Tideway

HERITAGE INTERPRETATION STRATEGY

‘RIVER OF LIBERTY’

FULL REPORT

CONTEMPORARY CULTURE LIQUID HISTORY

FOREWORD

I am delighted that Historic England is working with Tideway and its partners to deliver this Heritage Interpretation Strategy. The Thames Tideway Tunnel will provide many new opportunities to understand and appreciate our relationship to the Thames better.

Duncan Wilson –
Chief Executive, Historic England

The Heritage Interpretation Strategy is a project-wide framework for the Thames Tideway Tunnel Project, prepared in consultation with Historic England. The Strategy sets out the historic and cultural themes that will inspire the project designers, artists, and engineers in delivering the new public realm, landscaping, art and infrastructure created by this project. This approach is key to getting the best for the public out of any new infrastructure project, and the Tideway Project is truly monumental.

While the project is challenging, it is an immensely exciting opportunity to build on the achievements and vision of Joseph Bazalgette and those brave Victorian engineers who fought to build a cleaner, healthier London for the benefit of all its inhabitants. Bazalgette's sewer system, built between 1855 and 1865, used 318 million hand laid bricks. It saw the construction of the Chelsea and Victoria embankments and the fabulous pumping stations at Chelsea, Greenwich, Crossness and Abbey Mills. The historic sewer system changed not just the quality of the environment but the appearance and relationship of London to the Thames. It was a triumph of Victorian ambition and engineering for the public good.

Running alongside and integrating with the historic system the new 25km tunnel will stretch from Acton Storm Tanks in the west to Abbey Mills and on to Beckton Sewage Treatment Works in the east. The scheme is driven from 24 work sites, and will create four acres of new publicly accessible land.

Taking the concept "River of Liberty" as its overarching theme, the Heritage Interpretation Strategy looks at the Thames as a rich and complex allegory, encompassing the delivery of London from the tyranny of disease, dynamic concepts of personal liberty, and individual stories which reflect the many communities and aspirations associated with the Thames.

The project will not only safeguard our precious environment. It will create new landscapes, art works, and public experiences which reflect the river's rich history and reconnect us to the Thames, which is in many ways the lifeblood of our great capital. This strategy establishes a compelling cultural and historical narrative for the Tideway Tunnel Project.

CONTENTS

ABBREVIATIONS

AHI	Association for Heritage Interpretation
CSO	Combined Sewer Outfalls
CA	Conservation Area
DCO	Development Consent Order
GLC	Greater London Council
HBMCE	Historic England (Historic Buildings and Monuments Commission for England)
HOBAC	House of Beauty and Culture
ICOMOS	International Council on Monuments and Sites
LLAU	Limits of Land Acquired or Used – the construction site's limits
LCC	London City Council
MAB	Metropolitan Asylums Board
MBW	Metropolitan Board of Works
MOLA	Museum of London Archaeology
OFSTED	Office for Standards in Education, Children's Services and Skills
OAWSI	Overarching Written Scheme of Investigation
STEM	Science, Technology, Engineering and Mathematics
TTT	Thames Tideway Tunnel
TWUL	Thames Water Utilities Limited

1 EXECUTIVE SUMMARY

"There are two things scare matched in the Universe – the Sun in the Heaven and the Thames on Earth."

Sir Walter Raleigh (1552-1618)

Sunset on the Thames Estuary
© Mary Evans Picture Library

EXECUTIVE SUMMARY

"And the city of London shall have all its ancient liberties and free customs, by land as well as by water."

Magna Carta 1215

"The past for some of us now is our only populous and habitable world, invisible to others, but alive with whispers for us. Yet the sea still moves daily along the old foreshore, and ships still come and go, and do not, like us, run aground on what is not there."

H M Tomlinson 1921 (1928 reprint) London River Cassell's Pocket Library

The Thames Tideway Tunnel

London has outgrown its sewerage system. The capacities originally allowed for in the sewer network designed by Sir Joseph Bazalgette in the 1850s have been significantly exceeded. The Thames Tideway Tunnel project (scheduled for completion in 2022) will extend London's sewerage system to cope with the demands of the city well into the 22nd century.

The existing network is designed to allow discharges of untreated sewage into the tidal River Thames, to prevent the network flooding back into streets and people's homes. Originally it rarely discharged, but London's combined sewer outflows (CSO) now operate more than fifty times a year, discharging millions of m^3 of combined sewage into the Tideway with the result that:

- dissolved oxygen levels in the river 'sag' or crash, which reduces biodiversity and sometimes causes mass fish kills;
- pathogenic bacteria are discharged that pose health risks to river users;
- approximately 10,000 tonnes of wastewater solids and litter form slicks on the river surface or are deposited on the foreshore.

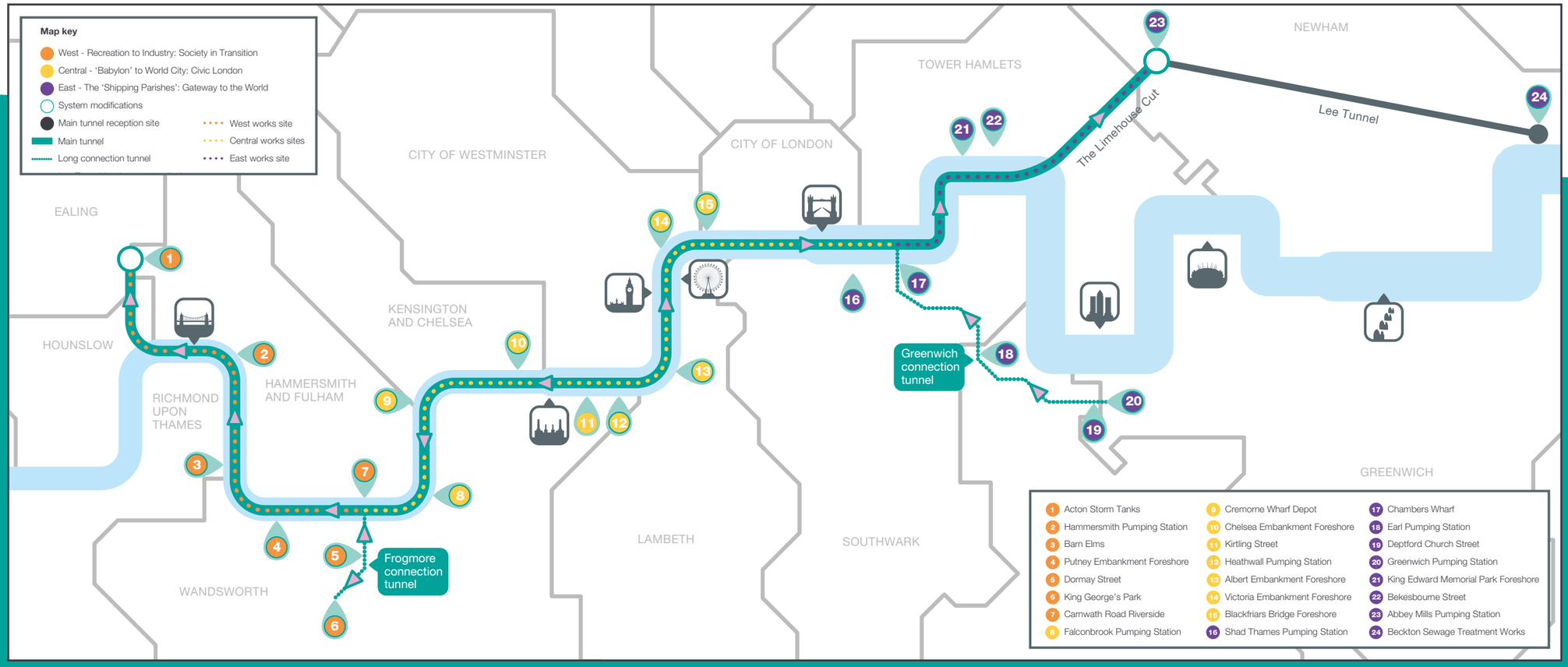
The sewers were built to last and are in excellent condition. They have sufficient capacity for dry weather flow, but population growth and the development of land that previously absorbed rainwater, mean many of the main sewers operate at close to maximum capacity much of the time. A decade of study has concluded that the most timely and cost-effective solution to the CSO discharge problem is a 25 kilometre storage and transfer tunnel running up to 65 metres below the river – the Thames Tideway Tunnel.

Starting in west London, the proposed main tunnel generally follows the route of the River Thames to Limehouse, where it then continues north-east to Abbey Mills Pumping Station near Stratford. There it will be connected to the Lee Tunnel, which will transfer the sewage to Beckton Sewage Treatment Works.

The Thames Tideway Tunnel's use of river transport for the construction of the tunnel is set to be on a scale unprecedented in modern times. A total of 4.2 million tonnes of project materials will be conveyed by barge on the river. This will create the need for a major modernisation of the fleet of commercial boats operating on the river and the project will be a trigger for the training of a new generation of 21st century river workers – tug masters, barge hands and deck hands. The Tunnel will reinvigorate the river, both as a habitat and as a workplace; the Heritage Interpretation Strategy seeks a similar influence on the river's culture.

Tideway's legacy objectives are bold but deliverable:

- **Environment**: Protect and enhance environment,
- **Economy**: Contribute to the rejuvenation of London's river economy,
- **People**: Greater wellbeing for all, improved health for river users,
- **Place**: Improved public realm, safer communities, less crime a more cohesive society.



For the most part the scale and engineering of one of the UK's leading infrastructure projects will remain unseen, but will be represented and announced through the creation of four acres of new or improved public realm, comprising landscaped permanent structures connecting the existing sewer system to the tunnel; the design of which will be informed by the Heritage Interpretation Strategy.

The tunnel is divided into three sections that will be constructed concurrently:

- West – includes 7 worksites between Acton and Falconbrook;
- Central – includes 9 worksites between Cremorne Wharf and Shad Thames;
- East – includes 8 worksites between Chamber's Wharf and Beckton Sewage Treatment Works.

Tideway Heritage Interpretation Strategy

The Development Consent Order (DCO) requires a project-wide Heritage Interpretation Strategy (HIS) to be prepared in consultation with Historic England (Requirement PW11). The Interpretation Strategy examines the significance of the River Thames and sets out a framework within which interpretation can be developed and implemented. Tideway's overall vision for the project, which is to *Reconnect London with the Thames* has informed the approach taken and the principles that have evolved.

The **purpose** of this document is to provide a framework, or 'road map', describing the Projects approach to engaging people and making connections of long term value.

The **aim** of the Interpretation Strategy is to open new perceptions and perspectives of the river so that people are inspired to encounter the Thames and experience its history and influence on London's contemporary culture and ways of living. It will communicate the Thames unique cultural heritage and awaken Londoners and others to its value to the city and to the lives they live, stimulating interest, experience and exploration.

The Interpretation Strategy, therefore, responds to the heritage knowledge and resources embedded in the river and woven into its architectural fabric and strives to engage and foster a sense of connection and cultural authenticity.

The Victorian sewer system created by Sir Joseph Bazalgette is intimately connected with the river and with Tideway. In addressing the chaos that was Victorian London's drainage, and associated disease and ill health, the sewer network shaped the development of central London. Through the creation of the monumental Thames Embankments it set the tone for London's emergence as a World City. The Interpretation Strategy recognises the pioneering nature and significance of Bazalgette's sewer system in the context of wider social, economic and political changes that together had a profound effect on the early development of a modern metropolis.

The 'Silent Highway' Man 1858
© Mary Evans Picture Library

The Interpretation Strategy is supported by a wealth of historical and cultural research. Its focus is 'River of Liberty': a unifying theme emulating the Victorian legacy, correlating with Tideway's values, and a universal and timeless human value that:

- embraces and amplifies the central purpose of the Metropolitan Board of Work and Bazalgette's vision, which was to free Londoner's from poor health and economic harm;
- recognises London's status has relied on river authorities who, for a millennium, have maintained free navigation of the Thames, allowing free trade and the movement of people and services;
- acknowledges the river as a force of nature, and thus a dynamic metaphor for the 17th and 18th century notions of natural laws and rights on which modern classical liberalism is based, i.e. freedom of the individual;
- has shaped the riparian heritage at many works site locations, which illustrate how the river has been engineered to support social and economic activities that have generated greatest benefits for the greatest number (utilitarianism).

The three geographic areas of the project, which the Interpretation Strategy defines 'cultural meanders', have been analysed and characterised as the following:

- West section – *'Recreation to industry: Society in transition'*;
- Central section – *'Babylon to World City: Civic London'*;
- East section – *'The Shipping Parishes: Gateway to the World'*.

Within the cultural meanders each work site is described under the heading 'Liberty Sites'.

The Interpretation Strategy is presented in five sections:

- Setting the Context: this introduces the Thames heritage, the Tideway Project, consent requirements and the Public Arts Strategy;
- Tideway Heritage Interpretation Principles: this sets out the overarching key messages that guide interpretation;
- Interpretation Framework: this examines the significance of the Thames and looks in detail at the three geographical areas and the individual sites therein, presenting narratives to inform the development of interpretive materials;
- Guidelines for Interpretation: this presents guidelines for designers translating the principles and framework narratives into practical applications;
- Interpretation & Legacy Engagement: looking at the Project as a whole, this section identifies additional ways to engage with audiences and promote the long term value of the Project.

2 INTRODUCTION – SETTING THE CONTEXT

Landing fish at Billingsgate Market 1881
© Illustrated London News/Mary Evans Picture Library

INTRODUCTION – SETTING THE CONTEXT

The Value of the Historic Environment

The historic environment is an asset of enormous cultural, social economic and environmental value. It makes a real contribution to our quality of life and the quality of our places. Existing heritage assets are irreplaceable and it is important to understand, conserve and where appropriate to enhance the markers of our past[1].

It is also a valuable tool to encourage wider involvement in our heritage and helps ensure everyone, both today and in the future, has the opportunity to discover their connection to each other and to those who came before. The historic environment helps tell where we come from and gives a sense of who we are.

The historic environment is part of our everyday lives. People cherish places, and the values of the historic environment lie in defining and enhancing that connection of people to place. It provides roots and is intrinsic to our sense of place and cultural identify. It forges connections between people and the places where they live and visit, collectively telling the story of our shared past.

The historic environment also provides a foundation for more engaged and active communities by offering opportunities for learning and recreation. It can be central to local identity and engender a sense of ownership in an area, as well creating physical and social wellbeing.

For Tideway the historic environment is a key factor in the underlying rationale for the Project and contributes to many of our Legacy objectives.

Understanding Thames' Heritage

The River Thames' ability to reach and influence people's ways of life is fundamental to understanding its long-term cultural legacy and heritage value.

The Thames is a natural force running through the heart of the metropolis. It has a powerful presence that has supported pre-human and human communities in the region for c.500,000 years. It is a conduit for cultural contact between London and the rest of the world. At times it has served to promote common purpose; at others it has been appropriated to specific or proprietorial interests. It is associated with cultural practices that have wide-ranging consequences for different groups or individuals, connecting Londoners to distant shores and distant times.

The Temple and Thames in the 18th century © Antiquarian Images/ Mary Evans Picture Library

1 The Governments Statement on the Historic Environment for England. 2010

16th century map of London and the River © Antiquarian Images/ Mary Evans Picture Library

River regimes across the globe have driven patterns of past human settlement and is a resource used from the earliest times. The evolved hydrology and topography of the Thames (including confluences with its major tributaries), and repeated attempts to manage change, is a dominant influence on all heritage assets along the route of the Tideway. It is also a principle factor in the development of London as a World City.

Interpreting the Thames, its different character reaches and specific riverside places, begins by understanding and defining how, why, and to what extent it has cultural and heritage value. Equally important is the ability to define heritage qualities that people value as relevant and pertinent to the lives they live.

At the core of the Interpretation Strategy is the Heritage Baseline analysis (Appendix E) that provides knowledge resources to assist implementation of the key interpretive messages, particularly for designers responsible for developing Tideway's permanent contribution to London's public realm.

This baseline analysis treats the Thames as a single multi-faceted heritage entity. It describes contextualized characterisations of the urban river environment, examining in turn the river itself, the three riparian character areas corresponding with the Tideway project contract sections and each of the 24 individual work sites.

The central theme, ***'River of Liberty'***, presents the river as an allegory of Liberty, highlighting a heritage of contested and determined notions, of constraint and opportunity, that continues to inform public discourse and influence the character and cultures of London.

19th century map of London and the River © Antiquarian Images/ Mary Evans Picture Library

Development Consent Order Schedule 3 Requirements

Heritage Interpretation PW11

Consent for the development of the Thames Tideway Tunnel was granted through The Thames Water Utilities Ltd (Thames Tideway Tunnel) Order 2014. The Development Consent Order (DCO) is the prime driver of the project's engineering and design vision.

The consent is subject to the provisions of the Order as set out in Schedule 3 Requirements. These are delivered with reference to Tideway's Design Principles, which clarify how Tideway's vision will be achieved.

Schedule 3 Project Wide Requirement PW11 requires the preparation of a Project Heritage Interpretation Strategy. The requirement states:

a. A project-wide Heritage Interpretation Strategy shall be developed in consultation with the HBMCE within 12 months of the start of construction, in accordance with the Overarching Written Scheme of Investigation (OAWSI) and Design Principle HRTG.07;

b. The Strategy shall be implemented at site level through the landscaping details to be submitted for approval by the relevant planning authorities, or pursuant to a specific heritage interpretation requirement;

c. The authorised development shall be carried out in accordance with the approved details, unless otherwise approved by the relevant planning authorities in consultation with the HBMCE.

The Design Principle (HRTG 07) and the section of the OAWSI referred to above provide clarification on the objectives and scope of the Heritage Interpretation Strategy and are set out in full in Appendix A.

The Heritage Interpretation Strategy provides a framework for Tideway to engage with audiences across a range of subject areas and media. But the key focus is the delivery of interpretation in the new and improved public realm design. Interpretation proposals for each site will form part of the overall landscape treatment, developed pursuant to DCO Schedule 3 Requirements. These will be subject to the approval of the relevant local authority, in consultation with HBMCE and other relevant stakeholders.

Somerset House and the River in the 18th Century © Antiquarian Images/Mary Evans Picture Library

17th century panorama of the City looking towards the Tower of London © Antiquarian Images/Mary Evans Picture Library

Historic environment and design

The Interpretation Strategy is to be delivered principally through DCO landscape design site specific requirements, as stated in PW11(b). However, it has a bearing on the architectural design of permanent structures adjacent to listed buildings or within conservation areas, and will be material to Tideway's proposals to mitigate the effect of development on these historic assets.

The full scope of Schedule 3 design and heritage conservation requirements, as pertinent to heritage interpretation, is set out in Appendix B. Those requirements that are essential for compliance with PW11 are shown in bold, others relate to permanent structures that affect the setting of listed buildings or the character of conservation areas.

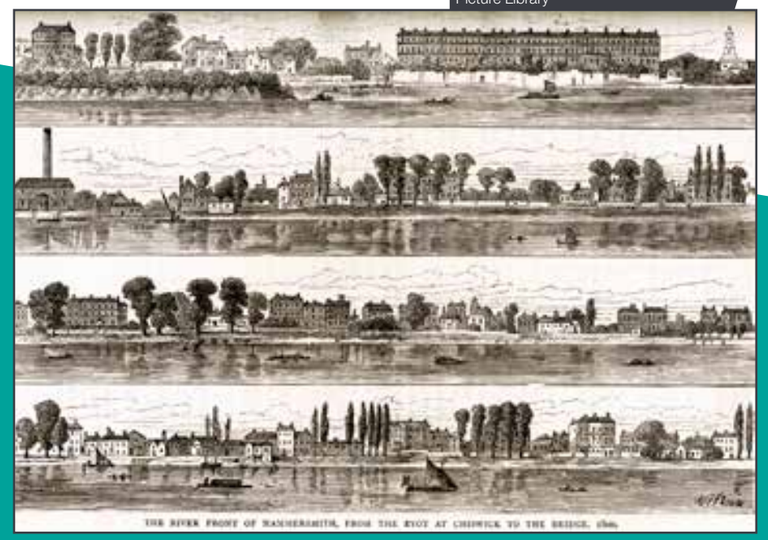
The Interpretation Strategy will assist designers prepare proposals that protect and enhance the setting of historic assets in these sensitive heritage locations. The creation of new architecture and public realm should inspire future users of these new spaces to explore further cultural dimensions of the urban river environment.

Purpose of Interpretation

Interpretation enriches lives through engaging emotions, enhancing experiences and deepening understanding of places, people, events and objects from the past and present. It brings places, objects and ideas to life, by creating thought provoking and memorable experiences that connect people with our cultural heritage.

Revealing hidden stories and meanings deepens people's understanding and expands their horizons. In particular it enables communities to better understand their heritage, and to express their own ideas and feelings about values inherent in the local culture. Appendices C and D set out relevant policy and guidance related to Heritage Interpretation.

The Thames River Front at Hammersmith 1800 © Antiquarian Images/Mary Evans Picture Library



Gladys Clements Water skiing on the Thames
© Mary Evans Picture Library

Tideway Vision and Values

The Tideway vision and values are critical to the development and implementation of the Interpretation Strategy. The vision is articulated as follows:

- *Our challenge is to build a new sewer for London, to prevent the frequent pollution of the River Thames.*
- *Our vision is not just to clean up the Thames but to promote a change in the relationship between London (and Londoners) and their river.*
- *This is what we call…*

RECONNECTING LONDON WITH THE THAMES

This vision will be achieved in accordance with Tideway values:

- *Treating people, and their cultures, with respect, empathy and integrity.*

This vision of re-connecting London with the Thames is central to the Interpretation Strategy aims and to the principal theme and site specific narratives that present the river as a cultural entity. Equally important are the values by which Tideway operates and its intent to engender a Project culture of opportunity and respect for diversity. This intent, to influence the potential for people to overcome constraints that otherwise limit life opportunities, is encapsulated in the overarching heritage theme 'River of Liberty'.

Public Art Strategy: Art on the Tideway: turning to face the river

A Public Art Strategy (PAS) has been developed to provide the mechanism to deliver the heritage interpretation, via commissions integrated with the landscape design. The approach to the PAS is informed by the overarching project vision to reconnect London, and Londoners, back with the River Thames. Early 19th century Londoners turned their backs on the Thames, as industry grew along with the associated pollution. Today we are turning back to face the river.

The ambition is as follows:

- *Art on the Tideway will reposition the tidal River Thames as a new cultural venue. A bold world-class art programme, created with local communities and stakeholders, will celebrate the achievements of the Thames Tideway Tunnel, through the presentation of site responsive artworks and projects. Exploring heritage and looking to the future, artists will animate new public spaces and create neighbourhood interventions to surprise, delight and inspire diverse audiences.*

Key objectives of the public art programme are to:

a. Create unique artworks that express the transformational importance of the Thames Tideway Tunnel for London and its relationship with the river;

b. Enhance the high quality public spaces and experience of the river for Londoners and visitors.

The design aspiration for the new areas of public realm, hard and soft landscaping is to create the highest quality, following on from the example set by Bazalgette for the Embankment, who employed decorative motifs on the river wall, lion heads and sturgeon lamps.

The Public Art Strategy complements the Interpretation Strategy and Tideway intends to co-ordinate and align both to achieve important benefits and synergies:

a. The Interpretation Strategy provides a wide ranging narrative framework for the artistic and design proposals fixed to the cultural value of the river;

b. Integrated landscape design and public art offers a medium for communicating heritage narratives that rely on a sense of discovery or imaginative engagement;

c. Establish a reputation for world-class artworks and projects as part of the DNA of the project, engaging, inspiring and educating diverse audiences locally, nationally and internationally;

d. Collaborate with communities from the outset to create a new sense of place through a multi-stranded programme with active participation at the core;

e. Enhance the high quality public spaces and experience of the river for Londoners and visitors at all project stages from design and construction to long-term legacy;

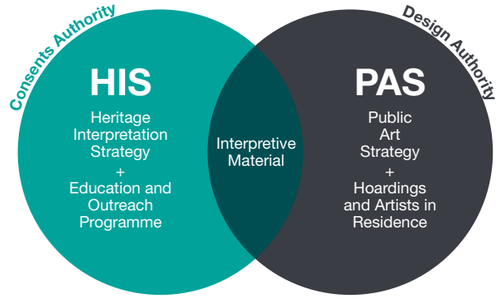
f. Place artists and designers at the heart of the programme, creating an ambitious commissioning programme with a range of artists: from those of international standing to those at the beginning of their careers;

g. Stimulate a new sense of pride in and new perception of the tidal River Thames and the wealth of opportunities it provides;

h. Demonstrate and make visible the innovative engineering and environmental achievements of the Thames Tideway Tunnel.

