Materials

The adjacent images describe the type of materials we have used in the building design;

Glazing

The lighting specification details double glazed units with an interstitial layer that controls the amount of sunlight that can enter the building and we have begun discussions with manufactures to find a system that fits the requirements of the brief.

Curtain walling

The glazing will be held in place with an anodised aluminium curtain walling system. We have explored colour options for this to ensure that it meets our aspiration for it to rhyme with the honey-hued sandstone Victorian Buildings in the town centre and present an image of a ‘warm glowing lantern’.

Wall lining

The building’s structural frame will be constructed from insitu concrete which will be left exposed in part so that the building benefits not only from its thermal mass but also its appearance. However, to ensure the Library has an appropriate atmosphere (‘library-like’) and to aid the acoustic quality of the spaces the walls will be lined in natural oak panels up to the soffit. Above a 2.4m datum, up to the soffit, these panels may be perforated with an acoustically absorbent material backing, or leave a gap behind to enable ventilation opening to the core from the library space.

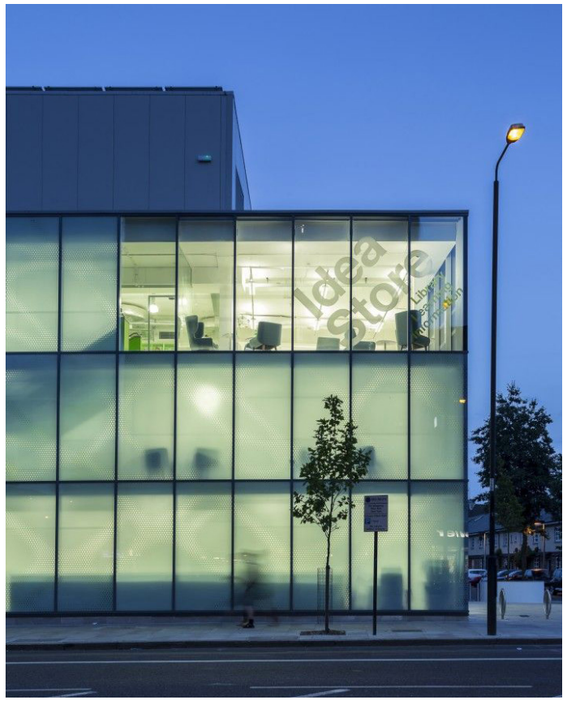
Floor finishes

The floor void will be used for air distribution and small power so it is important that the floor is fully accessible. It will therefore be made from an acoustic raised access floor with a covering of cushioned carpet. We like the dark blue colour option as it looks great against the natural oak - it will also be more forgiving against dirt.

Wall tiles

Toilets will be lined in ceramic wall tiles - simple but hardwearing and easy to clean as is required of this type of space.

A sample board has been provided with this submission.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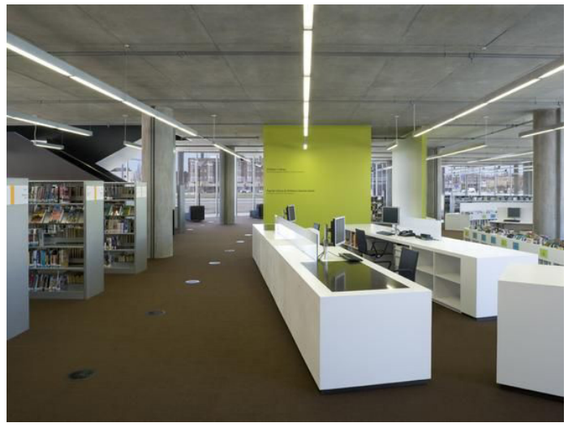
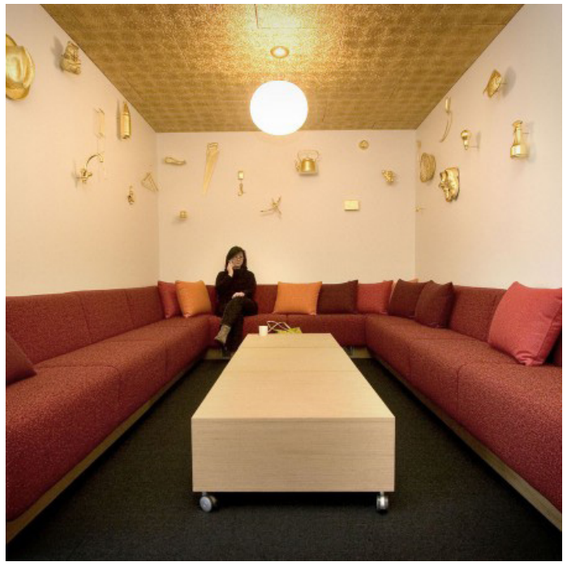




Lighting Design Strategy

The main goals in the development of the lighting strategy for the Library were;

• Integration of the public realm lighting and building lighting to enhance the local environment (part of a separate application).

