

Design and Access Statement

for the proposed hire boat base, Trevor Basin, Llangollen
Canal, Trevor LL20 7TP



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1.0 Introduction

1.01 This document has been produced to be read alongside an application for planning permission which has been submitted on behalf of The Canal & River Trust

1.02 This Design and Access Statement (DAS) report accompanies and supports the planning application for the redevelopment of a former trip boat business premises at Trevor Basin for use as a base to operate hire boats.

1.03 Primarily, the content of this document discusses design principles, heritage considerations and concepts that have applied to the development, demonstrating that the development's context has influenced the design. It should be read alongside drawings and specifications for the proposed works.

1.04 Accompanying planning and heritage statements have been submitted with the application information to explain the consideration and compliance with national planning policies, local planning policies, relevant planning history and discusses the Wrexham Unitary development Plan, with further planning matters in relation to the Pontcysyllte Aqueduct & Canal World Heritage Site.

1.05 In addition to the above, the accompanying planning statement provides detailed description regarding the approach to identify and implement an appropriately considered consultation process and how any associated access issues have been addressed. As such this Design and Access statement aims to focus and reinforce information within the planning statement which has direct impact upon the design narrative.

2.0 Site Description

2.01 The site is located within the Pontcysyllte Aqueduct World Heritage Site (WHS) and the Pontcysyllte Aqueduct Conservation Area. In the immediate context, proposals lie to the north west of Trevor Basin where the water space is forked into two sections, forming an island like landscape between water spaces.

2.02 At present the fork to the north is experienced by the public when walking from the Car Park to the Central Basin area, which leads onto the Pontcysyllte Aqueduct and the Shropshire Union Canal, Llangollen Branch beyond.

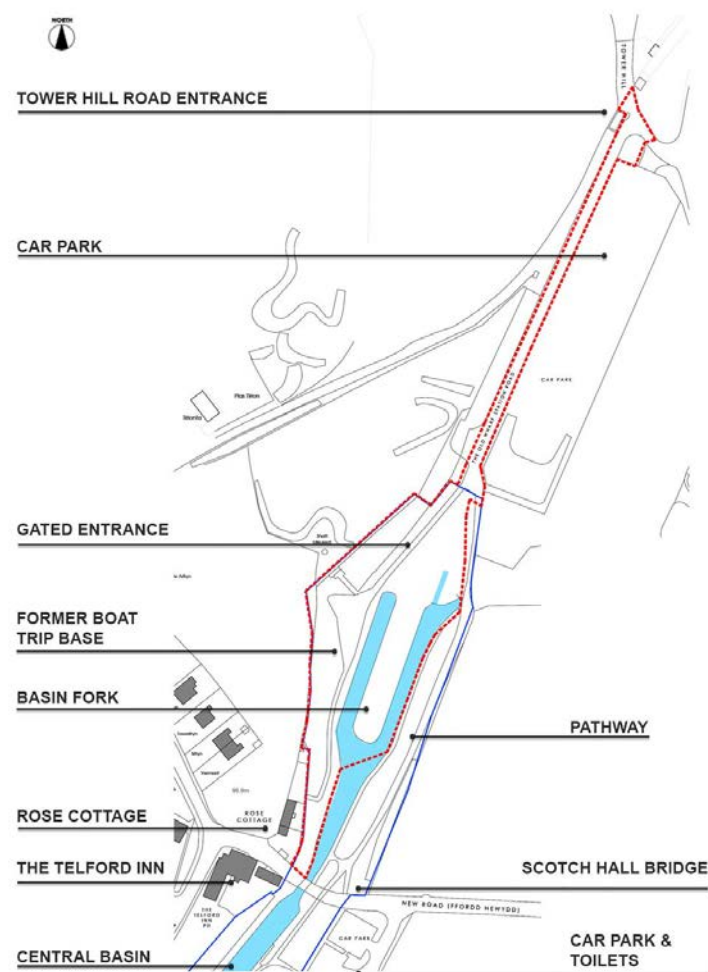


Fig 2a Diagram map showing key locations within the site.

2.03 As existing, the island fork provides a visual buffer between the north east, north west and some north facing views from Scotch Hall Bridge via established native trees and scrub species, which contributes to a woodland feel within the setting.

2.04 The publicly accessible western edge of the site boundary opens onto wider views of development site before reaching Scotch Hall Bridge this marks a visible separation and physical transition into the Central Basin Area.

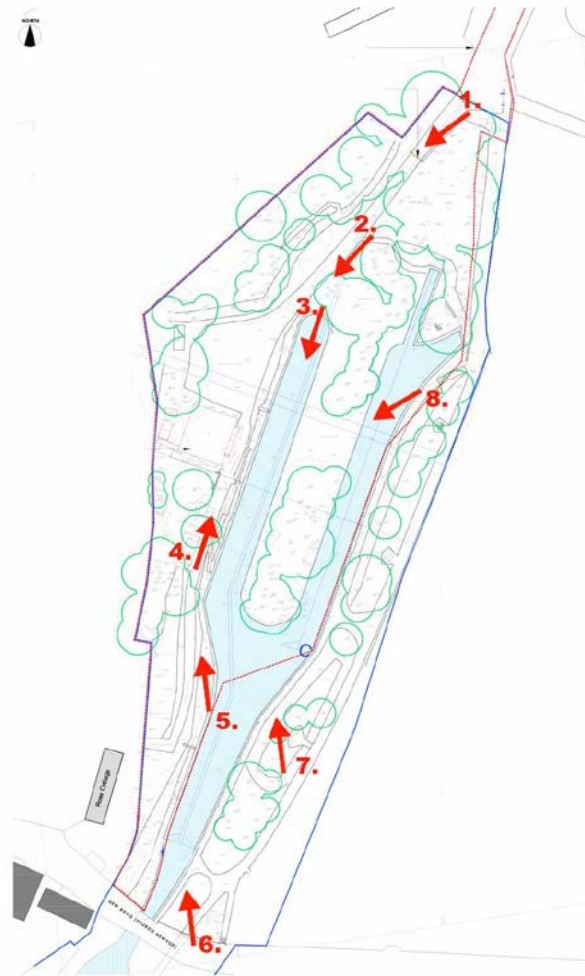


Fig 2b Diagram showing Key Views identified within the site.

