burdus access

Consultant and Author: David Burdus

Bailiffgate Museum

Inclusive Design Review RIBA 3

22nd December 2023

Image courtesy Mosedale Gillatt Architects

Contents

Introduction

Introduction

Burdus Access are instructed by AE Heritage to provide an accessibility review and comment on the Bailiffgate Museum and Gallery, Northumberland Hall 1) building and 2) interpretation proposals for a National Lottery Heritage Fund application.

Work is led by David Burdus, 36 years a disability EDI strategist, specialising in inclusive 'user-centric' design, employment, stakeholder engagement and Equality Act compliance working with Ministers, Government Departments, and large corporates and local authorities. Design projects include Diana Princess of Wales Memorial Fountain, Place of Westminster Visitor Centre, City of Paris wayfinding strategy & ONE (1.7km Eiffel Tower site) and FCDO King Charles Street Quad. David's experience includes member of the HLF Technical Review Register and the Arts Council England panel of assessors for National Lottery capital project applications for quality of design and construction and benefit to the public. David has paraplegia, scoliosis and arthritis and is a wheelchair user.

Part 1 Building Review

Burdus Access building input and review involved:

1. Inclusive design development meetings with Tim Mosedale and Katherine Whitehead of Mosedale Gillatt Architect to discuss and progress inclusive design.
2. Burdus Access review of Mosedale Gillatt Architects Design And Access Statement and Proposed Floor Plans Rev: First Issue at RIBA 3
    a. 1024 101 REV B
    b. 1024 102 FIRST ISSUE
    c. 1024 102 FIRST ISSUE Acc Cons 2024 10 08.dwg
    d. 1024 103 FIRST ISSUE
    e. 1024 104 REV B
    f. 1024 106 FIRST ISSUE
3. Burdus Access CAD plan mark up, written feedback with inclusive design opportunities focusing on space planning for parking and arrival, mobility aid movement, spatial layouts, lifts, stairs, reception counter and sanitary, mean of escape for RIBA 3 and 4.

Note 1: Mosedale Gillatt Architects continue to make inclusive design amendments at the time of writing this report.

Note 2: An access and inclusive design consultant work scope for continuing design team support and end user engagement is also produced for RIBA stages 4, 5, 6 and 7 (cf Appendix 7).

Note 3: This report is to read in conjunction with the 'Northumberland Hall Design And Access Statement Mosedale Gillatt Architects On Behalf Of Bailiffgate Museum & Gallery August 2022'.

Image shows cover of the 'Northumberland Hall Design And Access Statement Mosedale Gillatt Architects On Behalf Of Bailiffgate Museum & Gallery August 2022'.

Introduction

Part 2 Interpretation Review

Burdus Access interpretation input and review involved:

1. Meetings with Bebhinn Burke and Philippa Potgieter Hurst of Make Things Happen to discuss the National Lottery Heritage Fund approach to inclusive design, embedding this in the project interpretation plan at high level and how best to ensure delivery.
2. Production of ‘Interpretation inclusive design briefing notes’ based upon 1., above, to serve as guidance and as an inclusivity reference point in the development of the Make Things Happen Bailiffgate Museum & Gallery Interpretation and Design Strategy Stage Two Report.
3. Burdus Access review and feedback on Interpretation and Design Strategy Stage Two Report found:
    a. Access and inclusion to be threaded throughout the report, setting a clear framework for delivering on Investment Principle 3: Inclusion, access & participation - supporting greater inclusion, diversity, access and participation in heritage.
    b. There is a specific section on Access and Inclusion on pages 20 - 22 under the Design Context heading committing to:
        - Provide different options for accessing information;
        - Create opportunities for engagement and exploration;
        - Layer the delivery of interpretation;
        - Present opportunities for visitor involvement;
        - Represent the needs of a diversity of people.

Note 4: This report is to read in conjunction with the Make Things Happen Bailiffgate Museum and Gallery Interpretation & Design Strategy Stage Two Report October 2024.

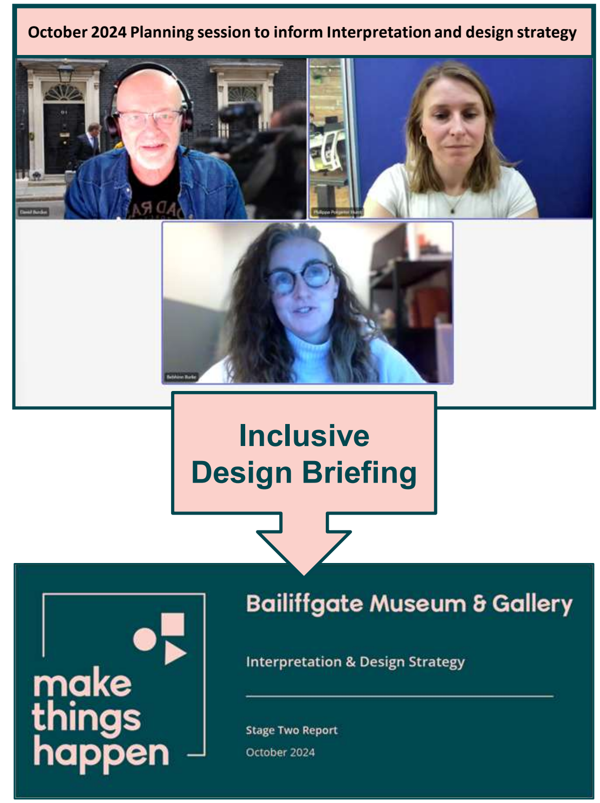


Image shows the early approach to inclusive interpretation: inclusive design planning; inclusive design briefing and then production of the Interpretation & Design Strategy (bottom rectangle is the cover of theMake Things Happen Bailiffgate Museum and Gallery Interpretation & Design Strategy Stage Two Report.

Part 1 Building

Part 1 Buildings Review

Current access ‘position’ in Mosedale Gillatt Architect proposals

Mosedale Gillatt Architects have rationalised space and integrated accessible design within the heritage and spatial constraints of Northumberland Hall well, especially working in step free access and manoeuvring space for wheelchair users. Positive access aspects identified by Burdus Access in the current proposals (refer also to the Design and Access Statement First Issue) include:

1. One accessible parking bay and bicycle parking.

3. Stepped and ramped access to main entrance.

4. Automated main entrance doors.

5. Larger than statutory minimum standard wheelchair accessible unisex toilet cubicles in the reception and staff areas, The second larger accessible sink in the staff toilet is excellent.

6. The existing male, female and accessible WC are to be retained at first floor level.

8. Baby change facilities are to be updated in male, female facilities and accessible provision.

5. Note: A Changing Places Toilet is shown in the Council public WC facilities in the Southwest corner of the building. Dimensions scale at 2637 x 3179 (8.3m2) which is 33% smaller than the advised 3000 x 4000 (12m2) with an in opening door.

9. The reception desk has the potential to be inclusive design front and rear. Comment and concept inclusive design features for accessible reception desks have been passed to Mosedale Gillatt Architects for RIBS Stage 4 designs.

10. Buggy store area good. This could also be used for the storage of venue mobility aids such as wheelchairs or rollators.

11. 3 lifts giving step free access to all areas of the building.
    a. Lift to 2nd floor meeting space – good, keep this is the scheme , especially if the room has community use. Note: Most mobility aids will get through the 830 pinch point shown on the plans – ensure 1600 clear space beyond pinch point for wheelchair manoeuvre.
    b. The new main lift is a cabin lift influenced by relevant smaller lift pit size. Dimension are 1100 x 1400 with fully automatic control.