• Representation of the Library as a ‘Beacon’ or ’Lantern’ within the town centre.

• Clear perception of the building’s active functions throughout the day

• Adequate differentiation between private and public areas (possible use of variable white colour temperatures, colours of light or surface finishes)

• Provision of high quality, cost effective, and energy efficient lighting to all areas

• Integration of fittings into architectural elements where possible

• Flexible lighting system provision for all spaces that allows them to operate in a multifunctional way.

Exterior

Building façade

The lighting solution for the facade should enhance the representational image of the town centre and contribute to developing a profile for the building as a place of culture.

Spill light from the Library can affect the immediate external environment - making the immediate context well lit and safe for pedestrians.

Lighting to trees and artwork within the public realm design could provide spatial interest. Where possible lighting equipment should be integrated into the public realm so that it prevents visual distraction. Light pollution and trespass should also be avoided using well shielded luminaires with limited light distribution above horizontal to minimise (or eliminate) light emissions to neighbourhood area and sky.

Interior

Circulation

An ambient lighting solution to provide continuity of the spaces within the Library could be utilised with a considered lighting scheme. This could provide an architecturally integrated approach with energy efficient, relatively inexpensive, lighting equipment. To provide clear orientation, luminous or illuminated signage could also be integrated into the architectural elements and furniture.

Office / meeting rooms

Modern working environments require a balance of illumination with lighting to ceilings and walls to ensure a stimulating workplace that provides adequate illumination of the space and its occupants in addition to good visibility for tasks. Direct and reflected glare should be avoided through the use of diffuse light sources, materials with balanced surface reflectances, appropriate source/task/eye geometry and implementation of shading devices in the case of excessive daylighting levels. Energy efficient, controlled lighting is critical for reduction of operating costs of the building and could be achieved through the use of time clocks and occupant sensors (PIR’s).

Library

The multifunctional library spaces serve as the primary internal environment and have very specific functional and aesthetic requirements. In addition to a general ambient lighting level further lighting could be provided from diffuse light sources integrated into book stacks and other furniture installations.

Toilets

Practical energy efficient LED lighting should be used throughout these spaces to provide an attractive visual effect and quality of light especially adjacent to mirrors.

Back of house (store rooms, plant rooms, etc.)

Simple, economic, energy efficient light fittings such as fluorescent battens will be employed to provide the practical levels of light required.

General considerations

Emergency lighting

Upon mains power supply failure an emergency lighting system should operate a number of light fittings in each area to provide the recommended levels of escape illumination to satisfy current codes. Emergency escape signage should be self illuminated under normal and emergency conditions. The signs should be designed to integrate with the architecture as far as possible but must meet the statutory regulations in terms of legend size and colour.

Lighting Control system

The majority of the building could operate through a central programmable lighting control system. Additionally the lighting could be controlled automatically through time clocks, photoelectric cells, occupancy sensors etc. Such systems incorporate a high level of sophistication whilst being user friendly. The system should allow different parts of the building to operate independently and be separately controlled but with all scenes / light levels being preset through a central system. This would allow the Library to operate in different modes such as ‘everyday use’ or ‘special event’ locally in single rooms or as a whole building.

8. Sough Dyke Structural Solution

Sough Dyke Structural Solution

8

Background

A culverted watercourse known as the Sough Dyke runs adjacent to, and partially beneath, the existing building on May Day Green. The adjacent plan describes its path and impact on the proposed building.

Extensive surveys have been undertaken to locate and understand the construction of the dyke and allow a proposal to be developed that allows the construction of the new library while avoiding the diversion of the dyke

The dyke is of brick construction with an internal diameter of 1200mm. At the junction of Burlington Arcade and Eldon Street it has an invert level of 94.46m AOD. At the junction of May Day Green and Eldon Street the invert level drops to 93.54 AOD.

Coordinated architectural, structural and drainage proposals for the construction of the library with specific reference to mitigating the impact on the dyke were discussed in detail with Gary Cliff and Abdul Gaffar of the Environment Agency on 10th May, 2016. These comprised a cantilever design and a bridging design. It was agreed in principle that either, or a combination of both, was acceptable and compliance with the 6m easement was not necessarily required.

The EA also stated their opinion that the dyke is the responsibility of BMBC as it runs through their land. They would therefore devolve the approval of any scheme above the water course to BMBC as the landowner, this is now being sought within this application.

Sough Dyke internal CCTV footage

CCTV

A CCTV survey of Sough Dyke has been undertaken, the images from which are on the adjacent page. This is key to understand the true nature of the culvert and will be utilised in Stage 4 to progress the technical design of the structural solution.

