1 West Elevation - General Arrangement
1 : 200

Notes

Rev	Description	By	Date
	Stage 2 Issue For Stage Approval	P01	23.02.18

Imperial College London

MRC

Hawkins\ Brown

MRC / ICL Project No.
HMLMS1700

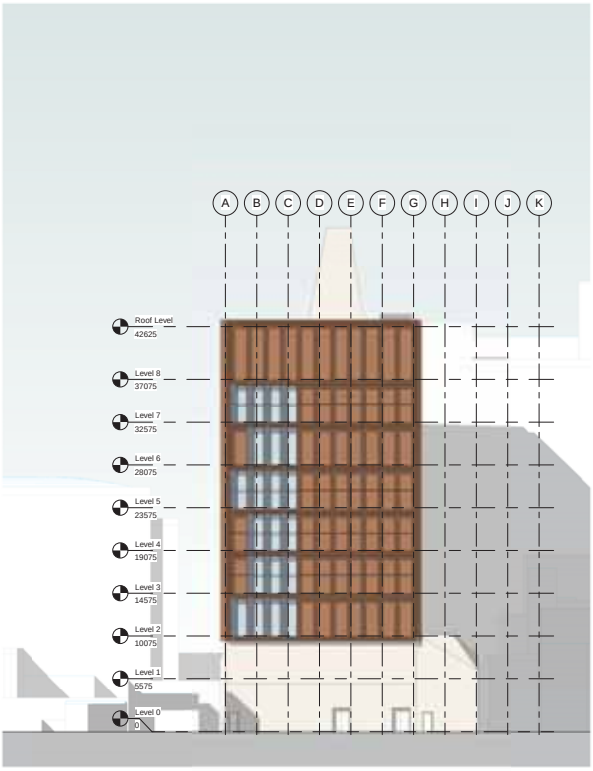
Project Title
London Institute of Medical Sciences

Building Name
London Institute of Medical Sciences

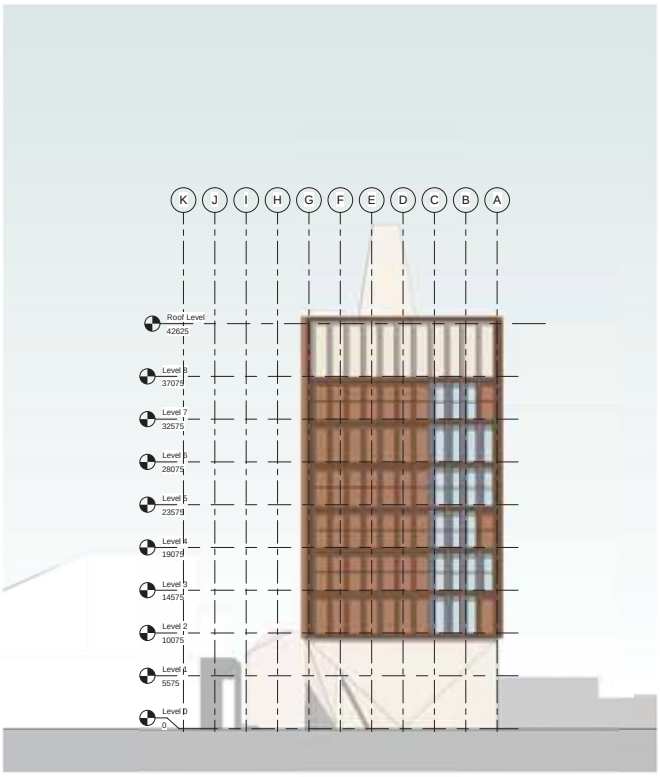
Drawing Title
West Elevation

Status	Purpose of Issue		
S4	FOR STAGE APPROVAL		
Drawn by	Checked	Scale	Date
JK	BP	1 : 200	23/02/2018

Drawing Number
HMLMS1700-HBA-B1-ZZ-DR-A-20_231



1 North Elevation - General Arrangement
1 : 200



2 South Elevation - General Arrangement
1 : 200

Notes

Rev	Description	By	Date
	Stage 2 Issue For Stage Approval	P01	23.02.18

Imperial College London

MRC

Hawkins\ Brown

MRC / ICL Project No.
HMLMS1700

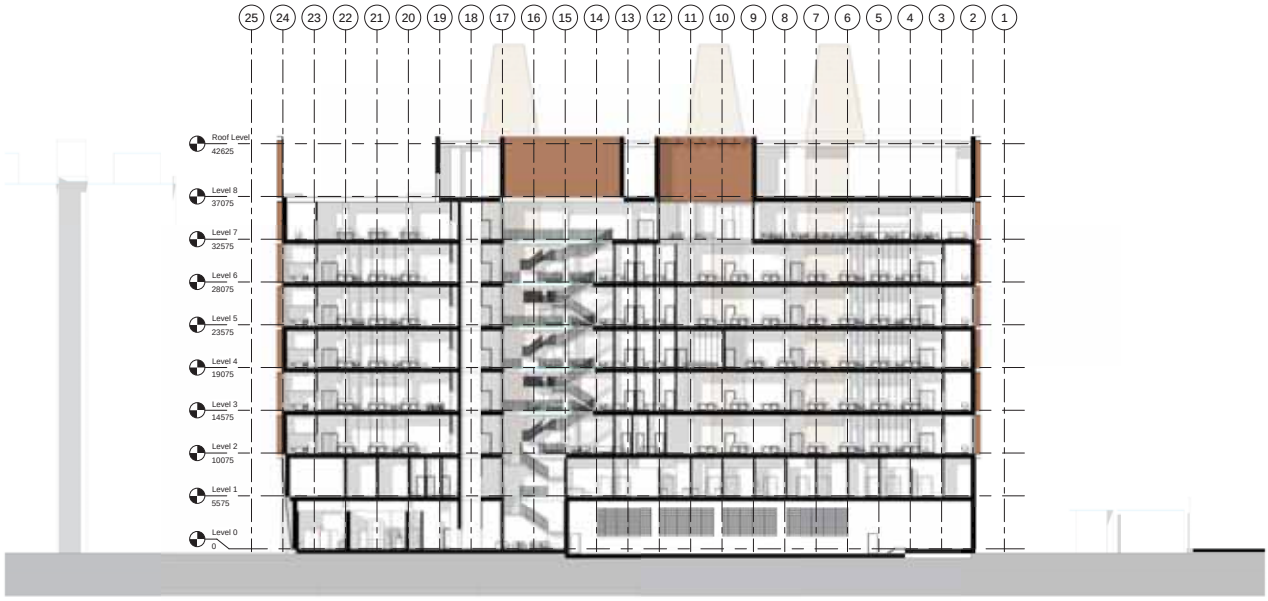
Project Title
London Institute of Medical Sciences

Building Name
London Institute of Medical Sciences

Drawing Title
North & South Elevations

Status	Purpose of Issue		
S4	FOR STAGE APPROVAL		
Drawn by	Checked	Scale	Date
JK	BP	1 : 200	23/02/2018

Drawing Number
HMLMS1700-HBA-B1-ZZ-DR-A-20_232



A Section AA
1 : 200

Notes

Rev	Description	By	Date
	Stage 2 Issue For Stage Approval	P01	23.02.18

Imperial College London

MRC

Hawkins\ Brown

MRC / ICL Project No.
HMLMS1700

Project Title
London Institute of Medical Sciences

Building Name
London Institute of Medical Sciences

Drawing Title
Section AA

Status	Purpose of Issue		
S4	FOR STAGE APPROVAL		
Drawn by	Checked	Scale	Date
JK	BP	1 : 200	23/02/2018

Drawing Number
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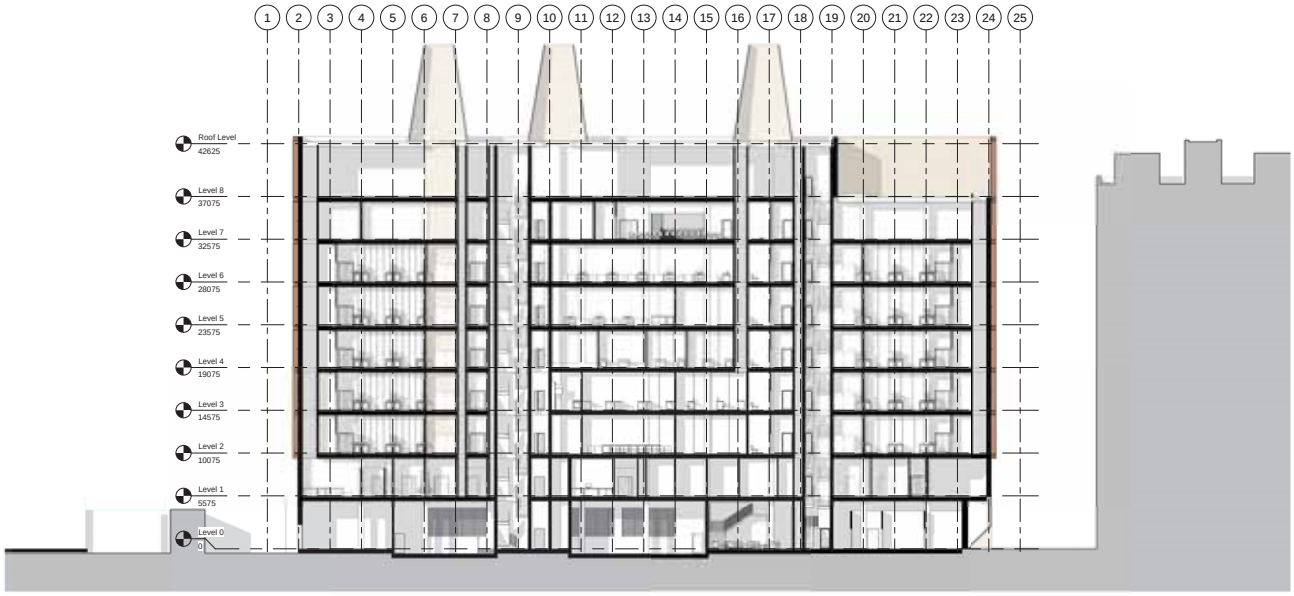


B Section BB
1 : 200

Notes

Rev	Description	By	Date
	Stage 2 Issue For Stage Approval	P01	23.02.18

Imperial College London

MRC

Hawkins\ Brown

MRC / ICL Project No.
HMLMS1700

Project Title
London Institute of Medical Sciences

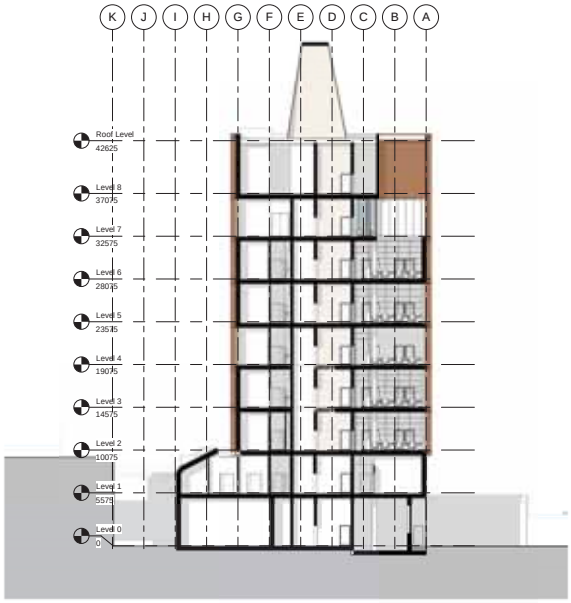
Building Name
London Institute of Medical Sciences

Drawing Title
Section BB

Status	Purpose of Issue		
S4	FOR STAGE APPROVAL		
Drawn by	Checked	Scale	Date
Author	Checker	1 : 200	23/02/2018

Drawing Number
HMLMS1700-HBA-B1-ZZ-DR-A-20_236

CC Section C-C
1 : 200



DD Section D-D
1 : 200

Notes

Rev	Description	By	Date
	Stage 2 Issue For Stage Approval	P01	23.02.18

Imperial College London

MRC

Hawkins\ Brown

MRC / ICL Project No.
HMLMS1700

Project Title
London Institute of Medical Sciences

Building Name
London Institute of Medical Sciences

Drawing Title
Section CC & DD

Status	Purpose of Issue			
S4	FOR STAGE APPROVAL			
Drawn by	Checked	Scale	Date	
AMD	BP	1 : 200	23/02/2018	

Drawing Number
HMLMS1700-HBA-B1-ZZ-DR-A-20_237

C Technical Hubs (incl. CBS) Drawings & Supporting Information

SECTION 3: TECHNICAL HUB DESIGN

The Technical Hubs comprise several specialist research and technologies that can be shared by the research teams of the LMS Building.

They include:

- Proteomics
- Genomics
- Flow Cytometry
- Histology
- Drosophila Suite
- In-Vitro Imaging (Super Resolution Imaging; Single Molecule Imaging; Confocal Imaging; Live Cell Imaging)
- CryoEM

Electrophysiology, In-Vivo Imaging and CBS Suites are located on Level 1 with common requirements and are therefore discussed in the next section.

The Technical Hubs are located on every floor from Ground Floor to Level 6, creating a full integrated facility. Those facilities that require less daylight are located on lower levels, and centrally within the floorplate to free up perimeter windows to primary labs and secondary support.

Access to all Technical Hubs is via the goods lift or north and south cores. Typically located between the two cores and adjacent the atrium, glazing is proposed where appropriate, to promote science on display. Each hub is closely located to the write-up areas for close supervision as required by the Technical staff.

SCHEDULE OF ACCOMMODATION

Floor / Room	2016 Brief Occ	Rate	Unit	Qty	Area	STAGE 1 - REVISED BRIEF Occ	Rate	Unit	Qty	Area	STAGE 2 - CURRENT BRIEF Occ	Rate	Unit	Qty	Area	STAGE 2 - AS DRAWN Occ	Rate	Unit	Qty	Area	Notes
TECHNOLOGY HUBS (20 STAFF TOTAL)																					
IN-VITRO IMAGING					**Subtotal: 100 nsm**					**Subtotal: 100 nsm**					**Subtotal: 100 nsm**					**Subtotal: 100 nsm**	
Insectary Lobby			0	0	-			4	1	4 nsm			5	1	5 nsm			5	1	5 nsm	controlled access
Central Insectary (Fly Room)			40	1	40 nsm			38	1	38 nsm			45	1	45 nsm			47	1	47 nsm	Central to suite. Proximity to open wet lab, cold room, plastics/waste store
20 x microscopes																					
Incubator Room (CTR)			18	1	18 nsm			10	1	10 nsm			10	1	10 nsm			8	1	8 nsm	open on to central fly room. Requires back-up cooling
12 x fly incubators																					
Behavioural Room			10	1	10 nsm			10	1	10 nsm			10	1	10 nsm			10	1	10 nsm	
XXX																					
Fly Kitchen			10	1	10 nsm			10	1	10 nsm			10	1	10 nsm			10	1	10 nsm	proximity to central fly room
XXX																					
Quarantine Room			7	1	7 nsm			10	1	10 nsm			10	1	10 nsm			10	1	10 nsm	remote from rest of suite
XXX																					
Microscope Room			10	1	10 nsm			10	1	10 nsm			10	1	10 nsm			10	1	10 nsm	open onto central fly room
Fluorescent Screening																					
Waste / Consumables			5	1	5 nsm			8	1	8 nsm			0	0	-			0	0	-	Share with rest of floor
IN-VITRO IMAGING					**Subtotal: 230 nsm**					**Subtotal: 301 nsm**					**Subtotal: 245 nsm**					**Subtotal: 232 nsm**	
Super Resolution Imaging			20	2	40 nsm			25	2	50 nsm			25	2	50 nsm			24	2	48 nsm	Currently in Neptune Steiner facility
Confocal Microscopes			10	6	60 nsm			10	6	60 nsm			10	6	60 nsm			10	6	60 nsm	Requires proximity to tissue culture
Single Molecule Imaging			20	1	20 nsm			25	1	25 nsm			25	1	25 nsm			25	1	25 nsm	Includes scope for adoption of new single molecule imaging technology
Live Cell Imaging			10	11	110 nsm			10	15	150 nsm			10	11	110 nsm			9	11	99 nsm	30sqm expansion to be used as equipment/storage allocation above
Write-up Desk			0	0	-			4	4	16 nsm			0	0	-			0	0	-	In scope suite(s); W.U. during imaging. Users noted external meeting/office space preferred.
CRYO-EM SUITE					**Subtotal: 100 nsm**					**Subtotal: 140 nsm**					**Subtotal: 130 nsm**					**Subtotal: 165 nsm**	
Krios			40	1	40 nsm			40	1	40 nsm			40	1	40 nsm			40	1	40 nsm	(4.5x5.5 clear room)
Glacios			20	1	20 nsm			40	1	40 nsm			40	1	40 nsm			58	1	58 nsm	Oversized for future technology
Existing TEM Jeol JEM 1011																					
Shared Control Room			0	1	-			20	1	20 nsm			20	1	20 nsm			19	1	19 nsm	Access to both EMs
Prep Room			20	1	20 nsm			20	1	20 nsm			20	1	20 nsm			28	1	28 nsm	
New imaging modalities			10	2	20 nsm			10	2	20 nsm			0	0	-			0	1	-	Expansion potential for imaging centre
Services Room			0	0	-			0	0	-			10	1	10 nsm			20	1	20 nsm	
GENOMICS (3 staff)					**Subtotal: 50 nsm**					**Subtotal: 75 nsm**					**Subtotal: 55 nsm**					**Subtotal: 63 nsm**	
Facility Suite			40	1	40 nsm			60	1	60 nsm			40	1	40 nsm			49	1	49 nsm	Centrally located within building
Pre-PCR			10	1	10 nsm			15	1	15 nsm			15	1	15 nsm			14	1	14 nsm	
PROTEOMICS (3 staff)					**Subtotal: 40 nsm**					**Subtotal: 40 nsm**					**Subtotal: 50 nsm**					**Subtotal: 58 nsm**	
Facility Suite			40	1	40 nsm			40	1	40 nsm			50	1	50 nsm			58	1	58 nsm	Centrally located within building
HISTOLOGY (3 staff)					**Subtotal: 40 nsm**					**Subtotal: 20 nsm**					**Subtotal: 20 nsm**					**Subtotal: 20 nsm**	
Facility Suite			40	1	40 nsm			20	1	20 nsm			20	1	20 nsm			20	1	20 nsm	Adjacent to In-vitro Imaging is key
FLOW CYTOMETRY (3 staff)					**#REF!**					**#REF!**					**#REF!**					**#REF!**	
Facility Room			40	1	40 nsm			40	1	40 nsm			40	1	40 nsm			40	1	40 nsm	

TECHNICAL HUBS
PROTEOMICS

EXISTING FACILITY

The Proteomics Suite occupies two rooms 5007-Mass Spectrometers and 5008-Prep Lab on Level 5 of the CRB. They are separate due to noise of the vacuum pumps used by the mass spectrometers. The combined existing areas total 64sqm. The original 2016 brief requested 40sqm for the facility.

Whilst the original brief requested three mass specs, the users currently have four. They have requested a design to accommodate 5-6 units including one currently housed in ICTEM and another which belongs to a specific user group.

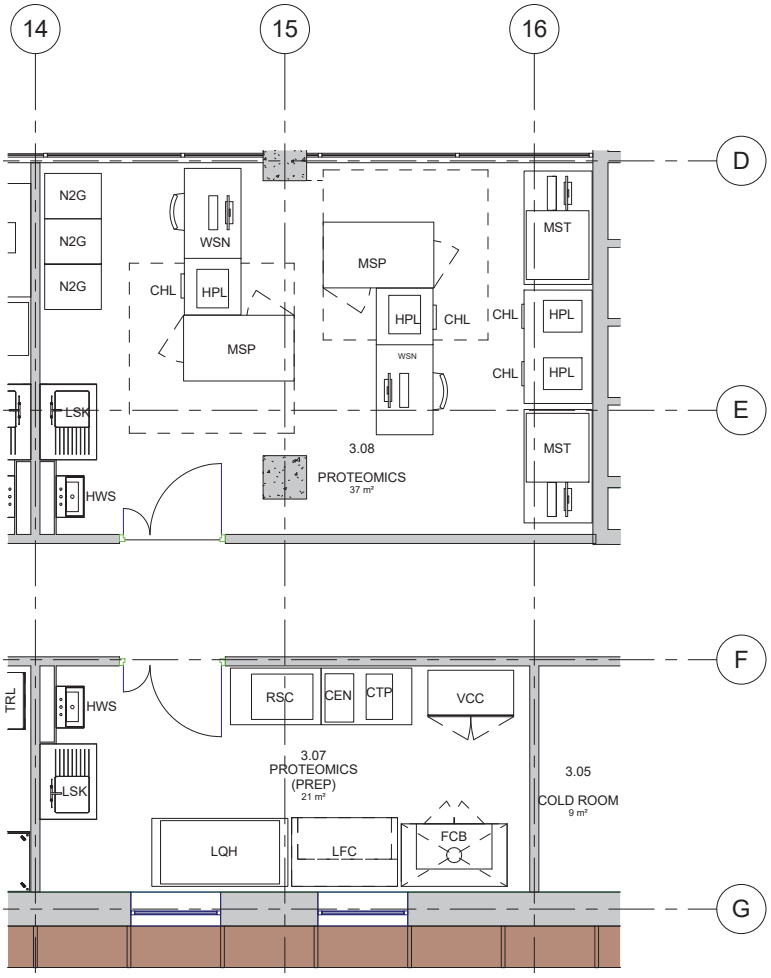
The Proteomics facility is currently run by two staff members. They discussed the potential to expand to four staff if the facility merges with a new science branch, Metabolomics which will require more Mass Specs and HPLCs for cell culture and animal tissue work.

PROPOSED FACILITY

The current proposal locates Proteomics on Level 3 and accommodates a room for four mass specs, and a Prep Room which exceeds the original brief by 18sqm. This increase does not accommodate merging all of the mass specs, including the merger with Metabolomics.

The potential merger with Metabolomics could have a significant impact on the size of the unit being proposed.

N2G - Nitrogen Generator
LQH - Liquid Handler
LFC - Laminar Flow Cabinet
FCB- Fume Cupboard
HPL - HPLC System
CHL - Mass Spec Chiller
MSP - Mass Spec
SVC - Speedvac Concentrator
CTF - Centrifuge
CTR - Cold Trap
HWS - Hand Wash Station
LEB - Laboratory Sink
VCC - Chemical Cabinet



PROPOSED PLAN - PROTEOMICS (LEVEL 3)

London Institute of Medical Sciences **abell nepp**
1802.01 Medical Research Council (MRC) Issued: 23 Feb 2018

ROOM CRITERIA SHEET

Proteomics (Prep Room + Mass Spec. Room)

Room ID:

Typical Department
Floor 3

Research on the function of proteins and metabolites in a complex range of biological systems.

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
58 nsm	3 nsm	Extended Hours	Compliant	Desirable

	Containment	Fumigation	Safety Risks		
Laboratories Only:	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
Normal Attenuation	NR 60 *

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Plasterboard & Skim	-
Finish	Paint	-
Protection	-	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Accessible Grid	-
Finish	Metal Tiles w/ PB marg.	-
Features	Washable	-
Height	TBC	-

Accessories (non-Lab)

Items	Notes
Coat Hooks	3 no.
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm	-
Operation	Swinging	-
Door Material	Glass/Metal Frame	-
Door Finish	-	-
Frame Material	Metal	-
Frame Finish	-	-
Locks	Lock	-
Closers	Closer	-
Vision Pnl	Large	-
Protection	Kick Plates	-
Seals	-	-
Other	-	-

Window Coverings

	At Façade	Internal
Type	Roller Blinds	-
Light Control	Solar & Grey-out	-
Operation	Manual Draw	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Mechanical Noise (NR) : NR 60* - Mass Specs on - Higher NR TBC. Subject to verification with Acoustic Consultants. Ceiling - Finish : PB marg. - plasterboard margin.