12. Staff kitchen layout has wheelchair user accessible work surface and sink area.

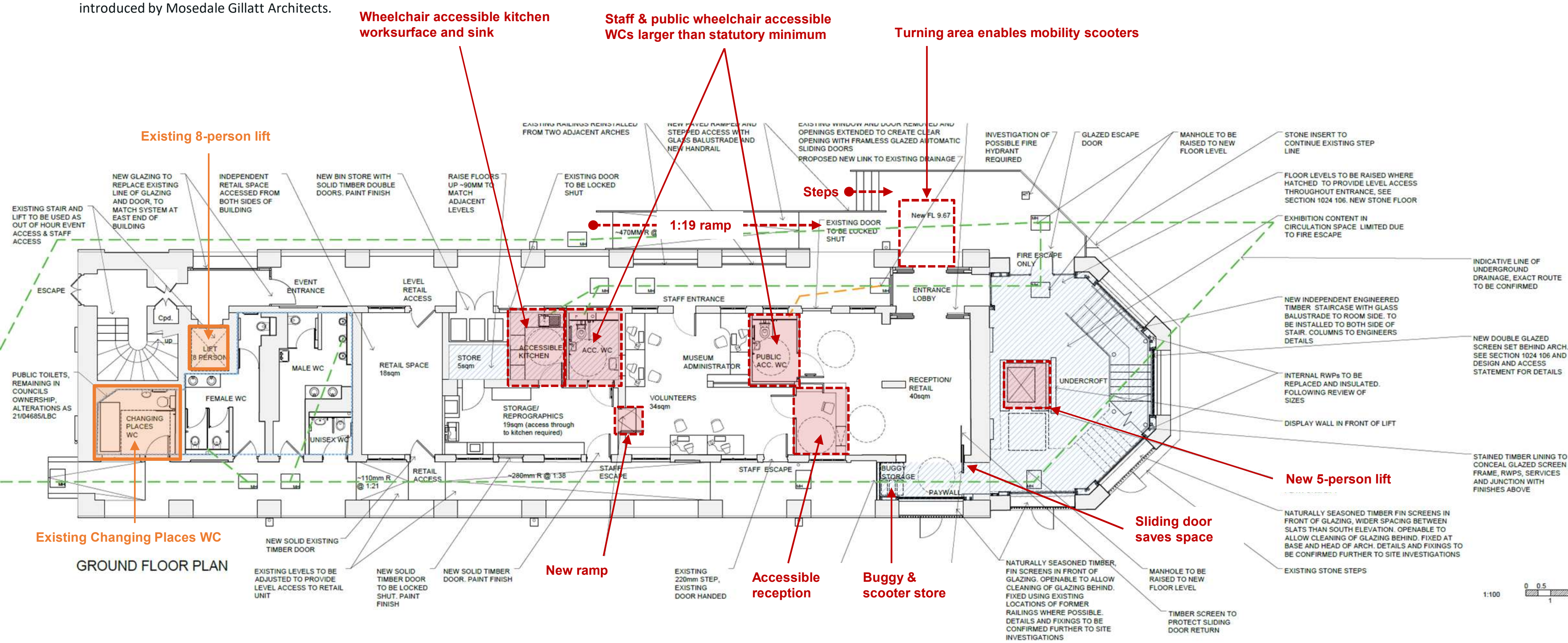
13. Evacuation chairs are to be provided in escape cores.

Ramp gradient estimated 1:6

Current access to main hall - stone setts ramp is steep, has no handrails and potentially hazardous to all users.

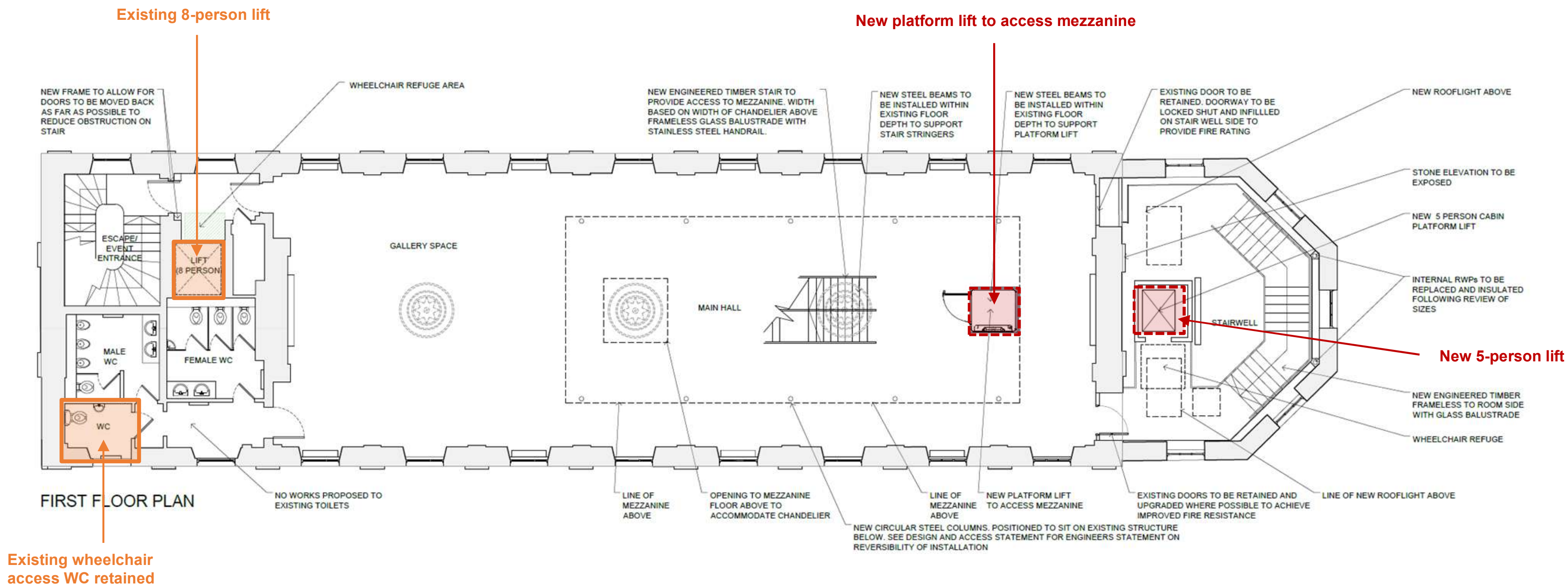
Part 1 Buildings Review Ground

This ground floor plan shows key access space planning and step free access introduced by Mosedale Gillatt Architects.



Part 1 Buildings Review 1st Floor

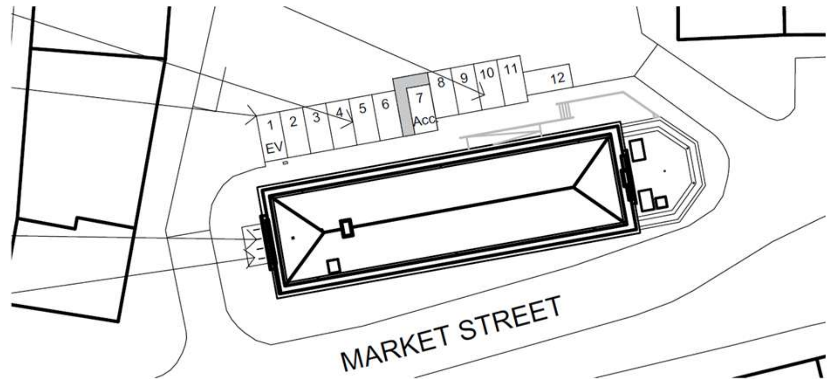
This 1st floor plan shows key access space planning and step free access introduced by Mosedale Gillatt Architects.