Planning

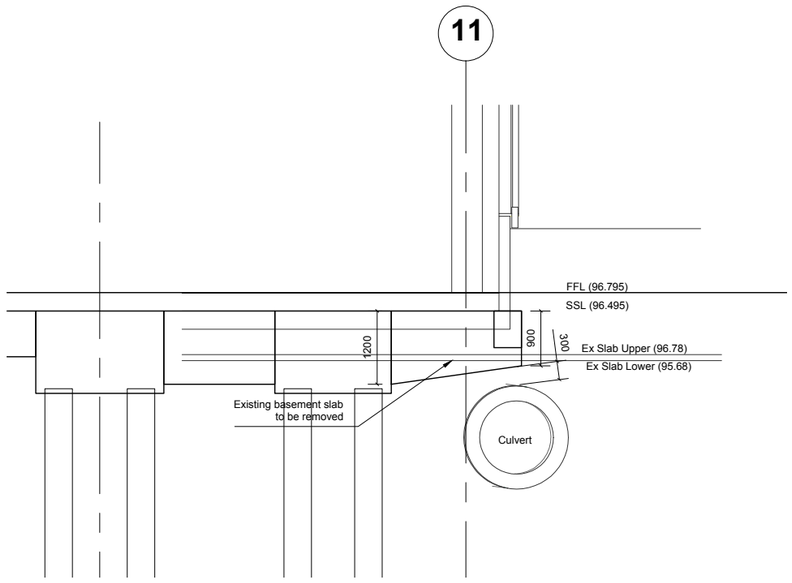
The matter was raised at the outline application stage and a condition was attached to the permission which states:

'Unless agreed through the detailed submission of Reserved Matters, no building or other obstruction shall be located over or within:
- 3.0 (three) metres either side of the centre line of the 150mm, 225mm and 375mm public sewers, which cross the site
- 4.0 (four) metres either side of the centre line of the 300mm, 450mm and 600mm combined sewers, which cross the site.
- 5.0 (five) metres either side of the centre line of the 900mm, 1050mm and 1200mm combined sewers, which cross the site,
- 6.0 (six) metres either side of the centre line of the 525mm and 675mm combined sewers, which cross the site or

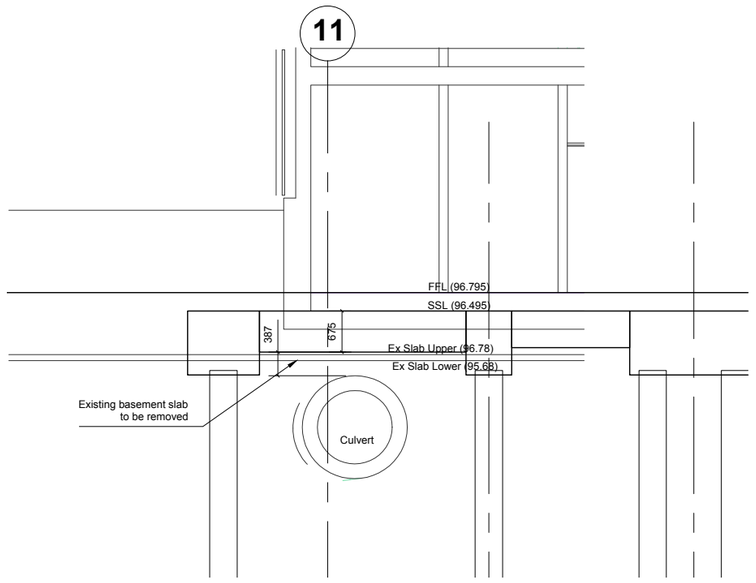
- 6.5 (six point five) metres either side of the centre line of the 750mm and 1000mm combined sewers, which cross the site.
- 6.0 (six) metres of the of the culverted watercourse (Sough Dyke), which crosses the site,

Reason: To prevent damage to the existing [sewer, watercourse or culverted watercourse] in accordance with Core Strategy Policy CSP 40, Pollution Control and Protection.'

Following discussions with the EA and Barnsley Metropolitan Borough Council, a structural solution which eliminates the requirement for the above restrictions has been discussed and informally agreed with all parties. This solution forms part of this reserved matters application. As such, should approval be granted for this application, it is understood there would be no further requirement to comply with the requirements of this condition in relation to the Phase 1 Library development.



