

DSG(2011)C185

National Nuclear Archive
Caithness Archive
Wick

Current situation

- Original timeline was to go to tender in April 2011
- Site start was due December 2011
- Completion spring 2013
- Current position – NDA undertaking review to determine detailed understanding of UK wide archive costs (savings)
- Anticipated timescale 12 months
- In the next year NDA will complete this review. DSRL will hold pre planning public consultation and submit for Planning permission.
- Thereafter NDA will confirm savings (or otherwise) of building the NNA
- DSRL will undertake tender activity and subsequently award the contract
- Tender activity spring 2012 following contractor selection process
- Site start winter 2012
- Completion spring 2014
- Temporary archive being considered for DSRL & HC, no decision taken on this.

Project Team

Client

Dounreay Site Restoration Ltd

Project Manager

Stewart Henderson,
Dounreay Site Restoration Ltd

Architect

Reiach and Hall

Landscape Architect

Horner + MacLennan with Reiach and Hall

Civil and Structural Engineer

Ove Arup & Partners Scotland

Mechanical and Electrical Engineer

Ove Arup & Partners Scotland

Fire Engineer

Ove Arup & Partners Scotland

Sustainability / BREEAM Assessment

Ove Arup & Partners Scotland

Cost Consultant

EC Harris

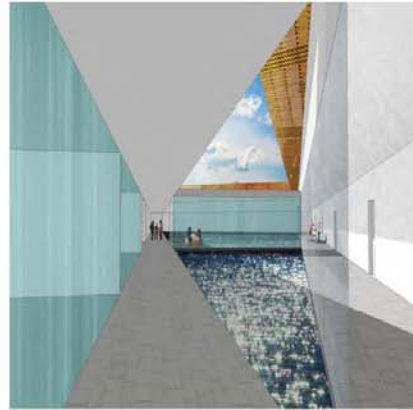
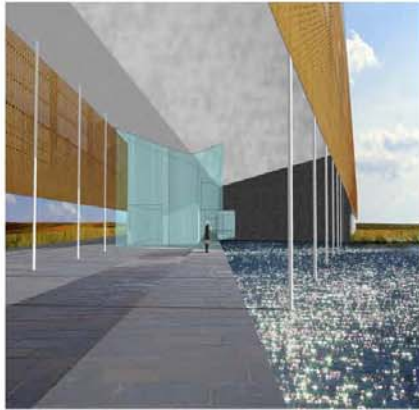
CDM Coordinator

Halcrow Group

Environmental Site Support

Halcrow Group





...with the evenings breeze the water laps against the heron's legs

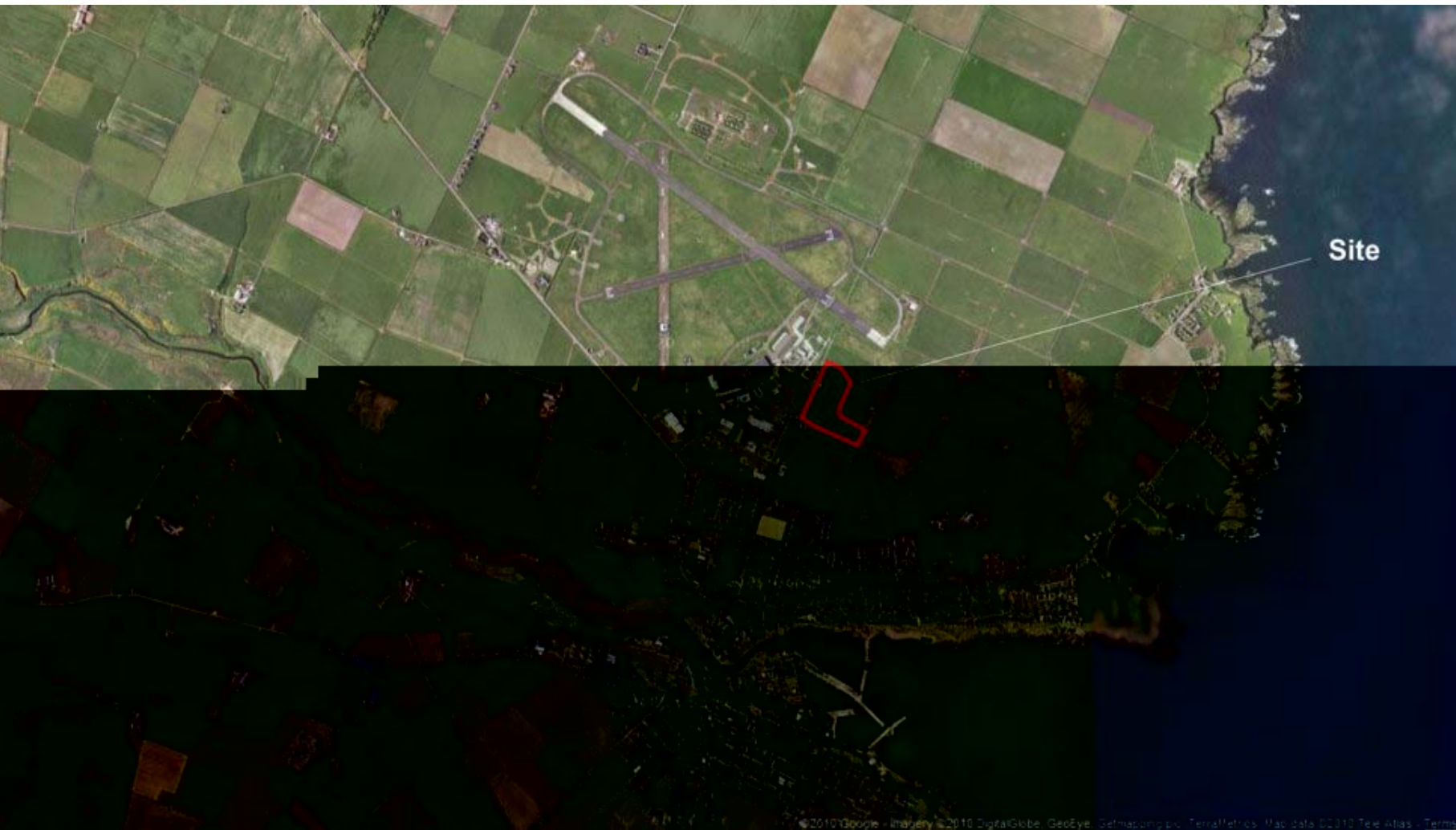
Neil Gunn,
The Heron's Legs



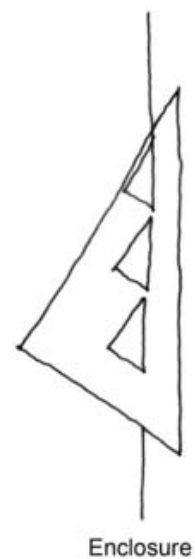
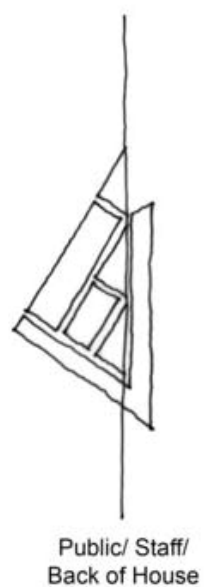
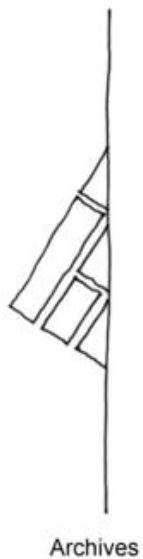
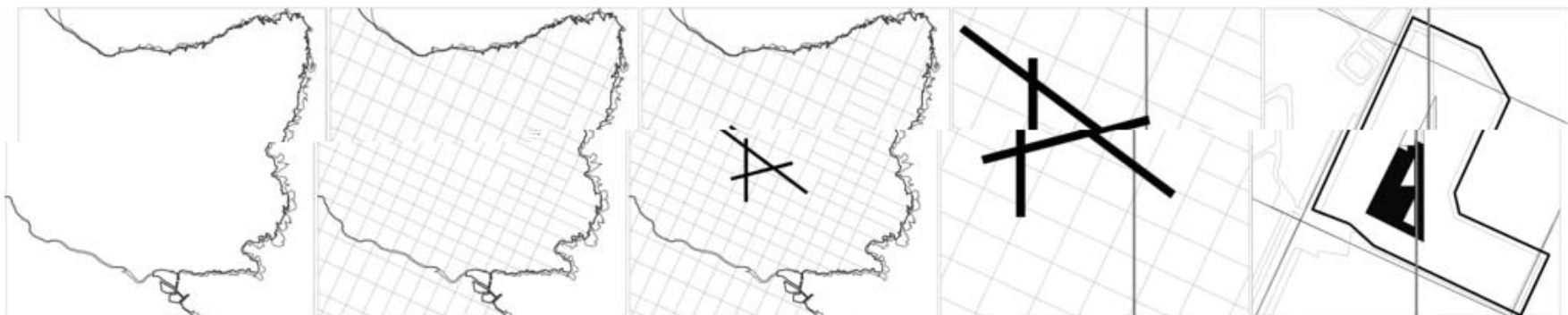
National Nuclear Archive, Wick

UK Perspective

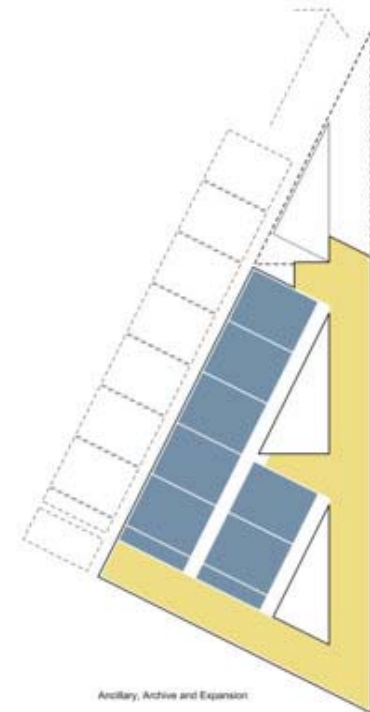
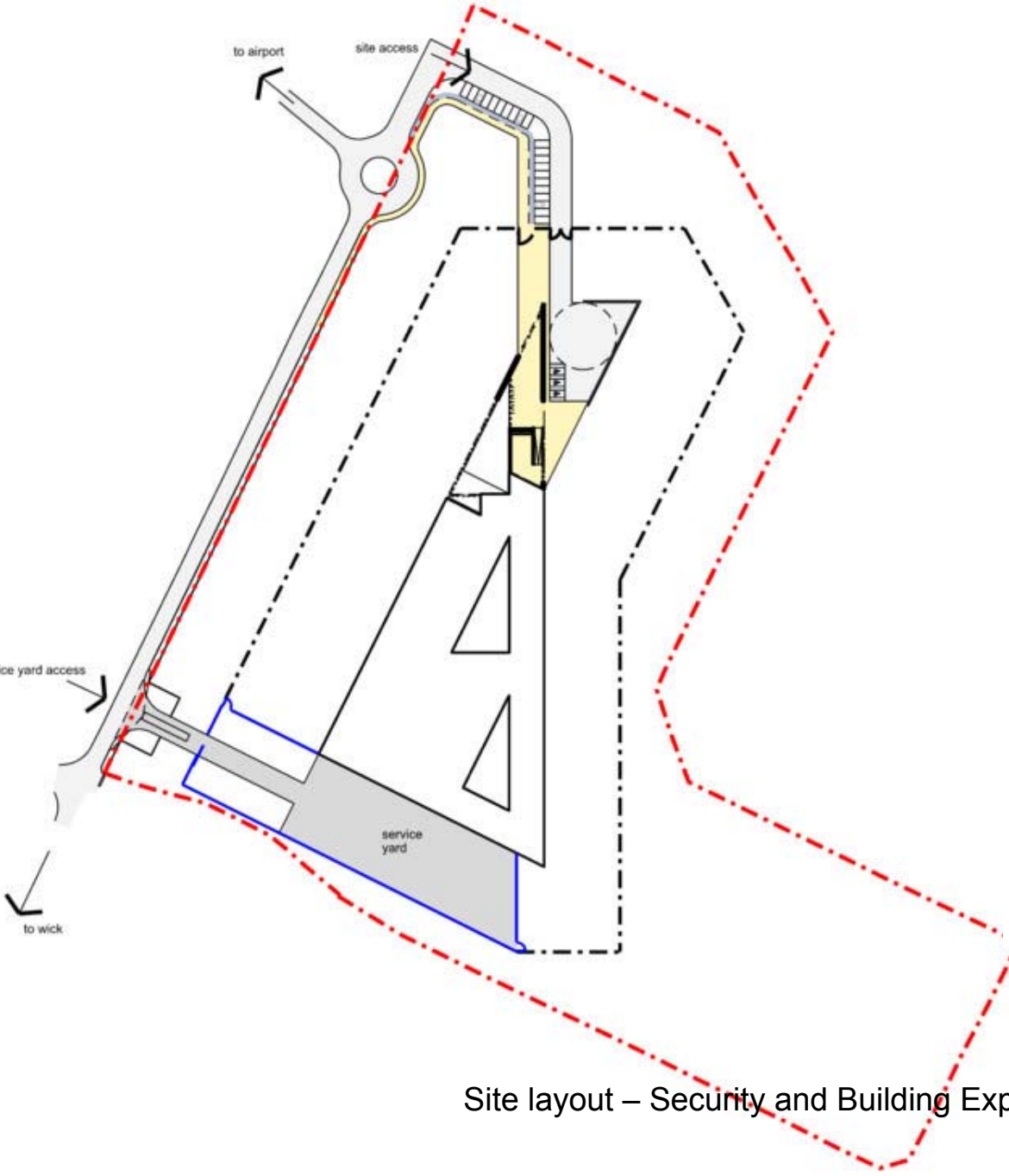
NDA sites plus key operating subsidiaries



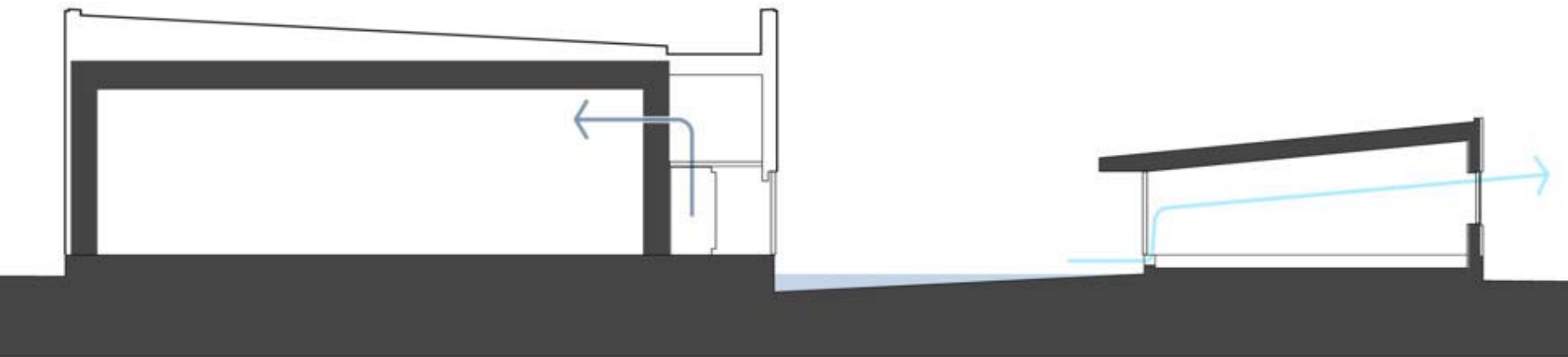
Design Development - Analysis and Investigation







Site layout – Security and Building Expansion



Archive – Massive construction

Ancillary – Lightweight construction

A summary of the key design issues on design and siting of NNA

The building is located within the site in a manner that addresses the wider landscape and that will connect the building users with its setting.