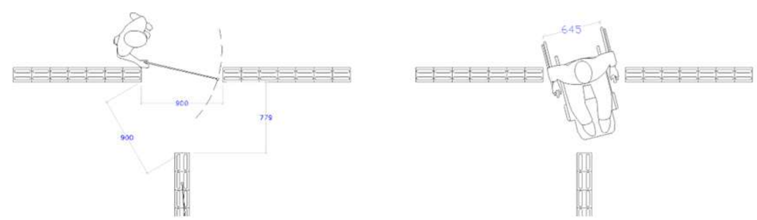
Part 1 Buildings Review

External opportunities discussed at RIBA 3

1. Confirm road crossing points en-route to the Northumberland Hall have suitable dropped kerbs, blister profile tactile paving and smooth natural stone routes through cobbles.
2. Consider an increase from one to two blue badge parking bays using the 1200 transfer zone between parking spaces 6 and 7. Ensure smooth natural stone transfer zone is installed to the side and rear of accessible bays (existing tone setts are not an acceptable surface). Also ensure accessible bays are not located close to existing large gap drain grates – change drain grates to maximum 12mm gaps).
3. Look to provide suitable level shared space at the side and rear of bay 12 to enable access by tail and side ramps and hoists - van accessible bays. Generally, 3m clear space is needed.
4. Electric Vehicles charge points bays and equipment (at bay 1) to be designed to be accessible.
5. Ensure smooth surfaces and joints between paving slabs and any sets are in accordance with Approved Document M of the Building Regulations.
6. Ensure no cobbles or setts on pedestrian routes and ramps.
7. Consider the use of surface guidance path profile tactile paving to delineate footpath to road surfaces and to guide people into the main entrance due to the shared surface nature of the immediate surrounding infrastructure. Note - shared surface schemes are notoriously inaccessible to visually impaired people.
8. Confirm ergonomically user-friendly seating with back support and armrests to be provided in the region of the accessible parking and main entrance.
9. Ensure external signage adheres to accessible clear print and legibility guidelines, as outlined, say for example in the Good Sign Design Guide, and A Guide to Inclusive Design by JMU and the Sign Design Society.
10. Optimise colour contrast ratio difference between materials and finishes to optimise definition, location and wayfinding to visually impaired people.
11. Ramp (existing grade 1:19) and step detail to include corduroy profile tactile paving, visual definition to landings, step nosings and handrails. Confirm step maximum riser 150 and tread minimum 280. Ensure 7:1 colour contrast ratio step nosing strip to step tread. If possible, ensure 1:20 minimum gradient to ramp.



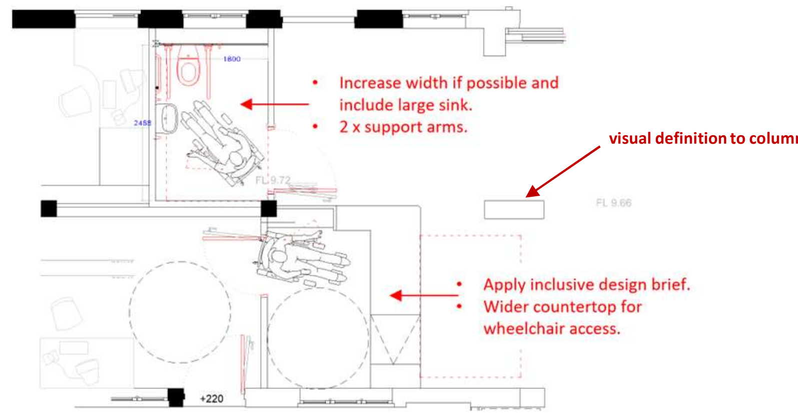
3-way node with more suitable to approx. 90% wheelchairs and rollators.

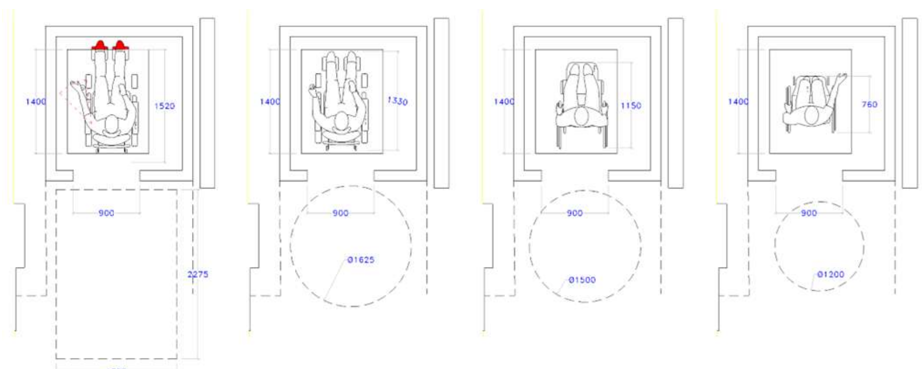


Part 1 Buildings Review

Internal opportunities discussed at RIBA 3

1. Inclusive design of reception counter front and rear (see appended spreadsheet).
    a. Increase behind counter width to 1625 and increase width of service desk to allow for adequate recess for wheelchair user footplates and knees.
2. Ensure visual definition to the column in reception using the application of either colour or lighting to the column surface.
3. Lighting strategy including external ground level lighting and lighting to stairs.
4. Internal stair – consider tactile treatment to handrails directly over the nosings of the 3 steps at the top and bottom of the flight to identify start and finish to vision impaired visitors.
5. Lifts
    a. Wherever possible, lifts and shafts to be designed for useful means of escape in an emergency. Note, provide battery backup to the platform lift to the mezzanine level to be used for emergency egress and during power cuts.
    c. Door clear opening to be as wide as conveniently possible to accommodate bariatric wheelchairs which can be 1000 or wider.
    d. Ideally look for a minimum lift car length of 1600 to accommodate the full range of occupied wheelchairs as given in the BS 8300-2:2018 Design of an accessible and inclusive built environment. Buildings, Code of practice at 800 x 1520.
    e. Note - the length of lifts to accommodate ambulance service stretchers, and paramedics (if required by the client) would need to be1400 x 2300. Bariatric stretchers can be 955 wide and 2060 long.
6. Doors
    a. All doors in and out of the building and on circulation rates, especially doors leading to lifts and toilets to be hold-open, or power assisted (note, a closed door is a barrier).
    b. Note, reduced swing door sets may be useful to save valuable circulation space.
7. Manifestation
    a. Consider appropriate manifestation to all glass panels, doors and balustrades at RIBA 4.





New lift dimensions satisfy statutory minimum car dimensions at 1100 x 1400 with clear door opening of 900 (100 more than the statutory minimum 800). The landing space outside the allows for circulation of large battery powered wheelchairs (1625 x 2275) which is more liberal that the statutory minimum 1500 x 1500 requirement which is more suited to indoor manual wheelchairs.

Part 1 Buildings Review

Internal opportunities discussed at RIBA 3

8. Sanitary.

    a. Confirm minimum internal dimensions of accessible toilet cubicles. They are larger than minimum statutory standard which is good because this enables access and improved circulation for larger wheelchairs including powered wheelchairs and for the ease of access and movement of personal assistants. It also results in more floor space to be available for circulation after the introduction of sanitary bins.

    b. In general terms, apply a 1625 turning circle rather than 1500 for wheelchair user maneuvering with clear routes of 900 minimum, especially for the reception WC cubicle. Ideally, an internal floor dimension for the reception WC would be 2000 x 2200. This would better allow baby changing facilities to be included.

    b. Pay attention to the sensitive selection of fixtures and fittings to optimise access ability and ease of use. Avoid standard and inexpensive Doc M corner toilet kits as the support rails, sinks and taps tend to be of poor quality and difficult to use.

    c. Confirm budget for accessible fit out to toilets to cover two drop down support arms in each wheelchair user accessible cubicle (Pressalit or similar – see sketch opposite), height adjustable wheelchair user accessible sinks, shelving for stoma change.

    d. Standard toilet cubicles should include ambulant disabled friendly fit out and out opening door.

    e. Confirm client requirement for staff shower facilities.

    f. Both wheelchair access WCs are right hand transfer. Provide one right and one left hand transfer wheelchair access cubicle (see sketch opposite).

    g. Rework the level 1 toilets to give improved dimensions to the wheelchair access cubicle and better ambulant disabled cubicles. If urinals are maintained, consider a low-level bowl (it may be that urinals are not part of re-worked scheme).