Foundation Section B-B

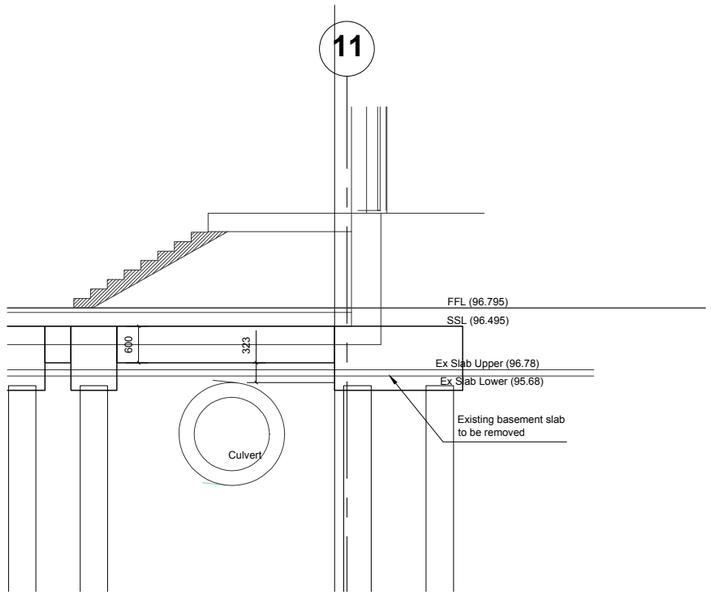


Foundation Section C-C

Proposed Solution

Following discussions within the design team and surveys to accurately locate the internal extents of the culvert with a laser point cloud survey, a preferred solution been developed. Trial excavations over the culvert have been undertaken which have revealed a former basement slab at with evidence of brick walls built off.

The proposal involves the culvert being bridged by the foundations of the new structure, at the Burlington arcade end (line 11A), as shown in plan on drawing SK4 and section on drawing SK1. As we approach the May Day green end of the building (line A) the dyke moves towards the outside of the building line. At this position the foundations are cantilevered over the culvert. By suspending the floor and supporting the elevation on line 11 we avoid applying any loading from the structure to the culvert. The advantage of this proposal is that works to the dyke itself are not required at this stage. Access to the culvert for future maintenance is unchanged from the situation with the existing May Day Grenn parade of shops. The loading on the dyke will be reduced by a fully suspended floor and reduced ground cover.



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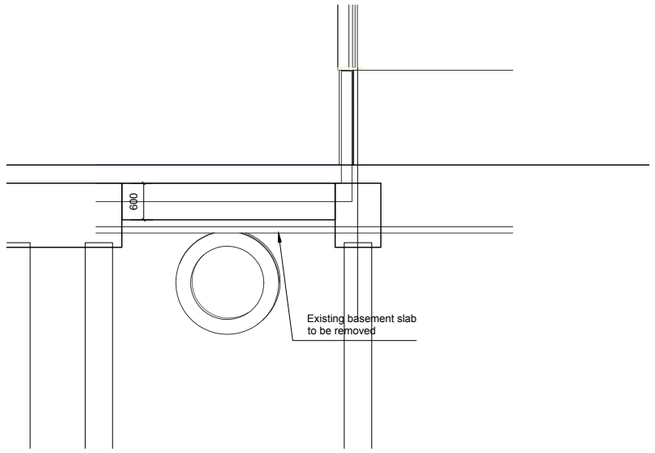

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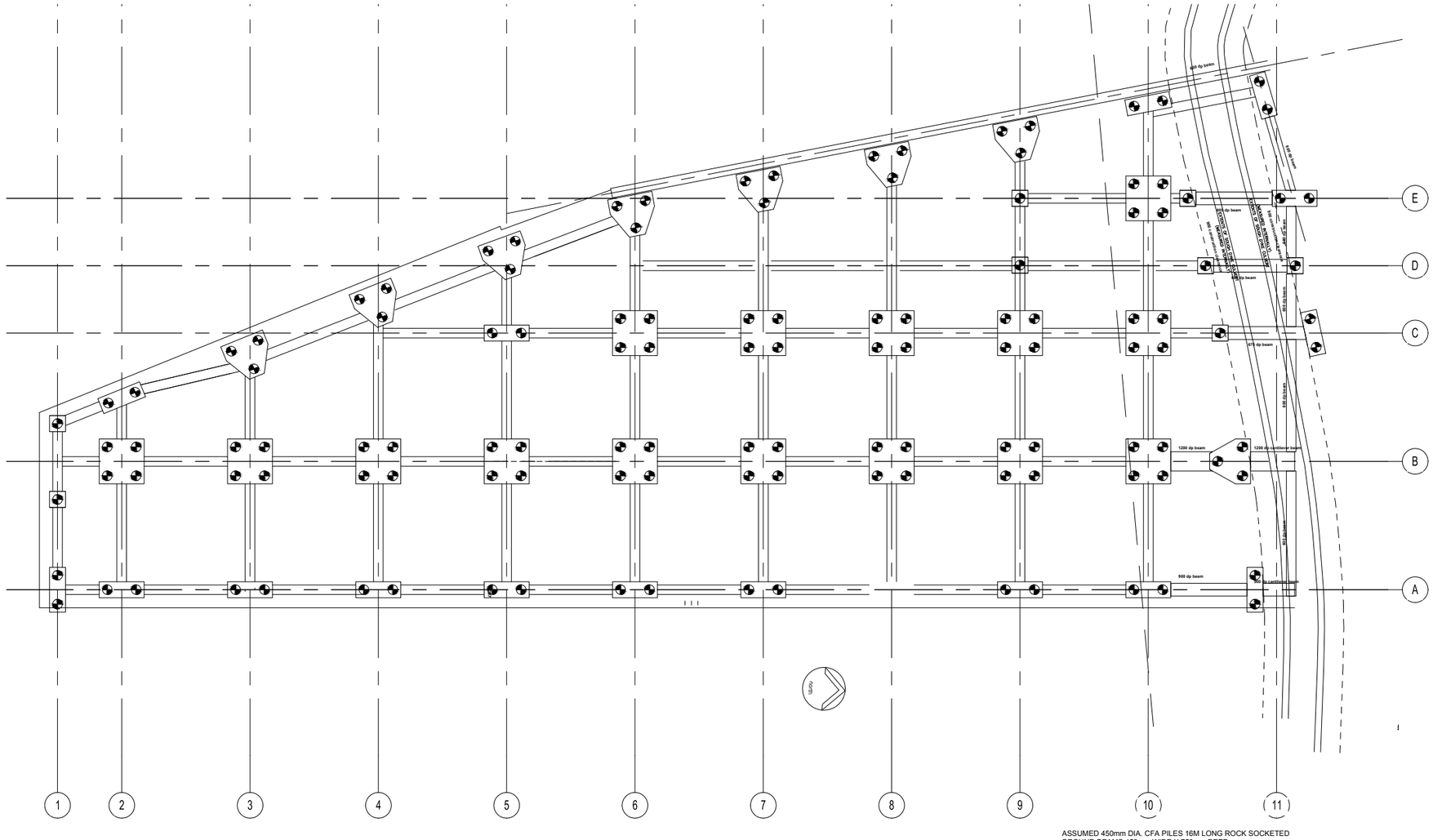

