary carrier frame chemical-anchored to structural slab with rodded threaded bar to stud grounds, 5mm plate / 18mm ply pattressing; all manufacturer's fittings and fixings. Standard, 520-525mm projection; OCM Specification N13/300 (pan) + N13/300/1/2 (cistern & plate) WCH001 / CIS901 / WCH901	10	nr		
B	Wall-hung WC suite; as item A1 but HBN 00-10:Part C accessible projecting pattern, 750-760mm projection, HTM64WCHD compliant, rim set 450mm AFFL; pan, seat, connector, concealed dual-flush cistern, flushplate and carrier frame otherwise as preceding item. Accessible, 750mm projection OCM Specification N13/301 (pan) + N13/300/1/2 (cistern & plate) WCH005 / CIS901 / WCH901	15	nr		
	Wash Hand Basins				
C	Wash hand basin; HBN 00-10:Part C (LB G S) vitreous china to BS 3402 with anti-microbial glaze, one taphole (handed per Room Layout Sheets), no overflow, no chainstay; CP brass waste (DN40, 1.25in x 80mm tail, EN 274) and CP brass resealing bottle trap (DN40, 75mm seal) with extension piece and wall cover rose; concealed support frame; anti-microbial sealant pointing to wall/IPS. Tap measured separately. Small, 400 x 365mm OCM Specification N13/336S (BAS105); tap N13/336T	3	nr		
D	Wash hand basin; HBN 00-10:Part C (LB G M) vitreous china to BS 3402 with anti-microbial glaze, one taphole (handed per Room Layout Sheets), no overflow, no chainstay; CP brass waste (DN40, 1.25in x 80mm tail, EN 274) and CP brass resealing bottle trap (DN40, 75mm seal) with extension piece and wall cover rose; concealed support frame; anti-microbial sealant pointing to wall/IPS. Tap measured separately. Medium, 500 x 420mm OCM Specification N13/336M (BAS106); tap N13/336T	1	nr		

	Description	Qty	Unit	Rate	Amount
A	Wash hand basin; medium, vitreous china to BS 3402 with anti-microbial glaze, NO taphole, with overflow, no chainstay; CP brass waste (DN40) and CP brass resealing bottle trap (DN40, 75mm seal); concealed support frame; anti-microbial pointing. Wall-mounted tap measured separately. Medium, no taphole, 500 x 450mm; as per OCM Specification N13/336N (BAS960); tap N13/335TM	18	nr		
B	Wash hand basin; large ergonomic wheelchair pattern, vitreous china to BS 3402 with anti-microbial glaze, curved leading edge / tapered section, one taphole, with overflow; chain and plug affixed to IPS; tubular S-trap (92deg shallow bend) behind IPS with rose sleeve at penetration; concealed support frame. Large ergonomic, 600 x 490mm; as per OCM Specification N13/338 (BAS902); tap N13/336T	1	nr		
C	Electrically-operated adjustable-height WHB bracket system (Changing Places); manual lever control, 300mm vertical adjustment, anodised aluminium bracket (618mm), proprietary flexible feed and waste, statically tested to 200kg (EN 12182), min. 3-year warranty; all required fixing bolts. Adjustable-height WHB bracket; as per OCM Specification N13/490 (BRA985)	1	nr		
	<u>Sinks</u>				
D	Sink; HTM64 / HBN 00-10 (ST A) inset single-bowl with side drainer, Grade 304 stainless steel 1.5mm satin finish (EN 10088-2), no overflow, plug on chain, 2no. tapholes within welded 300 x 100 x 10mm thickening plate, earthing terminal; 1.5in unslotted SS strainer waste (DN50) and 38mm plastic resealing bottle trap (75mm seal); main contractor to earth. Tap (clinical deck-mounted) measured separately. Spec min 1200 x 550 / bowl 520 x 350 x 150 - see discrepancy, SS kitchenette / lab sinktop; as per OCM Specification N13/331 (SNS900); tap N13/335TD	3	nr		
E	Janitorial unit; HTM64 / HBN 00-10 (JU) 1.2mm Grade 1.4301 stainless steel, floor-mounted and wall-secured cleaner's sink with hinged bucket grating and handrinse basin, integral monobloc mixer with restricted swivel nozzle and DDA lever, tamper-proof trap access panel, adjustable SS legs and feet, earthing tag (EN 10088-2); 1.5in unslotted waste and 1.5in resealing bottle trap (75mm seal); 500W x 570D x 900H. Mixer tap included. Janitorial combination unit; as per OCM Specification N13/388 (SIN013)	1	nr		

	Description	Qty	Unit	Rate	Amount
	Showers				
A	Concealed thermostatic shower mixing valve; built-in sequential TMV3 / WRAS valve to HTM 64 TM1, CP extended lever (min. 120mm) with hot/cold indices, built-in fail-safe automatic shut-off, flush backplate min. 268 x 168mm; max 43degC, 6L/min @ 0.2bar; commissioned per HTM 04-01 Supplement D08 and catalogued to safety file, min. 5-year warranty. Floor gulley measured under drainage (R11/315). Concealed thermostatic shower valve; as per OCM Specification N13/375 & /376 (SHO018)	6	nr		
B	Shower head kit; single-function CP brass slide rail with adjustable hand spray and 2m smooth easy-clean concealed-inlet hose. Adjustable hand-spray on slide rail; as per OCM Specification N13/375 (SHO020)	2	nr		
C	Shower head; wall-mounted fixed swivel rainshower head, 100mm dia, on short angled arm. Fixed rainshower head, 100mm dia; as per OCM Specification N13/376 (SHO909)	4	nr		
	Taps				
D	Tap; basin-mounted thermostatic sequential mixer (TB6), non-concussive push button with adjustable shut-off plus single fist-operable temperature lever, copper inlet, removable spout with interchangeable filter and anti-microbial bio-guard outlet, TMV3 / WRAS, set 41degC, 7.9L/min @ 3bar; check valves and flow limiters; commissioned per HTM 04-01 D08, min. 5-year warranty. (Serves basins 336S / 336M / 338.) Monobloc thermostatic pillar mixer; as per OCM Specification N13/336T (TAP290)	5	nr		
E	Tap; wall-mounted thermostatic demountable panel mixer (TB H6), TMV3 / WRAS, removable spout with filter and anti-microbial bio-guard outlet, 200mm inlet centres, min 225mm spout projection, integral thermal disinfection, max 43degC, 10L/min; commissioned per HTM 04-01 D08, min. 5-year warranty. Operation - push button. Wall-mounted thermostatic mixer; as per OCM Specification N13/335TM (TAP893)	18	nr		
F	Tap; deck/basin-mounted clinical thermostatic panel mixer (TB H2a), TMV3 / WRAS, demountable, removable spout with filter and anti-microbial bio-guard outlet, single sequential lever, min 225mm spout projection, 200mm inlet centres, built-in isolation valves, max 43degC, 10L/min; commissioned per HTM 04-01 D08, min. 5-year warranty. (Serves 331 sinks.) Clinical deck-mounted thermostatic mixer; as per OCM Specification N13/335TD (TAP900)	3	nr		

	Description	Qty	Unit	Rate	Amount
	Eye wash				
A	Emergency eyewash station; single aerated spray head with automatic flow control, thermostatic mixing valve and variable controls, flip-top dust cover, heavy-duty braided hose concealed within IPS, wall mounting bracket; polycarbonate, red (Hughes Optiflex 100 basis). Wall-mounted emergency eyewash; as per OCM Specification N13/435 (WAS912)	5	nr		
	Shelves				
B	Shelf; CGL compact laminate with 2no. stainless steel fixing clamps, 2mm radiused bevel edge, 2no. outer corners with 20mm radiused edge in plan; laminate colour to Architect. Compact laminate shelf, size 400 x 220mm; as per OCM Specification N13/449M (SHE102)	15	nr		
C	Shelf; CGL compact laminate with 2no. stainless steel fixing clamps, 2mm radiused bevel edge, 2no. outer corners with 20mm radiused edge in plan; laminate colour to Architect. Compact laminate shelf, size 400 x 200mm; as per OCM Specification N13 (SHE100)	3	nr		
	Specialist Units				
D	Adult changing unit; adjustable-height (between 450-900mm) nursing bench 1910 x 798mm (987mm overall incl. arm motor) with electric motor (height from 700mm), safety rail, water-collection outlet tray with integral outlet and flexible hose, adjustable neck supports, heavy duty stainless steel with retractable side safety rails; IP66 hand control and IPX6 actuator/control box, rated 200kg; to EN ISO 14971 / EN 12182 / IEC 60601-1; aluminium, lead grey. Adult changing bench; as per OCM Specification N13/488 (NCU050)	1	nr		
E	Privacy screen; wall-mounted retractable screen on castors, 2000W x 1900H. Retractable privacy screen; as per OCM Specification N13/495 (SCR902)	1	nr		
	Accessories				
	The following fittings plugged and screwed to ceramic tile finished concrete block walls / stud partition walls.				
	Paper towel dispenser				
F	Paper towel dispenser; wall-mounted stainless steel, pull-out, folded towel, 369 x 282 x 103mm (Dolphin BC958 basis). Paper towel dispenser' as per OCM Specification N13/442 (DIS013)	10	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A					
	Soap Dispensers				
B	Soap dispenser; wall-mounted stainless steel satin, paddle action, 207 x 60 x 82mm (Dolphin BC360 basis). Soap dispenser; as per OCM Specification N13/458 (DIS030)	29	nr		
C	Medical hand-sanitiser dispenser; lever action, wall-mounted. Hand-sanitiser dispenseras per OCM Specification N13/458 (DIS026)	5	nr		
	Bins				
D	Sanitary towel disposal bin; freestanding, pedal-operated hinged lid, ABS plastic white, 20L, 420 x 155 x 490mm. Sanitary disposal bin; as per OCM Specification N13/446 (BIN028)	16	nr		
E	Sack holder / paper towel disposal bin; freestanding, floor-operated flip-lid type with pedal-operated hinged lid; stainless steel; 20 litre capacity; 250 x 250 x 440mm. Manufacturer's proposals to be submitted for approval. Size 250 x 250 x 440mm, 20L; as per OCM Specification N13/447 (HOL004)	5	nr		
	Toilet Roll Holders				
F	Toilet roll dispenser; wall-mounted stainless steel jumbo roll (400m), Dia 320 x 103mm, pull-out (Dolphin BC946 basis). Toilet roll dispenser; as per OCM Specification N13/443 (DIS015)	26	nr		
	Coat Hooks				
G	Clothes hook; horizontally projecting stainless steel cylinder with wall mounting rose, concealed fixings. Single coat hook; as per OCM Specification N13/429 (HOO018)	50	nr		
	Grab Rails				
H	Support (grab) rail; aluminium alloy, 35mm dia, min 600mm long x 100mm projection, silver-ion protected anti-corrosion ABS finish, concealed fixings; fixed horizontal or vertical per Room Layout Sheets. (Schedule split: 38no. vertical [RAI048] + 37no. horizontal (RAI161). Straight grab rail, 600mm; as per OCM Specification N13/438S (RAI048 + RAI161)	75	nr		

	Description	Qty	Unit	Rate	Amount
A	Support rail; hinged, spring-assisted, wall-mounted with adjustable-height drop-down leg (free-swinging, no secondary bracketry), aluminium alloy oval 50 x 35mm top rail, silver-ion ABS finish, concealed fixings with large flush plate; secondary 900mm high 125 x 65 x 15 PFC support post welded to 375 x 75 x 10mm baseplate, bolted to structural slab with 4no. M20 (100mm min. cover); loading 132kg vertical / 233N horizontal. 800mm projection hinged grab rail; as per OCM Specification N13/436 (RAI175)	7	nr		
B	Support rail; hinged, spring-assisted, wall-mounted with adjustable-height drop-down leg (free-swinging, no secondary bracketry), aluminium alloy oval 50 x 35mm top rail, silver-ion ABS finish, concealed fixings with large flush plate; secondary 900mm high 125 x 65 x 15 PFC support post welded to 375 x 75 x 10mm baseplate, bolted to structural slab with 4no. M20 (100mm min. cover); loading 132kg vertical / 233N horizontal. 800mm projection hinged grab rail with integral toilet roll holder attachment; as per OCM Specification N13/436 (RAI175)	1	nr		
	Shower seat				
C	Folding shower seat; min 650 x 450mm (seat min 440 x 450mm), one-piece 10mm HPL seat with integral drainage slots, zinc-plated 19mm steel frame with antibacterial warm-touch vinyl coating, AISI 304 SS mounting flanges and swing-down leg, satin SS hinge bracket, rated 500kg; concealed fixings; back support. Tip-up folding shower seat; as per OCM Specification N13/448 (SEA022)	1	nr		
	Backrest				
D	Backrest; nylon-covered aluminium bar min 400 x 220mm, screw-fixed to wall with clip-on cover rose and proprietary sealed cleanable profiled cushion; colour to Architect's later detail. (For use with accessible WC N13/301. Padded WC backrest; as per OCM Specification N13/426 (BAC002)	15	nr		

Description	Qty	Unit	Rate	Amount
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Page No. BQ/592				
(74) SANITARY FITTINGS **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(79) BUILDING FITTINGS AND FURNITURE				
	(79) BUILDING FITTINGS AND FURNITURE				
	FLOOR WALL AND CEILING FINISHES:				
	System Partitions				
	IPS Wall Panels				
	Supply and install proprietary Integrated Panelling System (IPS) to WCs, WHBs and handwash stations; panelling in 18 mm compact structural laminate to EN 438, PEFC/FSC accredited, homogeneous non-porous, flame-retardant grade, with anti-microbial silver-ion (Sanitised) treatment and decorative surface both sides; exposed edges black, radiused; finish/colour from manufacturer's full range (min. 80 colours / 5 finishes) to Architect's later selection, with allowance for multiple-colour panels per unit; support framework in metal frame or compact grade laminate; no raw/exposed timber within the service void; full-height run exceeding 2600 mm; additional framing/support to N10/151/6; full extent of void painted RAL 7016 with no exposed plaster/block/concrete; laminate finished grounds behind panels to receive fitments; plinth in softwood studs lined with 12 mm European plywood, sealed and bolted to floor, installed separately from the units to allow floor finishes to proceed; integral accessories to N10/151/5 - concealed severeduty hinges (chromed zinc alloy / nickel-plated steel) and 2no. cylinder deadlocks per hinged/access panel, masterkeyed with departmental sub-suite; side panels are provided as required per the Room Layout Sheets (RLS). Developed set-out to be confirmed against sanitaryware layout (N13) and WC GAs.; to the sizes scheduled on OCM Drawing Nr. 4600 & 4200 and Specification N10/151				
A	^^^Type A2 (WHB / wash-trough vanity run - multiple basin bays with access doors below; side panels as required per RLS.) IPS; size 2825 × 285 × 2600mm (ref. 4600 / 00-WC-006)	1	nr		
B	^^^Type A2 (WHB / wash-trough vanity run - multiple basin bays with access doors below; side panels as required per RLS.) IPS; size 2825 × 350 × 2600mm (ref. 4600 / 00-WC-010)	1	nr		
C	^^^Type A2 (WHB / wash-trough vanity run - multiple basin bays with access doors below; side panels as required per RLS.) IPS; size 2700 × 250 × 2600mm (ref. 4600 / 01-WC-104)	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^Type A2 (WHB / wash-trough vanity run - multiple basin bays with access doors below; side panels as required per RLS.) IPS; size 2700 × 250 × 2600mm (ref. 4600 / 01-WC-105)	1	nr		
B	^^^Type A2 (WHB / wash-trough vanity run - multiple basin bays with access doors below; side panels as required per RLS.) IPS; size 2700 × 250 × 2500mm (ref. 4600 / 02-WC-205)	1	nr		
C	^^^Type A2 (WHB / wash-trough vanity run - multiple basin bays with access doors below; side panels as required per RLS.) IPS; size 2700 × 0 × 2500mm (ref. 4600 / 02-WC-206)	1	nr		
D	^^^Type A8 (Single WHB / handwash station panel with mirror over and access door) IPS; size 900 × 100 × 2600mm (ref. 4600 / 00-WC-003)	1	nr		
E	^^^Type A9 (Full-height IPS panel to lab handwash / service run with access door (extended height).) IPS; size 700 × 200 × 3365mm (ref. 4600 / 00-LAB-014)	1	nr		
F	^^^Type A9 (Full-height IPS panel to lab handwash / service run with access door (extended height).) IPS; size 700 × 200 × 3905mm (ref. 4600 / 01-LAB-109,110,113)	3	nr		
G	^^^Type A9 (Full-height IPS panel to lab handwash / service run with access door (extended height).) IPS; size 700 × 200 × 2600mm (ref. 4600 / 01-LAB-112)	1	nr		
H	^^^Type E1 (Accessible WC & shower IPS panel with grab rails and access door) IPS; size 1091 × 300 × 2600mm (ref. 4600 / 00-WC-005)	1	nr		
J	^^^Type E2 (Accessible WC IPS panel with grab rails and access door (larger cubicle) IPS; size 1819 × 300 × 2600mm (ref. 4600 / 00-WC-002)	1	nr		
K	^^^Type E2 (Accessible WC IPS panel with grab rails and access door (larger cubicle) IPS; size 1883 × 300 × 2500mm (ref. 4600 / 01-WC-102)	1	nr		
L	^^^Type E2 (Accessible WC IPS panel with grab rails and access door (larger cubicle) IPS; size 1810 × 300 × 2300mm (ref.4600 / 02-WC-203)	1	nr		
M	^^^Type E3 (Ambulant WC IPS panel with grab rails and access door) IPS; size 1214 × 300 × 2600mm (ref. 4600 / 01-WC-104)	1	nr		
N	^^^Type E3 (Ambulant WC IPS panel with grab rails and access door) IPS; size 1450 × 300 × 2600mm (ref. 4600 / 01-WC-105)	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Type E3 (Ambulant WC IPS panel with grab rail and access door) IPS; size 1212 × 300 × 2500mm (ref. 4600 / 02-WC-205)	1	nr		
B	^^^Type E3 (Ambulant WC IPS panel with grab rail and access door) IPS; size 1450 × 300 × 2500mm (ref. 4600 / 02-WC-206)	1	nr		
C	^^^Type E4 (Standard WC cubicle duct / IPS panel with access doors) IPS; size 900 × 300 × 2600mm (ref. 4600 / 00-WC-006,010; 01WC-104,105)	6	nr		
D	^^^Type E4 (Standard WC cubicle duct / IPS panel with access doors) IPS; size 891 × 300 × 2600mm (ref. 4600 / 01-WC-006,010)	5	nr		
E	^^^Type E4 (Standard WC cubicle duct / IPS panel with access doors) IPS; size 900 × 300 × 2500mm (ref. 4600 / 02-WC-205,206)	4	nr		
F	^^^Type E4 (Standard WC cubicle duct / IPS panel with access doors) IPS; size 903 × 300 × 2500mm (ref. 4600 / 02-WC-205)	1	nr		
G	^^^Type E6 (Wider WC IPS panel run with grab rails and access doors) IPS; size 2173 × 250 × 2600mm (ref. 4600 / 00-WC-003 · N10/151)	1	nr		
	Cubicles Proprietary toilet cubicle system; 18mm compact structural laminate (EN 438, PEFC/FSC, anti-microbial Sanitised grade, decorative both faces, black radiused edges), full height 2600mm to u/s ceiling, 150mm/100mm floor clearance; incl. pilasters, 2100mm door, aluminium satin-anodised ironmongery (thumb-turn indicator lock w/ emergency release + sprung hinge), stainless-steel U-bracket wall supports (central bolt) and adjustable satin-anodised pedestal shoes; supply, deliver and fix complete; as per OCCM Specification K32/120				
H	Type E4 to K32/120				
J	^^^range of 3 nr. cubicles; over all size 2720 x 1500 x 2230 mm high; comprising of 2 nr. intermediate panels and 3 nr. doors (00-WC-006 - ref Architects Drawing Nr. 1775).	1	nr		
K	^^^range of 3 nr. cubicles; over all size 2720 x 1500 x 2230 mm high; comprising of 2 nr. intermediate panels and 3 nr. doors (00-WC-010 - ref Architects Drawing Nr. 1775).	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^range of 3 nr. cubicles; over all size 3110 x 1500 x 2230 mm high; comprising of 2 nr. intermediate panels and 3 nr. doors (01-WC-104 - ref Architects Drawing Nr. 1776).	1	nr		
B	^^^range of 4 nr. cubicles; over all size 4450 x 1500 x 2230 mm high; comprising of 3 nr. intermediate panels and 4 nr. doors (01-WC-105 - ref Architects Drawing Nr. 1776).	1	nr		
C	^^^range of 3 nr. cubicles; over all size 3050 x 1500 x 2230 mm high; comprising of 2 nr. intermediate panels and 3 nr. doors (02-WC-205 - ref Architects Drawing Nr. 1777).	1	nr		
D	^^^range of 4 nr. cubicles; over all size 4450 x 1500 x 2230 mm high; comprising of 3 nr. intermediate panels and 4 nr. doors (02-WC-206 - ref Architects Drawing Nr. 1777).	1	nr		
	FITTINGS:				
	Equipment				
	Curtain track for Athletics Throw Cage				
	Medical-grade cubicle curtain track to N10-230, installed in accordance with HTM 66. High-grade aluminium box-section track with enclosed channels, mill-finish aluminium; fixed on PPC aluminium support rods with termination roses at ceiling line and PPC aluminium wall brackets; compatible with nylon roller-wheel curtain hooks; tracks straight and 'L'-curved as required. Plywood grounds provided in ceiling and walls to receive fixings (curtains billed separately under N10-235); as per manufacturer submit-proposals and OCM Specification N10/231				
E	^^^curtain track; as per Drawing Nr. 7051	32	m		
F	^^^^^^Extra over item A for 'L'-curved / bend sections	2	nr		
G	^^^^^^Extra over item A for track ends / stop ends	4	nr		

	Description	Qty	Unit	Rate	Amount
	Indoor throws cage to SLC-SD Q52-630, constructed of heavy-duty netting suspended from the ceiling, to World Athletics and UKA requirements; double flame-retardant netting to front and sides, secured at various points to the ground; secure roof netting and roof-fixed railing; tethered to the track surfacing at tether points (cl.630.8); supply, deliver, install, tether/fix and commission complete; as per Manufacturer submit-proposals (Athletics Direct Indoor Throws Cage or equivalent, cl.630.3.1)				
A	^^^height aprox 6400mm; as per OCM Drawing Nr. 5627	32	m		
B	^^^^^^Extra over for tether points and ground fixings to track surfacing (cl.630.8)	1	item		
C	^^^^^^O&M documentation, product data and warranty (cl.950A)	1	item		
	Wall-secured impact padding to Q52-560, fixed to walls in close proximity to event landing areas. Polyethylene foam with smooth polyester PVC cover, no additional finish (cl.560.4/4.1); as per Manufacturer submit-proposals (Athletics Direct SKU: WALLPAD or equivalent, cl.560.2.1); method of fixing submit-proposals (cl.560.5); supply, deliver, fix complete.				
D	^^^> 300mm	20	m2		
E	^^^^^^Extra over for plywood pattress / grounds to wall to receive padding fixings	20	m2		
	Indoor portable throws circle complete with toe board, to Q52-630A, to World Athletics and UKA requirements. Portable type, split into quadrants for ease of transporting (cl.630A.4). Manufacturer submit-proposals (Athletics Direct SKU SP0319 or equal approved, cl.630A.3.1); materials submit-proposals (cl.630A.5); length and height as manufacturer's requirements (cl.630A.6–7). Fixed with clips to secure the circle, with fixings for DDA use (cl.630A.8). Supply, deliver, install and demonstrate complete.				
F	^^^size 3000 x 3000mm	1	nr		
	Furniture and furnishing				
	Cupboards				