Involving artists and integrating permanent artworks has been embedded in the project from the outset. The creative approach to heritage interpretation will inform the design of the soft and hard landscape, structures and artworks. An iterative and collaborative approach involving artists in the design teams will uncover the stories and narratives of the sites, translating them into built fabric. This aims to capture a unique series of responses to context but also to create a collection of subtle interventions and high quality public spaces.

Diagram showing complimentary and overlapping scopes of the HIS and PAS



Tim Davies Kirtling Street

3 INTERPRETATION STRATEGY

York Water Gate 1872 Henry Pether
© Museum of London

PRINCIPLES, AIMS & OBJECTIVES

'The Public Health is the foundation on which repose the happiness of the people and the power of the country'

Benjamin Disraeli, 1875

Principles

In delivering the Heritage Interpretation Strategy Tideway will be guided by the following principles:

a. The historic environment of the River Thames is important: *people value their historic environment; it enhances the quality of life and economic wellbeing*;

b. The 19th century infrastructure created by the Metropolitan Board of Works & Sir Joseph Bazalgette are important historic assets: *innovative engineering, public health benefits, new public realm, integrated city wide planning and administration*;

c. The historic environment is a tool to delivering a lasting legacy for Tideway: *new public realm informed by the historic environment; public art inspired by the heritage of the sites*;

d. At the heart of the project is People: *benefiting from an improved environment, health, economy and public realm; engaging with the heritage of the River Thames*;

e. Achievement through collaboration: *within the project team, with artists, local authorities and local communities*.

Increasing population and urbanisation has led to the sewer system being overloaded, with the result that there are regular pollution events due to CSOs spilling untreated storm sewage into the Thames. Sewage discharges have a significant impact on the ecology of the river, as well as posing risks to recreational river users and introducing aesthetic pollution from the 'flushable' items that enter the river, which can remain for up to three months. All these contribute to a negative impact on the health and wellbeing of the population and the City as a whole.

Thames Waterman 1810
© Mary Evans Picture Library

View of Thames towards London Bridge c.1750
© Mary Evans Picture Library

Combined Sewer Outlet

The Thames Tideway Tunnel aims to address this and its implementation will ensure that the ecology of the Thames estuary in London continues to improve. There are other benefits expected to result from the project. These include employment and regeneration benefits, reputational issues, the protection of habitats and species, and the reduction in sewer flooding risks

At the heart of the project are People. The Interpretation strategy celebrates lives played out, in both a real and allegoric sense, against the backdrop of the river and creates opportunity for new stories to evolve.

Many stories could be told about the Thames and its riparian environment, but the Strategy takes up historic narratives that explore aspects of the relationship between people, culture and the natural elemental quality of the river.

Purpose

The purpose of the Interpretation Strategy is to provide a framework that engages audiences and makes connections that have long term value. It will inform the design of the new public realm and integrated art works, to create a clearly defined identity that can flow across the Project sites. It will inform Project communications and contribute to education and engagement activities.

Aim

The aim of the Interpretation Strategy is to open new perceptions and perspectives of the river so that people are inspired to encounter the Thames and experience its history and influence on London's contemporary culture and ways of living.

Floating swimming baths in the Thames at Charing Cross 1875 © Illustrated London News/ Mary Evans Picture Library

Objectives

The Interpretation Strategy will:

a. Communicate the River Thames' unique cultural heritage and awaken Londoners, and others, to its value to the city and to the lives they live, stimulating interest, experience and exploration;

b. Respond to heritage knowledge and resources embedded in the river and woven into its architectural fabric, that engage and foster a sense of connection and cultural authenticity;

c. Celebrate the achievements of the 19th century engineers responsible for the sewage infrastructure and explore its contribution to London as a World City;

d. Encourage the creation of inspirational designs and memorable local places of sustainable and lasting cultural value;

e. Sustain heritage authenticity by promoting the retention of extant features of interest wherever possible.

Audience

The Interpretation Strategy will, by its nature and application, have diverse audiences:

a. Stakeholders – the Strategy is Tideway's statement of intent and purpose in respect of its obligations under the DCO. It will be utilized by Local Authorities in determining applications for permanent works;

b. Contractors – the application and development of the narratives within the Interpretation Strategy will inform the landscape design and art installations;

c. Local Communities – engagement to build relationships and understanding; involvement in the development of artistic works and a local sense of ownership of the new public realm;

d. Functional users – walkers, cyclists, tourists who interact with the construction work and the new public realm;

e. Specialists – heritage, art, ecology, engineering specialists who interact with the construction and the new public realm;

f. Education – schools and colleges with whom Tideway work to develop educational resources.

As a consequence of this diversity different sections of the Interpretation Strategy will appeal to specific audiences and the Strategy will signpost these, where relevant.

Children on the river beach in the East End of London 1930
© Mary Evans Picture Library

The commissioned artists and designers have a key role in further defining local community audience groups that are tailored to the specific site context. The cultural manifesto set out below encourages recognition of a heritage of culture diversity and the wide range of differing personal heritages held within the London populace.

A Cultural Manifesto for the 'River of Liberty'

The Interpretation Strategy embodies a number of aspirations that together form a manifesto outlining how the cultural value of the river will be recognised, in a manner that is both aspirational and accessible The manifesto is a high level perspective on cultural values appropriate to 'River of Liberty'. Along with the Principles, the manifesto informs the development of the Interpretive framework and will be taken into consideration in the delivery of the interpretive narratives set out in Section 4:

a. **Cultural attributes: The approach to delivery will explore cultural attributes that are integrated and relevant to the river setting, are meaningful to Londoners and re-connect people with the river;**

b. **Meanings and values: The approach to delivery will be grounded in the popular cultural dimension of the lived experiences of former communities, as might resonate with contemporary and future Londoners;**

c. **Changing cultures: The approach to delivery will consider meanings and values represented by the river's heritage that are open in nature and leave scope for responses particular to individual personal stories, whatever their specific nature;**

d. **Richness and complexity: The approach to delivery will explore the inherent richness and complexity of the river heritage, and its capacity for multiple readings and plurality of meanings;**

e. **Global heritage: The approach to delivery will present heritage interpretations in a contemporary setting with an awareness of emerging economic, social, political and environmental shifts that have a global dimension and are relevant to London's evolving World City status;**

f. **Iconic river: The approach to delivery will articulate the under-represented cultural role of the river, exploring its potential as a physical, psychological and allegorical cultural entity;**

g. **Celebrating Bazalgette: Tideway will emulate Bazalgette's achievements, through new representations at locations along the Embankments, but also more widely along the river, which reflect contemporary values; to re-contextualize the mid-19th century architectural statement and its inherent cultural symbolism, whilst recognising the design benchmarks set by local heritage character.**

Manifesto point (a): Cultural Attributes

The starting point for developing the content of the Strategy and its implementation is an appreciation of the cultural urban context in which the Tideway occurs, i.e. how is culture defined and expressed and what heritage content currently exists. It is recognised that:

a. Rivers, especially major urban rivers such as the Thames, are a set of dynamic processes partly shaped by human, i.e. cultural, actions, partly by natural forces, but are essentially intertwined so as to be inseparable;

b. The geography and history of the Thames provides an opportunity to explore a national story with a global reach that spans two thousand years. At the same time the Project has a specific purpose to up-grade Bazalgette's sewer, one of the most influential engineering enterprises undertaken by the Victorians, in a period of rapid technical advance and new approaches to urban planning, that continues to influence the evolving metropolis;

c. These contrasting scales of understanding illustrate the cultural richness and importance of the Thames as a powerful natural force that has fashioned a World City: an iconic river within a city of rich cultural diversity and remarkable heritage.

Manifesto point (b): Meanings and value

The Interpretation Strategy distinguishes 'culture' as comprising two interconnected elements:

a. Tradition of high, institutional, canonical culture, comprising expressions of aesthetic ideals through the visual and performing arts;

b. Common experience of life as lived.

These definitions are not mutually exclusive. For example architecture is not simply a particular set of aesthetic or artistic representations; it also determines the physical environment in which people conduct their lives. Conversely, the Thames has influenced creative communities that have fashioned ways of living that constitute forms of artistic practice.

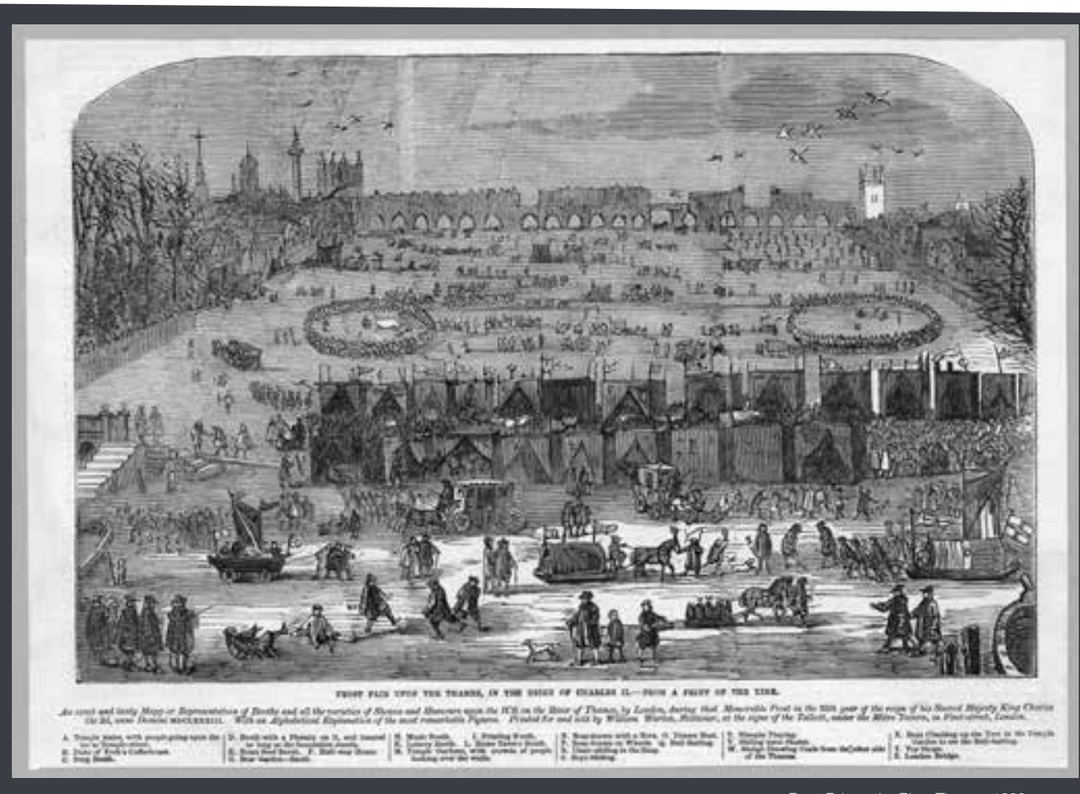
Manifesto point (c): Changing 'Cultures'

Contemporary Londoners' relationships to the river are constantly changing; to a degree that precise characterisation is likely to be counter-productive. This, in part, is a reflection of the considerable diversity of culture and the wide range of differing personal heritages within the London populace, which can give rise to conflicting perceptions of the heritage of the river.

While the river might be perceived through the lens of constantly shifting patterns of cultural orthodoxy and social/ political discourse, for millennia it has also been a special place beyond conventional authority. An important aspect of the river is its ability to support and accommodate various forms of spiritual practice, counterculture and alternative ways of living:

a. 'Gifts to the Gods' is a term that might explain the number and range of prehistoric votive objects and human skulls deliberately deposited in the river and adjacent wet places, most notably during the Bronze and Iron Ages. Rules governed the discarding and disposal of artefacts and human remains may have had cosmological or metaphysical associations. A noticeable concentration of votive items occurs along the west section of the river. Riverine more than estuarine, this stretch contains numerous traditional river crossing locations. The deposition of votive items may be related to social contacts between communities otherwise separated by the river;

b. Seventeenth century "frost fairs" were a providential response to the occasional freezing of the river. These spontaneous events took on a carnival nature and were regarded as having prophetic meanings, that might influence social or political concerns prevalent among Londoners;



Frost Fair on the River Thames 1683
© Illustrated London News/Mary Evans

c. Throughout the 18th/19th century the socially displaced eked out a marginal economic existence: a liminal society with a unique folk identity, including supernatural belief systems, e.g. Queen Rat[1]. The character of this urban sub-culture was captured by journalist Henry Meyhew, in his role of 'Special Correspondent to the Metropolis' whilst working on the Morning Chronicle in the 1840s. Subsequently published in 1865 as London Labour and London's Poor, Meyhew's first hand descriptions of the 'moral, intellectual, material and physical' condition of the 'industrial poor' included interviews with 'toshers', 'mudlarks' 'cess pool and sewermen' and others whose existence was defined by the river and its sewers;

d. The 1970-1980's post-industrial riverside inspired ad hoc creative communities and groups, for example:

   i. A community of independent artist established studios at various semi-derelict waterfront warehouses in the 1970s, such as Bulter's Wharf, which adjoins the Shad Thames Pumping Station. Derek Jarman, film director, stage designer, diarist, artist, gardener, author and queer activist, was a prominent member of this community, who possessed a deep creative connection with the Thames;

   ii. House of Beauty and Culture (HOBAC), a craft collective at the heart of the London club scene in the late 1980s, scoured the banks of the River Thames in search of old bones, bottle tops and clay pipes used to create fashion accessories and handmade clothing in a post-punk DIY design aesthetic;

   iii. During the summer of 1999, U.S. artist Mark Dion and a team of volunteers drawn from local groups combed the foreshore of the Thames at low tide along two stretches of beach at Millbank and Bankside, near the Tate Britain and Tate Modern. Dion's practice incorporates aspects of archaeology, ecology and detection and the Tate Thames Dig focused on a natural, historical constant; looking for fragments of individual and ephemeral histories. The finds from both sites were meticulously cleaned and classified in 'archaeologists' tents' on the Tate Gallery's lawn at Millbank during the summer of 1999. By reworking orthodox procedures of collecting, identifying and classifying, Dion's work suggest a more poetic and open-ended approach to interpretation;

e. Flowing water plays a significant role in Hinduism and a range of contemporary and heirloom objects associated with Hindu spiritual practices, such as statuettes of deities, inscribed plaques and clay lamps used during festivals such as Diwali, are regularly found on the Thames foreshore.

Given this rich diversity of culture within and across the Thames it is important that the Strategy does not promote too narrow a range of meaning and values.

1 According to Westwood and Simpsons's *The Lore of the Land*, toshers "made their living by searching inside sewers and along the Thames banks for 'tosh', i.e. scrap metal, coins, lost jewellery, and anything else sellable. It was dangerous, secretive work, done at night, for unauthorised entry of sewers was made illegal in 1840; toshers formed communities of their own, with strange beliefs and stories relating to their work"

The Queen Rat was a luck-bringer in the form of a sewer rat. She would take human form and seduce toshers in and around the sewers. If the toshers satisfied her, they would discover treasure and valuables. If not death, often by drowning, would be their fate

Female Chimney Sweep
© Daily Herald Archive/
National Media Museum/
Science & Society Picture Library

Chinese restaurant 1920
© Mary Evans Picture Library

Manifesto point (d): Richness and Complexity

The Strategy involves a 'conversation' about London's riparian heritage, cultures and 'ways of life', initiated through landscape design, art and public engagement activities. The tone of this conversation should be inspirational and reflective, rather than commemorative, exploring the scope for multiple readings and plurality of meanings. Site-specific responses to Interpretation Strategy themes and narratives will be developed in conversations with Community Liaison Working Groups, local authorities or collaborative partners such as schools and community groups.

Manifesto point (e): Global heritage

Tideway is a major project that will play a significant role in the operation of a World City. All global metropolis face common 21st century challenges and increasingly identify common trans-national values and interests. This inevitably raises questions as to the validity, purpose and influence of a heritage rooted in social, economic and political context that can appear increasingly less relevant to the experience of future Londoners, especially as its status is still intimately linked to 19th century nationalism and an imperial past[1] that has left a mixed legacy in its wake[2].

To ignore the nature of this mixed legacy would fail to recognise that, for many, London's heritage includes connections and close personal associations, locally rooted in different perceptions of the origins of the world's first modern metropolis. This belonging applies equally, albeit differently, to diaspora communities that have converged on London since the 15th century. Some originated within the British Isles, often the result of rural economic depopulations, most notably the Irish Famine. Others arrived from Europe seeking sanctuary, such as the French Huguenots escaping religious persecution, the Jews escaping pogroms in Russia and Eastern Europe, as well as many political dissidents. Some have a heritage in British merchant shipping, such as the Bengali and Chinese sailors engaged by the East India Company, who expatriated to form London's first south east Asian communities in the 'shipping parishes' of East London. West Indian communities, who arrived in the mid-20th century, have a direct connection through London's position at the hub of Britain's colonial exploitation. In consequence there is a common locally rooted London heritage, with residual metropole-colonial relationships and links between a diverse diaspora and various countries of origin.

1 Arthur Maxwell's Discovering London (1935) exemplifies London's former imperial identity:

The capital of the greatest empire this world has ever known, beside which the empires of Babylon, Medo-Persia, Greece, and Rome dwindle into insignificance, London occupies a position unique in the annals of history. Towards this city the peoples of the British Commonwealth of Nations turn with an affection unequalled even by the love of the Jews for old Jerusalem. To colonists in Australia, New Zealand, Canada, South Africa, Kenya Colony, and the numerous British territories and protectorates around the globe, the thought of London brings a softening of the heart and a moistening of the eyes when one thinks of home… What London says and does to-day is said and done to-morrow – or the day after – in Melbourne, Wellington, Calcutta, Quebec, and Cape Town. Almost as potent is the influence of London upon foreign lands. Though not resulting from family affection, it is none the less real. The power of Britain, its success in arms, its immense riches, its colossal trade, have made the voice of London the voice of a prophet in the affairs of men. There is no project of any importance in any sphere of life concerning which Paris, Berlin, Rome, Madrid, and even New York, are not anxious to learn the opinion and attitude of London. (18-19)

2 www.artangel.org.uk/a-room-for-london/a-london-address/#caryl-phillips

Manifesto point (f): Iconic River

For many the Thames is viewed as an icon simply due to its geographical relationship to London as a World City. But this limited view does not fully value how the 'urban' river and its cultures offer a special quality to the city.

The river uniquely expresses, sometimes in abstract and often engaging ways, values that are universal, yet possess qualities specific to London and are widely accessible.

The river's timeless connection with sea and land, and the constant changing quality of tide and light, creates a strong physical and psychological presence. Despite significant changes to the river over the past 100 years, these qualities are still perhaps best captured by Polish-British novelist Joseph Conrad in the opening chapter of *Heart of Darkness* published in 1899:

…The sea-reach of the Thames stretched before us like the beginning of an interminable waterway. In the offing the sea and the sky were welded together without a joint, and in the luminous space the tanned sails of the barges drifting up with the tide seemed to stand still in red clusters of canvas sharply peaked, with gleams of varnished spirits. A haze rested on the low shores that ran out to sea in vanishing flatness. The air was dark above Gravesend, and farther back still seemed condensed into a mournful gloom, brooding motionless over the biggest, and the greatest, town on earth…

Forthwith a change came over the waters, and the serenity became less brilliant but more profound. The old river in its broad reach rested unruffled at the decline of day, after ages of good service done to the race that peopled its banks, spread out in the tranquil dignity of a waterway leading to the uttermost ends of the earth. We looked at the venerable stream not in the vivid flush of a short day that comes and departs forever, but in the august light of abiding memories.

Manifesto point (g): Celebrating Bazalgette

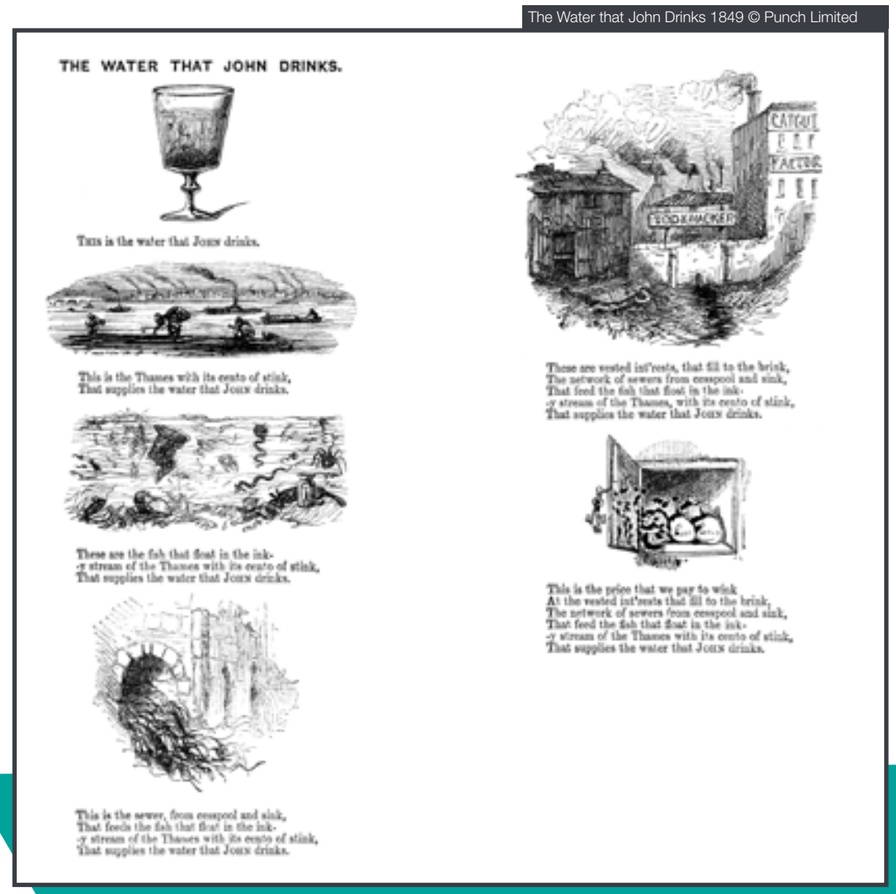
The public health campaigns of the 1840s, initiated by the investigation of the Sanitary Conditions of the Labouring Classes of Britain (1842) by Edwin Chatwick, demonstrated the correlation between unsanitary conditions, defective drainage and overcrowded housing with disease and low expectations of life. Recommendations from that report, although embedded in the first Public Health Act 1848, failed to be implemented for more than a decade. Only when the polluted state of the River Thames threatened the Establishment, in an event known as The Great Stink, were they implemented.

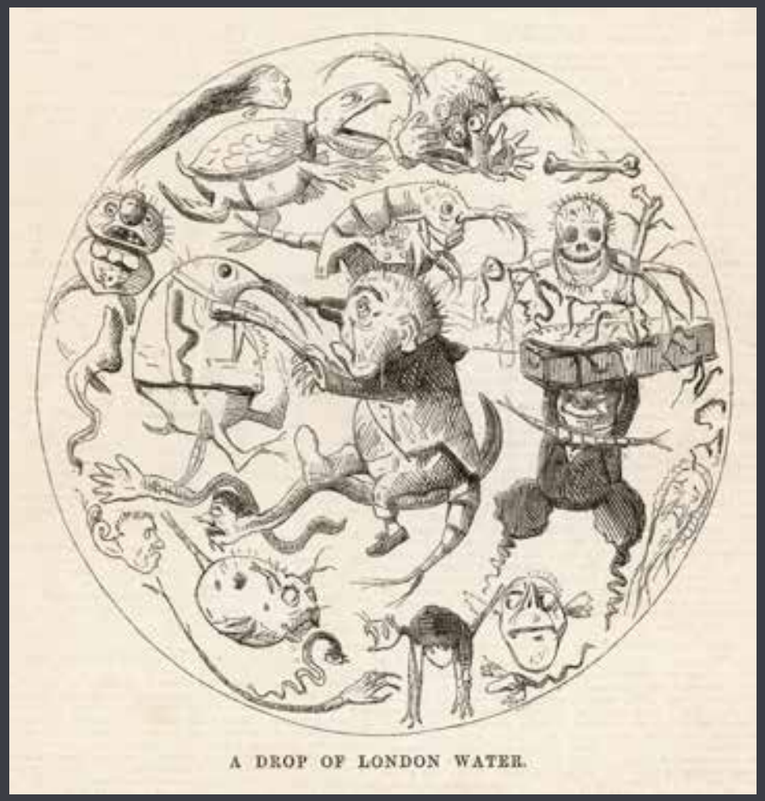
In 1858 the pollution of the River Thames had reached such levels that noxious gases prevented Parliament from operating and had an impact on London as whole. This elevated what had been seen as a local problem to one with a political context that could affect the national and international perception of London and its government at a time of rampant colonial aggression. London was perceived as the potentially rotten heart of the body politic, a view enhanced by the putrid state of the capitals river. The Empire without; decay and rottenness within. If London was fatally afflicted the rest of the country would certainly perish. This unified opinion in the defence of distinctly metropolitan values; to save the river was to consolidate the new urban-industrial order.