Foundation Plan

Further Design Work

During the technical workstage, Stage 4, the proposals will be further developed with the design team and contractor. This will include restrictions on working areas and the design of temporary works to ensure the culvert is not damaged during construction. Piling positions will be confirmed by a specialist so that no damage is caused with augered piles adopted. An existing camera survey will serve for dilapidation purposes alongside a post construction survey.

9. Universal access

Universal access

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Introduction

Philosophy and Statement of Intent

The proposals aim to meet the highest standards of accessibility and inclusion so that all potential users of the Library, regardless of disability, age or gender can use them safely and easily.

The proposal aims to promote inclusive access. This is achieved by eliminating barriers, physical, attitudinal and procedural, which may otherwise inhibit the involvement of the whole community, not just disabled people. Inclusive access is about proactively reaching out to involve and include groups and individuals who may feel that what you offer is currently 'not for people like them'.

This means that organisations need to consider their approach to all areas of their operations, including employment, policies, buildings and equipment, programming and marketing, and student development.

The ultimate aim of inclusive access is that the design and layout of the Library should enable everybody to be able to enter it, use its facilities and leave safely, independently and with ease.

Relevant Legislation

The legislation that is of particular relevance is:

- Disability Discrimination Act (1995)
- Disability Discrimination Act (2005)
- Equality Act (2010) which replaces major parts of the Disability Discrimination Act
- Special Educational Needs Act 2001 (SENDA)
- The Building Regulations, Approved Document M, Access to and use of Buildings 2004
- Town and Country Planning Act 1990

Other Sources of Guidance

There are numerous regulatory documents that will be consulted throughout the design process to ensure current best practice is met. The documents include, but are not limited to, the following:

- Designing for Accessibility (2004), Published by Centre for Accessible Environments, London.
- BS5588: Part 8:1988, Fire Precautions in the design, construction and use of buildings – Code of Practice for means of escape for disabled people, BSI, 1988
- BS8300: 2009, Design of Buildings and their approaches to meet the needs of disabled people, Code of Practice
- British Standard 9999:2008 (April 2009)
- British Standard 8300:2009 (amended 2010)
- Planning and Access for Disabled People – A good practice guide (ODPM)

Disability Discrimination Act (DDA) 1995

This Act makes '... it unlawful to discriminate against disabled persons in connection with employment, the provision of goods, facilities and services or the disposal or management of premises; to make provision about the employment of disabled persons.'

Disability Discrimination Act 2005

In addition to the DDA 1995, amendments in 2005 were designed to extend rights and provisions for disabled people. The Act also clarifies the various roles and responsibilities, as well as further clarifying the definition of 'disability'.

Equality Act 2010

'The main purpose of the Equality Act 2010 (EA) is to streamline and strengthen anti-discrimination legislation in Great Britain. It provides the legal framework that protects people, including disabled people, from discrimination. It replaces a range of anti-discrimination legislation, including the Disability Discrimination Act 1995 (DDA) and subsequent amendments.