	Description	Qty	Unit	Rate	Amount
	Purpose-made fitted cupboards, all lockable, with shelves and doors as drawings. Doors, drawers, carcass and shelves of min. 18mm moisture-resistant MDF core (MDF.H Option 1 to EN 622-5; suitable for hazard Class 1 and 2 to EN 335-3; FSC accredited; CARB Phase 2 compliant; ISO 9001; E1 formaldehyde), faced both sides with 0.8–1mm high-pressure laminate (EN 438, PEFC/FSC accredited, non-porous/waterproof, anti-microbial silver-ion sanitised grade, laboratory grade resistant to acids, alkalis and corrosive salts); exposed edges finished with factory-fitted colour-coded PVC edging strips; HPL finish from full range to Architect's later selection (min. 80no. colours, 5no. finishes, matte and gloss). Plinth of softwood studs lined with 12mm European plywood, bolted to floor and installed separately to permit flooring works, joints/fixings sealed to receive floor-covering skirting. Ironmongery: severe-duty concealed hinges (chromed zinc alloy/nickel-plated, mounting plate, zero protrusion, min. 170° opening, soft-close, full overlay up to 24mm); cylinder deadlocks with angle strike plates masterkeyed to departmental sub-suite (min. 20no. sub-suites), all doors locked whether shown or not; Grade 304 satin stainless steel pull handles, 200mm long x 10mm dia. with min. 50mm clearance, square profile with 3mm radius, blind-fixed. All shelving adjustable; closer panels in laminated MDF, concealed fixing; allowance for alternating door/carcass colours. Supply, fabricate, deliver, position, assemble, fix and seal complete; drawings to be submitted for Architect's review prior to manufacture; as per OCM Schedule on Drawing Nr. 4625 and Specification N10/135/136/137.				
A	^^^fitted cupboard; 4 doors; 8 shelves; lockable; overall 2680H x 3500W x 1000D (CAB901) — Physiology Lab 01-LAB-113	1	nr		
B	^^^fitted cupboard; 4 mirrored doors (glass mirror to inner faces); 8 shelves; lockable; overall 2400H x 2400W x 800D (CAB926) — Studio 1 01-STU-116	2	nr		
C	^^^fitted cupboard; 2 doors; 3 shelves; lockable; overall 2700H x 1200W x 1000D (CUP265) — Project Lab 01-LAB-109	1	nr		
D	^^^fitted cupboard; 1 door; 3 shelves; lockable; overall 2700H x 1200W x 1000D. (CUP266) — Project Lab 01-LAB-109	1	nr		
E	^^^fitted upper wall-mounted cupboard; 2 doors; 2 shelves; lockable; overall 750H x 1000W x 300D (CUP264) — Bio Chemistry Lab 01-LAB-112	8	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^fitted base cupboard on plinth; 1 door; overall 860H x 600W x 550D (CUP713) — Staff Room 02-STAFF-202	2	nr		
B	^^^fitted base cupboard on plinth; 2 doors; overall 860H x 1200W x 550D (CUP721) — Staff Room 02-STAFF-202	2	nr		
C	^^^fitted general storage base cupboard (clause 135); 2 doors; including cut-out/panel for inset sink; on plinth; overall 880H x 1200W x 550D. (CUP723)	4	nr		
D	^^^fitted base cupboard filler end panel; 550D; width and height as drawing. (CUP940)	5	nr		
	Built-in seating Compact-laminate changing bench on stainless steel frame. Seat in 18mm compact grade laminate (cellulose fibrous black kraft paper impregnated with thermosetting resins, homogeneous non-porous, flame-retardant grade), with 10mm radiused corners in plan, 10mm wide routered bands at 100mm centres maintaining 100mm offset from edges; finish to Architect's later selection (min. 80no. colours, 5no. finishes). Frame in Grade 304 stainless steel, satin finish: 3no. 80 x 40mm RHS box sections, mitred corners, flush-finished welds; base bolted through to structural floor slab with 3no. flat allen-key-head M12 bolts, countersunk for flush finish; seat secured from underside with low-profile dome-head screw fixings. Supply, deliver, fix to slab and seal complete; as per OCM Schedule on Drawing Nr. 4625 and Specification N10/170.				
E	^^^fitted hanging bench; overall 1075 x 720 x 310mm deep. (BEN900) - 00-WC-005	1	nr		
F	^^^fitted hanging bench; overall 1700 x 720 x 310mm deep. (BEN900) - 00-WC-006	1	nr		
G	^^^fitted hanging bench; overall 1700 x 720 x 310mm deep. (BEN900) - 00-WC-010	1	nr		

	Description	Qty	Unit	Rate	Amount
	Specialist joinery bench seating (fitted bench types 2, 3, 4) incorporating a low radiator with grilled front and an upholstered bench seat. Timber carcass (SW timber + steel frame as required by the fitted-furniture sub-contractor, painted black where visible through grille) with fine Birch (Betula spp.) plywood cladding: panelling to BS EN 942, J2/Grade A, 22mm veneered plywood, mitred joints, pressure-impregnated fire-retardant treatment (Class B-s1,d0 to EN 13501; formaldehyde Class E1 to EN 13986+A1), lacquer coating as M60-160. Grille of 30 x 30mm planed solid Birch lathes, workshop-fabricated in panels with no visible fixings, demountable on Keku-type clips for radiator access and cleaning. Joinery workmanship to Z10, metalwork to Z11. Upholstery seating element (clause 172): plywood internal support and high-density PU foam (3.0–3.2 lb/ft3, 40mm L-section, 20mm radiused edges) fixed to 12mm marine ply on push-pull Keku clips for removable cleaning; ignition-resistant to BS EN 1021-1/-2 and BS 5852 source 5; vinyl-leatherette fabric, Martindale >350,000, protective-coated, min. 30no. options. Supply, fabricate, deliver, fix, upholster and seal complete; drawings for Architects review prior to manufacture; as per OCM Specification N10/171/172 and Z10				
A	^^^fitted joinery radiator double bench, type 2; with grille and upholstered seats back to back with back rest; 1300mm long x 1242 mm wide 915mm high (BEN902) - as per OCM Drawing Nr. 4353 & 4350, 4351 AND 4362 - Corridor 00-HCOM-052	1	nr		
B	^^^fitted joinery radiator double bench, type 2; with grille and upholstered seats back to back with back rest; 1300mm long x 1242 mm wide 915mm high (BEN902) - as per OCM Drawing Nr. 4353 & 4350, 4351 & 4362 - Gallery 01-HCOM-152	1	nr		
C	^^^fitted joinery radiator double bench, type 2; with grille and upholstered seats back to back with back rest; 1300mm long x 1242 mm wide 915mm high (BEN902) - as per OCM Drawing Nr. 4353 & 4350, 4351 & 4362 - Gallery 01-HCOM-151	1	nr		
D	^^^fitted joinery radiator double bench, type 2; with grille and upholstered seats back to back with back rest; 1300mm long x 1242 mm wide 915mm high (BEN902) - as per OCM Drawing Nr. 4353 & 4350, 4351 & 4362 - Gallery 02-HCOM-252	2	nr		
E	^^^fitted joinery radiator double bench, type 2; with grille and upholstered seats back to back with back rest; 1300mm long x 1242 mm wide 915mm high (BEN902) - as per OCM Drawing Nr. 4353 & 4350, 4351 & 4362 - Gallery 02-HCOM-251	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^fitted joinery radiator bench, type 3; with grille and upholstered seats with back rest; 1300mm long x 600 mm wide 915mm high (BEN903) - Gallery 01-HCOM-152	1	nr		
B	^^^fitted joinery radiator bench, type 4; 1360mm long x 600 mm wide 440mm high (BEN904) - Gallery 01-HCOM-150	1	nr		
C	^^^fitted joinery radiator bench, type 4; 1360mm long x 600 mm wide 440mm high (BEN904) - Gallery 02-HCOM-250	1	nr		
D	^^^upholstery seating element only (clause 172); plywood/PU foam, vinyl-leatherette; dimensions as drawing. (BEN905) - Gallery 01-HCOM-150	3	nr		
	Specialist joinery storage bench with timber carcass (SW timber + steel frame as required), fine Birch (Betula spp.) plywood cladding (BS EN 942, J2/Grade A, 22mm veneered ply, mitred, pressure-impregnated fire-retardant Class B-s1,d0 to EN 13501, formaldehyde E1, lacquer as M60-160) and upholstered bench seat (upholstery as clause 172). Supply, fabricate, deliver, fix and seal complete; drawings for Architect's review prior to manufacture; as per OCM Specification N10/172/174				
E	^^^fitted storage bench; overall 3000L x 600W x 500H (clause 174). (SEA910) - corridor facing Athletics Area 00-HPAC-015	9	nr		

	Description	Qty	Unit	Rate	Amount
	Integrated, continuous raked lecture-theatre seating/table system arranged in curved composition to EN 12727 and EN 1730; fire performance BS 5852 ignition source 5. First row bench with fixed writing table; intermediate rows fixed writing table extending from the backrest of the bench in front with tip-up seats; back row tip-up seats with backrest. Seats/backs upholstered (plywood support + PU foam, fabric covered) with automatic-return mechanism on pressed-steel beams; steel powder-coated frames to RAL (allow 10no. options) with anodised extruded aluminium modular bars, pressed-steel uprights/feet (floor-fixed, techno-polymer closing guards); 24mm Birch plywood table tops; concealed electrical services route from floor through frame to grommet in table top. Wheelchair-accessible position: tip-up foldaway writing table with anti-panic movement, top 450 x 300mm. Setting-out, radial seat spacing and row spacing to Architect's drawing 6212 (min. 510mm seat centres; seat height 990mm; seat spacing min. 450mm; row spacing min. 900mm). Supply, deliver, fix to floor and commission complete; as per OCM Specification N10/175 & Drawing Nr. 5555				
A	^^^row lecture-theatre tip-up seats in curved orientation (clause 175); upholstered, automatic-return; as system. (SJF904) — Lecture Hall 02-CLASS-217 (back row)	16	nr		
B	^^^row lecture-theatre tip-up seats in curved orientation (clause 175); upholstered, automatic-return; as system. (SJF904) — Lecture Hall 02-CLASS-217 (intermediate row)	16	nr		
C	^^^row lecture-theatre tip-up seats in curved orientation (clause 175); upholstered, automatic-return; as system. (SJF904) — Lecture Hall 02-CLASS-217 (intermediate row)	16	nr		
D	^^^row lecture-theatre tip-up seats in curved orientation (clause 175); upholstered, automatic-return; as system. (SJF904) — Lecture Hall 02-CLASS-217 (intermediate row)	16	nr		
E	^^^row lecture-theatre tip-up seats in curved orientation (clause 175); upholstered, automatic-return; as system. (SJF904) — Lecture Hall 02-CLASS-217 (intermediate row)	14	nr		
F	^^^row lecture-theatre tip-up seats in curved orientation (clause 175); upholstered, automatic-return; as system. (SJF904) — Lecture Hall 02-CLASS-217 (front row)	14	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^row lecture-theatre tip-up seats in curved orientation (clause 175); upholstered, automatic-return; as system. (SJF904) — Lecture Hall 02-CLASS-217 (front row)	5	nr		
B	^^^writing table with front panel, continuous, curved on brackets (back row)	10	m		
C	^^^writing table with front panel, continuous, curved on brackets (intermediate row)	10	m		
D	^^^writing table with front panel, continuous, curved on brackets (intermediate row)	10	m		
E	^^^writing table with front panel, continuous, curved on brackets (intermediate row)	9	m		
F	^^^writing table with front panel, continuous, curved on brackets (intermediate row)	9	m		
G	^^^writing table with front panel, continuous, curved on brackets (front row)	8	m		
H	^^^writing table with front panel, continuous, curved on brackets (front row)	3	m		
J	^^^wheelchair-accessible writing desk position (clause 175); tip-up foldaway table, top 450x300mm. (DES910) — Lecture Hall 02-CLASS-217	2	nr		
	Worktops				

	Description	Qty	Unit	Rate	Amount
	Self-supporting compact high-pressure laminate (CGL) worktops, 20mm overall finished thickness, suitable for laboratory/education/healthcare/technical use: laminate to EN 438, PEFC/FSC accredited, non-porous/waterproof, anti-microbial silver-ion sanitised grade; 20mm compact structural laminate (cellulose fibrous black kraft paper, homogeneous non-porous, flame-retardant), solid core-through colour matching surface without seams; laminate to both visual and blind faces unless noted; exposed edges with 20mm black-core edging, straight cut, 2mm chamfer; joints glued with colour-coded approved material and polished flush. Detailing: rear upstand where required formed integral and returned 50mm up the wall (20mm thick); side upstands to match, scribed, bonded and sealed with colour-coded anti-microbial silicone; internal 90° returns with masons-mitre/hockey-stick joint; 80mm dia. 2-part plastic grommets (aluminium-effect, brush seal) where shown. Support on PPC steel brackets, laminated timber wall battens and/or cabinet carcassing; all interfaces sealed with N13-580 anti-microbial sealant. Supply, fabricate, deliver, fix and seal complete; as per OMC Specification N10/207/208				
A	^^^fitted worktop, fixed (clause 207); 600D; overall length 5170mm; with upstand(s) as drawing. (WKT902) — Staff Room 02-STAFF-202	1	nr		
B	^^^fitted worktop, fixed (clause 207); 900D; overall length 7800mm; with 50mm upstand; as drawing. (WKT946) - Bio Mechanics Lab 00-LAB-014	1	nr		
C	^^^fitted worktop, fixed (clause 207); 900D; overall length 3725mm; with 50mm upstand; as drawing. (WKT946) - Classroom 00-CLASS-013	1	nr		
D	^^^fitted worktop, fixed (clause 207); 900D; overall length 6725mm; with 50mm upstand; as drawing. (WKT946) - Physiology Lab 01-LAB-113	1	nr		
E	^^^fitted worktop, fixed (clause 207); 900D; overall length 6625mm; with 50mm upstand; as drawing. (WKT946) - Physiology Lab 01-LAB-113	1	nr		
F	^^^fitted worktop, fixed (clause 207); 900D; overall length 6850mm; with 50mm upstand; as drawing. (WKT946) - Project Lab 01-LAB-110	1	nr		
G	^^^fitted worktop, fixed (clause 207); 900D; overall length 2750mm; with 50mm upstand; as drawing. (WKT946) - Project Lab 01-LAB-110	1	nr		
H	^^^fitted worktop, fixed (clause 207); 900D; overall length 6850mm; with 50mm upstand; as drawing. (WKT946) - Project Lab 01-LAB-110	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^fitted worktop, fixed (clause 207); 900D; overall length 4000mm; with 50mm upstand; as drawing. (WKT946) - Bio Chemistry Lab 01-LAB-112	2	nr		
B	^^^fitted worktop, height-adjustable (clause 208); 900D; overall length 1100mm; with 50mm upstand; integral concealed motorised height adjustment 680 –1180mm; grommets and cut-outs as drawing; length as drawing. (WKT945) - OCM Schedule Drawing Nr. 4625	3	nr		
	Shelving				
	Fitted charging shelving unit, lockable; carcass and shelves of min. 18mm moisture-resistant MDF core (MDF.H Option 1 to EN 622-5, FSC, CARB Phase 2, ISO 9001, E1) faced both sides with 0.8–1mm HPL (EN 438, PEFC/FSC, non-porous, anti-microbial silver-ion), factory colour-coded PVC edging; HPL finish to Architect's later selection (min. 80no. colours, 5no. finishes). Plinth of softwood studs lined with 12mm European plywood, bolted to floor. Allow for coordination of cable management and electrical fixture cut-outs (electrical m/e); closer panels in laminated MDF, concealed fixing. Supply, fabricate, deliver, fix and seal complete; as per OCM Specification N10/138				
C	^^^fitted charging shelving unit; overall length 1500 x 320D (SHE990) - Classroom 02-CLASS-212	1	nr		
D	^^^fitted charging shelving unit; overall length 1750 x 320D (SHE990) - Classroom 02-CLASS-211	1	nr		
E	^^^fitted charging shelving unit; overall length 1750 x 320D (SHE990) - Classroom 02-CLASS-210	1	nr		
	Lockers				

	Description	Qty	Unit	Rate	Amount
	Compact grade laminate lockers to BS 4680 (general duty), with 10-year system warranty. Panels in 18mm compact structural laminate, black edges, moisture-resistant, silver-ion anti-microbial sanitised grade, flame-retardant, EN 438:2005/ISO 4586/NEMA LD3, PEFC/FSC accredited, Greenguard IAQ certified; finish/colour (incl. timber-effect) to Architect's later selection. Support/carcass of light-grey aluminium extrusions with integral hinges and buffers (1mm silver satin anodised, injection-moulded shelves), suitable for wet environments, with CGL frame to front face so aluminium is concealed; painted 15mm marine ply grounds behind; junctions to walls sealed with anti-microbial sealant, smooth concave finish. Arrangement: 2no. stacked lockers with lockable hinged doors; overall 305 (l) x 475 (d) x 2100 (h). Severe-duty concealed hinges (160°, soft-close, pre-fitted); lock final selection (hasp-and-staple / coin retain / coin return / cylinder-cam), 2no. keys per locker plus 2no. masterkeys; D-handles in brushed aluminium 10mm dia. x 300mm; laser-cut door numbers min. 200mm high (with wristbands for key option); end panels at gaps and run-ends; 3mm door-to-frame ventilation gap. Supply, deliver, fix and seal complete; drawings for Architect's review prior to manufacture; as per OCM Specification N10/220				
A	Compact-laminate locker; 2no. stacked, lockable hinged doors; overall 305W x 475D x 2100H. (LOC911) - OCM Schedule Drawing Nr. 4625	17	nr		
	AV Lecterns				
	Audio-visual lecterns; 25mm MDF (BS 1142) worktop faced with HPL (EN 438/ISO 4586, full solid colour), finish based on Lissa Oak (Kronospan 8925), 3mm colour-matched PVC lipping; steel pedestal/body PPC to RAL (allow 20no. options); concealed AV rack space (350mm deep), PPC-steel control-panel housing, solid-cast adjustable monitor arm, 6-gang power, and printed branding to body. Supply, deliver, position/fix, coordinate MS frame and plywood pattress to supporting partition (wall-mounted types), and commission complete; (AV equipment/connections by others); as per OCM Specification N10/125/126/127				
B	^^^lectern, wall-mounted, electric height-adjustable (clause 125; basis Top-Tec Juno C 12U); worktop 800 x 500mm, adjustable 740–1384mm; 11U rack; 500 x 400mm branding. (LEC901) - various	2	nr		
C	^^^lectern, AV (clause 126; basis Top-Tec Rubi 16U Mono+); worktop 1200W x 560D x 900H; 16U rack; 500 x 400mm branding (LEC902) - Classrooms (various)	4	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^lectern, floor-mounted, electric height-adjustable (clause 127; basis Top-Tec Gemini 1400 Mono 12U); worktop 1400 x 800mm, adjustable 740–1080mm; 12U rack; 630 x 450mm branding (LEC904) - Lecture Hall 02-CLASS-217	1	nr		
	Reception Deck				
				To Collection €	

Description	Qty	Unit	Rate	Amount
Bespoke specialist-joinery reception desk to drawing 4626, formed as an L-shaped counter returning against the blockwork wall, comprising a staff-side working counter with under-counter and CPU units and a raised public-side transaction counter, with integrated services throughout; carcass: SW timber frame with steel frame as deemed required by the fitted-furniture sub-contractor; grey-painted mild-steel floor-mounted support framing to all countertop spans exceeding 1200mm and any element over 1000mm high, smooth edges and countersunk screw fixings; feature panelling and trims in fine Birch (Betula spp.) plywood to BS EN 942, J2/Grade A, 12mm veneered plywood, mitred joints, pressure-impregnated fire-retardant treatment (surface-applied not acceptable) achieving Class B-s1,d0 to EN 13501 and formaldehyde Class E1 to EN 13986+A1; including plywood reveals to openings as shown on sections A and B and on the front and rear elevations; worktops, front panel and plinth in solid surfacing as clause N10-200: CE-marked 25mm European plywood substructure (E1 to EN 636-2, EN 314-2 Class 2, CE2+, FSC/PEFC certified) encased in 12mm thermoformed acrylic solid surfacing (approx. 1/3 acrylic resin and 2/3 natural minerals; certified hygienic to DIN EN ISO 846; GREENGUARD material, adhesives and sealant; low-VOC Indoor Air Quality certified), 38mm overall finished thickness. Solid surfacing factory-bonded to the plywood carcass with manufacturer-approved bonding agent and thermoformed around it; 3mm radius to all exposed corners; joints glued with colour-coded approved material and polished flush to a seamless and invisible finish; polished finish throughout; underside of worktop laminate-finished to Architect's colour selection with no raw timber left exposed; two solid-surfacing worktop types (Type 1 and Type 2) as the drawing material key; colours from the full cost range, costing allowance to be made for selection from the most costly class; support on 80mm diameter stainless steel legs, laminated timber wall battens and furniture carcassing as applicable; internal (rear of desk) faced in high-pressure decorative laminate to Architect's selected colour (EN 438 / ISO 4586, full solid colour); pedestal units and CPU units: body, doors, drawers and shelves in 18mm MDF to BS 1142 faced in min. 1mm high-pressure laminate, exposed surfaces free from joints and defects, soft-close drawers and doors, drawer faces conceal-fixed and finished flush with the edge of the carcass, all shelves adjustable; ironmongery: severe-duty concealed hinges (chromed zinc alloy / nickel-plated steel, mounting plate, zero protrusion, 160 degree opening, soft-close, full overlay up to 24mm); satin nickel-plated brass cylinder deadlocks with angle-type strike plates sized to suit, masterkey-suited with 10no. sub-suites, all doors and drawers fitted with				

	Description	Qty	Unit	Rate	Amount
	a lock; brushed stainless steel pull handles 10mm square x 200mm long, conceal-fixed; drawer runners rated to 50kg with soft-close function; services and accessories: 60mm stainless steel desk cable grommets with covers to the staff-side worktop, positions co-ordinated with CPU locations and agreed with the Architect; service trunking to M&E specification; all penetrations through worktops and units for services and sockets deemed included, co-ordinated with the M&E sub-contractor for sizing per the room layout sheets and services engineer's drawings; painted timber skirting planted on at floor junction as sections A and B. Heights of under-counter units to be adjusted by the fitments sub-contractor to take account of the actual worktop depth so that the specified worktop height is achieved; joinery workmanship as section Z10; metalwork materials and workmanship as section Z11. All furniture interfaces with walls and ceilings sealed with N13-580 anti-microbial sealant; supply, fabricate, deliver, off-load, position, assemble, fix, seal and make good complete; shop drawings of all fitments to be produced for Architect's approval, and colour samples provided for Architect's review and comment, prior to fabrication; all dimensions to be checked and confirmed on site; as per OCM-AR N10-101 and Drawing MTUHPAC-Z-76-Z-ZZZ-SH-OCM-AR-4626				
A	^^^Reception desk; bespoke specialist joinery; solid-surfacing worktops (Types 1 and 2), front panel and plinth on Birch plywood-clad SW timber/steel carcass; including under-counter and CPU units, plywood reveals to openings, stainless steel cable grommets, service penetrations and planted skirting; overall configuration and dimensions as OCM Drawing Nr. 4626. (REC003) - Reception / Office 00-OFF-001	1	nr		
	Coat hooks Wall mounted aluminium coat hooks, screw fixed to 150 x 200 x 22mm mdf backing, painted to selected RAL; screw fixed to blockwork wall; include for all fixing; as per Architects Drawing Nr. 6017				
B	^^^generally	30	nr		
	Group 2 Fittings				

	Description	Qty	Unit	Rate	Amount
	Receive, check and take responsibility for the [item] supplied free-issue by the Employer. Provide all setting -out, co-ordination with structure and services, fixings, brackets, backing/support and builder's work in connection. Off-load, distribute and protect through agreed delivery routes, mechanically fix/install plumb, level and secure in accordance with the manufacturer's instructions and the architect's drawings, connect to adjacent building elements as required, and make good and clean on completion. Include all attendances, access equipment, temporary protection and security before, during and after installation.				
A	^^^DISHWASHER, domestic 600W 600D 850H	5	nr		
B	^^^DISPENSER, barrier cream, disposable single cartridge, wall mounted	5	nr		
C	^^^DISPENSER, Medical hand sanitizer, lever action, wall mounted	5	nr		
D	^^^DISPENSER, paper towel, wall mounted	10	nr		
E	^^^DISPENSER, soap, disposable single cartridge, lever action, wall mounted	29	nr		
F	^^^DISPENSER, toilet paper, dispense individual sheets, wall mounted	22	nr		
G	^^^FREEZER underbench -20 deg.C, 860H 600W 600D	1	nr		
H	^^^REFRIGERATOR, capacity 117 litres, domestic type, 860H 500W 550D	1	nr		
J	^^^REFRIGERATOR, capacity 390 litres, 1855H 645W 600D	1	nr		
K	^^^SCREEN, projector, wall mounted, 1800H 2400W	6	nr		
L	^^^SCREEN, projector, wall mounted, fixed, 1800H 2400W	1	nr		
M	^^^SHELF, raised edge, non-breakable, 400W 150D	15	nr		
N	^^^SHELF, raised edge, non-breakable, 450W 200D	3	nr		
P	^^^TELEVISION monitor, colour, flat panel, 60inch, wall mounted	4	nr		