A Court for King Cholera 1852
© Mary Evans Picture Library

Faraday giving his card
to Father Thames 1855
© Mary Evans Picture Library

The Water that John Drinks 1849 © Punch Limited





A drop of London water 1850 This satirical cartoon, published in Punch magazine, posits the existence of a new kind of microscope known as the Molecular Magnifier, which will show the exact chemical make-up of a drop of water down to the basest constituent. The basest constituent turns out to be London's political class:

'Creatures – who shall name them? Things in human shape – in all appearances London citizens – aldermen, deputies, common councilmen – are seen disporting in the liquid dirt as in their native element'

The responsibility for resolving the sewage crisis was given to the Metropolitan Board of Works. This was set up in 1855 with the responsibility to provide the infrastructure to cope with London's rapid growth. It replaced the previously established Metropolitan Commission of Sewers and was the first organisation with city wide responsibilities. Although not an elected body – its members were nominated by the vestries, which up until that time were the principal local authorities. It became the principal instrument of London wide government, until the establishment of the London County Council in 1899.

The grandeur of the Thames Embankments, bridges, pumping stations and underground chambers, sewers and outfalls are now seen as public manifestations of the power and collective responsibility of the State. At a time when private investment was responsible for the country's infrastructure, they represent a health movement aimed at the benefit of the public good, not private interest, which remain a magnificent tribute to those responsible.

The city wide structural form of the drainage infrastructure demonstrates an integrated planning approach rarely seen – then or since. The public health campaign and subsequent legislation controlling the provision of water and the removal of waste represents a critical phase in urban environmental and social history – the quiet revolution of the 19th century.

The Metropolitan Board of Works' achievements include:

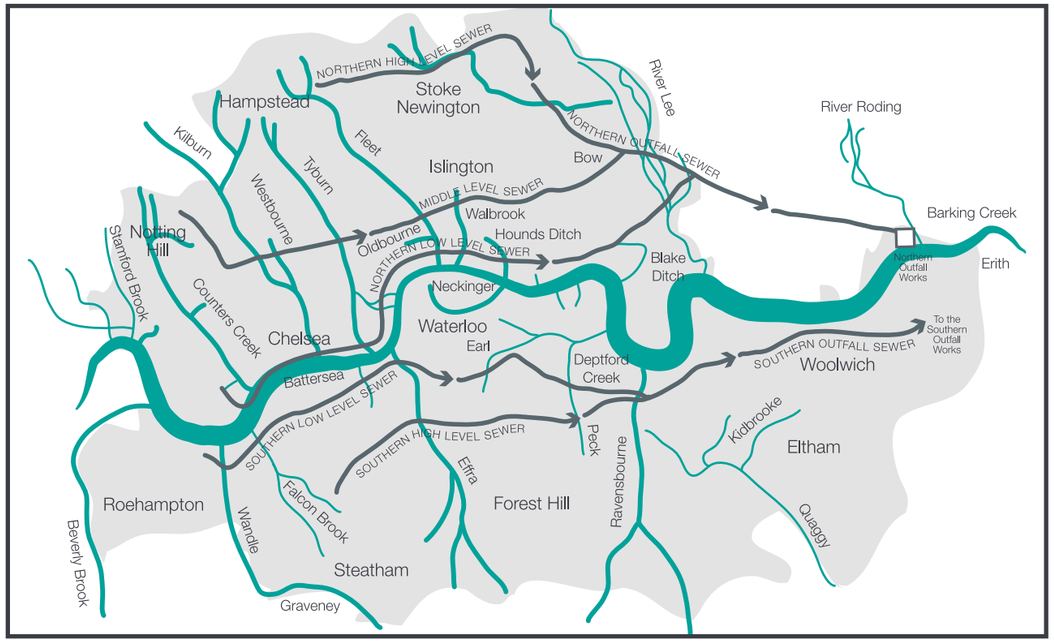
a. Sewage system for London that wiped out cholera in the city;

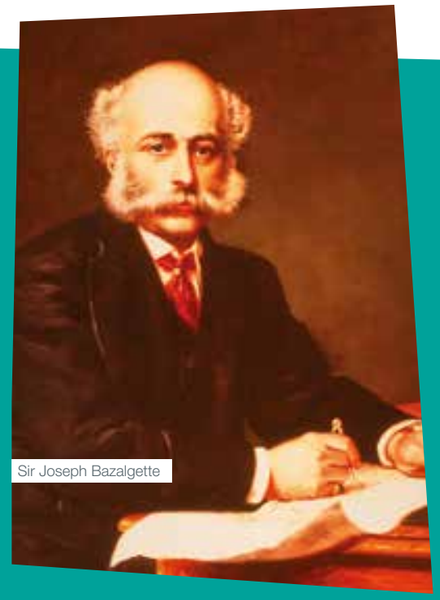
b. Embankments and architectural landmarks that reflect London's cultural aspirations at a particular moment of global imperialism;

c. Laying out several main thoroughfares that improved links between the rival cities of London and Westminster to form the modern metropolis;

d. Re-built or improved many of the city's landmark bridges;

e. Established a nascent pan-London representative administration.




Sir Joseph Bazalgette

Bazalgette's cultural legacy

The Embankments and the architecture of the pumping stations continue to evoke Sir Joseph Bazalgette's vision of Britain as a world leader in industry, engineering, design and culture.

This vision was also pivotal to transforming the cityscape and to a great degree this contribution to urban design has lasted the test of time and continues to be a valued cultural legacy.

For the last 150 year Bazalgette's principal cultural legacy, the Thames Embankments, have aggrandized the riverfront, as a 19th century monumental representation of London's status as a capital city. Drawing inspiration from the nation's historic maritime role, it references a time and place very different to London today, which can still have negative connotations for some Londoners. The Strategy offers an important opportunity to create spaces that reflect the changing context.

4 INTERPRETATION FRAMEWORK

Tower Bridge by Alvin Langdon Coburn (1882–1966)

INTERPRETATION FRAMEWORK

The really important thing….is narrative. We travel along the thread of narrative like high wire artistes: that is our life.

Angela Carter (1992)

Methodology

To develop the Interpretation Strategy it has been necessary to gain a deeper understanding of local narratives and how they interrelate, at various levels, according to the heritage interest along the length of the river corresponding to the c.25 km of the main tunnel route. Appendix E sets out the compiled information.

Baseline analysis involved re-examination of information presented in the DCO Environmental Statement, to identify narrative 'threads' that correlated with Tideway's Vision and Values and with the tenets of the cultural manifesto. Records of historic events, associations and heritage assets contributed to short narrative descriptions, highlighting significant heritage interests within a standardised framework.

This analysis largely relies on widely available historical or archaeological data and insights revealed by examining the interconnected qualities of individual site narratives. It is important to also acknowledge the wider availability of sources that have not been examined. For instance fictional and other contemporary accounts of the past offer further scope to connect with former communities and people. By delivering meaningful representations that are sufficiently flexible to accommodate different narratives and accrue additional meanings, the Strategy intends this scope to be open to further exploration.

In addition Appendix F.1 details site specific heritage assets that are located in the vicinity of each of the 24 work sites. These provide an additional heritage resource, that may assist artists and designers prepare interpretation proposals and embed heritage design in the local context.

Appendix F.2 collates information regarding public realm proposals for each of the Tideway worksites, which will influence opportunities and constraints for site specific heritage interpretation.

Analysis reveals contrasting modes of cultural interaction with the river environment throughout the time that urbanism has been a dominant aspect, since the founding of the Roman city. Urban London has expanded exponentially over the past 1000 years, a factor that has widespread implications for the river and ways in which it is understood and interpreted, see The London Evolution Animation:

www.youtube.com/watch?v=NB5Oz9b84jM&feature=player_embedded

This growth reflects the continuing evolution of London's multiple urban functions: as a capital city, seat of governance, commercial and creative centre, port and industrial production and distribution hub, whilst also meeting the wider residential and amenity interests of Londoners.

18th century map of London and the River
© Antiquarian Images/Mary Evans Picture Library

Drawing on its late medieval roots, urban London is rapidly and repeatedly transformed throughout the 16th-21st centuries. Intra-site narratives highlight the scale of urban transformations that occurred during this particularly dynamic period of growth. The site-specific narratives further describe London's contribution to British ideas and institutions from which modernism and globalisation emerges out of this period of growth.

Limitations

The heritage value of the river is no less significant for the c.14,000 years of human interaction prior to urbanism. Understandings of pre-urban London heritage largely rests on archaeological data, which, due to its nature, requires forms of analysis and representation best served through various forms of documentation, including academic and popular publications.

The DCO, through site specific archaeological Schedule 3 Requirements, will secure the delivery of archaeological interpretative reports and publications and will make the archaeological archive, including all portable finds, available within the Museum of London collections. The Heritage Interpretation Strategy acknowledges and promotes this arrangement for integrating the results of site specific archaeological investigations and disseminating new understandings of the river.

However, archaeological understandings of pre-urban London, unless they are corroborated by other sources, are, by their nature, open to extensive revision as new discoveries are made. There is a risk that interpretations expressed within landscape design will quickly become dated. In general these pre-urban archaeological understandings, in themselves, are not anticipated as dominant components of the heritage narratives that inform the landscape and permanent structure design. Instead they will primarily contribute to the Strategy through other interpretative outputs (see Section 6).

Docklands ablaze 1941
© PLA Collection/
Museum of London

Framework Structure

The river, as a physical and cultural entity that connects interlocking local narratives is, of itself, a very powerful heritage representation. It requires relatively simple treatment to reveal a depth of meanings, as implicit in the 19th/20th century radical Liberal politician and trade unionist John Burns' description of the Thames as *'liquid history'*:

> *"The St. Lawrence is mere water. The Missouri muddy water. The Thames is liquid history."*

To give structure to the multi layered meanings, a tripartite interpretation framework is adopted:

a. Overarching interpretive theme: 'River of Liberty';

b. Thematic interpretive grouping based on urban scale transformations: 'Cultural Meanders';

c. Site specific interpretive narratives: 'Liberty Sites'.

It is intended that design of landscape, art or other interpretive material will keep at its core the overarching theme but will focus on specific site narratives within the context of the relevant cultural meander.

Principal theme: 'River of Liberty'

By placing concepts of Liberty at the centre of the Heritage Interpretation Strategy, it opens to contemporary examination fundamental issues relevant to London's future and its position within a radically changing world.

As a unifying overarching interpretative theme, Liberty conveys a high level of cultural authenticity, that communicates:

a. Richness of individual site heritage narratives;

b. Distinctiveness and diversity of river heritage at contract section level;

c. A project-wide narrative that is credible and cohesive.

It presents a *public history* looking at *'ways of life'*, through narratives grounded in different accounts of the past, viewed from many socio-economic positions, capable of generating enlightening, original and innovative ideas, that challenge common heritage perceptions;

Liberty has universal cultural qualities, relevant to contemporary Londoners, but open to examination in a global context. It utilises the physical and psychological qualities of the river, and the riparian sites, and provides subject matter that inspires creativity within the medium of public art and landscape design.

Specifically the river's relationship to different notions of Liberty are central to understanding historic patterns of cultural mobility in a contested city and illuminates London's legacy as a place of difference, diversity and encounter; where urban culture and values have and continue to be critically examined and challenged.

Liberty and the various freedoms and protections it entails has multiple heritage perspectives, encompassing narratives particular to groups who held advantages and benefits and, conversely, to those whose rights were denied, restricted or compromised. It is a concept that has evolved and in so doing continues to shape and influence discourses that inform London's development.

Satirical comment on Imperialism 1859 © Punch Limited

"MENDING THE LESSON."

POLITICAL ECONOMY. "TAKE CARE, MY DEAR JOHN. DON'T INTERFERE WITH THE LAWS OF SUPPLY AND DEMAND."
JOHN BULL. "I DON'T, MISS PRUDENCE. SHE *DEMANDS* AND I *SUPPLY*."

The Heritage Interpretation Strategy adopts evolved definitions of Liberty first set out in Isaiah Berlin's (1958) *'Two Concepts of Liberty'*:

a. Negative liberty – Absence of external constraints on individuals or groups, i.e. freedom of will or immunity from external compulsion;

b. Positive liberty –Alleviation of constraints that limit the achievement of individuals and groups of people, i.e. self-mastery, self-realisation or collective control over common life.

By exploring these two aspects of Liberty, through the history and geography of the Thames, the Strategy:

a. Provides a cultural and historic perspective on an essential aspect of the human condition, that is continuously negotiated in many different ways, opening opportunities for discourse that explore London's social and cultural context at a personal, local, regional, national and global level;

b. Recognises that London's status has relied on river authorities who, for a millennium, have maintained free navigation of the Thames, allowing free trade and the movement of people and services;

c. Embraces and amplifies the central purpose of the Metropolitan Board of Work and Bazalgette's vision, to harness the river for the collective benefit of Londoner's by controlling health risks and associated social and economic harm;

d. Links directly to the Tideway 'Vision and Values', as improved water quality and greater access to river amenity removes a constraint that otherwise inhibits opportunities for people to enjoy the river and the contribution it can make to realising the potential of groups and individuals.

River as allegory

The London Mayor's 2012 Cultural Strategy *Cultural Metropolis 2014 Achievements and next steps* recognises and promotes the river as an art venue. The Tideway Heritage Interpretation Strategy has further ambitions, to conceptualise the river through artistic practices that explore hidden and allegorical meanings.

There is a rich artistic heritage of applying allegorical meanings to the Thames. Two historic examples highlight ways in which the river has been taken to illustrate contrasting perceptions of power:

a. At the beginning of the 18th century poet Matthew Prior regards the Thames as characteristic of the idealised qualities of a monarch. In *"Carmen Seculare"* he states:

But her own king she likens to his Thames;
Serene yet strong, majestic yet sedate,
Swift without violence, without terror great.

Bazalgette memorial

b. George Simonds' 1901 Victoria Embankment memorial to Bazalgette's notes *'he put the river in chains'* (FLVMINI VINCVLA POSVIT), and refers to far different 19th century perceptions of the Thames, as a threat that needed to be physically subjugated.

Liberty, as a central allegorical theme for the Thames, addresses aspects of power that inspired Prior and Simonds, but as a clear, succinct and nuanced cultural value relevant to a modern diverse city in the 21st century.

The constant flow of the tidal river is a *force of nature* that can be seen as a dynamic metaphor for notions of *natural* laws and rights, such as emerged in the 17th and 18th century, on which modern classical liberalism is based, i.e. realising the personal freedom of the individual – Berlin's 'negative' liberty.

A liminal quality to riparian land reflects long-term and incremental acts of encroachment. A different aspect of Liberty is represented in these various interventions to control and exploit the natural force of the river. Cumulatively affecting the force and course of the river, but without restraining its dynamic character, historic encroachments addressed wider social, political and economic interests, often for common purpose or to restrain harm, such as public health and flood protection, e.g. the Metropolitan Board of Works and Bazalgette's sewer. Typically these activities, in consequence if not by intent, served the *'greatest benefit for the greatest number'*.

This aspect of the riparian heritage presents narratives embracing, to varying degrees, Berlin's notion of 'positive' Liberty, such as utilitarianism and related 19th/20th century ideas. This counterpoint to classical (negative) liberalism often facilitate individual free will, but also balance its potential, if unrestrained, to generate inequalities.

The continuing tension in the dynamic physical relationship between river and riparian land neatly captures, in an allegoric manner, both the polarity and the mutability in these contrasting philosophical perceptions of Liberty.

Furthermore historic perspectives on the environmental condition of the river can be viewed as a reflection on the degree to which the balance of contrasting notions of Liberty contributed to a fair and equitable society, as illustrated by the 'Great Stink'.

1858 Representation of the diseased state of the River Thames
© Mary Evans Picture Library

This allegorical exploration of the river is further examined in the section below entitled *Reflections* and underlies and unifies the site specific narratives which draw on individual historical associations reflecting differing notions of Liberty.

Cultural Meanders and their Liberty Sites

A noticeable feature of the local site narratives is the degree to which they interlock, both spatially and temporally. Inter-site narrative correlations reveal sub-regional cultural narratives that account for apparent differences in the riverside heritage character of the west, central and east project sections, i.e. the *cultural meanders*:

a. West – Recreation to Industry: Society in Transition;

b. Central – 'Babylon' to World City: Civic London;

c. East – The 'Shipping Parishes': Gateway to the World.

Within each cultural meander individual work site narratives evidence Liberty associations that connect site specific historic events, associations and heritage features with various ideas expressed in current public discourse on the topic of Liberty. Apart from Beckton Sewage Treatment Works, all sites offer specific historic narratives that contribute to the Liberty theme.

As Beckton makes a negligible contribution to the Tideway public realm legacy, it is intended that modest public art proposals will meet interpretation requirements, by reference to either the generic Liberty theme or to aspects of the east *Cultural Meander*.

For all other riparian sites Liberty can be examined from various perspectives particular to the location (see Appendix E Baseline Analysis). Together these cover issues of constitutional democracy, local governance, state security, charity and philanthropy, free trade, scientific and medical knowledge, the relationship between exploration, research and commerce, urban transport infrastructure, access to urban space, the availability of post-war social housing and provision of a 20th century state welfare system and urban adaption to climate change. They also refer to issues that affect individual and groups at a personal level, such as gender equality, sexuality, slavery, religious tolerance, the ethics of animal exploitation and the interests of minority groups, especially immigrants.

The Welfare of the People is the Supreme Law – George Cruikshank 1832
© Science Museum/Science & Society Picture Library

Boat Race between Oxford & Harvard Universities 1869 © Mary Evans Picture Library/Museum of the City of New York

Cultural Meander West – Recreation to Industry: Society in Transition

From the 11th to 17th centuries established landholding families and institutions retained riverside estates close to the city. As well as providing a source of agricultural income, rural estates were expressions of vested authority and functioned as formalised pleasure grounds or recreational space. They provided a rural setting for social and political discourse close to, but beyond, the capital and its various ruling institutions.

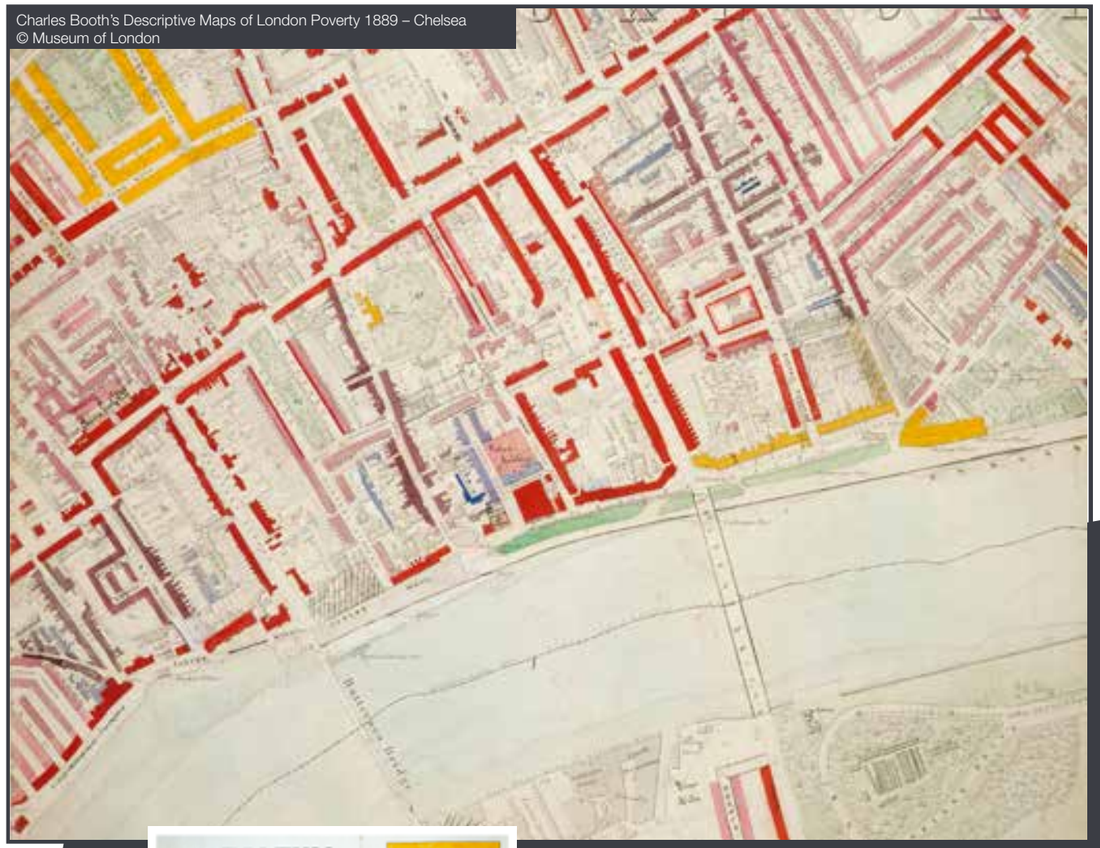
Reflecting their proximity to London, Tideway locations at Hammersmith, Barn Elms, Putney and Chelsea provide contrasting heritage perspectives on evolving ideas of democracy, governance and the balance of power between Crown and State during the 16th-19th centuries. These associations reveal nuanced understandings of Liberty, featuring the suppression of individuals or non-ruling groups and severe judicial punishment, which are less apparent in more widely circulated or authorized narratives.

By the late 18th century much of the west riverside was a designed and idealised pastoral riverscape, surrounded by extensive areas of market gardens, a situation that was on the cusp of major change:

a. Horticulture skills of Huguenot immigrants had a significant impact on sustainable urban expansion at this time. Immigrant communities supported themselves by improving riverside land for the commercial production of fresh vegetable products, metabolising urban waste in the process, contributing a net benefit to the health and well-being of the wider urban population;

b. Initial social changes are reflected in the adaption of private pleasure grounds at Barnes, Chelsea and Vauxhall to commercial public attractions or sports venues catering for the recreational interests of the growing urban middle class from the neighbouring city. The riverine character of the west section of the Thames lent itself to recreational and sporting uses, and continues to do so. The first University Boat Race was held in 1829 and, other than when interrupted by war, the event has been held annually since 1856;

c. Modernity arrives with the transformational force of coal-powered steam technology in the 1840-60s. River access to the Port of London attracted substantial value and the historic riverside estates were sold as land values inflated. Traditional landowners took residence in the new fashionable squares in districts such as Mayfair and Belgravia, but communities associated with the city market gardens were displaced.



Charles Booth's Descriptive Maps of London Poverty 1889 – Chelsea © Museum of London

Charles Booth Poverty Map key © Museum of London

In a matter of decades industrialisation saw the emergence of urban manufacturing and chemical industries, with residential estates for factory workers in close proximity. Other than pockets of riverside around Chelsea, Fulham and Putney, the former urban arcadia was largely restricted to stretches of riverside, which still survive upstream of Brentford and Barnes, e.g. Syon House, Ham House, Kew Palace and Gardens, Richmond and Twickenham riverside, etc.

Large scale industrial transformation during the mid-19th century and early 20th century produced economic and social change that remade modern society along this western section of the Thames. This close juxtaposition of urban industry and residential estates had a bearing on social conditions. As economic development progressed, so did social improvements. Site narratives at Carnwath Road riverside and King George's Park provide local illustrations of socially progressive national policies that followed the first and second World Wars: replacing Poor Law support and late 19th century paternalistic philanthropy with a state sponsored housing, welfare and health system, with concomitant changes in urban planning.

Battersea Power Station 1955-60 © John Gay/English Heritage/ NMR/Mary Evans Picture Library

Economic, environmental and social challenges, latterly due to economic restructuring brought about by late 20th century global neo-liberalism, continue to influence the changing character of the western riverside.