ENGINEERING

HVAC

Temp (°C): Summer	Temp (°C): Winter
21oC	19oC
Temp Tolerance	Temp Variation
± 0.5oC	Controlled
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General Extract
Humidity	Air Pressure
20 - 60% RH	Negative Pressure
Air Filtration	Equipment
F7 Supply (80-85%)	See Lab Equip
Min Air Changes	-
4 Day (2 Night) /HR	-

Piped Services

Water	
Lab CW (Cat 5)	Purified- Local
Dom CW & HW	Softened Water
Piped Services	
Compressed Air	Nitrogen
-	-
Bottled Gases	
Hydrogen	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply	
230v, trunking	-
Cleaners outlets	-
-	-
Essential / Standby Power	Special Electrical
-	-
EM Interference	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
Group Switched	Presence Detection
Other Lighting	Ballast Type
Task Lighting	-
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Heavy Equipment	-
Equipment	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-
Fire Detection	-
Smoke Detector/Sounder	CCTV
-	-
Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Proteomics (Prep Room + Mass Spec. Room)

Room ID:

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, H-Frame	Trespa Toplab Base	750mm	
Workstation with PC	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, wall mtd	-	-	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Sink- Epoxy (integral)	Lab CW & HW	Hands-free (sonar)		
Wash Hand Basin	CW / HW	Hands-free (sonar)	-	

Architectural Notes

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Mass Spectroscopy Floor	Thermofisher Scientific	2 units		Floor standing
HPLC	Thermofisher Scientific	3 units		
Nitrogen Generator	Peak Scientific	3 units		
EasySpraySourceKit	Thermofisher Scientific	3 units		
Gas Cylinder		1 unit		
Chemicals Storage Cabinets		1 unit		
Laminar Flow Cabinet		1 unit		
Gas Cylinder		6 units		

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

TECHNICAL HUBS
GENOMICS

EXISTING FACILITY

The Genomics Suite carries out research on RNA and DNA, but not blood; they anticipate the single-cell aspect (or Pre-PCR experiments) to grow in the future. The users therefore expressed a preference for close proximity to Flow Cytometry (FACS) due to emerging science and time limits to use samples.

Genomics currently sits in ICTEM (Block L) on Level 2 and in 3 spaces: Room 207-Pre-PCR (clean), Room 208-Genomics (Post-PCR) and a shared hub space (2no half-bays)within the open wet laboratory (204W1). Pre-PCR and Genomics is accessed by the three Genomics staff only, whilst the shared open space is accessible to all building researchers as required.

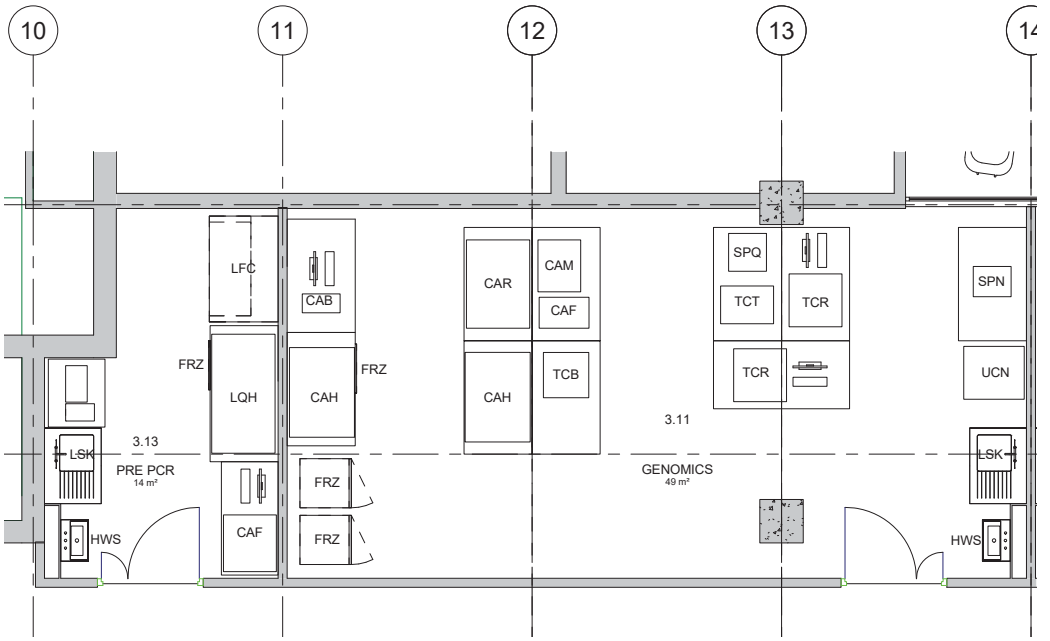
The existing spaces total 102sqm whilst the original 2016 brief allocated 50sqm.

External to the Suite, 3no ULT freezers (-80oC) within a shared freezer store are required as well as access to a shared consumables store and a cold room; these areas were not included in the original brief.

PROPOSED FACILITY

The current proposal is 14sqm over the original brief accommodating the items listed in the original brief and those we saw on our site visit for the Pre-PCR and Genomics Lab. However, due to space constraints, the shared facility items have not been accommodated and will have to be considered within the open wet lab in the next stage of design development.

The Genomics Suite is located on Level 3, adjacent Proteomics; centrally located within laboratory floors.



PROPOSED PLAN - GENOMICS (LEVEL 3)

CAF - Cell Analyser
TCB - Thermal Cycler BMK
CAB - Cell Analyser
CAR - Cell Analyser
CAH - Cell Analyser
CAM - Cell Analyser
SPN - Spectrophotometer
SPQ- Spectrophotometer
TCR - Thermal Cycler Spectrophotometer
CAB - Cell Analyser
LQH - Liquid Handler
HWS - Hand Wash Station
LEB - Laboratory Sink

London Institute of Medical Sciences
1802.01 Medical Research Council (MRC)

abell nepp
Issued: 23 Feb 2018

ROOM CRITERIA SHEET

Genomics

Room ID:

Typical Department
Floor 3

Research with RNA + DNA working closely with Flow Cytometry research.

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
49 nsm	3 nsm	Extended Hours	Compliant	Desirable

	Containment	Fumigation	Safety Risks		
Laboratories Only:	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
Normal Attenuation	NR 60*

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Plasterboard & Skim	-
Finish	Paint	-
Protection	-	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Accessible Grid	-
Finish	Metal Tiles w/ PB marg.	-
Features	Wipeable	-
Height	TBC	-

Accessories (non-Lab)

Items	Notes
Coat Hooks	3 no.
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm	-
Operation	Swinging	-
Door Material	Glass/Metal Frame	-
Door Finish	-	-
Frame Material	Metal	-
Frame Finish	-	-
Locks	Lock	-
Closers	Closer	-
Vision Pnl	Large	-
Protection	Kick Plates	-
Seals	-	-
Other	-	-

Window Coverings

	At Façade	Internal
Type	Roller Blinds	-
Light Control	Solar & Grey-out	-
Operation	Manual Draw	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Mechanical Noise (NR) : NR 60* - Mass Specs on - Higher NR TBC. Subject to verification with Acoustic Consultants. Ceiling - Finish : PB marg. - plasterboard margin.

ENGINEERING

HVAC

Temp (°C): Summer	Temp (°C): Winter
22oC	22oC
Temp Tolerance	Temp Variation
± 1oC	± 1oC / Hour
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General Extract
Humidity	Air Pressure
55+/-10% RH Centrally con	Positive Airflow
Air Filtration	Equipment
F7 Supply / Extract	See Lab Equip
Min Air Changes	-
4 Day (2 Night) /HR	-

Piped Services

Water	
Lab CW (Cat 5)	-
Dom CW & HW	-
Piped Services	
Compressed Air	Nitrogen
-	-
Bottled Gases	
Oxygen	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply	
230v, trunking	-
Cleaners outlets	-
-	-

Essential / Standby Power	Special Electrical
-	-

EM Interference	
-	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
Group Switched	Presence Detection
Other Lighting	Ballast Type
Task Lighting	-
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	-
Equipment	
-	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-
Fire Detection	
Smoke Detector/Sounder	CCTV
-	-
Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Genomics

Room ID:

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, H-Frame	Trespa Toplab Base	750mm	
	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, wall mtd	-	-	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)
Sink- Epoxy (integral)	Lab CW	Hands-free (sonar)	Splash Pnl & Dry Rack
Wash Hand Basin	CW / HW	Hands-free (sonar)	Lab Safety Eye Wash

Architectural Notes

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Freezer (-20C)		1 unit		
Ultra Centrifuge		1 unit		

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

London Institute of Medical Sciences **abell nepp**
1802.01 Medical Research Council (MRC) Issued: 23 Feb 2018

ROOM CRITERIA SHEET

Genomics PRE-PCR

Room ID:

Single Cell research.

Typical Department
Floor 3

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
49 nsm	3 nsm	Extended Hours	Compliant	Desirable

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
Normal Attenuation	NR 60*

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Plasterboard & Skim	-
Finish	Paint	-
Protection	-	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Accessible Grid	-
Finish	Metal Tiles w/ PB marg.	-
Features	Wipeable	-
Height	TBC	-

Accessories (non-Lab)

Items	Notes
Coat Hooks	3 no.
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm	-
Operation	Swinging	-
Door Material	Glass/Metal Frame	-
Door Finish	-	-
Frame Material	Metal	-
Frame Finish	-	-
Locks	Lock	-
Closers	Closer	-
Vision Pnl	Large	-
Protection	Kick Plates	-
Seals		-
Other	-	-

Window Coverings

	At Façade	Internal
Type	Roller Blinds	-
Light Control	Solar & Grey-out	-
Operation	Manual Draw	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Mechanical Noise (NR) : NR 60* - Mass Specs on - Higher NR TBC. Subject to verification with Acoustic Consultants. Ceiling - Finish : PB marg. - plasterboard margin.

ENGINEERING

HVAC

Temp (°C): Summer	Temp (°C): Winter
22oC	22oC
Temp Tolerance	Temp Variation
± 1oC	± 1oC / Hour
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General Extract
Humidity	Air Pressure
55+/-10% RH Centrally con	Positive Airflow
Air Filtration	Equipment
F7 Supply / Extract	See Lab Equip
Min Air Changes	-
4 Day (2 Night) /HR	-

Piped Services

Water	
Lab CW (Cat 5)	-
Dom CW & HW	-
Piped Services	
Compressed Air	Nitrogen
-	-
Bottled Gases	
Oxygen	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply	
230v, trunking	-
Cleaners outlets	-
-	-
Essential / Standby Power	Special Electrical
-	-
EM Interference	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
Group Switched	Presence Detection
Other Lighting	Ballast Type
Task Lighting	-
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	-
Equipment	
-	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-
Fire Detection	-
Smoke Detector/Sounder	CCTV
-	-
Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Genomics PRE-PCR

Room ID:

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, H-Frame	Trespa Toplab Base	750mm	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, wall mtd	-	-	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Sink- Epoxy (integral)	Lab CW	Hands-free (sonar)	Splash Pnl & Dry Rack	
Wash Hand Basin	CW / HW	Hands-free (sonar)	Lab Safety Eye Wash	

Architectural Notes

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Laminar Flow Hood		1 unit		

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

TECHNICAL HUBS
FLOW CYTOMETRY (FACS)

EXISTING

The existing Flow Cytometry (FACS) facility is in Room 4011 on Level 4 of the CRB. The briefed area equals the size of the existing room, 40sqm. The room is internally divided allowing researchers to use the two cell analysers near the entrance of the room. The three staff run the 4 cell sorter workstations to the back of the room.

The MRC and ICL have recently combined services and the users anticipate needing more equipment in space that they do not currently have. For example, there is a containment FACS (BD FACS Aria II in containment enclosure) within the Commonwealth Building which is to be relocated. Additionally, users noted future work may entail work on patient samples suggestion another room will be required.

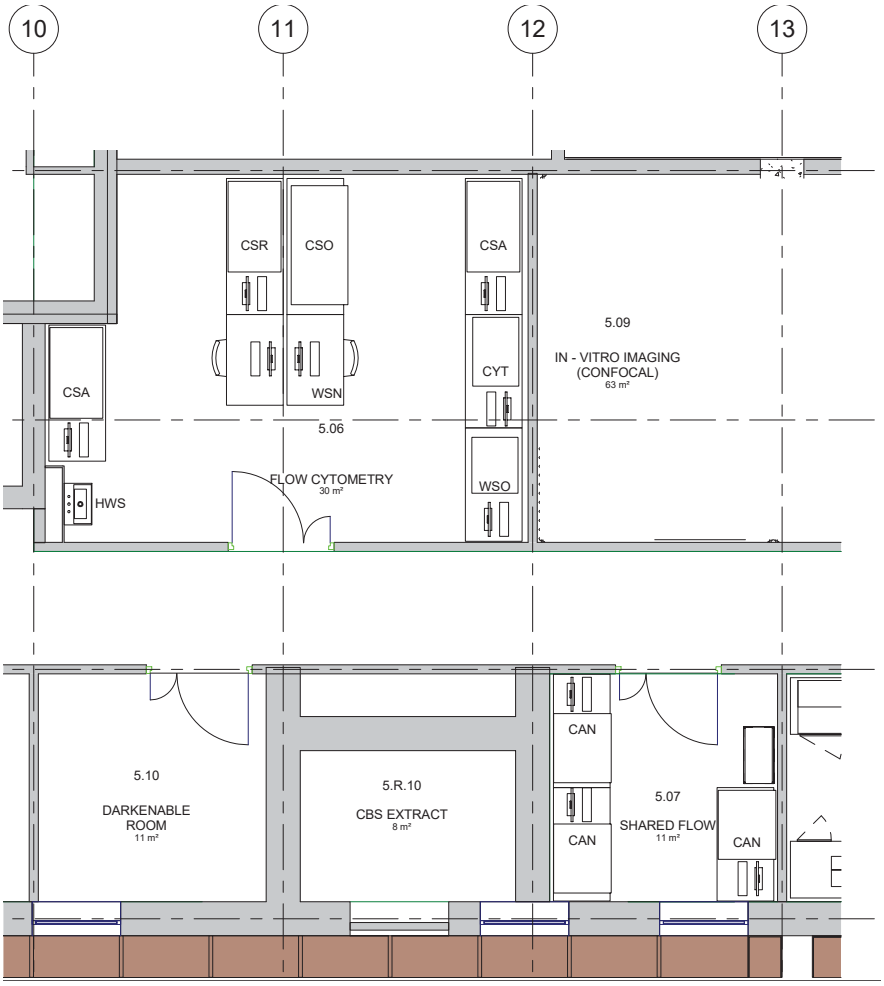
The users expressed a preference for close proximity to the Genomics facility due to emerging science and time limits to use samples. It was also noted that the Lymphocyte Development Group is a key user of the facility, so proximity to their wet lab area could be beneficial.

PROPOSED

LMS to confirm if this suite should be collocated with Genomics; however, it is relatively close on Level 3, two floors below.

The current proposal sits on level 5 and is accommodating all items listed on the original brief and pictured upon our visit to the facility. However, due to space and plan depth constraints, we have suggested a split room where 'shared' equipment could be located external to the main room for general use by researchers. This concept and arrangement is to be developed with the users in Stage 3. As we are providing the existing 40sqm, expansion and merger with ICL equipment is not currently being allowed for.

CSR- Cell Sorter BD Aria II
CSA - Cell Sorter BD Aria III
CSO - Cell Sorter LSR II
WSN - Work Station with Computer
WSO - Worm Sorter
CYT - Imaging Flow Cytometer
TRL - Storage Trolley
HWS - Hand Wash Station
CAN - Cell Analyser Fortessa
HWS - Hand Wash Station
CAN - Cell Analyser Fortessa
HWS - Hand Wash Station



PROPOSED PLAN - FLOW CYTOMETRY (LEVEL 5)

London Institute of Medical Sciences **abell nepp**
1802.01 Medical Research Council (MRC) Issued: 23 Feb 2018

ROOM CRITERIA SHEET

Flow Cytometry + Shared Flow

Room ID:

Typical Department
Floor: 5

Close links with Genomics due to emerging Science between single-cell + Facs research.

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
40 nsm	3 nsm	Extended Hours	Compliant	Desirable

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
Normal Attenuation	NR 60*

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Plasterboard & Skim	-
Finish	Paint	-
Protection	-	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Accessible Grid	-
Finish	Metal Tiles w/ PB marg.	-
Features	Washable	-
Height	TBC	-

Accessories (non-Lab)

Items	Notes
Coat Hooks	3 no.
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm	-
Operation	Swinging	-
Door Material	Glass/Metal Frame	-
Door Finish	-	-
Frame Material	Metal	-
Frame Finish	-	-
Locks	Lock	-
Closers	Closer	-
Vision Pnl	Large	-
Protection	Kick Plates	-
Seals	-	-
Other	-	-

Window Coverings

	At Façade	Internal
Type	Roller Blinds	-
Light Control	Solar & Grey-out	-
Operation	Manual Draw	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Mechanical Noise (NR) : NR 60* - Mass Specs on - Higher NR TBC. Subject to verification with Acoustic Consultants. Ceiling - Finish : PB marg. - plasterboard margin.

ENGINEERING

HVAC

Temp (°C): Summer	Temp (°C): Winter
24oC	22oC
Temp Tolerance	Temp Variation
± 1oC	Uncontrolled
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General Extract
Humidity	Air Pressure
Not controlled	Positive Airflow
Air Filtration	Equipment
F7 Supply (80-85%)	See Lab Equip
Min Air Changes	-
4 Day (2 Night) /HR	-

Piped Services

Water	
Lab CW (Cat 5)	-
Dom CW & HW	-
Piped Services	
Compressed Air	Nitrogen
-	-
Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply	
230v, trunking	-
Cleaners outlets	-
-	-
Essential / Standby Power	Special Electrical
-	-
EM Interference	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
Group Switched	Presence Detection
Other Lighting	Ballast Type
Task Lighting	-
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	-
Equipment	
-	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-
Fire Detection	-
Smoke Detector/Sounder	CCTV
-	-
Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Flow Cytometry + Shared Flow

Room ID:

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, H-Frame	Trespa Toplab Base	750mm	
Workstation with PC	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, wall mtd	-	-	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Wash Hand Basin	CW / HW	Hands-free (sonar)	-	

Architectural Notes

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

TECHNICAL HUBS
HISTOLOGY

EXISTING

Histology is currently located in Room 5026 on Level 5 of the CRB with an area of 20sqm. The original 2016 brief allocated 40sqm for Histology. The room is a shared technology and is, informally, managed by one of the researchers who uses it frequently.

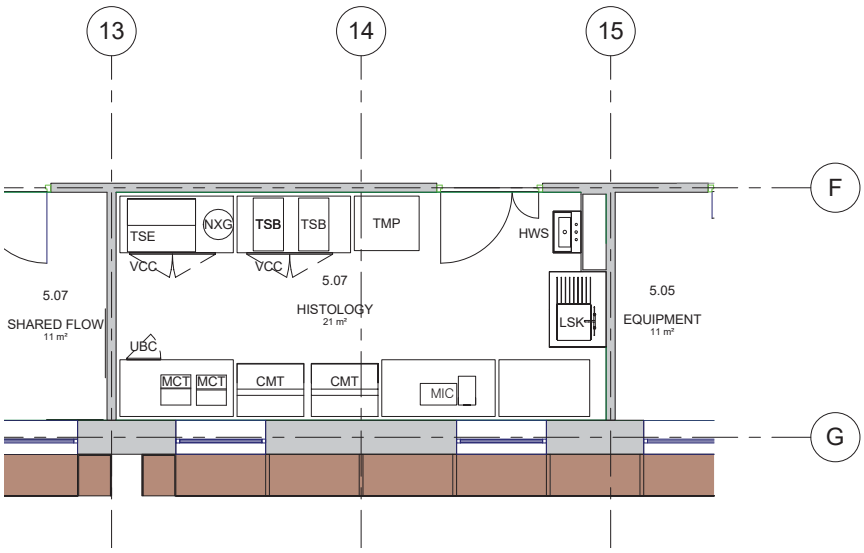
The room requires deeper benches than a typical lab due to the nature of the equipment (microtomes and cryotomes). A fume cupboard was requested as well as a dedicated slice machine for the imaging group; the existing incubator should be located elsewhere.

Researchers working with slices will require proximity to this room. The brief specifically noted the requirement for proximity to In-Vitro Imaging.

PROPOSED

The facility has been proposed on level 5, adjacent the Confocal In-Vitro Imaging Suite. As In-Vitro Imaging rooms are dispersed across three levels, further user briefing is required to determine if there are more specific In-Vitro adjacencies required.

The facility as proposed houses all equipment items listed in the original brief, and within the existing room. Further information is required on the imaging group slice machine to see if it can be located within this room following the removal of the incubator. It is unlikely that a Fume Hood can be accommodated and should be considered as a shared asset elsewhere on the floor.



PROPOSED PLAN - HISTOLOGY (LEVEL 5)

CMT - Cryostat Microtome
MCT - Microtome
TMP - Tissue Microprocessor
TSE - Tissue Embedder
HWS - Hand Wash Station
LEB - Laboratory Sink
MIC - Microscope
NXG - Decloaking Chamber
TSB - Tissue Cooling Block
VCC - Chemical Storage Cabinet
UBC - Mobile under bench Storage Unit

London Institute of Medical Sciences **abell nepp**
1802.01 Medical Research Council (MRC) Issued: 23 Feb 2018

ROOM CRITERIA SHEET

Histology

Room ID:
Typical Department
Floor: 5

Shared Equipment Room for Slice Work.

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
20 nsm	-	Extended Hours	Compliant	Desirable

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
Normal Attenuation	NR 60*

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Plasterboard & Skim	-
Finish	Paint	-
Protection	-	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Accessible Grid	-
Finish	Metal Tiles w/ PB marg.	-
Features	Washable	-
Height	TBC	-

Accessories (non-Lab)

Items	Notes
Coat Hooks	3 no.
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm	-
Operation	Swinging	-
Door Material	Glass/Metal Frame	-
Door Finish	-	-
Frame Material	Metal	-
Frame Finish	-	-
Locks	Lock	-
Closers	Closer	-
Vision Pnl	Large	-
Protection	Kick Plates	-
Seals	-	-
Other	-	-

Window Coverings

	At Façade	Internal
Type	Roller Blinds	-
Light Control	Solar & Grey-out	-
Operation	Manual Draw	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Mechanical Noise (NR) : NR 60* - Mass Specs on - Higher NR TBC. Subject to verification with Acoustic Consultants. Ceiling - Finish : PB marg. - plasterboard margin.