9. It would be useful to review at RIBA 4 to go through finishes, furnishings, fittings, signage and lighting throughout for ease of use and definition for vision impaired people.

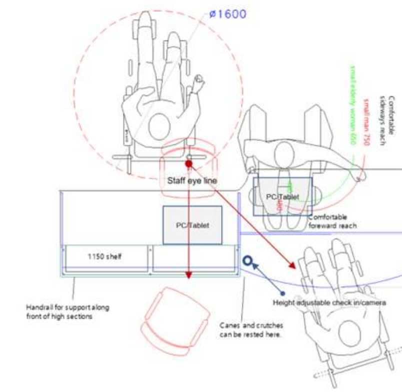
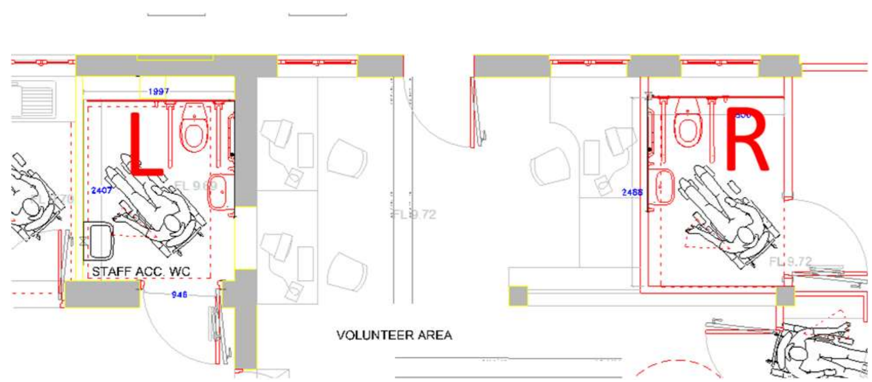


Image above. A visual of reception desk inclusive design features to be considered for the detail design during RIBA Stage 4.



Consider left- and right-hand transfer options to the wheelchair access cubicles.

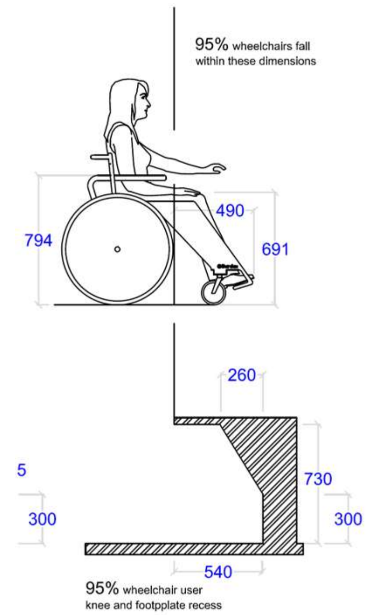
Part 1 Buildings Review

Internal opportunities discussed at RIBA 3

9. Develop the communication aids strategy to include induction loops at service points, a portable induction loop for one to one or small meetings and allow for a 2-channel infrared communication aid system with headsets and neck loops for larger meetings, exhibitions and gatherings.
10. Means of escape
    a. Include visual and audible fire alarms throughout.
    b. If communication call points are provided in refugees, these should be accessible to disabled people.
    c. Note, in refuges, wheelchair spaces should be a minimum of 900 x 1600 to accommodate larger occupied wheelchairs.
11. Specific room types
    a. Burdus Access appreciate space is at a premium in this project. However, confirm client requirement for:
        i. Medical room.
        ii. Quiet room (neurodiversity provision).
        iii. Lactation room/pod.
        iv. Multifaith/prayer space (oh cited need for ritual washing)
12. Consider the involvement of an access consultant RIBA 4 onwards to support detail design including M&E, Lighting, Fixtures, finishes, furnishings, means of escape, signage and management planning.

Note 5: Burdus Access have copied Mosedale Gillatt Architects a series of user-based CAD blocks to assist with space planning for movement, approach, reach and use, including:

a. Complementary CHAIR USER TEMPLATES 01.dwg
b. Figure W04 Key wheelchair and knee recess dimensions.dwg



Images of one of the CAD blocks passed by Burdus to Mosedale Gillatt Architects to assist with space planning for movement, approach, reach and use. This one shows the knee and footplate recess dimensions at desks, counters and worksurfaces for 95% wheelchairs.

Part 2 Interpretation

Part 2 Interpretation - approach

The detailed interpretation design is not yet developed. The project current work on inclusivity is aimed at ensuring the continuing approach to access and inclusion is be influenced by:

- Regular collaboration between Make Things Happen and Burdus Access (note Burdus Access consultants have lived experience of wheelchair use, hearing and vision impairment and are parents of children with autism, dyslexia, PTSD and Tourette's).
- The National Lottery Heritage Fund Interpretation and Digital Good Practice Guidance.
- Bailiffgate Interpretation Inclusive Design Briefing Notes (cf Appendix 1).
- Targeted engagement with local individuals and organisations such as Barndale House School, Alnwick and the Alnwick & District MS Society.
- The Equality Act 2010 Public Sector and Reasonable Adjustments duties.

On our inclusivity agenda we will include:

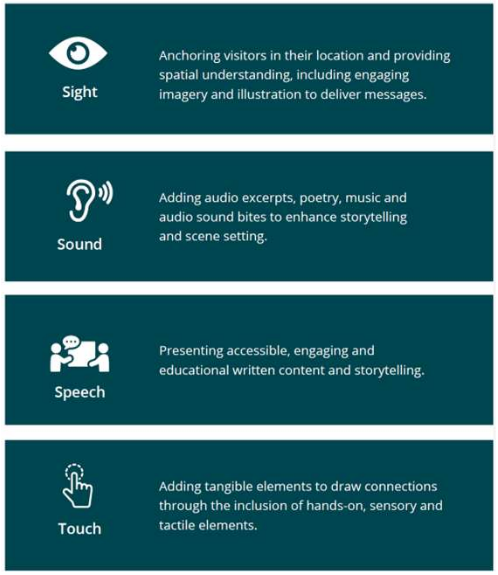
- Addressing Web Content Accessibility Guidelines (WCAG) for accessible website and digital content (including alternative text for images, transcripts for audio content, and ensuring that the Bailiffgate Museum website is navigable using assistive technologies).
- Developing accessible virtual tours and online resources that are accessible to people who cannot visit the museum in person.
- The provision of detailed pre-visit information on the museum's website, including accessibility features, parking, and public transport options (this to include downloadable guides in accessible formats).

Images of previous work tactile materials completed by the team at Make Things Happen where accessible deliverables are at the heart of the interpretation.