This approach has informed the treatment of massing and form to reduce the visual impact of the building.

The NNA provides an appropriate architectural response to the edge condition of the wide open landscape to the North, East and South of the site, terminating a variety of scale & uses of buildings within this predominantly semi-industrial landscape.

The new access to the NNA site from the North, attempts to create an appropriate termination of Ackergill Street, just beyond the existing Wick Airport entry; both buildings will be considered major destinations at the end of this road, as well as a fitting edge to the recent development to the North of Wick.

Accessed from the North, a simple but effective landscape treatment provides visitors and staff an opportunity to appreciate the form and massing of the NNA building this space and the landscape beyond.

The proposed development will not obstruct the overall breadth of view available when viewed from the south. We have gone to some considerable effort to attempt to ensure that the extent of building visible will make a significant and interesting new visual feature within this landscape to contribute rather than detract from the general profile and character of existing visual foci.

The tallest element of the building [West facing façade - is blank due to restrictions dictated by Archive regulations] is orientated parallel to Ackergil Street, behind the existing tree belt.

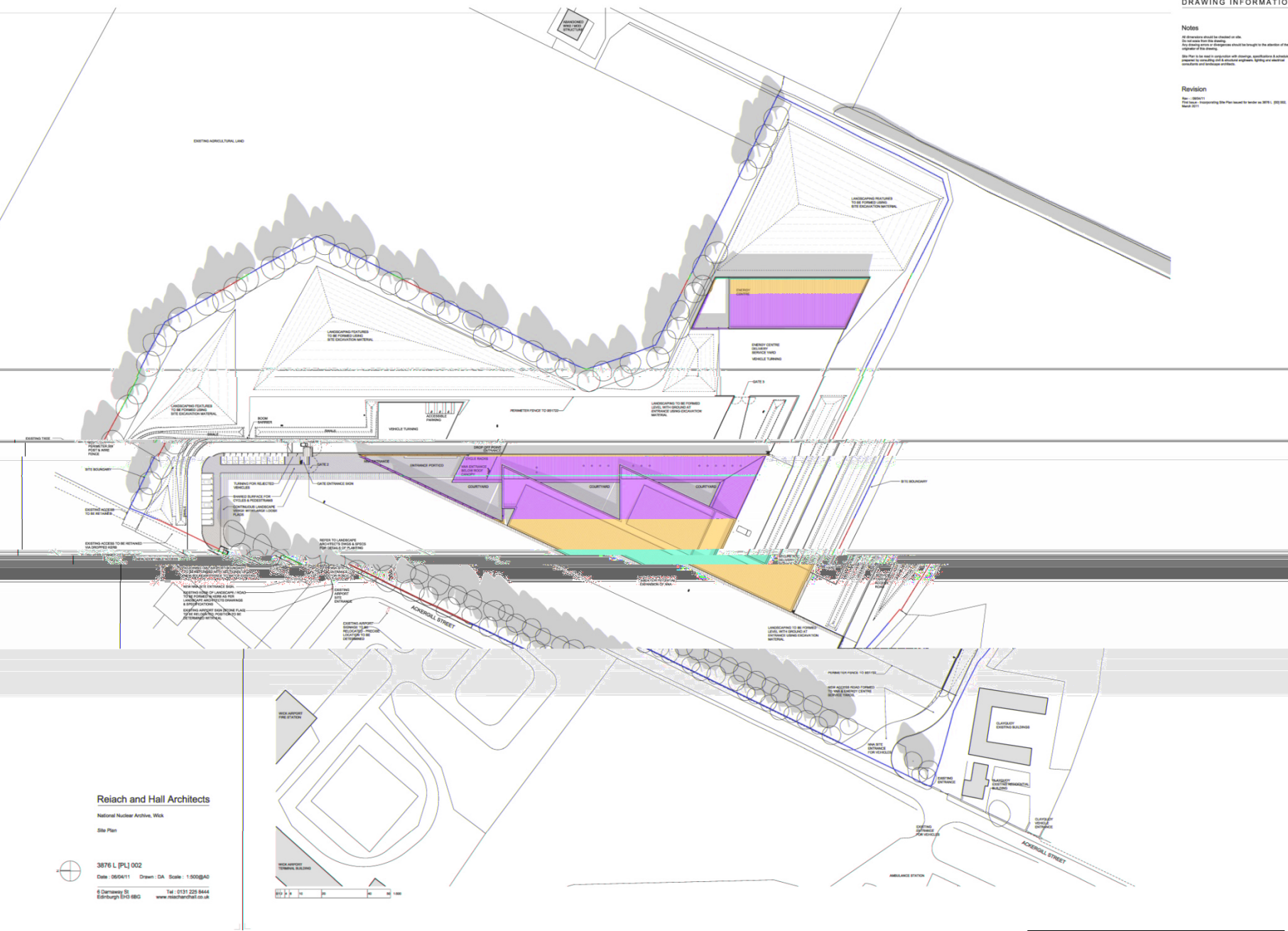
The use of a prismatic [triangular] building form reduces the visual impact of what is essentially a large building, where the overall scale is rarely apparent when viewed from any one direction.

This has been further enhanced by creating a serrated building line to the large archive spaces, in section and plan, which steps down to the single storey ancillary wing running North / South.

The internal layout of the single storey wing running North – South, provides the both public and staff areas clear views of the horizon beyond, addressing the wide open vista of landscape toward the coastline.

Great care has been taken to design a building of quality and distinction that responds to these challenges.





National Nuclear Archive, Wick

Site Plan

3876 L [PL] 002

Date : 06/04/11 Drawn : DA Scale : 1:500@A0

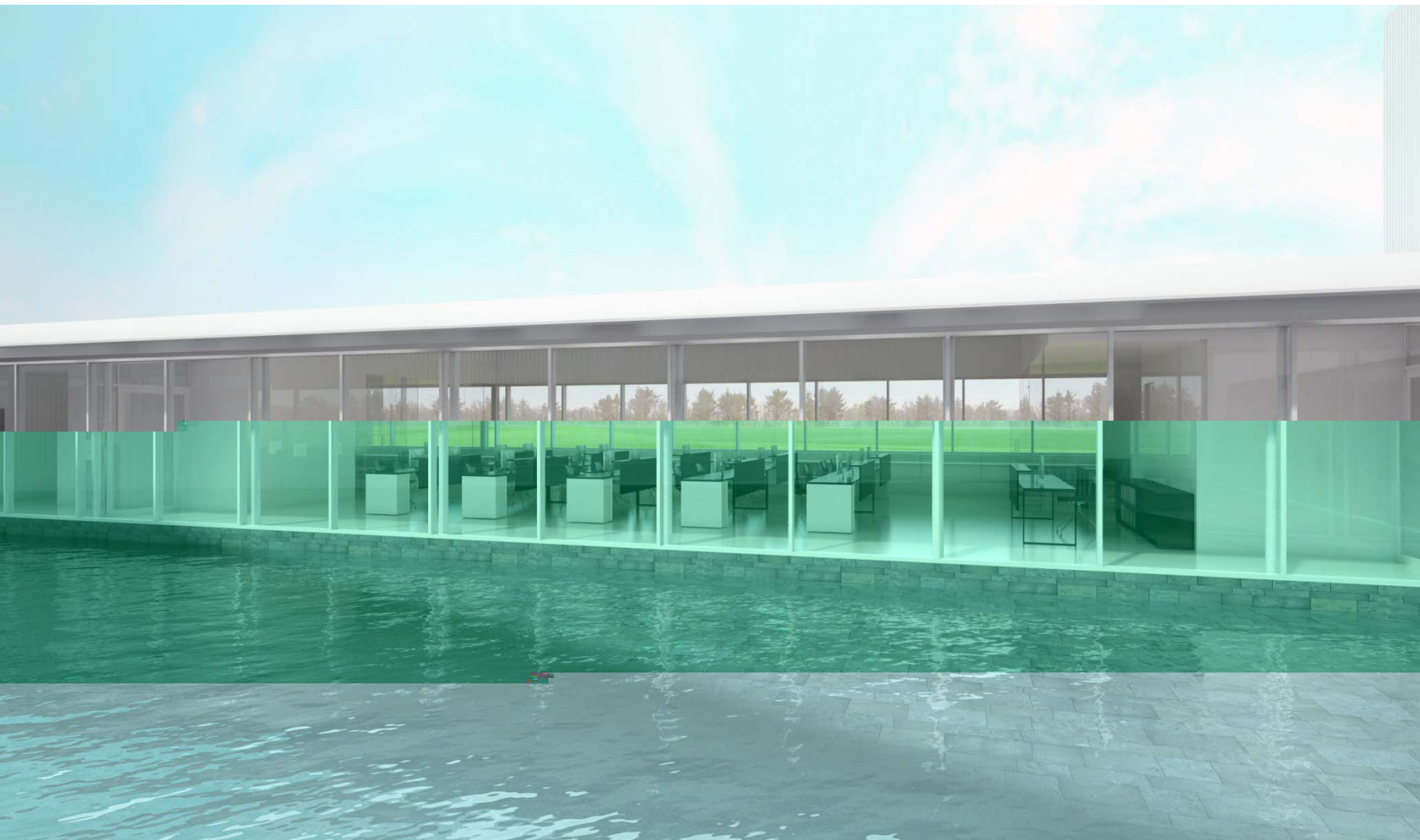
6 Damaway St
Edinburgh EH3 6BG

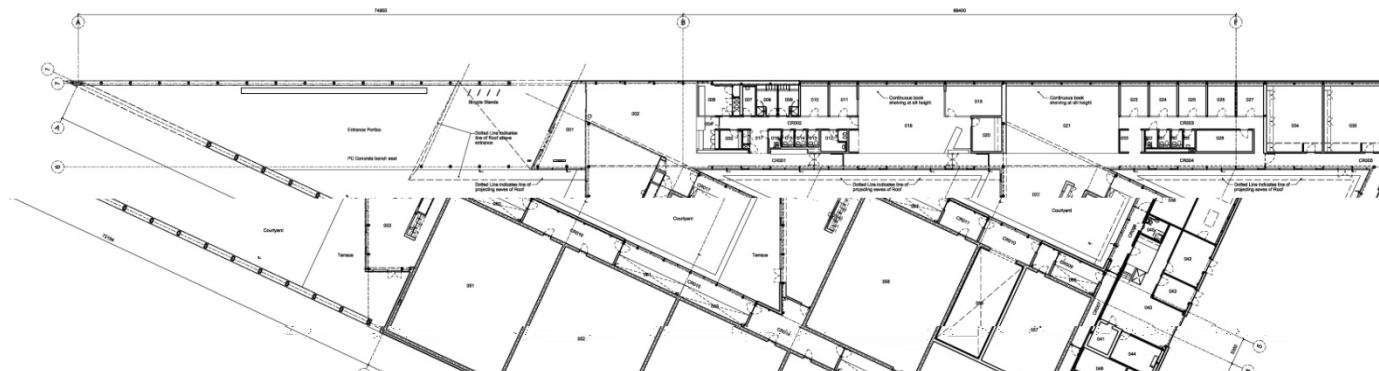












Rev. - 201510
Issued by: 000000

Bas A: 10/02/11
Reception Security Room & Entrance Foyer area updated
Lagard & Swales online updated
Curtain walling opening rights added to plan to reflect current situations
Storage desks added to DSR (SRP), Store (SR), Shower changing room
(SRB, SRB) & area adjacent to toilets.
Air curtain note added. Accessible toilet room number = door number up

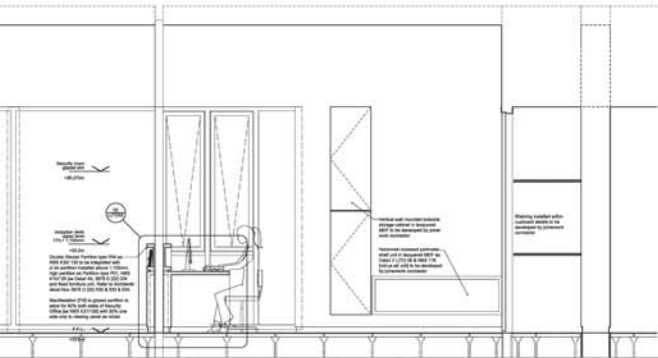
Revised: 22/03/11
Issued for Tender

NOTE
Refer to 2076 room data sheets for individual room equipment items &

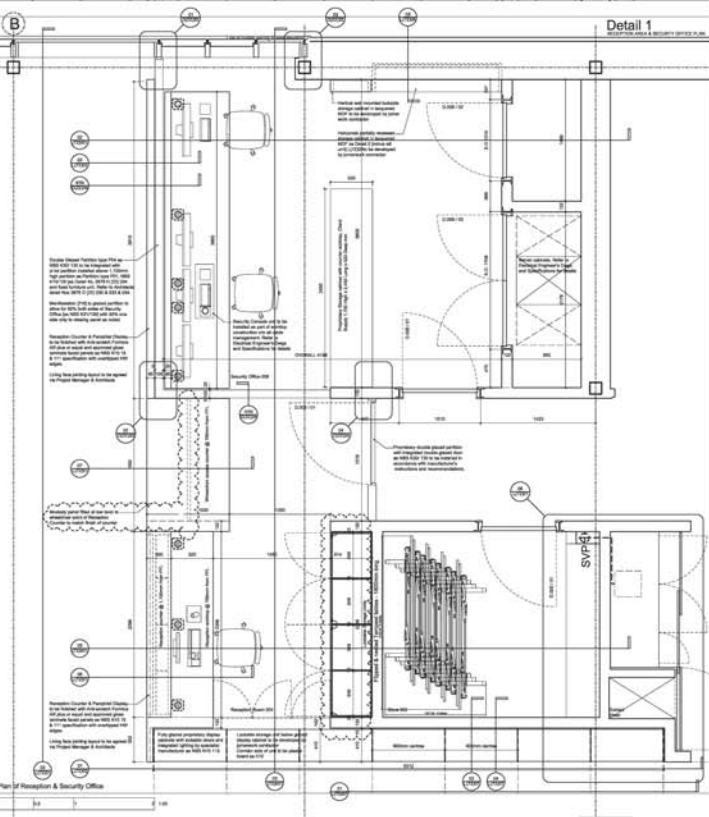
Contractor to co-ordinate additional support/training as required for Police, WSPs & shelders and requirements as set out under NPS K10f