2.05 The primary vehicular and pedestrian entrance to the site is located to the far North of the red boundary line, accessed via a singular vehicular lane from Tower Hill running along the boundary of the Pontcysyllte Aqueduct Car Park.

2.06 Once past the car park, the vehicular route reaches a timber post and gate, marking a boundary within the immediate site, leading towards a wooded vehicular lane with trees lining the roads edge to the east of the basin fork.

2.07 Directly east of the fork contains the remnants of a former trip boat base, with the mooring boarding area sitting aside a concrete block retaining wall next to a grassed embankment with services for the berth area.

2.08 Substantial areas of made ground are prevalent in the flattened open eastern area of the site which accommodated the former trip boat operation refuse collection areas, parking areas, outdoor seating and two prefabricated buildings, which have recently been removed.



Key view 1



Key view 2



Key view 3



Key view 4

Fig 2c Photographs of Key Views 1-4 identified within the site.

2.09 Following on from reaching the core area of the former trip boat operation, a grassed access track connects to Rose Cottage, on the site's western boundary defined by a low stone retaining wall.

2.10 The site's southern boundary ends at New Road and Bridge No. 29W, Scotch Hall Bridge. This bridge has three low elliptical arched underpasses and access points at road level. The western and central arch are open as public realm to both footfall and waterway traffic, whereas the eastern arch is closed by timber shutters.

2.11 Scotch Hall Bridge visually separates the site from the Central Basin. However, the bridge itself is considered to provide a key view towards the site, experienced at a raised level when walking over the road crossing.



Key view 5



Key view 6



Key view 7



Key view 8

Fig 2d Photographs of Key Views 5-8 identified within the site.

3.0 Site History

3.01 The Pontcysyllte Aqueduct and Canal was designated a UNESCO World Heritage Site in June 2009. It is recognised for its outstanding universal value as a masterpiece of canal engineering and an outstanding representation of the improvement of transport during the Industrial Revolution. The World Heritage Site is 11 miles long from the Gledrid Bridge in Shropshire to the Horseshoe falls in Denbighshire

3.02 Archaeological, heritage identification, justification, and historical matters in relation to Trevor Basin are discussed within the accompanying heritage statement and heritage impact assessment. The following summarises the key historic background for the benefit of the design and access statements narrative.

3.03 The site sits within the North Wharfs area of the WHS described by the Pontcysyllte Aqueduct Conservation Area Assessment and Management Plan 2009 as ‘potentially of great industrial archaeological interest. The canal divides to the north of New Road Bridge into a terminal arm to the north west and a parallel arm to the north east which served the Pals Kynaston industrial complex’.

3.04 The basin fork we know today as being wooded was once a more industrious working wharf, made use of for the purpose of loading waterborne freight onto the lines of Ruabon Brook Tramway / Pontcysyllte Branch Railway.

3.05 An 1899 map also shows several Wharfside and jetty railway sidings, which are assumed to be narrow gauge tramways. A trans-shipment dock, where goods could be transferred from tramway wagons and vice versa, dominates the north east corner of the jetty site.

3.06 Historical O.S maps dating from circa 1880 show railway lines upon the central island and land to the west, likely populated with freighting goods, carts and engines. Experimental boat lifts could potentially have been sitting aside of the water.

3.07 An 1880 O.S map also shows is that there once was a large warehouse building on or adjacent to the fork’s north west, historians believe that this was an Engine Shed and Goods Warehouse, although exacting knowledge is limited to maps showing the footprints of the structures.

3.08 Other Former building footprints to the west of the site are historically associated with a Beer House or workers’ housing, which can be identified on a on an 1838 map in the vicinity of the north-western are of the basin fork.

4.0 Design Premise, Objectives and Brief

4.01 The previous use of the site by the trip boat operator provided skippered passenger boat trips over the Pontcysyllte Aqueduct. It is now intended to re-introduce boating activity to this part of Trevor Basin.

4.02 It is proposed to use the site as the base location for a hire boat operator. The hire boat business is an established operator, which currently occupies a central location within Trevor Basin to the south side of Scotch Hall Bridge.

4.03 This proposal utilises a more suitable location for the hire boat business as it is located at the rear of Trevor Basin, which will ultimately reduce boat, pedestrian, and vehicular congestion within the main basin area, having a positive impact on manoeuvrability across the site.

4.04 As part of the proposed use, the site will similarly be the start and finish point from where the boats will leave and return to, which will also include services such as re-fuelling, water points, refuse and sewage disposal.



Fig 4a Photograph of central basin from Scotch Hall Bridge

4.1 Design Objectives

4.11 Outline design objectives for the development team to facilitate the hire boat relocation within the basin can be summarised as set out below.

1. Review the current boating businesses operator existing facilities and undertake feasibility work to determine how similar facilities may be provided at the alternate site to the north of Scotch Hall Bridge at the Basin Fork, tying into wider objectives associated with the developing Masterplan for Trevor Basin to ultimately reduce boat, pedestrian, and vehicular congestion within the main basin area.
2. Provide a viable design for the boat trip operator on the subject site which can allow for a review of initial budget costs and an understanding their current operation in relation of the feasibility of proposals all subject to surveys, specification, structural viability, and detailed costing at further stages.
3. Develop a design of suitable quality to fit within the existing setting of Trevor basin and the future landscape of the Masterplan. Carefully consider design principles in relation to layout, scale, form, materiality, landscape, and character in relation to the offer to the wider destination, visual setting, the historic and built environment, including any mooring areas within the destination.
4. Guided by the Trust's Planning Delivery team, seek the necessary planning approval for the proposed development from the LPA (Wrexham County Borough Council). Development design proposals are to align with the emerging masterplan for Trevor Basin within the context of the Pontcysyllte Aqueduct and Canal World Heritage Site.

4.2 Design Brief

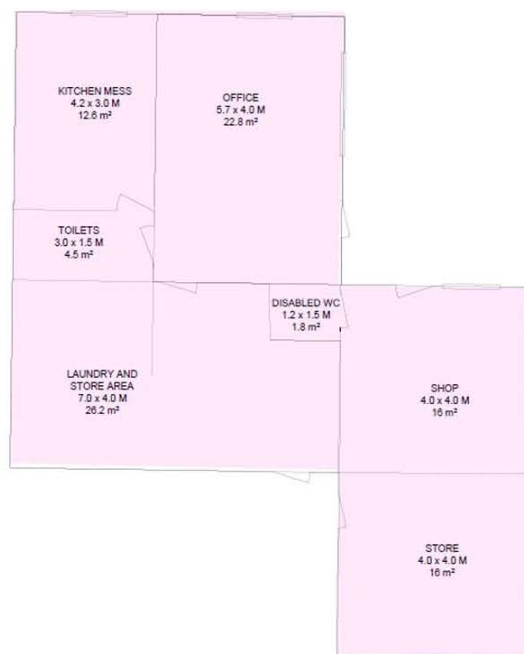
4.21 A review of the current boating businesses operator existing facilities was undertaken to better understand the spatial requirements for a proposed new build premises based on their current layout, site operation and access arrangements.