ENGINEERING

HVAC

Temp (°C): Summer	Temp (°C): Winter
24oC	22oC

Temp Tolerance	Temp Variation
± 2oC	Uncontrolled

Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General Extract

Humidity	Air Pressure
Not controlled	Positive Airflow

Air Filtration	Equipment
F7 Supply (80-85%)	See Lab Equip

Min Air Changes	-
4 Day (2 Night) /HR	-

Piped Services

Water	
Lab CW (Cat 5)	-
Dom CW & HW	-

Piped Services	
Compressed Air	Nitrogen
-	-

Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply	
230v, trunking	-
Cleaners outlets	-
-	-

Special Electrical	
Essential / Standby Power	-
EM Interference	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux

Switching	Detection
Group Switched	Presence Detection

Other Lighting	Ballast Type
Task Lighting	-

Emergency Ltg	
Life Safety	-

Structural

Loading	Vibration Criteria
Lab, normal	-

Equipment	
-	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-

Digital Projection	
-	-

Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-

Fire Detection	
Smoke Detector/Sounder	CCTV

Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Histology

Room ID:

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, H-Frame	Trespa Toplab Base	750mm	
	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, wall mtd	-	-	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Sink- Epoxy (integral)	Lab CW	Hands-free (sonar)		
Wash Hand Basin	CW / HW	Hands-free (sonar)	-	

Architectural Notes

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Cryostat		2 units		
Tissue Microprocessor		1 unit		
Fume Hood		1 unit		
Flammable Cabinets		2 units		

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

TECHNICAL HUBS

DROSOPHILA SUITE

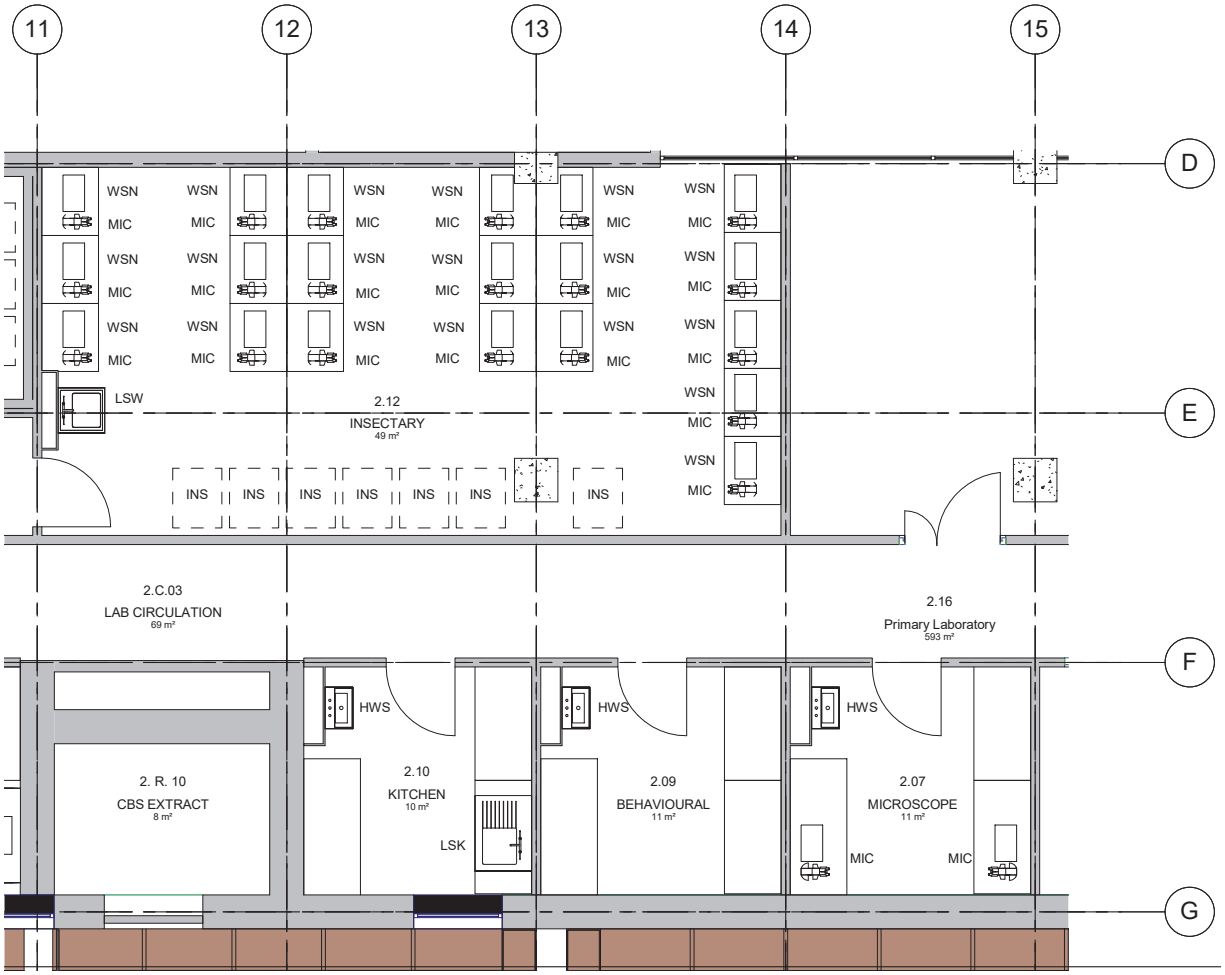
EXISTING

The current Drosophila Suite is located on Level 2 in ICTEM adjacent to Genomics and in an open-bay wet laboratory. It has close proximity to a freezer store, cold room, dark room, tissue culture, shared prep rooms and shared storage.

The existing suite accommodates approximately 100-120sqm of the floor but has been briefed for 100sqm. Storage space was requested, but space was not allocated.

PROPOSED

The Drosophila Suite as proposed is located on level 2 adjacent central washing and media prep facilities. We have allocated a room to each of the functions requested but a more detailed review of the areas is required with the Client and users to ensure all equipment is captured. We are currently showing 20no microscopes requested, and 11 pairs of (stacked) incubators (only assumed). More generous spaces might be achieved if functions can be shared with other support rooms on the floor. As proposed, requested storage is allocated within a shared consumables store adjacent the goods lift.



LSK - Lab Sink
FLM - Mobile Bench
MIC - Microscope
WSN - Work Station
INS - Fly Incubator
HWS - Hand Wash Station
MSC - Microbiological Safety Cabinet

PROPOSED PLAN - DROSOPHILA (LEVEL 2)

ROOM CRITERIA SHEET

1802.01

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Issued: 23 Feb 2018

SPECIALIST SECONDARY - INSECTARY LAB

Room ID: **Drosophila Suite Second Floor**

Direct Secondary Insectary Lab. This room may be reduced un size to accommodate a greater number of incubators within the Controlled Temparature Room adjacent.

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
49 nsm	TBC	Full 24 hour use	Compliant	Desirable

Laboratories Only:

Containment	Fumigation	Safety Risks		
ACDP CL2	No	Biological/Chem	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. Note	See arch. Note

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Plasterboard & Skim	Glazed Screen
Finish	Paint	-
Protection	-	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Accessible / Sound att.	-
Finish	Metal/Painted	
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
Coat Hooks	No. tbc
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm *	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Swipe card access lock	-
Closers	Closer	-
Vision Pnl	Large	-
Protection	Kick Plates	-
Seals	-	-
Other	-	-

Window Coverings

	At Facade	Internal
Type	Roller Blinds	-
Light Control	Anti-Glare/Black-out	-
Operation	Manual Draw	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Acoustic consultant to advise on Sound Attenuation. * Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm.

ENGINEERING

HVAC

Temp (°C): Summer	Temp (°C): Winter
23oC	21oC

Temp Tolerance	Temp Variation
± 2oC	± 2oC / Hour

Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General Extract

Humidity	Air Pressure
tbd	Negative Airflow

Air Filtration	Equipment
F7 Supply (80-85%)	Heat producing

Min Air Changes	
tbc	-

Piped Services

Water	
Lab CW & HW	Purified water
-	-

Piped Services	
-	-
-	-

Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

Special	-
-	-

Electrical

230v, trunking	415 volt, 3 Phase
-	-
-	-
-	-
-	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux

Switching	Detection
Group Switched	Presence Detection

Other Lighting	Ballast Type
Task Lighting	DALI (Dimmable)

	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
-	-

Equipment
-

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-

Digital Projection	
-	-

Projector Screen
-

Security / Life Safety

Security Systems	Alarm Systems
Access Control	-
-	-

Fire Detection	
Smoke Detector	CCTV

Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Further briefing / MEP information required for this room

SPECIALIST SECONDARY - INSECTARY LAB

Room ID:

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Movable	Trespa Toplab Base	750mm	
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, wall mtd	-	Cupboard, tall	Overbench cupboards	Underbench cabinets
	-	Adj Shelving	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Sink- Epoxy (integral)	CW Only	Lever Handle (mixer)	Splash Pnl & Dry Rack	-
			-	

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Incubator	BioCold BC49-IN Chamber	tbc		-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

ROOM CRITERIA SHEET

1802.01

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Issued: 23 Feb 2018

SPECIALIST SECONDARY - FLY KITCHEN

Room ID: **Drosophila Suite Second Floor**

Direct Secondary Lab.

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
10 nsm	TBC	Full 24 hour use	Compliant	Not Required

Laboratories Only:

Containment	Fumigation	Safety Risks		
ACDP CL2	No	Biological/Chem	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. Note	See arch. Note

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Plasterboard & Skim	Glazed Screen
Finish	Paint	-
Protection	-	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Accessible / Sound att.	-
Finish	Metal/Painted	
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
Coat Hooks	No. tbc
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm *	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Swipe card access lock	-
Closers	Closer	-
Vision Pnl	Large	-
Protection	Kick Plates	-
Seals	-	-
Other	-	-

Window Coverings

	At Facade	Internal
Type	Roller Blinds	-
Light Control	Anti-Glare/Black-out	-
Operation	Manual Draw	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Acoustic consultant to advise on Sound Attenuation. * Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm.

ENGINEERING

HVAC

Temp (°C): Summer	Temp (°C): Winter
23oC	21oC
Temp Tolerance	Temp Variation
± 2oC	± 2oC / Hour
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General Extract
Humidity	Air Pressure
tbd	Negative Airflow
Air Filtration	Equipment
F7 Supply (80-85%)	Heat producing
Min Air Changes	-
tbc	-

Piped Services

Water	
Lab CW & HW	Purified water
-	-
Piped Services	
-	-
-	-
Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

Special	-
-	-

Electrical

Power Supply		
230v, trunking	415 volt, 3 Phase	
-	-	
Essential / Standby Power	Special Electrical	
-	-	
EM Interference	-	
-	-	

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
Single Control	Presence Detection
Other Lighting	Ballast Type
Task Lighting	DALI (Dimmable)
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
-	-
Equipment	
-	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
Access Control	-
-	-
Fire Detection	-
Smoke Detector	CCTV
-	-
Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Further briefing / MEP information required for this room

SPECIALIST SECONDARY - FLY KITCHEN

Room ID:

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Movable	Trespa Toplab Base	750mm	
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, wall mtd	-	Cupboard, tall	Overbench cupboards	Underbench cabinets
	-	Adj Shelving	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Sink- Epoxy (integral)	CW Only	Lever Handle (mixer)	Splash Pnl & Dry Rack	-
Wash Hand Basin	CW / HW	Hands-free (sonar)	-	

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Incubator	BioCold BC49-IN Chamber	tbc		-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

TECHNICAL HUBS

ROOM CRITERIA SHEET

1802.01

abell nepp
Issued: 23 Feb 2018

SPECIALIST SECONDARY - MICROSCOPE ROOM

Room ID: **Drosophila Suite Second Floor**

Direct Secondary Lab containing microscopes

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
12 nsm	TBC	Extended Hours	Compliant	Not Required

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation	Intern Ambient Noise (dBA)	Mechanical Noise (NR)	**Doors**	Type 1	Type 2
	See arch. Note	See arch. Note	Type	Door + Half Leaf	-
Floors	Type 1 - 100%	Type 2 - Not Used	Size	1200 mm *	-
Construction	50mm Screed	-	Operation	Swinging	-
Floor Finish	Vinyl	-	Door Material	Timber- Solid Core	-
Skirting	150mm coved	-	Door Finish	HPL	-
			Frame Material	Timber	-
Partitions	Type 1 - 100%	Type 2 - Not Used	Frame Finish	Painted	-
Construction	Plasterboard & Skim	-	Locks	Swipe card access lock	-
Finish	Paint	-	Closers	Closer	-
Protection	-	-	Vision Pnl	Small with blinds	-
			Protection	Kick Plates	-
Ceiling	Type 1 - 100%	Type 2 - Not Used	Seals	Light-tight	-
System	Tiles/Plasterb margin	-	Other	-	-
Finish	Metal/Painted	-			
Features	Wipeable	-	**Window Coverings**	At Façade	Internal
Height	-	-	Type	Blinds	-
			Light Control	Anti-Glare/Black-out	-
Accessories (non-Lab)	Items	Notes	Operation	Manual	-
	-		Manifestations / Film	-	-
	-				
	-		**Shelving** (non-lab)	Shelf	Notes
	-			-	
	-				

Architectural Notes

Acoustic consultant to advise on Sound Attenuation. * Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm.

ENGINEERING

HVAC

Temp (°C): Summer	Temp (°C): Winter
23oC	21oC
Temp Tolerance	Temp Variation
± 2oC	± 2oC / Hour
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General Extract
Humidity	Air Pressure
Controlled	Negative Airflow
Air Filtration	Equipment
F7 Supply (80-85%)	-
Min Air Changes	-
-	-

Piped Services

Water	
Lab CW & HW	-
-	-
Piped Services	
-	-
-	-
Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply	
230v, trunking	-
-	-
-	-
Essential / Standby Power	Special Electrical
-	-
EM Interference	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
Single Control	Presence Detection
Other Lighting	Ballast Type
Task Lighting	DALI (Dimmable)
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
-	-
Equipment	
Vibration sensitive	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-
Fire Detection	-
Smoke Detector	CCTV
-	-
Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Further briefing / MEP information required for this room

SPECIALIST SECONDARY - MICROSCOPE ROOM

Room ID:

LABORATORY FURNITURE

Lab Benching	Type	Benchtop Material	Depth	Notes	
	Bench, Movable	Trespa Toplab Base	750mm		
	-	-	-		
Other LF Elements	Above Lab Bench		Other Storage Units		
	Shelving, wall mtd	Cabinets, wall mtd	Cupboard, tall	Underbench cabinets	-
	-	-	-	-	-
Lab Sinks	Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
	Wash Hand Basin	CW / HW	Hands-free (sonar)	Splash Pnl & Dry Rack	-
	-	-	-	-	

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Microscope		No. units tbc		-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

ROOM CRITERIA SHEET

1802.01

abell nepp
Issued: 23 Feb 2018

SPECIALIST SECONDARY - QUARANTINE

Room ID: **Drosophila Suite Second Floor**

Biological Quarantine area accessed from Insectary technical corridor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
11 nsm	TBC	Full 24 hour use	Compliant	Not Required

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. Note	See arch. Note

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Plasterboard & Skim	-
Finish	Paint	-
Protection	-	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Accessible / Sound att.	-
Finish	Metal/Painted	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm *	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Access Ctrl + Lock	-
Closers	Closer	-
Vision Pnl	Large	-
Protection	Kick Plates	-
Seals	-	-
Other	-	-

Window Coverings

	At Facade	Internal
Type	-	
Light Control	-	-
Operation	-	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Acoustic consultant to advise on Sound Attenuation. * Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm.

ENGINEERING

HVAC

Temp (°C): Summer	Temp (°C): Winter
23oC	21oC

Temp Tolerance	Temp Variation
± 2oC	± 2oC / Hour

Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated

Humidity	Air Pressure
Controlled	tbd

Air Filtration	Equipment
F7 Supply (80-85%)	Process Extract

Min Air Changes	EM Interference
tbd	-

Piped Services

Water	
Lab CW & HW	-
-	-

Piped Services	
MBSC req's tbc	-
-	-

Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply	
230v, trunking	-
-	-

Essential / Standby Power	Special Electrical
-	-

-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux

Switching	Detection
Single Control	Presence Detection

Other Lighting	Ballast Type
Task Lighting	-

	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
-	-

Equipment
-

Data / AV / Comms

Data / AV / Comms	
-	-
-	-

Digital Projection
-

-	-

Projector Screen
-

Security / Life Safety

Security Systems	Alarm Systems
Access Control	-
-	-

Fire Detection	
Smoke Detector	-

Fire Control	FE Placement
Sprinklers- Mist	-

Engineering Notes

Further briefing / MEP information required for this room

SPECIALIST SECONDARY - QUARANTINE

Room ID:

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Movable	Trespa Toplab Base	750mm	
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, wall mtd	Cabinets, wall mtd	Cupboard, tall	Underbench cabinets	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Wash Hand Basin	CW / HW	Hands-free (sonar)		-
			-	

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
MBSC (Class 2)				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Autoclave	(requirement tbc)			-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

ROOM CRITERIA SHEET

1802.01

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Issued: 23 Feb 2018

SPECIALIST SECONDARY - BEHAVIOURAL ROOM

Room ID: **Drosophila Suite Second Floor**

Direct Secondary Lab accessed via Insectary Lab

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
9 nsm	TBC	Extended Hours	Compliant	Not Required

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	Noise	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. Note	See arch. Note

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Plasterboard & Skim	-
Finish	Paint	-
Protection	-	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Tiles/Plasterb margin	-
Finish	Metal/Painted	-
Features	Wipeable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm *	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Swipe card access lock	-
Closers	Closer	-
Vision Pnl	Large	-
Protection	Kick Plates	-
Seals	-	-
Other	-	-

Window Coverings

	At Facade	Internal
Type	Blinds	-
Light Control	Anti-Glare/Black-out	-
Operation	Manual	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Acoustic consultant to advise on Sound Attenuation. * Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm.

ENGINEERING

HVAC

Temp (°C): Summer	Temp (°C): Winter
23oC	21oC

Temp Tolerance	Temp Variation
± 2oC	± 2oC / Hour

Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General Extract

Humidity	Air Pressure
Controlled	Negative Airflow

Air Filtration	Equipment
F7 Supply (80-85%)	-

Min Air Changes	-
-	-

Piped Services

Water	
Lab CW & HW	-
-	-

Piped Services	
-	-
-	-

Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

Foul (normal)	-
-	-

Electrical

Power Supply	
230v, trunking	-
-	-

Essential / Standby Power	Special Electrical
-	-

EM Interference	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux

Switching	Detection
Single Control	Presence Detection

Other Lighting	Ballast Type
Task Lighting	-

	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
-	-

Equipment	
-	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-

Digital Projection	
-	-

Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
Access Control	-
-	-

Fire Detection	-
Smoke Detector	CCTV
-	-

Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Further briefing / MEP information required for this room

SPECIALIST SECONDARY - BEHAVIOURAL ROOM

Room ID:

LABORATORY FURNITURE

	Type	Benchtop Material	Depth	Notes	
Lab Benching	Bench, Movable	Trespa Toplab Base	750mm		
	-	-	-		

	Above Lab Bench		Other Storage Units		
Other LF Elements	Shelving, wall mtd	Shelving, wall mtd	Cabinets, wall mtd	Cupboard, tall	Underbench cabinets
	-	-	-	-	-

	Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Lab Sinks	Sink- Epoxy (integral)	CW Only	Lever Handle (mixer)	Splash Pnl & Dry Rack	-
	Wash Hand Basin	CW / HW	Hands-free (sonar)	-	

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

TECHNICAL HUBS

IN-VITRO IMAGING

EXISTING

The current In-Vitro facilities are in four rooms on two levels (3 and 5) within the CRB, occupying approximately 100sqm.

The brief requested 230 sqm for confocal, live cell imaging, super resolution (SR) and single molecule (SM) microscopes. The live cell imaging uses confocal microscopes and as such have the same working footprint as the confocal imaging's workstations. The brief requested an additional 40sqm for 4 more future microscopes in addition to the 11 identified.

Initially, the Users highlighted that SM imaging may require more space as 5no existing microscopes were missing from the original briefing document, however, when reviewing the latest layouts, the need for expansion space provisions was noted, but the deficit was not; further discussions between the Users and LMS are needed.

The SR and SM microscopes utilise optical tables which may be as large as 1.2m x 2.4m; consideration to manoeuvre these into the building is required as they cannot be broken down into smaller components. The minimum clearances for these rooms, using the larger optical tables, may require up to 25sqm each, rather than the requested 20sqm. These rooms will use lasers, so door access controls, door interlock systems and laser safety provisions are required. These are typically provided via a third-party specifier and installer (e.g. Lasermet).

There are three staff who manage In-Vivo Imaging. It was noted that the Genetics Groups, Bioinformaticians and Worm Groups don't generally require access and could be located on 'non-in-vitro' floors in the new proposal.

PROPOSED

Due to the size of the In-Vitro Suite it has been distributed across 3 adjacent floors with a floor each for: confocal, live cell and SR/SM; the users were satisfied with this proposal. The SM may become a single room with curtains or flexible wall to increase flexibility with optical table sizes and positions and quantity of microscopes.

Although they both use confocal microscopes, the Confocal suite has higher control requirements than Live Cell suite; hence their distinction.

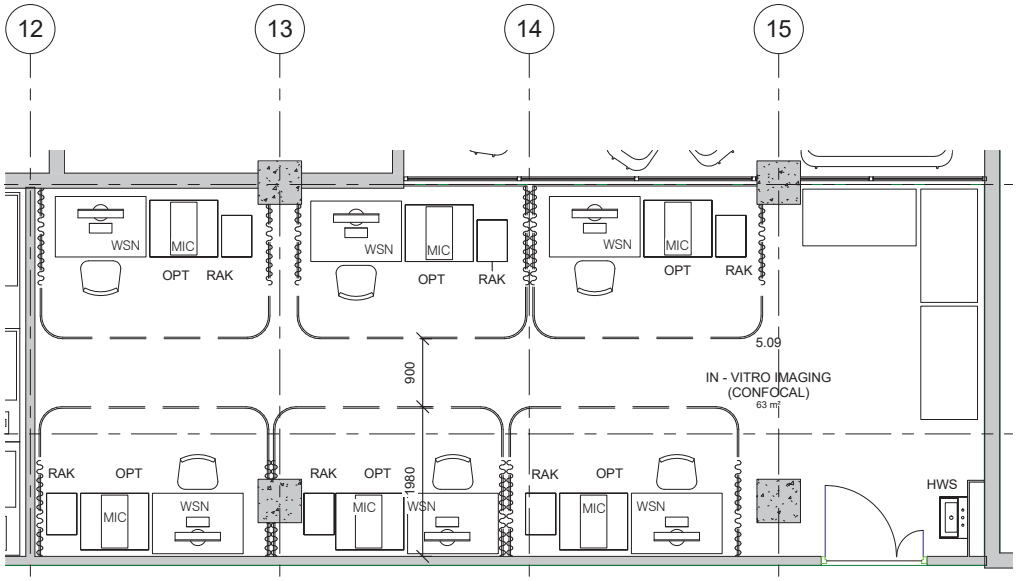
All In-Vitro suites have been located on the upper science floors, and stacked, for servicing and space utilisation reasons, particularly as a ventilation riser (to the roof plant) is required to service the in-vitro floors.

Within the Confocal and Live Cell suites, curtains will separate microscope stations to allow re-arrangement, however, ventilation capacities and service provisions are limited to the proposed allocation.

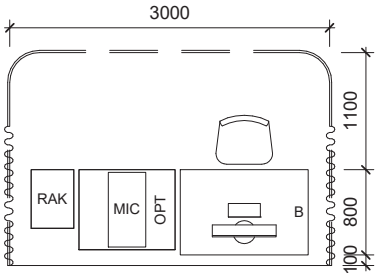
Regarding the potential to expand Live Cell, a 30sqm equipment room is located opposite and could be used for 3 additional stations (accepting the further loss of under-sized equipment space). Further discussions are required with LMS to determine priorities.

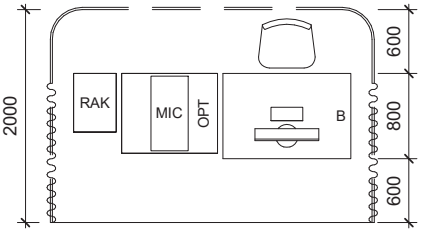
Write-up areas within the suite are not needed, however the users have requested 4 dedicated computer workstations for researchers to access; ideally, these are located near, but separate from, the in-vivo staff's desks. They have asked for one staff desk to be enclosed for concentrated working.