Part 2 Interpretation - opportunities

Following the meetings between Burdus Access and Make It Happen, a review of project documentation and plans, several inclusive design matters are collectively identified for consideration and continued discussion with a view to development to enhance the inclusion of Bailiffgate Museum users:

1. **Access Consultation: building and exhibition** with disabled people (inc. neurodiversity, mental health) for continuing input on accessibility and inclusive design.
2. **Multi-Sensory Design** for the visitor experience with specific focus on the accessibility of information for people who do not read.
3. **Visitor digital immersive experience.**
4. **Mobile phone apps** to enhance visitor experience and tour accessibility.
5. **Orientation Maps.** Provide strategically located orientation maps. Accessibility - maximise typeface legibility, optimize use of colour and images, optimize disposition.
6. **Use colour and colour separation** for visual impairment, dementia and colour blindness issues. E.g., LRV (light reflective values) 60 to 70-point difference for visually impaired people and 30-point difference for major planes to minimise visual impact on dementia and neurodiversity. Spot colour use for zoning and wayfinding.
7. **Noise** levels and acoustics, sound absorption and reverberation.
8. **Communication aids strategy** for exhibition and buildings.
9. **Lighting Strategy** to avoiding glare, creation of shadows, reflections and negative impact of low frequency on neurodiverse people. Potential for lighting to be amended for specific conditions including autism and light sensitivity – from dimmer switches in meeting rooms to specific lighting for autistic people.
10. **Accessible signage strategy** - Potential for a 2-tier staff/visitor system, floor surface and low-level, floor and wall mounted signs, use of spot colour, legible fonts, embossed and braille letters, images and graphics. User-friendly for people with learning difficulties, dementia and to young children.
11. **Surface colour and tactile guidance pathway** through visitor journey route with surface 'nodes' identifying key changes in direction and location of orientation maps.
12. **Tables, Benches** – BS 8300-2:2018 Design of an accessible and inclusive built environment. Buildings, Code of practice wheelchair profiles. Factor in height adjustability to tables and anthropometric detail for adults and children for seating and tables. Seating every 25m.
13. **Main desk inclusive design** for staff, standing and wheelchair using visitors and children. Separate low counters apart from staff seated workstations are not acceptable.
14. **Quiet wellbeing spaces** – integrate design for neurodiversity including autism, ADHD. Inside and a garden space.
15. **Venue mobility aids** to help people with the lengthy visitor route.
16. **Website review**, accessibility, pre-visit information and online immersive exhibition experience.
17. **Continued Access Consultant involvement** to visitor experience, digital, building and landscape teams as advocated by Heritage Fund. Establish a brief and an appropriate budget. Consider a RIBA Stage 3 Access Audit (as encouraged by Heritage Fund).

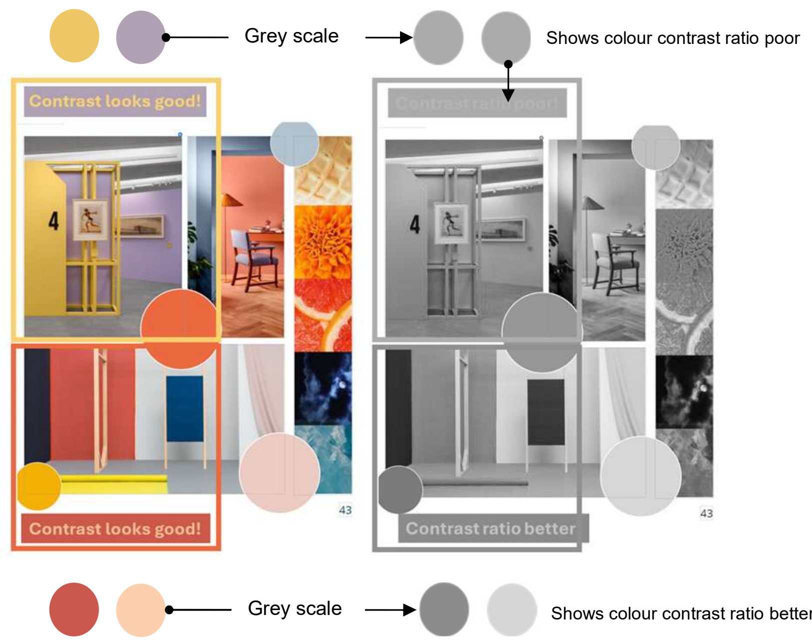


Graphic from Access and Inclusion, page 20, Make Things Happen Bailiffgate Museum & Gallery Interpretation and Design Strategy Stage Two Report showing "a list of key ways we can reach a wider audience" using sight, sound, speech and touch".

Part 2 Interpretation - focus

Because interpretation is traditionally a visual experience, we will focus on designing for people who can't see, have residual vision or don't read (as mentioned in point 2., on page 12). Early thinking being adopted to influence our designs and decision making includes:

- Final colours to be selected assessing impact on vision impaired and neurodiverse people. A mixture of both options could also be considered. The combined use of colour, finish and lighting will be critical to optimum interpretation and wayfinding.
- Large areas of colour (doors, walls, floors and exhibition cabinets, tables etc should offer a colour contrast ration of 4.5:1. Information text, controls and buttons should offer 7:1 colour contrast ration to the surroundings.
- 3:1 colour contrast ratio is the minimum level for standard 20/20 vision, the maximum to avoid issues around autism for larger planes and thresholds.
- 4.5:1 colour contrast ratio (a middle range) for the loss in contrast that results from moderately low visual acuity, congenital or acquired colour deficiencies, or the loss of contrast sensitivity that typically accompanies aging - visual acuity of 20/40 - as a minimum for display cases and table surface to backgrounds, to define larger elements of displays, controls, display case frames, furniture to background.
- 7:1 colour contrast ratio for loss in contrast sensitivity usually experienced by users with vision loss equivalent to approximately 20/80 vision. We prefer this for signs and information, handles, buttons, hazards etc.
- Surface guidance profile to bring people to the reception desk (first point of contact) and to set a path for visitor flow through the exhibition.
- Designs to be engaging for the eyes, the ears and the hands.
- "A visitor flow with critical stops" considering the need for a visual and tactile guidance punctuated with nodes to highlight stops.
- Lighting and M&E strategies to integrate design for the mind/neurodiversity and vision impairment using flexibility and control for anti-glare, dimmable lighting and temperature variation throughout.
- As a simple tool we are using [Coblis](), a colour blindness simulator to assess the impact of our choices on colour blind people – see diagrams opposite.



Grey scaling is a simple way of testing whether the contrast ratio between two colours will be satisfactory or not.

Part 2 Interpretation - typography

We are currently looking at the selection of fonts for information panels and labels.

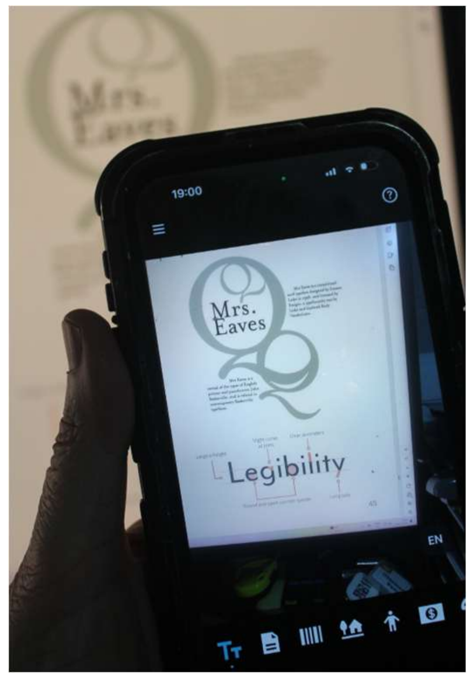
A strong colour contrast ratio of text to background will enable vision impaired (including colour blind people) and neurodiverse people.

We use a simple colour contrast ratio checker WebAIM: Contrast Checker to get an idea of how our selections will work.

User friendly letter shapes and size are central to our thinking, so we run early review of fonts using the Burdus Access font accessibility litmus test and Microsoft Seeing AI - a free app with simple Optical Character Recognition software. Seeing AI is primarily used to describe short text, documents, products, people, currency scenery, colours, handwriting and light.

- An early font family selection for the Bailiffgate Museum; Mrs Eaves and Mrs Eaves Sans score 5/12 and 4/12 using the Burdus Access litmus test. An observation made by Burdus Access vision impaired access advisor is that the x-height of Mrs Eaves presents as small which makes counter spaces and lower-case letter shapes smaller at lower point sizes and 'harder' to recognise and differentiate.
- Microsoft Seeing AI successfully read Mrs Eves and Mrs Eves Sans from a pdf document on a computer screen.