4.22 Current operator base facilities are located within an existing building situated on land off the Central Basin, this building has been retrofitted to provide an office, kitchen, mess, laundry, shop, storage areas and toilet facilities.

4.23 In addition to the above, necessities such as a refuse store, gas bottle store, fuel tank, pump area are located on site. Further specific boating services include electrical points, water points and a foul water pump out.

4.24 Parking accommodation for trip boat customers and staff is required for the business to run successfully. It is estimated that the current site can hold up to forty cars at peak, although this is recognised as undesirable for the visual setting of the Central Basin and visitor experience.

4.25 As such a careful relocation of operations in tandem with well-considered design could have benefits in kind to both the boating business and the visitor experience within the wider destination. The following list summarises the key aspects of the boating business's accommodation and sets what should be included within the proposed design.



ROOM REF	Measure 1 (M)	Measure 2 (M)	Area M ²
KITCHEN MESS	4.2 m	3.0m ²	12.6 m ²
OFFICE	5.7m	4.0m ²	22.8m ²
TOILETS	3.0 m ²	1.5m ²	4.5m ²
DISABLED WC	1.2 m	1.5m	1.8 m ²
LAUNDRY & STORE	7.0m	4.0m	28.0 m ²
SHOP	4.0 m	4.0m	16.0m ²
STORE	4.0 m	4.0m	16.0m ²
TOTAL FLOOR AREA =			101.7 m ²

Fig 4b Study of boat rental business existing space and layout

4.26 Existing Accommodation Summary

- Building as existing comprises of a laundry, storage, office, retail, and toilet facilities.
- The Laundry area has a washing machine, a tumble drier, a dishwasher, a freezer.
- Storage area holds linen, cleaning products, spare parts, lifejackets, miscellaneous items.
- Office comprises of two desks and other office furnishings and equipment.
- Retail offer is customer facing and sells soft drinks and cold snacks.
- Toilets accommodate private are for staff, with a customer accessible disabled toilet.
- Mess/ kitchen for staff
- Bin store.
- Service points – electricity point x4 for cleaning, water supply x5, foul pump-out point.
- Mooring rings generally as required for berths.
- 5000l diesel oil fuel tank above ground with dispensing pump adjacent canal serving 6 berths.
- Parking to accommodate up to 40 cars.
- External lighting for security
- CCTV for security
- Gas bottle storage
- Linen collection area

4.27 Proposed Accommodation Summary

- All accommodation included in proposed design work is to reach a design that the operator would be able to agree meets their requirements. Resulting proposals are subject to compliance with statutory approvals, contemporary building design standards, site specific design principles, public consultation, and ongoing site investigation.
- Existing internal spatial accommodation of the boating business is to be reflected in the proposed boating base building, which will generally include an office, laundry, retail, store, café/retail offer, and toilet facilities.
- External structures will include a Refuse Store, Gas Bottle Store, Pump out. Accommodation should be sited in purpose-built housing, sheltered, or screened, as necessary, to be of acceptable location and appearance within the site's setting.
- Adequate parking arrangements are to be located on site. Best endeavours to reach viable parking bay numbers for the business will be undertaken with due consideration given to the site's realistic capacity and mitigation of any potential adverse impacts upon the site's setting.
- An on-site fuel tank, pump and associated pipework system is required for servicing berths. Tank. Service points at 20m centre from berths with electricity socket, water, and foul pump out to both sides of island together with facility for diesel filling to provide mooring rings at 3m centres.
- A boarding area with approximately 2.5m wide surfaced area nearside to office to provide space for servicing vessels on turnaround, as well as providing ample space for customers to board with luggage.
- Accessible routes to the building entrance and lower mooring embarking areas are a necessity. A ramp down to the lower boat embarking area as an accessible route loading for luggage and aiding customers is desirable. Steps can be utilised to provide quicker access for staff servicing vessels and customers.
- Public and customer access to the retail space and site entrance to be included and carefully considered. A secondary/ staff entrances are required to enter the building away from public facing thresholds and provide access to external service spaces. A customer disabled accessible toilet will be fully accessible from the public area.

5.0 Design Principles

5.1 The following principles have been set out to shape the design approach towards a well-considered, contextually driven, high quality proposal. Design work has been structured around the principles in balance with the constraints of the site and requirements of the project's viability.

- 1.** Design proposals should be of an appropriate scale, height, character, and materiality to complement the visual setting of the Canal Basin, Pontcysyllte Aqueduct World Heritage Site, and designated Conservation Area. Proposed character, materiality and design detailing should respond to and grasp opportunities to enhance the surrounding context.
- 2.** Proposed development frontage or active facades and amenity spaces are to address the canal corridor to the south of the site. Areas within the design layout that include back of house activities such as service areas, delivery areas, waste storage/disposal are to be screened appropriately from the outward views of the canal corridor.
- 3.** Features of historic value and archaeology must be respected within the design proposals and not be dominated or degraded through the proposed development's design, which is to be primarily determined by Canal & River Trust, Wrexham Planning Authority, Cadw and CPAT.
- 4.** Adequate access to the canal side and Rose Cottage must be provided within the proposed design layout as agreed with the Canal & River Trust, Wrexham Council, and other landowners. Neighbouring access, waterside operational access requirements and fire escape strategies must be addressed through the proposed developments designs layout.
- 5.** Appropriate design strategies must be in place to safeguard the existing fabric of heritage value within the Basin, canal wash walls, embankments, neighbouring properties, and other structures which may be impacted by the development.
- 6.** Proposed parking, delivery facilities, refuse stores, or general servicing areas on the site should be carefully screened from the Basin's outward views through landscaping or other design strategies approved by Canal & River Trust. Design measures must be put in place to prevent entry of road vehicles into the canal from the subject site's proposed parking and access arrangements.
- 7.** Development Proposals are to have a positive impact on the canal corridor and ensure the following points are satisfied.
 - i.** Ensuring that development proposals do not conflict with national, regional, and local legislation and planning policies.
 - ii.** Prior to finalising a scheme for agreement, a detailed appraisal of the impacts on the historic buildings, archaeology and historic landscape

- iii. Preserve and enhance the Conservation Area and significant elements of the cultural heritage.
- iv. All the above to be carried out in consultation with the Local Planning Authority, conservation officer, planning officer and Canal & River Trust's heritage advisor, operations, structural, estates, boating business, planning and design consultants.