KEY TO FINISHES ICONS

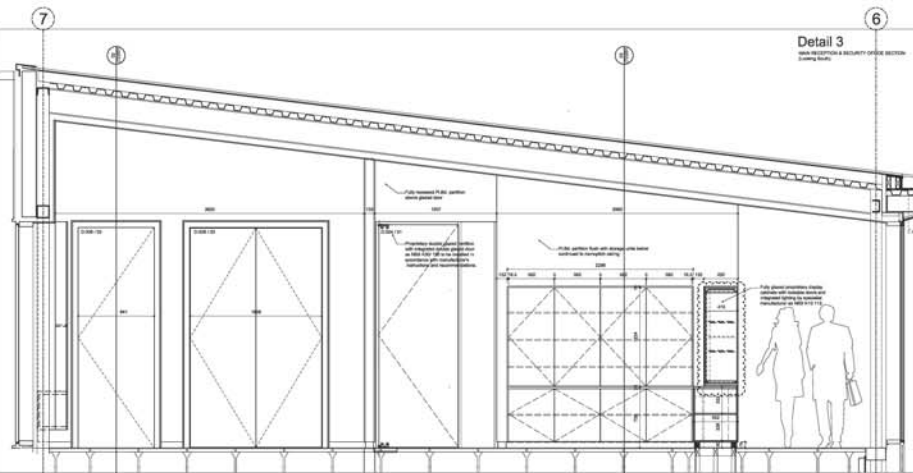
Detail 2



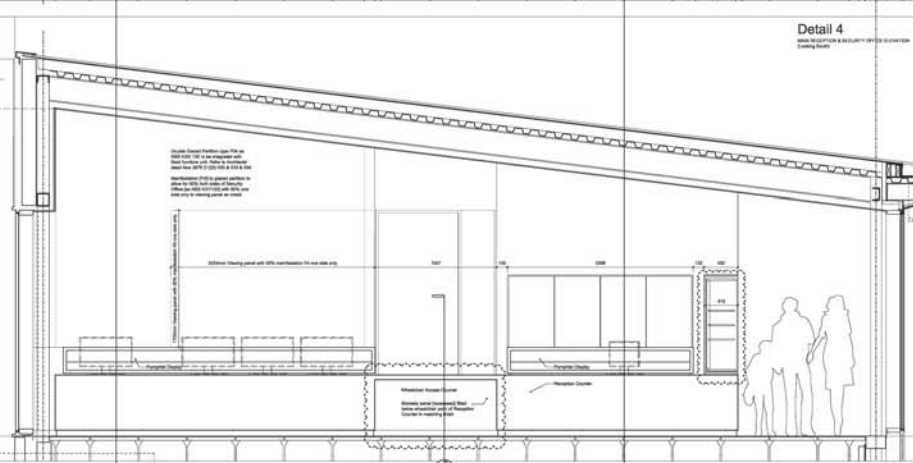
Detail 1



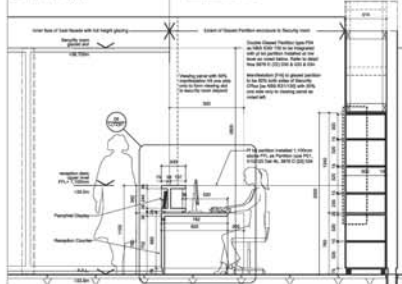
Detail 3
 NEW RECEPTION & SECURITY OFFICE SECTION
 (existing route)



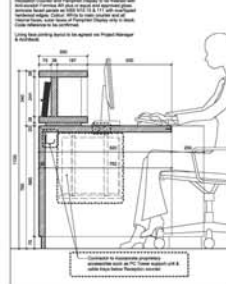
Detail 4
WALL RECEPTION & SECURITY OFFICE ELEVATION
(Looking South)



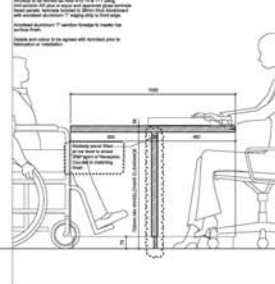
Detail 5



Detail 6 (Scale 1/8")



Detail 7 (see 1-4)
 RECEPTION: COURTESY SERVICE
 (Dedicated Through Wheelchair Access
 Station to be served by 3000-013)



DRAWING INFORMATION

Notes

All dimensions should be checked on site.
Do not copy from this drawing.
Any drawing errors or omissions should be brought to the attention of the
originator of this drawing.

Revision

Rev. A: 01/04/01
Issued for filing

Rev. A: 02/05/01
02/05/01: Deleted References and further notes about meeting to complete 06/01/01 (7/2/00)

02/05/01: Deleted reference to subsequent point of inspection clearing. Replaced the work done to update position of Storage in References list of three 1 deleted from continuous flow phase of design.

02/05/01: Added to cable management, an tower supports 6 cable priority added (added) Inserted directly related to Storage (Storage)

Rev. A: 02/05/01
Issued for Transfer

Notes: All laminated panels to be balanced (laminates to both sides)

Note: All laminated panels to be balanced (laminated to both sides)

General Notes:

Drawing to be used in conjunction with F200 Formboard® general arrangement and detail drawings for partitions, floor and ceilings together with F200 F-10 specification.

Drawing also to be used in conjunction with ARUP connectors F202 and lighting drawings and specifications.

TENDER

Reiach and Hall Architects

National Nuclear Archives, 1978

Current Editors

3876 L (72) 001 A

Date: 01/03/11 Drawn: GA Scale: 1:200

8 Canaway St
Edinburgh EH3 6BG

RECEPTION TIME AREA
 10000 CHURCH STREET, BOSTON
 (617) 552-1000



SECURITY RECEPTION CENTER is
located through Security Office Window

PUBLIC SEARCH INFORMATION
SPRING 2008 - 8
 (Starting Date)

High Level Storage (HLS)

PUBLIC SEARCH ROOM
SPRING GARDENS - 2ND
FLOOR (East)

Public Searchers
 800-772-7273, 774-227-1000

Public Search Room
Open weekdays, 9 a.m. to 5 p.m.
Circuit Court



Public domain image.

PUBLIC SERVICE
SECTIONAL FORM NO. 6-70

All products
 Do not wear
 Any clothing

**Non-graduate
level in Biology**

100

General

National Numbered Bunkers Week

Main Reception Area
(Glassed Display Cabinets and Security Office Desk)

Date: 01/03/11 Drawn: DA Scale: 1:2000

8 Darnley St
Edinburgh EH3 6BQ
Tel: 0131 225 84
www.mitchellhall.co.uk

Detail 1

BUILDING SIGN AT FENCE LINE

(Looking South)

For location, refer to R&B Architect's site plan 3876 L (001-001)

General Notes:
Signage panels to be developed as Woodhouse College / Campus Range - Welcome Monolith or equal and approved

Fence Height
+36.3m

Perimeter fence. Details to be agreed prior to fabrication and installation

F.F.L.
+35.7m

Approx. 475 x 1470mm secret fixed white glass panel to front and back elevations. Allow for NNA & Caithness Archive signage to front elevation glass panel. Details to be confirmed. Allowance to be made for internal lighting between two glass panels to illuminate front elevation glass

Approx. 10mm thick secret fixed anodised aluminium frame to sides and top of the alarm panel. Details to be confirmed

See Detail 01 below

Anodised aluminium secret fixed base panel

Note:
Allow for secret fixed aluminium fixing panel - approx. 10mm thick x 1470mm x 120mm (H) to rear elevation. Frame gauge to be confirmed by specialist manufacturer

F.F.L.
+35.3m

Base detail fixings and supports to be developed by specialist sign manufacturer and contractor

Detail 3

BUILDING SIGN - LOCATED OUTSIDE MAIN SITE ENTRANCE

For location, refer to R&B Architect's site plan 3876 L (001-001)

General Notes:
Signage panels to be developed as Woodhouse College / Campus Range - Welcome Monolith or equal and approved

Approx. 475 x 475mm secret fixed white glass panel to front and back elevations. Allow for NNA & Caithness Archive signage to front elevation glass panel. Details to be confirmed. Allowance to be made for internal lighting between two glass panels to illuminate front elevation glass

Signage Panel
Approx. size 475 x 475mm

Storage Unit to incorporate Vides Intercom System
Approx. Size 375mm (H) x 120mm (W) x 450mm (D) Approx.

Intercom and power for alarm. Contractor to liaise with specialist sign manufacturer, consultant engineers and sub-contractors accordingly

Approx. 10mm thick secret fixed anodised aluminium frame to sides and top of signage unit. Details to be confirmed by specialist sign manufacturer

Building & Site orientation signage panel as Woodhouse College Campus Range - Finger Monolith or equal and approved. Details to be developed by specialist manufacturer or equal and approved

See Detail 01 below

Anodised aluminium secret fixed base panel

Base detail fixings and supports to be developed by specialist sign manufacturer and contractor

Detail 5

BUILDING SIGN - LOCATED OUTSIDE MAIN ENTRANCE DOOR

For location, refer to R&B Architect's site plan 3876 L (001-001 & L (001-002 - 02)

General Notes:
Signage panels to be developed as Woodhouse College / Campus Range - Welcome Monolith or equal and approved

Approx. 475 x 475mm secret fixed white glass panel to front and back elevations. Allow for NNA & Caithness Archive signage to front elevation glass panel. Details to be confirmed. Allowance to be made for internal lighting between two glass panels to illuminate front elevation glass

Signage Panel
Approx. size 475 x 475mm

Storage Unit to incorporate Vides Intercom System
Approx. Size 375mm (H) x 120mm (W) x 450mm (D) Approx.

Intercom and power for alarm. Contractor to liaise with specialist sign manufacturer, consultant engineers and sub-contractors accordingly

Approx. 10mm thick secret fixed anodised aluminium frame to sides and top of signage unit. Details to be confirmed by specialist sign manufacturer

Building & Site orientation signage panel as Woodhouse College Campus Range - Finger Monolith or equal and approved. Details to be developed by specialist manufacturer or equal and approved

See Detail 01 below

Anodised aluminium secret fixed base panel

Base detail fixings and supports to be developed by specialist sign manufacturer and contractor

Notes

Units dimensions should be checked on site.
Do not scale from this drawing.
Any drawing errors or omissions should be brought to the attention of the originator of this drawing.

Drawing shows design intent only.
Final details to be developed by specialist joinery manufacturer and agreed with Architect prior to fabrication and installation.

Revision

Rev - 08/03/2011
Issued for Billing
Rev A - 16/03/11
Building sign located outside main building entrance
Door added
Building Sign at Fence Line depth increased to accommodate lighting header plate
Notes added accordingly
Rev A - 22/03/11
Issued for Tender

Detail 2

BUILDING SIGN AT FENCE LINE - PLAN

2 No low level lockable hinged equal sized doors to be fitted to rear of unit in matching anodised aluminium to accommodate external lighting electrical header plate equipment. Refer to consultant electrical engineers specifications, schedules and drawings for detail.
Contractor to liaise with specialist joinery manufacturer, consultant engineers and sub-contractors accordingly to determine overall depth of sign unit and door size according to access requirements

Approx. 1710mm x 1470mm secret fixed white glass top panel to front and back elevations with secret fixed aluminium fixing panels below. Allow for NNA & Caithness Archive signage to front elevation glass panel

Allowance to be made for internal lighting between white

Detail 4

BUILDING SIGN - LOCATED OUTSIDE MAIN SITE ENTRANCE - PLAN

General Notes:
Signage panels to be developed with Woodhouse College Campus Range - Finger Monolith or equal and approved

For location, refer to R&B Architect's site plan 3876 L (001-001)

Approx. 1710mm x 500mm secret fixed white glass top panel to front and back elevations with secret fixed aluminium fixing panels below. Allow for NNA & Caithness Archive signage to front elevation glass panel