The low litmus test score is not conclusive but does mean that final typeface sign off will be subject to user testing in live conditions by vision impaired people. Burdus Access has a vision impaired access advisor and we can also draw on the Sunderland and Durham Royal Society for the Blind and The Welsh Council of the Blind for user testing if required although it would be good to source a local vision impaired group such as Vision Northumberland.



This image shows the Microsoft Seeing AI app being used to read out loud text from the Make Things Happen Bailiffgate Museum & Gallery Interpretation and Design Strategy Stage Two Report, page 45 which contains the Mrs. Eaves typeface.

Font Accessibility litmus test

Key	
Y	Meets industry 'standard' accessibility best practice
Y	Meets industry 'standard' accessibility best practicebut letter i
N	Does not meet industry 'standard' accessibility best practice
N	but not not enough to score a yes.

1	Phase 1 Key Accessible Features	Mrs Eves	Mrs Eves Sans
1.1	Counters to be 'OPEN' to reduce 'fill in' at smaller point size (increases legibility)	Y	Y
1.2	Differentiate similar letter forms - e.g. 1, I (cap i) l (lower case L) and q, g	N	N
1.3	Dots 'LARGE' on j and I (dot wider than stem width)	N	N
1.4	Q Tail follow through to distinguish from 'O'	N	N
1.5	Desenders 20% or longer than x-height for clarity for letter shapes and character recognition	Y	Y
1.6	Terminals to be 'OPEN' for clarity and prevent letter shapes appearing 'closed' - c and e	Y	Y
1.7	X-height 'LARGE' - enhances legibility by creating more space for lowercase letters and glyphs.	N	N
1.8	Stem weight 17-20% of x-height maximises legibility	Y	Y
1.9	Spacing to be 'BALANCED' to enable reading with rapid eye movement (saccades)	N	N
1.10	Junctions on r 'LOWER' than n and m help differentiate 'rn and 'm' (currently the same.	N	N
1.11	b, p,q and d - are not mirror images or rotations - this can be confusing (dyslexia)	Y	N
1.12	Ascenders 'EXTENDED' (higher than CAPS) can accentuate word shapes and patterns	N	N
		5	4
		Mrs Eves	Mrs Eves Sans

Table with the 12 font accessibility litmus test points used for an initial review of the Mrs Eaves and Mrs Eaves Sans typefaces currently being considered.

Appendices

Appendix 1 Interpretation Notes

Bailiffgate Museum approach to interpretation is informed by the [Heritage Fund Interpretation Guidance 03/08/22] which refers to the following pointers and/or advice:

1. Understand and use the social model of disability which recognises that society places barriers in disabled people's way that can be overturned through societal action and the allocation of resources.
2. It is crucial to understand barriers through consultation with under-served groups and organisations that work with them and talk to the people you want to involve at every stage of your project.
3. Make your physical site significantly more accessible.
4. Include website information about disability access and any other adaptations.
5. An Access Consultant could help deliver interpretation, spatial layout and graphics.
6. Target people to access your exhibition who do not read.
7. Use different communication methods to address sensory barriers. For example, tactile interpretation panels or displays, British Sign Language talks or events, large print or audio guides for exhibitions or trails.
8. Entry charges can be prohibitive so consider discounts.
9. Budget to ensure inclusive work is realistic and deliverable, such as:
    - Interpretive tours or refreshments
    - A free download for self-guided tours.
    - Learning disabled people support worker, extra learning resources or significantly more time for consultation.
    - Pay or appreciation for time and expertise shared.
10. Interpretation should cover a range of learning styles, and it should also be tested for suitability with a range of different audiences.

Interpretation Guidance

Heritage Fund

03/08/2022

Contents

11. Think about:
    - Cultural and dietary preferences.
    - Picnic area for people to bring their own food.
    - Access audits.
    - Digital outputs such as apps.
    - Reasonable adjustments for sites – physical access, interpretation or sensory adaptations, such as the use of Sign Language or tactile interpretation for hearing impaired or sight impaired people.
    - Appropriate resources and support (e.g. Makaton signing, personal care) to ensure the active and regular involvement of learning-disabled people
    - Translation costs.
    - Publicity, website.
    - Staff training.

Appendix 1 Interpretation Notes

Limiting Barriers

- Vary formats to suit a range of learning styles.
- Where audio and AV, limit other background sound. Induction loops, subtitles, BSL interpretation, transcripts and time bars should all be considered.
- Install displays, interactives and labels at a height that children and wheelchair users can use.
- Small or detailed objects and main text positioned 1200 – 1600 affl.
- Provide a range of seating (with and without armrests).
- Incorporate tactile elements like raised labels, braille, and relief maps.
- Offer audio guides or descriptive audio content for exhibits.
- Create experiences that engage multiple senses (sight, touch, sound, smell).
- Consider 3D printing to create tactile replicas of artifacts.
- As far as practical, allow visitors to explore through touch.
- Consider concessions or free-entry days for those on a low income.
- Stagger the timing of events and live interpretation to allow people with time-related commitments to attend – for example, for those who work nightshifts or weekends.
- Provide disability awareness training for all staff and volunteers.
- Draw up signage and information guidelines.

Lighting Strategy

- Linked to wayfinding, information and display. Light at surface of sigs and information 150 lux.
- Underlighting to base of display cases can be useful.
- Ideally even illumination throughout the exhibition space avoiding harsh contrasts between light and shadow.
- Colour Temperature - neutral or warm white light (around 3000K) to enhance visibility without causing discomfort.
- Use LED or fluorescent lights with high-frequency flicker-free technology.
- Adjustable lighting levels for individual preferences.
- DALI – Digital Addressable Lighting Interface.

Appendix 1 Interpretation Notes

Typography

- Text in plain English.
- Legible and accessible fonts.
- A minimum type size of 18–36pt for body text for object labels.
- High-contrast labels and text against backgrounds to aid readability. Test print to check legibility with target audiences.
- Large-print versions of labels and descriptive tours available.
- Font accessibility linked to exhibition style and client house style.
- Design for optical character recognition (OCR) systems – good lighting without glare, head height, avoid severe angles, do not overlay text on images, avoid small light weight text, no stenciling.
- Access text digitally – QR codes?
- Other languages?

Digital Strategy

- Interactive orientation map of site and exhibition.
- Text and image focus on high level themes and interpretation.
- Deep dive historical context through images, audio, video, and interactive learning experiences like quizzes.
- Replicate any on-site live interactions, e.g., visitors online select from a list of questions about the people (miner or school child) or actor's historic online or experience and watch or listen video answers.
- Easily download documents, link out to external resources, while remaining in the online exhibition.
- Use of mobile phone Apps
- QR codes and access to on line information and images.
- Screen readers
- Remember that not all people have access to smart phones or other devices and may be excluded from using digital interpretation.

Website

- Discuss – review and upgrade for accessibility to disabled people and assistive technology users.