Description	Qty	Unit	Rate	Amount
COLLECTION				
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(79) BUILDING FITTINGS AND FURNITURE **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(10) PREPARED SITE				
	(10) PREPARED SITE				
A	For detailed description of materials and workmanship see Works Requirements.	1	item		
B	See Site Investigation Report	1	item		
C	The Contractor is strongly advised to visit the site to determine the exact extent of the works, as no claim shall be entertained at a later date for his/her failure to comply with same.	1	item		
D	The Contractor shall note the position of all existing underground and overground services within and adjacent to the site.	1	item		
E	All surplus material resulting from taking down must be segregated, removed and disposed off site in a proper safe manner to a Licensed facility. The Contractor shall include for all costs associated with same within his/her rates.	1	item		
F	Contractors must include for any temporary propping and shoring to existing structures where walls etc. are being demolished and must note that the stability, maintenance and insurance of the existing building is soley their responsibility.	1	item		
G	All Demolition Works shall be carried out in strict accordance with B.S. 6187 : 2000 - code of Practice for Demolitions, and the Engineers Specification and approval	1	item		
H	All sizes of existing items/opes are approximate only and should be checked on site by the Contractor before submitting their tender. No Variations will be entertained from their failure to do so	1	item		
J	The Contractor shall undertake a Dilapidation Survey of the existing and all adjacent buildings and structures. A report on the condition of the building, together with photographs, shall be presented to the client and owner prior to commencement of the works. The Contractor shall allow for all associated costs for same against this item.	1	item		
K	The Contractor shall prepare and submit a detailed method statement on the proposed method of Demolitions/alterations to the Architect and Engineer for approval prior to commencement of the works.	1	item		
	DEMOLITIONS AND ALTERATIONS:				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Demolitions				
	Existing kerbing				
A	Break out and remove from site existing precast concrete kerbing 340 mm x 150 mm with concrete haunch and make good all work disturbed to match existing.	544	m		
B	Break out and remove from site existing precast concrete kerbing 340 mm x 150 mm with concrete haunch and make good all work disturbed to match existing (Works outside the boundary of the site - Pedestrian crossing & carpark realignment).	53	m		
C	Break out and remove from site existing precast concrete edging kerbing 100 mm x 250 mm with concrete haunch and make good all work disturbed to match existing (existing Arena building planter areas).	70	m		
D	Break out and remove from site existing precast concrete edging kerbing 100 mm x 250 mm with concrete haunch and make good all work disturbed to match existing (West of Atro at stub retaining wall).	64	m		
	Remove; concrete retaining wall				
E	Carefully breakout and remove from site existing reinforced concrete retaining wall aprox size of wall 250 x 1000mm high, grubbing up reinforced concrete foundations aprox 1000 x 300mm deep; dispose all materials off site to a licensed dump, making good to disturbed areas (West of Existing Astro Pitch)	64	m		
	Remove; fencing				
F	Carefully take down and remove from site existing 2400mm high palidae fences, gates and the like with including all metal inserts, grubbing up foundations, take down below ground level and backfill if necessary with clause 804 Hardcore to formation level of new works; dispose all materials off site to a licensed dump, making good to disturbed areas (existing running track boundary)	65	m		
G	^^^extra over for double gate 3100mm wide	2	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Carefully take down and remove from site existing 3000mm high weldmesh fences, gates and the like with including all metal inserts, 100 x 100 x 6000 mm steel posts at 10000 mm centres, 80 x 40 mm posts at 2500 mm centres, 3000mm high netting above fence; grubbing up foundations, take down below ground level and backfill if necessary with clause 804 Hardcore to formation level of new works; dispose all materials off site to a licensed dump, making good to disturbed areas (existing astro play pitches)	216	m		
B	^^^extra over for double gate 4700mm wide	1	nr		
C	^^^extra over for single gate 1000mm wide	1	nr		
	Remove; timber benches and table				
D	Carefully remove existing timber benches and table and supporting leg foundations and dispose off site (North of existing Astro Pitch)	3	nr		
	Remove; bins				
E	Carefully remove existing bins and supporting foundations and dispose off site (North of existing Astro Pitch)	5	nr		
F	Carefully remove existing bins and supporting foundations and dispose off site (Loose within existing Astro Pitch)	2	nr		
	Remove; railings				
G	Carefully take down and remove from site existing 1200mm high tubular railing, uprights at 2000 mm centre, grubbing up foundations, take down below ground level and backfill if necessary with clause 804 Hardcore to formation level of new works; dispose all materials off site to a licensed dump, making good to disturbed areas (East of existing Astro)	13	m		
H	Carefully take down and remove from site existing 1000mm high steel post and chain (2nr rows) railing, grubbing up foundations, take down below ground level and backfill if necessary with clause 804 Hardcore to formation level of new works; dispose all materials off site to a licensed dump, making good to disturbed areas (West of existing Astro Pitch)	38	m		
	Remove; timber edging to gravel area				
J	Carefully take down and remove from site existing 150 x 50mm timber edging to perimeter of existing gravel paths; dispose all materials off site to a licensed dump, making good to disturbed areas	140	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Remove; boulders				
A	Carefully remove existing rock boulders and dispose off site, aprox size 1400 x 1000 x 1400 mm high	2	nr		
B	Carefully remove existing rock boulders and dispose off site, aprox size 1100 x 1400 x 900 mm high	2	nr		
C	Carefully remove existing rock boulders and dispose off site, aprox size 1100 x 800 x 900 mm high	2	nr		
D	Carefully remove existing rock boulders and dispose off site, aprox size 1300 x 1600 x 1100 mm high	1	nr		
E	Carefully remove existing rock boulders and dispose off site, aprox size 1300 x 1000 x 1100 mm high	1	nr		
	Remove; miscelleanous bollards, signs and the like				
	Carefully take down and remove from site existing structures with including all metal inserts, grubbing up foundations, take down below ground level and backfill if necessary with clause 804 hardcore to formation level of new works; dispose all materials off site to a licensed dump, making good to disturbed areas				
F	^^^Metal posts, approx size 80 x 80 x 1000mm high	5	nr		
G	^^^Metal posts with signage, approx size 80mm diameter x 3000mm high	1	nr		
H	^^^Metal posts with signage, approx size 1100 x 80mm diameter x 1200mm high	2	nr		
	Carefully take down and remove from site existing bollards, including for grubbing up foundations, take down below ground level and backfill if necessary with clause 804 hardcore to formation level of new works; dispose all surplus materials off site to a licensed dump, making good to disturbed areas				
J	^^^timber bollards 300mm diameter x 1200mm high (existing access road / round about / carpark)	48	nr		
K	^^^concrete cone bollards, aprox size 750 x 750 x 1000mm high	15	nr		
L	^^^^^^extra over last for removing existing link chain	10	m		
M	^^^stainless steel bollards 300mm diameter x 1200mm high	23	nr		
N	^^^^^^extra over for removing chain to last	11	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^concrete cube aprox size 1000 x 1000 x 1000mm high (South of Astro Pitch)	1	nr		
	Remove; steel poles				
B	Carefully take down and remove from site 1.5m high steel pole, grubbing up foundations, take down below ground level and backfill if necessary with clause 804 hardcore to formation level of new works; dispose all materials off site to a licensed dump, making good to disturbed areas (East of existing Astro Pitch)	1	nr		
	Remove; flood lighting and poles				
C	Carefully take down and store on site (within campus grounds location to be agreed) for re-use by CIT 10.0m high flood light poles and associated lights, grubbing up foundations, take down below ground level and backfill if necessary with clause 804 hardcore to formation level of new works; dispose all materials off site to a licensed dump, making good to disturbed areas	4	nr		
	Remove; lighting and poles				
D	Carefully take down and remove fron site 3.0m high light poles and associated lights, grubbing up foundations, take down below ground level and backfill if necessary with clause 804 hardcore to formation level of new works; dispose all materials off site to a licensed dump, making good to disturbed areas	16	nr		
	Remove; lighting and poles				
E	Carefully take down and remove from site on site 3.0m high camera poles and associated camera, grubbing up foundations, take down below ground level and backfill if necessary with clause 804 hardcore to formation level of new works; dispose all materials off site to a licensed dump, making good to disturbed areas	1	nr		
	Existing drainage				
F	Excavate, trace existing uPVC storm water drain; size 150mm diameter; average 500 - 1000 mm deep; disconnect, seal off end, expose, grub up and dispose existing pipe; de-orderize ground and backfill with hardcore on completion; make good all work disturbed	250	m		
G	Excavate, trace existing uPVC foul water drain; size 100mm diameter; average 500 - 1000 mm deep; disconnect, seal off end, expose, grub up and dispose existing pipe; de-orderize ground and backfill with hardcore on completion; make good all work disturbed	50	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Excavate, trace existing uPVC watermain; size 150mm diameter; average 500 - 1000 mm deep; disconnect, seal off end, expose, grub up and dispose existing pipe; de-orderize ground and backfill with hardcore on completion; make good all work disturbed	50	m		
B	Excavate, trace existing uPVC land drainage to astro pitches; size 80mm diameter surrounded in pea gravel and 100 gauge geotextile layer; average 500 - 1000 mm deep; disconnect, seal off end, expose, grub up and dispose existing pipe; backfill with hardcore on completion; make good all work disturbed	60	m		
	Existing manholes				
C	Break-out and remove existing storm manholes and cover size 900 x 900 x 1500 mm deep aprox, including associated pipework, making redundant section of existing pipework, backfilling upon completion and make good all work disturbed to match existing.	8	nr		
D	Break-out and remove existing foul manholes and cover size 900 x 900 x 1500 mm deep aprox, including associated pipework, making redundant section of existing pipework, backfilling upon completion and make good all work disturbed to match existing.	5	nr		
E	Break-out and remove existing watermain chamber and cover size 900 x 900 x 1500 mm deep aprox, including associated pipework, making redundant section of existing pipework, backfilling upon completion and make good all work disturbed to match existing.	5	nr		
	Existing gullies				
F	Break-out and remove existing road gullies, including associated pipework, making redundant section of existing pipework, backfilling upon completion and make good all work disturbed to match existing.	8	nr		
G	Break-out and remove existing aco drainage channel, including associated pipework, making redundant section of existing pipework, backfilling upon completion and make good all work disturbed to match existing.	71	m		
	Existing ducting				
H	Excavate, trace existing power duct; size 1nr x 120mm diameters; average 500 - 1000 mm deep; disconnect, seal off end, expose, grub up and dispose existing duct; backfill on completion; make good all work disturbed	195	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Excavate, trace existing fibre optic duct; size 1nr x 100mm diameters; average 500 - 1000 mm deep; disconnect, seal off end, expose, grub up and dispose existing duct; backfill on completion; make good all work disturbed	99	m		
B	Excavate, trace existing lighting duct; size 1nr x 100mm diameters; average 500 - 1000 mm deep; disconnect, seal off end, expose, grub up and dispose existing duct; backfill on completion; make good all work disturbed	156	m		
	Telemetry chambers				
C	Break-out and remove existing blockwork access chamber and reinforced concrete cover and base, size 900 x 900 x 1000 mm deep aprox, including associated ductwork; grubbing up foundations and backfill if necessary with clause 804 hardcore to formation level of new works; dispose all materials off site to a licensed dump, making good to disturbed areas	3	nr		
	Mini pillar and base				
D	Break-out and remove existing reinforced concrete base, size 1000 x 1000 x 300 mm deep aprox, including associated mini pillar and ductwork; grubbing up foundations and backfill if necessary with clause 804 hardcore to formation level of new works; dispose all materials off site to a licensed dump, making good to disturbed areas	5	nr		
	Works associated with Re-alignment of Existing Duct				
E	Re-aligning of existing 3 x 125mm cable duct/cable, include for all necessary tracing, exposing, moving and protecting existing live duct/service, all necessary additional sections of duct and fittings, excavation (including hand-dig), beds and surrounds, marker tape, backfilling in hardcore, as required, liasing with CIT, and other utility companies, including all associated attendances, and co-ordination of same, making good to all structures and finishes disturbed.	50	m		
	Alterations				
F	Tie in works with existing building	1	item		
	EXCAVATION AND EARTHWORK:				
	Excavation				
	Removing: trees				
G	^^^girth < or = to 0.45m (isolated locations)	10	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^> 0.45 < or = to 1.5m (existing tree and root base to be removed as per BSM Drawing Nr. 1000)	17	nr		
	Removing: hedges				
B	^^^aprox size 2000 x 3000mm high (at overgrowth area adjacent to pitches)	17	m		
C	^^^aprox size 1000 x 1500mm high (at existing carpark as per as per BSM Drawing Nr. 1000)	52	m		
	Removing: site vegetation				
D	^^^site vegitation including tress < or = to 0.45m girth, bushes, undergrowth and scrub	1904	m2		
	Excavation				
	Topsoil				
E	^^^average depth; 200 mm thick	1904	m2		
	Reduced levels				
F	^^^depth < or = 2.00 m	3340	m3		
G	^^^depth < or = 2.00 m (Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	158	m3		
	Soft spots; depth				
H	^^^< or = to 2.00m	100	m3		
	Extra on excavation items for				
J	^^^breaking out solid rock		m3		
K	^^^breakup existing hard surfaces, 100mm thick tarmac road and 200mm hardcore including additional extra over cost for handling and disposal off site	2303	m2		
L	^^^^^^saw cut to last		m		
M	^^^breakup existing hard surfaces, 100mm thick tarmac road and 200mm hardcore including additional extra over cost for handling and disposal off site (Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	216	m2		
N	^^^^^^saw cut to last	14	m		
P	^^^breakup existing hard surfaces, 100mm thick Astro pitch tarmac and 200mm hardcore including additional extra over cost for handling and disposal off site	2900	m2		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^breakup existing hard surfaces, 100mm thick tarmac paths and 200mm hardcore including additional extra over cost for handling and disposal off site	204	m2		
B	^^^^^^saw cut to last	5	m		
C	^^^breakup existing hard surfaces, 100mm thick concrete footpath and 200mm hardcore including additional extra over cost for handling and disposal off site (Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	100	m2		
D	^^^^^^saw cut to last	5	m		
E	^^^breakup existing hard surfaces, 100mm thick paving and 200mm hardcore (Paving stored on site for re-use)	900	m2		
F	^^^breakup existing hard surfaces, 100mm thick paving and 200mm hardcore (Paving stored on site for re-use - Shelter South of Existing Arena)	22	m2		
G	^^^breakup existing hard surfaces, 100mm thick gravel paths and 200mm hardcore including additional extra over cost for handling and disposal off site	68	m2		
H	^^^breakup existing hard surfaces, astro playing surface (consisting of 70mm thick sysnthetic grass carpet with rubber and sand infill, 75mm thick shock pad, 25mm thick 6-10mm clean washed stone, 100mm thick of 20-40 clean washed stone, 150mm thick 50-75mm clean washed stone) - (astro play pitches)	2900	m2		
	<u>Disposal</u>				
	<u>Water</u>				
J	^^^surface	1	item		
K	^^^ground as per SI Report	1	item		
	<u>Top soil</u>				
L	^^^off site	476	m3		
	<u>Excavated material</u>				
M	^^^off site	3440	m3		
N	^^^off site (Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	120	m3		
	<u>Filling</u>				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Hardcore filling to be 6F1/2 material to SR21-Annex E; laid and compacted in 225mm layers				
A	^^^> 250mm, filling soft spots	100	m3		
	Protection				
B	Protect all existing services	1	item		
C	Protect all adjoining buildings and structures	1	item		
D	Protect all existing trees adjoining main road	1	item		
E	Protect all existing finishes being maintained outside area of site as detailed on Architects Drawing	1	item		

Description	Qty	Unit	Rate	Amount
COLLECTION				
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(10) PREPARED SITE **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(40) ROADS, PATHS AND PAVING				
	(40) ROADS, PATHS AND PAVING				
	EXCAVATION AND EARTHWORKS:				
	Excavation				
	Filling;				
	Sub-base Type T1 Structural material complying with IS EN 13242:2002, SR21:2014, spread and compacted in 200 mm layers to falls in accordance with Annex B of IS 888;2016				
	To make up levels				
A	^^^< or = 250 mm (tarmac road)	228	m3		
B	^^^< or = to 250 mm (paving)	345	m3		
C	^^^< or = to 250 mm (Various locations - pedestrian crossing)	3	m3		
D	^^^< or = to 250 mm (gravel)	35	m3		
E	^^^< or = to 250 mm (gravel to edge of building)	11	m3		
F	^^^< or = to 250 mm (tiered steps)	4	m3		
G	^^^< or = to 250 mm (path, paving & gravel etc - Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	56	m3		
	Sub-base 6F1/2 Structural material complying with IS EN 13242:2002, SR21:2014, spread and compacted in 200 mm layers to falls in accordance with Annex B of IS 888;2016				
H	^^^< or = 250 mm (tarmac road)	301	m3		
J	^^^> 250 mm (tarmac road)	492	m3		
	Surface Treatment.				
	T3. Structural 0/4mm blinding; to hardcore base				
K	^^^23mm thick (tarmac road)	1139	m2		
L	^^^23mm thick (tarmac road - Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	150	m2		
	Geotextiles				

	Description	Qty	Unit	Rate	Amount
	Thermally bonded nonwoven geotexile, made of 100% polypropylene which is designed to have a combination of a high initial modulus (stiffness), high elongation (typically > 50%) with minimum thickness 0.52mm and outstanding uniformity, to give superior performance, in all directions suitable for landscaping applications and tested in accordance with BS EN ISO 9863-1:2016.; geotextile membrame be laid in accordance with the manufacturers instructions in the locations shown on Architects Drawing T0002 Rev T1. Membrane shall be resistant to commonly encountered soil chemicals, mildew and insects and is non-biodegradable; all as per Architects Specification Section 32 14 00 Unit Paving - PAV-085				
	Horizontal				
A	^^^girth > 225 mm	3752	m2		
B	^^^girth > 225 mm (Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	311	m2		
	Heavy duty weed control membrane; 150 mm laps; no allowance in measurement for laps				
	Horizontal				
C	^^^girth > 225 mm	50	m2		
	CONCRETE WORK				
	Insitu Concrete				
	Reinforced, in-situ concrete, grade C32/40 (to IS EN 206), exposure class XC2 / XA1; with 50% GGBS content; Mix A in accordance with Engineer's Specifications SE-0004 and SE-0005; poured on or against earth or unblinded hardcore and well vibrated around reinforcement in:				
D	^^^Foundations steps (tiered seating)	12	m3		
	Reinforced in-situ concrete, grade C40/50 to IS EN 206, exposure class XF3, with 50% GGBS content; Mix B in accordance with Engineer's Specifications SE-0004 and SE-0005; placed between formwork and well vibrated around reinforcement in:				
	Paths				
E	^^^< or = to 150mm (Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	13	m3		
	Ramps and steps				

	Description	Qty	Unit	Rate	Amount
A	^^^> 150mm (rear carpark as per HL Drawing 0016)	3	m3		
	Upstands				
B	^^^< or = to 0.10m2	1	m3		
	Sundries				
	Surface finishes				
C	^^^trowel finish to paths	83	m2		
D	^^^trowel finish to top of foundation steps	17	m2		
E	^^^trowel finish to top ramps / steps	25	m2		
F	^^^trowel finish to top upstand	1	m2		
	Reinforcement				
	Reinforcement bars; high yield type 2 deformed steel bars to BS 4449 and BS 8666				
	Spacers and chairs at contractors discretion				
	Foundations to tiered seating (100 kg/m3)				
	Bar; straight or bent				
G	^^^nominal size > 12 < or = to 25 mm diameter	1.20	t		
	Reinforcement mesh fabric; BS 4483;				
	Reference A393 (6.16kg/m2); 300mm minimum side and end laps				
H	^^^horizontal to ramps and steps (rear carpark as per HL Drawing 0016)	25	m2		
	Formwork				
	Formwork surface finish to concrete; Type "Ordinary" finish as defined in Section 1.9 of the National Structural Concrete Specification (NSCS) 4th edition				
	Sides of foundations				
J	^^^height, > 250 < or = to 500mm, to foundations steps	43	m		
	Sides of upstands				
K	^^^height,< or = to 250mm, raking to profile of steps	7	m		
	Side of risers				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^height,< or = to 250mm, raking to profile of steps	9	m		
	Sides of ramps and steps				
B	^^^height,< or = to 250mm	27	m		
	Precast concrete				
	Precast concrete tiered seating; units to concrete strength class C35/45, environmental / exposure class XF4, dimensional tolerance to NEN 2889, shot-blasted bush-hammered finish, minimum wet pendulum test slip resistance value PTV > 50; ref. type: Cassidy Brothers precast concrete seat (Capital City / Cardiff Lane mix per reference images) or equivalent; tier profile, tread and riser dimensions and 1:80 top-surface fall; as per BSM Detail F2 Drawing Nr. 1052 and Architects Specification Q50/111				
C	^^^size 550 x 450mm high	27	m		
D	^^^^^^extra over for 45 degrees bend	5	nr		
E	^^^^^^extra over for tapered end	1	nr		
	METALWORK:				
	Non-Structural				
	Composite items; railing panels & associated framing				
	To match existing as per BSM Drawing Nr. 1051: - composite mild steel balustrade and handrail; hot dipped galvanised grade S355 to comply with BS 5950: Part 1; consisting of 70 x 12mm flat uprights at 100mm centres; 70mm x 25mm flat frame top rail and 70 x 12mm flat bottom rail factory welded to uprights; all fixed to top of reinforced concrete base with counter sunk Hilti HUS-3C galvanised M10's at 200mm c/c; with and including 2nr 50mm diameter satin finished stainless steel (grade 316) illuminated LED lit handrails supported on 12mm thick plate bracket with handrail welded to 70mm x 12mm vertical bars at 1000mm centres at 600mm & 900mm high; all galvanised with and including factory applied primer and high performance architectural finish coat applied over galvanised finish; include for all necessary assembly, bolts, bolting up, welding, screws, fixings and labours; as per approval				
F	^^^raking	5	m		
	extra over balustrades for:				
G	^^^ends	4	nr		

	Description	Qty	Unit	Rate	Amount
	SURFACE PAVINGS, FENCING AND LANDSCAPING:				
	In - Situ Surface Paving				
	Surface wearing course 40mm AC14 close graded asphalt concrete to Clause 912; on base course 60mm AC 20 dense base asphalt concrete base course to Clause 906; as per NRA Specification for Roadworks				
	Roads				
A	^^^to falls and cross-falls (new Accessible Parking & Bus laydown)	1139	m2		
B	^^^to falls and cross-falls (Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	126	m2		
C	^^^to falls and cross-falls (Raised table - Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	25	m2		
	Joints				
D	Fair joint with existing carpark finishes	29	m		
E	Fair joint with existing carpark finishes (Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	12	m		
	Line marking				
	Prepare and apply by hot pressure spray method thermoplastic material in 2 mm thick lines to B.S. 3262 Part 1 1960, on macadam surface;				
F	^^^100 mm wide broken line to road divide; white.	15	m		
G	^^^100 mm wide solid line to parking bays; white	126	m		
H	^^^100 mm wide solid line to parking bays; white (Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	57	m		
J	^^^100 mm wide solid line to disabled parking bays; white	29	m		
K	^^^200mm wide Solid "STOP" line;	15	m		
L	^^^Lettering "STOP" wording;	2	sets		
M	^^^Lettering "BUS SET DOWN" wording;	1	sets		
N	^^^direction arrow; white	5	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^direction arrow with turn arrow; white	3	nr		
B	^^^disabled parking bay symbol; white	4	nr		
C	^^^zebra crossing consisting of 1700 x 500 mm alternate painting	12	m		
	Pre Formed Pavings and Edging Units				
	Take from storage and existing concrete flag paving; cleaned down; relaided and jointed to staggered stretcher bond pattern; size 300 x 200 x 80mm; in various selected colours patterns; laid on 50mm grit sand bedding screeded and levelled; include for compacting pavers with rubber-soled plate vibrator, filling 3mm joints with kiln-dried jointing sand, sweeping off excess and refilling as necessary; all per manufacturer's written instructions; as per BSM Specification clause Q21/115 and Drawing Nrs. BSM -L-1002 & BSM-L-1050				
	Pavings				
D	^^^80 mm thickness; laid to falls	822	m2		
	Tobermore Fusion concrete paving flags, or equivalent; size 300 x 200 x 80mm; exposed granite aggregate, textured square-edge finish; colours 70% Silver / 30% Mid Grey laid in a random blended pattern to stretcher bond; slip/skid resistance extremely low (wet), min. SRV 75 (>75 USRV); manufactured to BS EN 1339 :2003, installed to BS 7533-4:2006; factory-applied protective sealant; laid on 50mm grit sand bedding screeded and levelled; include for compacting pavers with rubber-soled plate vibrator, filling 3mm joints with kiln-dried jointing sand, sweeping off excess and refilling as necessary; all per manufacturer's written instructions; as per BSM Specification clause Q21/115 and Drawing Nrs. BSM-L-1002 & BSM-L-1050				
	Pavings				
E	^^^80 mm thickness; laid to falls	1343	m2		
F	^^^80 mm thickness; laid to falls (Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	20	m2		
	Margins				
G	^^^200 x 100 x 80mm Graphite edge trim	358	m		
H	^^^200 x 100 x 80mm Graphite edge trim, curved	64	m		