Allowance to be made for internal lighting between white

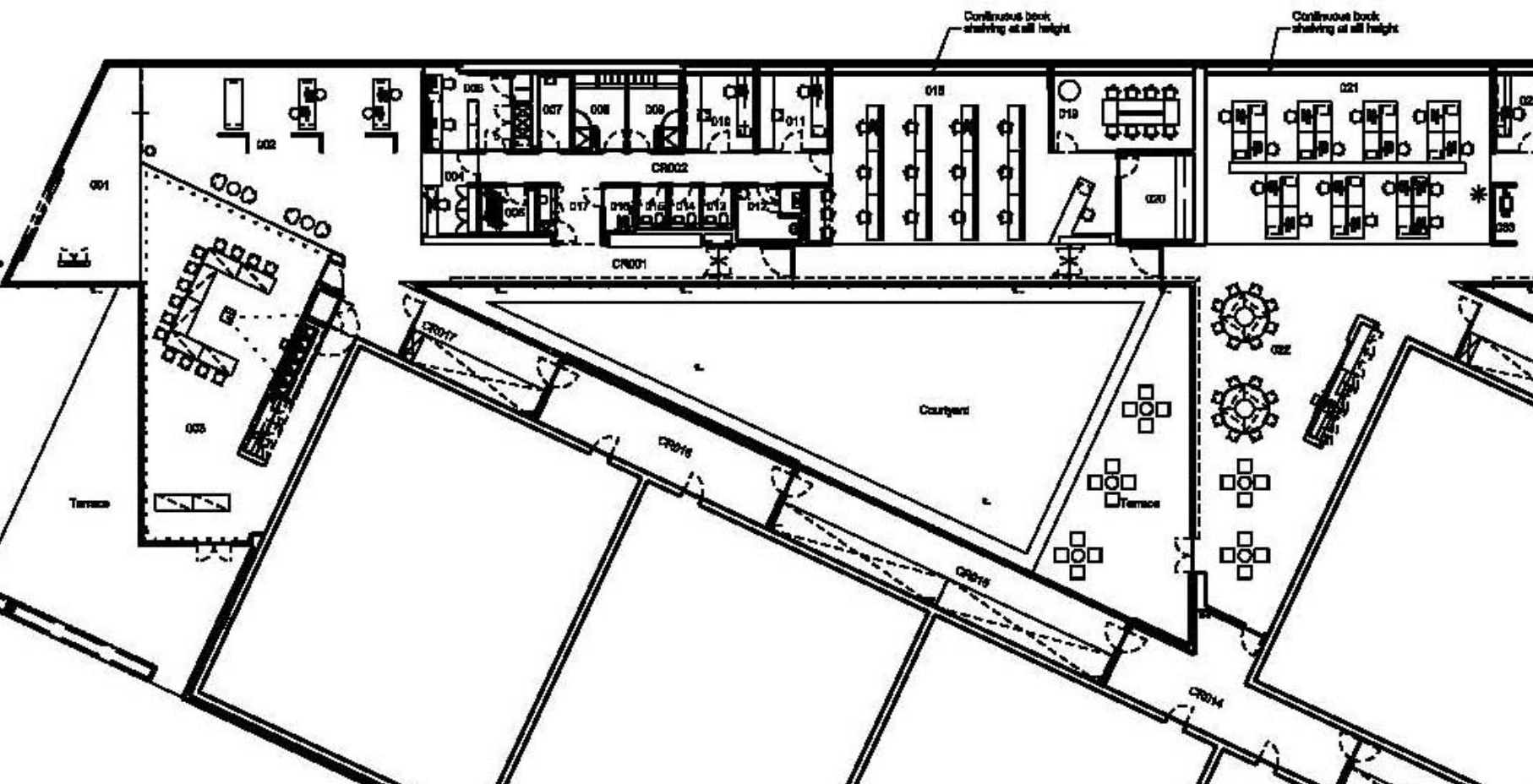
Detail 6

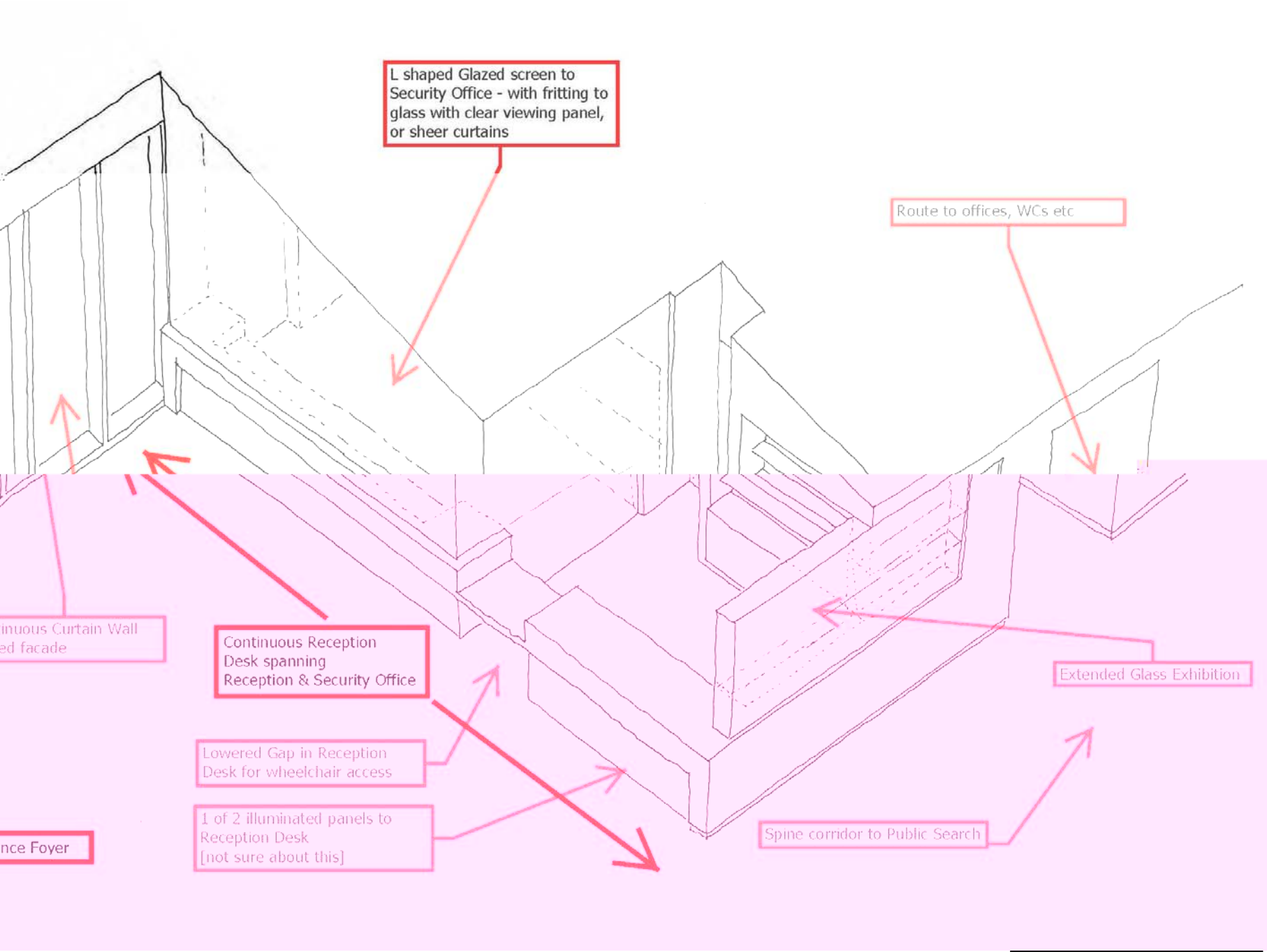
BUILDING SIGN - LOCATED OUTSIDE MAIN ENTRANCE DOOR - PLAN

For location, refer to R&B Architect's site plan 3876 L (001-001 & L (001-002 - 02)

General Notes:
Signage panels to be developed with Woodhouse College Campus Range - Finger Monolith or equal and approved

For location, refer to R&B Architect's site plan 3876 L (001-001)





L shaped Glazed screen to Security Office - with fritting to glass with clear viewing panel, or sheer curtains

Route to offices, WCs etc

Continuous Curtain Wall
ed facade

Continuous Reception
Desk spanning
Reception & Security Office

Lowered Gap in Reception
Desk for wheelchair access

1 of 2 illuminated panels to
Reception Desk
[not sure about this]

Extended Glass Exhibition

ence Foyer

Spine corridor to Public Search

Continuous Curtain Wall
Glazed facade

L shaped Glazed screen to
Security Office - with fritting to
glass with clear viewing panel,
or sheer curtains

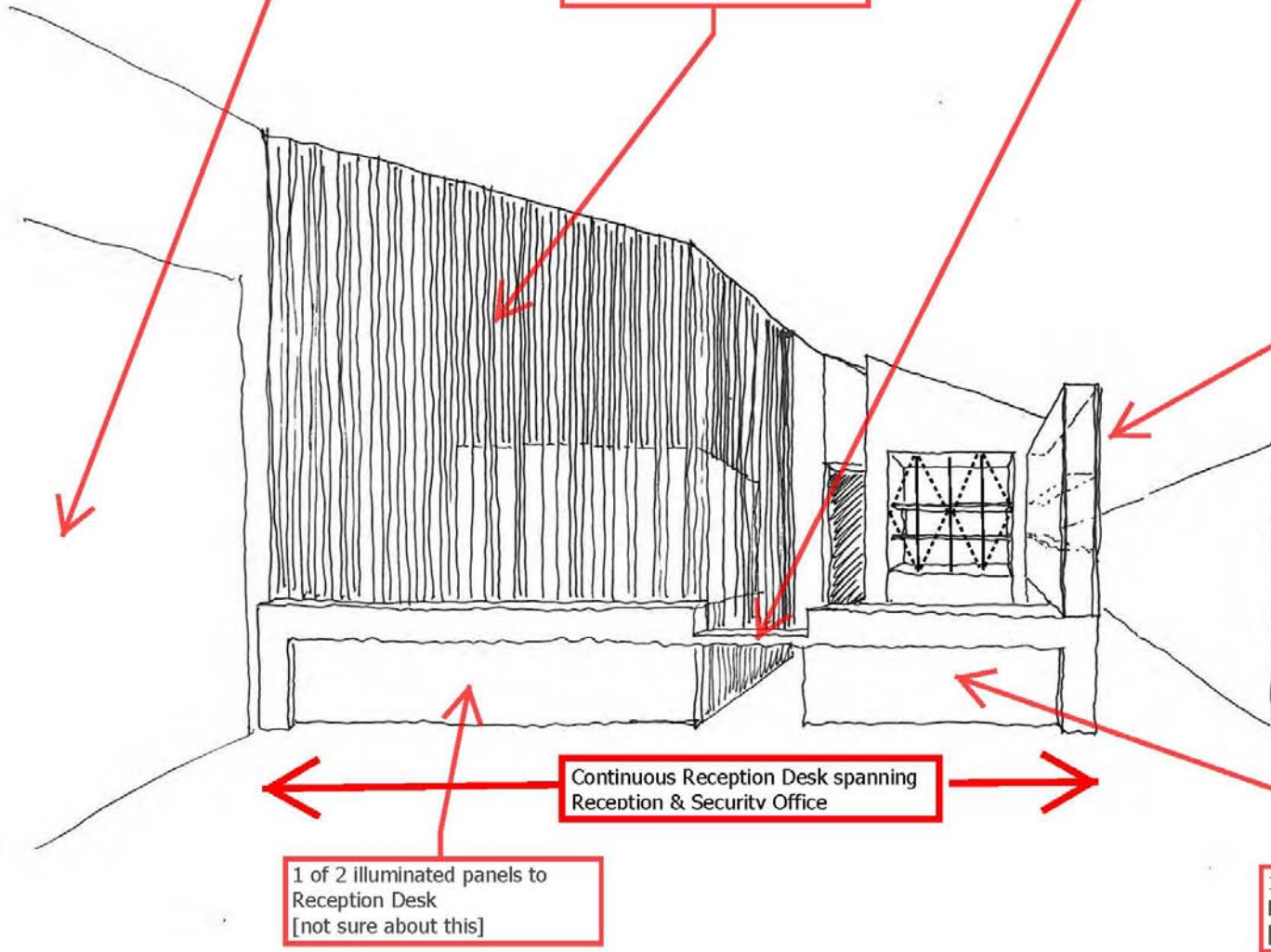
Lowered Gap in Reception
Desk for wheelchair access