6.0 Design Concept

6.01 Early-stage design development focused on three outline layout options with the potential to fulfil the operator's brief, providing a comparative review of varying layout strengths and weaknesses.

6.02 At the core of each option, a primary focal building accommodates the boating rental business office, associated facilities, operational equipment, laundry, storage, and a shop and café.

6.03 Secondary buildings or externally weather screened structures have been considered as best approach to accommodate bin stores, gas bottle stores, a singular free-standing fuel tank and a covered structure for a movable pump.

6.04 Each option considered the requirements for boating movement, moorings, accessibility, and services along the basin. Parking arrangements contrasted from a larger singular area to a wider spread clustered approach, both with visible shielding provisions.

- **Option 1** echoed the existing footprint of the squarely formed prefabricated facilities on site. Although the concept had practical qualities, it was felt that detrimental visual impacts would likely occur for the destination at later design stages in relation to scale, appearance, and character within the setting.
- **Option 2** investigated a slender building upon the central 'island' and car parking located to the west. This concept had potential to be more directly engaged with the destinations north eastern entrance. However, it was felt that this option would result in issues of practicality, waterside safety, structural integrity, and potential for risk to any underlying archaeology.
- **Option 3** revisited the western side of the island fork to accommodate the primary focal building of the boat rental base. A dog legged footprint was formed under the premise that this longer, more slender building typology could better fit the vernaculars of the setting. This approach to layout also proved opportunistic for screening service and parking areas within the key views of the destination's context.



Option 1



Option 2



Option 3

Fig 6a. Extracts of early-stage options for potential layout possibilities.

7.0 Pre-application Advice

7.01 After carefully considering early-stage options, it was decided to further develop and refine concept Option 3 for submission to Wrexham Council through its pre-application guidance service.



Fig 7a. Outline Site Layout submitted to Wrexham Council for pre-application guidance.

7.02 In summary, the following key points set out the pre-application guidance relating to the current site, submitted outline design and considerations.

Broad Location of Development *The former buildings on the site, recently removed, were of a poor quality and identified within the Pontcysyllte Aqueduct Conservation Area Character Assessment and Management Plan as having a detrimental impact upon the character and appearance of the area. The removal of these structures and their replacement with buildings appropriate to the quality of the area, offers an opportunity to enhance this relatively neglected part of the Basin and WHS.*

The general footprint and layout of the proposed development is considered acceptable at this stage, subject to the findings of the archaeological evaluation and the scale and quality of the detailed design. More formalised parking arrangements are proposed with screening to minimise its impact. Stone boundary treatments are considered most appropriate for this location and should be properly detailed on elevation drawings.

Parking and Access. *Parking is required in accordance with the Council's current standards set out in LPG 16 (Policy T8). I have attached the highway consultation response from which you will note that additional information is required before the highway authority is able to give a definitive view on the proposal.*

Surface Water Management and Drainage. *In accordance with UDP Policies GDP1 and EC13, any application will need to demonstrate that a scheme of drainage can be achieved that will comply with the Welsh Ministers Statutory Standards for SuDS. Full consideration should be given to this requirement at the earliest stage within the design process.*

Trees and Landscape. *There are no objections in principle to the proposed scheme as the trees and vegetation present on site have been well considered as a material constraint, with the proposed development integrated accordingly with very little impact. However, further thought should be given towards the siting of the 8 no. parking bays proposed along the access route as the current scheme places bays in too close a proximity to individual category 'A' trees which form a valued woodland area; the function and benefits of which may be adversely affected during both construction and post construction usage.*

These parking bays may have a lesser impact upon the woodland and provide a safer approach for pedestrians if the bays were laid out in a more uniform, linear fashion on the opposing side of the access road.

A detailed hard and soft landscaping scheme should be included with the planning submission. The scheme must provide mitigation for any required loss of vegetation and enhance the aesthetics of the site and improve biodiversity levels.

8.0 Design Development; Scale, Form & Character

8.01 A study of structures within the canal's locality can identify similar architectural qualities within the Basin Dry Dock, Visitor Centre and nearby waterside examples along the Shropshire Union Canal, Llangollen Branch.

8.02 Local canal side structures present a typically low-lying scale with longitudinal form, covered by an uncluttered traditional pitched roof, without dormers or skylights.