	Description	Qty	Unit	Rate	Amount
	Sundries				
A	^^^extra over for curved cutting	45	m		
B	^^^Extra over for infilling to 600 x 600mm recessed cover tray with paving units to match adjacent surface (per detail S1 — concrete paving/block, laid to matching bond and pattern), bedded and jointed to BS 7533-3:2005 with factory-applied sealant, laid in staggered pattern to match	27	nr		
C	^^^recessed in-ground service unit, Kent Stainless or equivalent; grade 316L / 304 stainless steel tray, 600 x 450 x 70mm deep; loading class BS EN 124 B125 / FACTA B; installed to manufacturer's recommendations flush with adjacent surface, set in concrete surround; including excavation, forming recess, concrete surround and making good adjacent paving (detail S1) to a flush finish; excluding electrical fit -out, socket outlets, containment and connections (M &E / JVT scope, measured separately); as per Drawing MTUHPC-DR-BSM-L-1052 (detail GE).	2	nr		
D	^^^recessed in-ground water service unit, Kent Stainless or equivalent; grade 316L / 304 stainless steel tray, 450 x 400 x 70mm deep; loading class BS EN 124 B125 / FACTA B; installed to manufacturer's recommendations flush with adjacent surface, set in concrete surround; including excavation, forming recess, concrete surround and making good adjacent paving (detail S1) to a flush finish; excluding water supply, tap/valve, pipework and connections (plumbing / M&E scope, measured separately); as per Drawing MTUHPC-DR-BSM-L-1052 (detail GW).	2	nr		
	Tobermore Arto concrete block paving, colour Autumn, or equivalent; laid as contrast red band around edge of track to spectator area; size 220 x 55 x 80mm; slip/skid resistance extremely low (wet), min. SRV 75 (>75 USRV); manufactured to BS EN 1338:2003, installed to BS 7533-3:2005; factory-applied protective sealant; laid to stretcher bond on 50mm grit sand bedding screeded and levelled; include for compacting pavers with rubber-soled plate vibrator, filling 3mm joints with kiln-dried jointing sand, sweeping off excess and refilling as necessary; all per manufacturer's written instructions; as per Architects Specification clause Q21/117 and Drawing Nrs. BSM-L-1002 & BSM-L-1050 (detail S1, item 7).				
	Pavings				
E	^^^80 mm thickness; falls	135	m2		

	Description	Qty	Unit	Rate	Amount
	Sundries				
A	^^^extra over for curved cutting	133	m		
	Concrete corduroy hazard-warning tactile paving flags, or equivalent approved; buff colour; size 400 x 400 x 50mm; square edge; slip/skid resistance extremely low (wet), >75 USRV; to BS 7997:2003 (tactile surface indicators) and BS EN 1339:2003 (manufactured to BS EN 1338:2003, installed to BS 7533-3:2005); factory -applied protective sealant; laid to square bond; include for compacting, jointing to Engineer's specification, sweeping and cleaning; all per manufacturer's written instructions, TII Pedestrian Crossing Guidelines 2011 and DMURS 2013; as per Architects Specification clause Q21/119 and Drawing Nrs. BSM-L-1002 & BSM-L-1051				
	Pavings				
B	^^^50 mm thickness; to falls (isolated areas)	7	m2		
C	^^^50 mm thickness; to falls (to rear carpar ramp & steps as per HL Drawing Nr. 0016)	4	m2		
D	^^^50 mm thickness; to falls to edge of footpath at the road/car-park (disabled bay) interface Detail S8 Drawing Nr. BSM-L-1002 & BSM-L-1051	45	m2		
	'Blister tactile paving' or equivalent to BS EN 1339 :2003, BS7997 BS:2003, DDCEN-TS15209:2008; laid and jointed to pattern using selected paviors; size 400 x 400 x 50mm; in selected colour, including stainless steel 316 grade tactile paving studs in a square pattern at 67mm spacing; on 40mm thick T3. Structural 0/4mm sand blinding; include for compacting paviours with a suitable plate vibrator, include for filling joints with kiln dried jointing sand, sweeping away excess sand etc; clean, prepare and apply clear fluorinated acrylic copopymer paving sealer; in accordance with the manufacturers written instructions, all as per Architects Specification and Drawing Nr. BSM-L-1002 & 1050				
	Pavings				
E	^^^50 mm thickness; falls	11	m2		
F	^^^50 mm thickness; falls (Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	2	m2		
G	^^^50 mm thickness; to falls (to rear carpar ramp & steps as per HL Drawing Nr. 0016)	4	m2		

	Description	Qty	Unit	Rate	Amount
	Golden amber Ballylusk gravel (6mm down to dust, no fines) or equivalent; 50mm deep; laid to falls and compacted to supplier's recommendations by vibro -roller, scabby areas blinded with fines and rolled in, roller wetted (not the gravel) and rolled with vibration off to float fines to a well-bonded finish, surface dried out before pedestrian access; but excluding sub-base, grit-sand blinding; include for laying to falls and edging to kerbs, tactile flags and rain-garden/planter interfaces; per Architects Drawing Nr. BSM-L-1050 and Specification clause Q23/130.				
A	^^^50mm thick	231	m2		
B	^^^^^^extra over for cell-web reinforced gravel system Geosynthetics Golpla or equivalent	39	m2		
	Gravel trim to building edge; 50mm thick layer of select angular stone 11–14mm, no fines; 500mm wide; laid and levelled to falls; ref detail S7				
C	^^^50mm thick	69	m2		
D	^^^50mm thick, Ballylusk (Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	57	m2		
	Kerbs				
	Tobermore Fusion silver concrete kerbs, or equivalent; colour Silver, exposed granite aggregate finish; manufactured to BS EN 1340:2003, installed to BS 7533-6:1999 and laid to RCD/1100/9 (TII specification); factory-applied sealant; including foundation and haunching in concrete Grade C20 (Mix ST4); jointed and pointed in coloured cement mortar (6mm tooled joints, 1:3 colour-matched); include for excavation, disposal, backfilling and formwork as necessary; including all ends, angles and radius units; per BSM Drawing Nr. BSM-L-1050 and Specification clause Q10/110.				
E	^^^125 x 225 x 915mm upstanding kerb (ref. KA)	152	m		
F	^^^125 x 225 x 915mm upstanding kerb, curved (ref. KA)	28	m		
G	^^^125 x 225 x 915mm upstanding kerb (ref. KA) - (Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	57	m		
H	^^^125 x 225 x 915mm flush kerb (ref. KB)	460	m		
J	^^^125 x 225 x 915mm flush kerb, curved (ref. KB)	24	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^225 x 125 x 915mm flush kerb (ref. KB/KC)	158	m		
B	^^^225 x 125 x 915mm flush kerb, curved (ref. KC)	67	m		
C	^^^125 x 225 x 915mm bullnosed kerb (ref. KD)	6	m		
	Curved granite gulley block (kerb) to dished drain; natural granite; radiused on plan to suit dished drain; bush-hammered finish to top/walking surface, flamed finish to dished channel face; flat at ends to butt up against the dished drain cover; laid to falls; including foundation and haunching in concrete Grade C20 (Mix ST4), jointed and pointed in coloured cement mortar (6mm tooled joints, 1:3 colour-matched); with adjacent surface made good to detail S1; installed to supplier's recommendations; as per BSM Drawing MTUHPC-DR -BSM-L-1052 (detail DD) and Landscape Works Specification clauses Q10/113 & Q10/115.				
D	^^^300 x 300mm dished drain (ref. DD)	47	m		
E	^^^300 x 300mm dished drain, curved (ref. DD)	40	m		
	Hydraulically pressed pre - cast concrete kerbs stone; half batter type to BS EN 1340; including foundation and haunching in concrete Grade 25N/ mm2; but jointed and pointing with cement mortar; include for excavation; disposal; backfilling and formwork as necessary; including all ends and angles; per Architects Drawing Nr. T6613 and Specification 32 14 00 and PAV-010				
F	^^^190 x 100 x 160 mm	131	m		
G	^^^190 x 100 x 160 mm; curved	30	m		
H	^^^190 x 100 x 160 mm; laid flat (dropped kerb)	5	m		
J	^^^190 x 100 x 160 mm; laid flat (dropped kerb) - (Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	3	m		

Description	Qty	Unit	Rate	Amount
COLLECTION				
Page No. BQ/624				
Page No. BQ/625				
Page No. BQ/626				
Page No. BQ/627				
Page No. BQ/628				
Page No. BQ/629				
Page No. BQ/630				
Page No. BQ/631				
Page No. BQ/632				
Page No. BQ/633				
(40) ROADS, PATHS AND PAVING **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(50.1) SITE SERVICES MAINLY PIPED AND DUCTED (Foul Sewer)				
	(50.1) SITE SERVICES MAINLY PIPED AND DUCTED (Foul Sewer)				
A	Below-ground drainage shall comply with HL Specification for Drainage MTUHPAC-SP-HLC-SE-0001 (Rev 0), which takes precedence, including the primary standards at clause 1.7 and the material standards at clause 2 for the pipe type specified in each location (concrete IS EN 1916 / uPVC IS EN 1401 SN8 / PP structured-wall IS EN 13476 SN8 / clay BS EN 295 / double-contained PP & SS to Section 16-17). Testing to BS EN 1610-2015 and BS EN 752:2017; bedding/sidefill to WIS 4-08-02; workmanship to BS 8000-14. Per clause 1.6, the most recent edition of each standard is deemed to apply.		Note		
	DRAINAGE:				
	Below Ground				
	The Following Work is Inside the Boundary of the Building				
	Excavate trenches; backfilling with hardcore granluar fill to SR21:2014 Annex E, carting surplus excavated material off site to a tip provided by the contractor; compacting in 150 mm layers				
	Pipes; < or = 250 mm nominal diameter				
B	^^^average depth < or = to 500 mm	50	m		
C	^^^average depth 500 to 1000 mm	50	m		
	Disposal				
D	^^^ground water	1	item		
E	^^^surface water	1	item		
	In-situ concrete; Grade 20; 20 mm maximum size limestone aggregate; piped wrapped in 1 layer of plastic ; to the following pipes:				
	Beds and surrounds				
F	^^^600 x 500 mm; pipe 150 mm nominal diameter	100	m		
	Vertical casing				
G	^^^450 mm x 450 mm; pipe 150 mm nominal diameter	12	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	uPVC-U pipes & fittings to IS EN 1401, Stiffness Class SN8 (8kN/m2), jetting resistance 2,600psi (180 Bar) per WRc Sewer Jetting CoP; ancillary fittings BS 4660 (110/160); flexible spigot & socket joints with elastomeric rubber-ring seals to BS EN 681, watertight; all as per HL SE-0001 Sec 2/4/5/6				
	Pipes				
A	^^^nominal pipe diameter 150 mm	100	m		
B	^^^nominal pipe diameter 150 mm; short lengths < or = to 3.00m	23	nr		
	Extra over pipes for which they occur				
C	^^^^^fittings; bends 150 mm diameter	69	nr		
D	^^^^^fittings; Y - junctions 150 mm diameter	22	nr		
	Pipe accessories				
	Rodding eye				
E	uPVC rodding eye; recessed aromatic double sealed cover and frame with selected floor finish (e/m) set into reinforced concrete floor slab, jointed to uPVC pipes with socket joints welded and neoprene "O" rings, bedding and surrounding in concrete Grade 20.20 and include for any additional excavation and disposal off site.	5	nr		
	Floor Drain				
	Floor drain, Grade 304 SS bell-trapped commercial gully, 225 mm fixing plate / 110 mm trapped outlet, 0.9 L/sec, flat SS screw-fixed grating, barefoot use, flexible-sheet clamp; include for additional necessary excavation, disposal and concrete thickening to slab; all as per Architects Specification R11/315				
F	^^^generally	6	nr		
	Testing and commissioning				
	Testing				
G	^^^Allow for testing drainage to the satisfaction of the Engineer and the Local Authority.	1	Item		

	Description	Qty	Unit	Rate	Amount
	The Following Work is Outside the Boundary of the Building and Within the Boundary of the Site				
	Excavate trenches; backfilling with hardcore granluar fill to SR21:2014 Annex E, carting surplus excavated material off site to a tip provided by the contractor; compacting in 150 mm layers				
	Pipes; < or = 250 mm nominal diameter				
A	^^^average depth 500 to 1000 mm	59	m		
B	^^^average depth 1000 to 1500 mm	54	m		
C	^^^average depth 1500 to 2000 mm	4	m		
	Extra over excavating trenches irrespective of depth				
D	^^^extra breaking weathered rock average 500 mm thick	59	m		
E	^^^extra breaking weathered rock average 1000 mm thick	59	m		
F	^^^extra breaking solid limestone rock average 500 mm thick	54	m		
G	^^^around existing services crossing excavations; 100 mm diameter uPVC high pressure watermain.	3	nr		
H	^^^around existing services crossing excavations; 100 mm diameter uPVC surface water drain.	3	nr		
J	^^^around existing services crossing excavations; 150 mm diameter uPVC surface water drain.	3	nr		
K	^^^around existing services crossing excavations; 225 mm diameter uPVC surface water drain.	3	nr		
L	^^^around existing services crossing excavations; 1 number 150 mm diameter uPVC electrical ducts.	3	nr		
M	^^^around existing services crossing excavations; 3 number 100 mm diameter uPVC electrical ducts & 3 number 100mm diameter Comms ducts	3	nr		
N	^^^around existing services crossing excavations; 150 mm diameter uPVC foul water drain.	3	nr		
	Disposal				
P	^^^ground water	1	item		
Q	^^^surface water	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Granular material; Type B Granular material, Pea Gravel well compacted graded from 9.5mm to 4.75mm as Engineers Drawing MV104-107				
	Beds and surrounds				
A	^^^600 x 500 mm; pipe 150 mm nominal diameter	58	m		
	In-situ concrete; Grade C20/25 mm maximum size limestone aggregate; piped wrapped in 1 layer of plastic as per Engineers Specification; to the following pipes:				
	Beds and surrounds				
B	^^^550 x 450 mm; pipe 150 mm nominal diameter	59	m		
	uPVC-U pipes & fittings to IS EN 1401, Stiffness Class SN8 (8kN/m2), jetting resistance 2,600psi (180 Bar) per WRc Sewer Jetting CoP; ancillary fittings BS 4660 (110/160); flexible spigot & socket joints with elastomeric rubber-ring seals to BS EN 681, watertight; all as per HL SE-0001 Sec 2/4/5/6				
	Pipes				
C	^^^nominal pipe diameter 150 mm	116	m		
	Extra over pipes for which they occur				
D	^^^^^fittings; bends 150 mm diameter	12	nr		
E	^^^^^fittings; branches 150 to 150 mm diameter		nr		
F	^^^^^Riser pieces to uPVC gully trap 150 mm diameter.	2	m		
G	^^^^^600 mm long rocker pipes 150 mm diameter at junctions with manholes.	9	nr		
	Access junctions.				
	uPVC armstrong junction; with 1 nr. 150 mm and 1 nr. 150 diameter inlet and 1 nr. 150 mm diameter outlet, galvanized iron cover and frame, jointed to uPVC pipes with socket joints and rubber, bedding and surrounding in concrete Grade 20.20 and include for any additional excavation and disposal off site.				
H	^^^500 x 500mm, 100mm outlet, Pvc cover and frame.	4	nr		
J	^^^^^^Extra over last for Riser pieces	2	m		
K	^^^^^^extra over for recessed galvanised cover and frame to take paving as specified	4	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Manholes				
	Precast concrete manholes; excavate manhole pit and cart excavated material off site; grade and level bottom of pit; including any necessary earthwork support; 75 mm blinding concrete under base; granular surround/backfill - SR21:2014 Annex E hardcore where within 1.2 m of a building or structure, Clause 808 unbound material within 500 mm of concrete / cement-bound surfaces and Clause 804 material elsewhere; in-situ reinforced concrete base grade C30/37 to IS EN 206 (20 mm agg), 225 mm minimum thickness beneath channel, reinforced with high-tensile bar to Engineer's design (min 40 mm cover); prefabricated half-round channel inverts bedded in C25/30, formed semi-circular and evenly tapered to branches, pipe/channel joint located min 100 mm inside face of chamber; benching in C25/30 finished 1:3 sand/cement to a dense smooth 20 mm minimum topping, sloped 1:30 from the vertical edge and brought up to crown of incoming sewer; precast concrete chamber/shaft rings to IS EN 1917 / IS 420 hoisted and set to required depth, rubber sealing-ring gaskets to all joints; 150 mm minimum C20/25 (20 mm agg) cast in-situ concrete surround to chamber rings; precast heavy-duty reinforced concrete reducing/cover slab (or cast in-situ C30/37, 225 mm min) bedded on chamber with mortar and proprietary bitumen/resin mastic sealant ; 215 mm access shaft in solid engineering brick Class B to IS EN 771-3 bedded in M30 mortar (2–4 courses) and/or precast concrete cover-frame seating rings, 600 × 600 clear opening; galvanised rungs to detail embedded 125 mm into walls at 300 mm c/c over benching where invert depth exceeds 1 m (ladder for depths >3 m per cl.8.17); two-coat 12 mm cement render as required; include for all opes, pipe entries with rocker / short length pipes and flexible joints, building in, making up levels, all necessary formwork, working space and making good to all work and finishes disturbed; cover and frame ductile iron IS EN 124 Class D400, min 600 mm clear opening, bedded on 3:1 mortar (cover measured elsewhere); all as HL SE-0001 Section 8 and Details Drawing Nr. 0010				
	Internal dimensions 1050 mm diameter				
A	^^^depth 500 to 1000 mm (F1)	1	nr		
B	^^^depth 1000 to 1500 mm (F2)	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^depth 1000 to 1500 mm built on existing 300mm diameter foul sewer including all necessary excavation, disposal, backfilling and reinstatement; forming openings; adapting channels and benching as required; including necessary diversion during the progress of the work; making good all work disturbed (F3)	1	nr		
B	^^^depth 1500 to 2000 mm (F4)	1	nr		
C	^^^depth 1500 to 2000 mm built on existing 300mm diameter foul sewer including all necessary excavation, disposal, backfilling and reinstatement; forming openings; adapting channels and benching as required; including necessary diversion during the progress of the work; making good all work disturbed (F5)	1	nr		
	Extra over excavating irrespective of depth				
D	^^^extra breaking weathered rock	7	m3		
E	^^^extra breaking solid limestone rock	4	m3		
	Sundries on manholes				
F	^^^channels; 150 mm diameter; straight channel, bedded and jointed in cement mortar (1:1), 1050 mm long	1	nr		
G	^^^channels; 150 mm diameter; curved channel, bedded and jointed in cement mortar (1:1), 1050 mm long	4	nr		
H	^^^benching; in C25/30 finished 1:3 sand/cement to a dense smooth 20 mm minimum topping, sloped 1:30 from the vertical edge and brought up to crown of incoming sewer	5	nr		
J	^^^step irons; pvc coated galvanized mild steel to B.S.1247; 355 mm wide built into precast concrete walls.	25	nr		
K	^^^recessed manhole cover tray, multi-part recessed type, Class D 400; recess suitable for concrete-block-paving/stone infill, min. 95 mm deep; installed to BS EN 7533-3:2005; incl. factory-applied sealant bedding; oriented parallel to paving edge to align with adjacent paving pattern; as per BSM Detail S3 Drawing Nr. 1050 and HL approval	5	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Existing Services				
A	Particulars of all known existing services will be indicated to the Contractor on site. However, Contractors shall be entirely responsible for location the positions of all services and will be required to carry out on-site surveys including all necessary investigation pits/hand digging to determine location/route of all underground services, in grass and tarmacadam areas, together with tracing routes of overhead services, using his best endeavors to determine the position of all existing services, with results of the survey to be handed over to the Engineer prior to starting works on-site. The Contractor shall make good at his own expense, any damage whatsoever to existing services to the complete satisfaction of and in accordance with the Employers Representitve and to the satisfaction of the Statutory Authority concerned and shall keep the Employer indemnified at all times from claims in connection with the damage. All services that are encountered during the excavation, shall be adequatley supported and protected. Existing sewers and drains shall not be used for discarging of ground water from excavations without writted concent. No drain or pipe of any description shall be disturbed until it has been inspected. The Contractor shall also to ensure that services of adjoining Buildings are to remain operational throughout the Contract.	1	item		
	Survey of Existing Drainage System				
B	The Contractor shall undertake a CCTV survey of the existing drainage system serving prior to commencement of the works, and shall present same with an associated Report to the ER and Employers Consultant Engineer prior to commencement of the works. The Contractor shall allow for all associated costs for same against this item.	1	item		
	Maintaining Existing Drains				
C	The Contractor shall allow for maintaining existing drainage and flows during the course of the works.	1	item		
	TESTING & COMMISSIONING				
	Testing, sterilisation and commissioning (after completion of the works, and prior to Substantial Completion)				
	Drainage System				
D	^^^Allow for cleaning out all new drains, removal and disposal of all waste/rubble, and necessary making good upon completion.	1	item		

	Description	Qty	Unit	Rate	Amount
A	^^^Allow for testing, sterilisation and commissioning drainage to the satisfaction of the Engineer.	1	item		
B	^^^Allow for CCTV surveys of all drains and submit same together with a Report to the Engineer for review prior to Substantial Completion	1	item		
C	^^^Allow for all necessary retesting, and CCTV surveys and associated Reports, as required.	1	item		
				To Collection €	

Description	Qty	Unit	Rate	Amount
COLLECTION				
Page No. BQ/635				
Page No. BQ/636				
Page No. BQ/637				
Page No. BQ/638				
Page No. BQ/639				
Page No. BQ/640				
Page No. BQ/641				
Page No. BQ/642				
(50.1) SITE SERVICES MAINLY PIPED AND DUCTED (Foul Sewer) Carried to Summary				

	Description	Qty	Unit	Rate	Amount
	(50.2) SITE SERVICES MAINLY PIPED AND DUCTED (Storm Sewer)				
	(50.2) SITE SERVICES MAINLY PIPED AND DUCTED (Storm Sewer)				
A	Below-ground drainage shall comply with HL Specification for Drainage MTUHPAC-SP-HLC-SE-0001 (Rev 0), which takes precedence, including the primary standards at clause 1.7 and the material standards at clause 2 for the pipe type specified in each location (concrete IS EN 1916 / uPVC IS EN 1401 SN8 / PP structured-wall IS EN 13476 SN8 / clay BS EN 295 / double-contained PP & SS to Section 16-17). Testing to BS EN 1610-2015 and BS EN 752:2017; bedding/sidefill to WIS 4-08-02; workmanship to BS 8000-14. Per clause 1.6, the most recent edition of each standard is deemed to apply.		Note		
	DRAINAGE:				
	Below Ground				
	The Following Work is Inside the Boundary of the Building				
	Excavate trenches; backfilling with hardcore granluar fill to SR21:2014 Annex E, carting surplus excavated material off site to a tip provided by the contractor; compacting in 150 mm layers				
	Pipes; < or = 250 mm nominal diameter				
B	^^^average depth 500 to 1000 mm (siphonic drainage)	70	m		
C	^^^average depth 500 to 1000 mm (rainwater drainage)	23	m		
	Disposal				
D	^^^ground water	1	item		
E	^^^surface water	1	item		
	In-situ concrete; Grade 20; 20 mm maximum size limestone aggregate; piped wrapped in 1 layer of plastic ; to the following pipes:				
	Beds and surrounds				
F	^^^650 mm x 450 mm; pipe 150 mm nominal diameter	93	m		
	Vertical casing				
G	^^^550 mm x 450 mm; pipe 150 mm nominal diameter	7	m		