Appendix 2 Signs text formatting and height

Burdus Access advise the following considerations for building wide signage:

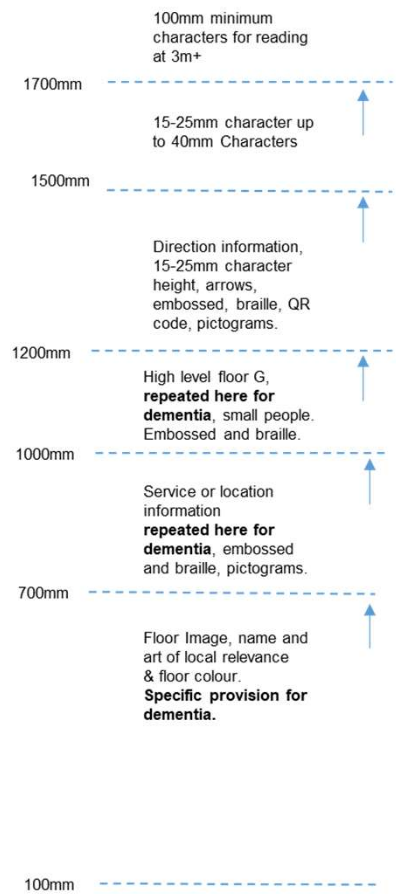
1. Above 2m, characters 100mm minimum height to be read 3m+ away.
2. 1700mm - 2000mm, a minimum character size of 40mm.
3. Wall mounted information (words and images) to be read at close range to be set at minimum character size (x-height) 15mm - 25mm and at height 1400m - 1700mm (average eye line).
4. Where feasible, duplicate high-level signs with low-level information and direction signage to include pictograms, text, raised lettering and Braille between 1220mm to 1525mm above floor level.
5. As far as possible target directory and directional information within an inclusive zone 1200mm – 1500mm with visual text embossed and braille.
6. Key information repeated between 700 and 1200 for wheelchair users, children, people who can not look up due to physical impairments, people with dementia.
7. Embossed characters to have with 1.5mm-2mm stem width for 15.5mm x-height pro-rata.
8. Grade1 Braille to be set under embossed letters by 10-12mm.
9. Ensure 160 Lux at the sign surface for reading.

Signage above head height will not be accessible to people with vision impairment, physical impairment and possibly dementia (the Alzheimer's Society advise people look for signs between 4' and 5', the Kings Fund recommend 1200mm).

The rational for slightly lower down tactile is people especially smaller people cannot reach as far as they can see (usually), although 1500mm is a more comfortable height to interrogate tactile/braille because it effectively an adult natural touch point when standing.

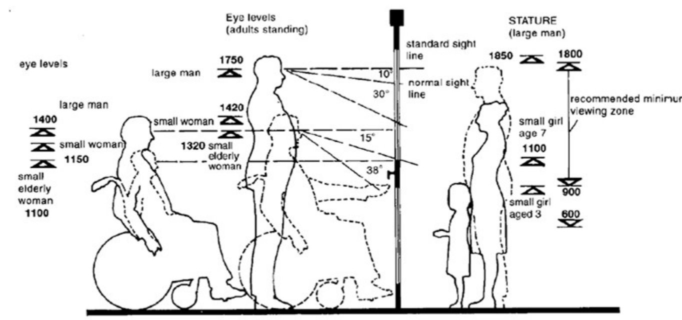
Consider showing distances in m to destinations and whether route involves steps.

Refer to ISO 7001 Graphic Symbols to inform any graphics and arrows used.



Sign boards to contrast or be framed against background.

Consider showing distances in m to destinations.



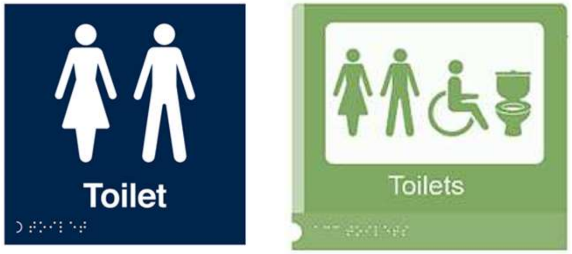
Project signs formatting and height table is arranged in a series of 'zones' (allowing for a 100mm skirting) – see table on left.

References taken from Health Building Note 40 (image above) Sign Design Guide, Building Sights, Alzheimer's Society Sign Guidance, English Unified Braille Guidelines, Americans with Disabilities Act height tables & consultee input.

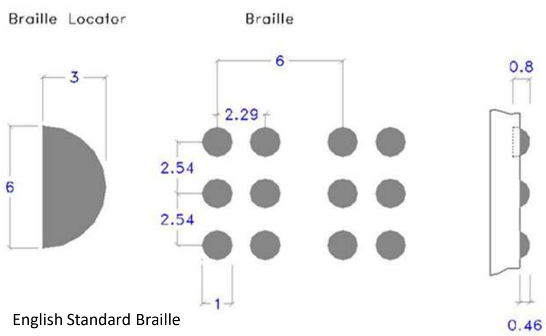
Appendix 3 Signs - Embossed & Braille

Burdus Access advise the following considerations for signs:

1. Above eye line or head height, location and direction signs to be replicated with a plaque of legible and embossed text and Braille between 1200mm to 1500mm above floor level.
2. Where information is set below 1200mm for dementia friendly design, embossed text and braille should be included where practical.
3. Embossed text:
    a. Case. UK practice is for mixed case letters (not block capitals).
    b. Profile. Raised characters shall be 0.8 mm – 1.5mm minimum above their background.
    c. Style. Characters shall be sans serif. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.
    d. Character Proportions. Characters shall be selected from fonts where the width of the uppercase letter "O" is 55 percent minimum and 110 percent maximum of the height of the uppercase letter "I".
    e. Character Height. Character height measured vertically from the baseline of the character shall be 15mm and 50mm.
    f. Edges. Characters should have clearly defined rounded or chamfered edges, not sharp edges.
4. Ensure 160 Lux at the sign surface to assist reading for people with residual vision.
5. Set Braille 10mm – 12mm under embossed letters.
6. The use of images, embossed lettering and Braille will be important for locational signs for toilets, meeting rooms, floor levels and emergency call systems.

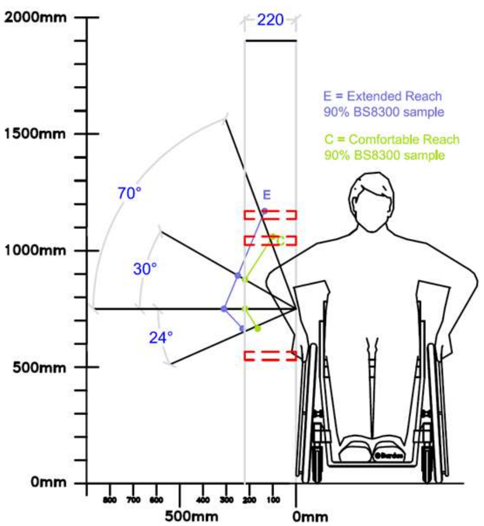


Typical embossed and Braille signs



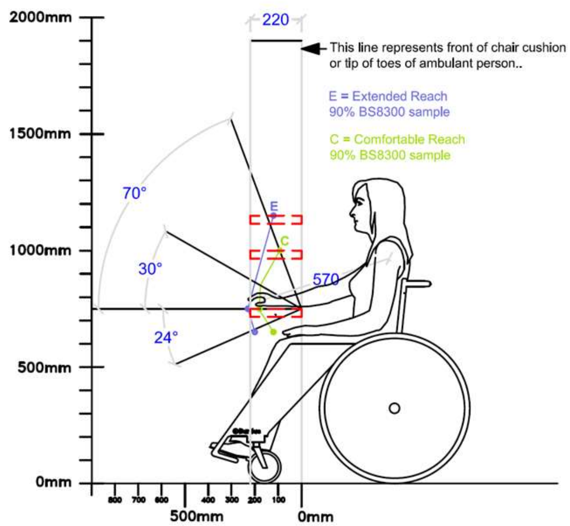
English Standard Braille

Appendix 4 Adult Reach (child reach to be developed)



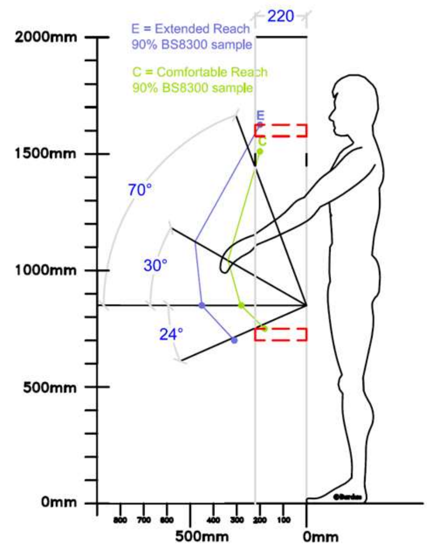
Wheelchair user side on

No dimensions are listed in BS8300 where the height and depth of reach cut the 30% plane. The 30% comfortable and extended reach values shown in this diagram are Burdus visual estimates based on BS8300 Figure F4.