TECHNICAL HUBS
IN-VITRO IMAGING - CONFOCAL



PROPOSED PLAN - CONFOCAL SUITE (LEVEL 5)





WSN- Workstation with computer
OPT - Optical Table
MIC- Microscope
RAK- Component Rack
HWS - Hand Wash Station

SCENARIO 1

SCENARIO 2

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1802.01 Medical Research Council (MRC) Issued: 26 Feb 2018

ROOM CRITERIA SHEET

Confocal Imaging

Laboratory for confocal imaging - environmental requirements are similar to SR Imaging. Further development required.

In-Vitro Imaging
Fifth Floor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
63 nsm		Extended Hours	Compliant	Not Required

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological/Chem	Radiation	Laser Use - Class 4

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note	See arch. note

Floors

Type 1 - 100%	Type 2 - Not Used
Screed on Concrete	-
Vinyl	-
Coved	-

Construction
Floor Finish
Skirting

Partitions

Type 1 - 100%	Type 2 - Not Used
Plasterboard & Skim	-
Paint	-
-	-

Construction
Finish
Protection

Ceiling

Type 1 - 100%	Type 2 - Not Used
Tiles/Plasterb margin	-
Metal/Painted	-
Wipeable	-
-	-

System
Finish
Features
Height

Accessories (non-Lab)

Items	Notes
Blackout curtains	For laser use
-	
-	
-	

Doors

Type 1	Type 2
Door + Half Leaf	-
1200 mm *	-
Swinging	-
Timber- Solid Core	-
HPL	-
Timber	-
Painted	-
Key Lock& Thumb Turn	-
Closer	-
-	-
Kick Plates	-
Light-tight	-
Class 4 laser protection	-

Type
Size
Operation
Door Material
Door Finish
Frame Material
Frame Finish
Locks
Closers
Vision Pnl
Protection
Seals
Other

Window Coverings

At Façade	Internal
-	-
-	-
-	-
-	-

Type
Light Control
Operation
Manifestations / Film

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Acoustic consultant to advise on Sound Attenuation. * Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Illuminated 'in use' warning sign outside doors.

ENGINEERING

HVAC

Temp 1 (°C): Summer	Temp 2 (°C): Winter
22oC	22oC

Temp Tolerance	Temp Variation
± 0.5oC	± 0.5oC / Hour

Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated*

Humidity	Air Pressure
40 ± 10%	Negative Airflow

Air Filtration	Equipment
F7 Supply (80-85%)	See Lab Equip

Min Air Changes	
4 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW & HW	-
-	-

Piped Services	
Compressed Air	Nitrogen
Carbon Dioxide	-
-	

Bottled Gases	
5%-CO2, 95%-02	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply		
230v, trunking	230v, see plan	
Cleaners outlets	-	
Fused Spur	-	

Essential / Standby Power	Special Electrical
-	-
-	-

EM Interference	
-	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux

Switching	Detection
Single Control	-

Other Lighting	Ballast Type
Task Lighting	-

Emergency Ltg	
Life Safety	

Structural

Loading	Vibration Criteria
Lab, normal	VC-C**

Equipment	
Noise & Vibration sens.	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-

Digital Projection	
-	-

Projector Screen
-

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-

Fire Detection	
Smoke Detector/Sounder	CCTV
-	-

Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

All MEP Requirements and Specifications TBC by MEP Engineer. Leica SP8 unit with class 4 infrared laser utilisation within this room; *dedicated extract is for laser Argon (flowrate tbc). **Vibration requirement of VC-A if active anti-vibration mounting installed.

Confocal Imaging

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Special	Trespa Toplab Base	-	Computer bench
Bench, Special	Trespa Toplab Base	-	Optical table

Other LF Elements

Above Lab Bench		Other Storage Units		
-	-	Component rack	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Sink- Epoxy (integral)	Lab CW & HW	Hands-free (sonar)	-	Splash Pnl & Dry Rack

LABORATORY EQUIPMENT (ASE*)

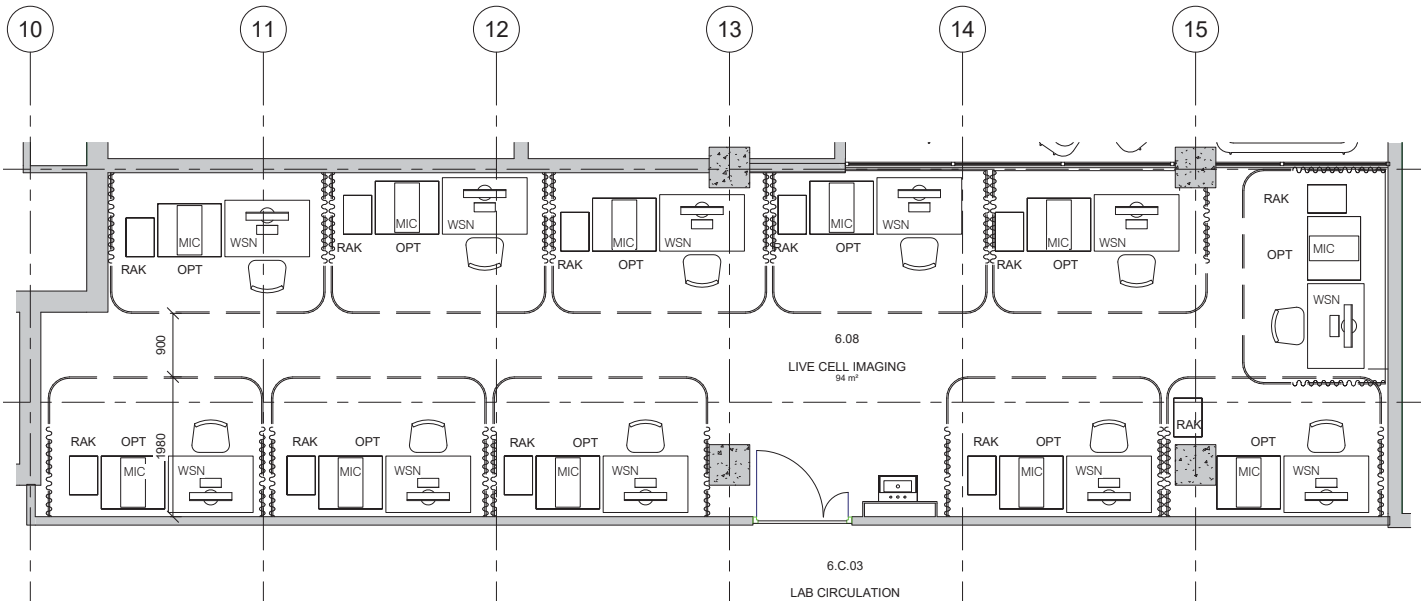
* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Microscopes	Refer to equipment list			-
Optical Air Table			1200 x 2400mm	-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

TECHNICAL HUBS
IN-VITRO IMAGING - LIVE CELL



PROPOSED PLAN - LIVE CELL SUITE (LEVEL 6)

WSN- Workstation with computer
OPT - Optical Table
MIC- Microscope
RAK- Component Rack
HWS - Hand Wash Station

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1802.01 Medical Research Council (MRC) Issued: 26 Feb 2018

ROOM CRITERIA SHEET

Live Cell Imaging

Laboratory for live cell imaging

In-Vitro Imaging
Sixth Floor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
91 nsm		Extended Hours	Compliant	Not Required

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological/Chem	Radiation	Laser Use - Class 3B

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note	See arch. note

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	Screed on Concrete	-
Floor Finish	Vinyl	-
Skirting	Coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Plasterboard & Skim	-
Finish	Paint	-
Protection	-	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Tiles/Plasterb margin	-
Finish	Metal/Painted	-
Features	Wipeable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
Blackout curtains	For laser use
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm *	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Key Lock& Thumb Turn	-
Closers	Closer	-
Vision Pnl	-	-
Protection	Kick Plates	-
Seals	Light-tight	-
Other	Class 3B laser protection	-

Window Coverings

	At Façade	Internal
Type	-	-
Light Control	-	-
Operation	-	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Acoustic consultant to advise on Sound Attenuation. * Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Illuminated 'in use' warning sign outside doors.

ENGINEERING

HVAC

Temp 1 (°C): Summer	Temp 2 (°C): Winter
22oC	22oC
Temp Tolerance	Temp Variation
± 0.5oC	± 0.5oC / Hour
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General Extract
Humidity	Air Pressure
40 ± 10%	Negative Airflow
Air Filtration	Equipment
F7 Supply (80-85%)	See Lab Equip
Min Air Changes	
4 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW (Cat 5)	-
-	-
Piped Services	
Compressed Air	Nitrogen
Carbon Dioxide	-
-	
Bottled Gases	
5%-CO2, 95%-02	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply		
230v, trunking	230v, see plan	
Cleaners outlets	-	
Fused Spur	-	
Essential / Standby Power	Special Electrical	
-	-	
EM Interference	-	
-	-	

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
Manual On/Off with PIR	Presence Detection
Other Lighting	Ballast Type
Task Lighting	-
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	VC-C**
Equipment	
Noise & Vibration sens.	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-
Fire Detection	-
Smoke Detector/Sounder	CCTV
-	-
Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

MEP Engineer specification is required for this room - information shown is an assumption. All MEP Requirements and Specifications TBC by MEP Engineer. Note: Class 3B laser operation in this room. **Vibration requirement of VC-A if active anti-vibration mounting installed.

Live Cell Imaging

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Special	Trespa Toplab Base	-	Computer bench
Bench, Special	Trespa Toplab Base	-	Optical air tables

Other LF Elements

Above Lab Bench		Other Storage Units		
-	-	Component rack	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Sink- Epoxy (integral)	Lab CW (Cat 5)	Hands-free (sonar)	-	Splash Pnl & Dry Rack

LABORATORY EQUIPMENT (ASE*)

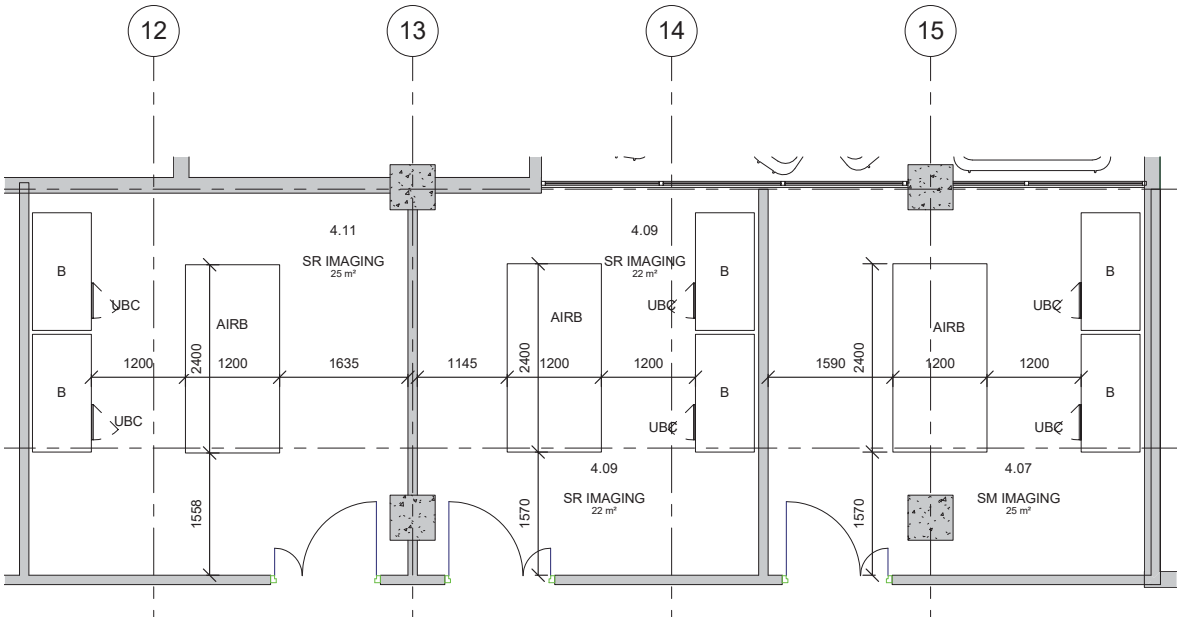
* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Microscopes	Refer to equipment list			-
Optical Air Table			1200 x 2400mm	-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

TECHNICAL HUBS
IN-VITRO IMAGING - SUPER RESOLUTION / SINGLE MOLECULE IMAGING



PROPOSED PLAN - SM / SR SUITE (LEVEL 6)

AIR- Air Table
UBC - Mobile Underbench Cupboard Unit

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ROOM CRITERIA SHEET

Super Resolution (SR) Imaging

Laboratory for enhanced resolution imaging - environmental requirements are similar to Confocal Imaging. Further development required.

In-Vitro Imaging
Fourth Floor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
22 nsm		Extended Hours	Compliant	Not Required

Laboratories Only:

Containment	Fumigation	Safety Risks		
ACDP CL2	No	Biological/Chem	Radiation	Laser Use - Class 3B

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note	See arch. note

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	Screed on Concrete	-
Floor Finish	Vinyl	-
Skirting	Coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Plasterboard & Skim	-
Finish	Paint	-
Protection	-	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Tiles/Plasterb margin	-
Finish	Metal/Painted	-
Features	Wipeable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm *	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Access Ctrl + Lock	Interlock
Closers	Closer	-
Vision Pnl	-	-
Protection	Kick Plates	-
Seals	Light-tight	-
Other	Class 3B laser protection	-

Window Coverings

	At Facade	Internal
Type	-	-
Light Control	-	-
Operation	-	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Acoustic consultant to advise on Sound Attenuation. * Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Illuminated 'in use' warning sign outside doors.

ENGINEERING

HVAC

Temp [(°C): Summer	Temp ((°C): Winter
22oC	22oC

Temp Tolerance	Temp Variation
± 0.5oC	± 0.5C / Hour

Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated*

Humidity	Air Pressure
40 ± 10%	Negative Airflow

Air Filtration	Equipment
F7 Supply (80-85%)	See Lab Equip

Min Air Changes	
4 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW (Cat 5)	-
-	-

Piped Services	
Compressed Air	Nitrogen
Carbon Dioxide	-
-	

Bottled Gases	
5%-CO2, 95%-02	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply		
230v, trunking	230v, see plan	
Cleaners outlets	-	
Fused Spur	-	

Essential / Standby Power	Special Electrical
-	-

EM Interference	
-	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux

Switching	Detection
Single Control	-

Other Lighting	Ballast Type
Task Lighting	-

Emergency Ltg	
-	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	VC-C**

Equipment	
Noise & Vibration sens.	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-

Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-

Fire Detection	
Smoke Detector/Sounder	-

CCTV	
-	-

Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

SR and Confocal rooms are listed as a single field within Buro Happold report - tbc if requirements for Super Resolution and Confocal rooms are identical. All MEP Requirements and Specifications TBC by MEP Engineer. Note: Class 3B laser operation in this room; *dedicated extract is for laser Argon (flowrate tbc). **Vibration requirement of VC-A if active anti-vibration air table installed.

Super Resolution (SR) Imaging

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Special	-	-	Optical air table for laser work
Bench, Movable	Trespa Toplab Base	750mm	

Other LF Elements

Above Lab Bench		Other Storage Units		
-	-	Underbench cabinet	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Sink- Epoxy (integral)	Lab CW & HW	Hands-free (sonar)	-	Splash Pnl & Dry Rack

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Optical Air Table			1200 x 2400mm	-
Microscopes	Refer to equipment list			-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

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ROOM CRITERIA SHEET

Single Molecule (SM) Imaging

Laboratory for single molecule imaging

In-Vitro Imaging
Fourth Floor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
23 nsm		Extended Hours	Compliant	Not Required

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological/Chem	Radiation	Laser Use - Class 4

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note	See arch. note

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	Screed on Concrete	-
Floor Finish	Vinyl	-
Skirting	Coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Plasterboard & Skim	-
Finish	Paint	-
Protection	-	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Tiles/Plasterb margin	-
Finish	Metal/Painted	-
Features	Wipeable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm *	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Key Lock& Thumb Turn	-
Closers	Closer	-
Vision Pnl	-	-
Protection	Kick Plates	-
Seals	Light-tight	-
Other	Class 4 laser protection	-

Window Coverings

	At Façade	Internal
Type	-	-
Light Control	-	-
Operation	-	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Acoustic consultant to advise on Sound Attenuation. * Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Illuminated 'in use' warning sign outside doors.

ENGINEERING

HVAC

Temp 1 (°C): Summer	Temp 2 (°C): Winter
22oC	22oC
Temp Tolerance	Temp Variation
± 0.5oC	± 0.5oC / Hour
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General Extract
Humidity	Air Pressure
40 ± 10%	Negative Airflow
Air Filtration	Equipment
F7 Supply (80-85%)	See Lab Equip
Min Air Changes	
4 AC/HR Occupied	-

Piped Services

Water	
Lab CW (Cat 5)	-
-	-
Piped Services	
Compressed Air	Nitrogen
Carbon Dioxide	
-	
Bottled Gases	
5%-CO2, 95%-O2	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply		
230v, trunking	230v, see plan	
Cleaners outlets	-	
Fused Spur	-	
Essential / Standby Power	Special Electrical	
-	-	
EM Interference	-	
-	-	

Lighting

Lighting	Lux Levels	
General Lighting	500 Lux	
Switching	Detection	
Single Control	-	
Other Lighting	Ballast Type	
Task Lighting	-	
-	Emergency Ltg	
-	Life Safety	

Structural

Loading	Vibration Criteria
Lab, normal	VC-C**
Equipment	
Noise & Vibration sens.	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-
Fire Detection	-
Smoke Detector/Sounder	CCTV
-	-
Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

MEP Engineer specification is required for this room - information shown is an assumption. All MEP Requirements and Specifications TBC by MEP Engineer. Leica SP8 unit with class 4 infrared laser utilisation within this room. **Vibration requirement of VC-A if active anti-vibration mounting installed.

Single Molecule (SM) Imaging

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Special	-	-	Optical air table for laser work
Bench, Movable	Trespa Toplab Base	750mm	

Other LF Elements

Above Lab Bench		Other Storage Units		
-	-	Underbench cabinet	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Sink- Epoxy (integral)	Lab CW (Cat 5)	Hands-free (sonar)	-	Splash Pnl & Dry Rack

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Optical Air Table			1200 x 2400mm	-
Microscopes	Refer to equipment list			-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

TECHNICAL HUBS

CRYO-EM SUITE

The CryoEM Suite is designed to house a new Titan Krios G3 transmission electron microscope and the existing CM200 both manufactured by FEI. The vibration criteria for the Krios is VC-E and VC-F and is sensitive to electromagnetic interference (EMI); for the building it is one of, if not the most, demanding space.

The current location proposed is on the southern end of the site and where proximity to the South Core's lifts and adjacent vehicle movement will need to be addressed. A vibration study which was performed on the site suggests that the vibration criteria can be achieved on the site through design of the structure and improvement of surrounding road surfaces. The Krios is likely to be affected by EMI generated from moving metal masses (lifts and vehicles). At this time, it is recommended that the microscope room(s) be EMI-shielded.

The CryoEM user meetings have included discussions with FEI and input from the recently completed Francis Crick Institute's facility. In addition to considering the facility needs for the Krios, the users have been considering the future needs of the suite; particularly the companion to the Krios and replacement of the CM200. The users believe that the second room should be designed to accommodate the FEI Glacios; a high-throughput screening device to select the optimal samples to be examined by the Krios. Although it is much less expensive, it requires the similar design considerations as the Krios in a slightly smaller room.

For future-proofing, the users would like the second room to be as large as possible as the next new technology could require more space than the Krios (ideally housing both the Glacios and CM200 at the same time).

The briefed area for the CryoEM Suite was 100 net sqm, inlcuding 'New Imaging Modalities' for the building.

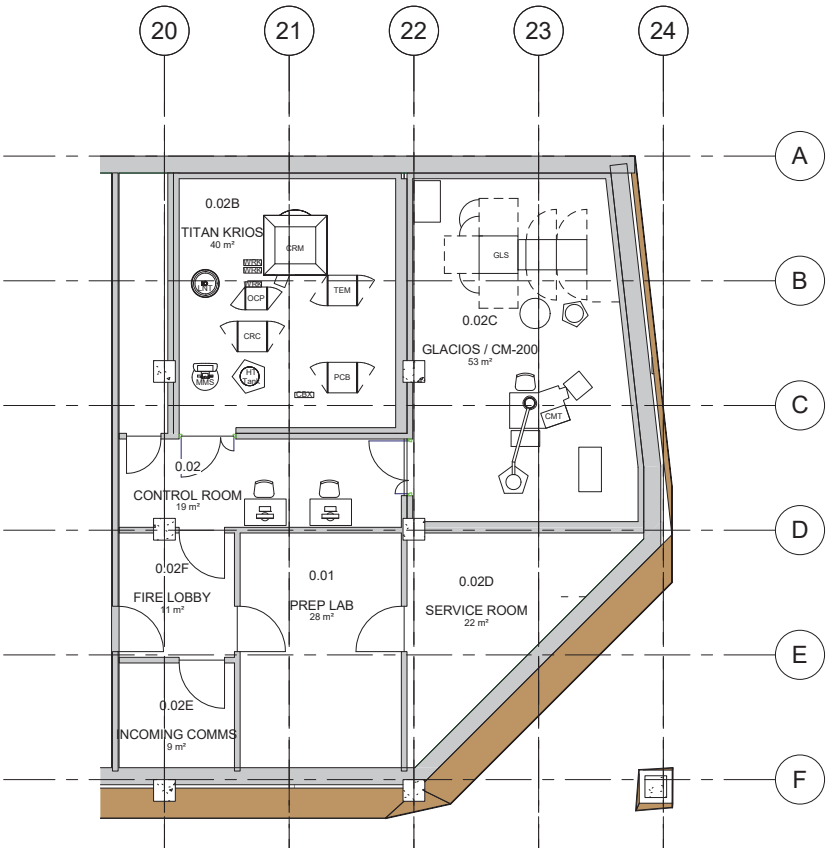
PROPOSED

The current space for the CryoEM Suite remains in flux. Physically, it is an independent suite within an area that is bound by the requirements of the South Core (namely the fire rated exit corridor); the locations of primary structure (columns), the south and southwest building profile (external walls) and the decision by LMS on the space that it wants to commit to CryoEM.

The basic elements of the Suite are the two microscope rooms, a shared control room and a prep lab. Ideally, the traffic from the prep lab to each scope room does not crossover through the control room. In discussions with FEI (and different from their published installation manuals), the service rooms can be remote from each scope room, in fact, they could be in the CryoEM plant above on Level 1. They include chillers and back-up UPS, as well as gas bottles. These discussions are to continue into Stage 3, however the suite currently accommodates 165sqm.

The users asked if the Krios could have an external window; 'science on display' for a state-of-the-art technology. FEI confirmed that this was possible, and the architect was interested.

TECHNICAL HUBS
CRYO-EM SUITE



PROPOSED PLAN - CRYO-EM SUITE (LEVEL 0)

CRM - Cryogenic Electron Microscope
OCP - Optics Cabinet
TEM - Cabinet- TEM
CRC - Cabinet- Corrector
PCB - Cabinet- Power
HTT - HT Tank
MMS - Movable Monitor Support
LNT - LN2 Tank
WRK - Water Rack
CBX - Cabinet- Box
GLS - Glacios Cryo-TEM Microscope
CMT - CM200 Microscope

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ROOM CRITERIA SHEET

Krios Lab

Room ID:

Cryo-EM room; to achieve anti-vibration criterion as specified by MEP engineer. Accessible via a control room. 'Buffer' rooms (non-trafficable) to separate Cryo-EM facilities from core, plant or delivery spaces. Shared services rooms to be located adjacent.