	Description	Qty	Unit	Rate	Amount
	uPVC-U pipes & fittings to IS EN 1401, Stiffness Class SN8 (8kN/m2), jetting resistance 2,600psi (180 Bar) per WRc Sewer Jetting CoP; ancillary fittings BS 4660 (110/160); flexible spigot & socket joints with elastomeric rubber-ring seals to BS EN 681, watertight; all as per HL SE-0001 Sec 2/4/5/6				
	Pipes				
A	^^^nominal pipe diameter 150 mm (siphonic drainage)	70	m		
B	^^^nominal pipe diameter 150 mm (rainwater drainage)	23	m		
C	^^^nominal pipe diameter 150 mm; short lengths < or = to 3.00m	5	nr		
	Extra over pipes for which they occur				
D	^^^^^fittings; bends 150 mm diameter	45	nr		
	Testing and commissioning				
	Testing				
E	^^^Allow for testing drainage to the satisfaction of the Engineer	1	item		
	The Following Work is Outside the Boundary of the Building and Within the Boundary of the Site				
	Excavate trenches; backfilling with hardcore granluar fill to SR21:2014 Annex E, carting surplus excavated material off site to a tip provided by the contractor; compacting in 150 mm layers				
	Pipes; < or = 250 mm nominal diameter				
F	^^^average depth 1000 to 1500 mm (perforated drainage pipes)	89	m		
G	^^^average depth 1500 to 2000 mm (perforated drainage pipes)	99	m		
	Excavate trenches; backfilling with hardcore granluar fill to SR21:2014 Annex E, carting surplus excavated material off site to a tip provided by the contractor; compacting in 150 mm layers				
	Pipes; < or = 250 mm nominal diameter				
H	^^^average depth 500 to 1000 mm	35	m		
J	^^^average depth 500 to 1000 mm (branches to building down pipes / road gullies)	53	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^average depth 500 to 1000 mm (branches to linear drainage channels)	79	m		
B	^^^average depth 500 to 1000 mm (perforated drainage pipes)	23	m		
C	^^^average depth 1000 to 1500 mm (branches to building down pipes / road gullies)	53	m		
D	^^^average depth 1000 to 1500 mm (isolated area for new road gully in carpark as per HL Drawing Nr. 0001)	3	m		
E	^^^average depth 1000 to 1500 mm (isolated area for run off to new cycle shelter as per HL Drawing Nr. 0001)	2	m		
F	^^^average depth 1000 to 1500 mm	67	m		
G	^^^average depth 1500 to 2000 mm	98	m		
H	^^^average depth 4000 to 4500 mm	16	m		
J	^^^average depth 4500 to 5000 mm	7	m		
	Pipes; > 250 < or = to 450mm nominal diameter				
K	^^^average depth 1000 to 1500 mm	20	m		
L	^^^average depth 1500 to 2000 mm	61	m		
M	^^^average depth 4500 to 5000 mm	8	m		
	Extra over excavating trenches irrespective of depth:				
N	^^^extra breaking weathered rock average 250 mm thick	243	m		
P	^^^extra breaking weathered rock average 500 mm thick	225	m		
Q	^^^extra breaking weathered rock average 1000 mm thick	148	m		
R	^^^extra breaking solid limestone rock average 500 mm thick	110	m		
S	^^^extra breaking solid limestone rock average 1000 mm thick	49	m		
T	^^^extra breaking solid limestone rock average 3000 mm thick	31	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^breaking up existing hard surfaces; tarmacadam road 100mm thick on hardcore average 250 mm thick; including saw cutting both sides; temporary reinstatement and full reinstatement with 40mm T3. Structural 0/4mm blinding, surface wearing course 40mm AC14 close graded asphalt concrete to Clause 912; on base course 60mm AC 20 dense base asphalt concrete base course to Clause 906; as per NRA Specification for Roadworks	17	m		
B	^^^next / alongside existing services; 225 mm diameter uPVC drain and maintain existing flows during works.	10	m		
C	^^^^next / alongside existing services; 3 number 100 mm diameter uPVC electrical ducts & 3 number 100mm diameter Comms ducts	10	m		
D	^^^around existing services crossing excavations; 100 mm diameter uPVC high pressure watermain.	3	nr		
E	^^^around existing services crossing excavations; 100 mm diameter uPVC surface water drain.	3	nr		
F	^^^around existing services crossing excavations; 150 mm diameter uPVC surface water drain.	3	nr		
G	^^^around existing services crossing excavations; 225 mm diameter uPVC surface water drain.	3	nr		
H	^^^around existing services crossing excavations; 300mm diameter uPVC surface water drain.	3	nr		
J	^^^around existing services crossing excavations; 1 number 150 mm diameter uPVC electrical ducts.	3	nr		
K	^^^around existing services crossing excavations; 3 number 100 mm diameter uPVC electrical ducts &3 number 100mm diameter Comms ducts	3	nr		
L	^^^around existing services crossing excavations; 150 mm diameter uPVC foul water drain.	3	nr		
	Disposal				
M	^^^ground water	1	item		
N	^^^surface water	1	item		
	Granular material; Type B Granular material, Pea Gravel well compacted graded from 9.5mm to 4.75mm as Engineers Drawing Nr. 0001 and Irish Water Code for Practice for Wastewater Infrastructure Standard Details; to the following pipes:				
	Beds and surrounds				

	Description	Qty	Unit	Rate	Amount
A	^^^650 x 400 mm; pipe 100 mm nominal diameter	89	m		
B	^^^650 x 450 mm; pipe 150 mm nominal diameter	130	m		
C	^^^825 x 525 mm; pipe 225 mm nominal diameter	117	m		
D	^^^900 x 600 mm; pipe 300mm nominal Diameter	68	m		
	In-situ concrete; Grade 20/25 mm maximum size limestone aggregate; piped wrapped in 1 layer of plastic as per Engineers Drawing Nr. 0001 and Irish Water Code for Practice for Wastewater Infrastructure Standard Details; to the following pipes:				
	Beds and surrounds				
E	^^^650 x 450 mm; pipe 150 mm nominal diameter	188	m		
F	^^^825 x 525 mm; pipe 225 mm nominal diameter	102	m		
G	^^^900 x 600 mm; pipe 300mm nominal Diameter	20	m		
	uPVC-U pipes & fittings to IS EN 1401, Stiffness Class SN8 (8kN/m2), jetting resistance 2,600psi (180 Bar) per WRc Sewer Jetting CoP; ancillary fittings BS 4660 (110/160); flexible spigot & socket joints with elastomeric rubber-ring seals to BS EN 681, watertight; all as per HL SE-0001 Sec 2/4/5/6				
	Pipes				
H	^^^nominal pipe diameter 150 mm	211	m		
J	^^^nominal pipe diameter 225 mm	199	m		
K	^^^nominal pipe diameter 300mm	88	m		
L	^^^nominal pipe diameter 150 mm vertical overflow and cleaning access as per HL Drawing Nr. 0013	6	m		
	Extra over pipes for which they occur				
M	^^^^^fittings; bends 150 mm diameter	141	nr		
N	^^^^^fittings; bends 225 mm diameter	5	nr		
P	^^^^^fittings; branches 150 to 150 mm diameter	5	nr		
Q	^^^^^fittings; branches 150 to 225 mm diameter	22	nr		
R	^^^^^fittings; branches 150 to 300 mm diameter	8	nr		
S	^^^^^^fittings; overflow pipe vent capping / access 150mm diameter	4	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^^^600 mm long rocker pipes 150 mm diameter at junctions with manholes.	17	nr		
B	^^^^^600 mm long rocker pipes 225 mm diameter at junctions with manholes.	21	nr		
C	^^^^^600 mm long rocker pipes 300 mm diameter at junctions with manholes.	12	nr		
	uPVC perforated pipes to BS 4660 BS 5955 and BS 5481 laid and jointed with integral mechanical joints with D or O rubber sealing rings with rubber seals in running lengths, in accordance with the manufacturers instructions and MV 104 Engineers Specification for Drainage				
	Pipes				
D	^^^nominal pipe diameter 110 mm	112	m		
E	^^^nominal pipe diameter 150 mm	80	m		
F	^^^nominal pipe diameter 225 mm	20	m		
	Extra over pipes for which they occur				
G	^^^^^fittings; bends 110 mm diameter	5	nr		
H	^^^^^fittings; branches 110 to 110 mm diameter	5	nr		
J	^^^^^fittings; branches 150 to 150 mm diameter	2	nr		
K	^^^^^fittings; branches 150 to 225 mm diameter	2	nr		
	Pipe accessories				
	Access junctions.				
	uPVC armstrong junction; with 1 nr. 150 mm and 1 nr. 225 diameter inlet and 1 nr. 225 mm diameter outlet, galvanized iron cover and frame, jointed to uPVC pipes with socket joints and rubber, bedding and surrounding in concrete Grade 20.20 and include for any additional excavation and disposal off site.				
L	^^^500 x 500mm, 100mm outlet, Pvc cover and frame.	5	nr		
M	^^^^^^Extra over last for Riser pieces	2	m		
N	^^^^^^extra over for recessed galvanised cover and frame to take paving as specified	5	nr		

	Description	Qty	Unit	Rate	Amount
	Road gullies				
A	Precast concrete road gully chamber internal dimensions 450mm x 300mm comprising 150mm C 20 base slab and surrounds, Class D 400 Gulley grates and frames to comply with BS EN 124. The transverse bars of the grating shall be at right angles or diagonal to the kerb and hinged to close with approaching traffic. The frame shall have a minimum size at the surface of 400mm x 325mm. Gulley frames shall be set accurately for level and position. necessary excavation, concrete bed and jointing to frames to MV 104 Engineers Specification (isolated area in carpark)	1	nr		
	Dual Slot Drain to External Paved area				
	Threshold linear drain, 61 mm wide × 100 mm deep, extruded PVC body with 316-grade stainless steel Heelguard grating, load class A15 to BS EN 1433:2002 (ACO Threshold Drain 19058 or equivalent); laid to falls, bedded and surrounded in C25/30 concrete; set with adjacent paving 3-6 mm above top of edge rail; incl. sealant (Z22) and polymer-modified mortar bedding to adjacent paving edge; include necessary excavation, disposal, formwork and connecting to gulley traps at each end; per BSM Detail TD Drawing Nr. 1052				
B	^^^straight at doors	23	m		
C	^^^^^extra over for ends	24	nr		
D	^^^^^extra over for drain gully connected to last	12	nr		
	Slot drain with sump, 310 mm deep, recessed slot channel to BS EN 1433:2002, pedestrian areas (ACO Brickslot or equal approved); load class D400; laid to falls, bedded and surrounded in C25/30 concrete; surfacing set 3-6 mm above slot opening; incl. polymer-modified mortar bedding to adjacent paving edge; include necessary excavation, disposal, formwork and connecting to gulley traps at each end; per BSM Detail LD Drawing Nr. 1052				
E	^^^straight at plaza	49	m		
F	^^^^^extra over for ends	10	nr		
G	^^^^^extra over for drain gully connected to last	7	nr		

	Description	Qty	Unit	Rate	Amount
	Dished drain / gully with stainless steel dished ladder grating cover and frame, 560 × 560 mm frame / 500 mm opening, 10 mm slot openings (Kent Stainless or equal approved); Load Class D400; depth to suit adjacent stone slab; bedded on concrete foundation over sub-base; incl. gully chamber below to receive grating; include necessary excavation, disposal, formwork and connecting to gulley traps; per BSM Detail DD Drawing Nr. 1052				
A	^^^size 560 x 560mm	2	nr		
	French Drain to Perimeter of Building				
	French drain to external perimeter of building, comprising a filter layer of Clause 505 Type B; perforated P.V.C. drain pipes laid in trenches with uniform gradient not steeper than 1:200 with and including wrapping in 1000 gauge Geotextile membrane (BS EN ISO 9863-1) trenches filled to level with Clause 804 compacted fill; all detail on BSM Architects Drawing Nr. 1055 & HL Drawing Nr. 0013				
B	^^^400 x 500 mm deep land drain laid with 110mm diameter perforated pipe to perimeter of building	104	m		
C	^^^ends	6	nr		
D	^^^connect perforated pipe to 100mm surface water drain including y-junction	6	nr		
	Rain Garden				
	Filter/drainage material to rain garden basin; graded filter material to Clause 505 Type B, TII Specification for Road Works (Series 500 — Filter Drains); crushed rock or gravel, no fines, complying with SR21:2014 and IS EN 13242:2002+A1:2007 (HL SE-0001 cl.5.5); placed within geotextile-wrapped catchment pit; bedding and encapsulating 150mmØ and 110mmØ uPVC perforated land drainage pipes; laid, levelled and lightly compacted to falls. All to HL Dwg MTUHPAC-Z-50-Z-XXX-DR-HLC-CE-0013 (Typical Rain Garden Detail)				
E	^^^> 250mm thick as per HL Drawing Nr. 0013	488	m3		

	Description	Qty	Unit	Rate	Amount
	Geotextile filter/separation membrane to rain garden; nonwoven geotextile (1000 gauge per drawing; Terram 1000 or equivalent approved), tensile strength min 8.0kN/m to EN ISO 10319, 0.75mm thickness at 2kPa (BSM Landscape Works Spec particulars); laid to wrap full extent of catchment pit - basin base and 3H :1V battered sides - separating imported rain garden materials from surrounding ground; minimum 500mm laps. All to HL Dwg MTUHPAC-Z-50-Z-XXX-DR-HLC-CE-0013 (Typical Rain Garden Detail)				
A	^^^> 300mm girth, horizontally	1949	m2		
B	^^^> 300mm girth, vertically / sloping	284	m2		
	Manholes				

	Description	Qty	Unit	Rate	Amount
	Precast concrete manholes; excavate manhole pit and cart excavated material off site; grade and level bottom of pit; including any necessary earthwork support; 75 mm blinding concrete under base; granular surround/backfill - SR21:2014 Annex E hardcore where within 1.2 m of a building or structure, Clause 808 unbound material within 500 mm of concrete / cement-bound surfaces and Clause 804 material elsewhere; in-situ reinforced concrete base grade C30/37 to IS EN 206 (20 mm agg), 225 mm minimum thickness beneath channel, reinforced with high-tensile bar to Engineer's design (min 40 mm cover); prefabricated half-round channel inverts bedded in C25/30, formed semi-circular and evenly tapered to branches, pipe/channel joint located min 100 mm inside face of chamber; benching in C25/30 finished 1:3 sand/cement to a dense smooth 20 mm minimum topping, sloped 1:30 from the vertical edge and brought up to crown of incoming sewer; precast concrete chamber/shaft rings to IS EN 1917 / IS 420 hoisted and set to required depth, rubber sealing-ring gaskets to all joints; 150 mm minimum C20/25 (20 mm agg) cast in-situ concrete surround to chamber rings; precast heavy-duty reinforced concrete reducing/cover slab (or cast in-situ C30/37, 225 mm min) bedded on chamber with mortar and proprietary bitumen/resin mastic sealant ; 215 mm access shaft in solid engineering brick Class B to IS EN 771-3 bedded in M30 mortar (2–4 courses) and/or precast concrete cover-frame seating rings, 600 × 600 clear opening; galvanised rungs to detail embedded 125 mm into walls at 300 mm c/c over benching where invert depth exceeds 1 m (ladder for depths >3 m per cl.8.17); two-coat 12 mm cement render as required; include for all opes, pipe entries with rocker / short length pipes and flexible joints, building in, making up levels, all necessary formwork, working space and making good to all work and finishes disturbed; cover and frame ductile iron IS EN 124 Class D400, min 600 mm clear opening, bedded on 3:1 mortar (cover measured elsewhere); all as HL SE-0001 Section 8 and Details Drawing Nr. 0010				
	Internal dimensions 1050 mm diameter				
A	^^^depth 500 to 1000 mm (S1 & S2)	2	nr		
B	^^^depth 1000 to 1500 mm (S3, S6, S12, S12A S13 & S14)	6	nr		
C	^^^depth 1500 to 2000 mm (S4, S5, S7, S9, S9A, S10, S11, S11 & S11A)	9	nr		
D	^^^^^^extra over for sump to S11 as per HL Drawing Nr. 0009	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^depth 2000 to 2500 mm (S8)	1	nr		
B	^^^depth 3500 to 4000 mm (S21A)	1	nr		
C	^^^depth 4500 to 5000 mm (S21)	1	nr		
D	^^^depth 4500 to 5000 mm built on existing 600mm diameter storm sewer including all necessary excavation, disposal, backfilling and reinstatement; forming openings; adapting channels and benching as required; including necessary diversion during the progress of the work; making good all work disturbed (S7).	1	nr		
	Extra over excavating irrespective of depth				
E	^^^extra breaking weathered rock	22	m3		
F	^^^extra breaking solid limestone rock	23	m3		
	Sundries on manholes				
G	^^^channels; 100 mm diameter; straight channel, bedded and jointed in cement mortar (1:1), 1050 mm long	1	nr		
H	^^^channels; 225 mm diameter; straight channel, bedded and jointed in cement mortar (1:1), 1050 mm long	7	nr		
J	^^^channels; 300 mm diameter; straight channel, bedded and jointed in cement mortar (1:1), 1050 mm long	6	nr		
K	^^^channels; 225 mm diameter; curved channel, bedded and jointed in cement mortar (1:1), 1050 mm long	6	nr		
L	^^^channels; 300 mm diameter; curved channel, bedded and jointed in cement mortar (1:1), 1050 mm long	2	nr		
M	^^^branch channels; 150 mm diameter; half channel, bedded and jointed in cement mortar (1:1), 600 mm long	12	nr		
N	^^^branch channels; 225 mm diameter; half channel, bedded and jointed in cement mortar (1:1), 600 mm long	1	nr		
P	^^^branch channels; 300 mm diameter; half channel, bedded and jointed in cement mortar (1:1), 600 mm long	1	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^benching; in C25/30 finished 1:3 sand/cement to a dense smooth 20 mm minimum topping, sloped 1:30 from the vertical edge and brought up to crown of incoming sewer	22	nr		
B	^^^step irons; pvc coated galvanized mild steel to B.S.1247; 355 mm wide built into precast concrete walls.	140	nr		
C	^^^recessed manhole cover tray, multi-part recessed type, Class D 400; recess suitable for concrete-block-paving/stone infill, min. 95 mm deep; installed to BS EN 7533-3:2005; incl. factory-applied sealant bedding; oriented parallel to paving edge to align with adjacent paving pattern; as per BSM Detail S3 Drawing Nr. 1050 and HL approval	22	nr		
	Works to existing manholes				
	Raise existing manhole cover and frame to new level; carefully lift and set aside existing cover and frame; break out and remove existing seating course(s) as necessary; raise and rebuild access shaft to the new required cover level in 215 mm solid engineering brick Class B to IS EN 771-3 bedded in M30 mortar (and/or adjusting existing cover / biscuit levels to co-incide with proposed finished levels and provide new precast concrete seating rings to IS EN 1917 / IS 420 hoisted and set to required depth, rubber sealing-ring gaskets to all joints; 150 mm minimum C20/25 (20 mm agg) cast in-situ concrete surround to chamber rings), 600 × 600 clear opening; re-bed and re-set the existing cover and frame (ductile iron, IS EN 124 Class D400) on a full bed of 3:1 sand/cement mortar; make good the chamber internally and the disturbed surround; maintain the drain in full operation throughout with temporary flow management as required; all reinstatement to match SE-0001 cl.8.6–8.8; making good of the surrounding surface finish measured with the relevant paving/road/landscape section.				
	1200mm diameter				
D	^^^raise aprox 250mm	2	nr		
E	^^^raise aprox 500mm	2	nr		
F	^^^E.O. for supplying and fitting new ductile-iron cover & frame, IS EN 124 Class D400, where existing is damaged or unsuitable	4	nr		

	Description	Qty	Unit	Rate	Amount
	Lower existing manhole cover to new (reduced) level; carefully lift and set aside existing cover and frame; break out and remove upper seating course(s) / brick shaft / precast seating rings down to the new required cover level / adjusting existing biscuit levels to co-incide with proposed finished levels; re-form the 215 mm access shaft in solid engineering brick Class B bedded in M30 mortar (and/or precast seating rings), 600 × 600 clear opening, to seat the frame at the new level; re-bed and re-set the existing cover and frame (ductile iron, IS EN 124 Class D400) on a full bed of 3:1 sand/cement mortar, accurately set for level and position ; make good the chamber internally and the disturbed surround; maintain the drain in full operation throughout with temporary flow management as required; all reinstatement to SE-0001 cl.8.6–8.8; making good of the surrounding surface finish measured with the relevant paving/road/landscape section.				
	1200mm diameter				
A	^^^lower aprox 250mm	1	nr		
B	^^^lower aprox 500mm		nr		
C	^^^^^^extra over for supplying and fitting new ductile-iron cover & frame, IS EN 124 Class D400, where existing is damaged or unsuitable	1	nr		
	Replace existing manhole cover and frame; carefully lift out and cart away existing cover and frame; make good / rebuild seating course in 215 mm solid engineering brick Class B bedded in M30 mortar where necessary; supply and set new ductile-iron cover and frame to IS EN 124 Class D400, minimum 600 mm clear opening, square frame minimum 100 mm deep, coated in black bitumen, two closed keyways per cover (double-triangular covers loosely bolted so complete covers cannot fall through), machined three-point seating to ensure stability and quietness under traffic; bed frame on a full bed of 3:1 sand/cement mortar accurately set for level and position to the existing cover level; make good the chamber internally and the disturbed surround; maintain the drain in full operation throughout; all to SE-0001 cl.8.6–8.9; making good of the surrounding surface finish measured with the relevant paving/road section.				
D	^^^ductile-iron cover & frame, IS EN 124 Class D400, 600 mm clear opening	9	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^^^^extra over for new recessed manhole cover tray, multi-part recessed type, Class D 400; recess suitable for concrete-block-paving/stone infill, min. 95 mm deep; installed to BS EN 7533-3:2005; incl. factory-applied sealant bedding; oriented parallel to paving edge to align with adjacent paving pattern; as per BSM Detail S3 Drawing Nr. 1050 and HL approval	9	nr		
	Raise existing road gully to new level; carefully lift and set aside existing gully grating and frame; break out top of existing gully chamber as necessary; rebuild/corbel the 215 mm chamber wall (internal 450 × 300 mm) to the new required level in solid concrete blockwork to IS EN 771-3 (mean compressive strength 13 N/mm2) with full-mortared joints in 3:1 sand/cement mortar (or in-situ concrete C30/37), corbelled to provide a full bed for the frame; re-bed and re-set the existing grating and frame (ductile iron, IS EN 124, Class C250 or D400 as directed by the Engineer, min surface size 400 × 325 mm, bars set at right angles/diagonal to the kerb and hinged to close with approaching traffic) accurately for level and position on a full bed of 3:1 mortar; make good chamber internally and the disturbed surround; maintain the gully in full operation throughout with temporary protection as required; all reinstatement to SE-0001 cl.9.1/9.4/9.5; making good of the surrounding road/paving surface measured with the relevant paving/road section.				
B	^^^raise aprox 500mm	4	nr		
	Attenuation tank				