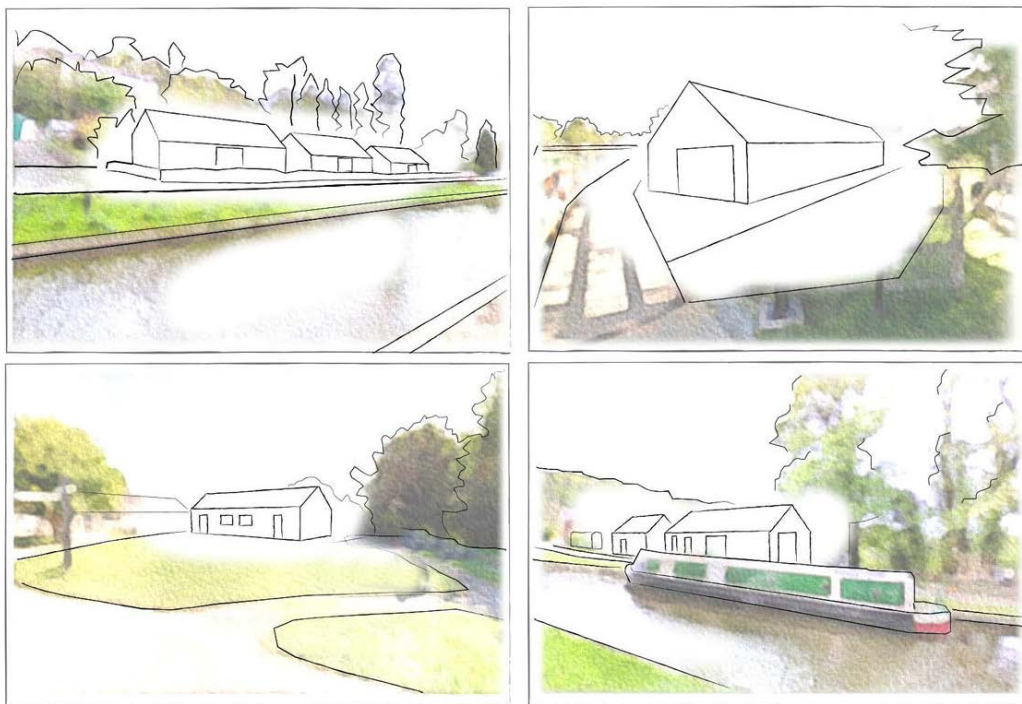


Fig 8a Sketch study of local architectural language aside of the basin and canal.

8.03 An architectural character was developed to reflect upon the simplistic, low scale, traditionally pitched forms of the historic canal side houses, operational buildings, and sheds sited along the local waterside.

8.04 Within this architectural language, openings often comprised of large operational entrances, double doors, or vertically thin proportioned single leaf. Windows tended to be simple openings, with a range of differing fenestration styles.

8.05 large solid wooden shutters on openings are a notable characteristic upon built forms frontage, which provide shelter, resilience, and security to the openings.

8.06 With the intention to harmonise with the site's setting, a palette of contemporary but contextually relevant materials has been carefully selected.

8.07 At present, woodland immediately surrounds the basin fork. A primary material of timber cladding has been selected to blend the proposed structures into the wooded setting.

8.08 Roof materiality is made up of dark metallic standing seam covering system. This will distinguish the building as contemporary while appreciating the darker tones of slate found typically in the local area.

8.09 Dark metallic window frames form the appearance of the scheme's fenestration. This foremost presents a high-quality finish in a contemporary architectural language, while echoing industrial tones.



Fig 8b Developed architectural language of the scheme.

8.1 Design Development; Setting, Layout & Landscape.

8.10 Early studies of the existing site's context set out key views to encourage ongoing review of appearance and place making. 3d models of proposals helped to visualise the developing proposals within the existing landscape.

8.11 Development of the design's layout within the setting required a balance of screening the operational requirements of the boating business while celebrating its outward facing customer experiences within a design of considered appearance for the destination.

8.12 After careful consideration of pre-application guidance, the layout set about focusing key views onto active frontage, building thresholds and amenable landscapes, while screening the service areas such as parking, refuse storage and mechanical equipment away from visitor sight lines.

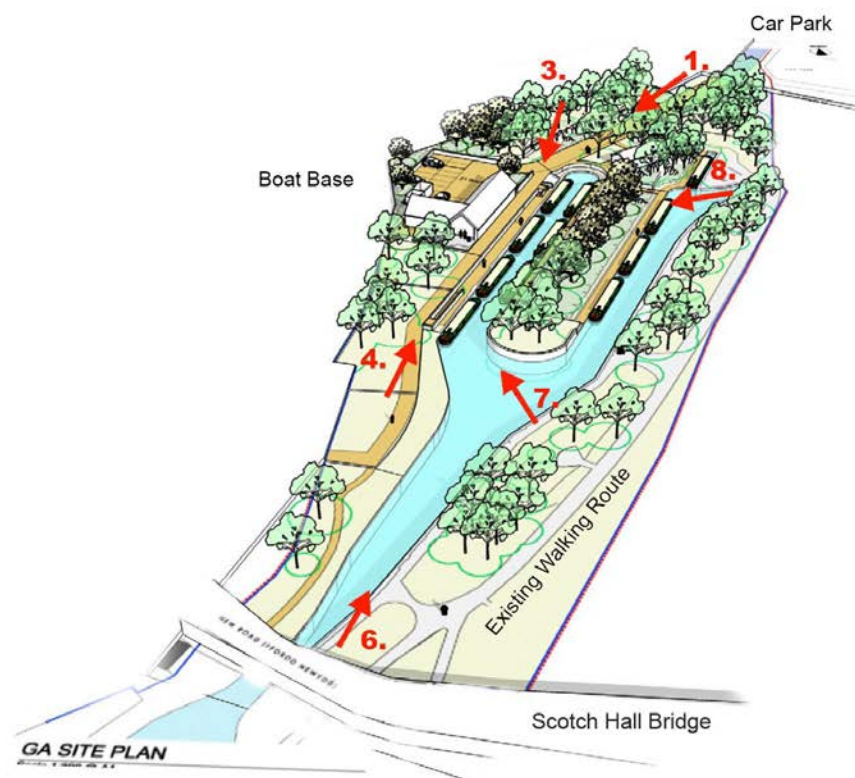


Fig 8c Developing model within the setting.

8.13 The central island is used as an opportunity to present a contemporary naturalistic landscape scheme through native tree and shrub planting and linear log pile habitats to promote biodiversity.

8.14 External surfaces surrounding the proposed building and connecting routes through the site consist of tar and chip surfacing to match recent footpath improvements and a thin underlying grass reinforcing mesh strip. The larger areas of surface are left as 'made' ground supported by matching loose bound gravel where required.

8.15 External masonry walls primarily consisting of locally quarried natural stone are carefully positioned to screen service and parking areas.. Railway timber sleepers low retaining walls are used in the wooded areas around the island, distinguishing as new over the stone canal wash walls.

8.16 Railing and balustrade are black coated estate fencing to keep consistent with the wider area. This offers a cohesive approach to feel and character within the destination setting.

8.17 Lighting is kept minimal in the landscape plan with only low-level micro-LED's marking key points of pathways. Boating service bollards and other paraphernalia are to be painted black to tie in with the feel of the surrounding ironwork.



Fig 8d sketch image of design showing the various aspects of the landscape design within the setting of the basin.



Fig 8e sketch image of aerial view facing north from Scotch Hall Bridge.



Fig 8f sketch image of aerial view west over the basin island

8.2 Design Development; Structural Considerations

8.20 As design work progressed following pre-application advice, structural design guidance was received from Canal & River Trust regional and national Structural Engineers.