The EA ensures that the legal framework of equality law is more consistent for all people with protected characteristics, for example, race and gender. By simplifying and consolidating previous equality legislation, the Act is intended to be easier to operate and understand than previous equality legislation.'

Quoted from the Office for Disability Issues website, odi.dwp.gov.uk 'Equality Act 201 and the Disability Discrimination Act 1995'

Circulation

It is intended that circulation areas will be designed to ensure unobstructed access. Clear lines of sight maximise accessibility throughout the building. This reduces confusion, and dependence on signage.

The design considerations that have been taken into account are:

- All corridors to accommodate a minimum width of 1500mm, with no obstructions such as furniture or fire extinguishers projecting into the clear corridor width which would present a hazard to children, wheelchair users or blind and partially-sighted people.
- Circulation routes should to provide splayed or radius corners wherever possible.
- Main corridors to have a minimum width of 1800mm to allow two wheelchairs to pass one another.

Internal doors will maximise accessibility without compromising privacy, safety or security. Each door will provide at least the minimum effective clear door opening appropriate to the width and direction of approach. We propose that all doors will:

- Not project into an access route
- Include manifestations if glazed
- Have at least 300mm alongside the leading edge of all doors to enable wheelchair users to open the door.
- Have a minimum width of 900mm when fully open.
- Be fitted with vision panels to enable people to see and be seen
- Will be fitted with lever type handles or 'D' pull handles at a height appropriate for a wheelchair user (1000mm from floor level)
- Be light enough to be used by disabled people with limited mobility or strength

Lobbies to be designed to accommodate all users and to permit one door to close before the other is opened.

Stairs

Stairs will;

- be well-lit
- have a tactile surface to indicate the beginning and end of the flight
- for safety, be designed to be of consistent width
- have unobstructed landings at the head, foot and between flights with a depth at least equal to the width of the channel of the flight
- have no more than 12 risers and uniform risers and treads in consecutive flights
- have riser heights of between 160 and 170mm, with slip resistant treads of 300mm
- have visually contrasting nosings across the full width of the step

Areas under stairs should either have guarding or be closed off to avoid anyone colliding with the underside

Escape stairs will be designed to the same standard as general access stairs, in order that they are suitable for use by ambulant disabled people and blind / partially-sighted people in an evacuation.

Handrails for stairs will be at a height of at least 900mm (1000mm at landings) on both sides running the entire length to enable those with a weakness on one side to use them.

Lifts

Lifts will serve all floors and will:

- Be located adjacent to other means of vertical circulation
- Accommodate the expected people flow
- Have a clear level landing directly in front of the lift of at least 1500mm by 1500mm for manoeuvring and waiting
- Conform to the requirements contained within the BS EN 81 Series

Additional consideration will be given to the material finish of external lifts and how this will be affected by the weather (including consideration of slip resistance, comfort and safety in use).

Toilets and Showers

Where provided, these spaces will be designed to BS8300: 2009 and the requirements of Part M3 of the Building Regulations.

Fully accessible toilet / showers are designed to address the requirements of people with a variety of impairments. These spaces will be fully equipped for use by disabled people.

The standard dimensions to provide adequate manoeuvring and transfer space for disabled people are:
• Unisex accessible corner WC layout 2200mm x 1500mm min.
• Accessible WC compartment for ambulant disabled people 800mm x 1500mm
• Self-contained shower room for independent use 2200mm x 2000mm Disabled people should be able to find and use suitable toilet accommodation as easily as non-disabled people. The location of the toilet, basin and other accessories in relation to the space required for manoeuvring, is critical in enabling disabled people to use various transfer techniques that allow independent or assisted use of sanitary facilities.

Wheelchair users and other users of an accessible toilet often move more slowly than non-disabled people. Facilities therefore will be provided within a reasonable travel distance from anywhere on a given floor plate to ensure that disabled people have access to the facility via the shortest available direct route.

These spaces will be located together with, and have a similar finish to standard toilet and/or shower provision, and comply with the following requirements:
• Accessible, well-lit and clearly-signed
• Have fixtures and equipment that is operable by people with poor dexterity or limited strength (operable with one hand)
• Have good visual contrast between the main features, equipment and controls inside a cubicle
• Not have timed lighting systems
• Door handles to be easy grip D handles and located on the back of doors
• Have clothes hooks sited at 1050mm and 1400mm high
• Have heating pipes and heating equipment carefully located and fitted with thermostatic controls.
• Be fitted with an alarm and reset button that is linked to the alarm system