	Description	Qty	Unit	Rate	Amount
	Excavate pit and cart surplus excavated material off site; grade and prepare formation, including all necessary earthwork supports, dewatering and working space; supply and install proprietary modular geocellular stormwater attenuation tank system, contractor-designed; in accordance with MTUHPAC-SP-HLC-SE-0008, suitable for vehicular/car park trafficked loading with minimum 700mm cover; overall nominal size to provide required m3 storage volume; tank fully wrapped in impermeable thermoplastic geomembrane, 1mm thick (heavy duty), minimum 20 N/mm tensile strength to BS EN 12311 and resistance to nail tear minimum 700 N to EN 12310-1, dressed to base, sides and top including all lapped/welded joints and any required protection membrane to both faces, all installed strictly in accordance with the manufacturer's data sheets; minimum 100mm compacted granular surround to base, sides and top in accordance with the manufacturer's details; backfill above tank compacted in accordance with MTUHPAC-SP-HLC-SE-0001; ventilation to tank comprising open grating vent control on concrete plinth to manufacturers details; form all inlet and outlet connections to the system; provide all design, Declarations of Performance, technical datasheets and CIF Ancillary Certificate for the installation in accordance with SE-0008; liner integrity tested to manufacturer's requirements and connecting pipework/chambers tested in accordance with SE-0001 Section 13; all installed and tested in strict accordance with the manufacturer's written instructions and Engineer's Drawing Nr. DR-HLC-CE-0009				
A	^^^overall nominal size 11500 x 10500 x 1500mm deep providing approximately 180m3 storage volume	1	nr		
B	^^^Heavy duty Permavoid diffurer (150mm deep)	1	nr		
C	^^^flow restrictor to manhole	1	nr		
D	^^^ventilation to tank comprising open grating vent control on concrete plinth to manufacturers details	1	nr		
	Mains				
	Carefully excavate to locate existing pipe; include for all necessary earthwork support, backfilling with hardcore upon completion; carting excavated material off site; connections to exiting pipe including all necessary fittings ; include for all making good				
E	^^^1 nr 150 mm diameter pipe to existing 150mm pipe ; connection at average 1.5 - 2.0m deep (new pipe from existing S13 MH)	1	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^1 nr 150 mm diameter pipe to existing 225mm pipe ; connection at average 1.5 - 2.0m deep (new channels drains North of the existing Arena)	2	nr		
B	^^^1 nr 150 mm diameter pipe to existing 225mm pipe ; connection at average 1.5 - 2.0m deep (new gully in rear carpark)	1	nr		
C	^^^1 nr 150 mm diameter pipe to existing 150mm pipe ; connection at average 1.0 - 1.5m deep (new run off to cycle shelter)	1	nr		
	Connection to existing manhole Locate existing manhole; take off cast iron cover; connect end of new pipe to existing manhole; including all necessary excavation, disposal, backfilling and reinstatement; forming openings; adapting channels and benching as required; including necessary diversion during the progress of the work; making good all work disturbed.				
D	^^^1 nr 150 mm diameter pipe;connection at average 1.55m (existing manhole S13) below existing cover level to existing manhole.	1	nr		
E	^^^1 nr 225 mm diameter pipe; connection at average 1.50 (existing manhole S12) below existing cover level to existing manhole.	1	nr		
F	^^^1 nr 225 mm diameter pipe; connection at average 4.30m (existing manhole S6) below existing cover level to existing manhole	1	nr		

	Description	Qty	Unit	Rate	Amount
	Existing Services				
A	Particulars of all known existing services will be indicated to the Contractor on site. However, Contractors shall be entirely responsible for location the positions of all services and will be required to carry out on-site surveys including all necessary investigation pits/hand digging to determine location/route of all underground services, in grass and tarmacadam areas, together with tracing routes of overhead services, using his best endeavors to determine the position of all existing services, with results of the survey to be handed over to the Engineer prior to starting works on-site. The Contractor shall make good at his own expense, any damage whatsoever to existing services to the complete satisfaction of and in accordance with the Employers Representitve and to the satisfaction of the Statutory Authority concerned and shall keep the Employer indemnified at all times from claims in connection with the damage. All services that are encountered during the excavation, shall be adequatley supported and protected. Existing sewers and drains shall not be used for discarging of ground water from excavations without writted concent. No drain or pipe of any description shall be disturbed until it has been inspected. The Contractor shall also to ensure that services of adjoining Buildings are to remain operational throughout the Contract.	1	item		
	Survey of Existing Drainage System				
B	The Contractor shall undertake a CCTV survey of the existing drainage system serving prior to commencement of the works, and shall present same with an associated Report to the ER and Employers Consultant Engineer prior to commencement of the works. The Contractor shall allow for all associated costs for same against this item.	1	item		
	Maintaining Existing Drains				
C	The Contractor shall allow for maintaining existing drainage during the course of the works.	1	item		
	Work outside the Boundary of the Site				
D	The Contractor shall note that within the measured sections of the Bill of Quantities Works outside the boundary may not have been specifically stated or described or included for seperatley. In such instances, the contractor is deemed to have included here against this item or within his rates generally for all costs associated with such works.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	TESTING & COMMISSIONING				
	Testing, sterilisation and commissioning (after completion of the works, and prior to Substantial Completion)				
	Drainage System				
A	^^^Allow for cleaning out all new drains, removal and disposal of all waste/rubble, and necessary making good upon completion.	1	item		
B	^^^Allow for testing, sterilisation and commissioning drainage to the satisfaction of the Engineer.	1	item		
C	^^^Allow for CCTV surveys of all drains and submit same together with a Report to the Engineer for review prior to Substantial Completion	1	item		
D	^^^Allow for all necessary retesting, and CCTV surveys and associated Reports, as required.	1	item		

Description	Qty	Unit	Rate	Amount
COLLECTION				
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(50.2) SITE SERVICES MAINLY PIPED AND DUCTED (Storm Sewer) Carried to Summary				

	Description	Qty	Unit	Rate	Amount
	(50.3) SITE SERVICES MAINLY PIPED AND DUCTED (Watermain)				
	(50.3) SITE SERVICES MAINLY PIPED AND DUCTED (Watermain)				
	DRAINAGE:				
	Below Ground				
	The Following Work is Outside the Boundary of the Building and Within the Boundary of the Site				
	Existing Watermain				
A	Excavate, trace existing uPVC watermain; size 150mm diameter; average 500 - 1000 mm deep; disconnect, seal off end, expose, grub up and dispose existing pipe; de-orderize ground and backfill with hardcore on completion; make good all work disturbed	52	m		
	Excavate trenches; backfilling with hardcore granluar fill to SR21:2014 Annex E, carting surplus excavated material off site to a tip provided by the contractor; compacting in 150 mm layers; as Engineers typical detail on Drawing DR-HLCE-CE-0003 and MTUHPAC-SP-HLC-SE-0001				
	Pipes; < or = 250 mm nominal diameter				
B	^^^average depth 500 - 1000 mm; 100mm dia. watermain	84	m		
	Extra over excavating trenches irrespective of depth				
C	^^^extra breaking solid rock average 500 mm thick	10	m		
D	^^^breaking up existing hard surfaces; tarmacadam carpark 100mm thick on hardcore average 250 mm thick; including saw cutting both sides; temporary reinstatement and full reinstatement with 40mm T3. Structural 0/4mm blinding, surface wearing course 40mm AC14 close graded asphalt concrete to Clause 912; on base course 60mm AC 20 dense base asphalt concrete base course to Clause 906; as per NRA Specification for Roadworks	10	m		
E	^^^breaking up existing hard surfaces; precast concrete road kerb 127 x 254 mm thick laid on edge set on and including 375 x 150 mm thick concrete bed and haunch; full reinstatement to match existing.	5	m		
F	^^^^next / alongside existing services; 3 number 100 mm diameter uPVC electrical ducts & 3 number 100mm diameter Comms ducts	5	m		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^next / alongside existing services; 150 mm diameter uPVC duct.	5	m		
B	^^^around existing services crossing excavations; 100 mm diameter uPVC high pressure watermain.	5	nr		
C	^^^around existing services crossing excavations; 100 mm diameter uPVC surface water drain.	5	nr		
D	^^^around existing services crossing excavations; 150 mm diameter uPVC surface water drain.	5	nr		
E	^^^around existing services crossing excavations; 225 mm diameter uPVC surface water drain.	5	nr		
F	^^^around existing services crossing excavations; 300mm diameter uPVC surface water drain.	5	nr		
G	^^^around existing services crossing excavations; 1 number 150 mm diameter uPVC electrical ducts.	5	nr		
H	^^^around existing services crossing excavations; 3 number 100 mm diameter uPVC electrical ducts & 3 number 100mm diameter Comms ducts	5	nr		
	Disposal				
J	^^^ground water	1	item		
K	^^^surface water	1	item		
	Bed and surround comprising fine grained sand, gravel or soil passing through a 9mm sieve with 300mm selected fill over free of stones greater that 75mm and free of organic vegetation , meter detector tracing foil over all as Engineers typical detail on Drawing DR-HLCE-CE-0003 and MTUHPAC-SP-HLC-SE-0001				
	Beds and surrounds				
L	^^^700 mm wide x 400 mm thick; pipe 100mm nominal diameter	84	m		
	In-situ concrete; Grade C16/20, in accordance with IS EN 206, with 20mm aggregates, in accordance with ISEN 12620 and shall be made with sulphate-resisting cementwhere necessary. piped wrapped in 1 layer of plastic as per Engineers Specification; to the following pipes to HL Spec.MTUHPAC-SP-HLC-SE-0001				
	Beds and surrounds				
M	^^^550 mm wide x 450 mm thick; pipe 100mm nominal diameter	84	m		

	Description	Qty	Unit	Rate	Amount
	High density polyethelene watermain pipe, jointed with approved fixings in accordance with the manufacturers instructions as per Drawing DR-HLCE-CE-0003 and HL Spec. MTUHPAC-SP-HLC-SE-0001				
	Pipes				
A	^^^100 mm nominal diameter	84	m		
	Extra over pipes on which they occur for				
B	^^^fittings; 45 degree bends, 100 mm diameter	1	nr		
C	^^^fittings; 90 degree bends, 100 mm diameter	1	nr		
D	^^^fittings; tee, 100 mm diameter	3	nr		
E	^^^fittings; taper, 100 to 60 mm diameter	1	nr		
	Fire Hydrants				
	Fire hydrants complete; include for all necessary gaskets, joint rings, nuts, bolts, flanged and socketed connectors and riser pieces and all necessary drilling etc. as per Drawing DR-HLCE-CE-0003				
F	^^^Standard Valve Hydrant; 100mm dia.	2	nr		
	Sluice Valves				
	Sluice valve complete in accordance with BS 750; include for all necessary gaskets, joint rings, nuts, bolts, flanged to socketed connectors and risers pieces etc. as per Drawing DR-HLCE-CE-0003				
G	^^^Standard Sliuce Valve 100mm dia. as Engineers Drawing DR-HLCE-CE-0003 to BS 750 including extension spindle.	9	nr		
H	^^^^^^Extra over last for Standard Sliuce Valve 100mm dia. fitted on Existing Watermain Line	2	nr		
	Access Chambers as Engineers typical detail on Drawing DR-HLCE-CE-0003				
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Access chambers; consisting of min 100mm grade C20 concrete in base slab and 150 mm thick cover slabs; 215 mm thick solid concrete blockwork; 215 x 75 mm precast lintols spaning over pipe opes; bed cover and frame in cement mortar; include for all necessary excavations and disposal surplus excavated material on site, backfilling, earthwork supports and formwork.				
A	^^^450 x 300 mm internal dimensions, minimum 900mm cover to top of pipe complete with surface box fire hydrant cover and frame to BS 750 bedded in sand cement mortar	2	nr		
B	^^^450 x 300 mm internal dimensions, minimum 900mm cover to top of pipe complete with heavy duty CI surface box sluice valve cover and frame to EN 124 bedded in sand cement mortar, extending spindle when distance > 300mm	9	nr		
	Grade 25N precast concrete marker posts, 300 mm wide x 100 mm thick x minimum 900 mm high above ground, reinforced with 3 No. 10 mild steel bars, including 300 mm x 300 mm Grade 20N concrete cube, necessary excavation and finishing exposed parts smooth				
C	^^^for fire hydrant	2	nr		
D	^^^for sluice valve	9	nr		
	Sundries				
	Thrust blocks; triangular; concrete Grade C 20; excavation, disposal of surplus spoil; levelling and compacting, formwork etc all as Engineers typical detail on Drawing DR-HLCE-CE-0003				
E	^^^750 x 750 x 750 mm deep	7	nr		
	Indicator posts and plates				
	Cast iron indicator plates, 200 x 200 mm, painted black with bitumastic paint, lettering in white				
F	^^^for fire hydrant	2	nr		
G	^^^for sluice valve	9	nr		
	Marker tape and cable tile (metal detector tracing foil where PVC pipe used)				
	Warning marker tape				
H	^^^50 mm wide; laying in trenches	84	m		

	Description	Qty	Unit	Rate	Amount
	Work to existing main				
A	Carefully excavate by hand to locate existing watermain average depth approximately 1.00m/1.50m deep; include for all necessary earthwork support, backfilling with hardcore upon completion; carting excavated material off site; new 100 mm diameter connection to existing 200mm daimeter watermain including all necessary fittings; include for all making good to finishes disturbed including reinstatement of tarmacadam roads as before described - Refer to IW Document No. STD-W-04/05/06/07 for Typical Connection Detail	3	nr		
	Existing Services				
B	Particulars of all known existing services will be indicated to the Contractor on site. However, Contractors shall be entirely responsible for location the positions of all services and will be required to carry out on-site surveys including all necessary investigation pits/hand digging to determine location/route of all underground services, in grass and tarmacadam areas, together with tracing routes of overhead services, using his best endeavors to determine the position of all existing services, with results of the survey to be handed over to the Engineer prior to starting works on-site. The Contractor shall make good at his own expense, any damage whatsoever to existing services to the complete satisfaction of and in accordance with the Employers Representitve and to the satisfaction of the Statutory Authority concerned and shall keep the Employer indemnified at all times from claims in connection with the damage. All services that are encountered during the excavation, shall be adequatley supported and protected. Existing sewers and drains shall not be used for discarging of ground water from excavations without writted concent. No drain or pipe of any description shall be disturbed until it has been inspected. The Contractor shall also to ensure that services of adjoining Buildings are to remain operational throughout the Contract.	1	item		
	Testing and commissioning				
	Testing				
C	^^^testing and commissioning the watermain to the satisfaction of the Engineer.(1.5 times class pressure)	1	item		

Description	Qty	Unit	Rate	Amount
COLLECTION				
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Page No. BQ/667				
(50.3) SITE SERVICES MAINLY PIPED AND DUCTED (Watermain) Carried to Summary				

	Description	Qty	Unit	Rate	Amount
	(60) SITE SERVICES (Mainly Electrical)				
	(60) SITE SERVICES (Mainly Electrical)				
	Notes From Drawing MTUHPAC-Z-61-Z-L00-DR-JVT-EE-0001				
A	Refer to architectural drawings for siteworks phasing information, where applicable.		Note		
B	All areas shall be CAT scan/GPR surveyed prior to commencement of the works	1	Item		
C	All drawings shall be read in conjunction with M&E services drawings.		Note		
D	All ducts to be manufactured from high density polyethylene		Note		
E	All duct entries to the building and electrical rooms to be sealed & capped where appropriate. Entries into buildings shall be by ducts with easy sweep bends terminating flush with finished floor. Where underground cables enter the building below the water table a "puddle flange" shall be built into the structure for each cable.		Note		
F	All Underground Electrical Ducting shall be installed with a minimum cover of 450mm in footpaths and 750mm at Road Crossings, in accordance with I.S. 10101:2020, Clause 522.8.10		Note		
G	All pipe ducts must have draw wires 8kN tensile strength – polyethylene ropes	1	Item		
H	Building contractor to install 110/50mm LV red underground high density polyethylene ducting for final connection to all site light fittings, from each manhole (access chamber) location.		Note		
J	"As built" underground site services drawings to be provided by contractor to client in paper and electronic copy at practical completion.	1	Item		
K	Electrical contractor to liaise with building contractor to ensure ducts for external lighting are in place.		Note		
L	Electrical contractor to liaise with building contractor to ensure ducts for external lighting are in place.		Note		
M	Access chambers shall be blockwork.		Note		
N	All manholes covers & frames shall comply with the requirements of I.S. EN 124: 2015		Note		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	At each manhole, the cable shall be mounted on cable ladder/tray. Every manhole shall have two supports mackis mounted in order to support the cable.		Note		
B	All external lighting poles must be powder coated.		Note		
C	External lighting points shall be wired from RCBO.		Note		
D	The switching of all external luminaires shall be controlled by means of the buildings lighting control system and controlled via a photo cell contactor. Hand –off–auto–remote switches for the external lighting shall be included in reception of the building.		Note		
	Electrical Ducting outside the boundary of the building and within the boundary of the site.				
	Services Trenches				
	Excavate trenches; backfilling with selected excavated material, carting surplus excavated material off site to a tip provided by the contractor.				
	Ducts; < or = to 250mm nominal diameter				
E	average depth 500 to 1000 mm; warning tape (1 X 50mm PVC Electrical Duct to Bollards (in Grass Area))	7	m		
F	average depth 500 to 1000 mm; warning tape (2 X 110mm PVC Electrical Duct to Lamppost / Bollard Chambers (in Grass Area))	9	m		
	Excavate trenches; backfilling with hardcore granluar fill to SR21:2014 Annex E, carting surplus excavated material off site to a tip provided by the contractor; compacting in 150 mm layers in accordance with HL Specification MTUHPAC-SP-HLC-SE-0001				
	Ducts; < or = to 250mm nominal diameter				
G	^^^average depth 1000 to 1500 mm; warning tape; 6 X 150mm & 3 X 125mm PVC LV Electrical Duct for 3no. XLPE/SWA Cables to Phase 2 MDB, LV Electrical Duct for 3no. Earth Cables to Phase 2 MDB, LV Additional Electrical Duct for Re-routed Existing Phase 1 SWA Cables & LV Additional Electrical Duct for Sub-Mains Cabling from Mini-Pillar Pane) (tie-in at existing rear carpark)	61	m		
H	^^^average depth 500 to 1000 mm; warning tape; 1 X 125mm PVC LV Additional Electrical Duct for Sub-Mains Cabling from Mini-Pillar Panel (in Path Area)	69	m		

	Description	Qty	Unit	Rate	Amount
A	average depth 500 to 1000 mm; warning tape (1 X 50mm PVC Electrical Duct to Lampposts / Bollards (in Path Area))	328	m		
B	average depth 500 to 1000 mm; warning tape (2 X 110mm PVC Electrical Duct to Lamppost / Bollard Chambers (in Path Area))	151	m		
C	average depth 500 to 1000 mm; warning tape (4 X 110mm PVC Electrical Duct to Lamppost / Bollard Chambers (in Path Area))	53	m		
D	average depth 500 to 1000 mm; warning tape (4 X 150mm PVC Electrical Duct to Lamppost / Bollard Chambers (in Path Area))	63	m		
E	average depth 500 to 1000 mm; warning tape (1 X 110mm PVC Electrical Ducting replaced between lighting poles as per JVT Drawing Nr. 60-EE-0002)	48	m		
	Extra over excavating trenches irrespective of depth				
F	^^^Warning tape.	1785	m		
G	^^^Breaking up existing hard surfaces; 60/40 asphalt road surface and hardcore average 250 mm thick; including saw cutting both sides; temporary and full reinstatement to match existing, all to the full satisfaction of the Engineer (East access road adjacent to the site).	6	m		
H	^^^Breaking up existing hard surfaces; 60/40 asphalt road surface and hardcore average 250 mm thick; including saw cutting both sides; temporary and full reinstatement to match existing, all to the full satisfaction of the Engineer (South carpark tie-in).	9	m		
J	^^^around existing services crossing excavations; 150 mm diameter uPVC surface water drain.	5	nr		
K	^^^around existing services crossing excavations; 225 mm diameter uPVC surface water drain.	5	nr		
L	^^^around existing services crossing excavations; 2 nr. 150 mm diameter uPVC live electrical ducts	5	nr		
M	^^^around existing services crossing excavations; 8 nr. 100 mm diameter uPVC live comms ducts	5	nr		
N	^^^around existing services crossing excavations; 1 nr. 150 mm diameter uPVC live electrical ducts with fibre optic	5	nr		
	Disposal				
P	^^^ground water	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^surface water	1	item		
	Granular material; Pipes shall be bedded all around in a minimum of150mm granular material. Granular material shall be14mm to 5mm graded aggregate or 10mm singlesized aggregate, complyi Specification MTUHPAC-SP-HLC-SE-0001				
	Beds and surrounds				
B	950 x 750mm (6 X 150mm & 3 X 125mm)	61	m		
C	400 x 400 mm; multiple pipes; (1 X 50mm)	335	m		
D	450 x 450 mm; multiple pipes; (1 X 110mm)	48	m		
E	500 x 500 mm; multiple pipes; (1 X 125mm)	69	m		
F	650 x 450 mm; multiple pipes; (2 X 110mm)	160	m		
G	850 x 650 mm; multiple pipes; (4 X 110mm)	53	m		
H	900 x 700 mm; multiple pipes; warning tape (4 X 150mm)	63	m		
	Cable ducts				
	ESB approved Red HDPE SDR 17.6 duct pipes colour coded to IS 370: 2016, laid and jointed with socket joints with rubber rings in running lengths, in accordance with the manufacturers instructions as per JVT Drawing DR-JVT-EE-0005 and Specification MTUHPAC-X-X-X-XXX-SP-JVT-EE-0001				
	Pipes				
J	^^^50mm duct	335	m		
K	^^^110mm duct	576	m		
L	^^^125mm duct	251	m		
M	^^^150mm duct	612	m		
	Extra over pipes for which they occur;				
N	^^^^^fittings; 125 mm diameter bends (LV Ducts)	16	nr		
P	^^^^^fittings; 125 mm diameter long radius bends (LV Ducts)	16	nr		
Q	^^^^^fittings; 50 mm diameter bends (Lighting Ducts)	82	nr		
R	^^^^^fittings; 50 mm diameter long radius bends (Lighting Ducts)	82	nr		
S	^^^^^fittings; 110 mm diameter bends (Lighting Ducts)	52	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^^^fittings; 110 mm diameter long radius bends (Lighting Ducts)	52	nr		
B	^^^^^fittings; 150 mm diameter bends (Lighting Ducts)	24	nr		
C	^^^^^fittings; 150 mm diameter long radius bends (Lighting Ducts)	24	nr		
D	^^^^^fittings; 125 mm diameter bends (Lighting Ducts)	50	nr		
E	^^^^^fittings; 125 mm diameter long radius bends (Lighting Ducts)	70	nr		
	Chambers				
	Blockwork chamber; excavate chamber pit and cart excavated material off site; backfilling in hardcore to SR21:2014 Annex E; grade bottom of pit; including any necessary earthwork supports; 75 mm thick concrete grade C20 in blinding under base; constructed of 215 mm solid concrete block walls, laid in cement mortar with top course of engineering bricks to form rebate to achieve clear ope size, lintel 100 mm thick x 920 mm long built into blockwork over ducts,150 mm thick Grade C20 concrete base and 100 mm thick and concrete cover with ope prepared and fitted with heavy duty ESB cover; including for all necessary formwork, working space and making good to all work and finishes disturbed; as per JVT Drawing DR-JVT-EE-0005				
	Internal dimensions 1000 x 1000mm				
F	^^^depth 1000 to 1500 mm	15	nr		
G	^^^^^^Extra over last for being on Existing LV Ducting Pipeline	2	nr		
	Internal dimensions 1800 x 1800mm				
H	^^^depth 1500 to 2000 mm	2	nr		
	200 x 200mm internal dimensions, complete with JB4 cover and frame.				
J	^^^depth 500 to 1000 mm	44	nr		
	Extra over excavating trenches irrespective of depth				
K	^^^Breaking up existing hard surfaces; 60/40 asphalt road surface and hardcore average 250 mm thick; including saw cutting both sides; temporary and full reinstatement to match existing, all to the full satisfaction of the Engineer (South carpark tie-in).	16	m2		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Distribution Feeder Pillar Vaults, consisting of concrete grade 30n in 150mm thick base slab, with and including 200mm diameter sump in base slab, 215mm thick solid concrete blockwork, 215mm x 75mm thick precast concrete lintols spaning over duct opes, bed cover and frame in cement mortar, include for all excavations, backfilling, earthwork supports and formwork, all in accordance with the ESB Standard Specifications.				
A	^^^766 x 766 x 900mm deep vault, with 500mm x 215mm x 900mm deep projecting section for cable entry (internal dimensions), chamber complete with vault cover and frame to ESB Specifications..	1	nr		
	Bollard lighting base				
B	Lighting Bollard bases, excavate, backfill, earthwork supports and formwork, reinforced concrete Grade Gen 3 in base, size 500 x 500 x 500mm deep, cast in 150mm diameter uPVC duct and a long radius bend, total lenght 1.00m.	36	nr		
	Beam Luminaire & Beam Light Bases				
C	Beam Luminaries bases, excavate, backfill, earthwork supports and formwork, concrete grade C20 in base, size 1000 x 1000 x 1000mm deep, cast in 225mm diameter uPVC duct sleeve and a long radius bend, total length 1.00m.	8	nr		
	Erect and install only (lamp standards to be supplied free issue by the Electrical Contractor) lamp posts; include for standing in position and all necessary hoisting, propping and fixing to in - situ concrete base (base measured elsewhere); all in accordance with the manufactures instructions; as per JVT Drawing DR-JVT-EE-0005				
D	^^^1000 mm high (for Type Q Light Fitting)	3	nr		
E	^^^6000 mm high (for Type S Light Fitting)	5	nr		
	Earthing Rods				
	Excavate in pit for precast concrete earth box and cart excavated material off site; backfilling in hardcore granluar fill to SR21:2014 Annex E; grade bottom of pit, supply and place box in position surround with 150 mm of Grade 25.20 concrete and fill with coarse gravel.				
F	^^^400 x 400 x 300 mm to Bollard & Lighting Bases	44	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Excavate pit for earth terminal of lighting conductor, surround terminal with sand for a depth of 500 mm, fill back in hardcore granluar fill to SR21:2014 Annex E and remove surplus from site, with and include for grading bottom and necessary earthwork supports to sides of trenches				
A	^^^1500 x 1500 x 1500 mm	1	nr		
	Works to existing chambers				
	Adjust existing chamber cover to new level; carefully lift and set aside existing cover and frame; break out and remove upper seating course(s) / brick shaft to the new required cover level / adjusting existing biscuit levels to co-incide with proposed finished levels; re-form the 215 mm access shaft in solid engineering brick Class B bedded in M30 mortar (and/or precast seating rings), 600 × 600 clear opening, to seat the frame at the new level; re-bed and re-set the existing cover and frame (ductile iron, IS EN 124 Class D400) on a full bed of 3 :1 sand/cement mortar, accurately set for level and position; make good the chamber internally and the disturbed surround; maintain the drain in full operation throughout with temporary flow management as required; all reinstatement to SE-0001 cl.8.6–8.8; making good of the surrounding surface finish measured with the relevant paving/road/landscape section.				
	1000 x 1000mm diameter				
B	^^^lower aprox 250mm	4	nr		
C	^^^raise aprox 250mm	4	nr		
D	^^^^^^extra over for new recessed manhole cover tray, multi-part recessed type, Class D 400; recess suitable for concrete-block-paving/stone infill, min. 95 mm deep; installed to BS EN 7533-3:2005; incl. factory-applied sealant bedding; oriented parallel to paving edge to align with adjacent paving pattern; as per BSM Detail S3 Drawing Nr. 1050 and HL approval	8	nr		
	Work to existing ducts				
E	Locate existing Electrical cables and duct and carefully excavate around and expose for new connection to be made by Special Sub-contractor including backfilling around same on completion.	1	item		