8.21 On site visual and point cloud surveys were commissioned to better understand the existing condition of the canal wash walls. They were found to be in a condition acceptable for the design in principle, with some potential for light remedial works to be undertaken. Fig 8h on the following page shows a selection of images from the process.

8.22 Professional guidance from the Trust's regional structural engineer focused on the fork, already containing a rudimentary block work retaining wall, grass embankment and canal wash walls.

8.23 It was recommended that a rule of 45 degrees influence from the wash wall base should be implemented of which heavy vehicle road use structures should be placed outside as illustrated in fig 8g.

8.24 A sectional drawing was produced to check the design meets the 45-degree angle as a desktop structural safety check. After further consideration, it has been demonstrated that the current proposals structurally better the existing site arrangement in this regard.

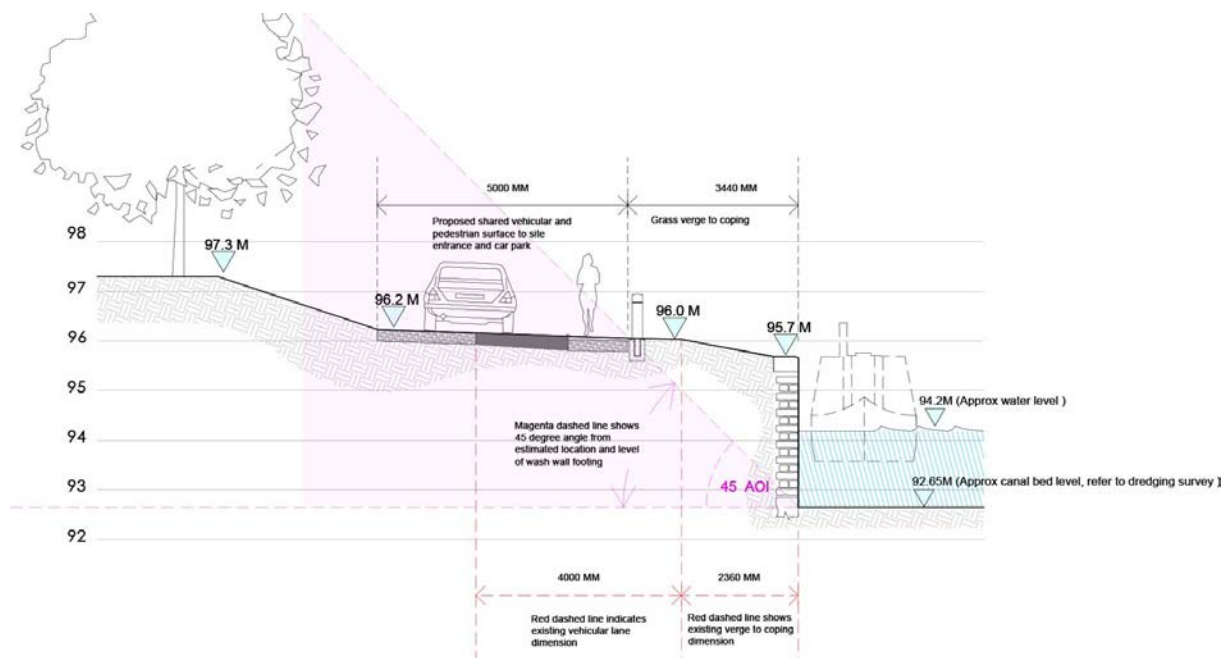


Fig 8g Design checks in section to ensure any heavy vehicular loads would remain outside of the 45-degree angle of influence on the historic basins wash walls.

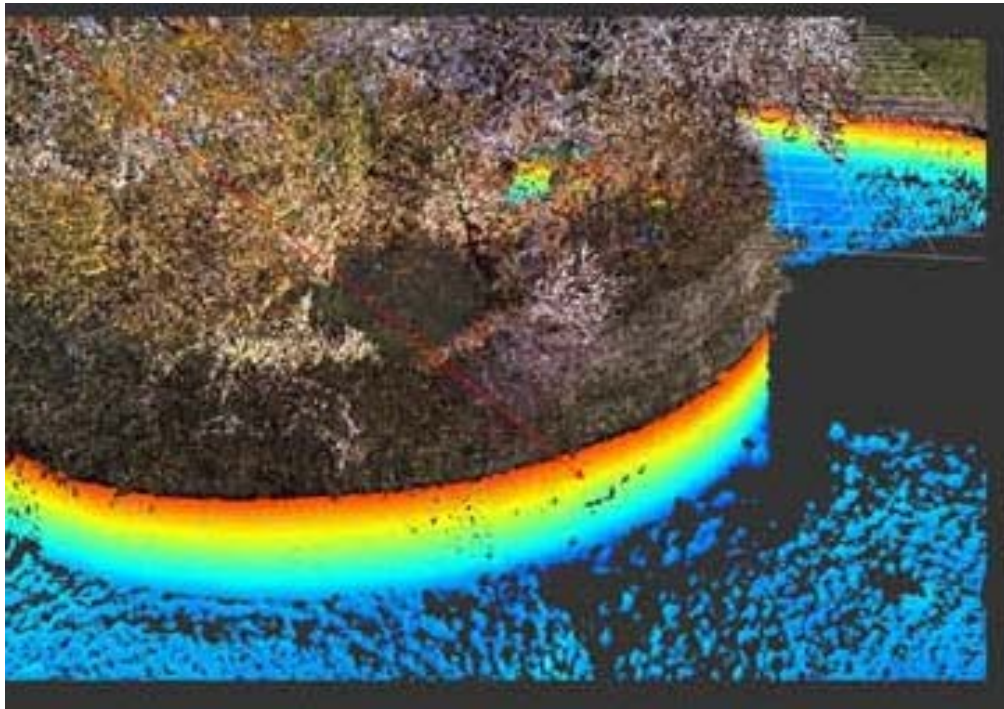
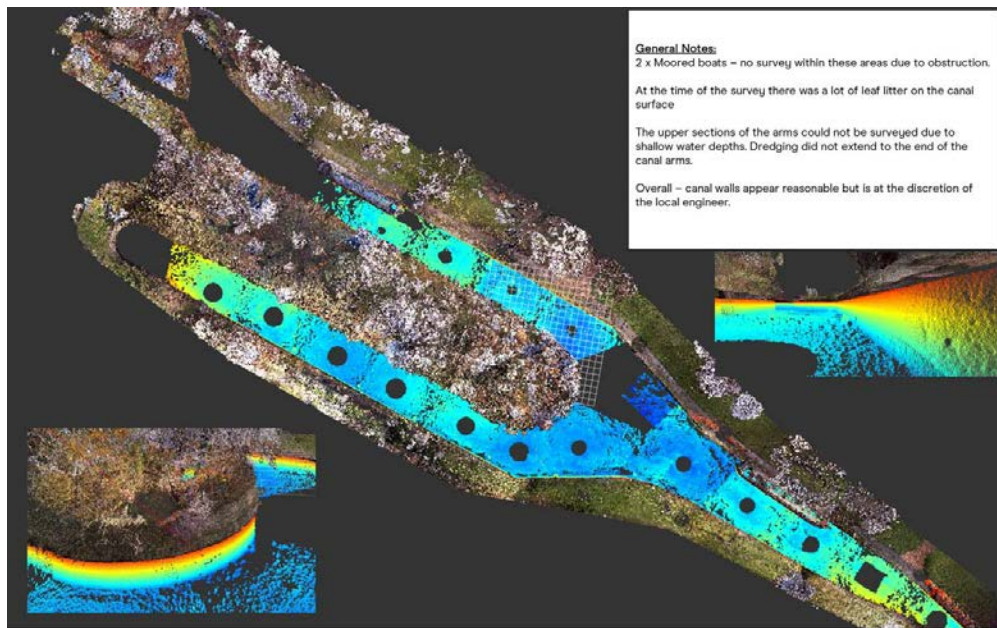