Department: **Level 0**

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
40 nsm	-	Extended Hours	Compliant	Not Acceptable

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation	Intern Ambient Noise (dBA)	Mechanical Noise (NR)	**Doors**	Type 1	Type 2
	Tbd by acoustic engineer	Tbd by acoustic engineer	Type	Single Door	-
Floors	Type 1 - 100%	Type 2 - Not Used	Size	See Plan	-
Construction	Concrete	-	Operation	Swinging	-
Floor Finish	Vinyl, Sheet	-	Door Material	Lead-shielded	-
Skirting	Flooring Coved	-	Door Finish	-	-
			Frame Material	Polymer-clad	-
Partitions	Type 1 - 50%	Type 2 - 50%	Frame Finish	-	-
Construction	Blockwork	Anti-vibration shielding	Locks	Access Ctrl + Lock	-
Finish	-	Paint	Closers	w/ delayed release	-
Protection	-	-	Vision Pnl	Peephole only	-
			Protection	Kick Plates	-
Ceiling	Type 1 - 100%	Type 2 - Not Used	Seals	Light-tight	-
System	Accessible Grid	-	Other	-	-
Finish	Metal Tile	-			
Features	-	-	**Window Coverings**	At Façade	Internal
Height	4000mm	-	Type	-	-
			Light Control	-	-
Accessories (non-Lab)	Items	Notes	Operation	-	-
	-		Manifestations / Film	-	-
	-				
	-		**Shelving** (non-lab)	Shelf	Notes
	-			-	

Architectural Notes

Vibration attenuating and general engineering requirements to be confirmed by MEP engineer.

ENGINEERING

HVAC

Temp (°C): Summer	Temp (°C): Winter
20oC	20oC
Temp Tolerance	Temp Variation
± 0.5oC	± 0.5oC
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General Extract
Humidity	Air Pressure
40 ± 10%	Negative Airflow
Air Filtration	Equipment
F7 Supply (80-85%)	See Lab Equip
Min Air Changes	-
4 Day (2 Night) /HR	-

Piped Services

Water	
-	-
-	-
Piped Services	
Compressed Air	-
Vacuum	Nitrogen
Bottled Gases	
Liquid Nitrogen	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply		Specialist Equipment*
230v, trunking		-
400 volt, 3 Phase		-
Cleaners outlets		-
Essential / Standby Power	Special Electrical	
UPS, Central	-	
EM Interference	-	-
-	-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
-	Presence Detection
Other Lighting	Ballast Type
Safe (red) Light	DALI (Dimmable)
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Heavy Equipment	VC-E - Vertical **
Equipment	VC-F - Lateral**
Noise & Vibration sens.	

Data / AV / Comms

Data / AV / Comms	
-	-
Data	-
Wireless	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-
Fire Detection	-
Smoke Detector	CCTV
-	-
Fire Control	FE Placement
-	-

Engineering Notes

*Specialist equipment requires 4,420kW Peak
**Refer to MEP / Structural Engineers' information
***Associated cooling tanks, power supplies etc. as per manufacturer's guidance
Further clarification regarding room control required.

Krios Lab

Room ID:

LABORATORY FURNITURE

Lab Benching	Type	Benchtop Material	Depth	Notes	
	-	-	-		
	-	-	-		
Other LF Elements	Above Lab Bench		Other Storage Units		
	-	-	-	-	-
	-	-	-	-	-
Lab Sinks	Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
	-	-	-	-	-

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Cryo EM Microscope***	FEI Titan Krios	1 unit	4500 x 5500 (min req.)	Group 2 (OF-CI)
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

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ROOM CRITERIA SHEET

Glacios/CM200 Lab

Room ID:

Cryo-EM room; to achieve anti-vibration criterion as specified by MEP engineer. Accessible via a control room. 'Buffer' rooms (non-trafficable) to separate Cryo-EM facilities from core, plant or delivery spaces. Shared services rooms to be located adjacent.

Department: **Level 0**

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
40 nsm	-	Extended Hours	Compliant	Not Acceptable

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation	Intern Ambient Noise (dBA)	Mechanical Noise (NR)	**Doors**	Type 1	Type 2
	Tbd by acoustic engineer	Tbd by acoustic engineer	Type	Single Door	-
Floors	Type 1 - 100%	Type 2 - Not Used	Size	See Plan	-
Construction	Concrete	-	Operation	Swinging	-
Floor Finish	Vinyl, Sheet	-	Door Material	Lead-shielded	-
Skirting	Flooring Coved	-	Door Finish	-	-
			Frame Material	Polymer-clad	-
Partitions	Type 1 - 50%	Type 2 - 50%	Frame Finish	-	-
Construction	Blockwork	Anti-vibration shielding	Locks	Access Ctrl + Lock	-
Finish	-	Paint	Closers	w/ delayed release	-
Protection	-	-	Vision Pnl	Peephole only	-
			Protection	Kick Plates	-
Ceiling	Type 1 - 100%	Type 2 - Not Used	Seals	Light-tight	-
System	Accessible Grid	-	Other	-	-
Finish	Metal Tile	-			
Features	-	-	**Window Coverings**	At Façade	Internal
Height	4000mm	-	Type	-	-
			Light Control	-	-
Accessories (non-Lab)	Items	Notes	Operation	-	-
	-		Manifestations / Film	-	-
	-				
	-		**Shelving** (non-lab)	Shelf	Notes
	-			-	

Architectural Notes

Vibration attenuating and general engineering requirements to be confirmed by MEP engineer.

ENGINEERING

HVAC

Temp (°C): Summer	Temp (°C): Winter
20oC	20oC
Temp Tolerance	**Temp Variation**
± 0.5oC	± 0.5oC / Hour
Ventilation, supply	**Ventilation, exhaust**
Comfort Cooling	General Extract
Humidity	**Air Pressure**
55+/-10% RH Centrally cor	Negative Airflow
Air Filtration	**Equipment**
F7 Supply (80-85%)	See Lab Equip
Min Air Changes	-
4 Day (2 Night) /HR	-

Piped Services

Water		
-	-	
-	-	
Piped Services		
Compressed Air	-	
Nitrogen	-	
Bottled Gases		
-	-	
-	-	
-	-	
-	-	

Drainage

-	-
-	-

Electrical

Power Supply	Specialist Equipment*
230v, trunking	-
400 volt, 3 Phase	-
Fused Spur	-
Essential / Standby Power	**Special Electrical**
UPS, Central	-
EM Interference	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	**Detection**
-	-
Other Lighting	**Ballast Type**
Safe (red) Light	LED Dimmable
-	**Emergency Ltg**
-	Life Safety

Structural

Loading	Vibration Criteria
Heavy Equipment	VC-E - Vertical **
Equipment	VC-F - Lateral**
Noise & Vibration sens.	

Data / AV / Comms

Data / AV / Comms	
Wireless	-
Data	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
	-
-	-
Fire Detection	-
Smoke Detector	**CCTV**
-	CCTV Camera Static
Fire Control	**FE Placement**
Sprinklers- Water	-

Engineering Notes

* Further clarification required from manufacturers / engineer to confirm
**Refer to MEP / Structural Engineers' information
***Associated cooling tanks, power supplies etc. as per manufacturer's guidance
Further clarification regarding room control required.

Glacios/CM200 Lab

Room ID:

LABORATORY FURNITURE

Lab Benching	Type	Benchtop Material	Depth	Notes	
	-	-	-		
	-	-	-		
Other LF Elements	Above Lab Bench		Other Storage Units		
	-	-	-	-	-
	-	-	-	-	-
Lab Sinks	Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
	-	-	-	-	-

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Cryo EM Microscope***	Thermo Scientific / Glacios	1 unit	(refer to design drawings)	Group 2 (OF-CI)
Cryo EM Microscope***	CI CM200	1 unit	(refer to design drawings)	Group 2 (OF-CI)

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

London Institute of Medical Sciences **abell nepp**
1802.01 Medical Research Council (MRC) Issued: 19 Feb 2018

ROOM CRITERIA SHEET

Preparation Lab

Room ID:
Department: **Level 0**

Preparation Lab for Cryo-EM work.

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
30 nsm	-	Extended Hours	Compliant	Not Acceptable

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
Tbd by acoustic engineer	Tbd by acoustic engineer

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	Concrete	-
Floor Finish	Vinyl, Sheet	-
Skirting	Flooring Coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Paint	-
Protection	-	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Accessible Grid	-
Finish	Metal Tile	-
Features	-	-
Height	TBC	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Single Door	-
Size	See Plan	-
Operation	Swinging	-
Door Material	Polymer-clad	-
Door Finish	-	-
Frame Material	Polymer-clad	-
Frame Finish	-	-
Locks	Access Ctrl + Lock	-
Closers	w/ delayed release	-
Vision Pnl	Large	-
Protection	Kick Plates	-
Seals	-	-
Other	-	-

Window Coverings

	At Façade	Internal
Type	-	-
Light Control	-	-
Operation	-	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Engineering requirements subject to MEP Engineer Confirmation.

ENGINEERING

HVAC

Temp (°C): Summer	Temp (°C): Winter
24oC	20oC

Temp Tolerance	Temp Variation
± 2oC	± 2oC / Hour

Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated

Humidity	Air Pressure
55+/-10% RH Centrally cor	Negative Pressure

Air Filtration	Equipment
F7 Supply (80-85%)	Process Extract

Min Air Changes	-
4 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW (Cat 5)	-
-	-

Piped Services	
-	-
-	-

Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply	
230v, trunking	-
-	-
-	-

Essential / Standby Power	Special Electrical
-	-

EM Interference	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux

Switching	Detection
Single Control	Presence Detection

Other Lighting	Ballast Type
Task Lighting	-

-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	-

Equipment
-

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-

Digital Projection		
-	-	

Projector Screen
-

Security / Life Safety

Security Systems	Alarm Systems
-	-

-	-
Fire Detection	-
Smoke Detector	CCTV
-	-

Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Engineering criterion shown as per Prep Room requirements within MEPH Report.

Preparation Lab

Room ID:

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Fixed Base	Trespa Toplab Base	750mm	
Bench, Movable	Trespa Toplab Base	750mm	

Other LF Elements

Above Lab Bench		Other Storage Units		
-	-	-	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Lab Sink	Lab CW (Cat 5)	Standard Handles	-	-
Wash Hand Basin	Lab CW & HW	Hands-free (sonar)	-	-

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
Fume Cupboard				-
LN2 Dewar				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Carbon Coater				-
Glow Discharge System				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

SECTION 4: CBS DESIGN

SCHEDULE OF ACCOMMODATION + DESIGN SUMMARY

The CBS is designed to hold rodents (mice) for experimental purposes. It is not a containment or a breeding facility; these facilities are provided elsewhere on campus. The main research activities for the unit include behavioural, metabolism and in-vivo imaging. Adjacent to the CBS, an ex-vivo suite will be provided consisting of electrophysiology, cardiac and imaging facilities. The CBS shares a small portion of the floor with the mechanical plant for the CryoEM suite below.

Due to building footprint constraints, the CBS is located on the First Floor with its dedicated plant on the Ground Floor below. An interstitial services zone above the CBS was considered but was not required with the Plant below it. The services strategies are designed to minimise need for maintenance personnel to access the critical clean areas within the Unit.

Although security will be important for this type of facility, there is no need for special biosecurity/bioterrorism measures. There is no provision for fumigation in the unit except for VHP capability in the Cage Washer and in the Receiving room.

As described in more detail, staff enter the unit from the South Core via the changing rooms. The ex-vivo is accessed via the North Core. Supplies and waste are transported via the Service Lift near the North Core.

Due to the restricted floor plates, particularly the location of the Cores, the CBS is a double-loaded corridor layout. The activities are grouped by interest; however, the rooms are designed to be flexible for other uses.

The CBS is designed to hold a capacity of 1080 IVC cages and 90 isolator cages. Due to the nature of the research activities, most of the procedure rooms need to be designed where the animals are in open cages (e.g. metabolism cages) and behavioural studies. Further confirmation of protocols related to the staff's protection from allergens is required. Following Imperial College's allergen protocols, the Holding Rooms will contain cage changing stations and the Cage Processing room will utilise a small robotics unit to empty the bases of dirty cages.

SCHEDULE OF ACCOMMODATION

	TECHNOLOGY HUBS (CBS)	Original Brief (Rev 1.3 - 24 Oct 2016) Unit	Qty	Total	Current Brief (09 Nov 2017) Unit	Qty	Total	Current As-drawn (09 Nov 2017) Unit	Qty	Total	
	CBS, In-vivo and Ex-vivo			**Total: 1,000 nsm**			**Total: 885 nsm**			**Total: 869 nsm**	
	CBS			860 nsm			695 nsm			677 nsm	
	In-vivo Imaging			65 nsm			87 nsm			90 nsm	
	Ex-vivo Procedures			75 nsm			103 nsm			102 nsm	
	CBS			**Total: 860 nsm**			**Total: 695 nsm**			**Total: 677 nsm**	
	HOLDING AND PROCEDURES			Hold+Proc: 515 nsm			Hold+Proc: 382 nsm			Hold+Proc: 392 nsm	
	Holding Rooms										
1.01	IVCs (mice)	1,300 cages (M+R)	1	200 nsm	4 racks	18	4 72 nsm	4 racks	20	4 78 nsm	16 racks; 1,280 cages; 2 change stns; sink, no anterooms
1.02	Isolators (mice)			-	2 isolators	24	1 24 nsm	2 isolators	22	1 22 nsm	2 isolators; 90 cages under further review
	Procedures Rooms										All proc rms with mobile benching, high-level power drops, sinks (not metal), O2, CO2, portable anaesth carts
1.10	General Procedure	10	3	30 nsm	11	3	33 nsm	14	3	42 nsm	One room with down-draft table
1.11	Tissue Culture	15	2	30 nsm	16	2	32 nsm	13	2	25 nsm	One for viral work
1.12	Cardiac (In-vivo)	20	1	20 nsm	16	1	16 nsm	15	1	15 nsm	Echo cardiography, IVC rack
1.13	Electrophysiology (In-vivo)			See Ex-vivo	11	1	11 nsm	11	1	11 nsm	
	Behavioural Suite										Cluster rooms 5.12 - 5.16
1.20	Anteroom			-	11	1	11 nsm	12	1	28 nsm	May be combined for more flexibility
1.21	Watermaze	10	1	10 nsm	16	1	16 nsm	16	1	16 nsm	1.5m pool; base used for other exp, wall drain
1.22	Behavioural apparatus	10	2	20 nsm	16	1	16 nsm	11	1	11 nsm	
1.23	Feeding cage system	10	1	10 nsm	16	1	16 nsm	17	1	17 nsm	BioDac - 4no 16-open cage racks
1.24	Laser room - Optogenetics	10	1	10 nsm	16	1	16 nsm	16	1	16 nsm	1.5m laser bench; 1.8 x 1.2m laser apparatus table, 6 operant boxes (CPB), laser controls (low-level)
	Metabolism Suite										Cluster rooms 5.12 - 5.16
1.30	Anteroom			-	11	1	11 nsm	12	1	12 nsm	May be combined for more flexibility
1.31	Metabolic procedures	15	1	15 nsm	16	1	16 nsm	16	1	16 nsm	
1.32	Echo MRI	10	1	10 nsm	11	1	11 nsm	12	1	12 nsm	EchoMRI-100TM
1.33	Echocardiography			-	11	1	11 nsm	12	1	12 nsm	Vevo 770, IVC rack
1.34	CLAMS	10	1	10 nsm	16	1	16 nsm	16	1	16 nsm	2no CLAMS cabinets, environmental chamber, workstation
	Operating Theatre										LMS to consider 2 theatres v one large and sharing Pre-Op
1.30	Surgical Room	15	3	45 nsm	16	2	32 nsm	11	2	22 nsm	Wall bencheAuto doors (kick), scrub sinks (or in Pre-op); IVC recovery unit
1.31	Pre-Op Room	15	3	45 nsm	22	1	22 nsm	21	1	21 nsm	
1.32	Recovery Room	15	3	45 nsm			-			-	First stage recov in OR, then returned to room)
1.33	Necropsy	15	1	15 nsm			-			-	Use procedure rooms
	STAFF SUPPORT			Staff Support: 130 nsm			Staff Support: 108 nsm			Staff Support: 101 nsm	
1.40	Office	10	1	10 nsm	11	1	11 nsm	14	1	14 nsm	Outside the barrier
1.41	Archive / Copier	20	1	20 nsm	11	1	11 nsm			Incl in Office	Outside the barrier
1.42	CBS Staff Break Room			Space not allocated	18	1	18 nsm	21	1	21 nsm	Required?
1.43	Write-up	4	1	4 nsm	5	1	5 nsm	5	1	5 nsm	Within the barrier
1.44	Change Rooms - Female	30	1	30 nsm	30	1	30 nsm	29	1	29 nsm	Lockers: 5 full-ht and 20 box, shower, WCs
1.45	Change Rooms - Male	30	1	30 nsm	30	1	30 nsm	29	1	29 nsm	Lockers: 5 full-ht and 20 box, shower, WCs
1.46	WCs	6	6	36 nsm	3	1	3 nsm	3	1	3 nsm	Inside barrier (WCs also incl in change rooms)

CBS DESIGN
SCHEDULE OF ACCOMMODATION + DESIGN SUMMARY

ELECTROPHYSIOLOGY

EXISTING

Electrophysiology is currently located on levels 2 and 3 within the CRB. On Level 2, adjacent to the CBS, a combined 'HO-designated room' is provided. Level 3 accommodates an E-Phys rig within a wet lab, with a separate 'HO-designated' area adjacent this which allows the users to bring animals to/ from the CBS (level 2) prior to carrying out experiments. The Level 2 lab combines in-vivo and ex-vivo work; the users agreed that in-vivo work should carried out within the CBS barrier.

The users have four rigs in total; one for in-vivo and three for ex-vivo work; proximity to a central freezer store is essential. Currently preparatory work is performed in the main lab, but due to its nature, anyone in the room is not allowed to enter another lab for 48 hours. Therefore a 'HO-designated' ex-vivo prep lab should be provided but be separated from the main lab.

The E-Phys rigs use Faraday Cages; they are sensitive to vibration and noise and need to be considered in the location and design of the room. The rooms are laser-designated; electrical mains are to be independent to the rest of the building with earthing provisions to each room; specific static dissipative (SD) vinyl is not required.

PROPOSED

An in-vivo electrophysiology room will be provided within the CBS barrier as a standalone function. The ex-vivo Electrophysiology Suite will be located outside the CBS barrier and will contain the separated HO-designated prep lab. The prep room will be fumigable.

The main lab will accommodate 3 E-Phys rigs with ample space for benching. Each rig consists of a ventilated table and faraday cage, equipment rack and workbench with monitor. The preparation room will require a fume hood.

Natural light has been requested, although the windows will require manifestation on them, and blinds/curtains required around some rigs to allow darkenable experiments to take place.

		CBS SUPPORT: 215 nsm			CBS SUPPORT: 205 nsm			CBS SUPPORT: 184 nsm			
CBS SUPPORT											
1.50	Animal Receiving			-	16	1	16 nsm	16	1	16 nsm	Fumigable
1.51	Cage Wash Dirty	100	1	100 nsm	40	1	40 nsm	43	1	43 nsm	robot cage change (3.5mx4m), rack washer (with VPN?), semi-automatic bottle decapper / empty station; 1 autoclave
1.52	Cage Wash Clean			Included in CWD	40	1	40 nsm	38	1	38 nsm	bedding fill station, bottle fill station
1.53	Clean Supplies	35	1	35 nsm	22	1	22 nsm	20	1	20 nsm	
1.54	Clean Warehouse			-	60	1	60 nsm	51	1	51 nsm	
1.55	Supplies / Equipment	25	1	25 nsm			Included above			Included above	Unused equipment
1.56	Feed Store	25	1	25 nsm			Included above			Included above	Palleted, Include refrigeration for diet
1.57	Bedding Store	25	1	25 nsm			Included above			Included above	Palleted
1.58	VHP Fumigation Equipment			-	6	1	6 nsm			-	For use in holding rooms and receiving only
1.59	Laundry / Coat Store	5	1	5 nsm	5	1	5 nsm			Incl in Changing	near staff changing area
1.60	Cleaners			Incl above	5	1	5 nsm	5	1	5 nsm	
1.61	Waste Holding		1	-	11	1	11 nsm	11	1	11 nsm	Short term holding
1.62	Bedding Waste (external)		1	-			External			External	External vacuum extract (4mx4m for clear working)
1.63	Secure Unloading Space			In overall building area			In overall building area			In overall building area	Requires further discussion; H2 can be used, but transpoerting animals between buildings not clear
In-vivo Imaging Suite				**Total: 65 nsm**			**Total: 87 nsm**			**Total: 90 nsm**	**located inside CBS Barrier**
2.01	2-photon microscopy	15	1	15 nsm	16	1	16 nsm	18	1	18 nsm	1no 2-photon microscope
2.02	Imaging Prep	10	1	10 nsm	11	1	11 nsm	11	1	11 nsm	
2.03	Photoacoustic Imaging	10	1	10 nsm	16	1	16 nsm	16	1	16 nsm	2no Vevo Lazr w/ workstations, tunable laser
2.04	Optical Imaging- IVIS	10	1	10 nsm	11	1	11 nsm	16	1	16 nsm	2no IVIS Spectums w/ workstations
2.05	New Technologies	10	2	20 nsm	11	2	22 nsm	17	1	17 nsm	
2.06	Consumables			-	11	1	11 nsm	12	1	12 nsm	
Ex-vivo Procedures				**Total: 75 nsm**			**Total: 103 nsm**			**Total: 102 nsm**	**located outside of CBS**
3.00	Electrophysiology (slice)	5	15	75 nsm	44	1	44 nsm	38	1	38 nsm	4 E-phys rigs and vibratome
3.01	Ephys Prep Lab			-	11	1	11 nsm	11	1	11 nsm	MSC
3.02	Optical Projection Tomography			-	16	1	16 nsm	17	1	17 nsm	Bespoke OPT
3.03	Cardiac Perfusion			-	16	1	16 nsm	18	1	18 nsm	Lagendorf, IVC Station
3.04	Cardiac Perfusion / Surgery			-	16	1	16 nsm	18	1	18 nsm	MSC, perfusion station, surgical station, myography instrumentation

CBS DESIGN
ZONING DIAGRAM

Diagram below shows designated zones for cleanliness management and access protocols for animals and materials deliveries and routine staff.

RESTRICTED CLEAN ZONE
Operating suites, holding and procedure rooms are located within the 'Restricted Clean Zone'. This area is restricted to principal personnel including CBS research staff and visiting researchers. Gowning protocols are enforced from the entry changing areas and throughout the facility.
The highest level of cleanliness occurs within the holding rooms where animals are housed within Individually Ventilated Cages (IVCs) or Isolators which are ventilated via HEPA-filtered fan units. The supply air to all rooms containing animals will be filtered using E-9 filters. The operating suites will be HEPA-filtered.

The zone maintains positive pressure to the adjoining negative pressure zones. The air will naturally flow from the higher-pressure zone to lower pressure, preventing contaminated air from entering into the restricted clean zone. Within the zone, the procedure and holding rooms are negative to the corridor. Vestibules are used to enable positive pressure in some procedure rooms; this is similar with Pre-Op and the surgical rooms.

GREY ZONE
The Cage Processing area is accessed by technical staff only. The clean zone contains equipment and supplies that are clean but not necessarily disinfected, including supplies that arrive from outside the unit, or cages that have been washed.

The Changing Rooms are the primary access point for people, visitors and changing rooms; they enter through secure interlocked lobbies.