	Description	Qty	Unit	Rate	Amount
	Work to existing flood light				
A	Existing track pole to be replaced with a longer pole to accommodate the change in level, with the existing mounting to be levelled out. The existing lighting fixtures shall be retained and re-installed on the new pole, maintaining the same height as their current position. The Contractor shall allow for new sub-main cabling between adjacent poles, terminating into a new spur within the access panel, and shall provide new wiring between the spur and the light fittings. The pole shall be earthed (as per JVT Drawing Nr. EE-0002)	1	nr		
	Work to existing mini pillar				
B	The existing mini-pillar shall be lowered to suit the change in ground level. The mini-pillar comprises 3No. outlets, single/three phase (as per JVT Drawing Nr. EE-0002)	1	nr		
C	Remove existing mini pillar and base	2	nr		
	Connection to existing chamber				
	Locate existing manhole; take off cover; connect end of new duct to existing manhole; including all necessary excavation, disposal, backfilling and reinstatement; forming openings; making good all work disturbed.				
D	^^^1 nr 125 mm diameter pipe; connection at average 1.00m below existing cover level to existing manhole. (LV)	5	nr		
E	^^^1 nr 125 mm diameter pipe; connection at average 1.00m below existing cover level to existing manhole. (Lighting)	2	nr		
	Work outside the Boundary of the Site				
F	The Contractor shall note that within the measured sections of the Bill of Quantities Works outside the boundary may not have been specifically stated or described or included for seperatley. In such instances, the contractor is deemed to have included here against this item or within his rates generally for all costs associated with such works.	1	item		

Description	Qty	Unit	Rate	Amount
COLLECTION				
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Page No. BQ/676				
(60) SITE SERVICES (Mainly Electrical) **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(70) SITE FITTINGS & FURNITURE				
	ELEMENT NUMBER 70				
	SITE FITTINGS AND FURNITURE				
A	For detailed description of materials and workmanship see Works Requirements.		Note		
B	The Contractor is deemed to have visited the site, inspected both the site and all available information to carefully determine locations of all existing services, adjoining buildings and other constraints prior to commencing work.		Note		
	EQUIPMENT				
	Bicycle stand and shelter				
	MMCite Edge or equivalent bicycle shelter; single sided, with welded steel frame and support posts with tempered glass roof and hardened glass side walls; steel frame finished in polyester powder coated anthracite grey RAL 7016; bolted to concrete bases with 4no. hilti hus 3-hf M10 galvanised bolts 100mm long and all approved fixings; grade C40/32 300 x 300 x 300mm concrete foundations / bases with 1 layer of mesh, including necessary excavation, disposal, formwork, assembled and erected; all in accordance with manufacturers instructions; as per Architect's Drawing Nr. BSM-L-1052 and Specification				
C	^^^size 3900 x 2500 x 2455 / 1750mm high	2	nr		
	MMCite Edgetyre or equivalent bicycle stand; steel frame finished in polyester powder coated with durable rubber (EPDM) coating; bolted to concrete bases with 4no. hilti hus 3-hf M10 galvanised bolts 100mm long and all approved fixings; grade C40/32 300 x 300 x 300mm concrete foundations / bases with 1 layer of mesh, including necessary excavation, disposal, formwork, assembled and erected; all in accordance with manufacturers instructions; as per Architect's Drawing Nr. BSM-L-1052 and Specification				
D	^^^size 1220 x 885 mm (above ground) - ref STE110	10	nr		

	Description	Qty	Unit	Rate	Amount
	Bins				
	OMOS Ref. s16 4mm s355 steel hot dipped galvanized throughout, powder coated metallic finish on panels; Omos patented ashtray; Front opening with concealed stainless steel hinge and slam latch; Painted centre frame to match; Galvanized liner. Height 1172mm, width 550mm, depth 386mm; Capacity 115L fixed & fitted; embedded in grade C40/32 600 x 600 x 300mm concrete foundations / bases with 1 layer of mesh, including necessary excavation, disposal, formwork, assembled and erected; all in accordance with manufacturers instructions				
A	^^^Bins	2	nr		
	Benches				
	OMOS v49m or equivalent seat with backrest, powder coated aluminium ends and armrests; in selected colour, slatted hardwood timber seat and backrest; embedded in grade C20 (Mix ST4) 600 x 300 x 300mm concrete foundations / bases with 1 layer of mesh either end, including necessary excavation, disposal, formwork, assembled and erected; include 75mm drainage layer; all in accordance with manufacturers instructions; as per Architect's Drawing Nr. BSM-L-1052 and Specification				
B	^^^2750mm long	15	nr		
	Door Guards				
	Coughlan Engineering door guard or equivalent; stainless steel grade 304, 50mm diameter tubing overall exposed length 800mm long x 1100mm high (above ground) with kick plate and all welded to 180mm x 180mm x 10mm thick galvanised ms baseplate, embedded in grade XF3 C30 300 x 300 x 300mm concrete foundations / bases with 1 layer of mesh either end, including necessary excavation, disposal, formwork, assembled and erected; include 75mm drainage layer; all in accordance with manufacturers instructions; as per Architect's Drawing Nr. BSM-L-1052 and Specification				
C	^^^800 x 1100mm high	16	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Bollards				
	Supply and install removable bollard, Hartecast HC2011 or approved equivalent; Grade 316 stainless steel, brushed finish, 114mm dia × 3mm wall thickness, 900mm above ground / 300mm below ground, with 100mm contrasting powder-coated high-vis reflective yellow top; retention socket Hartecast HC114R or equivalent, 310mm deep, with drainage to base, and removable key; set into ST4 concrete base 500 × 500 × 210mm, with 1 layer of mesh; including excavation, disposal, formwork and 75mm drainage material to base; water drain to Engineer's detail; all in accordance with manufacturer's instructions; all as per BSM detail F5 Drawing Nr. BSM-L-1052 and Specification				
A	^^^Bollard	3	nr		
	Water fountain				
	Double sided stainless steel water fountain, powder coated finish anthracite grey RAL 7016, with bottle capacity 2L suitable 120mm wide x 310mm highbolted to concrete bases with 4no. hilti hus 3-hf M10 galvanised bolts 100mm long and all approved fixings; grade C40/32 300 x 300 x 300mm concrete foundations / bases with 1 layer of mesh, including necessary excavation, disposal, formwork, assembled and erected; all in accordance with manufacturers instructions; as per Architect's Drawing Nr. BSM-L-1052 and Specification				
B	^^^size 440 x 100 x 1440mm high	1	nr		

Description	Qty	Unit	Rate	Amount
COLLECTION				
Page No. BQ/678				
Page No. BQ/679				
Page No. BQ/680				
(70) SITE FITTINGS & FURNITURE **Carried to Summary**				

	Description	Qty	Unit	Rate	Amount
	(80) LANDSCAPING				
	LANDSCAPING				
	SURFACE PAVINGS, FENCING AND LANDSCAPING				
	Notes for the landscape:				
A	Include for the collection and storage of a representative sample of all scheduled Plant Material and for transportation and accomodation of up to 2 members of the Design Team to inspect same prior to supply to site.	1	item		
B	The contractor shall include in his rates all costs necessary for specialised machinary, working methods and health and safety methods, production of Health & Safety Plan.	1	item		
C	Maintenance of temporary works, adopting, clearing away and making good are deemed to be included.	1	item		
D	Any notices and fees to Local Authorities and Public undertaking related to these items shall be deemed to be included with these items.	1	item		
E	Provide for transport to site.	1	item		
F	Provide for testing in accordance with the specification.	1	item		
G	Provide for all drawings, samples, mock-ups and reports required by the specification.	1	item		
H	Protection during transit, handling, storage and installation.	1	item		
J	Provide for the full cost implications of complying with the main contract volume A: General conditions and preliminary items. Issued separately as part of the overall WORKS REQUIREMENTS Item.	1	item		
K	Provide for fixing the price of the works in accordance with the Conditions of Contract.	1	item		
L	The contractor shall enter hereunder and carry forward any item from the Contract Documents against which he requires to cover any special risks, liabilities and obligations which are not included in his rates for other items.	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	All stakes and rail for trees shall be sweet chestnut, peeled larch, or pressure treated fir free from projections and large/ edge knots and preservative treatment to BS 8417. All stakes to be painted with two coats of opaque Bondex Ebony or equivalent water based paint. Contractor to include this in the submitted pricing regime.	1	item		
	Grassing and Planting				
	Topsoil				
	Approved imported Enrich Soils or equivalent enriched manufactured SuDSsoil with permeability of 100 - 300mm /hrs, riddled to remove stones and treated with weed killer; spread as directed.				
B	^^^Rain garden areas, 800mm thick (ref. RG Drawing Nr. 1002 & 1055)	975	m2		
	Approved topsoil from spoil heaps, riddled to remove stones and treated with weed killer; spread as directed.				
C	^^^Ground cover areas, 200mm thick (ref. GC Drawing Nr. 1001 & 1002)	103	m2		
D	^^^Hedge cover areas, 460mm thick (ref. GC Drawing Nr. 1001, 1002 & 1054)	24	m2		
E	^^^Hedge cover areas, 460mm thick (Works outside the boundary of the site - Pedestrian crossing & carpark realignment)	54	m2		
	Lightweight intensive plant growing media to roof deck planters; imported media corresponding to FLL Guidelines and BS 3882:2015; being Enrich Lightweight Intensive Green Roof soil mix Type 9 Super Lightweight Green Roof Mix or equal equivalent; constituents topsoil, peat-free compost, sand and LECA; certified to I.S.441:2011 and BS 3882:2015, free from viable weed seeds and pathogens, peat-free; all performance parameters to Type 9 product specification sheet on dwg L-1003; placed and consolidated over drainage build-up incl. delivery to roof level, distribution, placing in layers and light consolidation; as per BSM Specification cl.391A and Drawing Nr. L-1003				
F	^^^600mm thick (Sp1 - Stairs Planters)	15	m2		
G	^^^600mm thick (Sp2 - Stairs Planters)	5	m2		
H	^^^600mm thick (RT - Roof Planters)	241	m2		

	Description	Qty	Unit	Rate	Amount
	LECA drainage layer to stair planters; round lightweight expanded clay aggregate, kiln fired, chemically inert, non-degradable, frost resistant, pH neutral, free draining and free from fines, dust and contaminants; grading, dry loose bulk density and manufacturer to be submitted for approval; laid over 40mm drainage board to base of planters, placed without compaction to preserve void ratio and graded to fall to drainage outlet, incl. delivery to roof level and distribution; as per BSM Specification and Drawing Nr. L-1003 & 1055				
A	^^^200mm thick (Sp1 - Stairs Planters)	15	m2		
B	^^^200mm thick (Sp2 - Stairs Planters)	5	m2		
C	^^^200mm thick (RT - Roof Planters)	241	m2		
	Cultivating				
	Cultivating; surfaces of filling				
D	^^^rotovating; grading; removing debris; harrowing; weeding; preparing for seeding	127	m2		
	Surface Applications				
E	^^^fertilizer 70g/m2; raking in	127	m2		
	Seeding				
F	^^^Dwarf rye grass seed; 60g/m2; raking in	127	m2		
G	^^^At the time of handing over the site; cut grass over the area, leave not exceeding 35 mm high, remove all cut grass from site.	127	m2		
	Grass Cutting				
H	^^^At the time of handing over the site; cut grass over the area, leave not exceeding 75 mm high, remove all cut grass from site.	127	m2		
	Mulch				
J	^^^Selected and approved round gravel mulch; depth 75mm with weed control barrier.	975	m2		
	Protection				
K	Protection to all exsiting areas during the works, making good all distured areas	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	PLANTING				
	Tree Planting Schedule				
	Internal Trees in Planter - Container grow with underground guy. Refer to drawing MTUHPC-DR-BSM-L-1054 detail MS and MTUHPC-DR-BSM-L-1006. Place D-MAN cells concrete at the bottom of planter. Cover with soil, install irrigation watering system (Greenleaf RootRain tree irrigation, cl. 470A - UV-stabilised black polypropylene 3m × 60mm dia. tube, grille inlet, PE-HD moulded grid top, 80/60mm HDPE reducer with strengthening fins, heavy-duty HDPE tee with non-return locking lugs; placed around rootball to manufacturer's recommendations) with reservoir tanks. Top up & lightly compact 'Enrich' soil to correct height for tree (min. 30 cm). Place tree into position, ensuring its straight. Position Plati-Mat onto the rootball, place rachet tensioner and thread wire. Insert end of tensioning cable in ratchet. Use a wrench to tighten threw system. Lace the tensioning cable through the cable loops and over the fixing discs. Place a 60mm dia. perforated plastic pipe around the rootball for irrigation/ feeding purposes. Ensure tree remains in vertical position. Backfill and cover the rootball with Enrich Topsoil mixed with mycorrhizal granules (root grow)Trees are to be planted at the same depth as in nursery (as indicated by the soil mark on the stem of trees) and the soil is carefully firmed back up to existing ground level. Mark position of ratchet so tension may be maintained if settling occurs. Supply install 75mm deep x 1m diam. fine compost mulch to surface				
A	^^^Sericeberry Robin Hill, Species: Amelanchier lamarckii - Robin Hill, Form: Multistem, Root: RB, Height: 2.5 - 3m	2	nr		
B	Tree anchor by Platipus Anchors System RF1PDMAN (o.s.e.a)D-MAN Cells, supply and install	2	nr		

	Description	Qty	Unit	Rate	Amount
	The following Trees are to be planted including mini soakway, irrigation / aeration system (Greenleaf RootRain tree irrigation, cl. 470A - UV-stabilised black polypropylene 3m × 60mm dia. tube, grille inlet, PE-HD moulded grid top, 80/60mm HDPE reducer with strengthening fins, heavy-duty HDPE tee with non-return locking lugs; placed around rootball to manufacturer's recommendations), backfilled with modified topsoil with Rootgrow Professional Mycorrhizal, tree stakes, tree tie, form rounded topsoil berm, mulch to base of tree, spiral tree guard, planted in areas as indicated on Architects Drawing Nr. BSM-L-1001,1004, 1005, 1053, 1054 & 1055, all in accordance with Planting Schedule, Specifications & Details. Larger tree pits should be excavated to minimize the destruction of soils structure. Excavate tree pits to the depth of existing rootball,remove excavated material and dispose of on site at a location to be agreed with the CA. Base of pit should remain undisturbed. Mound the pit slightly to help shed water away from the upper rootball. Incorporate a mini soakaway in the base of the pit, or connecting the pit to a positive drainage outfall. Position tree, drive 4 no. 2400 x 100mm pressure treated stakes to leave 0.8m over ground. Place a 60mm dia. perforated plastic pipe around the rootball for irrigation/ feeding purposes. Backfill with topsoil from stockpile on site incorporating Enrich organic compost and Rootgrow mycorrhizae. Attach 2No. 75mmx 50mm pressure treat timber cross bar to stakes securely with galvanised nails in horizontal position. All stakes to be treated with min 2 no. coats Bondex Ebony opaque Paint or equivalent. Trees are to be planted at the same depth as in nursery (as indicated by the soil mark on the stem of trees) and the soil is carefully firmed back up to existing ground level. Supply and fit, rabbit guard, biodegradable fabric composition tree tie,tie wrapped twice in an eight, twisted to give distance. Supply install 75mm deep x 1m diam. fine compost mulch to surface (Planting Operations Refer to Planting Schedule MTUHPC-DR-BSM-L-1001 & Q31 of Specification - Semi Mature Trees - Rootballed (30-35cm girth)(Refer to drawing MTUHPC-DR-BSM-L-1053 detail T2).				
A	^^^Bm (Uhd), Species: Ulmus hollandica Dodoens, Form: Extra heavey, Girth: 30 - 35cm, Root: RB, Height: 5 - 6m	10	nr		

	Description	Qty	Unit	Rate	Amount
	The following Trees are to be planted including mini soakway, irrigation / aeration system, backfilled with modified topsoil with Rootgrow Professional Mycorrhizal, tree stakes, tree tie, form rounded topsoil berm, mulch to base of tree, spiral tree guard, planted in areas as indicated on Architects Drawing Nr. BSM-L-1001,1004, 1005, 1053, 1054 & 1055, all in accordance with Planting Schedule, Specifications & Details. Larger tree pits should be excavated to minimize the destruction of soils structure. Excavate tree pits to the depth of existing rootball,remove excavated material and dispose of on site at a location to be agreed with the CA. Base of pit should remain undisturbed. Mound the pit slightly to help shed water away from the upper rootball. Incorporate a mini soakaway in the base of the pit, or connecting the pit to a positive drainage outfall. Position tree, drive 4 no. 2400 x 100mm pressure treated stakes to leave 0.8m over ground. Place a 60mm dia. perforated plastic pipe around the rootball for irrigation/ feeding purposes. Backfill with topsoil from stockpile on site incorporating Enrich organic compost and Rootgrow mycorrhizae. Attach 2No. 75mmx 50mm pressure treat timber cross bar to stakes securely with galvanised nails in horizontal position. All stakes to be treated with min 2 no. coats Bondex Ebony opaque Paint or equivalent. Trees are to be planted at the same depth as in nursery (as indicated by the soil mark on the stem of trees) and the soil is carefully firmed back up to existing ground level. Supply and fit, rabbit guard, biodegradable fabric composition tree tie,tie wrapped twice in an eight, twisted to give distance. Supply install 75mm deep x 1m diam. fine compost mulch to surface. (Planting Operations Refer to Planting Schedule MTUHPC-DR-BSM-L-1001 & Q31 of Specification - Advanced Nursery Stock - Rootballed (18-20cm girth) (Refer to drawing MTUHPC-DR-BSM-L-1053 detail T1).				
A	^^^Freeman maple (Af), Species: Acer freemanii - Autumn Blaze, Form: Extra heavy, Girth: 18 - 20cm, Root: RB, Height: 4.5 - 5m	8	nr		
B	^^^Purple Japanese maple (Ap), Species: Acer plamatum - Atropurpureum, Form: Extra heavy, Girth: Multistem, Root: RB, Height: 2.5 - 3m	1	nr		
C	^^^Whitbeam Majestica (Sa), Species: Sorbus aria - Majestica, Form: Extra heavy, Girth: 18 - 20cm, Root: RB, Height: 4.5 - 5m	6	nr		
D	^^^River birch (Bn), Species: Betula nigra, Form: Extra heavy, Girth: 18 - 20cm, Root: RB, Height: 4.5 - 5m	7	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^Callerypear Chanticleer (Pc), Species: Pyrus calleryana - Chanticleer, Form: Extra heavy, Girth: 18 - 20cm, Root: RB, Height: 4.5 - 5m	2	nr		
B	^^^Callerypear Chanticleer (Pc), Species: Pyrus calleryana - Chanticleer, Form: Extra heavy, Girth: 16 - 18cm, Root: RB, Height: 4.5 - 5m	6	nr		
	The following Trees are to be planted including mini soakway, irrigation / aeration system (Greenleaf RootRain tree irrigation, cl. 470A - UV-stabilised black polypropylene 3m × 60mm dia. tube, grille inlet, PE-HD moulded grid top, 80/60mm HDPE reducer with strengthening fins, heavy-duty HDPE tee with non-return locking lugs; placed around rootball to manufacturer's recommendations), backfilled with modified topsoil with Rootgrow Professional Mycorrhizal, tree stakes, tree tie, form rounded topsoil berm, mulch to base of tree, spiral tree guard, planted in areas as indicated on Architects Drawing Nr. BSM-L-1001,1004, 1005, 1053, 1054 & 1055, all in accordance with Planting Schedule, Specifications & Details. Excavate tree pits to the depth of existing rootball,remove excavated material and dispose of on site at a location to be agreed with the CA. Base of pit should remain undisturbed. Mound the pit slightly to help shed water away from the upper rootball. Position tree, drive 3 no. 1800 x 75mm pressure treated timber stakes to leave 600mm over ground. All stakes to be treated with min 2 no. coats Bondex Ebony opaque Paint or equivalent. Backfill with topsoil from stockpile on site incorporating Enrich organic compost and Rootgrow mycorrhizae. Trees are to be planted at the same depth as in nursery (as indicated by the soil mark on the stem of trees) and the soil is carefully firmed back up to existing ground level. Supply and fit, rabbit guard, biodegradable fabric composition tree tie,tie wrapped twice in an eight, twisted to give distance. Supply install 75mm deep x 1m diam. fine compost mulch to surface. (Planting Operations Refer to Planting Schedule MTUHPC-DR-BSM-L-1001 & Q31 of Specification - Multistem (Refer to drawing MTUHPC-DR-BSM-L-1053 detail T1)				
C	^^^Sericeberry Robin Hill, Species: Amelanchier lamarckii - Robin Hill, Form: Extra heavy, Girth: Multistem, Root: RB, Height: 4.5 - 5m	1	nr		