Napier Works, Acton
© Historic England

West Liberty Sites

Acton Storm Tanks[1]

Contemporary with the construction of Acton Storm Tanks, in 1905, many manufacturing enterprises based in central London expanded and relocated to the outskirts. The Napier Motor Works adjoined the Storm Tanks site until closure shortly after the Second World War. The company was one of a number of vehicle manufactures, such as CAV and Lucas (automobile components) and Du Cros (cars), to establish factories at Acton, which was described in the 1920's as "Motor Town". In 1932 the motor industry employed 5,400 people, some 80% of the workers in the district. By 1956 *The Times* considered Acton to be one of the two largest concentrations of industry south of Birmingham.

Early in World War I, Napier was contracted to build aero engines from other companies' designs: initially a V12 Royal Aircraft Factory model and then Sunbeam Arabs. Both proved to be unreliable so, in 1916, Napier decided to self-finance their own design, the 12-cylinder Napier Lion.

Recognising the value of publicity gained from racing, Napier designed engines to power cars, motor boats and later aeroplanes that had a considerable influence on technological advancement.

The Lion was used in the 1920s World Land Speed Record set by Malcolm Campbell's *Napier-Campbell Blue Bird* and *Campbell-Napier-Railton Blue Bird* and in Henry Segrave's *Golden Arrow*.

Campbell, dubbed 'the speed king', was at the forefront of efforts to test the limits of technology, as well as his own physical endurance under extreme situations. He was the most prominent of the British drivers engaged in a constant rivalry with the United States during the inter-war period. In 1935, Sir Malcolm was the first to reach 300 miles per hour in his celebrated Bluebird at Bonneville Flats, Utah. From here he chose to move to speedboat racing, and in 1939 set a new world record of 141 miles per hour. His son, Donald Campbell, carried on the family tradition by holding both land speed and water speed records.

This narrative offers opportunities to explore creativity, technology and human endurance when tested to extreme.

1 Also refer to Appendix E ACTST *Site Narrative*

Helping Hand. Sir Malcolm Campbell's racing car, Bluebird, being given a helpful push as it leaves the Napier works on its way to Brooklands race track © Getty Images

Hammersmith Pumping Station[2]

Hammersmith Pumping Station occupies part of the former riverside estate of Brandenburg House. Buried with the inscription *'Caroline of Brunswick, the injured Queen of England'*, George IV's estranged wife died aged 53, at Brandenburg House on 7 August 1821, having recently returned to Britain after a period of exile in Europe. Despite being the Consort, she was physically refused entry to George IV's Coronation ceremony when she appeared uninvited earlier that year on 29 April. Following her death Brandenburg House was demolished in 1823, on the instruction of George IV.

This last stage in a Royal estrangement that defined all twenty six years of marriage, was played out very publicly in Caroline's final years, and was widely reported in the Regency forerunners to the tabloid press. Caroline received popular support, as the public regarded her as having been mistreated by her highly unpopular husband and recognised the hypocrisy of a political establishment determined to discredit her. Her experiences highlight inequalities, even for the most privileged of women in 18th century London society, but also the role of a free press in bringing public opinion to bear on issues of the day, especially the role of the monarch and democratic representation.

Denied her role as Consort, Caroline was adopted as a political figurehead for the Reform Movement, which campaigned for restrictions on the authority of the monarch and a strengthening of an elected Parliament, as the principle instrument of democratic government. The campaign culminated in Reform Acts passed between 1832 and 1928 that progressively delivered universal suffrage.

This narrative offers opportunities to explore how differing forms of authority affect social expectations of women in ways that might determine their personal status and achievement.

Barn Elms[3]

Sir Francis Walsingham, a resident of Barn Elms Manor, whose former estate included the work site, provides a historic perspective on religious intolerance and its effect on the relationship between civil liberties, state security and the intelligence services.

2 Also refer to Appendix E HAMPS *Site Narrative*
3 Also refer to Appendix E BAREL *Site Narrative*

Brandenburg House; residence of Queen Caroline of Brunswick, estranged wife of George IV © Mary Evans Picture Library

Throughout Elizabeth I's reign England faced external and internal threats centred on an internecine religious rivalry played out between the major Royal houses of Europe. Sir Francis Walsingham, who retired to Barn Elms Manor, had been responsible for providing intelligence essential to the security of the State and the personal protection of the Tudor monarch.

It was Walsingham's spy system that discovered, among other matters, the Babington Plot of 1586 to murder Elizabeth and her ministers, to organize a general Roman Catholic rising in England and to liberate Mary Queen of Scots. It included, in its general purpose of destroying the government, a large number of English Roman Catholic families and was supported by Philip II of Spain.

Babington's encrypted correspondence with Mary was intercepted and decoded by Walsingham's spies. The co-conspirator Ballard was tortured to reveal evidence damning Mary. Mary was charged with plotting to kill Elizabeth, for which she was found guilty and executed. With the failure of the plot to assassinate Elizabeth, Phillip of Spain's military support for a Catholic uprising never materialised.

This narrative offers opportunities to explore the responsibility of the State, and the role of its security services, to protect the right to life in a manner compatible with wider rights and freedoms, including the right to challenge authority and dominant ideologies.

Mary Queen of Scots cipher 1580s
© The National Archives

Putney Embankment Foreshore[1]

The Tideway work site adjoins St Mary's Church, the venue of the Putney Debates held during the English Civil War that sought to advance a constitutional settlement incorporating basic human rights. Opposition and violent repression of radical political and constitutional ideas discussed at Putney impelled advocates, within the military and society beyond, to seek opportunities to advance ideals of representational government outside strict British hegemonic control. Ideas discussed at Putney followed advocates into exile and ultimately contributed to the emergence of independence and republican movements within the British American colonies.

The Putney Debates, Fairfax © Mary Evans Picture Library

For several weeks in late 1647, after the defeat of King Charles I in the first hostilities of the Civil War, representatives of the New Model Army and the constitutional Levellers met at Putney to debate the future of England. There was much to discuss: who should be allowed to vote, civil liberties and religious freedom.

Whilst it was important to reach a constitutional agreement with the King, the Debates were also held in the midst of growing unrest between Parliament and the New Model Army. In 1647 the Council of the Army, under Henry Ireton, put forward a draft document, the *'Heads of Proposals'*, based largely on old constitutional principles. A more radical manifesto, the *'Agreement of the People'*, came from extremists in the army, known as the Agitators, political allies of the Levellers, who sought:

a. Annual Parliaments;

b. Freedom of conscience;

c. Equality before the Law.

Even though the Leveller's sharply differentiated themselves from the utopian programme advocated by "the diggers", Ireton, Oliver Cromwell's son-in-law, nevertheless claimed their "doctrine of natural rights would lead to communism". In the absence of an agreement Cromwell terminated the debates at Putney, ordering the Agitators back to their regiments.

Whilst the debates were inconclusive, the ideas aired in Putney had a considerable influence on centuries of political thought. A quote from Colonel Rainsborough, the highest ranking officer to support the ordinary soldiers, sums up the principles and ideals that remain an inspiration: *"I think that the poorest he that is in England hath a life to live, as the greatest he"*.

Rainsborough's funeral in 1648 became the occasion for a large Leveller demonstration, but without their chief supporter in the Army they were marginalized and their power depleted. Increasing repression of Levellers included the execution of Agitators who led local mutinies in London and Oxfordshire during 1649. As a consequence many Levellers, such as John Lilburn and Rainsborough's brother, William, fled to America. In the colonies their ideas would gain popularity and later found expression in the American revolutionary war and the constitution of the newly formed United States of America.

This narrative offers opportunities to explore ways in which cultural context influences popular movements advocating social change, to generate varied forms of political engagement.

Dormay Street[2]

The site is the location of the first factory developed by Sir Henry Wellcome, who founded both a pharmaceutical company and a philanthropic trust. Both have been at the forefront of global scientific research to free humanity from disease.

Henry Wellcome left America to start a pharmaceutical business in Britain with fellow American Silas Burroughs. Wellcome's unyielding commitment to improving human health through research, his passion for culture and the arts, and support for philanthropy led to the creation of the Wellcome Trust in 1936.

Today, the Wellcome Trust is an independent global charitable foundation dedicated to improving health. It is a champion of science, funding research and influencing health policy across the globe, as well as contributing to debates on issues of ethics, education and policy.

This narrative offers opportunities to explore the interactions between global philanthropic interests, medical research and the availability of pharmaceutical therapies within the developed and developing world.

King George's Park[3]

The emergence of public social policies covering housing, welfare, health and well-being formed part of a 20th century modernist vision of urbanism. The history of the Park illustrates this significant shift in the responsibility for social wellbeing of the urban workforce and illustrates the post-First World War political commitment to resolving London's housing challenge.

Originally King George's Park was a private 'miniature park' established by the Watney milling and brewing family, to which tenants of the mill estate would be allowed occasional access.

In the immediate aftermath of the First World War, Lloyd George's Coalition Government passed the 1919 Housing Act, committing the state to building *'homes for heroes'*. This post-War effort to re-build society on equitable terms, and address the underlying need to supply good quality social housing, had a transformative effect on the character of London and the lives of its working poor.

Wandsworth Borough Council embarked on an ambitious programme of social housing, including the 1920s Watney Housing development. As part of the scheme the Watney's family private park was re-modelled by Stephen Percival (Percy) Cane, a prominent London landscape and garden designer, as a public park for the new Council tenants. The park, which was built with the assistance of veteran labour, was named King George Park in honour of George V who opened the park in 1923.

Council Housing © Daily Herald Archive/National Media Museum/Science & Society Picture Library

This narrative offers opportunities to explore different models of housing provision and methods of urban planning, with reference to changing social and environmental expectations, including the provision of green spaces.

1 Also refer to Appendix E PUTEF *Site Narrative*
2 Also refer to Appendix E DRMST *Site Narrative*
3 Also refer to Appendix E KNGGP *Site Narrative*

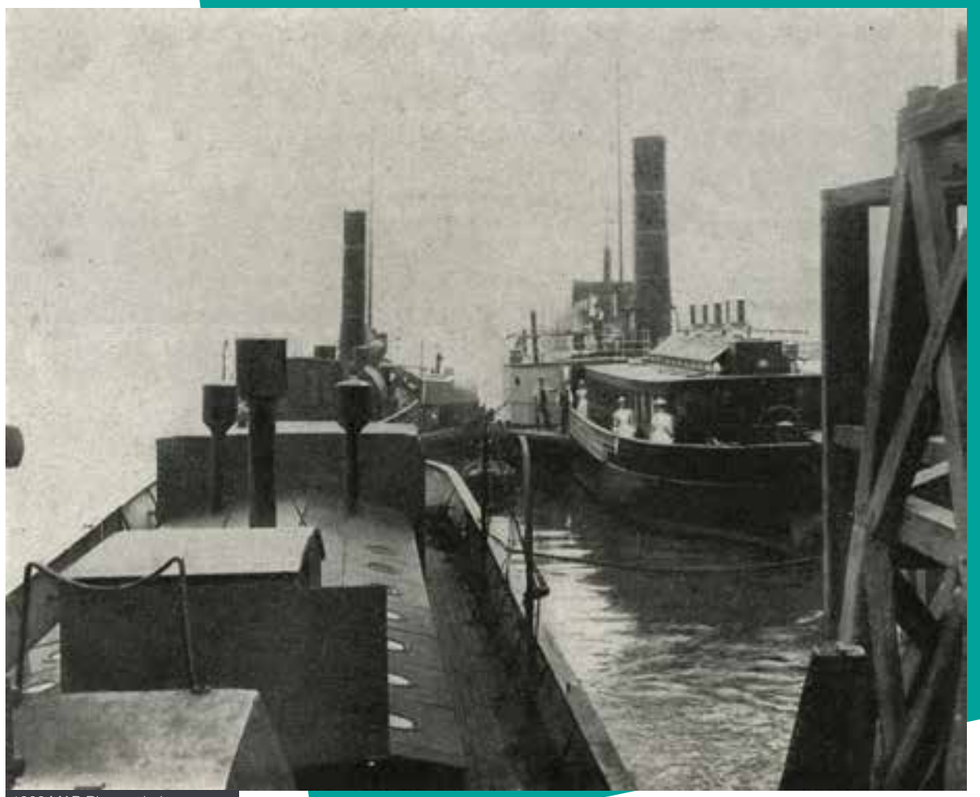
Carnwath Road Riverside[1]

Wharves at Carnwath Road were originally developed for the late 19th/early 20th century Metropolitan Asylums Board (MAB) ambulance service, including a river facility used to transport infectious patients to isolation hospitals near Dartford. The Board can justly claim to have provided the nation's first state hospitals, and laid the London foundations of what in 1948 became the National Health Service.

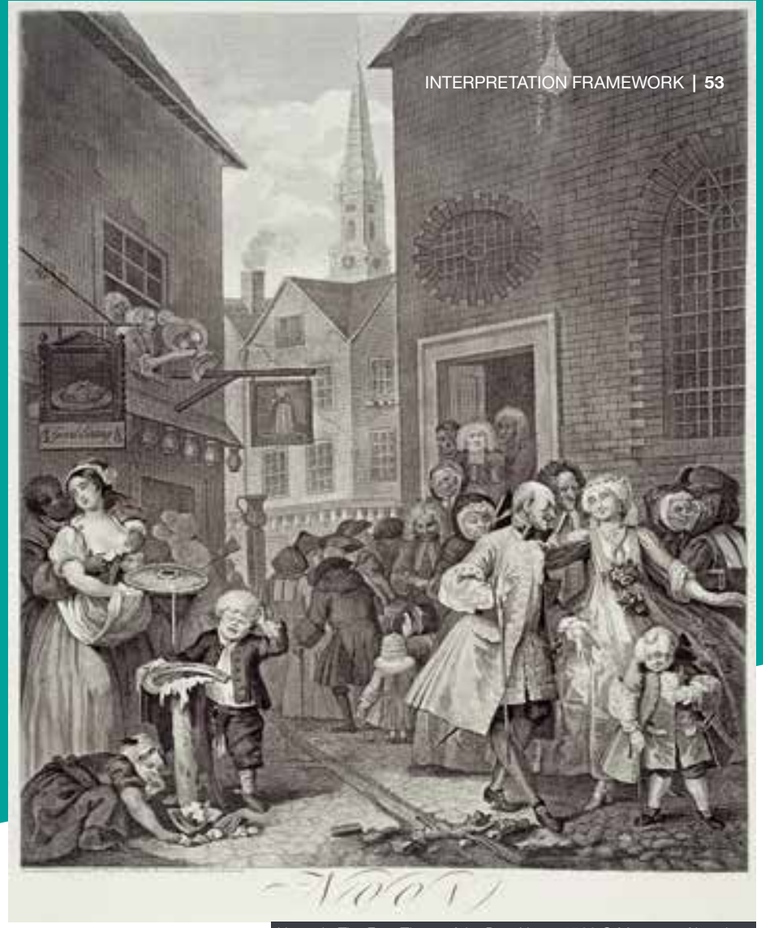
The MAB *Mechanical Transport Department* at Carnwath Road undertook a variety of work, including the building of ambulance bodies and the repair and maintenance of the fleet of vehicles. This eventually become part of the London Council ambulance service and a forerunner of today's medical emergency service.

Between 1867 and 1930, MAB played a substantial and increasing role in the care of London's sick poor, alleviating the spread of ill health among the urban population. During that period, institutional medical care for the poor was transformed to include around forty general and specialist MAB establishments, many purpose-built, staffed by trained personnel. The institutions set up by the MAB came to be accessible by all the capital's inhabitants, not just the poor.

This narrative offers opportunities to explore the origins of the UK post-War system of universal health care and its support of diverse urban communities, offering both health care and career prospects.



1902 MAB River ambulances
© Mary Evans Picture Library/
Peter Higginbotham Collection



Hogarth. The Four Times of the Day: Noon, 1738 © Museum of London

River Ambulance interior c.1900
© Mary Evans Picture Library/
Peter Higginbotham Collection

Cultural Meander Central – 'Babylon' to World City: Civic London[2]

Benjamin Disraeli describes London as the 'modern Babylon' in his 1847 novel *Tancred*, or *The New Crusade*. This reflected contemporary perceptions of the metropolis as being riven by self-interest, inequality and decadence, but also a place attracting a myriad people, languages and cultures.

To a degree Disraeli's characterization of the 19th century populace of London was a consequence of London's adoption, from the late 17th century, of notions of free speech, freedom of conscious and a free press. These freedoms were measured by modern terms, but by the mid-19th century London had assimilated a significant influx of religious refugees and political dissidents escaping persecution in neighbouring European states. London's historic role as a destination of sanctuary persisted throughout the 17th-20th centuries, latterly extending beyond the European sphere to support refugees originating from Commonwealth countries and former colonial interests e.g. the expulsion of Ugandan Asians in 1972.

Representation of the election
of MPs for Westminster 1818
© Museum of London

1 Also refer to Appendix E CARRR *Site Narrative*
2 Also refer to Appendix E Central *Cultural Meander*

Nineteenth century London, as described by Disraeli, was evidently struggling to achieve a credible system of governance. Demand for labour to support growth in the new industrial economy was also a major driver in population movement that tested London's urban capacity at a time when investment in infrastructure was piecemeal at best.

The consequential environmental deterioration of the Thames, resulting in the 'Great Stink' of 1858, proved to be the political catalyst that produced the first pan-London civic entity since the medieval Corporation of London. The Metropolitan Board of Works was empowered to represent and act on behalf of the citizens of London, a role that was to challenge the interests of both the Corporation and the Crown. This pivotal political development, embodied in Bazalgette's Thames Embankments, set London on course towards an open and politically engaged plural society.

Thames Embankment Construction Work 1864
© Mary Evans Picture Library

Sanatory Measures. Lord Morpeth Throwing Pearls before Aldermen © Punch Limited

The London Bathing Season © Punch Limited

The Metropolitan Board of Works principal *raison d'etre* was the construction of a metropolitan sewer system, through invested powers as the pan-London component of a 2-tier metropolitan administration. Given construction of The Embankments involved a major shift toward localism in London's regional governance, it is informative that the architecture projects such a strong sense of 19th century state hegemony.

The Metropolitan Board of Works (MBW) perhaps most closely fits a 'Development Corporation' governance model, rather than a truly representational form of local government. But it remains a model of state-led investment in public institutions and infrastructure; with supporting democratic processes governing urban planning. In due course the evident need for greater democratic accountability directly led to the elected London County Council.

Whilst the MBW was constituted in such a way that its longevity was inevitably limited, it transformed London's built environment. The MBW had a major influence on London's status as a World City, contributing a historic and architectural legacy that contrasts with the variable market-driven urban design outcomes that characterise London's current urban planning practices.

This Victorian approach to what is now termed 'nationally significant infrastructure' also provides an informative historic perspective on changes in the governance, procurement and investment in urban infrastructure, as illustrated by the Tideway project itself. The Victorian MBW scheme, a response to an environmental crisis caused by over-exploitation of a natural resource, was promoted solely by the UK national government and was funded from a tax on fossil fuel (i.e. coal levy).

In contrast the Tideway scheme illustrates how national government now plans and responds to recognised national and trans-national environmental interests, through novel and unique legislative and regulatory framework models that, by removing risks to investors, enable the private sector to develop nationally significant infrastructure.

Central Liberty Sites

Falconbrook Pumping Station[1]

The Tideway pumping stations constitute an important architectural group charting industrial design by municipal authorities through the late 19th and first half of the 20th century. Falconbrook also illustrates how changing concepts of industrial design affects the urban built environment, influencing the public social sphere and the quality of life for local people.

The current Falconbrook Pumping Station, a modernist industrial design of the early 1960s, is the latest of three pumping stations to be built at the site:

a. The first pumping station was built near the corner of York and Creek Roads by the MBW in 1878–9;

b. A larger scale replacement pumping station built in 1905–7 was designed by the LCC's Engineer's Department and built by its Works Department;

c. The current Falconbrook Pumping Station, sited slightly north-east of its predecessor, was designed by the London County Council's architects and engineers, built by A. Waddington & Son, with equipment supplied by Vickers Armstrong.

Subsequently the local authority has attempted to integrate the industrial function of the 1961–3 pumping station with community facilities, including York Gardens, created in 1972 as part of a social housing project, and the York Gardens Library and Community Centre, opened in 1982 to a Wandsworth Borough Council's Director of Development design.

This narrative offers opportunities to explore, with reference to new and mid-20th century drainage infrastructure, how urban design practice can deliver exemplar public realm in an urban industrial setting, to provide benefits to local residents.

Falcon Brook pumping station
© London Metropolitan Archives (City of London)

Kirtling Street Pumping Station and Heathwall Pumping Station[2]

Both sites are located within the extensive area of lowlying land that was improved as a result of the endeavours of 17th century Huguenot immigrant market gardeners, who settled in London to escape religious persecution following the Revocation of the Edict of Nantes in 1685[3].

The arrival in London of Flemish Protestants and French Huguenot refugees from the mid-17th century contributed to the social and economic development of host communities. Semi-rural villages surrounding London, such as Wandsworth and Battersea, were preferred settlement locations, as food and housing were cheaper and trade less exposed to City of London guild control.

1 Also refer to Appendix E FALPS *Site Narrative*

2 Also refer to Appendix E KRTST and HEAPS *Site Narratives*

3 1598. King Henri IV. Edict of Nantes – The immediate aim was to obtain peace after decades of internal conflict, but its declared long term objective was to procure religious harmony throughout the kingdom. The edict established civil equality between Catholics and Protestants as well as the conditions necessary for the peaceful coexistence of the two; however, the edict set limits to protestant worship.

Market Garden Produce 1930
© Mary Evans Picture Library/
Onslow Auctions Ltd


The Female Blondin high wire crossing the Thames from Battersea to Cremorne on a tight rope 1861
© Illustrated London News/Mary Evans Picture Library

The Huguenot's founded various charitable and education institutions that gave the immigrant community a degree of self-reliance within the new host country. One of their notable achievements was in the field of horticulture, advancing scientific approaches through the development of intensive market gardens and osier beds at places like Nine Elms and Battersea, which were a major supplier of fresh vegetables, notably asparagus (known as 'Battersea bundles'), to the nearby city.

Market gardening had a significant impact on sustainable urban expansion. Riverside garden locations were preferred in order to bulk ship urban organic waste and effluent, to be used as a fertiliser and to create hotbeds. This extended both the range of vegetable produced and the length of the growing season. Not only were immigrant communities able to sustain themselves economically. By improving riverside land, providing fresh vegetable products for commercial sale, and by metabolised urban waste, they had a beneficial effect on the health and well-being of the wider urban population. Investment in land improvement also had ramifications for London's subsequent expansion of its industrial base.

This narrative examines the social integration of immigrant communities, and their contribution to the wider urban community, through culturally specific institutions concerned with education, employment and welfare;

This narrative also offers opportunities to explore how urban communities have traditionally accessed horticultural resources and the potential role of horticulture within models of sustainable urbanism.

Cremorne Wharf Depot[1]

Formerly part of the grounds of Viscount Cremorne's 18th century Ashburnham House, the site illustrates how tenurial rights influence free access to river amenity. During its later history the former private Ashburnham House estate was made available to the general population as commercialised recreational amenity. Notably, colonial trade connections within the City played an important role in commodifying the recreational and social aspirations of 19th century London's growing urban middle class.

On the death of the 1st Viscount in 1813 the estate passed to his widow, Lady Cremorne (nee Philadelphia Hannah Freame) the grand-daughter of William Penn, founder of Pennsylvania. In 1845 the site was acquired by Thomas Bartlett Simpson, owner of the North & South American Coffee House in Threadneedle Street.

Simpson sublet to James Ellis, a confectioner, who re-opened the house and grounds as Cremorne Gardens. Laid out as typical London pleasure gardens of the era, a range of entertainments and attractions were offered, including concerts, restaurants, fireworks, balloon ascents, dancing and walks in the landscaped grounds. Simpson later took over the management himself and within a few years Cremorne Gardens was established as a popular feature of London's summer season and a mecca for Londoners of all classes, alongside similar pleasure gardens at Vauxhall and Ranelagh. Cremone Gardens could be easily reached by steamer from the City to Cremorne Pier, adding to its appeal to people looking for reasonably priced leisure.

Closure of the gardens in 1877 ended a brief period of public access, as industrial and commercial real estate established a persistent dominance on the Thames, other than where public amenity was secured and subsequently protected along The Thames Embankments.

This narrative offers opportunities to explore how new fashions in amenity and recreation broke down social constraints and realised communal value in the river, i.e. as an early illustration of how people can be connected with the Thames.