Wheelchair user front on

No dimensions are listed in BS8300 where the height and depth of reach cut the 30% plane. The 30% comfortable and extended reach values shown in this diagram are Burdus visual estimates based on BS8300 Figure F4.



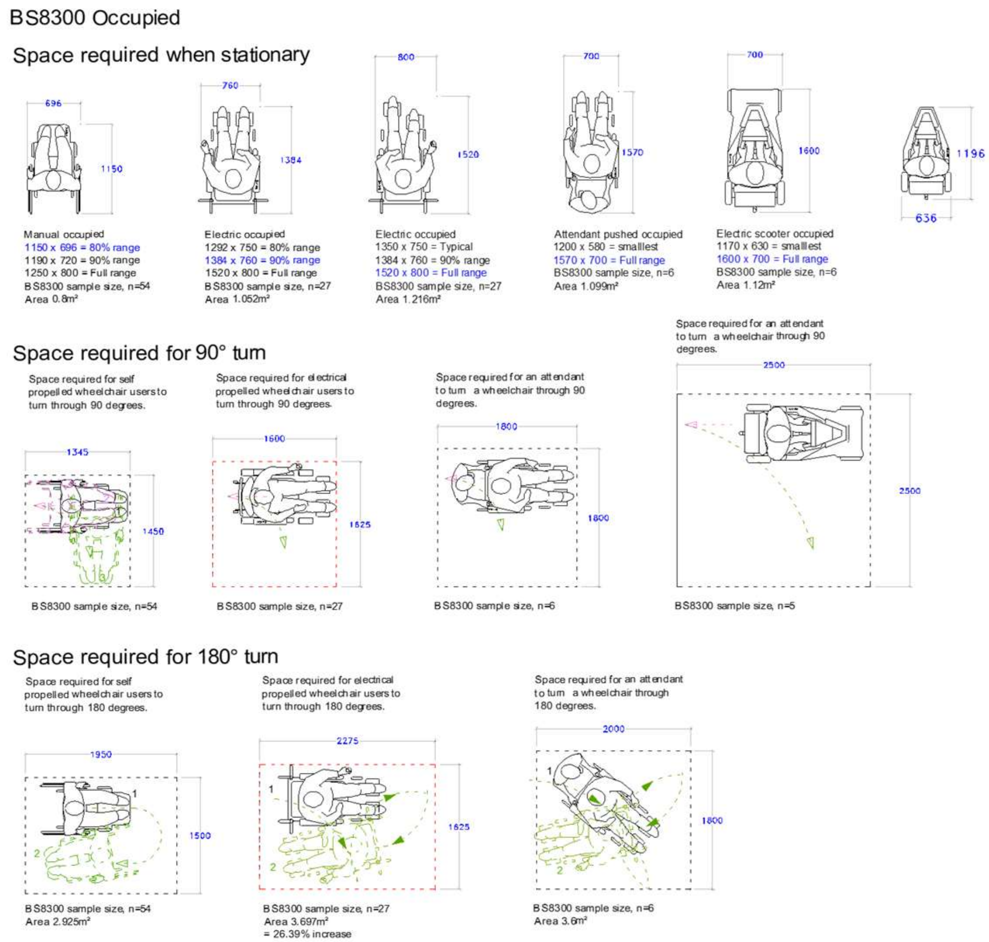
Ambulant disabled front on

No dimensions are listed in BS8300 where the height and depth of reach cut the 30% plane. The 30% comfortable and extended reach values shown in this diagram are Burdus visual estimates based on BS8300 Figure F4.

Represents table and shelf heights

Appendix 5 Wheelchair Templates

The templates shown opposite based upon the BS 8300-2:2018 Design of an accessible and inclusive built environment. Buildings, Code of practice are passed to Mosedale Gillatt Architects



Appendix 6 Website Accessibility

Key opportunities to address website user experience include.

1. Visual Presentation (improvement or supplement)
    a. Accessibility link at top of page
    b. Colour, size and clarity of text
    c. Definition to headers and links
    d. Standardise menu bars
    e. Text version of website
    f. British sign language should be used for key information
    g. Improved operability of search and promise bars
2. Assistive technology
    a. Updating code and labelling to improve navigation and interaction
    b. Freeze moving image option
    c. Built in Accessibility tool bar (for improved and instant 'tailoring' of site to user requirements)
3. Website Content
    a. Descriptive accessibility detail required (level access shower, induction loop, wheelchair accessible taxi, etc.)
    b. Accessibility page will require update
    c. Re-write Accessibility page
4. Review website against Brand Guidelines

World Wide Web Consortium (W3C) Web Content Accessibility Guidelines (WCAG) 2.1

Key opportunities for access improvement falling under AA 2.1 Principles will mean addressing the following points:

Principle 1: Perceivable

a. Use text colours that show up clearly against the background colour
b. Standardise menu bars for ease of recognition
c. Definition to headers and links for ease of recognition
d. Text alternatives ('alt text') for non-text content
e. Audio description for video
f. Structured logically and can be navigated/read by a screen reader
g. Proper markup for every feature and message in a way that the screen readers knows when they are relevant.
h. Ensure responsive to the user's device, page orientation, font size, contrast - they like to use
i. Built in accessibility tool for improved and instant 'tailoring' of site to user requirements

Principle 2: Operable

a. Play, pause and stop to video(s)
b. Do not use blinking or flashing content on video(s) or let the user disable animation
c. Use titles for frames
d. Make sure users can move through content in a way that makes sense

Principle 3: Understandable

a. (Simple English) Plain language review
b. Make sure features look consistent

Principle 4: Robust

a. Code to let assistive technologies know what every user interface component is for, what state it's currently in and if it changes
b. Updating code to improve navigation and labelling
c. Status messages are marked up in a way that informs user of their presence and purpose, and lets them interact with them using their assistive technology

Appendix 7 Inclusive Design Consultant RIBA 4, 5, 6 & 7

Table shows the early approach to an inclusive design consultant work scope for continuing design team support and end user engagement on the Bailiffgate Museum & Gallery.

		Days (t)
	RIBA 4, 5, 6 & 7	32
	RIBA 4 & 5 only	22
	Inclusive Design Consultancy	
	RIBA 04 (Technical Design)	Days (t)
1	Attend design team meetings and workshops to ensure development of the scheme design in accordance with the budget and programme.	4.00
2	Liaise with interpretation designer's access consultant to ensure that the overall approach to access and inclusion translates across the whole site.	4.00
3	Finishes, fixtures, fitting, colours, materials, lighting, sanitary, means of escape, signage and wayfinding, inclusive desk design with input from vision impairemtn specialist including additional issues as relevant to the stage to include product specification, detailed design, cost plan and value engineering and support Building Regulations submission.	4.00
4	End user engagement with disability groups, schools etc…. Input to design detail and interpretation.	6.00
	RIBA 05 (Manufacturing and Construction)	Days (t)
1	Attend site for site meetings, snagging and user review/testing samples or mock-ups (tactile surfaces, play areas).	3.00
2	Support to contractor and design team with any ongoing detail design.	1.00
	RIBA 06 (Handover)	Days (t)
1	Final access audit and report	4.00
2	Update access design statement to reflect the completed scheme identifying any specific related training or maintenance requirements for inclusion in the building manual.	2.00
3	Training for staff/volunteers on e.g. management of the space.	1.00
	RIBA 7	Days (t)
1	Post occupancy review and report (with disabled customers and staff) including case study report and input to project evalation.	3.00