Fig 8h image data taken from the commissioned point cloud survey to study and review wash walls existing structural condition.

8.3 Design Development; Archaeological

Pre-application guidance advised that the general footprint and layout of the proposed development is considered acceptable at pre-application stage, subject to the findings of the archaeological evaluation.

A written scheme of investigation (WSI) is included in the full planning application information, this establishes the appropriate methods of archaeological investigation relevant to the developed final designed scheme.

Further consultation with Wrexham Council, CADW and CPAT have identified key locations and dimensions of investigative trenches based on mapped historic locations of interest within the site. Trench locations also reflect areas of proposed intrusive groundworks, such as foundation locations, key landscaped areas, and hard surfacing.

8.4 Design Development; Access

8.40 Matters of access, transport and accessibility relating to planning policy are discussed within the Planning Statement and Transport Statement to demonstrate accordance with the Government's latest Planning Practice Guidance 'Travel plans, transport assessments and statements in decision-taking'.

8.41 Accessibility and access for all has been well considered within the design development process as called for by the NPPF chapter 12, paragraph 127, Planning policies and decisions should ensure that developments f) create places that are safe, inclusive, and accessible and which promote health and well-being, with a high standard of amenity for existing and future users.

8.42 The site's former arrangement of prefabricated buildings and access arrangements were of poor quality, with high stepped access up to floor levels, steep steps and ramps to moorings, poor surfacing for pedestrian routes from the site entrance and no disabled parking bays.

8.43 The proposals significantly improve this accessibility through a design of contemporary standards and thoughtfulness. From arrival to the site boundary from public realms there will be gradual and steady levelling with suitable external surfaces for ease of accessibility and travel to the building's main entrance.

8.44 A disabled parking bay has been placed near to the entrance, to comply with contemporary access standards. Within the building, a disabled toilet has been located next to main entrance.

8.45 Ramped accesses comply with design standards and regulations and provide enhanced access for customers.

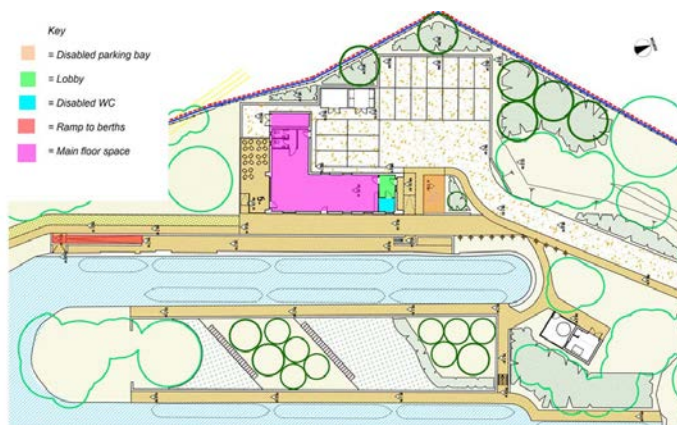
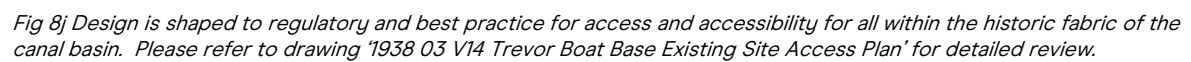


Fig 8i Design is shaped to regulatory and best practice for access and accessibility for all within the historic fabric of the canal basin.

8.46 Access to the site from Tower Hill and Queen Street has been well considered and proposals are shown in drawing '1938 03 V14 Trevor Boat Base Existing Site Access Plan'. The proposals will retain the use of the existing bollards (at the north end of the access road) for security management out of operating hours.

8.47 The proposals from Tower Street aim to enhance the current the quality of access for pedestrians and vehicles through a shared surface, which can standalone until improved further within the bigger picture, as set out within the Trevor Basin Masterplan.

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8.5 Design Development; Sustainability

8.50 As a new build, the primary boating base facility accommodating the office, store, shop and other services will be designed to achieve compliance with the criteria as detailed within the Welsh Building Regulations Part L2A, 2014 edition including 2016 amendments, Conservation of fuel and power in new buildings other than dwellings (ADL2A).

8.51 The architectural design will be developed further with an accredited energy assessor who will guide the technical design and specification further to demonstrate compliance with ADL2A.

8.52 The new boat base building fabric will be designed and specified to be as good or better than the worst acceptable values set out in 4.2 Table 3 of ADL2A. To succeed in achieving full compliance with ADL2A, best starting points values will be targeted within the specification and design as referenced by in Fig 8c.

Building Fabric	Worst acceptable parameter	Best Starting Point
Roof	0.25 W/m ² .K	0.14 W/m ² .K
Wall	0.35 W/m ² .K	0.22 W/m ² .K
Floor	0.25 W/m ² .K	0.18 W/m ² .K

Fig 8c table shows the principal building fabric values to be as good , or better as set out in ADL2A alongside 'best starting points' as set out in the guidance document 'Building Regulations for the Conservation of Fuel & Power, Wales new buildings other than dwellings' , produced by Kingspan Insulation Ltd.