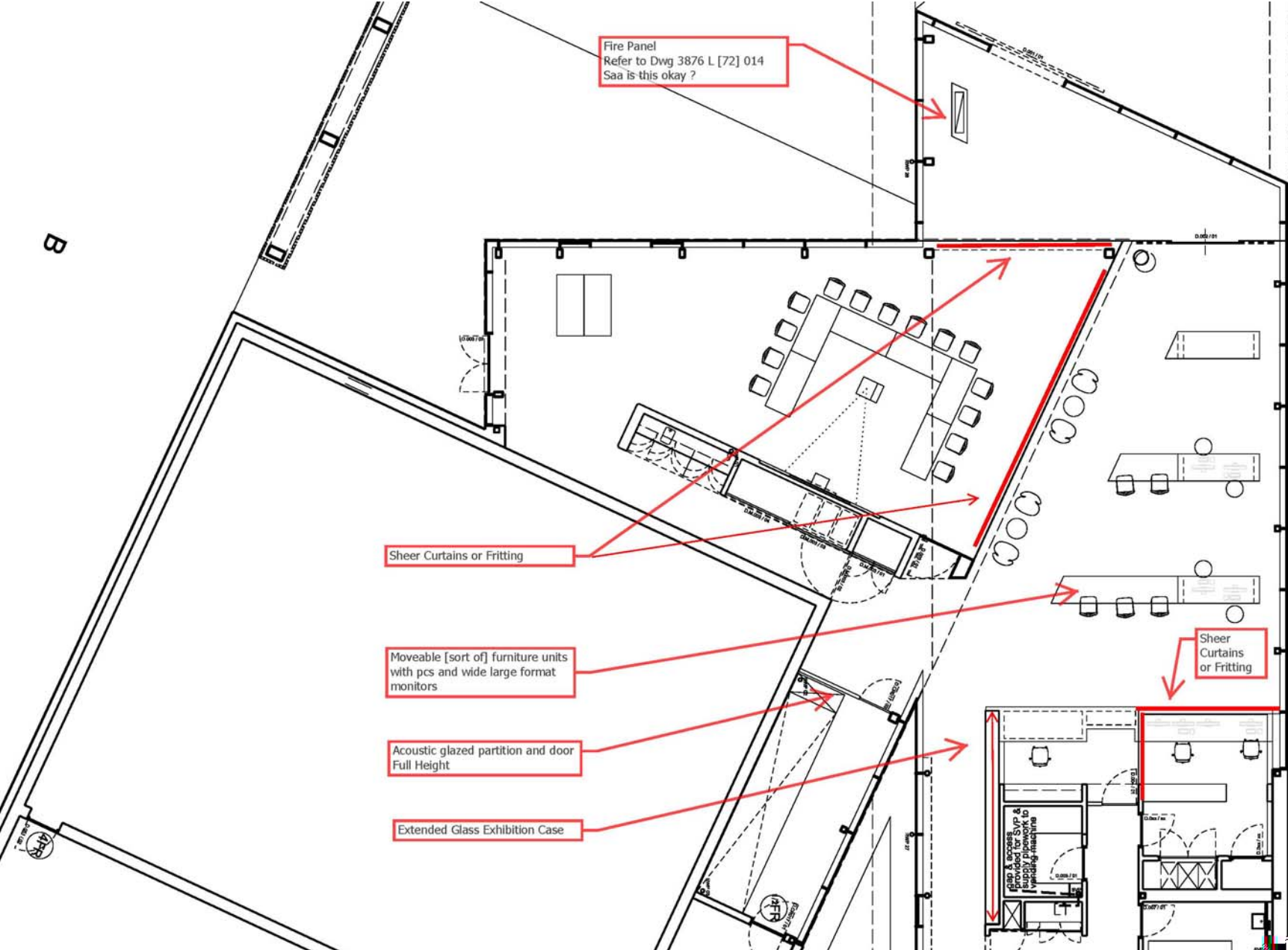
Extended Glass Exhibition

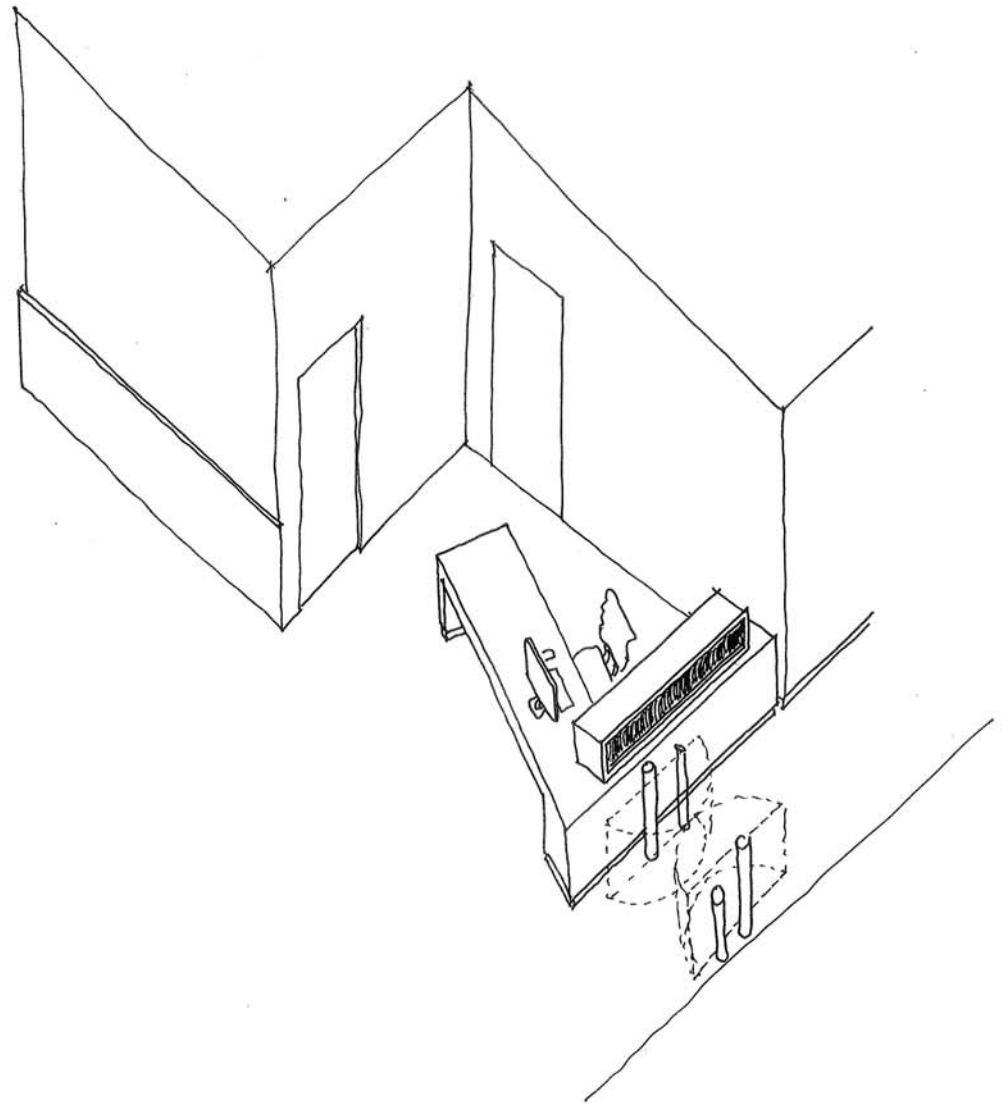
Continuous Reception Desk spanning
Reception & Security Office

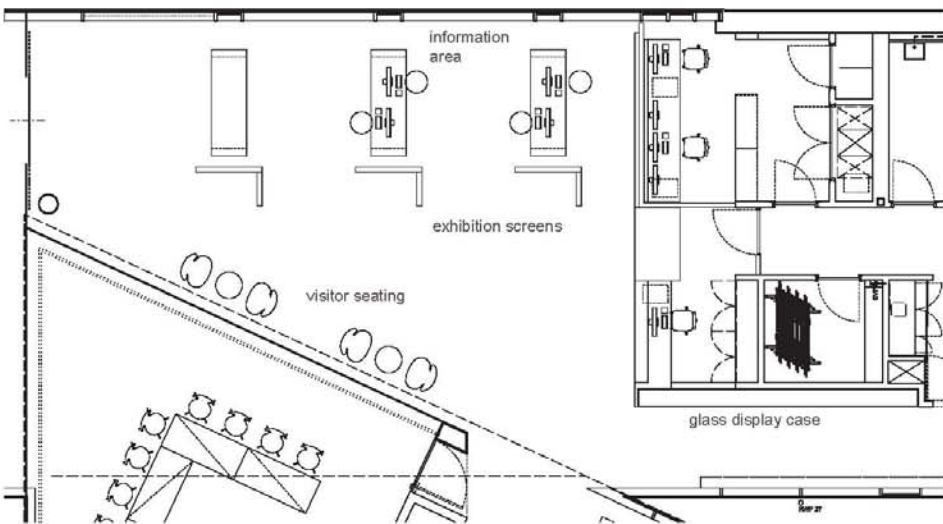
1 of 2 illuminated panels to
Reception Desk
[not sure about this]

1 of 2 illuminated panels to
Reception Desk
[not sure about this]









S40 Exhibition Screens by Reier



Glass Exhibition Cases by Reier



Morrison Stools by Cappellini

Entrance Area

Furniture Schedule:

2No. circular coffee tables

4No. visitor lounge chairs

3No. bespoke information area tables

4No. high level stools

free-standing exhibition screens

display case

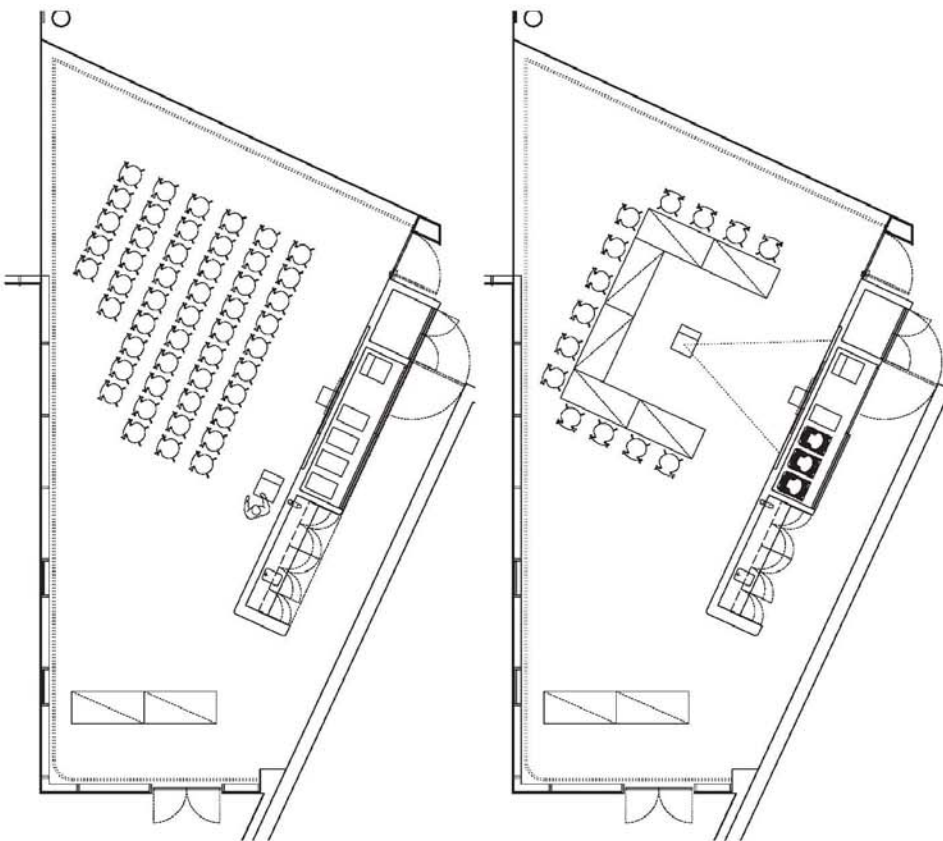
room 002 - entrance area



Bespoke Information Area Desks/Units



Swan Chair + A222 Table by Fritz Hansen



Community Room Floor Plan

Furniture Schedule:

- 50No. stackable chairs
- 4No. trolleys for transporting and storing chairs
- 8No. 1800 x 800mm Flip-top folding tables
- 2No. lecture/media units



Eames Plastic Stacking Chair by Vitra



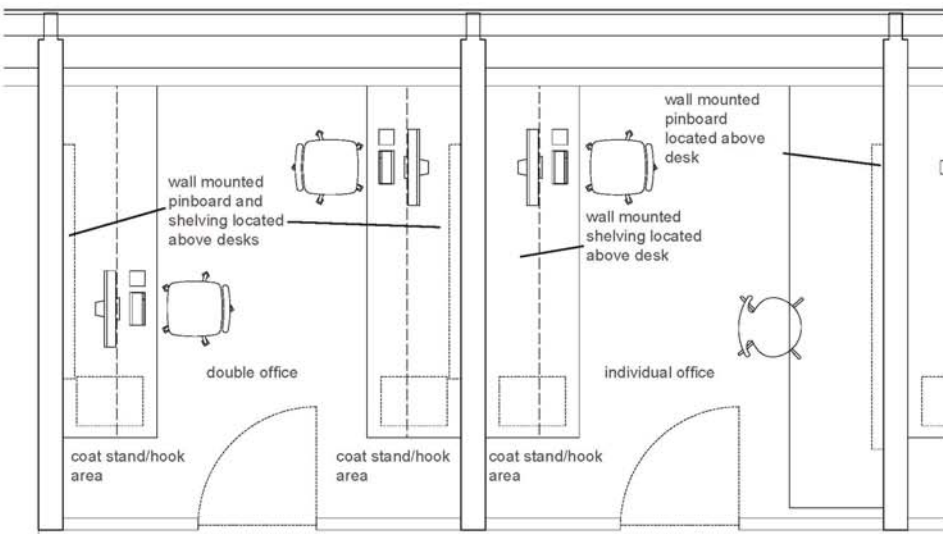
Series 7 Chair by Fritz Hansen



'Mixx' Lectern and AV Tables
by Abstracta

'Mixx' Lectern and AV Tables
by Abstracta

room 003 - community room



Typical Individual Office Floor Plan

Furniture Schedule:

1No. Double Office:

- 2No. desks - 3000 x 800mm
- 2No. task chairs
- 2No. mobile pedestal per room
- 2No. Desk Lights

6No. Single Offices:

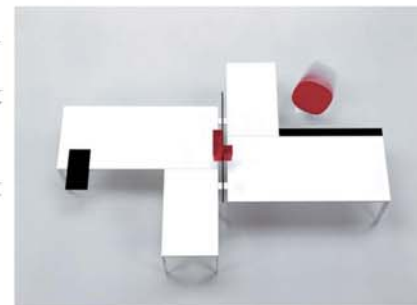
- 1No. desk 3000 x 800mm per room
- 1No. desk 3600 x 800mm per room
- 1No. task chair per room
- 1No. mobile pedestal per room
- 1No. visitor chair or stool/chair per room
- 1No. Desk Lights



AZZURRO - Hiro Desk and Storage Unit by Levesta



AZZURRO - AC 4 Task Chair by Vitra



ELLIPTICAL - Wa' Desks by Knoll International



ELLIPTICAL - Generation Task Chair by Knoll International



EUROPA - Bene Platform Desk with T6 leg



Shelving and Pinboards above desk areas



TANGRAM - Pey Table by Moble 114 Barcelona

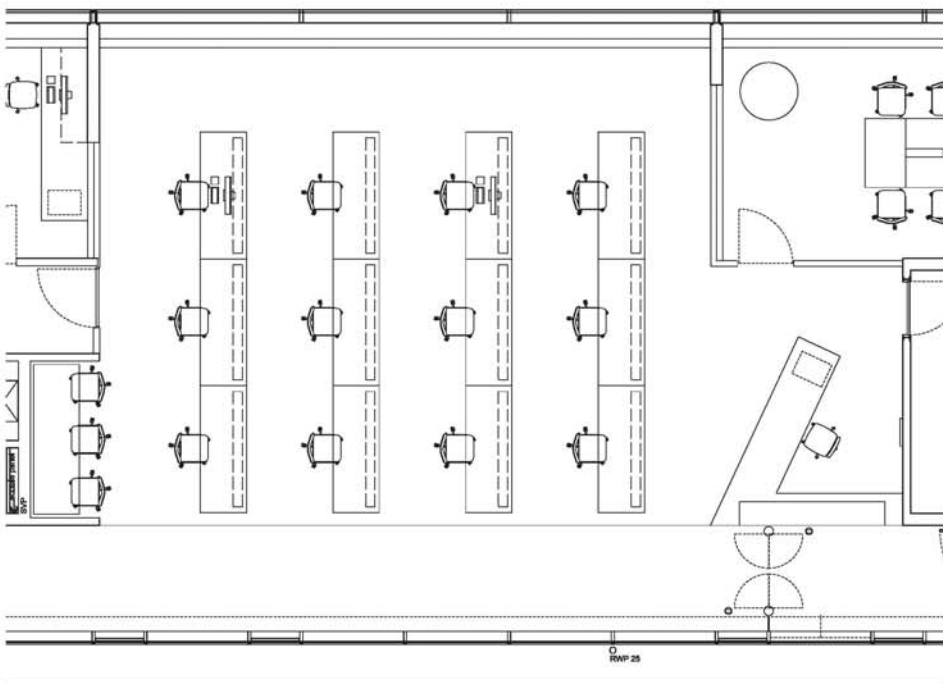


Talak Desk Light by Artemide



Type 75 Light by Anglepoise

rooms 010, 011, 024 to 027+023 individual offices



Public Search Area Floor Plan

Furniture Schedule:

- 4No. 6600 x 800 benches for 3 to 5 people
- 1No. 2600 x 800 desk for microfiche equipment
- 15No. visitor chairs with swivel base and castors

room 018 public search area



AZZURRO - Hiro Desk by Levesta



ELLIPTICAL - 'Wa' Desk by Knoll International



EUROPA - Bene Platform Bench Desk



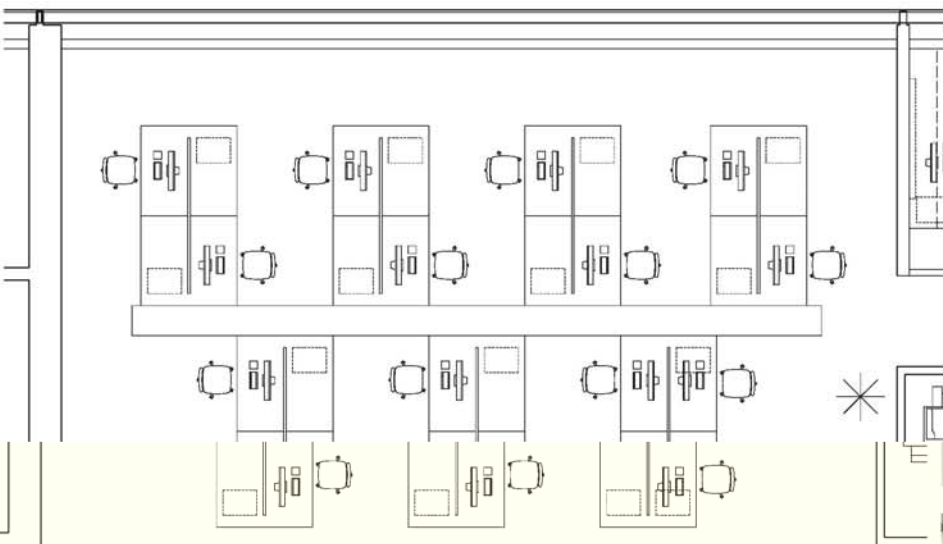
TANGRAM - Pey Table by Moble 114 Barcelona