1 Also refer to Appendix E ABMPS *Site Narrative*.

The Thames Embankments

The Thames Embankments are the great civic legacy of the MBW's ambition to beautify the river for the benefit of London's citizens. However it was immediately embroiled in challenges to the public interest, issued on behalf of the Crown, which it successfully countered.

John Thwaites, the chair of the Metropolitan Board of Works, made note that the Thames Embankments were an important step in making London recognised as an exemplary imperial city, and that The Embankments were the greatest public work to be taken in London. They were intended to reflect a Victorian view of modernity at a time of sweeping social, economic, political and administrative change.

Imperial power was symbolised by The Embankments' grandeur and in the way they controlled nature, i.e. the tidal river. The new monumental Thames frontage physically linked the two opposing areas of historic authority i.e. the cities of London and Westminster. It contributed to the architectural setting of various buildings central to state and national identity, including the Palace of Westminster, Lambeth Palace and the Royal Hospital at Chelsea. The new St Thomas' Hospital buildings, constructed on land reclaimed during construction of Albert Embankment, included a nurse and midwife training school funded by public subscription raised in recognition of Florence Nightingale's service in Crimea.

The Embankments opened the river to London's citizens. The 52 acres of reclaimed riverside provided public parks, tree lined highways and a pedestrian promenade surfaced with York paving stone and adorned with decorative gaslight posts. New steamboat piers and landing stairs were designed for river access. The Embankments were more than simply a structure to contain the main sewer and other buried utilities. They more widely embraced the need to improve health and the social conditions of the expanding urban population, by creating a new urban park that connected Londoner's to the amenity of the river. Similar motives lay behind contemporary major urban parks created in other emerging metropolitan global cities, such as New York's Central Park, created by Fredrick Law Olmsted in 1865 and the program of new boulevards, parks and public works in Paris, during Georges-Eugène Haussmann's renovation of Paris through the 1850-70s;


Thames Embankment Works 1865
© Museum of London

Embankment 1940s
© Mary Evans Picture Library/Photo Union Collection

As well as constructing The Embankments and the main drainage system, the MBW instigated a wide range of urban infrastructure modernisations that improved the operation of the river and London more widely. This was concurrent with social and economic transformations associated with industrialisation, and helped prepare the metropolis for the onset of modernity. Improvements in transport infrastructure included the creation of new thoroughfares and an underground line that reduced traffic congestion. Also privately-operated bridges spanning the Thames eventually came within MBW jurisdiction, allowing the removal of tolls, a programme for re-building (Putney Bridge, Battersea Bridge, Waterloo Bridge and Hammersmith Bridge) and works to strengthen others.

Each of the four separate Embankment worksites provide a specific narrative that allows consideration of different aspects of the MBW's cultural legacy:

a. Chelsea and Albert Embankments serve as a formal architectural embellishment to the riverside dominated by major architectural expressions of civic care of the vulnerable and infirm, at the Royal Hospital and at St Thomas' Hospital;

b. Victoria Embankment faced challenges during planning and construction that reveal the significance of the MBW as an early form of regional governance that pioneered large scale urban regeneration;

c. Blackfriars Embankment faced equally challenging circumstances, but these concerned construction engineering innovations required to negotiate London's historic topography in order to solve the problem arising from the pollution of its natural tributaries.

Chelsea Embankment Foreshore[1]

This site forms the river frontage to the Royal Hospital, which for over 300 years has been responsible for the care of former military veterans who fought on behalf of the State and the nation. Whilst protection of Liberty is often cited as moral justification for the use of armed force, this can be contested and contributes to perceptions of Liberty that continue to be challenged in political discourse, as is evident following recent western military interventions in the Middle East. However, the Hospital continues to perform its historic function, of ensuring former veterans are themselves free from poverty and maintain independent lives throughout retirement.

Until the 17th century the state made no specific provision for old and injured soldiers. Care for the poor and sick was provided by religious charitable foundations (see Bekesbourne Street). In 1681, responding to the need to look after these soldiers, Charles II issued a Royal Warrant authorising the building of the Royal Hospital Chelsea to care for those 'broken by age or war'. The provision of a hostel rather than the payment of pensions was inspired by *Les Invalides* in Paris, where Charles had spent time in exile during the Protectorate. Sir Christopher Wren was commissioned to design and erect the building and Sir Stephen Fox was commissioned to secure the funds necessary to progress the build. It now provides both a retirement and nursing home for some 300 former British soldiers of the British Army, admitting female veterans in 2009.

Progress of the Thames Embankment at Chelsea 1873 © Museum of London

View of Chelsea Hospital and the Rotunda at Ranelagh Gardens
© Museum of London

This narrative offers opportunities to explore the obligations of the nation and the government to the armed forces, and the role of the Hospital, which, for the last 300 years, has been a particularly visible and ceremonial demonstration of the armed forces covenant.

Albert Embankment Foreshore[2]

At Albert Embankment the MBW waived its insistence that land reclaimed during construction of The Embankments should solely be for the recreational benefit of Londoners. Instead, it secured an alternative public benefit by providing a new location for St Thomas' Hospital. Apart from administering to the urban poor, the Hospital played a significant role in establishing nursing as a profession. In so doing, traditional attitudes toward female career roles were challenged and beneficial perinatal and maternity outcomes further improved the lives of women.

At nearly a mile long, the Albert Embankment recovered part of the construction cost by selling 8.5 acres of reclaimed land to St Thomas' Hospital. Originally a medieval monastic charitable foundation, St Thomas' left its historic Southwark site in 1862, when it was compulsorily purchased to make way for the construction of the Charing Cross Railway viaduct from London Bridge Station. The new hospital buildings on the present site near Lambeth Palace were completed in 1871.

It was at St Thomas' that Florence Nightingale founded the first professional school of nursing. The school was funded by subscription raised in recognition of Nightingale's service in Crimea. One of the first institutions to teach nursing and midwifery as a formal profession, the training school was dedicated to communicating the philosophy and practice of its founder and patron, including Nightingale's strongly argued position on the removal of restrictions on women from having careers. The improvement in nursing care had a transformative effect on patient outcomes.

The Hospital itself is of major architectural interest, as the grandest and most lavish of the English pavilion-plan hospitals. A bold and ambitious architectural set-piece, in the manner of a series of Venetian palazzi, the Hospital exploits to the full its riverside setting opposite Westminster Palace.

It is of outstanding historic interest in the continuity of London's oldest hospital foundation, as an early and influential British pavilion-plan hospital built at an important watershed in 19th century healthcare reform, and as the premises of Florence Nightingale's seminal nursing school.

This narrative offers opportunities to examine trends in welfare and social reforms with reference to opportunities for women in the workplace.

St Thomas' Hospital 1871 © Mary Evans Picture Library

1 Also refer to Appendix E CHEEF *Site Narrative*
2 Also refer to Appendix E ALBEF *Site Narrative*

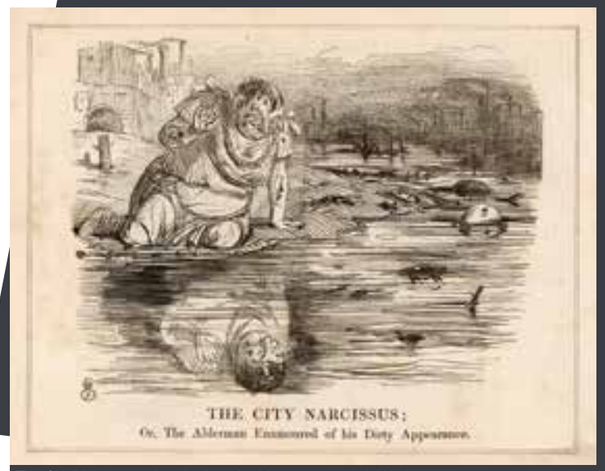
Victoria Embankment Foreshore[1]

The MBW represents the first significant attempt at localism in the governance of the Capital, establishing a regional authority for 'inner' London in 1855. The MBW's effectiveness in giving voice to the civic interests of Londoners was tested early by powerful and long-established vested interests. This was illustrated by the outcome of disputes with the Crown that spanned a decade during the construction of the Victoria Embankment.

The MBW's jurisdiction over the riverside was first challenged by the Crown in 1862, who claimed there would be a loss of amenity to the river frontage adjoining its properties along The Strand that run down to the riverside, e.g. Somerset House. This claim was not sustained, but in 1870 the Crown again sought to assert rights to develop part of the reclaimed land following construction of the Embankment, which had been achieved entirely at taxpayer expense. This claim was eventually resolved in 1872 following a strong public response expressed through Parliament and press media campaigns, which supported the MBW insistence that the Embankment should be protected for the recreational benefit of Londoners.

The Victoria Embankment is a physical link created by the Metropolitan Board of Works connecting districts subject to different historic authorities i.e. the cities of London and Westminster. The Embankment survives as a legacy of civic aspirations that prioritised public interests along the river. Blackfriars Road Bridge, itself a civic legacy of the historic Bridge House Estate charity, is the point where Bazalgette's Victoria Embankment ends and the City river frontage begins. Downstream of the Bridge the river frontage takes on a different quality, one that is more changeable, reflecting the vitality of commerce and the market driven ambitions of the City of London and its historic commercial institutions, such as the guilds, livery companies and charities.

This narrative offers opportunities to explore how evolving democratic institutions responsible for London's governance have influenced the experiences of diverse urban communities.



The City Narcissus – London's authorities are accused of being complacent about the city's filth 1849 © Mary Evans Picture Library

Blackfriars Embankment Foreshore[2]

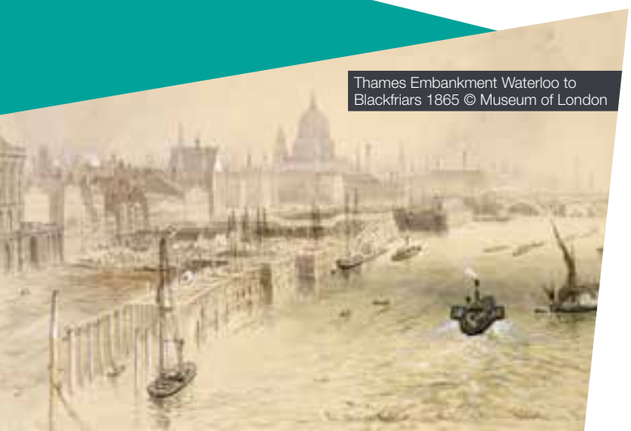
Engineering and design innovation played a major role in transforming London's urban sanitation system and protecting the health of Londoners. In particular it has been spectacularly successful in curbing infectious epidemics such as cholera, which in the mid-19th century was responsible for the death of 40,000 Londoners.

Blackfriars is located at the mouth of the river Fleet, a tributary that had a notorious and noxious reputation for its impact on public health. As one of the more significant of London's 'lost rivers', the Fleet had been used as a sewer since the late medieval period, becoming progressively culverted. In the 17th century Sir Christopher Wren attempted a failed scheme to improve the lower Fleet, creating a canal modelled on Venice's Grand Canal, broadening its Thames' mouth and constructing four new decorative bridges, at Bridewell, Fleet Street, Fleet Lane and Holborn. This did little to alleviate the sanitation problem and eventually the Fleet became choked with mud and was no longer navigable. Pollution remained a significant public health problem to the Victorian population.

Located at the eastern end of Victoria Embankment, Blackfriars is the point where Bazalgette's Northern Low Level sewer intercepts the river Fleet, which rose from springs on Hampstead Heath. Significant engineering challenges were overcome to successfully intercept the flow of the Fleet.

Bazalgette's sewer design explored the engineering possibilities of various geometric forms. His use of an elliptical arch tunnel profile was a widely copied innovation that optimised flow, achieved self-cleaning and provided load bearing structural support that prevented settlement of the overlying city. Similarly engineering design and fluid modelling have played a significant part in the Tideway tunnel, notably the vortex drop shafts that connect the CSOs to the Tunnel.

This narrative offers opportunities to explore how form and function can be understood through science, technology, engineering and mathematics; to bring about planned topographic transformations, highlighting London's 'lost rivers', and the creation of infrastructure that contributes to the management and experience of London's urban environment.



Thames Embankment Waterloo to Blackfriars 1865 © Museum of London

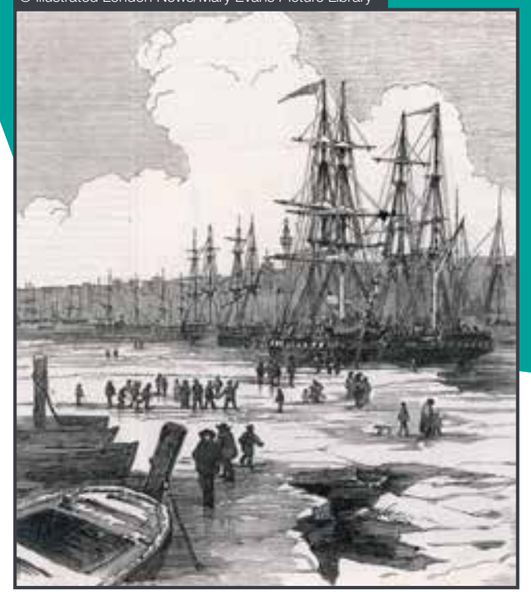
Shad Thames Pumping Station[3]

Shad Thames illustrates how transitioning economic situations might generate social and economic opportunities, widening access to urban space and providing a catalyst to entrepreneurial and creative activities.

Formerly part of the land held by the Cluniac Abbey of Bermondsey, which had been reclaimed by the construction of extensive medieval flood defence systems. The estate was surrendered to Henry VIII in 1537 and subsequently sold to raise revenue for the Crown. The availability of new land assets proved to be a catalyst for investment and commercial development of the Bermondsey riverside in the late 17th century. New riverside wharves and warehouses were constructed and intertidal areas reclaimed, transforming the relatively under-utilized riverside pasture fringing the historic city, generating economic value that sustained expanding local urban communities over the subsequent three centuries.

Satire on the polluted water of London 1866 © Mary Evans Picture Library

Boats trapped in the frozen river at Shad Thames 1855 © Illustrated London News/Mary Evans Picture Library



By the middle of the 20th century the commercial riverside was in decline and the extensive riverside warehouses developed during the 19th century became redundant. A creative community of independent artists established studios at various semi-derelict Southwark waterfront warehouses in the 1970s, in particular at Bulter's Wharf, which adjoins the Shad Thames Pumping Station.

Derek Jarman, film director, stage designer, diarist, artist, gardener, author, queer activist, AIDS campaigner and provocateur was a prominent member of this Thames artistic community. He possessed a deep creative connection with the river. Using Super 8 film he documented the avant-garde warehouse art scene (Studio Bankside (1971)) and the 1976 Valentine's Day Ball performance of the Sex Pistols in his Butler's Wharf studio. The post-industrial riverside featured as a location for many scenes in his 1977 apocalyptic cult feature film 'Jubilee' in which the occultist John Dee transports Queen Elizabeth I forward in time to the shattered Britain of the 1970s, a film highlighting post-Punk social change.

Jarman's political and creative activities challenged prejudicial attitudes affecting the queer community and AIDS sufferers, with significant and lasting effect.

This narrative offers opportunities to explore the influence of urban transitions on prevailing attitudes to individuality, equality, opportunity and changing perceptions of lifestyle norms.

1 Also refer to Appendix E VCTEF *Site Narrative*
2 Also refer to Appendix E BLABF *Site Narrative*
3 Also refer to Appendix E SHTPS *Site Narrative*

Cultural Meander East – The ‘Shipping Parishes’: Gateway to the World[1]

A pattern of medieval estuarine settlements and extensive surrounding areas of reclaimed medieval grazing marsh (principally systems for the water management of estuarine wetlands surrounding the urban core), were transformed throughout the 16th, 17th, 18th and 19th centuries, to be replaced by a dock economy that was to have a fundamental influence on the physical, economic, ethnic and social structure of the area.

This period of transformation has significant Liberty implications, both with regards to the management of environmental resources, but most significantly on the restriction and exploitation of human capital.

London’s international maritime trading presence originated in the early medieval period. Bede writing in the 730s referred to Saxon London as “a mart of many nations”. The maritime character of the Thames became increasingly dominant following Henry VIII’s appropriation and disposal of monastic riverside estates and the founding of Royal naval facilities at Deptford, Woolwich, Erith and Chatham. Soon after, commercial maritime trade is inextricably linked to the concept of ‘British Empire’. Initiated under Elizabeth I this doctrine of aggressive global expansion of sovereignty, accompanied by colonisation and enslavement, was pursued over the subsequent three centuries.

This had important consequences for the 16th, 17th and 18th century communities downstream of the City of London, at places such as Wapping, Ratcliffe, Poplar, Bermondsey, Rotherhithe, Deptford and Greenwich. These rapidly expanding maritime communities held notions of Liberty based on traditional customary laws of the sea, codified at various times between the 12th and 16th centuries (e.g. the *Rôles d’Oléron* and the Wisby Sea Law). These private laws, pertaining to intra-territory sea trade and governing relations within the international seafaring community, include relatively progressive concepts of social democracy, which are largely absent from wider contemporary society until the mid-19th century. Consequently, values of independence and cultural co-existence were familiar within these communities.

In stark contrast, the trade in commodities from the 16th century, such as tobacco, sugar and coffee, positioned London’s port communities at the apex of a triangular trade structure, involving subjugation of indigenous people, appropriation of lands and property, mass forced slavery of Africans and transportation. Other forms of imperial trade linked to London, such as the British East India Company’s forced import of opium to China, resulting in the Opium Wars of 1840s & 1860s, also stand alongside slavery as examples of colonial exploitation.

1 Also refer to Appendix D East Cultural Meander

Sugar Sampler © PLA Collection/Museum of London

Old Deptford Dock

Wapping Black Eagle Wharf © PLA Collection/Museum of London

Liverpool Slave Ship © Museum of London

Behind the growth of London as a centre of finance and commerce from the 1700s onwards lay slavery. Any objective examination of issues of Liberty in relation to the Thames requires an open acknowledgement that the river formed a key element of the maritime infrastructure of a political and economic system that oppressed and abused human capital on a massive scale, to serve imperial ambitions, the interests of the state and, to varying and unequal degrees, the wealth and commercial interests of its citizens.

This extremely conflicted moral duality, of nascent forms of local social democracy juxtaposed with extreme and violent racial exploitation, resonates globally and continues to be a factor that influences perspectives on London's heritage. Although the UK's fourth largest slave trading port, London's association with African slavery is not an openly explicit feature of the historic environment, even less so the indentured servitude of south east Asian people involved in 17th century and later merchant shipping. But their imprint is not entirely invisible and can be detected through a legacy of buildings and archaeological remains across London. Apart from the 19th century docks, surviving riverside evidence includes the remnants of former sugar, coffee and tobacco industries and trading institutions; associated secondary industries, including sugar-reliant food processing; and a range of local supply craft industries. In addition the substantial flow of capital associated with the triangular trade ultimately accounted for the wealth of institutions and individuals that had, and to a degree continue, to have a significant effect on London's historic built environment[1].

From the 17th century rapid changes to the Thames express Britain's expanding colonial interests, as illustrated by the construction of riverside shipyards by the East India Company and others. Thames-side wharves and warehouses, served by a maze of narrow streets, lined with tightly packed rows of workers' houses, were interspersed with larger and grander houses for merchants and dock officials.

Increasing demand for port capacity throughout the 19th century was met by the construction of enclosed docks on either side of the Thames. These included West India Docks (1802), East India Docks (1803, originating from the Brunswick Dock of 1790), London Docks (1799-1815), Surrey Commercial Docks (1807, originating from the Howland Great Wet Dock of 1696), St Katharine Docks (1828), Royal Victoria Dock (1855), Millwall Dock (1868), Royal Albert Dock (1880), and Tilbury Docks (1886).

Fire at Dockhead Bermondsey

By the early 19th century the Port of London dock economy was the hub of the British Empire, supported by diaspora drawn from across the British Isles and the Empire. This has had a fundamental influence on the physical, ethnic, cultural and socio-economic character of the area. Historic factors related to colonial exploitation of south east Asia by London's trading companies, most notably the East India Company, underlie issues of identity, cultural acceptance and belonging that are still largely overlooked in common perceptions of the origins of East London's multi-ethnic population, especially residents of Bengali heritage.

The physical consequences of dock development including the construction of massive warehouses, known as 'London's Larder', which Joseph Conrad alludes to in an evocative description in his autobiographical *The Mirror of the Sea* (1906):

- *Wharves, landing places, dock-gates, waterside stairs, follow each other continuously right up to London Bridge, and the hum of men's work fills the river with a menacing, muttering note as of a breathless, ever-driving gale. The waterway, so fair above and wide below, flows oppressed by bricks and mortar and stone, by blackened timber and grimed glass and rusty iron, covered with black barges, whipped up by paddles and screws, overburdened with craft, overhung with chains, overshadowed by walls making a steep gorge for its bed, filled with the haze of smoke and dust.*

Whilst the Second World War saw a period of intense use, by the 1960s the inability of these parts of the Port of London to compete with the expanding container ports downstream rapidly became evident leading to the erosion of social and economic traditions by the 1970s. Industrial decline had a significant effect on traditional social norms due to the loss of economic opportunity. However, it also created short-term situations that encouraged new and creative communities and groups.

East Liberty Sites

Chambers Wharf[2]

Chamber's Wharf is located on the north margin of the Bermondsey eyot, to the east of the mouth of the Neckinger. The original flood defence, initiated by the medieval Abbey of St Saviour Bermondsey, crosses the site, along the line of Bermondsey Wall Road.

Following dissolution, the Abbey estate was acquired c.1541 by Sir Thomas Pope, founder of Trinity College Oxford and a close associate of both Thomas More and Thomas Cromwell. Pope's personal wealth benefited from his position as treasurer of the institution set up to manage the monastic property annexed by the Crown.

Commercial development of the Bermondsey riverside intensified as the Port of London rapidly expanded. Throughout the 17th and 18th century Bermondsey's economy was closely connected with Britain's expanding mercantile and colonial interests.

Manufactured goods shipped from London were exchanged for West African slaves, who, transported across the Atlantic, worked in colonial plantations. Commodities, such as sugar, were shipped back to Britain for processing and trading.

Seventeenth century and later sugarhouses in Bermondsey and Southwark refined imported cane sugar into various consumer products. Refining relied on a local supply chain of equipment/materials and an extensive consumer market. Tideway's archaeological site investigation revealed successive phases of 17th century timber wharf revetments and industrial waste, including ceramic sugar cone moulds, part of the sugar industry supply chain.

Charles Booths Descriptive Maps of London Poverty 1889 – extract Wapping and Stepney © Museum of London

Key to Booths Map of London Poverty

Charles Booth's Descriptive Maps of London Poverty 1889 – extract of Bermondsey © Museum of London

1 www.museumoflondon.org.uk/files/4014/2547/5228/London-Sugar-Slavery-Trail.pdf
2 Also refer to Appendix E CHAWF *Site Narrative*

Adaptation of Thomas B Kennington's The Toy Shop to advertise Peek Frean Biscuits 1891 © Victoria & Albert Museum, London

Joseph Johnson, an ex-seaman street singer, 1874. Discharged from the Merchant Navy after he was wounded he was not eligible for a seaman's pension nor could he claim parish relief as he was born abroad © Museum of London

Whaling in the Arctic c.1854 © Alamy

The arrival of the Loudoun Castle in London after its maiden voyage from Hankow China 1877 © Museum of London

Improved manufacturing processes greatly increased the capacity of London's 19th century sugar refineries, supporting the local development of large scale food processors serving domestic and export markets. The Peek Freans Biscuit Factory was originally established at nearby Mill Lane, before relocating to a site south of Jamaica Road. The surrounding area of Bermondsey was known as 'Biscuit Town', a colloquialism reflecting a connection with generations of local families.

To meet the needs of the expanding industrial and commercial base, new riverside wharves and warehouses were built on reclaimed intertidal land, culminating at Chambers Wharf with the creation of the early 20th century concrete deck.

This narrative offers opportunities to explore the cultural context that determines patterns of commodification and exploitation in human capital and its long-term consequences.

Earl Pumping Station[1]

Earl Pumping Station is located close to Greenland Dock, formerly known as the Howland Great Wet Dock. It is one of the earliest enclosed docks within the historic Port of London. Built 1695-99 and later renamed Greenland Dock, it was expanded at the beginning of the 20th century. Originally used to refit East India Company merchant ships, from the early 18th century the dock was the berth and processing plant for the London's Arctic whaling fleet, which operated off the Atlantic coast of Norway and Greenland.