ZONING DIAGRAM LEGEND
- Restricted Clean Zone
- Grey Zone
- Dirty Processing Within Grey Zone

PROPOSED PLAN - ZONING DIAGRAM (LEVEL 1)

CBS DESIGN

PROPOSED FLOOR PLAN - LEVEL 1

CBS DESIGN

FLOW DIAGRAM - PERSONNEL

Most personnel (researchers and CBS technical staff) will enter the CBS from the atrium and south circulation core. Technical staff may enter the CBS from the North core which directly links to the service yard and delivery bays at ground floor below. CBS staff and researchers enter the the unit via changing areas at Level 1 to gown before entering the Restricted Clean Zone.

Aside from emergency only exit doors out of the CBS, secure interlocked vestibules are at entry and exit points.

Outside of the CBS Suite is the ex-vivo suite of electrophysiology, cardiac and neurophysiology spaces. This group can access the floor for ex-vivo services without needing to go through the gowning protocols.

PROPOSED PLAN - PERSONNEL FLOW DIAGRAM (LEVEL 1)

CBS DESIGN

FLOW DIAGRAM - SUPPLIES AND WASTE

Deliveries arrive through the secure service yard for the building at Ground Floor. Unloading is on-grade; there is not a raised loading dock. There are three access points into the BSU: clean supplies, outgoing waste and animal deliveries. Each is secured with interlocking doors/vestibules, and access control.

CLEAN SUPPLIES

Supplies enter through the secured 'receiving' vestibule where they are unpacked and disinfected as required. The supplies move to the clean warehouse where food, bedding, supplies and equipment are held. All supplies and equipment entering the 'Restricted Clean Zone' are delivered into the Cage Processing Room where they may be autoclaved or VHP'd.

WASTE SUPPLIES

Soiled cage racks are collected and moved into the Cage Processing room for washing. Cage bases are are emptied by the robotic cage emptying station with the bedding waste transported by vacuum tube to a secured waste bins in the floor below in the deliveries area. Other waste is bagged and held in the Waste Holding vestibule before being transported to the central bin holding area (via services lift) in the LMS service yard/bay.

ANIMALS

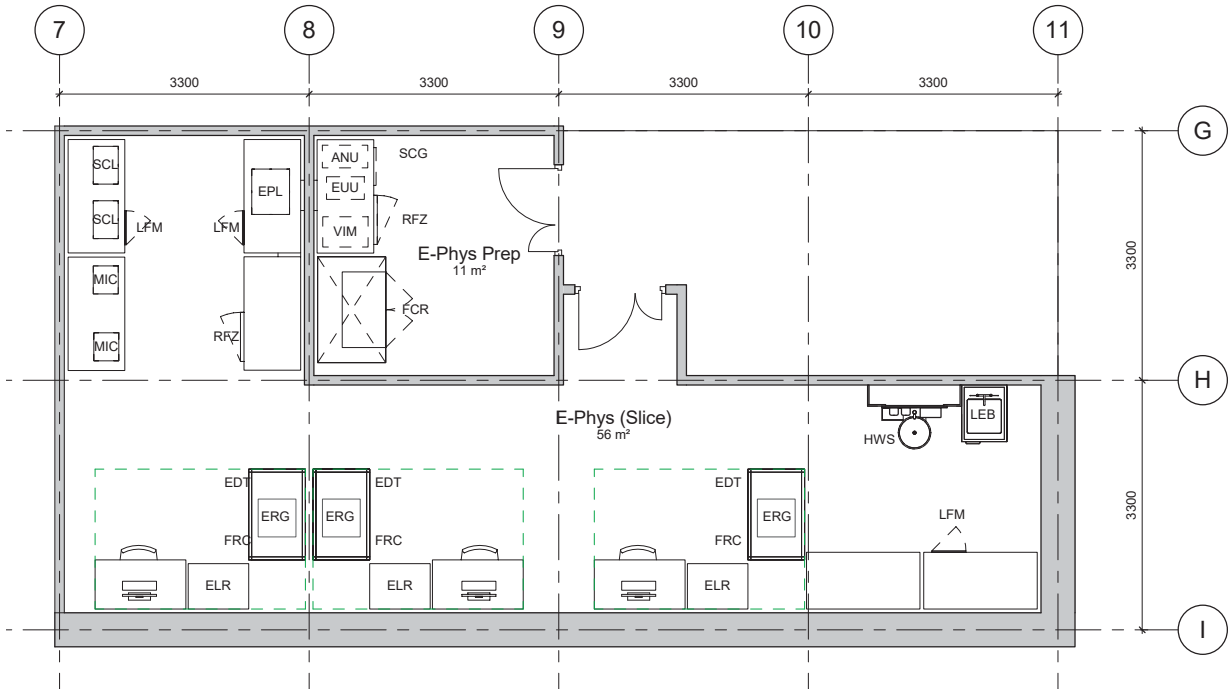
Animals are brought into the CBS via the services lift from Ground Floor secured vehicle bay. New animals will initially be delivered to another building on the Hammersmith site and transported in a smaller vehicle, to the secure and enclosed LMS vehicle bay at Ground Floor. The animals delivered in secure boxes, are brought into the secure 'receiving' vestibule where the boxes can be wiped down with disinfectant. No animals will return to the unit once they leave it.

WASTE AND SUPPLIES FLOW DIAGRAM LEGEND

- Clean Route
- Dirty Route
- CBS Unit Boundary
- Ex - Vivo Suite

PROPOSED PLAN - SUPPLIES/WASTE FLOW DIAGRAM (LEVEL 1)

CBS - EX-VIVO
ELECTROPHYSIOLOGY



PROPOSED PLAN - EX-VIVO E-PHYS PREP AND E-PHYS SLICE (LEVEL 1)

ERG - Electrophysiology Rig
EDT - Downdraft Bench
FRC - Faraday Cage
ELR - Electronic Equipment Rack
HWS - Hand Wash Station
EPL - Electro Puller
SCL - Scale
MIC - Microscope
LFM - Mobile Cupboard Unit (underbench)
RFZ - Refrigirator/Freezer (underbench)
FCR - Fume Cupboard Recirculated
VIM - Vibrating Microtomes
EUU - Euthenasia Unit
ANU - Anaesthetic Unit
SCG - Scavenging Unit

CBS - EX-VIVO

London Institute of Medical Sciences
1802.01 Medical Research Council (MRC)

abell nepp
Issued: 23 Feb 2018

ROOM CRITERIA SHEET

Electrophysiology (slice)

Room ID: **CBS Ex-Vivo** **First Floor**

Laser designated room for studies of synapse or neural circuits.

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
44 nsm	3 nsm	Full 24 hour use	Compliant	Desirable

Laboratories Only:

Containment	Fumigation	Safety Risks		
ACDP CL2	No	Biological/Chem	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note below	See arch. note below

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Sikaguard Coating	-
Protection	Wall Guard	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Special System	-
Finish	Special Details	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
Blackout Curtains	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm**	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Key Lock& Thumb Turn	-
Closers	Closer	-
Vision Pnl	Yes	-
Protection	Kick Plates	-
Seals	Acoustic	-
Other	Light-tight	-

Window Coverings

	At Façade	Internal
Type	Blinds	-
Light Control	Anti Glare / Black Out	-
Operation	Manual	-
Manifestations / Film	Privacy	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Sound Attenuation: Acoustic consultant to advise on Sound Attenuation. Doors: ** Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm.

ENGINEERING

HVAC

Temp 1 (°C): Summer	Temp 1 (°C): Winter
22oC	22oC
Temp Tolerance	Temp Variation
± 2oC	± 2oC / Hour
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General Extract
Humidity	Air Pressure
50+/-15% RH	Negative Airflow
Air Filtration	Equipment
H10	See Lab Equip
Min Air Changes	
17 AC/HR (Occupied)	

Piped Services

Water	
Lab CW & HW	Lab CW (Cat 5)
RO Water- Local	-
Piped Services	
Nitrogen	5% CO2 / 95% O2
Vacuum	-
-	
Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply		Data / AV / Comms	
230v, see plan	230v, trunking	Data	-
Cleaners outlets	TPN Isolator	Wireless	-
Fused Spur, see plan	-	Digital Projection	
Essential / Standby Power	Special Electrical	-	-
-	-	Projector Screen	
EM Interference	-	-	
-	-		

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
Single Control	-
Other Lighting	Ballast Type
Task Lighting	DALI (Dimmable)
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	
Equipment	
EMI & Vibration sens.	

Security / Life Safety

Security Systems	Alarm Systems
Access Control	-
-	-
Fire Detection	-
Smoke Detector	CCTV
-	-
Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Engineering requirements and specification subject to MEP Engineer Confirmation. Ephys electrical mains to be independent from the rest of the building. All procedure rooms noted to have negative air pressure - this to be confirmed / further reviewed.

Electrophysiology (slice)

Room ID:

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Special	Trespa, TopLab+	750mm	E-Phys PC bench (nom. 1000mm wide)
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, wall mtd	-	Underbench Cabinet	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Sink- Epoxy (integral)	Lab CW (Cat 5)	Lever Handle (mixer)	Splash Pnl & Dry Rack	-
Wash Hand Basin	Lab CW & HW	Hands-free (sonar)	Lab Safety Eye Wash	

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
Downdraft table		3 Relocated		Group 2 (OF-CI)
Electronic Rack		3 Relocated		-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

CBS - EX-VIVO

London Institute of Medical Sciences
1802.01 Medical Research Council (MRC)

abell nepp
Issued: 23 Feb 2018

ROOM CRITERIA SHEET

E-Phys Prep Lab

Room ID: **CBS Ex-Vivo First Floor**

Laser designated preparation lab supporting Slice Electrophysiology. HO-Designated room.

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
11 nsm	2nsm	Full 24 hour use	Compliant	Not Required

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	Yes	Biological/Chem	Noise	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note below	See arch. note below

Floors

Type 1 - 100%	Type 2 - Not Used
Construction: 50mm Screed	-
Floor Finish: Vinyl	-
Skirting: 150mm coved	-

Partitions

Type 1 - 100%	Type 2 - Not Used
Construction: Blockwork	-
Finish: Sikaguard coating	-
Protection: Wall + Corner Guards	-

Ceiling

Type 1 - 100%	Type 2 - Not Used
System: Special System	-
Finish: Special Details	-
Features: Washable	-
Height:	-

Accessories (non-Lab)

Items	Notes
Coat Hooks	
Whiteboard	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm**	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Access Ctrl + Lock	-
Closers	Closer	-
Vision Pnl	Large	-
Protection	Kick Plates	-
Seals	Acoustic	Fumigation
Other	Light-tight	-

Window Coverings

	At Façade	Internal
Type	Blinds	-
Light Control	Anti Glare / Black Out	-
Operation	Manual	-
Manifestations / Film	Privacy	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Sound Attention: Acoustic consultant to advise on Sound Attenuation. *Doors:* ** Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm.

ENGINEERING

HVAC

Temp 1 (°C): Summer	Temp 1 (°C): Winter
22oC	22oC

Temp Tolerance	Temp Variation
± 2oC	± 2oC / Hour

Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General Extract

Humidity	Air Pressure
50+/-15% RH	Negative Airflow

Air Filtration	Equipment
H10	See Lab Equip

Min Air Changes	
17 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW & HW	RO Water- Local
Lab CW (Cat 5)	-

Piped Services	
Nitrogen	5% CO2 / 95% O2
Vacuum	-
-	

Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
Floor Drain	-

Electrical

Power Supply		Data / AV / Comms	
230v, see plan	230v, trunking	Data	-
Cleaners outlets	TPN Isolator	Wireless	-
Fused Spur, see plan	-	Digital Projection	
Essential / Standby Power	Special Electrical	-	-
-	-	Projector Screen	
EM Interference	-	-	
-	-		

Lighting

Lighting	Lux Levels
General Lighting	500 Lux

Switching	Detection
Single Control	-

Other Lighting	Ballast Type
Task Lighting	DALI (Dimmable)
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	-

Equipment	
-	

Security / Life Safety

Security Systems	Alarm Systems
Access Control	-
-	-

Fire Detection	
Smoke Detector	-

CCTV	
-	-

Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Engineering requirements subject to MEP Engineer Confirmation. All procedure rooms noted to have negative air pressure - this to be confirmed / further reviewed.

E-Phys Prep Lab Room ID:

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, C-Frame	Trespa TopLab Plus	750mm	
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, wall mtd	-	Cupboard, tall	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Sink- Epoxy (integral)	Lab CW & HW	Lever Handle (mixer)	Splash Pnl & Dry Rack	-
Wash Hand Basin	Lab CW & HW	Hands-free (sonar)	Lab Safety Eye Wash	

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
MBSC (Class 2)		1 new	1300x800x2270	Group 1 (CF-CI)
Downdraft table	Leec	1 Relocated	1200x750x910	Group 2 (OF-CI)

Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

V1.00

CBS - EX-VIVO

London Institute of Medical Sciences
1802.01 Medical Research Council (MRC)

abell nepp
Issued: 23 Feb 2018

ROOM CRITERIA SHEET

Cardiac Perfusion / Surgery

Room ID: **CBS Ex-Vivo** **First Floor**

Pre and post operation zones.

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
16 nsm	tbc	Full 24 hour use	Compliant	Not Required

Laboratories Only:

Containment	Fumigation	Safety Risks		
ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note below	See arch. note below

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Sikaguard coating	-
Protection	Wall + Corner Guards	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Special System	-
Finish	Special Details	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm**	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Access Ctrl + Lock	-
Closers	Closer	-
Vision Pnl	Large with blinds	-
Protection	Kick Plates	-
Seals	Fumigation	-
Other	-	-

Window Coverings

	At Façade	Internal
Type	Blinds	-
Light Control	Anti Glare / Black Out	-
Operation	Manual	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Wall and ceiling coatings to be Liquid Plastic/Sikaguard or similar. *Sound Attenuation:* Acoustic consultant to advise on Sound Attenuation. *Doors:* ** Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Doors to have peep holes only, to stop light bleed.

ENGINEERING

HVAC

Temp 1 (°C): Summer	Temp 1 (°C): Winter
22oC	22oC
Temp Tolerance	Temp Variation
± 2oC	± 2oC / Hour
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated
Humidity	Air Pressure
50+/-15% RH	Positive Airflow
Air Filtration	Equipment
H10	See Lab Equip
Min Air Changes	-
17 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW & HW	RO Water- Local
Lab CW (Cat 5)	-
Piped Services	
-	-
-	-
-	
Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
Floor Drain	-

Electrical

Power Supply		
230v, see plan	230v, trunking	
Cleaners outlets	-	
Fused Spur, see plan	-	
Essential / Standby Power	Special Electrical	
-	-	
EM Interference	-	
-	-	

Lighting

Lighting	Lux Levels
General Lighting	200 Lux
Switching	Detection
Scene Setting	-
Other Lighting	Ballast Type
Safe (red) Light	DALI (Dimmable)
Surgical Lighting	Emergency Ltg
Task Lighting	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	-
Equipment	
-	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
Access Control	-
-	-
Fire Detection	-
Smoke Detector	CCTV
-	-
Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Engineering requirements subject to MEP Engineer Confirmation. All procedure rooms noted to have negative air pressure - this to be confirmed / further reviewed.

Cardiac Perfusion / Surgery

Room ID:

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Movable	Trespa TopLab Plus	750mm	
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, bench mtd	Shelving, wall mtd	Underbench cabinets	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Wash Hand Basin	Lab CW & HW	Hands-free (sonar)	Lab Safety Eye Wash	-
Scrub Hand Wash station	Lab CW & HW	Lever Handle (mixer)	Lab Safety Eye Wash	

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
MBSC (Class 2)		-	1300x800x2270	Group 2 (OF-CI)
-				-

Equipment	Name/Model	Quantity	Size (wxdxh)	Furnish - Install**
Perfusion Table	AFOS		1400x900x1400	Group 2 (OF-CI)
Myography	DMT		600x300x300	Group 2 (OF-CI)
Surgical Station			750x1500x910	Group 2 (OF-CI)

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

CBS - EX-VIVO

London Institute of Medical Sciences
1802.01 Medical Research Council (MRC)

abell nepp
Issued: 23 Feb 2018

ROOM CRITERIA SHEET

Cardiac Perfusion

Room ID: **CBS Ex-Vivo** **First Floor**

Cardiac Perfusion operations.

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
18 nsm	tbc	Full 24 hour use	-	-

Laboratories Only:

Containment	Fumigation	Safety Risks		
ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note below	See arch. note below

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Sikaguard coating	-
Protection	Wall + Corner Guards	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Special System	-
Finish	Special Details	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	-	-
Size	-	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Access Ctrl + Lock	-
Closers	Closer	-
Vision Pnl	Large with blinds	-
Protection	Kick Plates	-
Seals	Light-tight	Fumigation
Other	-	-

Window Coverings

	At Façade	Internal
Type	Blinds	-
Light Control	Anti Glare / Black Out	-
Operation	Manual	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Wall and ceiling coatings to be Liquid Plastic/Sikaguard or similar. *Sound Attenuation:* Acoustic consultant to advise on Sound Attenuation. *Doors:* ** Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Doors to have peep holes only, to stop light bleed.

ENGINEERING

HVAC

Temp 1 (°C): Summer	Temp 2 (°C): Winter
22oC	22oC
Temp Tolerance	Temp Variation
± 2oC	± 2oC / Hour
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General Extract
Humidity	Air Pressure
50+/-15% RH	Positive Airflow
Air Filtration	Equipment
H10	See Lab Equip
Min Air Changes	-
17 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW & HW	RO Water- Local
Lab CW (Cat 5)	-
Piped Services	
-	-
-	-
-	
Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
Floor Drain	-

Electrical

Power Supply	
230v, see plan	230v, trunking
Cleaners outlets	-
Fused Spur, see plan	-
Essential / Standby Power	Special Electrical
-	-
EM Interference	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	200 Lux
Switching	Detection
Single Control	-
Other Lighting	Ballast Type
Task Lighting	DALI (Dimmable)
Safe (red) Light	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	-
Equipment	
-	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
Access Control	-
-	-
Fire Detection	-
Smoke Detector	CCTV
-	-
Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Engineering requirements subject to MEP Engineer Confirmation. All procedure rooms noted to have negative air pressure - this to be confirmed / further reviewed.

Cardiac Perfusion

Room ID:

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Movable	Trespa TopLab Plus	750mm	
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, bench mtd	Shelving, wall mtd	Underbench cabinets	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
-	-	-	-	-
Wash Hand Basin	Lab CW & HW	Hands-free (sonar)	Lab Safety Eye Wash	

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
MBSC (Class 2)	-	-	-	-
IVC Rack	Techniplast	1 Relocated	1524x762x2045	Group 2 (OF-CI)

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Langendorff System	AD Instruments	1 Relocated	1200x750x2000	Group 2 (OF-CI)
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

V1.00

CBS - EX-VIVO

London Institute of Medical Sciences **abell nepp**
1802.01 Medical Research Council (MRC) Issued: 23 Feb 2018

ROOM CRITERIA SHEET

Optical Projection Tomography

Room ID: **CBS Ex-Vivo** **First Floor**

Microscope work

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
23 nsm	tbc	Full 24 hour use	Compliant	Not Required

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological/Chem	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note below	See arch. note below

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Sikaguard coating	-
Protection	Wall + Corner Guards	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Special System	-
Finish	Special Details	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Single Door	-
Size	800 mm min.	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Access Ctrl + Lock	-
Closers	Closer	-
Vision Pnl	Peep Hole	-
Protection	Kick Plates	-
Seals	Light-tight	-
Other	-	-

Window Coverings

	At Façade	Internal
Type	Blinds	-
Light Control	Anti Glare / Black Out	-
Operation	Manual	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Room needs to be light-tight (drop seal, tight to frame, frame sealed to door when closed). Sound Attenuation: Acoustic consultant to advise on Sound Attenuation.

ENGINEERING

HVAC

Temp 1 (°C): Summer	Temp 2 (°C): Winter
22oC	22oC

Temp Tolerance	Temp Variation
± 2oC	± 2oC / Hour

Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General Extract

Humidity	Air Pressure
50+/-15% RH	Negative Airflow

Air Filtration	Equipment
H10	See Lab Equip

Min Air Changes	
17 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW & HW	RO Water- Local
Lab CW (Cat 5)	-

Piped Services	
-	-
-	-
-	

Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply		Essential / Standby Power	Special Electrical
230v, see plan	230v, trunking	-	-
Cleaners outlets	-		
Fused Spur, see plan	-		

EM Interference	
-	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux

Switching	Detection
Single Control	-

Other Lighting	Ballast Type
Task Lighting	DALI (Dimmable)
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	-

Equipment
-

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-

Digital Projection	
-	-

Projector Screen
-

Security / Life Safety

Security Systems	Alarm Systems
Access Control	-
-	-

Fire Detection	
Smoke Detector	-

Fire Control	FE Placement
Sprinklers- Water	-

CCTV
-

Engineering Notes

Engineering requirements subject to MEP Engineer Confirmation. All procedure rooms noted to have negative air pressure - this to be confirmed / further reviewed.

Optical Projection Tomography

Room ID:

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Movable	Trespa Toplab Base	750mm	
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, bench mtd	Shelving, wall mtd	Underbench cabinets	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Sink- Epoxy (integral)	Lab CW (Cat 5)	Lever Handle (mixer)	Splash Pnl & Dry Rack	-
Wash Hand Basin	Lab CW & HW	Hands-free (sonar)	Lab Safety Eye Wash	

LABORATORY EQUIPMENT (ASE*)

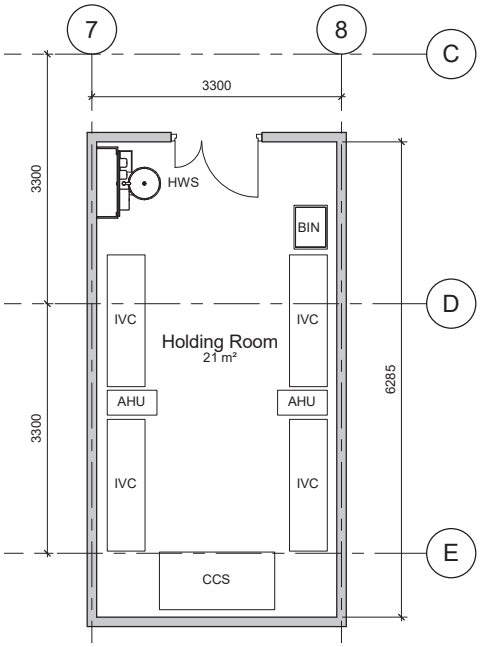
* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

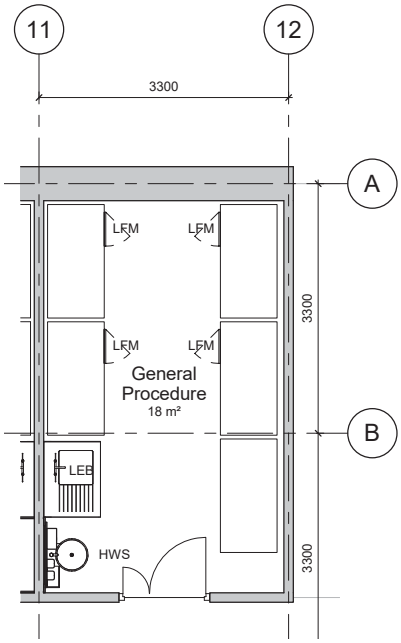
Equipment	Name/Model	Quantity	Size	Furnish - Install**
In-Vivo Imaging System	PerkinElmer IVIS XR III		480x710x104	-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

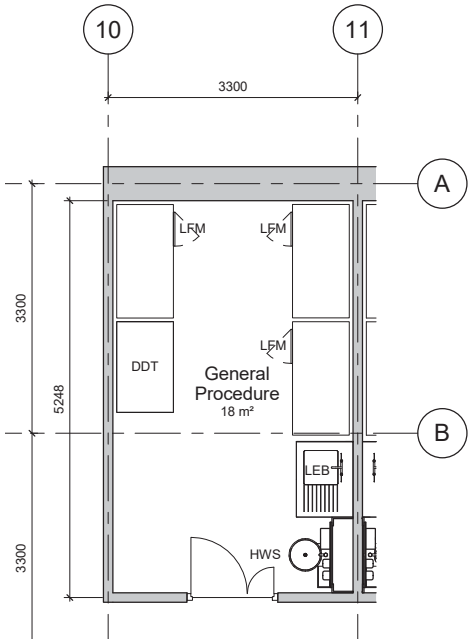
CBS - IN-VIVO
HOLDING AND PROCEDURE ROOMS



PROPOSED PLAN - HOLDING ROOM (LEVEL 1)



PROPOSED PLAN - GENERAL PROCEDURE TYPE A (LEVEL 1)



PROPOSED PLAN - GENERAL PROCEDURE TYPE B (LEVEL 1)

HWS - Hand Wash Station
IVC - Individually Ventilated Cage Rack
AHU - Air Handling Unit
BIN - IVC Diet Bin
DDT - Downdraft Bench
LEB - Laboratory Sink Unit
LFM - Mobile Cupboard Unit (underbench)
HWS - Hand Wash Station

CBS - IN-VIVO

London Institute of Medical Sciences
1802.01 Medical Research Council (MRC)

abell nepp
Issued: 23 Feb 2018

ROOM CRITERIA SHEET

HOLDING ROOM

To hold IVC mouse racks and cage change.