Signage and Navigation

Signage should be clear, concise and consistent, and suitable for people with visual impairments and learning disabilities, such as dyslexia. We have developed the planning of the building to be simple and intuitive as the ability to navigate independently around a building is dependent upon the basic building layout. We propose that any signage should be grounded in the following:
• Internal signage to be provided in public as well as back of house areas
• Easy to see (visual contrast with surroundings), with low glare, and easy to understand (is written concisely and in plain English)
• Rules for clear print are followed (contrast between text and background colours, large enough text and easy-to-read fonts)
• Simple illustrations or pictograms and symbols should be incorporated whenever possible,
• All directional signs to and within the premises incorporate directional arrows
• The height of signage should be carefully considered to accommodate people of varying stature, as well as maintaining visibility should crowds obstruct lower positioned signage.
• Signs are well lit with their own source of light
• Tactile signage to be provided where it will benefit users BS 8300: 2001 indicates that universally recognised symbols should be used to replace text, as an essential aid for people with learning difficulties. Where other types of pictograms and symbols are used these should be supplemented by text, and not used in isolation. The BS provides some examples. Further information on public information symbols can be found in BS 6034 and the RNIB publication Building Sight.

Lighting and Décor

Lighting and decor is important for navigation. Visually impaired people rely on being able to distinguish between the walls, floors, ceilings and doors, and between backgrounds and furniture. Specifically :
• We propose exploring the use of glare control measures such as blinds, matt finishes to combat reflection.
• We aim to consider using colour as a means of assisting orientation, for instance, using one colour for the floor surface to denote areas of public circulation
• We aim to consider using changes of floor finish in a similar way as colour
• We aim to provide adequate contrast between doors, walls, floors and ceilings, and between furniture and the background against which it will be viewed
• We aim to develop a strategy to distinguish between trims such as coving, skirting boards, architrave, dado and handrails, door handles, finger and kick plates by use of colour, tonal and textural contrast

It is important to recognise that wheelchair provision is only one aspect of building accessibility, in fact it is the extreme situation. In addition to providing level access, the site wide access solutions will address other impairments including those associated with vision, audible and mobility.
• A combination of natural and artificial lighting to be provided where possible to enhance circulation routes
• To avoid glare, confusing reflections or shadows
• Transitional lighting to be provided between areas of lighting level changes to allow people's eyes to adapt to the different levels
• Reception, information points, counters around the market to be lit to allow lip reading
• Careful use of down lighters to ensure shadows are not created across people's faces, making lip-reading difficult.
• Up lighters avoided on pedestrian routes.
• 100 lux should be achieved at floor level including stair tread level, ramp level, on landings of stairs and ramps, within corridors and landing spaces in front of lifts
• Visually contrasting non-reflective materials are to be used within areas that could be affected by direct sunlight
• The use of lighting for effect must be balanced with the need to maintain a safe environment, particularly for partially sighted people
• 'Daylight' bulbs to be used within task lighting

Emergency Egress

Clear signage and wayfinding for people unable to use stairs without assistance, one or more refuge points must be provided on each level offering a place of relative safety until assistance arrives
• A two way communication device will be provided at all refuge points
• The size and number of refuges to be relative to the numbers of expected disabled people within a particular building or facility

Servicing, Refuse and Recycling

It is currently intended that the library is serviced from May Day Green away from the main public entrance. This will provide a place for deliveries and refuse, recycling storage and collection.

Fire Tender Access

The proposed design will allow access for all blue light and emergency vehicles directly onto May Day Green, adjacent to the building facade.