	Description	Qty	Unit	Rate	Amount
	Hedge Planting				
	Hedge/ hedgerow planted double row staggered, plant spacing centres 450mm, 6.25 nr plants per m2; Excavate a trench ditch 1200 wide and 450mm deep,or to a sufficient size so as to easily accommodate the rootball of the plant,breaking up base 100mm. Backfill with topsoil from stockpile on site incorporating 'Enrich' or equivalent approved compost. Prepare the plants by pruning back any damaged roots to healthy growth; placing roots of waiting plants in water whilst planting; applying an approved mycorrhizal root-dip e.g Rootgrow. Place the plants in the trench in a double staggered row. 450mm between the rows, 350mm between the plants in each row. Backfill the trench to half its depth and firm by treading. Continue planting the trench. Once planted, backfill with the remaining soil and firm as before. Supply and install 50mm deep x 1m width, fine compost mulch to surface; supply and fit rabbit guards with bamboo cane support to native hedgerow; in areas as indicated on Architects Drawing Nr. BSM-L-1001,1004, 1005, 1053, 1054 & 1055, all in accordance with Planting Schedule, Specifications & Details				
A	^^^Hawthorn (H), Species: Crataegus monogyna, Size: 90 - 120cm, Spec: 1+1, Type: BR, Rows: 2nr	178	nr		
B	^^^Yew (Y), Species: Taxus baccatta, Size: 90 - 120cm, Spec: 1+1, Type: BR, Rows: 2nr	107	nr		
C	^^^support: Supply and fit straining posts, wire to postsand mesh, with plastic wire ties for each hedge plant, tied as per MTUHPC-DR-BSM-L-1054 detail H	115	m		
	Shrub Planting				
	Rain garden (Rg) Planting Mix, plant spacing centres 400mm, 6.25 nr plants per m2, excavate planting pits or to suit plant size and shape, create a cleft at bottom of hole to improve rooting; gently firm plant into hole to ensure good root hold into substrate; in areas as indicated on Architects Drawing Nr. BSM-L-1001,1004, 1005, 1053, 1054 & 1055, all in accordance with Planting Schedule, Specifications & Details				
D	^^^Bears Breeches, Species: Acanthus mollis, Pot size: 1L, Mix %: 2.5%	152	nr		
E	^^^Astillbe, Species: Astilbe chinensis pumila, Pot size: 1L, Mix %: 5%	305	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^Korean Feather Grass, Species: Calamagrostis brachytricha, Size: 20 - 30cm, Pot size: p9, Mix %: 10 %	609	nr		
B	^^^Oranesbill Rozanna, Species: Geranium Rozanne, Size: 20 - 30cm, Pot size: 1L, Mix %: 5%	305	nr		
C	^^^Day Lilly, Species: Hemerocallis Burning Light, Pot size: p9, Mix %: 5%	305	nr		
D	^^^Snowy Woodbrush, Species: Luzula nivea, Pot size : 1L, Mix %: 5%	305	nr		
E	^^^Coral bells, Species: Heuchera sanguinea, Pot size: p9, Mix %: 5%	305	nr		
F	^^^Satinflower, Species: Libertia formosa, Pot size: p9, Mix %: 5%	305	nr		
G	^^^Miscanthus, Species: Miscanthus sinensis Kleine Fontane, Size: 30 - 40cm, Pot size: p9, Mix %: 5%	305	nr		
H	^^^Knotgrass Darjeeling Red, Species: Persicaria affinis Darjeeling Red, Pot size: p9, Mix %: 10%	609	nr		
J	^^^Soft rush, Species: Juncus patens Elk Blue, Pot size : p9, Mix %: 2.5%	152	nr		
K	^^^Matted sea lavender, Species: Limonium bellidifolium, Pot size: p9, Mix %: 5%	305	nr		
L	^^^Pholx, Species: Phlox paniculata White Admirl, Pot size: p9, Mix %: 2.5%	152	nr		
M	^^^Tickseed, Species: Coreopsis verticllata Grandiflora, Pot size: p9, Mix %: 2.5%	152	nr		
N	^^^Mountain cornflower, Species: Centaurea montana Jordy, Pot size: p9, Mix %: 2.5%	152	nr		
P	^^^Argentinian Vervain, Species: Verbena bonariensis, Pot size: 1L, Mix %: 5%	305	nr		
Q	^^^Lesser catmint, Species: Calamintha nepeta White Cloud, Pot size: 1L, Mix %: 5%	305	nr		
R	^^^Turted hair grass, Species: Deschampsia cespitosa, Size: 30 - 40cm, Mix %: 5%	305	nr		
S	^^^Great burnet, Species: Sanguisorba officinalis Red Thunder, Mix %: 5%	305	nr		
T	^^^Oregano, Species: Origanum laevigatum Herrenhausen, Mix %: 5%	305	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	^^^Seathrift, Species: Armeria maritima, Pot size: 1L Mix %: 2.5%	152	nr		
	Ground cover (Gc) planting mix in areas as indicated on Architects Drawing Nr. BSM-L-1001,1004, 1005, 1053, 1054 & 1055, all in accordance with Planting Schedule, Specifications & Details				
B	^^^Tawhiwhi Tom Tumb, Species: Pittosporum tenuifolium Tom Tumb, Size: 2L, Spacing 3nr, Mix: 10 %	38	nr		
C	^^^Skimmia Frafrans, Species: Skimmia japonica Frangrans, Size: 2L, Spacing: 3nr, Mix: 10%	38	nr		
D	^^^St. John worts Hidcote, Species: Hypericum Hidcoteense Hidcote, Size: 2L, Spacing: 3nr, Mix: 10%	38	nr		
E	^^^Periwinkle, Species: Vinca minor Atropurpurea, Size: 2L, Spacing: 7nr, Mix: 5%	44	nr		
F	^^^Ivy Green Ripple, Species: Hedera helix Green Ripple, Size: 1.5L, Spacing: 5nr, Mix: 10%	63	nr		
G	^^^Oranesbill Johnson Blue, Species: Geranium Johnson Blue, Size: 2L, Spacing: 7nr, Mix: 10%	88	nr		
H	^^^Japanese anemone, Species: Anenome japonica Queen Charlotte, Size: 2L, Spacing: 5nr, Mix: 5%	31	nr		
J	^^^Lady fern, Species: Athyrium filix-femina, Size: 2L, Spacing: 7nr, Mix: 10%	63	nr		
K	^^^Scaly male fern Cristata, Species: Dryopteris affinis Cristata, Size: 2L, Spacing: 7nr, Mix: 5%	44	nr		
L	^^^Snowy barrenwort, Species: Epimedium youngianum Niveum, Size: 2L, Spacing: 7nr, Mix: 5%	44	nr		
M	^^^Mexican feather grass, Species: Stipa tenuissima, Size: 2L, Spacing: 7nr, Mix: 10%	88	nr		
N	^^^Feather reed grass, Species: Calamagrostis acutiflora Karl Foerster, Size: 2L, Spacing: 5nr, Mix: 10 %	63	nr		

	Description	Qty	Unit	Rate	Amount
	Roof terrace planting (Rt) trimmed shrub planting mix; Excavate planting pits 300 mm dia and 450mm deep or to a sufficient size so as to easily accommodate the rootball of the plant. Centre the shrub in the pit and backfill with lightweight soil with innoculant of mycorrhizal fungi e.g. Rootgrow, into soil. Soil shall be lightly firmed to ensure good contact between plant roots and soil substrate. Mulch all ornamental shrub areas to a depth of 50mm min; in areas as indicated on Architects Drawing Nr. BSM-L-1006, all in accordance with Planting Schedule, Specifications & Details				
A	^^^Japanese spindle, Species: Euronymus japonicus Jean Hugues, Spacing 0.45m	54	nr		
	Roof terrace planting (Rt) bulb planting mix; Plant · Dried bulbs, corms and tubers: September/ October. Green bulbs: After flowering in spring; - Planting Depth: Top of bulb/ corm/ tuber at a depth of approximately twice its height, base in contact with bottom of hole; - Plant into prepared earlier 150mm deep decompacted soil area covered with 75mm deep select / approved bark mulch 5-35mm chip; - Backfilling: Lightly firm to existing ground level and cover back with bark mulch; in areas as indicated on Architects Drawing Nr. BSM-L-1006, all in accordance with Planting Schedule, Specifications & Details				
B	^^^Star of Persia, Species: Allium cristphii, Size: 0.1 - 0.5m high, Mix: 37.5%; Spacing 13 nr. / m2	300	nr		
C	^^^Daffodil, Species: Narcissus Tete-a-tete, Size: 0.1 - 0.5m high, Mix: 62.5%; Spacing 13 nr. / m2	500	nr		
	Roof terrace planting (Rt) ground cover planting mix; excavate planting pits or to suit plant size and shape; create a cleft at bottom of hole to improve rooting; gently firm plant into hole to ensure good root hold into substrate; ; in areas as indicated on Architects Drawing Nr. BSM-L-1006, all in accordance with Planting Schedule, Specifications & Details				
D	^^^Bugle, Species: Ajuga reptans, Size: 0.1 - 0.5m high; Spacing: 3 nr. / m2	37	nr		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	Roof terrace planting (Rt) planting mix; excavate planting pits or to suit plant size and shape; create a cleft at bottom of hole to improve rooting; gently firm plant into hole to ensure good root hold into substrate; in areas as indicated on Architects Drawing Nr. BSM-L-1006, all in accordance with Planting Schedule, Specifications & Details				
A	^^^Feathered reed grass, Species: Oalamagrostis acutiflora Karl Foerste, Pot size: P11, Spacing: 3nr / m2 (Tall planting)	30	nr		
B	^^^Miscanthus grass, Species: Miscanthus sinensis Flamingo, Pot size: P11, Spacing: 3nr / m2 (Tall planting)	26	nr		
C	^^^Abelia, Species: Abelia gradiflora Compacta, Pot size: 3L, Spacing: 3nr / m2 (Tall planting)	9	nr		
D	^^^Purple top, Species: Verbena bonarensis, Pot size: P11, Spacing: 3nr / m2 (Tall planting)	21	nr		
E	^^^Dwarf sweet box, Species: Sarcococca hookeriana va humilis, Pot size: P11, Spacing: 3nr / m2 (Tall planting)	15	nr		
F	^^^Rosemary, Species: Rosmarinus Prostratus, Pot size: P11, Mix: 30.0%, Spacing: 3nr / m2 (Planting Mix 1)	36	nr		
G	^^^Lavander, Species: Lavendula angustifolia Munstead, Pot size: 2L, Mix: 30.0%, Spacing: 3nr / m2 (Planting Mix 1)	36	nr		
H	^^^Tufted hair grass, Species: Deschampsia cespitosa Goldtau, Pot size: P11, Mix: 25.0%, Spacing: 3nr / m2 (Planting Mix 1)	30	nr		
J	^^^Cranesbill, Species: Geranium cantabrigiense Biokovo, Pot size: P11, Mix: 15.0%, Spacing: 3nr / m2 (Planting Mix 1)	18	nr		
K	^^^Rosemary, Species: Rosmarinus Prostratus, Pot size: P11, Mix: 30.0%, Spacing: 3nr / m2 (Planting Mix 2)	20	nr		
L	^^^Lavender cotton, Species: Santolina chamaecyparissus, Pot size: P11, Mix: 30.0%, Spacing: 3nr / m2 (Planting Mix 2)	20	nr		
M	^^^Purple moor grass, Species: Molinia caerulea Edith Dudszus, Pot size: P11, Mix: 25.0%, Spacing: 3nr / m2 (Planting Mix 2)	17	nr		

	Description	Qty	Unit	Rate	Amount
A	^^^Rudbeckia, Species: Rudbeckia fulgida Goldsturm, Pot size: P11, Mix: 15.0%, Spacing: 3nr / m2 (Planting Mix 2)	10	nr		
	Stairs planters (Sp1 & 2) planting mix; ; in areas as indicated on Architects Drawing Nr. BSM-L-1003, all in accordance with Planting Schedule, Specifications & Details				
B	^^^Rosemary, Species: Rosmarinus Prostratus, Size: 0.1 - 0.5m high, Pot size: P11, Mix: 20.0%, Spacing: 5nr / m2 (Sp1)	8	nr		
C	^^^Lavander, Species: Lavendula angustifolia Munstead, Size: 0.1 - 0.5m high, Pot size: 2L, Mix: 20.0%, Spacing: 5nr / m2 (Sp1)	8	nr		
D	^^^Tufted hair grass, Species: Deschampsia cespitosa Goldtau, Size: 15 - 20cm high, Pot size: P11, Mix: 15.0 %, Spacing: 5nr / m2 (Sp1)	6	nr		
E	^^^Aging chive, Species: Allium senescens, Size: 15 - 20cm high, Pot size: P11, Mix: 15.0%, Spacing: 5nr / m2 (Sp1)	6	nr		
F	^^^Showy stonecrop, Species: Sedium sppectabile, Size: 15 - 20cm high, Pot size: P11, Mix: 15.0%, Spacing: 5nr / m2 (Sp1)	6	nr		
G	^^^Oranesbill, Species: Geranium x cantabrigiense Biokovo, Size: 0.1 - 0.5m high, Pot size: P11, Mix: 15.0%, Spacing: 5nr / m2 (Sp1)	6	nr		
H	^^^Aging chive, Species: Allium senescens, Size: 15 - 20cm high, Pot size: P11, Mix: 40.0%, Spacing: 5nr / m2 (Sp2)	6	nr		
J	^^^Silver spike grass, Species: Achnatherum calamagrostis, Size: 15 - 20cm high, Pot size: P11, Mix: 20.0%, Spacing: 5nr / m2 (Sp2)	3	nr		
K	^^^Showy stonecrop, Species: Sedium sppectabile, Size: 15 - 20cm high, Pot size: P11, Mix: 15.0%, Spacing: 5nr / m2 (Sp1)	6	nr		

	Description	Qty	Unit	Rate	Amount
	PLANTERS				
	Supply and installation of proprietary modular galvanised steel stair planters; 6mm galvanised steel, polyester powder coated Corten colour or to Architect's specification; reference type Kent KBP/2000 Battersea Planter or equivalent; designed and manufactured to specialist manufacturer's shop drawings; internal planting depth 600mm; nominal footprint 1600 × 1600mm (L-1055 plan); Modular construction set on drainage board of the roof deck construction with soil-compressing footplate to hold the planter down when filled; includes: GRP watertight liner; 40mm drainage board; 100mm LECA drainage layer; 300mm square inspection chamber over drainage outlet; tension cables across planter walls to prevent buckling to manufacturer's design; internal liquid-applied flexible waterproofing layer; thermal protection layer to internal wall with top folded over; self-adhesive sealing tape between panel joints; all fixings and joints protected with clear externally-rated sealant; as per Drawing Nr. MTUHPAC-Z-31-Z-ZZZ-DR-OCM-AR-5628 (External Details – Typical Planter Detail), and Z11 / Z20 / Z22 / Z31.to the roof terrace stair, per Landscape Works Specification clause 117 "Planters on Stair" and drawings MTUHPC-DR-BSM-L-1003 (Roof Terrace Plan, legend "Proposed planters on stair") and MTUHPC-DR-BSM-L-1055 detail SP				
A	^^^size 2000 x 1500 x 600mm high	4	nr		
	Bespoke 600mm high steel planter with cross bracing and bespoke integral bench seating with backrest and arm rests; 6mm galvanised steel, PPC Corten colour; modular design to manufacturer's shop drawings; internal depth 600mm; set on 40mm drainage crate/board over the waterproofing system (1:60 fall to drainage opes); includes tension cables, internal liquid-applied flexible waterproofing, thermal protection layer, sealing tape and sealant to all fixings/joints; with platipus anchor system and reservoir tanks measured separately per L-1006; per L-1003 detail RP1/RP2 and Landscape Works Spec clause 116 "Planters on Roof Deck				
B	^^^13500 x 4500 x 850mm high	4	nr		
C	^^^^^^extra over for seating 2100mm long as per BSM Drawing Nr. 1003	16	nr		

	Description	Qty	Unit	Rate	Amount
	IRRIGATION SYSTEM				
	Design, supply, installation, testing and commissioning of a drip irrigation system serving the roof terrace planters, comprising Hunter Node battery-powered timer and drip irrigation system (or equivalent), system design to specialist manufacturer's design recommendations based on the planter layout, planting and specifications shown on drawing MTUHPC-DR-BSM-L-1003, read with the planting schedule on MTUHPC-DR-BSM-L-1006; drip line low flow rate 4.8 l/m, applied at 2 linear metres per m2 of planting; system to be zoned to further control flow rate. Connection to bib tap and water supply serving the roof deck areas to Engineer's specification, location and details; installation by Main Contractor / landscape contractor of roof deck planters and planting; Planter beds served: roof deck planters RP1 (bespoke steel planters with integral seating) and stair planters Sp1 / Sp2, all at 600mm internal substrate depth; ducting routes as shown on the L-1003 legend - 50mm duct from roof plantroom to first planter, and 50mm duct between planters running under the pedestal paving.				
A	^^^irrigation system design, specialist shop drawings, submittals, testing and commissioning; Hunter Node battery timer and drip system, Irritec or equal approved, to cl. 470B	1	item		
B	^^^300 litre storage tank, mains water fed via ballcock providing CAT 5 air gap; located in roof plantroom	1	nr		
C	^^^irrigation pump, complete with connections	1	nr		
D	^^^Hunter X2 irrigation control panel, programmed 3 no. daily cycles, nominal 20 min run time, schedule adjustable	1	nr		
E	^^^24V control valves located within first planter, complete with LV control cable following pipe route back to plantroom	2	nr		
F	^^^Wireless rain sensor to halt system in wet weather, complete with pairing/commissioning to control panel	1	nr		
G	^^^50mm duct, roof plantroom to first planter, laid to Engineer's details	25	m		
H	^^^50mm duct between planters, laid under pedestal paving to Engineer's details	125	m		
J	^^^20mm HDPE 10-bar main supply pipe drawn through ducts, incl. all bends, connections and fittings	150	m		

	Description	Qty	Unit	Rate	Amount
A	^^^Drip line to planters, low flow 4.8 l/m, laid at 2 lin.m per m2 of planted area, incl. emitters, connectors, end caps and flushing points	513	m		
B	^^^connection to bib tap / water supply serving roof deck, incl. isolation and all associated fittings	1	nr		
	MAINTENANCE 12 MONTHS DEFECTS LIABILITY PERIOD FROM SUBSTANTIAL COMPLETION (PRACTICAL COMPLETION)				
C	Refer to Works Specification-Q35 Landscape Maintenance: To be carried out in accorandance with; BS 3998:2010 Tree work. Recommendations, BS 4428:1989 Code of practice for general landscape operations (excluding hard surfaces), BS 7370-3:1991, Grounds maintenance. Recommendations for maintenance of amenity and functional turf BS 7370-4 :1993 Recommendations for maintenance of soft landscape		Note		
	<u>Trees</u>				
D	Include for adjustments to ties as required, replacements of stakes, ties broken or loosened by wind.	1	visits		
E	Formative pruning (1 visits per year for all trees)	1	visits		
F	Slow release fertiliser 150 g. per tree	5550	nr		
G	Maintain free of grass and weeds 100cm diameter circles around all trees in grass by approved weed control method application.	370	nr		
	<u>Planting- Shrubs, Perennials, Hedge & Climbers</u>				
H	Include for the supply and spread of slow release organic fertiliser in Autumn to planting areas (2 applications per year)	2	visits		
J	Maintain all planting areas free of grass and weeds by hand and/or contact herbicide. At all times, weed cover less than 5% and no weed to exceed 100 mm high for the full length of the maintenance period.	5550	m2		
K	Maintain all Roof terrace planting areas free of weeds by hand and/or contact herbicide. At all times, weed cover less than 5% and no weed to exceed 100 mm high for the full length of the maintenance period.	243	m2		
L	Maintain a broken surface on all shrub planting areas using hoe. Remove stone debris over 35m diameter and tip off site	1	item		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
A	Delineate and maintain planting edge to paved and grass areas.	1	item		
B	Trim and tidy plants as required to remove dead, damaged or diseased wood. (1 visit per year)	1	visits		
	Trees				
C	Include for adjustments to ties as required, replacements of stakes, ties broken or loosened by wind.	1	visits		
D	Formative pruning (1 visits per year for all trees)	1	visits		
E	Slow release fertiliser 150 g. per tree	7050	nr		
F	Maintain free of grass and weeds 100cm diameter circles around all trees in grass by approved weed control method application.	470	nr		
	Planting- Shrubs, Perennials, Hedge & Climbers				
G	Include for the supply and spread of slow release organic fertiliser in Autumn to planting areas (2 applications per year)	2	visits		
H	Maintain all planting areas free of grass and weeds by hand and/or contact herbicide. At all times, weed cover less than 5% and no weed to exceed 100 mm high for the full length of the maintenance period.	7050	m2		
J	Maintain all Roof terrace planting areas free of weeds by hand and/or contact herbicide. At all times, weed cover less than 5% and no weed to exceed 100 mm high for the full length of the maintenance period.	195	m2		
K	Maintain a broken surface on all shrub planting areas using hoe. Remove stone debris over 35m diameter and tip off site	1	item		
L	Delineate and maintain planting edge to paved and grass areas.	1	item		
M	Trim and tidy plants as required to remove dead, damaged or diseased wood. (1 visit per year)	1	visits		
				To Collection €	

	Description	Qty	Unit	Rate	Amount
	General Tree and Hedgerow Maintenance				
A	(1) Weed control: 1a - Maintain weed free area around each tree and transplant to specification 1b - Diameter (minimum): The larger of 1 m or the surface of original planting pit. 1c - Keep planting beds clear of weeds: By cultivation and herbicide treatment. (2) Planted areas: 2a - Fork over beds as necessary to keep soil loose, with gentle cambers and no hollows. Take care not to reduce depth or effect of mulch. 2b - Ensure that sufficient water is applied to maintain healthy growth. (3) Precautions: 3a - Ensure that trees and transplants are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools. 3b · Firming up: Gently firm loosened soil around trees/transplants. Straighten leaning trees and transplants. 3c · Rabbit guards: Ensure correctly fitting. Replace damaged/missing guards 3d - Larger feature trees: Spray crown when in leaf during warm weather. 3e - Timing: After dusk. 3f - Watering: As necessary/contractor's choice to ensure tree survival/establishment.	1	item		
	New hedgerows				
B	Formative pruning to shape Native Hedgerow (57 lin.m). Allow 2 cuts per year. Clean and remove all arisings.	2	visits		
	Watering				
C	Include for watering all tree, shrub and hedge planted areas using water tanker as necessitated by dry weather. The contractor is responsible for informing the LA of the need to water (allow 4 per year)	4	nr		

Description	Qty	Unit	Rate	Amount
COLLECTION				
Page No. BQ/682				
Page No. BQ/683				
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Page No. BQ/685				
Page No. BQ/686				
Page No. BQ/687				
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Page No. BQ/695				
Page No. BQ/696				
Page No. BQ/697				
Page No. BQ/698				
Page No. BQ/699				
(80) LANDSCAPING **Carried to Summary**				

SECTION 4.0

Summary

Collection & Form of Tender Total

Summary

COLLECTION OF BILL TOTALS

PRELIMINARIES			
06	Project Particulars, Preliminaries & General Conditions	€	
BUILDING WORKS			
00	Demolitions & Alterations	€	
10	Building Substructure	€	
22	Internal Walls & Partitions	€	
23	Floors & Galleries & (28) Frame	€	
24	Stairs & Ramps	€	
31	External Walls Completions	€	
32	Internal Wall Completions	€	
33	Floors & Galleries Completions	€	
34	Stairs & Ramps Completions	€	
37	Roof Completions	€	
41	External Wall Cladding	€	
42	Wall Finishes Internally	€	
43	Floor Finishes	€	
44	Stairs Finishes	€	
45	Ceiling Finishes	€	
47	Roof Finishes	€	
52	Drainage & Refuse Disposal	€	
59	Mechanical Installation	€	
66	Transport Services	€	
69	Electrical Installation	€	
74	Sanitary Fittings	€	
79	Building Fittings & Furniture	€	
EXTERNAL WORKS			
10	Prepared Site	€	
40	Roads, Paths & Paving	€	
50.1	Site Services — Piped & Ducted (Foul Sewer)	€	
50.2	Site Services — Piped & Ducted (Storm Sewer)	€	
50.3	Site Services — Piped & Ducted (Watermain)	€	
60	Site Services (Mainly Electrical)	€	
70	Site Fittings & Furniture	€	
80	Landscaping	€	

TOTAL CARRIED TO FORM OF TENDER (NET OF VAT) € _____