Whaling was an important economic activity between the 16th-19th centuries. Initially operating under a charter of Elizabeth I, the Port of London whaling fleet played a leading role in the commercial exploitation in cetacean resources. It became commercially unviable in the early 19th century due to overexploitation and a decline in the market for whale oil following the development of chemical and petro-chemical alternatives.

This narrative offers opportunities to explore the ecological and cultural impact of historic industrial exploitation of marine fauna.

Biscuit Factory 1972 © Henry Grant Collection/Museum of London

Tall Ships sailing on the Thames

Asian Seamen in the Port of London 1908 © Museum of London

King Edward Memorial Park Foreshore[2]

The site has close historical links with mercantile and dock communities that, for a period of 400 years, have been associated with the contrasting impact of former British maritime power and trading empire on different ethnic, social and economic groups, both locally and internationally. The Park serves a community forged from intersecting diaspora, which has a radical tradition of philanthropy and for challenging political extremism and racism.

The Park adjoins the historic mercantile settlements at Ratcliffe and Shadwell involved in 16th century and later global exploration. The role of 16th century 'merchant adventurers' had positive consequences in terms of knowledge and developments in science and navigation, but also advanced less positive Liberty outcomes by initiating colonization[3] and, by consequence, the triangular slave trade (see Chambers Wharf above).

Throughout the 17th, 18th and 19th centuries the area accommodated an expansion of docks by the East India Company, the West India Company and other mercantile trading interests, creating an entry hub drawing migrant people and expatriate seamen into the area.

The East India Company had a particularly vital role in the establishment of the Bengali and Chinese diaspora resident in London and UK. The Company held a virtual monopoly over Indian trade and the majority of Indians and Chinese arriving in Britain in the early 18th century were in indentured service to the Company. Most worked on ships, but house-servants, working for families returning from India (where they had worked for the Company), added to their number.

1 Also refer to Appendix E EARPS *Site Narrative*

2 Also refer to Appendix E KEMPF *Site Narrative*

3 Coincidentally, the adjoining St Paul's Church has a close genealogical association with Thomas Jefferson, a principal author of the 1776 American Declaration of Independence, which rejected 18th century British colonial government and brought to an end the 'First' British Empire based on permanent settlements in the Americas. Jefferson's great grandfather had settled in Virginia, the first English colony in the world. Jefferson's maternal grandfather, Isham Randolph, a ship's captain and agent for the Virginia Colony tobacco trade, was married at St Paul's. His daughter, Jane Randolph, Jefferson's mother, was born in Shadwell and christened at St Paul's in 1718

East London Hospital for Children © Science Museum/Science & Society Picture Library

Sailors, whether passing through or stranded, tended to rely on riverside lodging places. From 1795, hostels and seamen's homes catering for Bengali merchant seamen were set up in Shoreditch, Shadwell and Wapping. Separate Chinese groups established a presence in Limehouse. Initially intended as temporary bases rather than the start of a permanent community, by 1856 various Christian missionary societies set up foundations, such as 'The Strangers Home for Seaman from Asia, Africa and South Sea Islands', which sought to implement legislative provisions for repatriation. The arrival of 19th century Jewish and Irish populations added to the intersecting and sometimes conflicted diaspora groups, to create a continuous riverside mercantile settlement extending from Wapping to Blackwall.

Charles Dickens' 'The Uncommercial Traveller' (1860) describes the 19th century qualities of this maritime community, around the time it suffered 4,000 deaths in the 1866 cholera epidemic:

- *The borders of Ratcliffe and Stepney, eastward of London, and giving on the impure river, were the scene of this uncompromising dance of death, upon a drizzling November day. A squalid maze of streets, courts, and alleys of miserable houses let out in single rooms. A wilderness of dirt, rags, and hunger. A mud-desert, chiefly inhabited by a tribe from whom employment has departed, or to whom it comes but fitfully and rarely. They are not skilled mechanics in any wise. They are but labourers,–dock-labourers, water-side labourers, and coal-porters, and ballast-heavers, such-like hewers of wood and drawers of water.*

In response to this epidemic, Dr Nathaniel Heckford and his wife Sarah established, in 1868, the UK's first hospital for infants in a sailmaker's loft, which Dicken's describes:

- *I found the children's hospital established in an old sail-loft or storehouse, of the roughest nature, and on the simplest means. There were trap-doors in the floors, where goods had been hoisted up and down; heavy feet and heavy weights had started every knot in the well-trodden planking: inconvenient bulks and beams and awkward staircases perplexed my passage through the wards. But I found it airy, sweet, and clean. In its seven and thirty beds I saw but little beauty; for starvation in the second or third generation takes a pinched look: but I saw the sufferings both of infancy and childhood tenderly assuaged; I heard the little patients answering to pet playful names, the light touch of a delicate lady laid bare the wasted sticks of arms for me to pity; and the claw-like little hands, as she did so, twined themselves lovingly around her wedding-ring.*

The creation of the Park in 1922 required clearance of many of Shadwell's streets, many dating to the 17th century. By this time the Children's hospital had relocated to Shadwell. There remained, however, a culturally diverse population whose response to racist discrimination gained an increasingly radical and socially progressive outlook.

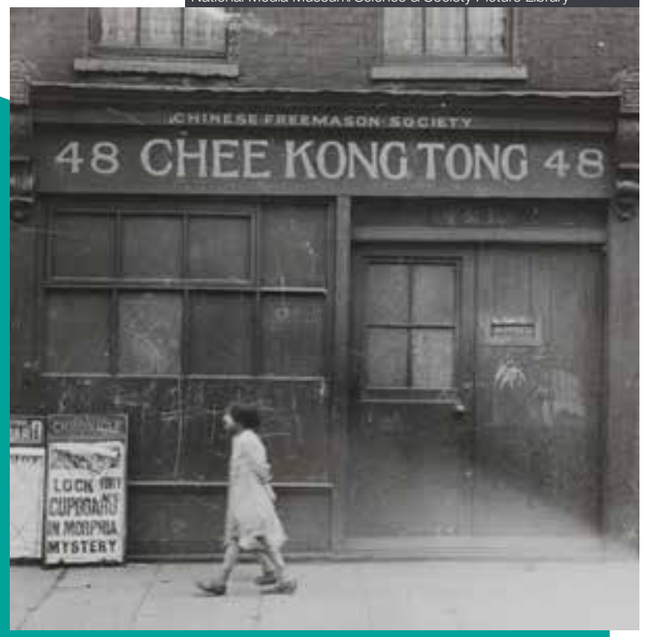
The association with diaspora communities was highlighted during the Battle of Cable Street, which took place nearby on Sunday 4 October 1936. It was a clash between the Metropolitan Police, overseeing a march by members of the British Union of Fascists, led by Oswald Mosley. Various anti-fascist demonstrators, including local Jewish, socialist, anarchist and communist groups, organised counter-protesters to block Oswald's Fascists, successfully blocking their progress into the community.

From at least the 1930s local people of Bengali heritage have contributed to this legacy of confronting race-based political exponents. In more recent times they have led, organised and participated in demonstrations against racist extremism and related violence during the 1990s, i.e. the racist attack on student Quddus Ali, on 8 September 1993, and the election of the BNP councillor Derek Beackon in Millwall Ward on 16 September 1993.

This narrative offers opportunities to examine a historic maritime community prone to poverty and disadvantage, and how the experience of London's diaspora communities has contributed to metropolitan race relationships.

Shops within the Jewish Community © Russell Wilfred/Courtesy of the Museum of London

The Chinese Freemason Society Limehouse © Daily Herald Archive/ National Media Museum/Science & Society Picture Library



Bekesbourne Street[1]

Located at the western end of Ratcliffe, where it meets Lower Shadwell, Bekesbourne Street forms the eastern boundary to the property of the Royal Foundation of St Katharine.

Founded in 1147 by Queen Matilda, the wife of King Stephen, the Foundation has benefited from the Royal patronage of the female monarch for over 850 years, administering religious and charitable services to the poor of East London. The role of the Queen had particular resonance during the Second World War, when the dockyard communities of East London suffered sustained bombing raids during the Blitz.

The original duties of the Foundation lay in celebrating Mass and in serving the poor infirm in the medieval Hospital. At the beginning of the 18th century the Foundation also provided charity schools for both boys and girls.

Having survived both the 16th century Reformation and the 17th century puritan Protectorate, the Church and Hospital was demolished in 1825 to make way for an extension to St Katharine Docks, which was opened in 1828. With the death of Queen Caroline, George IV's estranged wife, the Foundation was without a Queen Patron at this crucial time (see Hammersmith Pumping Station above).

The Foundation's move to a new site in Regents Park coincided with a rapid deterioration in living conditions across the East End, which suffered a cholera epidemic in 1866. Whilst several attempts were made by the local clergy to obtain the benefit of St. Katharine's endowments, the Foundation in Regents Park remained "a kind of aristocratic Almshouse".

It was not until 1914 that St Katharine's funds were put to more appropriate use. The Foundation's two functions, of worship and charitable works, were separated and funds transferred to the Royal College of St. Katharine, set up by Queen Alexandra, the widow of Edward VII, to undertake welfare work in Poplar. After the Second World War the future of the Foundation was once more reconsidered. Under the patronage of Queen Mary, the widow of George V, it was reconstituted in 1948 as the Royal Foundation of St Katharine. On returning to its traditional home area, its two functions of worship and service to the community were re-united.

1 Also refer to Appendix E BEKST *Site Narrative*

Royal Foundation of St Katharine 1951. Originally the Georgian Vicarage for St James Ratcliffe and built in 1795-1796 for the sugar refiner and director of the Phoenix Assurance Company, Matthew Whiting © RIBA

The new Foundation moved to the blitzed site of St James Ratcliffe. The surviving Vicarage became the Master's House. In 1952 a new Royal Chapel was built in a plain modern style, incorporating carved wooden stalls and Jacobean pulpit from the previous Foundation church. New accommodation was also built for conferences and retreats, forming a villa shaped complex. In 2002 renovation and extension of the retreat and conference facilities was undertaken and the Chapel re-ordered in memory of Queen Elizabeth the Queen Mother, for 49 years Patron and friend of the Foundation.

The Chapel of 1951, a simple brick-faced portal frame monument to post-war austerity, is important in the history of English architecture, housing, as it does, exceptional fittings preserved from earlier sites, alongside more radical furnishings of its time. Eight hundred and fifty years after its foundation St Katharine's now provides conference and accommodation facilities more suited to contemporary ecclesiastical needs and continues to minister to the changing facets of life in East London and beyond.

This narrative offers opportunities to explore the role of religious and charitable institutions in the provision of education and social welfare services.

Deptford Church Street[1]

Deptford High Street has an association with Mary Lacy, whose 18th century memoirs describe her life as a mariner and naval shipwright, whilst disguised as a man under the adopted name William Chandler.

After securing a Navy pension Mary settled in Deptford and began a new career as a housing developer. The buildings at 104-108 and 116-118 Deptford High Street (known locally as 'Slade's Place') are typical of the domestic architecture of 18th century Deptford, but are notable as having been built by Mary Lacy, who by this time had adopted the surname of her partner Elizabeth Slade.

Mary Lacy's biography highlights a personal experience of gender non-conformity as a means of challenging female restrictions to 'male' workplace roles, at a time when contemporary activists, such as Mary Wollstonecraft, were also campaigning for female education and gender equality. Wollstonecraft's philosophical arguments (e.g. her 1792 Vindication of the Rights of Woman) remain an inspiration for modern campaigners.

Lacy's story is re-emerging as a valued aspect of Deptford maritime heritage. This can be seen as more than a simple novelty in the context of emerging political challenges to prevailing gender conventions.

This narrative offers opportunities to explore gender fluidity, gender equality and the implications for gender disparity in education and opportunity, in the UK and/or globally.

Deptford Creek © Mary Evans Picture Library

View of the London and Greenwich viaduct 1835 © Science Museum Pictorial/Science & Society Picture Library

Greenwich Pumping Station[2]

The site adjoins London's first railway, the line of the London & Greenwich railway, connecting London Bridge (opened in 1836) to Greenwich (opened in 1838), which catered for short-distance intra-urban travel. The revolutionary impact of 19th century rail systems connecting towns and cities was to transform urban development and the ability to rapidly transport people, goods and services over significant distances. This transformative effect stimulated economic and social opportunities available to Victorian and later society.

It comprises a series of nineteen brick railway viaducts linked by road bridges between London Bridge railway station, Deptford Creek and Greenwich Station, which together make a single structure 3.45 miles (5.55 km) in length. The structure consists of 851 semi-circular arches and 27 skew arches or road bridges. It is the longest run of arches in Britain, one of the oldest railway viaducts in the world and the earliest example of an elevated railway line.

This narrative offers opportunities to explore how connectivity between urban centres and other places supports social, economic and cultural mobility.

Abbey Mills Pumping Station[3]

The history of Abbey Mills illustrates the importance of water resources to the well-being and sustenance of London's populations. It also provides an historic perspective on the urban planning challenges required to meet the consequences of large scale environmental and climate change.

Water is essential for human survival and well-being and important to many economic activities. Effective management of water resources has far reaching Liberty implications. Clean water is essential to life and is a utility that provides economic benefits. Conversely it can spread disease and flooding and is a perennial threat to urban centres, like London, located on tidal rivers. Throughout its history London has negotiated significant changes due to both climate driven sea-level rise and the constant challenge of achieving urban drainage capacity within a rapidly expanding metropolis.

Progressive post-glacial inundation had a significant impact on the morphology of the lower Lea Valley, including the Abbey Mills site. During the medieval period local water resources were an important source of energy, supporting local agricultural and industrial communities. Flood defences were necessary to protect against loss of life and land resources. For the past 150 years urban sanitation and measures to protect the Thames' water quality has dominated activities at Abbey Mills.

Key features include:

a. Holocene alluvial deposits sequences of c.4m depth demonstrate the scale of sea level rise that has affected the lower Lea Valley over the last 12,000 years;

b. The natural tidal drainage system of the river Lea was adapted to power early watermills, with five recorded in the Lower Lee in the 11th century Domesday Book. Prone to flooding, the estate of the Abbey of Stratford Langthorne founded in 1135, was reclaimed to create economically productive medieval grazing marsh. The Abbey, in tandem with its operation of tidal mills at Three Mills, constructed leats, earthen embankments and ditches to protect its economic interest in both water and riverine land resources. Successive improvements and maintenance of flood protection measures have continued to the present day, including canalisation of the river Lea;

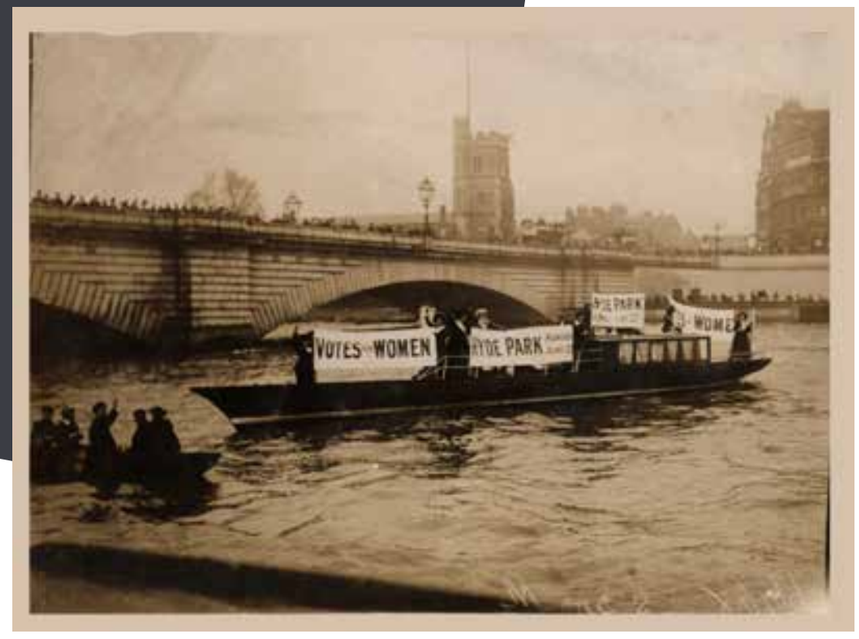
c. The Abbey Mills pumping station complex, including Building A (known as the 'cathedral of sewage'), was designed as a key element in London's interceptor drainage system, raising sewage to the level of the elevated Northern Outfall Sewer and protecting London from flooding during storm and tidal surges.

This narrative examines the implications of climate change for the management and provision of urban water resources.

1 Also refer to Appendix E DEPCS *Site Narrative*
2 Also refer to Appendix E GREPS *Site Narrative*
3 Also refer to Appendix E ABMPS *Site Narrative*

Abbey Mills Pumping Station 1868 © Science Museum Library/Science & Society Picture Library

View of the Pool of London 1804 © Mary Evans Picture Library



Suffragettes demonstrating from a boat in the River 1908 © The March of the Women Collection/Mary Evans Picture Library

Reflections

After exploring the three *cultural meanders* and each of the Liberty sites it is worth re-considering the river's metaphorical capacity to illuminate Liberty, as a contributing force that shapes and influences London's heritage and contemporary society:

a. A contested relationship exists between the river, as a natural force, and persistent cultural efforts to manage, protect and extend riparian land. Long-term, incremental encroachment, intended to control and harness the nature and power of the river, brought about a profound physical transformation of the river and its tributaries, including the 'lost rivers'. By creating additional riparian land, various forms of urban amenity, as illustrated in the culturally eclectic site narratives, have contributed to incremental and no less profound long-term cultural transformations.

b. This allegoric exploration of the polarity/mutability of contrasting philosophical perceptions of Liberty, as outlined above has specific implications for ways in which the heritage of the Thames might be depicted and the deeper cultural characteristics of London understood:

   i. For 2,000 years the river has been firmly controlled to protect the exercise of free movement, especially in relation to trade and wealth generation. There can be no doubt that this utilisation of the natural force of the river has contributed profound and widespread social and economic benefits. But there have also been times when the river held a central role in servicing economic and urban expansion, with scant regard to wider implications. Disregard for impacts on common interests gave rise to extreme situations resulting in long term environmental harm and practices that were contrary to basic principles of humanity;

   ii. Efforts to advance wider interests have often relied on the organisational ability of subsidiary groups to access and improve marginal riparian land resources and effect change through investment in personal resources, through common enterprise and self-improvement; gaining economic opportunities for social mobility and/or effecting cultural change. Immigrants and other marginalised groups have been a significant factor in these situations. Yet limited tenurial property rights ensured any long-term economic advantages tend to have been re-appropriated;

   iii. Changing attitudes to race, class and gender have influenced the relationships between individuals/groups and the river. Whilst giving rise to very different experiences, gender, class and race discrimination expose individuals to disadvantages that give rise to inequality; posing moral and philosophical questions that have contributed to historic and contemporary discourse on Liberty. Issues related to gender are present equally across all three cultural meanders. Class and race have a greater degree of visibility, but not exclusivity, within specific locales.

   iv. Class, particularly those narratives focussed on political representation and social welfare provisions for the working poor, is a more visible characteristic of the west cultural meander 'Recreation to Industry: Society in Transition'. Race and associated forms of institutional discrimination strongly dominate historic narratives characterising the east cultural meander 'The 'Shipping Parishes': Gateway to the World'.

c. Historic narratives related to water management and ecological issues also reflect spatial characteristics. These narratives feature more prominently in the more easterly parts of the estuarine 'The 'Shipping Parishes': Gateway to the World' cultural meander, where environmental factors are more prescient relative to the culturally dominated historic urban core;

d. Across all three cultural meanders it is the Thames Embankments, developed under the auspices of the MBW, through the engineering vision of Sir Joseph Bazalgette, that stand out as an exceptional monument to civic society. Although, the architectural representation includes symbolic projections of 19th century values, it remains the legacy of a unique and genuinely altruistic endeavour, which continues, 150 years on, to secure London's citizens' common interest in the amenity value of the river. These interests are enhanced by the fact that the Embankments stand on the river in equal prominence to architectural representations of national civic institutions of state, democracy, religion and commerce.

e. Finally, specific site narratives give a local perspective on London's historic contribution to science and technology, health and well-being and culture. Seen in a 21st century global context, these topics, which underpin various notions of Liberty, secured the UK's 4th place ranking in the 2016 Good Country Index (goodcountry.org/). This index of 160 countries is based on various measures intended to identify what each contributes to, or takes away from, the common good of humanity relative to its size.

The Embankment 1874 John O'Connor © Getty Images

A steamboat excursion to Greenwich 1847
© Illustrated London News/Mary Evans Picture Library

5 GUIDELINES FOR INTERPRETATION

GUIDELINES FOR INTERPRETATION

Woodcut image of
a Thames Ferry boat 1684
© Mary Evans Picture Library

Introduction

Developing interpretation materials in any form requires consideration of four key principles which will influence the form and nature of the output:

a. Who is the audience?

b. What is the message that is being conveyed and how does it relate to the audience?

c. What is the interpretation trying to achieve and why?

d. Media – where, what and how?

As described above the Tideway audience is diverse yet the interpretive materials developed should offer each group experiences of the river rooted in its long-term cultural legacy while focused on values that are relevant today. The interpretation should respond to the influence of the river on ways of living manifest in the cultural and heritage significance of the Thames, such that the 'users' of the interpretive materials will be motivated to respond.

The following sections set out guidelines on how the heritage interpretation can be delivered. It is recognised that the interpretation of the Thames' heritage faces the challenge of creating a clear unified identity across a wide geographic and historic area. During construction this identity will be aligned with the Tideway works and communications strategy. While Tideway is committed to leaving a legacy of high quality improved public realm following completion of construction, how this is to be perceived and understood requires continued consideration.

Visitors to any of the areas of new public realm need to be able to navigate the space and understand its context and relationship to other sites and the stories being told. Achieving a uniform voice and identity that is consistent across all sites will be a particular project design challenge. Unique identifiers, such as the signature vent designs, need to be both integrated into the landscape design, along with other forms of engagement that make reference to the heritage of the Thames. This should be initiated at the early stages of design development to embed the identity; to stimulate awareness, interest and association; so that in the longer term the vision of reconnecting with the river will be achieved.

Landscape Design

In accordance with PW11 (b): The Strategy *"…shall be implemented at site level through the landscaping details to be submitted for approval by the relevant planning authorities, or pursuant to a specific heritage interpretation requirement."* There is, therefore a significant relationship between interpretation with the public realm design and proposals for each site.

Design is thus critical to achieving the Interpretation Strategy aim and objectives. Heritage interpretation should be an embedded element that adds a quality of authenticity to storytelling articulated through design. It should be integrated from the outset of the design development and not appear bolted on. However it should not be over-literal or too concerned with an 'accurate' reflection of the 'past'. Whilst rooted in the historic cultural narratives, representations incorporated in the design should be capable of multiple readings and a plurality of meanings.

Individual site conditions and designations will influence how this is articulated:

© Billy Sawyers

a. The physical extent, location and nature of the permanent (above ground) works;

b. The Project's Public Art Strategy;

c. Heritage asset designations that affects the scope for design development and change, i.e. whether indicative or illustrative design (see Appendix G:2);

d. The contractual process of design development and allocation of responsibilities across multiple parties.

Appendix F2 summarises the proposed future landuse at each of the 24 work sites which has significant implications for the form and nature of Heritage Interpretation designs that can be accommodated. Therefore design schemes for each site will develop interpretation proposals commensurate with the extent of public access, as appropriate to the local urban context.

It should be noted that sites where public access is most limited are the operational sites, which in many instances include the significant historic architecture of the pumping stations. The site narratives described in section 4 are still pertinent to interpretation design at these locations but designs should be a simple expression of the functional requirements that respect the context and enhance the wider surroundings.

Design Principles

The DCO contains reference to "Design Principles" with which the permanent above ground structures and landscaping "shall accord". As such they constitute the key requirements and constraints for the architecture and landscape proposals. The Design Principles document contains a number of project-wide (generic)[1] design principles in addition to site-specific principles. This reflects the correct balance that must be achieved across the project between London-wide and site-specific considerations. Appendix G summarises the

© Billy Sawyers

generic and site specific design principles that apply to each of the work sites, with reference to the DCO approved Design Principles (Doc Ref: APP206.01).

In developing an integrated heritage/landscape proposal designers shall respect and contribute positively to each site's individual context and surroundings. As such it should avoid creating unacceptable visual clutter.

Designers should ensure that spaces that would be handed over to others could be maintained to a good standard in the long-term, having due regard to planning policy and best practice.