Eames Plastic Chair Upholstered on Swivel Base



Series 7 Swivel Base Chair by Fritz Hansen



General Office Area Floor Plan

Furniture Schedule:

65 No. members of staff

65 No. Desks 3000 x 800mm

65 No. Desks 3200 x 800

65 No. Central Storage Unit comprising of shelving and lockable cupboards

65 No. task chairs with adjustable arms and seat height

65 No. Pedestals on castors with drawers

65 No. Desk Lights

65 No. Coat Stand

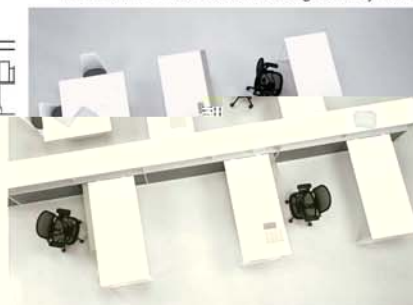
Room 021: general office area



AZZURRO - Hiro Desk and Storage Unit by Levesta



AZZURRO - AC 4 Task Chair by Vitra



'Wa' Desk and Storage Unit by Knoll International



ELLIPTICAL - Generation Task Chair by Knoll International



EUROPA - Bene Platform Desks with T6 Leg



ELLIPTICAL - Wa Storage Unit



TANGRAM - Pey Table by Moble 114 Barcelona

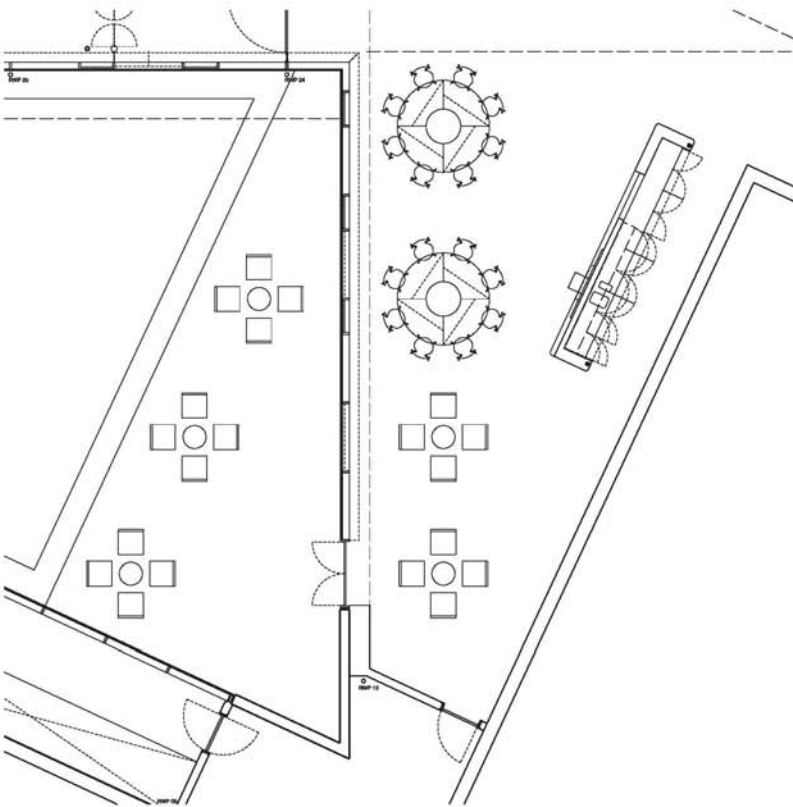


Talak Desk Light by Artemide



Type 75 Light by Anglepoise





Staff Area/Informal Meeting Space Floor Plan

Indoor Furniture Schedule:

- 16No. stacking cafe/meeting chairs
- 8No. crescent flip top tables
- 2No. low coffee tables,
- 8No. stacking lounge chairs with seat pad

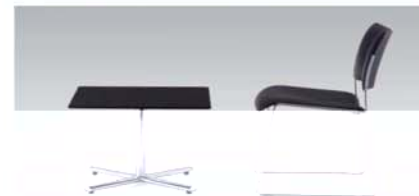
Outdoor Furniture Schedule:

- 12No. stacking lounge chairs with seat pads
- 3No. low outdoor coffee table

room 022 - staff area + informal meeting space



Eames Plastic Stacking Chair by Vitra



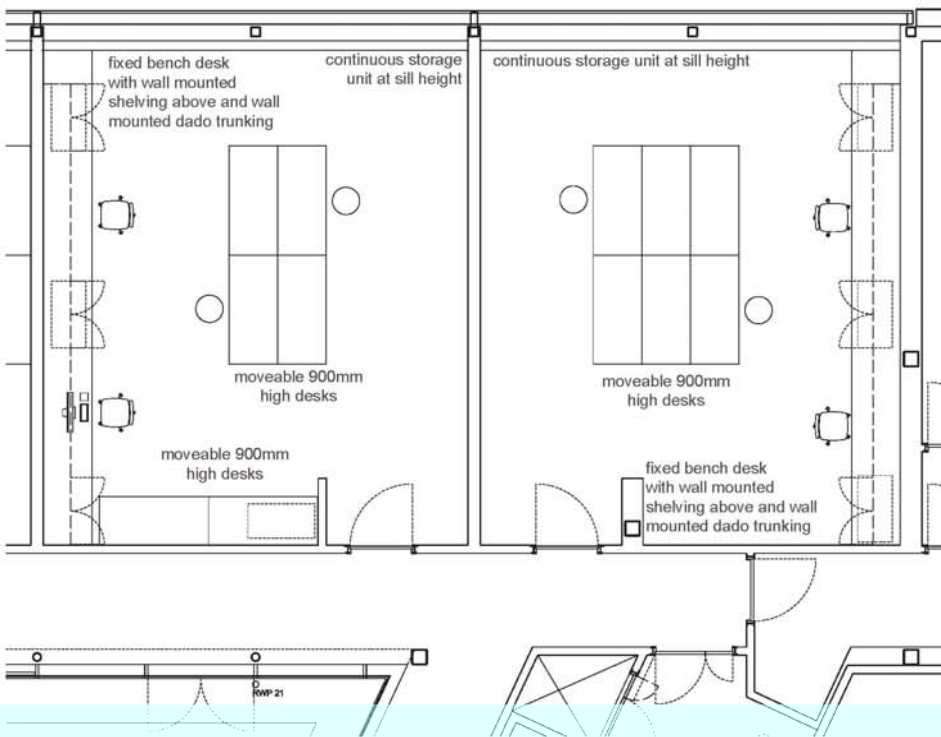
Tempest Flip Top Crescent Table and low coffee table by Howe



Series 7 Chair by Fritz Hansen



Spark Lounge Chair by Knoll International



Sort Room and Conservation Workshop

Furniture Schedule:

- 6No 1800 x 800mm desks, 900mm high, per room
- 2No standard height task chairs per room
- 2No high level stools per room
- 2No below desk mobile storage units per room

room 035 + 036 - sort room + conservation workshop



AZZURRO - Hiro Desk by Levesta



AZZURRO - AC 4 Task Chair by Vitra



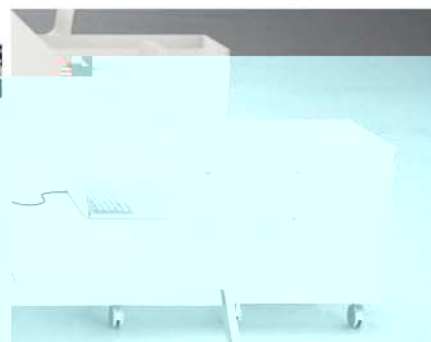
'Wa' Desk by Knoll International



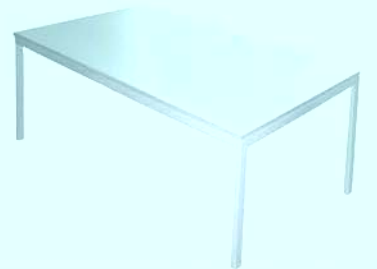
ELLIPTICAL - Generation Task Chair by Knoll International



TANGRAM - Pey Table by Moble 114 Barcelona



Mobile Storage Units by Sinetica



Work desk by Maggie Furniture

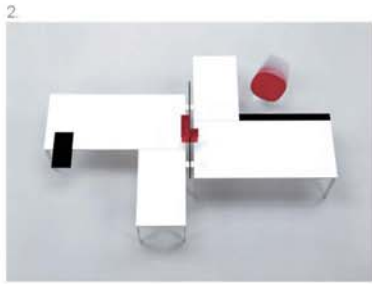


Morrison Stools by Cappellini

Room 059 - Image Viewing



Wa Bench desk by Knoll or other to match desk specification in all office areas. L-shape configuration at 2No. end desks - click system used to support L shape i.e. no corner leg required



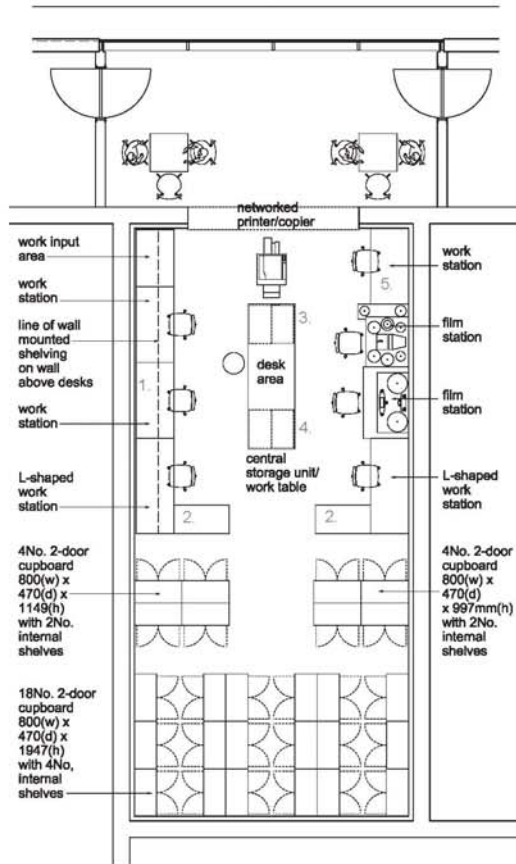
Wa Bench desk by Knoll or other to match desk specification in all office areas. L-shape configuration at 2No. end desks - click system used to support L shape i.e. no corner leg required



Bisley Storage cabinets with laminate top to unify the various storage elements - this will be used with a gap in the middle of the unit to allow someone to use the area as a work space



Central storage island unit with desk top work area within an office



Wa Bench desk by Knoll or other to match desk specification in all office areas. Soft accessory attachments available such as writing pads, wrist pads and mouse pads



Bisley 2-door cupboards with shelving for foolscap box files and foolscap lever-arch files



Bisley 2-door lockable cupboards





Option 03

Option 04

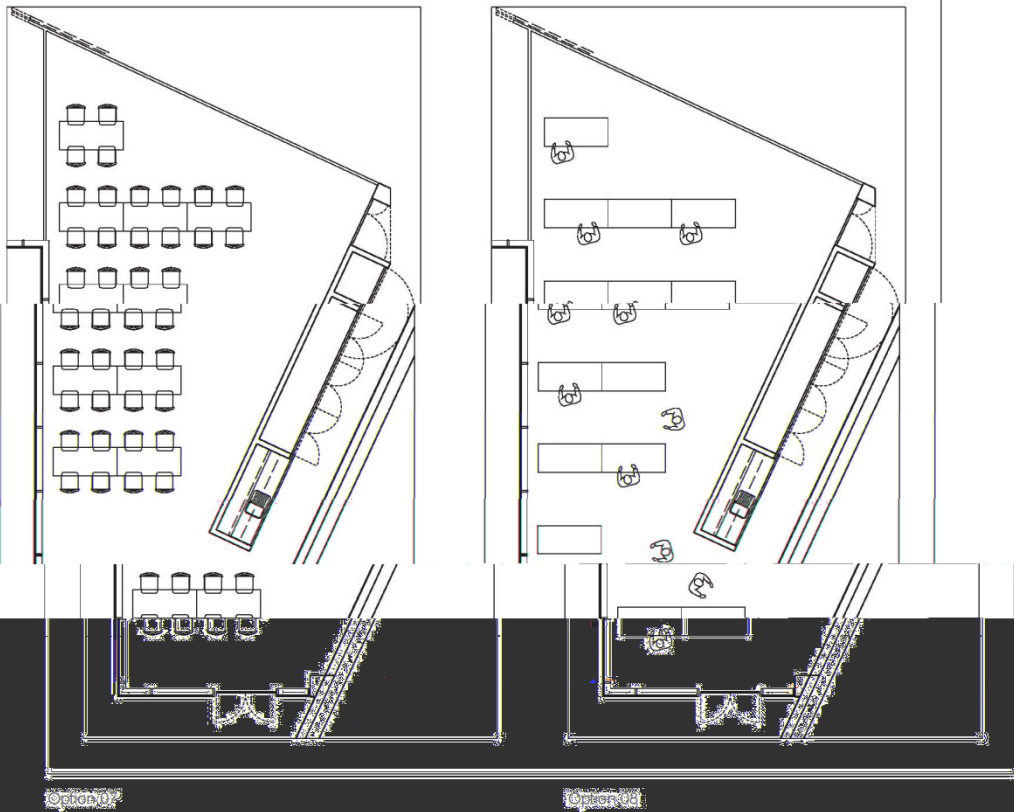
Community Room - Option 03 + 04

Conference or meeting layouts

Option 03
 14No. stacking chairs
 6No. 1800 x 800mm flip top tables

Option 04
 20No. stacking chairs
 8No. 1800 x 800mm flip top tables

room 003 - community room: option 03 + 04



Option 07

Option 08

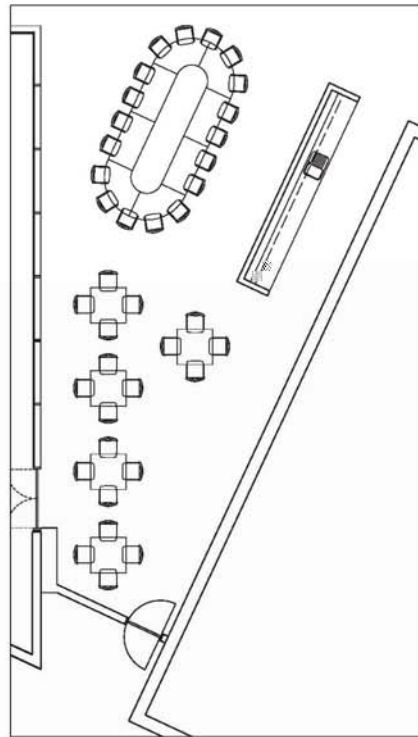
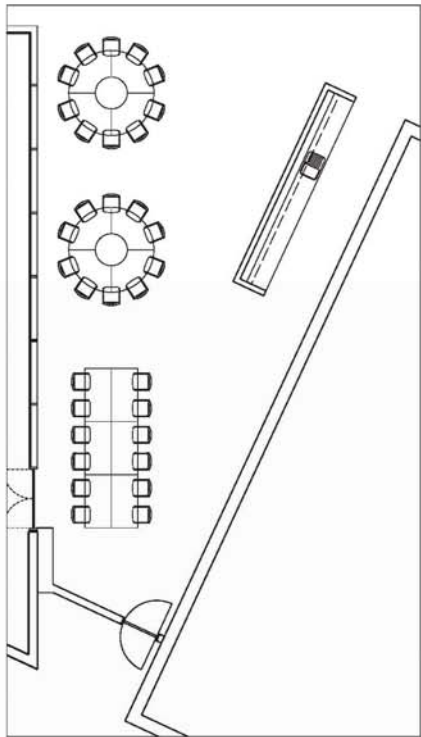
Community Room - Option 07 + 08