CBS Holding
First Floor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
22 nsm	tbc	Full 24 hour use	Compliant	Not Acceptable

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
Normal Attenuation	40 (tbc)

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Sikaguard Coating	-
Protection	Wall + Corner Guards	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Special System	-
Finish	Special Finish	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm**	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Key Lock& Thumb Turn	-
Closers	Closer	-
Vision Pnl	Large with blinds	-
Protection	-	-
Seals	Acoustic	Fumigation
Other	Light-tight	-

Window Coverings

	At Façade	Internal
Type	-	-
Light Control	-	-
Operation	-	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Wall and ceiling coatings to be Liquid Plastic/Sikaguard or similar. Must ensure external noise does not affect room occupants (when used for reverse cycle experiments). Room to be Home office compliant for holding of rodents, 24/7 operation. Sound Attenuation: Acoustic consultant to confirm Sound Attenuation requirement. Doors: ** Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Doors to have peep holes only, to stop light bleed.

ENGINEERING

HVAC

Temp.(°C): Summer	Temp.(°C): Winter
21oC	21oC
Temp Tolerance	Temp Variation
± 2oC	± 2oC / Hour
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated
Humidity	Air Pressure
50+/-15% RH Centrally cor	Negative Airflow
Air Filtration	Equipment
F9 Supply	See Lab Equip
Min Air Changes	-
17 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW & HW	-
-	-
Piped Services	
Carbon Dioxide	-
-	-
-	
Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply		
230v, see plan	230v, trunking	
Cleaners outlets	-	
Fused Spur, see plan	-	
UPS, Central	-	
EM Interference	-	
-	-	

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
Diurnal - Scene Set	-
Other Lighting	Ballast Type
Safe (red) Light	DALI (Dimmable)
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	-
Equipment	
Noise & Vibration	

Data / AV / Comms

Data / AV / Comms	
Data	Data, see plan
Wireless	Wireless
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
Access Control	-
-	-
Fire Detection	-
-	CCTV
Smoke Detector	CCTV Camera PTZ
Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Engineering notes and spec tbc by MEP engineer.

HOLDING ROOM

LABORATORY FURNITURE

	Type	Benchtop Material	Depth	Notes
Lab Benching	-	-	-	
	-	-	-	

	Above Lab Bench		Other Storage Units		
Other LF Elements	-	-	-	-	-
	-	-	-	-	-

	Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)
Lab Sinks	Wash Hand Basin	Lab CW & HW	Hands-free (sonar)	Splash Panel

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
Other Lab Equip	Cage Change Station	2 units		-
IVC Rack		4 units		-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

V1.00

CBS - IN-VIVO

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1802.01 Medical Research Council (MRC) Issued: 23 Feb 2018

ROOM CRITERIA SHEET

Isolators (mice)

To hold IVC rack and isolators.

CBS Holding
First Floor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
28 nsm	tbc	Full 24 hour use	Compliant	Not Acceptable

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
Normal Attenuation	40 (tbc)

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Sikaguard Coating	-
Protection	Wall + Corner Guards	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Special System	-
Finish	Special Finish	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm**	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Key Lock& Thumb Turn	-
Closers	Closer	-
Vision Pnl	Large with blinds	-
Protection	-	-
Seals	Acoustic	Fumigation
Other	Light-tight	-

Window Coverings	At Façade	Internal
Type	-	-
Light Control	-	-
Operation	-	-
Manifestations / Film	-	-

Shelving (non-lab)	Shelf	Notes
	-	

Architectural Notes

Wall and ceiling coatings to be Liquid Plastic/Sikaguard or similar. Must ensure external noise does not affect room occupants (when used for reverse cycle experiments). Room to be Home office compliant for holding of rodents, 24/7 operation. *Sound Attenuation:* Acoustic consultant to confirm Sound Attenuation requirement. *Doors:* ** Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Doors to have peep holes only, to stop light bleed.

ENGINEERING

HVAC

Temp 1 (°C): Summer	Temp 1 (°C): Winter
21oC	21oC
Temp Tolerance	Temp Variation
± 2oC	± 2oC / Hour
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated
Humidity	Air Pressure
50+/-15% RH Centrally cor	Negative Airflow
Air Filtration	Equipment
F9 Supply	See Lab Equip
Min Air Changes	-
17 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW & HW	-
-	-
Piped Services	
Carbon Dioxide	-
-	-
-	
Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply		
230v, see plan	230v, trunking	
Cleaners outlets	-	
Fused Spur, see plan	-	
UPS, Central	-	
-	-	

Essential / Standby Power	Special Electrical
-	-
EM Interference	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
Diurnal - Scene Set	-
Other Lighting	Ballast Type
Safe (red) Light	DALI (Dimmable)
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	-
Equipment	
Noise & Vibration	

Data / AV / Comms

Data / AV / Comms	
Data	Data, see plan
Wireless	Wireless
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
Access Control	-
-	-
Fire Detection	-
Smoke Detector	CCTV
-	-
Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Engineering notes and spec tbc by MEP engineer.

Isolators (mice)

LABORATORY FURNITURE

Lab Benching	Type	Benchtop Material	Depth	Notes
	-	-	-	
	-	-	-	

Other LF Elements	Above Lab Bench		Other Storage Units		
	-	-	-	-	-
	-	-	-	-	-

Lab Sinks	Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
	Wash Hand Basin	Lab CW & HW	Hands-free (sonar)	Splash Panel	-

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
Other Lab Equip	Isolators	2 units		-
Other Lab Equip	IVC Cages	90 cages		-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

CBS - IN-VIVO

London Institute of Medical Sciences **abell nepp**

1802.01 Medical Research Council (MRC) Issued: 23 Feb 2018

ROOM CRITERIA SHEET

GENERAL PROCEDURE ROOM

Pre and post operation zones.

CBS Procedure Rooms
First Floor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
17 nsm	tbc	Full 24 hour use	Compliant	Not Acceptable

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note below	-

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Sikaguard Coating	-
Protection	Wall + Corner Guards	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Special System	-
Finish	Special Details	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm**	-
Operation	Swinging	-
Door Material	Polymer-clad	-
Door Finish	-	-
Frame Material	Polymer-clad	-
Frame Finish	-	-
Locks	Access Ctrl + Lock	-
Closers	Closer	-
Vision Pnl	-	-
Protection	Kick Plates	-
Seals	Fumigation	-
Other	-	-

Window Coverings

	At Façade	Internal
Type	Roller Blinds	-
Light Control	Solar & Grey-out	-
Operation	Manual	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Acoustic consultant to advise on Sound Attenuation. Wall and ceiling coatings to be Liquid Plastic or similar. MEP design requires Home Office Licensing detailing and commissioning. **Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Doors to have peep holes only.

ENGINEERING

HVAC

Temp.(°C): Summer	Temp.(°C): Winter
24oC	22oC
Temp Tolerance	Temp Variation
± 2oC	± 2oC / Hour
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated
Humidity	Air Pressure
55+/-10% RH Centrally cor	Negative Airflow
Air Filtration	Equipment
F9 Supply	See Lab Equip
Min Air Changes	-
20 AC/HR	-

Piped Services

Water	
Lab CW & HW	RO Water- Local
-	-

Piped Services	
-	-
-	-
-	

Bottled Gases	
TBC	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply		Data / AV / Comms	
230v, trunking	-		
Cleaners outlets	-	Data / AV / Comms	
Fused Spur	-	Data	-
-	-	Wireless	-
Essential / Standby Power	Special Electrical	Digital Projection	
-	-	-	-
EM Interference	-	Projector Screen	
-	-	-	

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
Single Control	Presence Detection
Other Lighting	Ballast Type
Safe (red) Light	DALI (Dimmable)
Task Lighting	Emergency Ltg
-	Self Contained Bat.

Structural

Loading	Vibration Criteria
Lab, normal	-
Equipment	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-

Fire Detection	
Smoke Detector	-
Fire Control	FE Placement
Sprinklers- Water	-

CCTV	
CCTV Camera PTZ	

Engineering Notes

GENERAL PROCEDURE ROOM

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Movable	Trespa TopLab Plus	750mm	
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, wall mtd	-	-	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Scrub Hand Wash Station	CW/HW/DI	Hands-free (sonar)	Splash Pnl & Dry Rack	-
Sink- Epoxy (integral)	Lab CW & HW	Hands-free (sonar)	Splash Panel	-

LABORATORY EQUIPMENT (ASE*) refer to MRC list

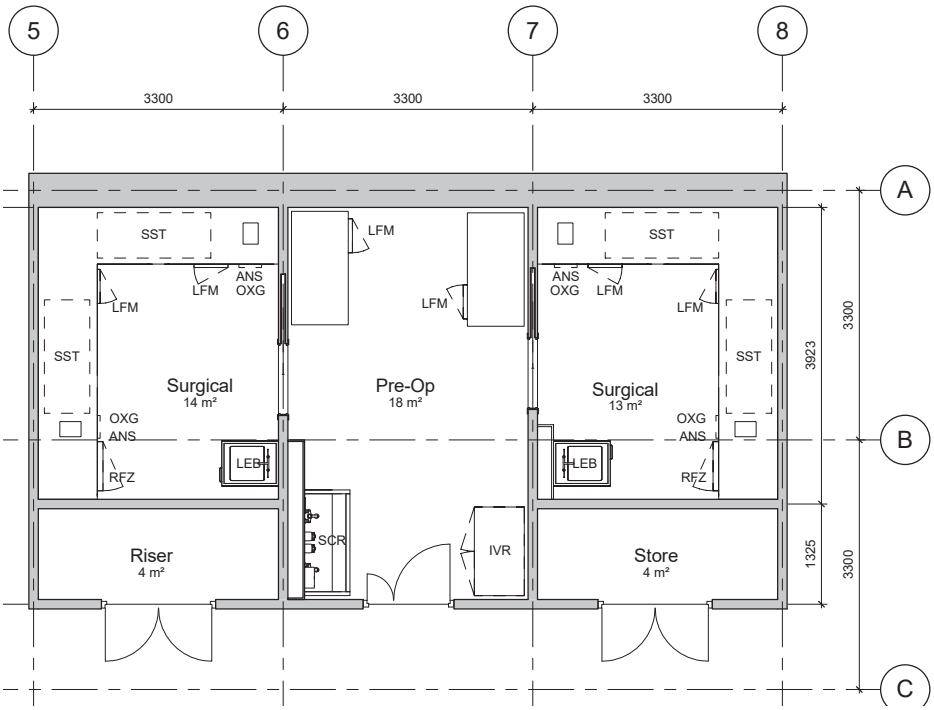
* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
Downdraft Table	Leec	(Not always required)	900x900x900	-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

CBS - IN-VIVO
SURGICAL SUITE



PROPOSED PLAN - SURGERY AND PRE-OP ROOMS (LEVEL 1)

OXG - Oxygen Generator (underbench)
ANS - Anaesthesia Unit (benchtop)
IVR - IVC Recovery transport unit (floor standing)
RFZ - Refrigirator/Freezer (underbench)
LEB - Laboratory Sink Unit
LFM - Mobile Cupboard Unit (underbench)
LFF - Storage Unit (floor standing)
SCR - Scrab Sink
SST - Surgical Station

CBS - IN-VIVO

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ROOM CRITERIA SHEET

Operating Theatre - Surgical Room

Pre and post operation zones.

CBS Procedure Rooms
First Floor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
15 nsm	tbc	Extended Hours	Compliant	Not Required

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	Noise	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note below	See arch. note below

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Sikaguard coating	-
Protection	Wall + Corner Guards	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Special System	-
Finish	Special Details	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Single Door	-
Size	900 mm	-
Operation	Sliding - sensor operated	-
Door Material	Glass/Polymer Frame	-
Door Finish	Glass	-
Frame Material	Polymer-clad	-
Frame Finish	Polymer-clad	-
Locks	Access Control	-
Closers	Sliding Closer	-
Vision Pnl	-	-
Protection	-	-
Seals	Acoustic	-
Other	-	-

Window Coverings

	At Façade	Internal
Type	Roller Blinds	-
Light Control	Solar & Grey-out	-
Operation	Manual	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Access via Pre-op. Wall and ceiling coatings to be Liquid Plastic/Sikaguard or similar. *Sound Attenuation:* Acoustic consultant to advise on Sound Attenuation. *Doors:* ** Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Doors to have peep holes only, to stop light bleed.

ENGINEERING

HVAC

Temp.(°C): Summer	Temp.(°C): Winter
22oC	22oC

Temp Tolerance	Temp Variation
± 2oC	± 2oC

Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated

Humidity	Air Pressure
50+/-15% RH	Positive Airflow

Air Filtration	Equipment
H10 Supply	See Lab Equip

Min Air Changes	
17 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW & HW	RO Water- Local
-	-

Piped Services	
Compressed Air	-
Nitrogen	-
-	-

Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply		Special Electrical
230v, trunking	-	-
Cleaners outlets	-	-
-	-	-

Essential / Standby Power	
-	-

EM Interference	
-	-

Lighting

Lighting	Lux Levels
General Lighting	200 Lux

Switching	Detection
Single Control	-

Other Lighting	Ballast Type
Surgical Lighting	DALI (Dimmable)
Task Lighting	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	-

Equipment
-

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-

Digital Projection	
-	-

Projector Screen
-

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-

Fire Detection	
Smoke Detector	-
-	CCTV Camera PTZ

Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Operating Theatre - Surgical Room

LABORATORY FURNITURE

Lab Benching	Type	Benchtop Material	Depth	Notes
	Bench, Fixed Base	Trespa Toplab Base	750mm	
	-	-	-	

Other LF Elements	Above Lab Bench		Other Storage Units		
	-	-	-	-	-
	-	-	-	-	-

Lab Sinks	Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
	Sink- Epoxy (integral)	Lab CW & HW	Hands-free (sonar)		Splash Pnl & Dry Rack
	Wash Hand Basin	Lab CW & HW	Hands-free (sonar)	Lab Safety Eye Wash	

LABORATORY EQUIPMENT (ASE*) refer toMRC list

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
				-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

CBS - IN-VIVO

London Institute of Medical Sciences — **abell nepp**

1802.01 Medical Research Council (MRC) — Issued: 23 Feb 2018

ROOM CRITERIA SHEET

Operating Theatre - Pre-Op Room

Description of Lab and its operations

CBS Procedure Rooms
First Floor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
18 nsm	tbc	Full 24 hour use	Compliant	Not Required

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	Noise	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note below	See arch. note below

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Sikaguard coating	-
Protection	Wall + Corner Guards	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Special System	-
Finish	Special Details	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
Bench seating	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm**	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Access Control	-
Closers	Closer	-
Vision Pnl	Peep Hole Only	-
Protection	Kick Plates	-
Seals	Acoustic	-
Other	-	-

Window Coverings

	At Façade	Internal
Type	Roller Blinds	-
Light Control	Solar & Grey-out	-
Operation	Manual	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
Open, wall-mtd	

Architectural Notes

Wall and ceiling coatings to be Liquid Plastic/Sikaguard or similar. *Sound Attenuation:* Acoustic consultant to advise on Sound Attenuation. *Doors:* ** Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Doors to have peep holes only, to stop light bleed.

ENGINEERING

HVAC

Temp.(°C): Summer	Temp.(°C): Winter
22oC	22oC
Temp Tolerance	Temp Variation
± 2oC	± 2oC
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated
Humidity	Air Pressure
50+/-15% RH	Negative Airflow
Air Filtration	Equipment
F9 Supply	See Lab Equip
Min Air Changes	-
17 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW & HW	-
-	-
Piped Services	
Compressed Air	-
Nitrogen	-
-	
Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply		
230v, trunking	-	
Cleaners outlets	-	
-	-	
-	-	
Essential / Standby Power	Special Electrical	
-	-	
EM Interference	-	
-	-	

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
Single Control	-
Other Lighting	Ballast Type
Task Lighting	DALI (Dimmable)
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
-	-
Equipment	
-	

Data / AV / Comms

Data / AV / Comms		
-	-	
-	-	
Digital Projection		
-	-	
Projector Screen		
-		

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-
Fire Detection	-
-	CCTV
-	-
Fire Control	FE Placement
-	-

Engineering Notes

Operating Theatre - Pre-Op Room

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
-	-	-	
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
-	-	-	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Surgical Trough Sink	CW Only	Hands-free (sonar)	-	-

LABORATORY EQUIPMENT (ASE*) refer to MRC list

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

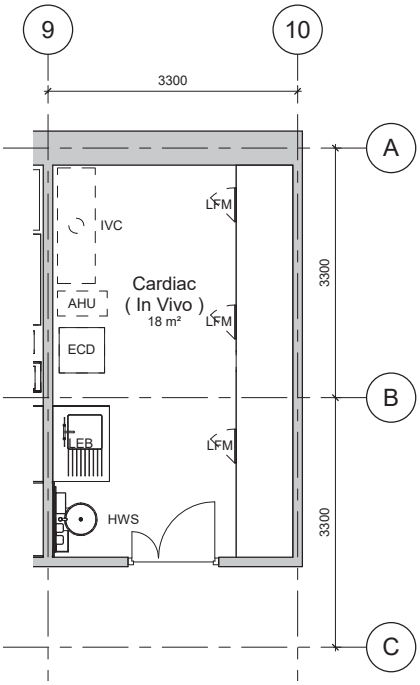
Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

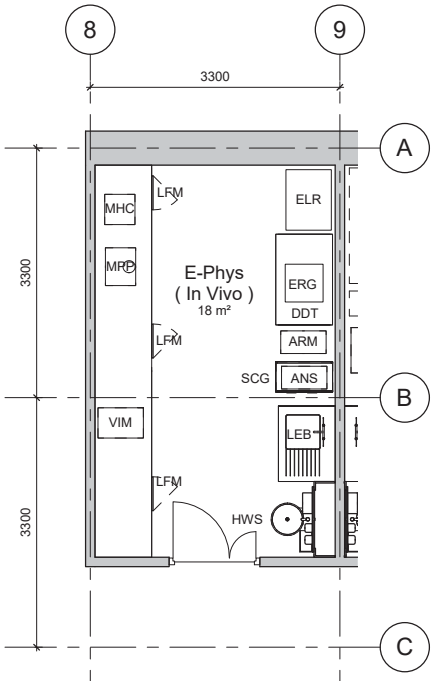
Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

V1.00

CBS - IN-VIVO
CARDIAC ROOM AND ELECTROPHYSIOLOGY



PROPOSED PLAN - CARDIAC (IN-VIVO) ROOM (LEVEL 1)



PROPOSED PLAN - E-PHYS (IN-VIVO) ROOM (LEVEL 1)

ECD - Echocardiogram
IVC - Individually Ventilated Cage Rack
AHU - Air Handling Unit
ANU - Anaesthetic Unit
SCG - Scavenging Unit
MPP - Micropipette Puller
MHC - Magnet Heater Control
HWS - Hand Wash Station
LEB - Laboratory Sink
LFM - Mobile Cupboard Unit (underbench)

ERG - Electrophysiology Rig
DDT - Downdraft Bench
ELR - Electronic Equipment Rack
HWS - Hand Wash Station
LEB - Laboratory Sink
LFM - Mobile Cupboard Unit (underbench)
VIM - Vibratome

CBS - IN-VIVO

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ROOM CRITERIA SHEET

Cardiac - In-vivo

Desription of Lab and its operations

CBS Procedure Rooms
First Floor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
17 nsm	tbc	Full 24 hour use	Compliant	Not Required

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note below	See arch. note below

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Sikaguard coating	-
Protection	Wall + Corner Guards	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Special System	-
Finish	Special Details	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm**	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Key Lock& Thumb Turn	-
Closers	Closer	-
Vision Pnl	Peep Hole Only	-
Protection	Kick Plates	-
Seals	Acoustic	Fumigation
Other	Light-tight	-

Window Coverings

	At Façade	Internal
Type	Roller Blinds	-
Light Control	Solar & Grey-out	-
Operation	Manual	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Wall and ceiling coatings to be Liquid Plastic/Sikaguard or similar. Blinds in this room needs to be light tight and privacy shading ideally on the glass when blinds open. *Sound Attenuation:* Acoustic consultant to advise on Sound Attenuation. *Doors:* ** Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Doors to have peep holes only, to stop light bleed.

ENGINEERING

HVAC

Temp.(°C): Summer	Temp.(°C): Winter
22oC	22oC
Temp Tolerance	Temp Variation
± 2oC	± 2oC
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated
Humidity	Air Pressure
50+/-15% RH	Negative Airflow
Air Filtration	Equipment
F9 Supply	See Lab Equip
Min Air Changes	-
17 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW & HW	-
-	-
Piped Services	
tbc	-
-	-
-	-
Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply	
230v, trunking	-
Cleaners outlets	-
-	-
Essential / Standby Power	Special Electrical
-	-
EM Interference	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
-	-
Other Lighting	Ballast Type
Task Lighting	DALI (Dimmable)
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	-
Equipment	
-	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-
Fire Detection	-
Smoke Detector	CCTV
-	CCTV Camera PTZ
Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Cardiac - In-vivo

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Movable	Trespa, TopLab+	750mm	
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, wall mtd	-	-	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Sink- Epoxy (integral)	Lab CW (Cat 5)	Lever Handle (mixer)	Splash Pnl & Dry Rack	-
Wash Hand Basin	Lab CW & HW	Hands-free (sonar)	Lab Safety Eye Wash	

LABORATORY EQUIPMENT (ASE*) refer to MRC list

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
IVC Rack	-	-	1030x590x1900	-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Echocardiogram	Visual Sonics			-
Echo Langendorf				
Pressure Volume Loop				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

V1.00

CBS - IN-VIVO

London Institute of Medical Sciences **abell nepp**
1802.01 Medical Research Council (MRC) Issued: 23 Feb 2018

ROOM CRITERIA SHEET

Electrophysiology - In-vivo

Desription of Lab and its operations

CBS Procedure Rooms
First Floor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
17 nsm	tbc	Full 24 hour use	Compliant	Not Acceptable

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note below	See arch. note below

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Sikaguard coating	-
Protection	Wall + Corner Guards	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Special System	-
Finish	Special Details	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
Blackout Curtains	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm**	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Key Lock& Thumb Turn	-
Closers	Closer	-
Vision Pnl	Peep Hole Only	-
Protection	Kick Plates	-
Seals	Acoustic	-
Other	Light-tight	-

Window Coverings

	At Façade	Internal
Type	Roller Blinds	-
Light Control	Solar & Grey-out	-
Operation	Manual	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Wall and ceiling coatings to be Liquid Plastic/Sikaguard or similar. Blinds in this room need to be light tight and privacy shading ideally on the glass when blinds open. *Sound Attenuation:* Acoustic consultant to advise on Sound Attenuation. *Doors:* ** Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Doors to have peep holes only, to stop light bleed. 1 E-Phys Rig.