Within the Generic Design Principles are a number of Heritage Design Principles (HRTG.01 – HRTG.08) which set out conservation practices that will apply wherever there are interventions to the fabric of listed buildings/structures and conservation areas. These should be taken into consideration when developing interpretive responses particularly in respect of materiality.

1 These generic principles are deemed to apply to all works, unless dis-applied in the site-specific sections.

Application of Narratives to Design

a. Design, layout and form of new public realm should be cognisant of historic site landuses, building forms, axes and grain, both on the site and adjacent to it.

b. Materials should be used to make reference to the history and narrative of the site, while respecting the surrounding townscape character.

c. Furniture, fencing or railings, while keeping in character with the surrounding townscape could be used as a vehicle to express the site narrative.

d. Lighting could be used to accent narrative aspects of the landscape design.

e. Planting could be used to express the site narrative, however long term maintenance may limit the application of this.

f. Signage/Signature to be integrated within the landscape design.

g. Integration of public art.

Design Process and Management

Tideway has awarded three Main Works Contracts (MWCs) to three joint ventures to complete the design of, gain consent for and then construct the Thames Tideway Tunnel Project. In addition, TWUL have instructed their framework contractor Eight2O to undertake system integration works at Shad Thames Pumping Station, Bekesbourne Street and Beckton Sewage Treatment Works. These organisations will be responsible for completing the design and discharging the DCO requirements as regards interpretive material on Tideway's and TWUL's behalf.

To ensure compliance with the DCO, the Design Principles and the Heritage Interpretation Strategy, a project internal design submission process requires prior Tideway Project Manager acceptance of all design and technical submissions the MWCs issue for Consent Granting Body (CGB) approval.

This design process is without prejudice to the Contractor's additional Environmental Management responsibilities. It shall also integrate Tideway's separate arrangements for the selection of artists and the procurement of art works, which is detailed in the Project Public Arts Strategy.

The design submission process identifies the following 'gates' under which submissions shall be made to Tideway for acceptance. These Gates are loosely based on the RIBA Stages of Work 2013. Appendix H illustrates this process in more detail:

a. Gate 1: Preparation

b. Gate 2: Concept Design

c. Gate 3: Developed Design

d. Gate 4: Detailed Design

e. Gate 5: For Construction and Manufacture

f. Gate 6: Testing, Commissioning, Operation and Maintenance.

This process requires ongoing engagement with "Others" (primarily local authorities but also pan-London stakeholders such as Historic England) and evidence of that engagement at each gate submission. There are more extensive design submissions required for "illustrative" worksites and elements, than there are "indicative" ones.

Design evaluation

Designers will be required to submit a statement of how the integrated landscape and public art proposals respond to the Heritage Interpretation Strategy. The evaluation criteria and template is set out in Appendix I.

This evaluation will be taken into consideration during Tideway's assurance of DCO Schedule 3 submissions at the relevant design Gate.

Tunnel/map/draw, Joy Gerrard, Pauls Walk, City of London. (2016)

Public Art

Tideway's commitment to a collaborative heritage interpretation and design process includes the appointment of artists to work alongside Contractor design teams. Together they will develop site specific design proposals, within a common conceptual approach, that integrates landscape and figurative elements in response to heritage themes and narratives. It is important that the story-telling aspect of the overall design composition is clear and understandable. Refer to Public Art Strategy in Section 2 above.

Careful consideration will need to be given to the scope and scale of artistic and landscape representations at individual sites. Nuanced, subtle and ephemeral design responses, rather than 'iconic' statement pieces, are likely to be more powerfully resonant of the spirit of the river and of the narratives and themes set out in this Strategy.

For each site a conceptual design approach should be defined that balances:

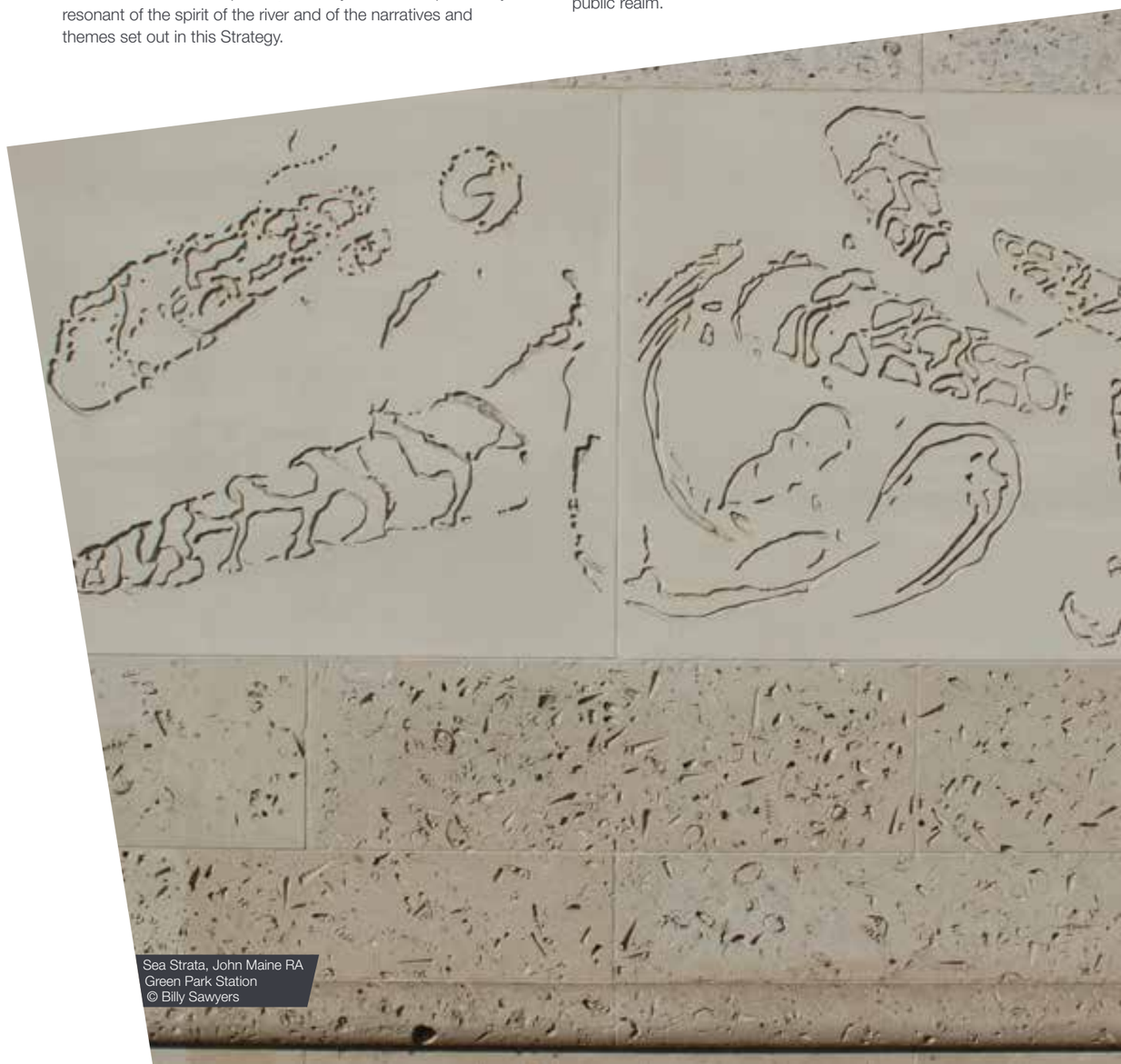
a. the artistic practice of the artist/designer/landscape architect;

b. the physical, psychological and allegorical (River of Liberty) qualities of the river;

c. the specific site and *cultural meander* narratives described in section 6;

d. the relationship of tunnel infrastructure with its changing local context; and

e. the materiality and methods of production of the landscaped public realm.



Sea Strata, John Maine RA
Green Park Station
© Billy Sawyers

The Interpretive Artwork commissions are to be developed in the framework of the progressive design assurance process described above based on submission “Gates” as the design develops, along with the overall architecture and landscape design proposals for each site. The individual stages for Interpretive Artwork commissions are set out below:

a. Brief Development for each site
b. Artist Selection
c. Design Development up to Gate 4
d. Gate 4: Detailed Design (Architecture and Landscape Packages: A&L)
e. Consents
f. Gate 5 Submission (for Construction)
g. Fabrication and Installation
h. Gate 6: Testing, Commissioning, Operation and Maintenance

Refer to Appendix H for detail of each of these stage. Further collaboration includes working with local authorities to realise landscape masterplans for Deptford Church Street and King Edward Memorial Park that integrate Tideway worksite landscape proposals. The Living Wandle Project interfaces with work at Kings George’s Park and thus consideration should be given to synergies across the projects.

Communications/Story telling

To ensure that the project’s delivery creates a lasting legacy, part of which will be judged by the overall reputation of the Project once it is delivered, it will be necessary to engage with communities at all levels throughout the process. A key part of this process will be to communicate pro-actively with those affected by construction activity in a way that is appropriate to their circumstances and lifestyle, using language that is accessible.

However another role of communications is to build a broad public awareness of the scale and complexity of the engineering challenge involved in delivering the project and to put this in the context of Sir Joseph Bazalgette’s achievements in masterminding the city’s modern day sewerage network.

River Postman – from 1800 to 1952 the Pool of London had a dedicated river post person
© British Postal Museum and Archive

A challenge to this is the nature of the project, i.e. an underground sewer which people generally only engage with indirectly but expect to function without question. The Heritage Interpretation Strategy provides a rich source of narrative to help connect with people and bring to life the overall value of the project and the individual work sites. This could manifest itself in a range of ways:

a. Media events – printed and digital media: film, TV, radio, You Tube
b. Social media – Facebook, Instagram, etc.
c. Performance – e.g. street theatre, music
d. Community consultation/engagement workshops
e. Hoarding design
f. Exhibitions
g. Thames Festival

Through communication and storytelling of the themes set out in the Interpretation Strategy, Tideway could also help people value the historic environment as an important community resource, as well as gaining an understanding and appreciation of the Thames Tideway Tunnel project itself.

An example of this approach can be seen in the naming of the Tunnel Boring Machines (TBMs). It is traditional to name these after women and Tideway propose to use material within the Heritage Interpretation Strategy narratives to identify historic female figures who have contributed to their local area thereby highlighting individuals that may previously have been overlooked and thus not familiar to the local communities that will decide on the final names.

The Interpretation Strategy will help inform the Communications Strategy for Tideway and act as a catalyst for wider associated engagement.

Implementation and Operation

The responsibility for the implementation of the Heritage Interpretation Strategy overall lies with Tideway. This will be discharged/delivered through the following:

a. Employment of artists to develop works of art for individual worksites informed by the Interpretation Strategy.
b. Interface with and management of the MWCs contracts to ensure compliance with DCO requirements particularly in respect of the landscape design and integration of art. Approval of the detailed landscape designs.
c. Liaison with Thames Water Utilities Ltd in respect of works at:
    i. Shad Thames Pumping Station
    ii. Bekesbourne Street
    iii. Beckton Sewage Treatment Works
d. Funding of a Community Archaeologist with the Thames Discovery Programme.
e. Development of Educational resources.
f. Contributions to Tideway’s communications where Heritage Interpretation can add value in establishing and developing relationships.

Oversight of the implementation and initial operation of the Heritage Interpretation Strategy and its outputs will be the responsibility of Tideway’s Archaeology and Heritage Lead. In terms of the permanent above ground works, including landscape, Thames Water Utilities Ltd will be the future owner and maintainer of the new public realm, including artworks.

6 INTERPRETATION & LEGACY ENGAGEMENT

Frost Fair on the River Thames 1814
© Mary Evans Picture Library

FROST FAIR ON THE THAMES," IN 1814, FROM A DRAWING BY CLENNELL.

INTERPRETATION & LEGACY ENGAGEMENT

Agnes Nicks, from Highgate swam from Teddington Lock to Waterloo Bridge and back to Twickenham Ferry, a distance of c.40 miles 1929 © Planet News/ Science & Society Picture Library

Heritage and the public realm

The aim of the Interpretation Strategy is to communicate understandings and perspectives of the river so that people are inspired to encounter the Thames and experience its history and influence on London's contemporary culture and ways of living. This will be achieved through the processes for landscape design and public art set out above, which will make a significant Legacy contribution. The works that form part of the new public realm will be physical manifestations of the Interpretation Strategy, however there are further opportunities to engage with audiences which will augment the landscape and art installations.

In particular the Strategy recognises the importance of providing people with opportunities to encounter the River.

Thames Discovery Programme

Tideway supports the work of the Museum of London Thames Discovery Programme (TDP), an award winning community archaeology project that aims to communicate an understanding and enjoyment of the historic Thames to the widest possible audience. TDP, in its various manifestations, have monitored archaeological material exposed on the foreshore for over 20 years. The partnership with Tideway builds on the strength of TDP's existing connections with ordinary Londoners, increasing public access to TDP's accumulated knowledge and understanding. Tideway is especially pleased to be sponsoring TDP's initiative to extend its reach through events targeted at people aged 8-17 years, and in so doing ensure TDP's unique means of fostering people's special relationship with the river persists long after the tunnel is completed.

The two organisations, working together, will increase the impact of Tideway's public outreach through the appointment of a Senior Community Archaeologist (Tideway Heritage Interpretation). The Community Archaeologist will deliver a programme of engagement with school age children, young people and local communities that will be specifically developed around the Interpretation Strategy and the 'River of Liberty' theme.

Development and delivery of educational content to the widest possible audience will be achieved across four key initiatives:

a. A schools programme for key stage 2 and 3 school children, which has particular reference to the sites and themes outlined in the Interpretation Strategy. This includes classroom and foreshore sessions and will be supported by online resources.

b. The development and delivery of the Tadpoles (foreshore training) programme (8-17 years old)

c. Supporting the Foreshore Recording and Observation Group (FROG)

d. An extensive programme of community outreach events.

TDP will engage with schools in Tideway's target boroughs through visits to the foreshore and relevant historic buildings, following these up with classroom sessions. The schools programme is planned to be launched in 2017, comprising half day sessions, incorporating a field visit and classroom session.

TDP FROG membership has so far been limited to over 18's. The Tideway-sponsored Community Archaeologist will create a new junior strand to the project, 'Tadpoles', actively engaging young people aged from 8 to 17 in recording their heritage via new separate training programmes, one each aimed at Key Stages 2 and 3. Once trained, they would be able to attend regular fieldwork and monitoring sessions, and then, on their 18th birthday, would graduate to full FROG status. This programme would fill a gap in the provision of archaeological experience as the Young Archaeologist Club (YAC) only deals with young people up to the age of 16.

Tideway/TDP community engagement will offer greater support to existing TDP volunteer networks through talks, walks and skills sessions. The Tideway-sponsored Community Archaeologist will offer new opportunities for skills development to TDP Foreshore Recording and Observation Group (FROG) volunteers, introducing an additional quarterly workshop and an additional quarterly lecture.

The partnership also provides for the option of additional Tideway sponsored one-day family events delivered from the MOLA Time Truck, a unique new community archaeology and education trailer. The Time Truck display would feature the outputs of the schools education sessions with all the participating schools in an area notified of the day and invited to attend. This offers an opportunity to engage parents (and grandparents) alongside their children, reaching a group of key Tideway stakeholders;

The Tideway-sponsored Community Archaeologist will also facilitate CPD opportunities for Tideway stakeholders and contractors, ranging from lectures, through workshops to archaeological fieldwork, as required by Tideway.

Foreshore Recording & Observation Group at Cannon Street foreshore © Nathalie Cohen TDP

Education

Heritage related education improves life opportunities, consistent with the Liberty theme, and contributes to Tideway Legacy and DCO commitments:

a. The Tideway Legacy commitment to People (Thames Tideway Tunnel *Legacy* Doc Ref 100-PX-CMN-000000-000008) includes:

   i. providing teaching and learning resources;

   ii. a volunteer STEM ambassador programme.

b. The Overarching Archaeological Written Scheme of Investigation (OAWSI) Section 11.3 *Heritage Interpretation and Outreach Opportunities* states the project commitment to activities such as presentations, school activities, media coverage, web-based initiatives, as well as the permanent heritage interpretation at relevant sites.

The Interpretation Strategy will contribute to Tideway education commitments by providing access to various heritage learning resources, including digital material accessed via Tunnelworks (www.tunnelworks.co.uk). The content of the Tideway Tunnelworks portal includes specific heritage focussed classroom based resources for teachers, Londoners and anyone interested in the Thames. This will be further supplemented with learning materials specifically developed by TDP.

Additional information about new discoveries and the stories of the Thames will be incorporated on *Tunnelworks* throughout the Tideway construction programme. This new content will be curated and reinterpreted through the Tideway/TDP education programme. This growing educational resource, with links to the full TDP archive, will share knowledge with the widest audience possible.

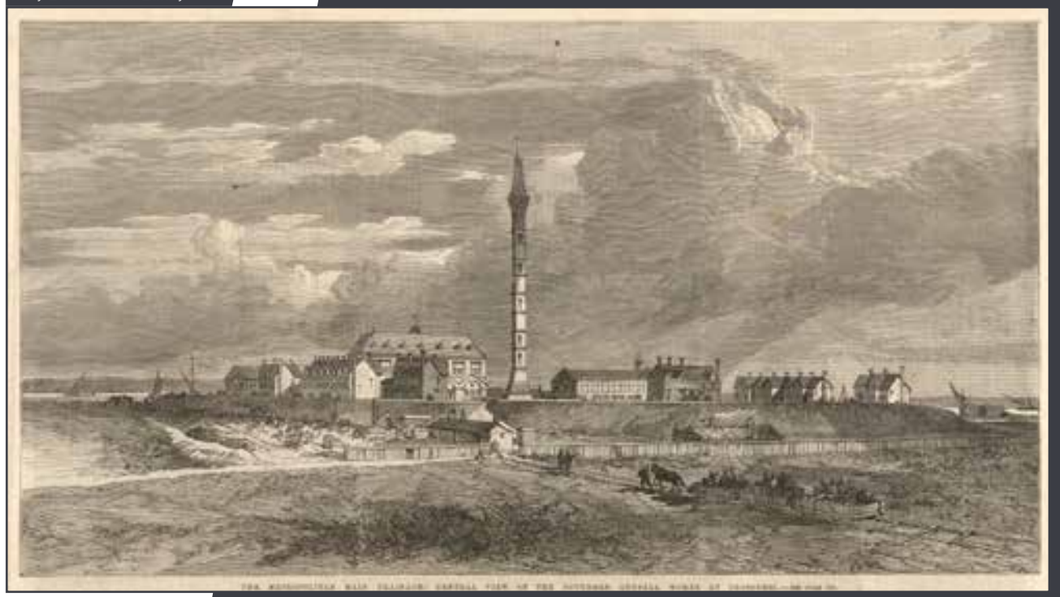
Current arrangements under development by Tideway and their education consultants EBC include, but are not limited to:

a. The development of Key Stage 2 curriculum teaching resources focussed on the social and economic context of local historic buildings;

b. The development of Key Stage 3 curriculum teaching resources focussed on the cultural impact of historic population movements, specifically the long term effect of 17th century Huguenot communities (Sir Joseph Bazalgette was of Huguenot descent) on the economic, social and urban development of London;

c. The development of Contractor input to the Tideway STEM ambassador programme.

Crossness Pumping Station 1865
© London Illustrated News/
Mary Evans Picture Library



Crossness Pumping Station

In accordance with Design Principal HRTG.07, to take into account local interpretation strategies, Tideway is also supporting the Crossness Engines Trust plans to complete landscaping and the installation of an exhibition exploring the history of the Pumping Station. The Trust's education objective of opening the historic buildings to visitors complements the Tideway Interpretation proposals.

It can offer a valuable contribution to the Tideway Heritage Interpretation Strategy by specifically examining the history of the Metropolitan Board of Works Main Sewer scheme. The Interpretation Strategy has taken this into account and avoids duplication of the narrative themes developed by the Trust for their exhibition, so that it complements, rather than conflicts with those identified for Tideway sites

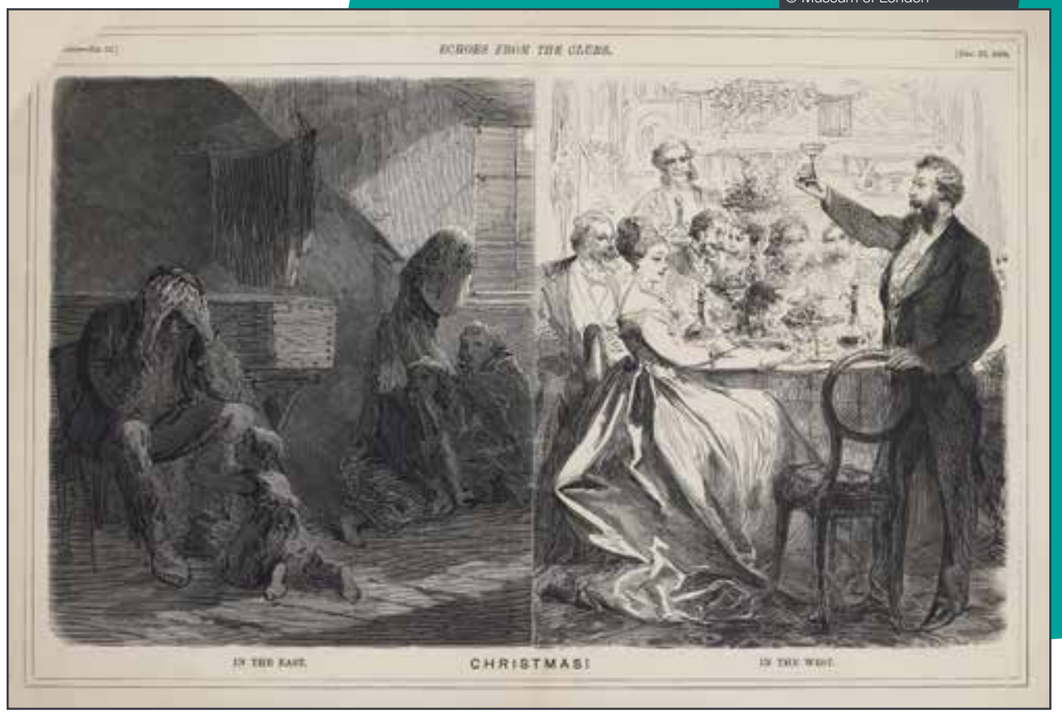
Tideway is providing exhibition materials that will assist the Trust explain the importance of the site, the role of the Metropolitan Board of Works, the history of urban sanitation, its impact on disease and the life of Sir Joseph Bazalgette.

Tideway Website

An Arts & Heritage section of the extant Tideway website would facilitate the wider dissemination of the Interpretation Strategy and its outputs. It will provide the stories behind the artworks and landscape design and provide the detailed site narratives and results of archaeological investigations. It could also provide a platform for audio/visual stories of the individual sites, told by local people, specialists, artists, river users etc. It could further provide a platform for Tideway *Artist in Residence*, new poetry (Tideway Poet Laureate), theatre or music specifically curated for the Project and informed by the Interpretation Strategy.

Mobile Web application

A mobile app could be developed to tell the stories of the Thames. This would be done in partnership with other organisations such as the Port of London Authority and Museum of London. The app would be aimed at visitors to individual (former work) sites seeking information about the art or landscape or history of the site who could access site specific information through use of technology. It would also be developed to be relevant to river users who interact with the new public realm and river walls in a different way to other users.



Christmas! In the East; In the West
© Museum of London

Exhibitions

The Strategy recognises that, should appropriate partner organisations approach Tideway, there may be additional opportunities to place heritage interpretation displays within gallery or museum settings and other venues.

Tideway will consider future collaboration should opportunities arise.

Publications

Archaeological Research and Technical Reports

Various technical reports will be produced that will contribute to a Tideway legacy that advances knowledge and understanding.

Interim fieldwork (mitigation) report

On completion of archaeological fieldwork, the Employer's Archaeological Contractor (EAC) will prepare an interim worksite fieldwork report. This will outline the findings of the excavation and archaeological works at each work site. The main purpose of this report will be to demonstrate the fieldwork complies with the SSAWSI and to highlight how key findings would be dealt with during post-excavation assessment.

Ships nails exposed
on the foreshore
© Nathalie Cohen TDP

Post excavation assessment report

Tideway will review arrangements for the preparation of a post excavation assessment once all mitigation works have been completed across an individual section of the tunnel route (West, Central & East). It is envisaged that site specific or project wide post-excavation reports will be prepared to assess the archaeological finds and propose a suitable strategy for undertaking analysis and publication.