Conference or Teaching Layout
Exhibition or Community Display

Option 07
48No. stacking chairs
12No. 1800 x 800mm flip top tables

Option 08
14No. 1800 x 800mm flip top tables

room 003 - community room: option 07 + 08



Option 05

Option 06

Staff Break Out Area - Option 05 + 06

Meeting and Cafe Layout

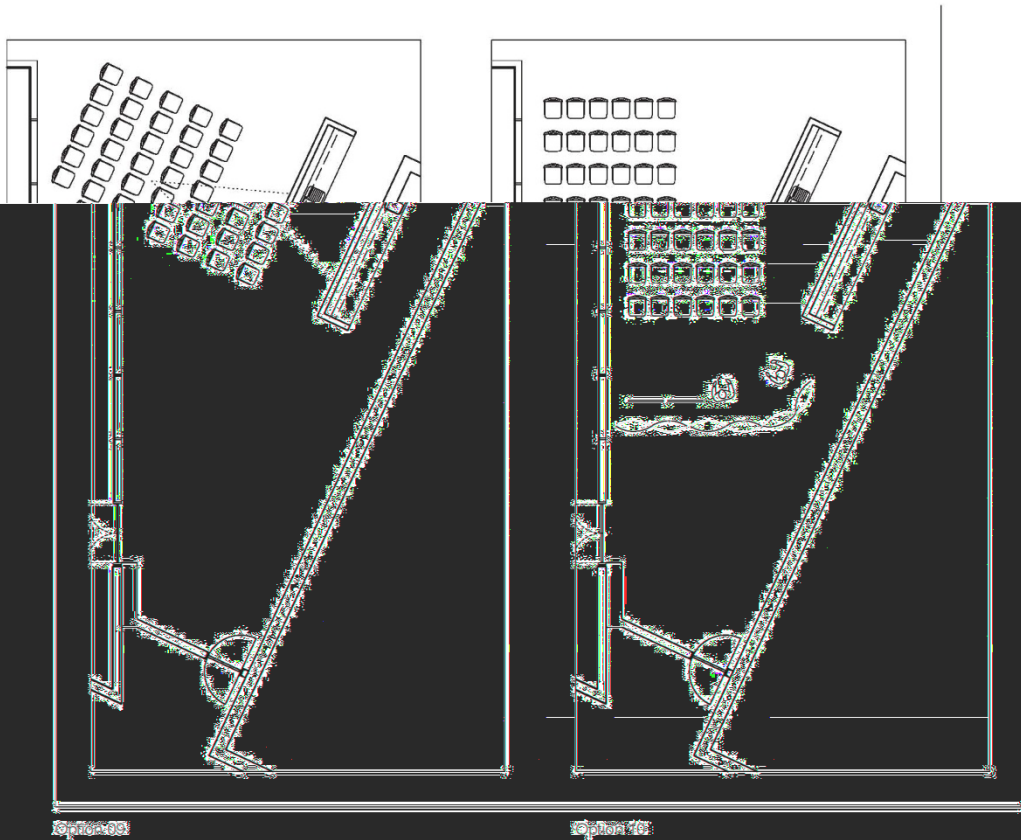
Option 05

32No. stacking chairs
8No. quarter-circle flip top tables
6No. 1800 x 800mm flip top tables

Option 06

34No. stacking chairs
4No. quarter-circle flip top tables
4No. 1800 x 800mm flip top tables
5No. 1000 x 1000mm flip top tables

room 022 - staff break out area: option 05 + 06



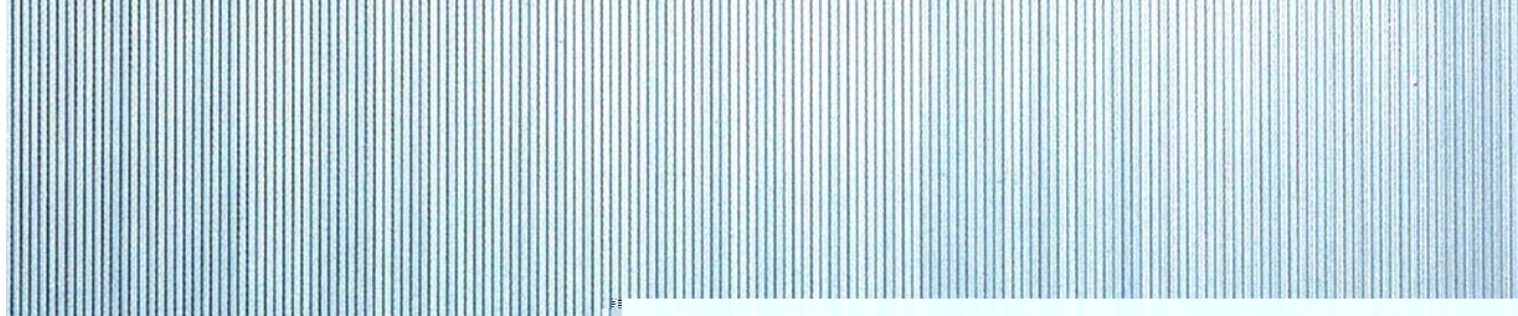
Staff Break Out Area - Option 09 + 10

Conference and Presentation Layout

Option 09
38No. stacking chairs

Option 10
42No. stacking chairs
3No. 3000mm long mobile flexible mesh screen

room 022 - staff break out area: option 09 + 10













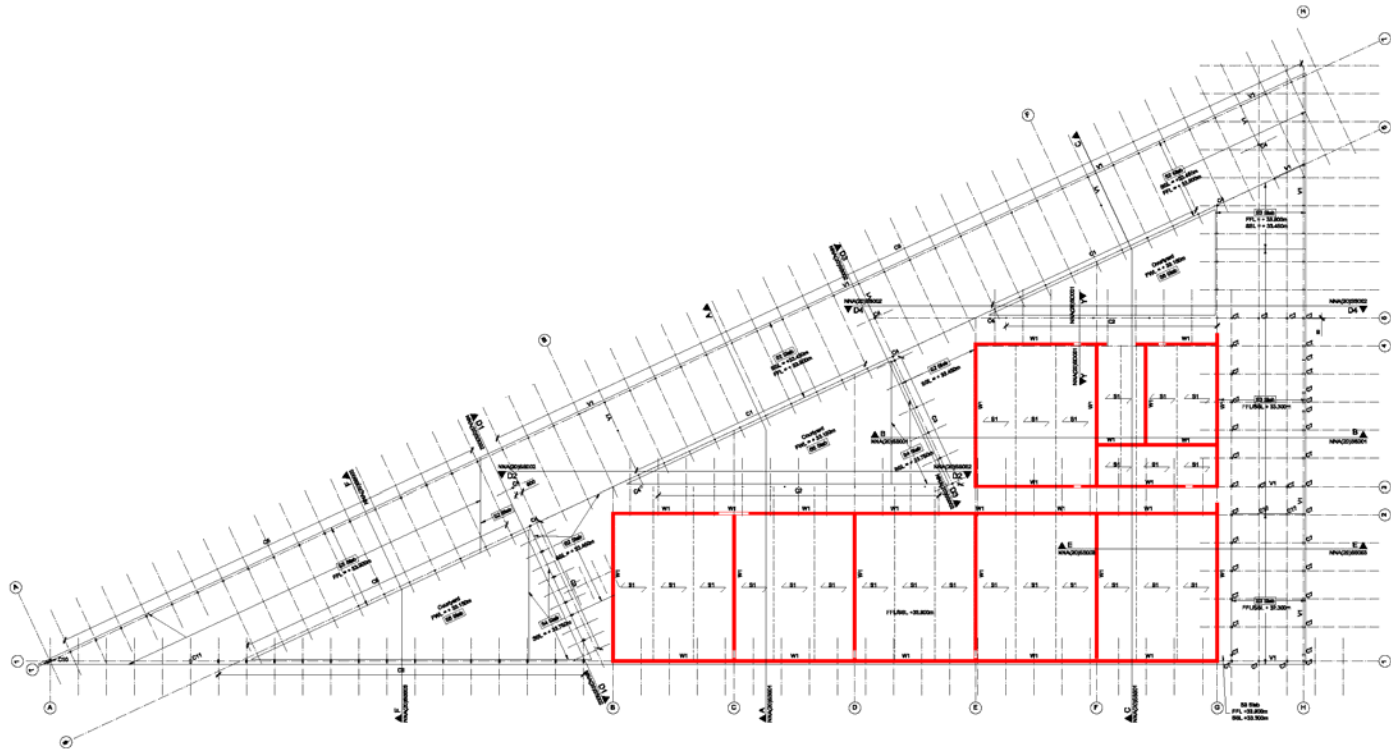












PI	Component	PU	JA	Cost
Stage D				
Item	Unit	Qty	Cost	Cost

ARUP

Business Travel, North America
 800-447-2269, ext. 222
 7 - (800) 221-2269 7 - (800) 221-2269
 www.ams.com

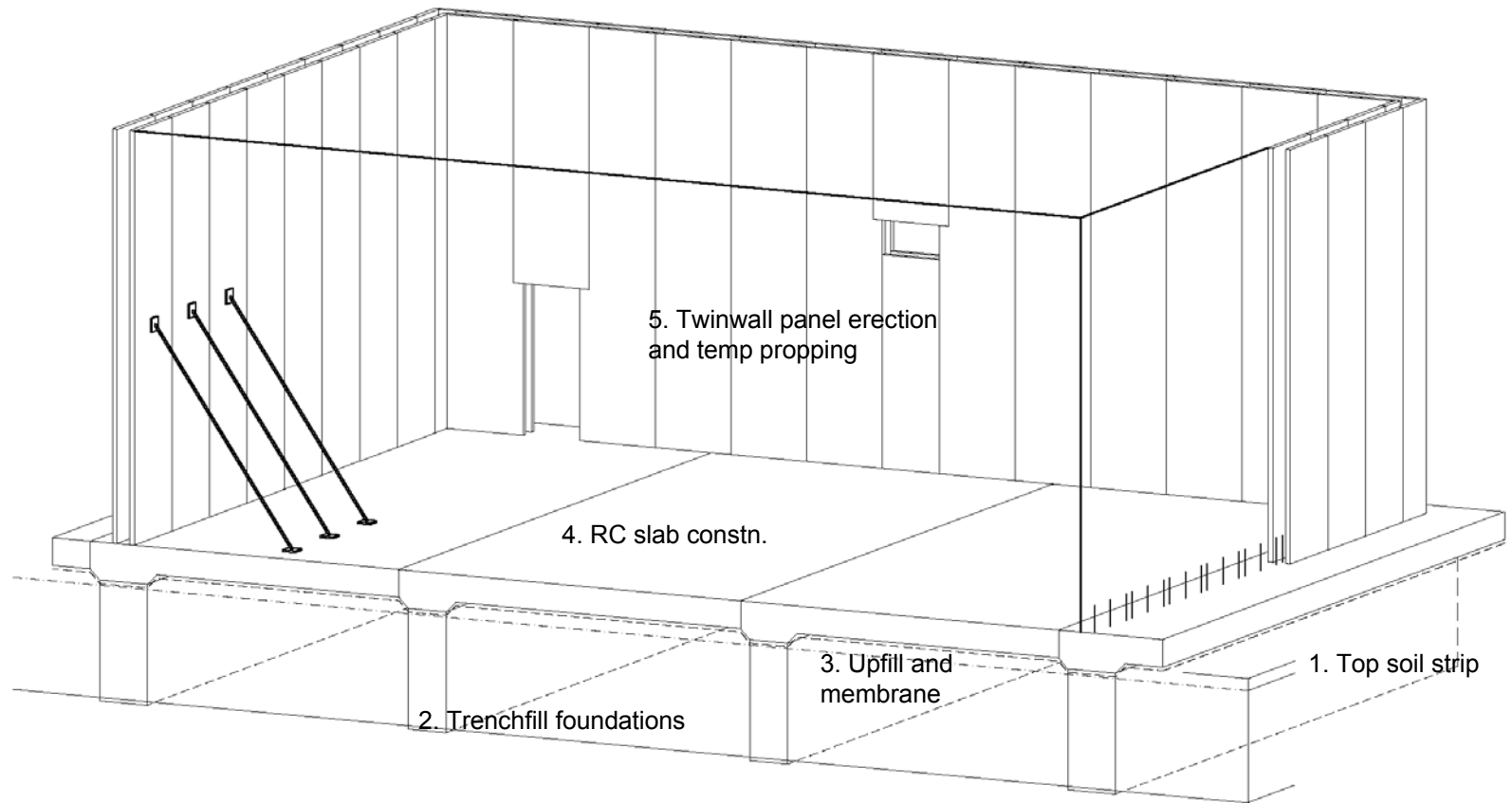
OSFL

NNA

Ground Floor Plan

Size of HD	1:200	
Resolution	Structural	
Sampling Rate		
Stage D		
Job No	Sampling No	Index
212141-08	NNA(20)SP001	P-1