10. Servicing

Servicing

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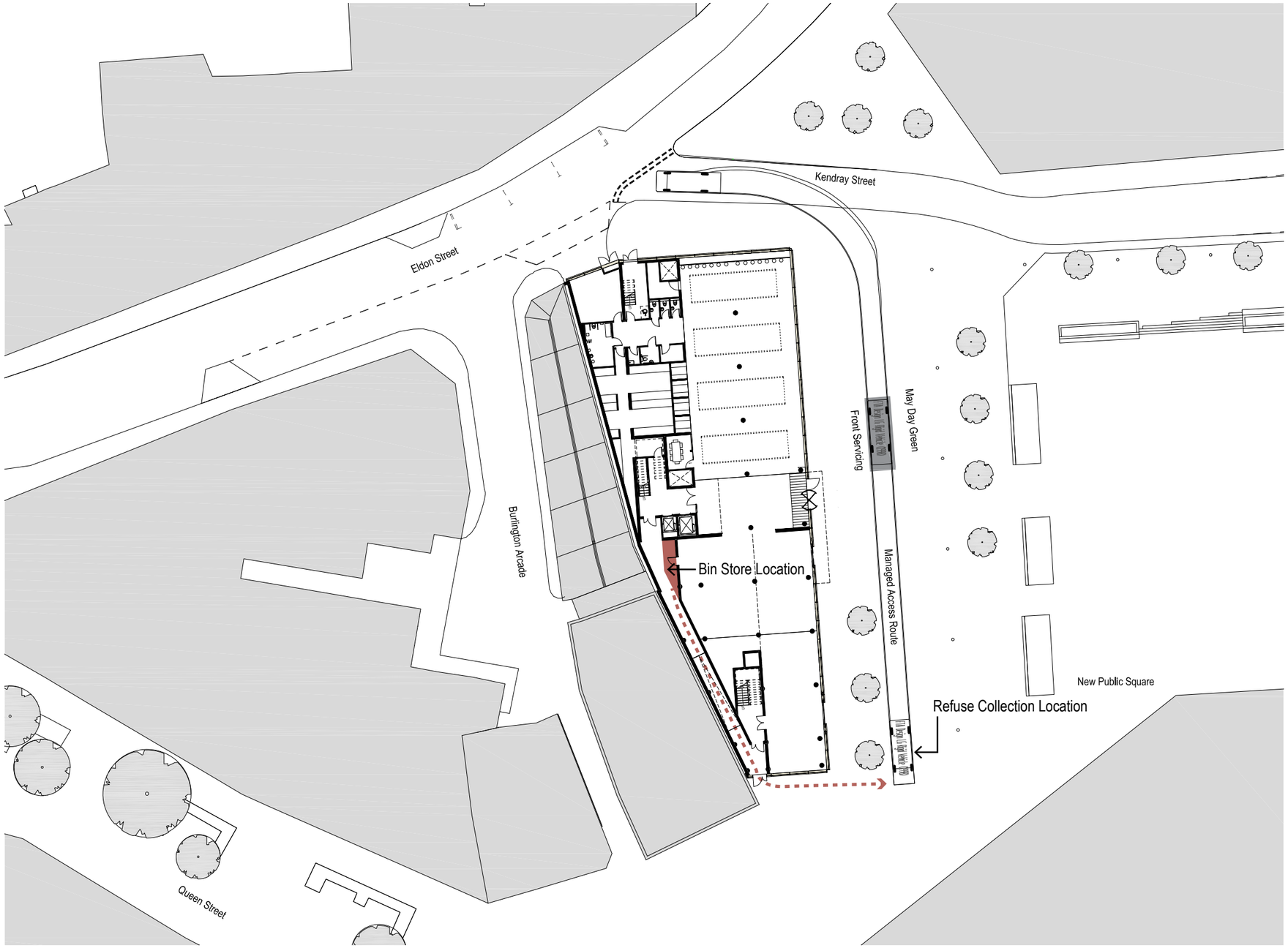
Vehicle	Access	Secure parking	Frequency of use	Location
Bicycles 	No. of spaces required to be agreed with BMBC Planning	For staff and visitors. Additional parking for visitors to the town centre will be provided within the public realm design / Market Gateway car park	Constant	At Market Gateway car park and the public realm
Motorcycles 	No additional spaces related to the Library	n/a	n/a	At Market Gateway car park for visitors and staff
Cars 	No additional spaces related to the Library	n/a	n/a	At Market Gateway car park for visitors and staff
Taxis 	No additional spaces related to the Library	None within the building. Provision of designated taxi ranks subject to BMBC Highways proposals as part of the wider town centre Highways scheme	Constant	At locations tbc with BMBC Highways
Delivery van (standard) 	Managed access for general deliveries to the Library from Eldon Street and Market Square	Set down / pick up areas on Eldon Street with limited, managed parking on market Square	Daily (managed)	Eldon Street, Market Square
Delivery van (Large) 	Managed access for general deliveries to the Library from Eldon Street and Market Square if required	Set down / pick up areas on Eldon Street with limited, managed parking on market Square	Occasional (managed)	Eldon Street, Market Square
Refuge truck 	Managed access for refuge collection on Eldon Street and Market Square (May Day Green)	Set down / pick up areas on Eldon Street with limited, managed parking on market Square	Daily (managed)	Eldon Street, Market Square

Servicing and delivery strategy

The retention of the existing book storage facilities at Wellington Street means that the servicing and delivery strategy for the new Library is relatively simple. Service vehicles will be permitted access to the public realm in a managed way and everything will be brought into the building through the front door at any time of the day. This doesn't present a problem for the Design Team but library staff may wish that deliveries are made outside of opening hours.



Servicing plan

IBI and BMBC Highways have developed the adjacent servicing plan.

It is intended that the public realm (subject to a separate RM application) will be pedestrian priority shared surface adjacent to the library

Servicing of the library will be from the front door off May Day Green from small vans. The design of the public realm will also facilitate all necessary emergency vehicles to gain access to the library building.

Waste Management Plan

An outline waste management strategy, which was part of the environmental statement, was developed for the Outline Planning application.

The refuse strategy was developed with consideration of legislation and best practice guidance from a national to local levels. Consultation with the Council's Waste Services Development Manager was undertaken during the outline design development.

The will be a dedicated bin storage location within the core of the Library building, serving both the Library and café. The bins will be able to be moved through the escape corridor to the exit to the south facade, and exit the building at a location that will allow ease of access to where refuse vehicles can drive down May Day Green, enabling the refuse to be collected from the building.

11. Technical Summary