ENGINEERING

HVAC

Temp.(°C): Summer	Temp.(°C): Winter
22oC	22oC
Temp Tolerance	Temp Variation
± 2oC	± 2oC
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated
Humidity	Air Pressure
50+/-15% RH	Negative Airflow
Air Filtration	Equipment
F9 Supply	See Lab Equip
Min Air Changes	-
17 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW & HW	RO Water (local)
-	-
Piped Services	
5% CO2 / 95% O2	Vacuum
Nitrogen	-
-	
Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply		
230v, trunking	Fused Spur	
Cleaners outlets	TPN Isolator	
-	-	-
Essential / Standby Power	Special Electrical	
-	-	
EM Interference	-	
-	-	

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
Single Control	-
Other Lighting	Ballast Type
Task Lighting	DALI (Dimmable)
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	-
Equipment	
Vibration sensitive	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-
Fire Detection	-
Smoke Detector	CCTV
-	CCTV Camera Static
Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Engineering requirements and specification subject to MEP Engineer Confirmation. Ephys electrical mains to be independent from the rest of the building.

Electrophysiology - In-vivo

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Special	Trespa, TopLab+	750mm	E-Phys PC bench (nom. 1000mm wide)
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, wall mtd	-	Underbench Cabinet	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Sink- Epoxy (integral)	Lab CW (Cat 5)	Lever Handle (mixer)	Splash Pnl & Dry Rack	-
Wash Hand Basin	Lab CW & HW	Hands-free (sonar)	Lab Safety Eye Wash	

LABORATORY EQUIPMENT (ASE*) refer to MRC list

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
Downdraft table				-
Scavenging Unit				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Anaesthesia Unit	Vet Tech	1 unit		-
Micropipette Puller	Narishige Japan	1 unit		
Electrophysiology Rig	Scientifica	1 unit		
Microtome	Leica	1 unit		
Magnet Heater Control		1 unit		
Electronic Rack		1 unit		-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

CBS - IN-VIVO

London Institute of Medical Sciences
1802.01 Medical Research Council (MRC)

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ROOM CRITERIA SHEET

DARKENABLE ROOM

Room ID:
Dedicated Secondary
Floor: Levels 3+5

2no provided within the building for specialist microscope work.

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
11 nsm	2 nsm	Extended Hours	Compliant	Not Acceptable

Laboratories Only:

Containment	Fumigation	Safety Risks		
ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
Normal Attenuation	NR 40 (tbc)

Floors

Type 1 - 100%	Type 2 - Not Used
Construction -	-
Floor Finish 50mm Screed	-
Skirting Vinyl	-
	150mm coved

Partitions

Type 1 - 100%	Type 2 - Not Used
Construction Plasterboard & Skim	-
Finish Paint	-
Protection -	-

Ceiling

Type 1 - 100%	Type 2 - Not Used
System Plasterboard	-
Finish Paint	-
Features Wipeable	-
Height 3000 mm	-

Accessories (non-Lab)

Items	Notes
Coat Hooks	3 no.
-	
-	
-	

Doors

	Type 1	Type 2
Type	Dark Room	-
Size (C/O)	800 mm	-
Operation	Swinging	-
Door Material	Metal	-
Door Finish	-	-
Frame Material	Metal	-
Frame Finish	-	-
Locks	Lock	-
Closers	Closer	-
Vision Pnl	Small	-
Protection	Kick Plates	-
Seals	Light-tight	-
Other	-	-

Window Coverings

At Façade	Internal
Type Roller Blinds	-
Light Control Solar & Black-out	-
Operation Motorised	-
Manifestations / Film -	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Room needs to be light-tight (drop seal, tight to frame, frame sealed to door when closed). Dark room light system and warning light outside room. Need an extract spigot (thimble) to allow for local exhaust to equipment or bench top LEV to be added.

ENGINEERING

HVAC

Temp (°C): Summer	Temp (°C): Winter
24oC	20oC

Temp Tolerance	Temp Variation
± 2oC	± 2oC / Hour

Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General Extract

Humidity	Air Pressure
Not controlled	Negative Airflow

Air Filtration	Equipment
F7 Supply (80-85%)	See Lab Equip

Min Air Changes	
4 Day (2 Night) /HR	-

Piped Services

Water	
Lab CW & HW	-
-	-

Piped Services	
Compressed Air	-
Nitrogen	-

Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply	
230v, trunking	-
Cleaners outlets	-
Fused Spur	-
Essential / Standby Power	Special Electrical
-	-
EM Interference	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	200 Lux

Switching	Detection
Scene Setting	-

Other Lighting	Ballast Type
-	DALI (Dimmable)

Emergency Ltg	
-	-

Structural

Loading	Vibration Criteria
Lab, normal	VC-A

Equipment	
Noise & Vibration	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-

Digital Projection	
-	-

Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-

Fire Detection	-
Smoke Detect/Sound	CCTV
-	-

Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Safe light 'ON' sign outside room

DARKENABLE ROOM

Room ID:

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Movable	Trespa Toplab Base	750mm	
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, bench mtd	-	-	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Sink- Epoxy (integral)	Lab CW & HW	Lever Handle (mixer)	Splash Pnl & Dry Rack	-
-	-	-	-	

Architectural Notes

LABORATORY EQUIPMENT (ASE*)

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Microscope		TBC		-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

CBS - IN-VIVO

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1802.01 Medical Research Council (MRC) Issued: 23 Feb 2018

ROOM CRITERIA SHEET

Tissue Culture

Description of Lab and its operations

CBS Procedure Rooms
First Floor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
17 nsm	tbc	Full 24 hour use	Compliant	Desirable

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	Noise	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
Normal Attenuation	NR 40 (tbc)

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Sikaguard coating	-
Protection	Wall + Corner Guards	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Special System	-
Finish	Special Details	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm**	-
Operation	Swinging	-
Door Material	Glass/Metal Frame	-
Door Finish	-	-
Frame Material	Metal	-
Frame Finish	-	-
Locks	Lock	-
Closers	Closer	-
Vision Pnl	Large	-
Protection	Kick Plates	-
Seals	Fumigation	-
Other	-	-

Window Coverings

	At Façade	Internal
Type	Roller Blinds	-
Light Control	Solar & Grey-out	-
Operation	Manual	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Wall and ceiling coatings to be Liquid Plastic/Sikaguard or similar. Blinds in this room needs to be light tight and privacy shading ideally on the glass when blinds open. *Sound Attenuation:* Acoustic consultant to advise on Sound Attenuation. *Doors:* ** Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Doors to have peep holes only, to stop light bleed.

ENGINEERING

HVAC

Temp 1 (°C): Summer	Temp 1 (°C): Winter
22oC	22oC
Temp Tolerance	Temp Variation
± 2oC	± 2oC
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated
Humidity	Air Pressure
50+/-15% RH	Negative Airflow
Air Filtration	Equipment
F9 Supply	See Lab Equip
Min Air Changes	-
17 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW & HW	RO Water- Local
-	-
Piped Services	
Compressed Air	-
Nitrogen	
-	
Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply	
230v, trunking	-
Cleaners outlets	-
-	-
Essential / Standby Power	Special Electrical
-	-
EM Interference	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
-	-
Other Lighting	Ballast Type
Task Lighting	DALI (Dimmable)
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	-
Equipment	
-	

Data / AV / Comms

Data / AV / Comms	
Data	-
Wireless	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-
Fire Detection	-
Smoke Detector	CCTV
-	CCTV Camera PTZ
Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Tissue Culture

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Movable	Trespa Toplab Base	750mm	
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
-	-	-	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Sink- Epoxy (integral)	Lab CW (Cat 5)	Lever Handle (mixer)	Splash Pnl & Dry Rack	-
Wash Hand Basin	Lab CW & HW	Hands-free (sonar)	Lab Safety Eye Wash	

LABORATORY EQUIPMENT (ASE*) refer toMRC list

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
MBSC (recirc)				-
Incubator		2 units		-
Centrifuge				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

V1.00

CBS - IN-VIVO

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ROOM CRITERIA SHEET

CLAMS

Comprehensive Lab Animal Monitoring.

CBS Procedure Rooms
First Floor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
25 nsm	tbc	Full 24 hour use	Compliant	Not Required

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note below	See arch. note below

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Sikaguard coating	-
Protection	Wall + Corner Guards	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Special System	-
Finish	Special Details	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm**	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Key Lock& Thumb Turn	-
Closers	Closer	-
Vision Pnl	-	-
Protection	Kick Plates	-
Seals	Acoustic	-
Other	Light-tight	-

Window Coverings

	At Façade	Internal
Type	Roller Blinds	-
Light Control	Solar & Grey-out	-
Operation	Manual	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Wall and ceiling coatings to be Liquid Plastic/Sikaguard or similar. Blinds in this room needs to be light tight and privacy shading ideally on the glass when blinds open. *Sound Attenuation:* Acoustic consultant to advise on Sound Attenuation. *Doors:* ** Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Doors to have peep holes only, to stop light bleed.

ENGINEERING

HVAC

Temp I (°C): Summer	Temp I (°C): Winter
22oC	22oC
Temp Tolerance	Temp Variation
± 2oC	± 2oC
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated
Humidity	Air Pressure
50+/-15% RH	Negative Airflow
Air Filtration	Equipment
F9 Supply	See Lab Equip
Min Air Changes	-
17 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW & HW	-
-	-
Piped Services	
Compressed Air	-
Nitrogen	
-	
Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply	
230v, trunking	-
Cleaners outlets	-
-	-
Essential / Standby Power	Special Electrical
-	-
EM Interference	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
-	-
Other Lighting	Ballast Type
Task Lighting	DALI (Dimmable)
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
Lab, normal	-
Equipment	
-	

Data / AV / Comms

Data / AV / Comms		
-	-	-
-	-	-
Digital Projection		
-	-	-
Projector Screen		
-		

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-
Fire Detection	-
-	CCTV
-	-
Fire Control	FE Placement
-	-

Engineering Notes

CLAMS

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Movable	Trespa Toplab Base	-	
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, wall mtd	-	-	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Sink- Epoxy (integral)	Lab CW (Cat 5)	Lever Handle (mixer)	Splash Pnl & Dry Rack	-
Wash Hand Basin	Lab CW & HW	Hands-free (sonar)	Lab Safety Eye Wash	

LABORATORY EQUIPMENT (ASE*) refer to MRC list

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
Other Lab Equip	Environmentak Chamber			-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
CLAMS Holding Cabinet		2 units		-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

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CBS - IN-VIVO

London Institute of Medical Sciences **abell nepp**

1802.01 Medical Research Council (MRC) Issued: 23 Feb 2018

ROOM CRITERIA SHEET

Behavioural Procedure - Anteroom

Anterooms to key labs.

CBS Procedure Rooms
First Floor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
12 nsm		Full 24 hour use	Compliant	Not Required

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note below	See arch. note below

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Sikaguard coating	-
Protection	Wall + Corner Guards	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Special System	-
Finish	Special Details	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm**	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Key Lock& Thumb Turn	-
Closers	Closer	-
Vision Pnl	-	-
Protection	Kick Plates	-
Seals	Acoustic	-
Other	Light-tight	-

Window Coverings

	At Façade	Internal
Type	Roller Blinds	-
Light Control	Solar & Grey-out	-
Operation	Manual	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Wall and ceiling coatings to be Liquid Plastic/Sikaguard or similar. *Sound Attenuation:* Acoustic consultant to advise on Sound Attenuation. *Doors:* ** Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Doors to have peep holes only, to stop light bleed.

ENGINEERING

HVAC

Temp.(°C): Summer	Temp.(°C): Winter
22oC	22oC
Temp Tolerance	Temp Variation
± 2oC	± 2oC
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated
Humidity	Air Pressure
50+/-15% RH	Negative Airflow
Air Filtration	Equipment
F9 Supply	See Lab Equip
Min Air Changes	-
17 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW & HW	-
-	-
Piped Services	
Compressed Air	-
Nitrogen	-
-	
Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply	
230v, trunking	-
Cleaners outlets	-
-	-
Essential / Standby Power	Special Electrical
-	-
EM Interference	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
-	-
Other Lighting	Ballast Type
Task Lighting	DALI (Dimmable)
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
-	-
Equipment	
-	

Data / AV / Comms

Data / AV / Comms	
-	-
-	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-
Fire Detection	-
Smoke Detector	CCTV
-	CCTV Camera PTZ
Fire Control	FE Placement
Sprinklers- Water	-

Engineering Notes

Behavioural Procedure - Anteroom

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Movable	Trespa Toplab Base	-	
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
Shelving, wall mtd	-	-	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
-	-	-	-	-
Wash Hand Basin	Lab CW & HW	Hands-free (sonar)	Lab Safety Eye Wash	

LABORATORY EQUIPMENT (ASE*) refer to MRC list

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

V1.00

CBS - IN-VIVO

London Institute of Medical Sciences **abell nepp**

1802.01 Medical Research Council (MRC) Issued: 23 Feb 2018

ROOM CRITERIA SHEET

Behavioural Procedure - Watermaze

CBS Procedure Rooms
First Floor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
17 nsm	tbc	Full 24 hour use	Compliant	Not Required

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	Noise	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note below	See arch. note below

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Sikaguard coating	-
Protection	Wall + Corner Guards	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Special System	-
Finish	Special Details	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm**	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Key Lock& Thumb Turn	-
Closers	Closer	-
Vision Pnl	Peep Hole Only	-
Protection	Kick Plates	-
Seals	Acoustic	-
Other	-	-

Window Coverings

	At Façade	Internal
Type	Roller Blinds	-
Light Control	Solar & Grey-out	-
Operation	Manual	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Access via Behavioural Procedure Anteroom. Wall and ceiling coatings to be Liquid Plastic/Sikaguard or similar. Blinds in this room needs to be light tight and privacy shading ideally on the glass when blinds open. *Sound Attenuation:* Acoustic consultant to advise on Sound Attenuation. *Doors:* ** Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Doors to have peep holes only, to stop light bleed. Wall drain required.

ENGINEERING

HVAC

Temp.(°C): Summer	Temp.(°C): Winter
22oC	22oC
Temp Tolerance	Temp Variation
± 2oC	± 2oC
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated
Humidity	Air Pressure
50+/-15% RH	Negative Airflow
Air Filtration	Equipment
F9 Supply	See Lab Equip
Min Air Changes	-
17 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW & HW	-
-	-
Piped Services	
Compressed Air	-
Nitrogen	-
-	
Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply	
230v, trunking	-
Cleaners outlets	-
-	-
Essential / Standby Power	Special Electrical
-	-
EM Interference	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
-	-
Other Lighting	Ballast Type
Task Lighting	DALI (Dimmable)
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
-	-
Equipment	
-	

Data / AV / Comms

Data / AV / Comms	
-	-
-	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-
Fire Detection	-
-	CCTV
-	-
Fire Control	FE Placement
-	-

Engineering Notes

Behavioural Procedure - Watermaze

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
Bench, Movable	Trespa Toplab Base	750mm	
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
-	-	-	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Wash Hand Basin	Lab CW & HW	Hands-free (sonar)	Lab Safety Eye Wash	-

LABORATORY EQUIPMENT (ASE*) refer toMRC list

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
Other Lab Equip	Watermaze Pool		1500 dia.	-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

V1.00

CBS - IN-VIVO

London Institute of Medical Sciences **abell nepp**

1802.01 Medical Research Council (MRC) Issued: 23 Feb 2018

ROOM CRITERIA SHEET

Behavioural Procedure - Behavioural Apparatus

Desription of Lab and its operations

CBS Procedure Rooms

First Floor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
16 nsm	tbc	Full 24 hour use	Compliant	Not Required

Laboratories Only:

Containment	Fumigation	Safety Risks		
ACDP CL2	No	Biological	Noise	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note below	See arch. note below

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Sikaguard Coating	-
Protection	Wall + Corner Guards	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Special System	-
Finish	Special Details	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors

	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm**	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Key Lock& Thumb Turn	-
Closers	Closer	-
Vision Pnl	Peep Hole Only	-
Protection	Kick Plates	-
Seals	Acoustic	-
Other	Light-tight	-

Window Coverings

	At Façade	Internal
Type	Roller Blinds	-
Light Control	Solar & Grey-out	-
Operation	Manual	-
Manifestations / Film	-	-

Shelving (non-lab)

Shelf	Notes
-	

Architectural Notes

Wall and ceiling coatings to be Liquid Plastic/Sikaguard or similar. Sound Attenuation: Acoustic consultant to advise on Sound Attenuation. Doors: ** Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Doors to have peep holes only, to stop light bleed.

ENGINEERING

HVAC

Temp.(°C): Summer	Temp.(°C): Winter
22oC	22oC
Temp Tolerance	Temp Variation
± 2oC	± 2oC
Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated
Humidity	Air Pressure
50+/-15% RH	Negative Airflow
Air Filtration	Equipment
F9 Supply	See Lab Equip
Min Air Changes	-
17 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW & HW	-
-	-
Piped Services	
Compressed Air	-
Nitrogen	-
-	
Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply	
230v, trunking	-
Cleaners outlets	-
-	-
Essential / Standby Power	Special Electrical
-	-
EM Interference	-
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux
Switching	Detection
-	-
Other Lighting	Ballast Type
Task Lighting	DALI (Dimmable)
-	Emergency Ltg
-	Life Safety

Structural

Loading	Vibration Criteria
-	-
Equipment	
-	

Data / AV / Comms

Data / AV / Comms	
-	-
-	-
Digital Projection	
-	-
Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
-	-
-	-
Fire Detection	-
-	CCTV
-	-
Fire Control	FE Placement
-	-

Engineering Notes

Behavioural Procedure - Behavioural Apparatus

LABORATORY FURNITURE

Lab Benching

Type	Benchtop Material	Depth	Notes
-	-	-	
-	-	-	

Other LF Elements

Above Lab Bench		Other Storage Units		
-	-	-	-	-
-	-	-	-	-

Lab Sinks

Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
Wash Hand Basin	Lab CW & HW	Hands-free (sonar)	Lab Safety Eye Wash	-

LABORATORY EQUIPMENT (ASE*) refer to MRC list

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.

V1.00

CBS - IN-VIVO

London Institute of Medical Sciences **abell nepp**

1802.01 Medical Research Council (MRC) Issued: 23 Feb 2018

ROOM CRITERIA SHEET

Behavioural Procedure - Feeding Cage System

Desription of Lab and its operations

CBS Procedure Rooms
First Floor

GENERAL

Nominal Area	Occupants	Hours in Use	Equality Act Compliance	Natural Light
11 nsm	tbc	Full 24 hour use	Compliant	Not Acceptable

Laboratories Only:	Containment	Fumigation	Safety Risks		
	ACDP CL2	No	Biological	-	-

ARCHITECTURAL

Sound Attenuation

Intern Ambient Noise (dBA)	Mechanical Noise (NR)
See arch. note below	See arch. note below

Floors

	Type 1 - 100%	Type 2 - Not Used
Construction	50mm Screed	-
Floor Finish	Vinyl	-
Skirting	150mm coved	-

Partitions

	Type 1 - 100%	Type 2 - Not Used
Construction	Blockwork	-
Finish	Sikaguard Coating	-
Protection	Wall + Corner Guards	-

Ceiling

	Type 1 - 100%	Type 2 - Not Used
System	Special System	-
Finish	Special Details	-
Features	Washable	-
Height	-	-

Accessories (non-Lab)

Items	Notes
-	
-	
-	
-	

Doors	Type 1	Type 2
Type	Door + Half Leaf	-
Size	1200 mm**	-
Operation	Swinging	-
Door Material	Timber- Solid Core	-
Door Finish	HPL	-
Frame Material	Timber	-
Frame Finish	Painted	-
Locks	Key Lock& Thumb Turn	-
Closers	Closer	-
Vision Pnl	Vistamatic VP	-
Protection	Kick Plates	-
Seals	Acoustic	-
Other	Light-tight	-

Window Coverings	At Façade	Internal
Type	Roller Blinds	-
Light Control	Solar & Grey-out	-
Operation	Manual	-
Manifestations / Film	-	-

Shelving (non-lab)	Shelf	Notes
	-	

Architectural Notes

Wall and ceiling coatings to be Liquid Plastic/Sikaguard or similar. Must ensure external noise does not affect room occupants (when used for reverse cycle experiments). Room to be Home office compliant for holding of rodents, 24/7 operation. Sound Attenuation: Acoustic consultant to advise on Sound Attenuation. Doors: ** Clear opening of full leaf 800 mm minimum. Clear opening of leaf and half between 1000-1200 mm. Doors to have peep holes only, to stop light bleed.

ENGINEERING

HVAC

Temp.(°C): Summer	Temp.(°C): Winter
22oC	22oC

Temp Tolerance	Temp Variation
± 2oC	± 2oC

Ventilation, supply	Ventilation, exhaust
Comfort Cooling	General & Dedicated

Humidity	Air Pressure
50+/-15% RH	Negative Airflow

Air Filtration	Equipment
F9 Supply	See Lab Equip

Min Air Changes	
17 AC/HR (Occupied)	-

Piped Services

Water	
Lab CW & HW	-
-	-

Piped Services	
Compressed Air	-
Nitrogen	-
-	

Bottled Gases	
-	-
-	-
-	-
-	-

Drainage

HDPE Chem Resist	-
-	-

Electrical

Power Supply	
230v, trunking	-
Cleaners outlets	-

Essential / Standby Power	Special Electrical
-	-

EM Interference	
-	-

Lighting

Lighting	Lux Levels
General Lighting	500 Lux

Switching	Detection
Diurnal - Scene Set	-

Other Lighting	Ballast Type
Diurnal	DALI (Dimmable)

Emergency Ltg	
Life Safety	-

Structural

Loading	Vibration Criteria
-	-

Equipment	
-	

Data / AV / Comms

Data / AV / Comms		
-	-	-
-	-	-

Digital Projection	
-	-

Projector Screen	
-	

Security / Life Safety

Security Systems	Alarm Systems
Access Control	-
CCTV	-
-	

Fire Detection	-
-	-

CCTV	
-	-

Fire Control	FE Placement
-	-

Engineering Notes

Behavioural Procedure - Feeding Cage System

LABORATORY FURNITURE

Lab Benching	Type	Benchtop Material	Depth	Notes
	-	-	-	
	-	-	-	

Other LF Elements	Above Lab Bench		Other Storage Units		
	-	-	-	-	-
	-	-	-	-	-

Lab Sinks	Sink Type	Water Source	Taps	Accessories (assume SD, PTD included)	
	Dbl Sink- Epoxy (int)	Lab CW & HW	Lever Handle (mixer)	Splash Pnl & Dry Rack	-
	Wash Hand Basin	Lab CW & HW	Hands-free (sonar)	Lab Safety Eye Wash	

LABORATORY EQUIPMENT (ASE*) refer to MRC list

* ASE = Architecturally (/Engineering) Significant Equipment ** O = Owner C = Contractor

Extract Equipment	Name/Model	Quantity	Size	Furnish - Install**
IVC Rack	Biodaq	4 units	16 cages	-
-				-

Equipment	Name/Model	Quantity	Size	Furnish - Install**
-				-
-				-

Note: RCSs are preliminary, with detail to be agreed with the Users during RIBA Stage 3.