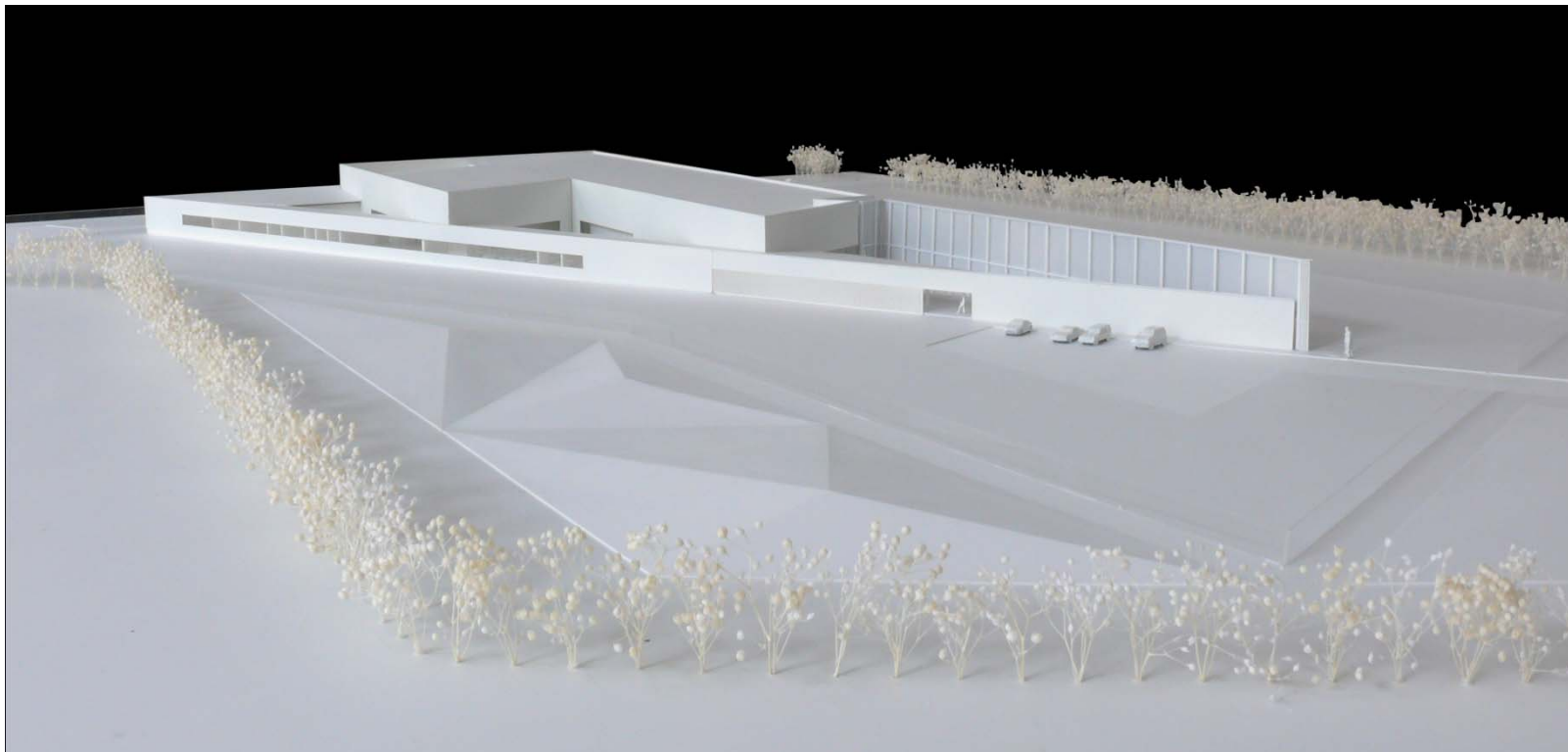
Ground Floor – Structural Plan



Archive Cell – Construction Sequence 1 to 5.



Twinwall temporary propping



Ventilation Strategy

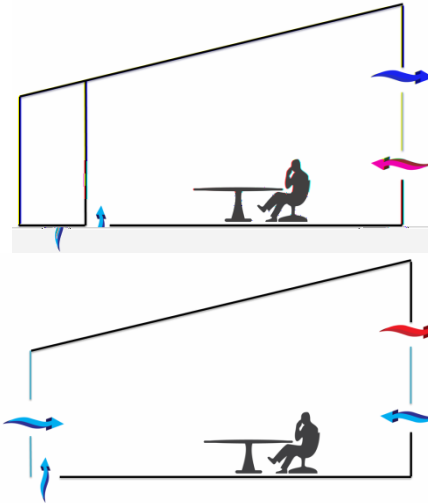


Natural Ventilation

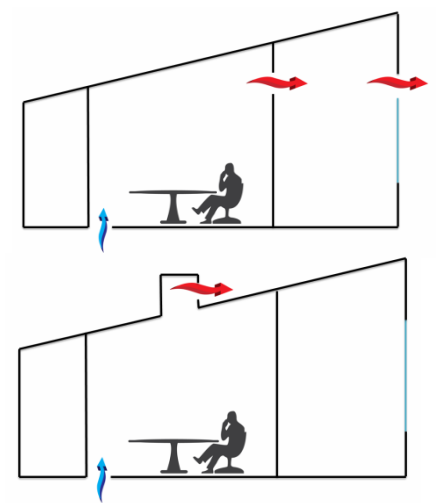
Single Sided



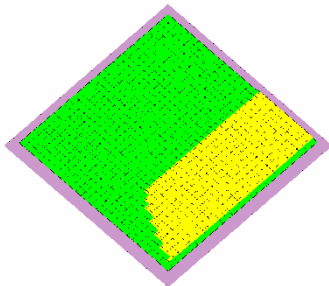
Cross Flow Ventilation



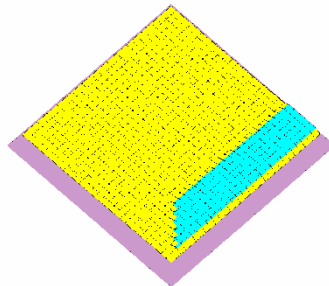
Landlocked Rooms



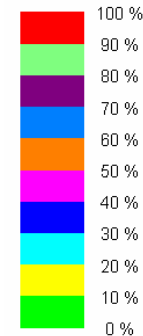
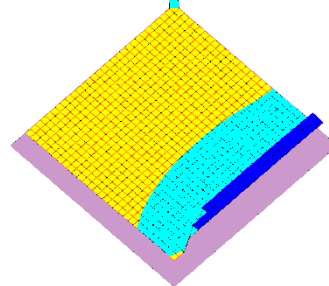
Percentage of People Dissatisfied in July at 9:00 hours
Minimum: 8.30 % Maximum: 11.27 %
Room Room001 (Analysis Plane at z = 0.86 m)



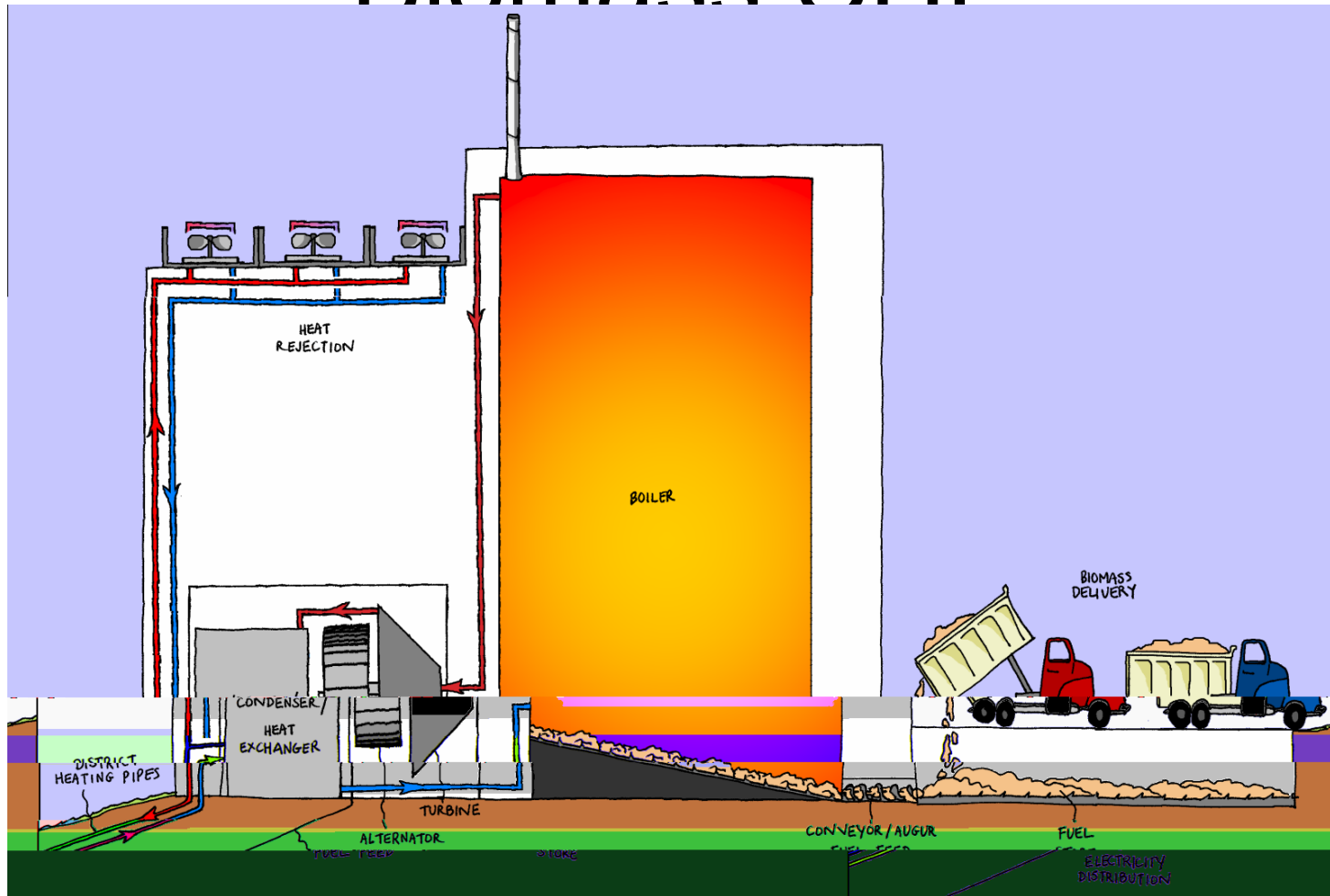
Percentage of People Dissatisfied in July at 10:00 hours
Minimum: 17.02 % Maximum: 21.53 %
Room Room001 (Analysis Plane at z = 0.86 m)



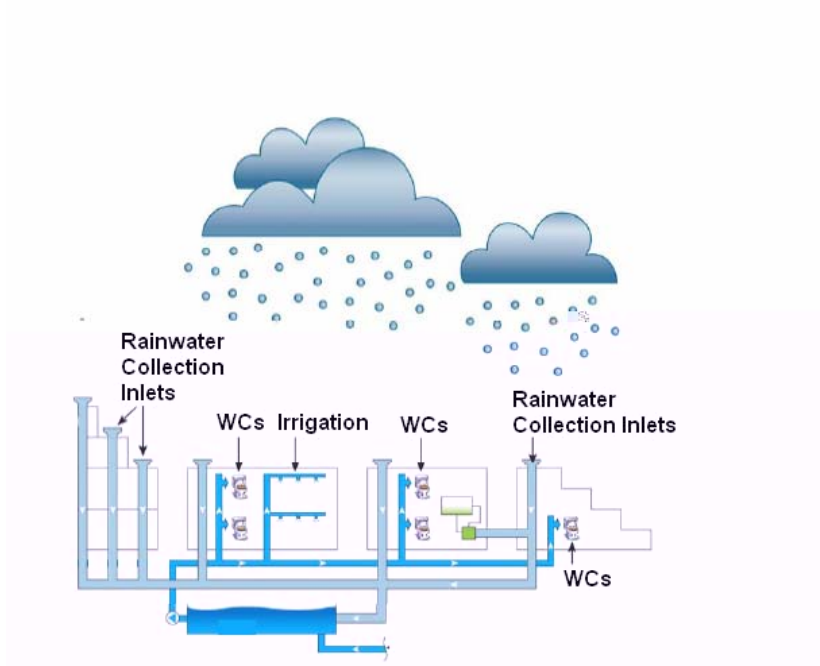
Percentage of People Dissatisfied in July at 11:00 hours
Minimum: 14.02 % Maximum: 17.77 %
Room Room001 (Analysis Plane at z = 0.86 m)



Biomass CHP



Domestic Water Services



BREEAM

BREEAM is an independent Environmental Assessment Method for rating to assess the environmental performance of buildings

The National Nuclear Archive has been designed to meet a BREEAM rating of 'Excellent' which requires a score of over 70%

The designers have provided evidence to the Licensed Bespoke BREEAM Assessor and the development is on programme to meet the target score.

At Stage E the development was at 60% with the target of 70% to be achieved prior to construction.

The current score is 75.77% which is sufficient to achieve the target rating of 'Excellent'

Potential Outcome

Building Energy Performance		Scotland
Energy Performance Certificate	Calculated asset rating using Tas v9.1.x(MAY08) [Tas]	Building type Office
	Current rating	
	Excellent	
		Carbon Neutral
		A (0 to 15)
		B (16 to 30)
		C (31 to 45)
		D (46 to 60)
		E (61 to 80)
		F (81 to 100)
	G (100+)	
Carbon Dioxide Emissions		Very Poor
The number refers to the calculated carbon dioxide emissions in terms of kg per m ² of floor area per year		10
Approximate current energy use per m ² of floor area:		84 kWh/m ²
Main heating fuel: Biomass		Building Services: Mixed-mode with Nat. Vent.
Renewable energy source:		Electricity: Grid supplied
Carbon Dioxide is a greenhouse gas which contributes to climate change. Less Carbon Dioxide emissions from buildings helps the environment.		
Benchmarks		
A building of this type built to building regulations standards current at the date of issue of this certificate would have a rating:		24 B
Where the accompanying recommendations for the cost effective improvement of energy performance are applied, this building would have a rating:		0 Carbon Neutral
Recommendations for the cost-effective improvement (lower cost measures) of the energy performance		
1. Carry out a pressure test, identify and treat identified air leakage. Enter result in EPC calculation. 4. Consider installing PV.		
2. Consider installing building mounted wind turbine(s).		
3. Consider installing solar water heating.		

Address: Scotstoun House, SOUTH QUEENSFERRY, EH30 9SE
Conditioned area (m²): 1575
Name of protocol organisation: STROMA, [STRO001180]
Date of issue of certificate: 20 Apr 2009 (Valid for a period not exceeding 10 years)
 This certificate is a requirement of EU Directive 2002/91/EC on the energy performance of buildings.
NB THIS CERTIFICATE MUST BE AFFIXED TO THE BUILDING AND NOT REMOVED UNLESS REPLACED WITH AN UPDATED VERSION AND FOR PUBLIC BUILDINGS DISPLAYED IN A PROMINENT PLACE

Cost comparators