8.53 Passive control measures to limit overheating has been considered within the flexibility of the overarching building design strategy. Should mechanical ventilation not become the adopted approach, the layout could allow for natural cross ventilation through openable windows.

8.54 Horizontal breeze solar have been specified over the south facing glazed area to shade the window openings. In Winter months, the breeze solar will improve internal comfort by preventing glare from the low winter sun.

8.55T ADL2A calls for consideration of high-efficiency alternative systems for new buildings. As a flexible layout, there would be room to retrofit or include any further alternative or emerging energy-efficient systems should the operator wish to include them in the future.

8.56 An early design consideration an air source heat pump has been considered, which would draw heat into the building without the use of gas fuel, this draws on the potential to be powered by renewables within the national grid. As such, provision near the plant room of the boating base has been allocated for an air source heat pump unit to be installed.

8.57 Ground source heat pumps can be considered. As a historically sensitive area, ground works and alterations to the setting would require a well-considered feasibility process. As proposed a ground source heat pump system is not planned, as an air source option is of a similar concept and favoured considering the project's scope.

8.58 A water source heat pump could be installed to tap into the heating properties of the water, although this not planned at the present time. If this technology were to be considered retrospectively, a specialist consultant would be needed to advise on the suitability of the system in the canal basin.

8.59 Photovoltaics (PV's) are a notional possibility within the design strategy and could be installed on the roof space to feed renewable energy back into the building and national grid. As such, space has been allocated for their consideration during technical design stages and compliance further statutory approvals in relation to ADL2A.

8.60 Materiality and sourcing of products will aim to consider their embodied energy in the construction process, carbon neutral, locally sourced, re-claimed materials and goods will be favoured, checks for environmental product declarations and sustainability of construction works will be made during the specification process.

8.61 In principle, the primary building material specifications comprises of recyclable materials such as a metallic standing seam roof, metallic eaves and guttering details, fenestration, and timber rainscreen cladding, with opportunity for other sustainable choices to be sought throughout the detailed design.

8.62 Felled trees are to be cut and stacked on site to lower waste and create environments for wildlife. Ample and accessible waste storage is to be provided to fully encourage responsible recycling.

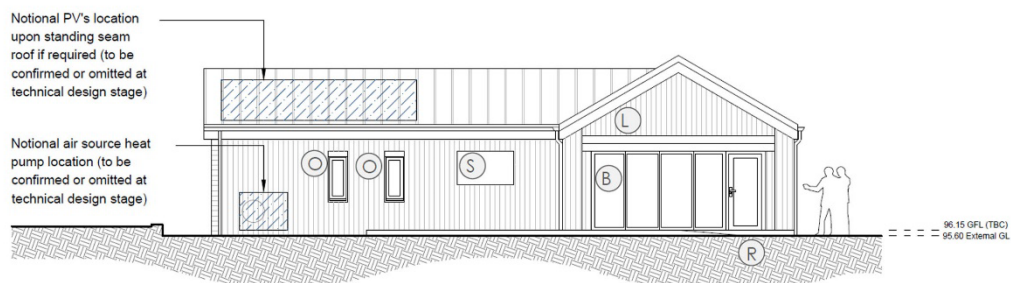
8.63 Encouraging environmentally friendly journeys is recognised as important aspect of the site arrangement and design. Provision for journeys by cycling are encouraged through an external bike storage area, or the possibility of a secured area within the boat rental base or external stores should the operator chose in the future.

8.64 providing the opportunity for accessible journeys on foot to pass under the western arch of Scotch Hall Bridge, which will promote better physical and legible accessibility to the site. Note that access through this part of the bridge will be controlled through a lockable gate to prevent antisocial behaviour at night.

8.65 Electric charging provision for boats is to readily accessible to berths along the water which can be drawn from renewables within the national grid. Provision for electric car charging will also be carefully considered in detailed design. Either type of charging points could be retrofitted easily and draw power from photovoltaic technologies.



Fig 8k Sketch to show building design with notional / optional photovoltaic panels in place on the roof.



Proposed Elevation D-D

Scale 1:100 @ A1 (faces external seating area)

Fig 8L Elevation extract from drawing 1938 35, showing notional locations of photovoltaics and air source heat pump, to be confirmed or omitted at technical design stages following further reporting and considerations.

9. National Planning Policy Framework (NPPF) 2019

9.01 At its heart, the NPPF has a presumption in favour of sustainable development. Section 2 of the NPPF details how sustainable development can be achieved through the application and consideration of three overarching objectives, one of which is *'to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land...'*

9.02 Section 16 of the NPPF contains policies relating specifically to the conserving and enhancing of the historic environment. Paragraph 184 informs us that, *'these [heritage] assets are an irreplaceable resource and should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations'*.

9.03 Paragraph 185 states that Development Plans should set out a positive strategy for the conservation, and enjoyment of the historic environment, including those heritage assets most at risk. It then states that, *"this strategy should take into account [amongst other things]:*

9.04 Paragraph 192 of the NPPF suggests that, in determining applications, *"local authorities should take account of*

- a) The desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;*
- b) The positive contribution that conservation of heritage assets can make to sustainable communities including economic viability; and*
- c) The desirability of new development making a positive contribution to local character and distinctiveness."*

10. Conclusions

10.01 The design team believe the proposal has been informed by local policy, the emerging master plan for Trevor Basin and will breathe life into a vacant site through investment and regeneration which will ultimately reduce boat, pedestrian and vehicular congestion within the main basin area having a positive impact on manoeuvrability across the site.

10.02 Proposals offer a high-quality development for the boating business to transition into a different location within the destination, enabling them to continue to generate boating activity and experiences for people currently wishing to visit the area and explore the waterways.

10.03 A contextually driven approach to design development will successfully integrate the proposed development into the existing setting of the surrounding basin fork through the designs carefully considered arrangement, form, scale, materiality, landscape, and character.

10.04 Structural aspects have been considered through robust investigations and review at pre-application stage, this will continue through the process of development ensuring that the sites historic assets and infrastructure will be protected through the design and construction methodology.

10.05 Heritage and Archaeology are discussed fully in the supporting documents with supporting guidance and conclusive summaries.