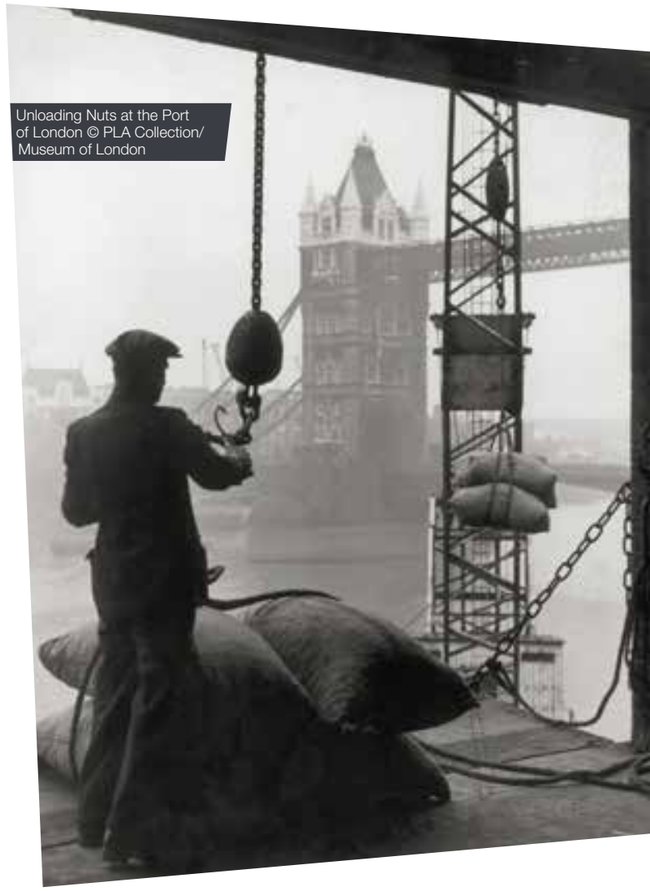
Post-excavation assessment reports will be produced to the scope agreed with HBMCE and consent granting bodies. It will quantify and describe the archaeological finds or materials, to allow further analysis, publication, outreach and dissemination to be scoped. The report will include an updated project design, which refers to the OAWSI Archaeological Research Framework and provide a detailed methodology and programme of tasks for completing the final stage of the DCO archaeological requirement.

Publication and dissemination

The scope of publication, outreach and dissemination, including popular forms of publication, will be regularly reviewed in light of opportunities to share new knowledge that arise during analysis.

Publication and dissemination of the archaeological mitigation works will contribute to discharge of the heritage interpretation with regards to:

a. number of archaeological publications;
b. archaeological publication impact rating;
c. teaching and educational experiences;
d. input to heritage-led design (interpretation).



Unloading Nuts at the Port
of London © PLA Collection/
Museum of London

Communications

Tideway will include an account of progress of our Heritage Interpretation work, including schools/community engagement, in our Legacy and Sustainability Report, published annually in the autumn.

Specific archaeological discoveries or heritage interpretation milestones will be reported to the media (including social media) and public as posts on the Tideway website, in community newsletters and/or at face-to-face Community Liaison Working Groups, as appropriate.

Interpretation Strategy themes and narrative will be also be promoted through internal communications:

a. promoting cultural diversity within the Tideway workforce and celebrating the contribution of different cultures to London's heritage, as part of the internal Encompass Inclusivity Programme event calendar;
b. raising awareness of the heritage associated with individual worksite through 'Tributary', the Tideway internal newspaper;
c. using the Interpretation Strategy, alongside other sources, Tideway will draw on historic female figures, who have contributed to their local areas, to inform choices during the naming of the five project Tunnel Boring Machines.

APPENDICES

APPENDIX A – DCO COMMITMENTS AND SCHEDULE 3 REQUIREMENTS

A.1 Interpretation Strategy (DCO Schedule 3 PW11)

A project-wide Heritage Interpretation Strategy shall be developed in consultation with the HBMCE within 12 months of the start of construction, in accordance with the OAWSI and design principle HRTG.07.

The Strategy shall be implemented at site level through the landscaping details to be submitted for approval by the relevant planning authorities, or pursuant to a site specific heritage interpretation requirement.

The authorised development shall be carried out in accordance with the approved details, unless otherwise approved by the relevant planning authorities in consultation with the HBMCE.

A.2 Design Principal (HRTG.07)

A project-wide Interpretation Strategy shall be developed to celebrate the pioneering nature and significance of Bazalgette's sewerage system, and the engineering achievements of the project as a sensitive development of London's historic sewer system. This shall take account of any existing local interpretation strategies. The design of interpretative materials at the site level shall be sensitively integrated into the design of the new facilities and surrounding area and avoid creating unacceptable visual clutter.

A.3 OAWSI 11.3 Heritage Interpretation and Outreach Opportunities

Para 11.3.1 states 'Bazalgette's sewage system is of at least national significance and has shaped the development of central London from the mid-19th century. Its characteristic structures provided a thematic link to the Thames embankments in central London, where none existed previously. The monumental and more homogeneous character that it provided to the Thames helped to augment the existing grandeur of central London, providing it with a cutting edge sewer system and underground railway and setting the tone of the city as a world trade hub. The Thames Tideway Tunnel structures are designed to adapt and augment Bazalgette's system, thus preserving its significance and providing it with a new lease of life.'

Para 11.3.2 states 'As such the Thames Tideway Tunnel project has the scope to incorporate permanent heritage interpretation across Thames Tideway Tunnel sites, celebrating the pioneering nature and significance of Bazalgette's sewage system, and the engineering achievements of the Thames Tideway Tunnel as a sensitive development of London's historic sewer system.'

Para 11.3.3 states 'A project such as the Thames Tideway Tunnel also has the scope to generate considerable historical information and provide an opportunity for communicating such finds to the wider public. Interpretation of historical archaeological information will be informed by the reported fieldwork results and the updated priorities framework developed from them (see Appendix B, i.e. Research Framework). Appropriate outreach and engagement opportunities will be identified throughout the construction and operational phases of the project and could include activities such as presentations, school activities, media coverage, web-based initiatives and permanent heritage interpretation at relevant sites.'

Para 11.3.4 states 'Proposals for heritage interpretation, both in relation to Bazalgette's sewage system and archaeological material and finds from all periods, within the design of Thames Tideway Tunnel sites, will be detailed within an Interpretation Strategy, as per the project Design Principles, and requirements detailed in Schedule 3 of the Development Consent Order. The Interpretation Strategy will also detail how outreach and engagement opportunities will be identified and delivered.'

A.4 DCO Site Specific Requirements

The project wide Interpretation Strategy is to be delivered through site specific requirements that are to be approved by the Local Authorities, either in response the submission and approval of:

a. permanent structure and landscape design proposals that accord with Design Principals, including HRTG.07, which stipulates that design of interpretative materials at the site level shall be sensitively integrated into the design of the new facilities and surrounding area and avoid creating unacceptable visual clutter.

b. or, at sites where there is no appropriate design requirement specified in the DCO: relevant details applicable to each site from the project wide heritage Strategy required by PW11. (i.e. schedule 3 requirements CREWD14, SHTP8, CHAWF13, EARPS12 BEKST9, ABMPS8 & BESTW6.)

A.5 WI GEN 7300. Employer's architecture and landscape works specifications – Introduction GEN.0.2 Design requirements

Para 0.2.2 states 'The Contractor shall complete the design in accordance with the requirements of the Employer's Interpretation Strategy as defined under Project heritage design principle HRTG.07. The Employer shall, following the completion of archaeological work at each site, provide proposals for interpretative material at any or all of the sites. These proposals may include, but are not limited to, the following:

a. signage: freestanding or fixed to structures

b. artwork and sculpture: freestanding or fixed to structures

c. modifications to the Contractor's design, for example carved stone walling surfaces

d. lighting and electrical installations.'

Para 0.2.3 states 'The Employer shall provide designs for the interpretive material. The additional cost of providing the interpretative material shall be borne by the Employer. The Contractor shall allow for all costs, co-ordination and programme implications associated with:

a. design co-ordination with interpretive material providers

b. incorporating the installation of interpretive material

c. adapting the design of the works to incorporate interpretive material.'

APPENDIX B – DCO SCHEDULE 3 SITE SPECIFIC REQUIREMENTS TO WHICH THE HERITAGE INTERPRETATION STRATEGY MAY APPLY

Worksite	Listed building	Conservation area	DCO Schedule 3 – Site specific requirements	
Acton Storm Tank **(ACTST)**			ACTST5	Landscaping works
Hammersmith Pumping Station **(HAMPS)**		Fulham Reach CA	HAMPS8	Detailed design for permanent above-ground structures
			HAMPS9	Heritage interpretation
Barn Elms **(BAREL)**			BAREL5	Landscaping works
Putney Embankment **(PUTEF)**	Putney Embankment CA Lower Richmond Road bollards	Putney Bridge and walls	PUTEF2	Detailed design for permanent above-ground structures
			PUTEF3	Location of permanent works
			PUTEF4	Detailed design for river wall and foreshore structure
			PUTEF5	Details of works to listed buildings
			PUTEF6	Protective works to listed buildings
			PUTEF7	Restoration works to listed buildings
			PUTEF12	Landscaping works
			PUTEF12	Lighting
			PUTEF19	Detailed design for signature ventilation column
Dormay Street **(DRMST)**		Wandsworth Town CA	DRMST2	Detailed design approval for permanent above-ground structures
			DRMST5	Landscaping works
King George's Park **(KNGGP)**			KNGGP6	Landscaping works
Carnwath Road **(CARRR)**		Sands End CA	CARRR1	Detailed design for permanent above-ground structures
			CARRR5	Landscaping
			CARRR12	Detail design for riverwall and foreshore structure
Falconbrook **(FALPS)**			FALPS4	Landscaping works
Cremorne Wharf **(CREWD)**	Lots Road Pumping Station	Thames Conservation Area	CREWD2	Detailed design for permanent above-ground structures
			CREWD2	Detailed design approval for permanent above-ground structures
			CREWD3	Detailed design for signature ventilation column
			CREWD4	Details of works to listed buildings
			CREWD5	Restoration works to listed buildings
			CREWD14	Heritage interpretation
Chelsea Embankment **(CHEEF)**		Royal Hospital CA (inc. Ranelagh Gardens Grade II registered historic garden) Thames CA	CHEEF2	Location of permanent works
			CHEEF3	Detailed design of river wall and foreshore structure
			CHEEF4	Detailed design of permanent above-ground structures
			CHEEF5	Protective works to heritage assets
			CHEEF6	Restoration works to heritage assets
			CHEEF7	Detailed design for signature ventilation columns
			CHEEF8	Landscape works
			CHEEF17	Lighting
Kirtling Street **(KRTST)**			KRTST4	Site restoration (excluding the designated Safeguarded wharf)
Heathwall **(HEAPS)**			HEAPS7	Heathwall Pumping Station Landscaping (excluding the designated Safeguarded wharf)
Albert Embankment **(ALBEF)**	Vauxhall Bridge	Albert Embankment CA	ALBEF2	River wall and terraces
			ALBEF3	Detailed design of river wall and foreshore structure
			ALBEF4	Detailed design of permanent above-ground structures
			ALBEF5	Detailed design for signature ventilation columns
			ALBEF6	Details of works to listed buildings
			ALBEF7	Protective works to listed buildings
			ALBEF8	Restoration works to listed buildings
			ALBEF9	Landscape works
			ALBEF	Lighting

Worksite	Listed building	Conservation area	DCO Schedule 3 – Site specific requirements	
Victoria Embankment **(VCTEF)**	River wall and sturgeon lamps Catenary lamps Sphinx and camel benches	Whitehall CA	VCTEF2	Location of permanent works
			VCTEF4	Detailed design of permanent above-ground structures
			VCTEF5	Detailed design for signature ventilation columns
			VCTEF6	Detailed design of river wall and foreshore structure
			VCTEF7	Details of works to listed buildings
			VCTEF8	Protective works to listed buildings
			VCTEF9	Restoration works to listed buildings
			VCTEF10	Detailed design of permanent above-ground structures (moorings and piers)
			VCTEF15	Landscaping works
			VCTEF21	Lighting
Blackfriars Bridge **(BLABF)**	Blackfriars Bridge River wall and sturgeon lamps	Whitefriars CA Temple CA	BLABF2	Location of permanent works
			BLABF3	Location of permanent works (moorings and piers)
			BLABF4	Detailed design of river wall and foreshore structure
			BLABF5	Detailed design of permanent above-ground structures
			BLABF6	Detailed design for signature ventilation columns
			BLABF10	Detailed design of permanent above-ground structures (moorings and piers)
			BLABF11	Details of works to listed buildings
			BLABF12	Protective works to listed buildings
			BLABF13	Restoration works to listed buildings
			BLABF14	Landscape works
			BLABF23	Lighting
Shad Thames* **(SHTPS)**		Tower Bridge CA	SHTP2	Detailed design of permanent above-ground structures
			SHTPS8	Heritage interpretation
Chambers Wharf **(CHAWF)**			CHAWF12	Heritage Interpretation
Earl Pumping Station **(EARPS)**			EARPS5	Landscaping works
			EARPS12	Heritage interpretation
Deptford Church Street **(DEPCS)**		St Paul's CA	DEPCS2	Detailed design of permanent above-ground structures
			DEPCS3	Detailed design for signature ventilation columns
			DEPCS4	Landscaping works
Greenwich Pumping Station **(GREPS)**	Greenwich Pumping Station		GREPS2	Detailed design of permanent above-ground structures
			GREPS3	Details of works to listed buildings
			GREPS4	Detail of works to listed buildings
			GREPS5	Protective works to listed buildings
			GREPS6	Landscaping works
King Edward Memorial Park **(KEMPF)**		Wapping Wall CA (inc. King Edwards Memorial Park)	KEMPF2	Location of permanent works
			KEMPF3	Detailed design of permanent above-ground structures
			KEMPF4	Detailed design for signature ventilation columns
			KEMPF5	Detailed design of river wall and foreshore structure
			KEMPF6	Landscaping works
Bekesbourne Street **(BEKST)**			BEKST9	Heritage interpretation
Abbey Mills* Pumping Station **(ABMPS)**		Three Mills CA	ABMPS2	Detailed design of permanent above-ground structures
			ABMPS8	Heritage interpretation
Beckton Sewage Treatment Works **(BESTW)**			BESTW6	Heritage interpretation

*Works at this site is part of the TWUL Eight2O contract.

APPENDIX C – RELEVANT POLICY AND GUIDANCE

C.1 Scope

Policies and guidance that contribute to the Strategy cover the following topics:

- Historic Environment;
- Culture and Public Art;
- Heritage Interpretation;
- Design.

C.2 Historic Environment

Government Policy for the Historic Environment 2010

The Government's Statement on the Historic Environment for England 2010 sets a clear agenda that guides the Tideway Heritage Interpretation Strategy. This Strategy embraces the Government 'Vision' for the historic environment as:

… an asset of enormous cultural, social, economic and environmental value. It makes a very real contribution to our quality of life and the quality of our places. We recognise that while some of today's achievements may become tomorrow's heritage our existing heritage assets are also simply irreplaceable. We realise the importance of understanding, conserving, and where appropriate, enhancing the markers of our past. We believe in encouraging a wider involvement in our heritage, in order to ensure that every one, both today and in the future, has an opportunity to discover their connection to those who have come before.

The Interpretation Strategy also recognises the Government Statement that the historic environment is a vital cultural asset, that:

…needs to be appropriately protected, supported and explored for the benefit of this and future generations. In common with other cultural artefacts many of the buildings, landscapes and archaeological sites that make up the historic environment can be highly valued in and of themselves. They may simply have outstanding aesthetic appeal; they may represent important works by leading architects, designers or artists; they may embody significant innovations in design or technology or represent important primary evidence of a phase of our history. But they all help to tell us where we have come from and give us a sense of who we are.

Finally the Interpretation Strategy supports the Government's desire to realise social values inherent in the cultural heritage:

By supplying a focus for civic activity and offering opportunities for learning and recreation the historic environment can also be the foundation for more engaged and active communities. At its most basic, in providing distinctive local features and a tangible link to the past, the historic environment is often central to local identity in both urban and rural areas. Local environments which offer a range of attractive and accessible public spaces, including local heritage, also encourage people of all backgrounds to enjoy them, creating places where people come together and mix. Taking this one step further, by encouraging people not just to enjoy, but also to involve themselves in the management of historic places and make active use of them for their own benefit, we can help to create a sense of ownership in the locality and so help to strengthen local communities. There are benefits for the individual too. Studies have shown that active involvement in cultural activities can offer a physical or emotional benefit to those taking part. The historic environment can also be used to enrich formal and informal education and life-long learning, and for children in particular, OFSTED research has shown that learning outside the classroom offers real educational benefit.

C.3 Culture and Public Art

The Culture White Paper 2016[1]

The Culture White Paper sets the context in which the Interpretation Strategy has been developed. The key objectives of the White Paper align with Tideway's values and its aim to engage with London and Londoners to reconnect them with the river through the medium of art, design and heritage.

Key objectives of the White Paper

- Everyone should enjoy the opportunities culture offers, no matter where they start in life
- The riches of our culture should benefit communities across the country
- The power of culture can increase our international standing

Culture no longer simply means being familiar with a select list of works of art and architecture, but the accumulated influence of creativity, the arts, museums, galleries, libraries, archives and heritage upon all our lives. When we talk about our 'cultural sectors', we are referring to an extraordinary network of individuals and organisations, that together preserve, reflect and promote who we are as a nation, in all our rich diversity. There will always be an aesthetic aspect to culture in its many forms; and the government will always champion cultural excellence. But each community has its own culture – its own history, museums and traditions. In this global, interconnected economy, what is local and unique has a special value and should be supported and encouraged. We should no more dictate a community's culture than we should tell people what to create or how to create it. The role of government is to enable great culture and creativity to flourish – and to ensure that everyone can have access to it.

The cultural sectors are already an immensely important part of our economy and society. We know that investment in culture not only has immense economic value; it also has a wide range of benefits that touch all our lives every day. We can see the difference that culture has on children's education, and we are beginning to understand better the profound relationship between culture, health and wellbeing.

Everyone should have the chance to experience culture, participate in it, create it, and see their lives transformed by it.

The value of culture

Culture brings many benefits. In this white paper, we are concerned with three areas in particular:

- *the intrinsic value: the enriching value of culture in and of itself;*
- *the social value: improving educational attainment and helping people to be healthier; and – the economic value: the contribution culture makes to economic growth and job-creation.*

The intrinsic value of culture. Culture creates inspiration, enriches lives and improves our outlook on life. Evidence suggests that culture has an intrinsic value through the positive impact on personal wellbeing. Data shows that engaging with culture (visiting, attending and participation) significantly increases overall life satisfaction.

The social value of culture. Culture has important social benefits in terms of health, education and community cohesion. There is considerable evidence of the beneficial effects of the arts on both physical and mental health. This includes improvements such as positive physiological and psychological changes in clinical outcomes; decreasing the amount of time spent in hospital; and improving mental health.

The economic value of culture. In 2014, the economic contribution of museums, galleries, libraries and the arts was £5.4 billion, representing 0.3 per cent of the total UK economy. This is up 59 per cent (in nominal terms) since 2010 – a massive increase compared to total economic growth of 16 per cent (nominal terms) over the same period. Heritage tourism accounts for 2% of GDP, contributing £26 billion per year. The number of people employed in the cultural and creative sectors has been increasing since 2011 and now stands at 321,000.

1 www.gov.uk/government/uploads/system/uploads/attachment_data/file/510798/DCMS_The_Culture_White_Paper__3_.pdf

Cultural Metropolis 2014 Achievements and next steps

A review and update to the London Mayor's 2012 Cultural Strategy was recently published as *Cultural Metropolis 2014 Achievements and next steps*, which has informed the Tideway Heritage Interpretation Strategy. It includes useful advice regarding infrastructure, environment and the public realm. Specifically it highlights cultural projects inspired by the city's heritage, using its architecture and historic sites as the basis for artistic expression. It also identifies the River Thames is a key focus for future cultural initiatives.

Cultural Metropolis includes the Mayor's commitments to support the Thames Festival, an annual event, and to commission new cultural projects centred on the river. It highlights the Thomas Heatherwick *Garden Bridge* and separate proposals to construct a floating public lido on the Thames and to install a contemporary and energy-efficient lighting scheme on a cluster of London bridges to enhance the river at night.

Through public art projects, the Mayor is also committed to integrating contemporary art into the cityscape.

Alongside these initiatives, Tideway has a significant role in improving access to heritage through the creation of public art that enhances the cultural value of the River Thames and its public realm.

C.4 Heritage Interpretation

Association for Heritage Interpretation (AHI)

The Strategy recognizes the purpose of heritage interpretation, as defined by the Association for Heritage Interpretation (AHI), to be:

Interpretation enriches lives through engaging emotions, enhancing experiences and deepening understanding of places, people, events and objects from the past and present. It brings places, objects and ideas to life, by creating thought-provoking and memorable experiences that connect people with our cultural heritage.

Revealing hidden stories and meanings deepen people's understanding and expands horizons. In particular it enables communities to better understand their heritage, and to express their own ideas and feelings about their home area. As a result individuals may identify with values inherent in the local culture.

ICOMOS Charter for the Interpretation and Presentation of Cultural Heritage Sites 4 October 2008

The Strategy is consistent with the ICOMOS *Charter for the Interpretation and Presentation of Cultural Heritage Sites* 4 October 2008 (Appendix D) and will develop interpretation based on the Charter's seven principles:

- Principle 1: Access and Understanding
- Principle 2: Information Sources
- Principle 3: Attention to Setting and Context
- Principle 4: Preservation of Authenticity
- Principle 5: Planning for Sustainability
- Principle 6: Concern for Inclusiveness
- Principle 7: Importance of Research, Training, and Evaluation

C.5 Design

English Heritage (2015) The Setting of Heritage Assets: English Heritage Guidance

Advice set out in English Heritage (2015) The Setting of Heritage Assets: English Heritage Guidance is based on English Heritage (2008) Conservation Principles: Policy and Guidance for the Sustainable Management of the Historic Environment. Together this body of advice is intended to guide positive changes within the historic environment: by sustaining, enhancing or better revealing heritage significance. The Interpretation Strategy will develop interpretation based on the heritage values approach embodied in this guidance.

APPENDIX D – ICOMOS CHARTER FOR THE INTERPRETATION AND PRESENTATION OF CULTURAL HERITAGE SITES 4 OCTOBER 2008

D.1 Preamble

Since its establishment in 1965 as a worldwide organisation of heritage professionals dedicated to the study, documentation, and protection of cultural heritage sites, ICOMOS has striven to promote the conservation ethic in all its activities and to help enhance public appreciation of humanity's material heritage in all its forms and diversity.

As noted in the Charter of Venice (1964) "It is essential that the principles guiding the preservation and restoration of ancient buildings should be agreed and be laid down on an international basis, with each country being responsible for applying the plan within the framework of its own culture and traditions." Subsequent ICOMOS charters have taken up that mission, establishing professional guidelines for specific conservation challenges and encouraging effective communication about the importance of heritage conservation in every region of the world.

These earlier ICOMOS charters stress the importance of public communication as an essential part of the larger conservation process (variously describing it as "dissemination," "popularization," "presentation," and "interpretation"). They implicitly acknowledge that every act of heritage conservation – within all the world's cultural traditions – is by its nature a communicative act.

From the vast range of surviving material remains and intangible values of past communities and civilisations, the choice of what to preserve, how to preserve it, and how it is to be presented to the public are all elements of site interpretation. They represent every generation's vision of what is significant, what is important, and why material remains from the past should be passed on to generations yet to come.

The need for a clear rationale, standardised terminology, and accepted professional principles for Interpretation and Presentation* is evident. In recent years, the dramatic expansion of interpretive activities at many cultural heritage sites and the introduction of elaborate interpretive technologies and new economic strategies for the marketing and management of cultural heritage sites have created new complexities and aroused basic questions that are central to the goals of both conservation and the public appreciation of cultural heritage sites throughout the world:

a. What are the accepted and acceptable goals for the Interpretation and Presentation of cultural heritage sites?

b. What principles should help determine which technical means and methods are appropriate in particular cultural and heritage contexts?

c. What general ethical and professional considerations should help shape Interpretation and Presentation in light of its wide variety of specific forms and techniques?

The purpose of this Charter is therefore to define the basic principles of Interpretation and Presentation as essential components of heritage conservation efforts and as a means of enhancing public appreciation and understanding of cultural heritage sites*.

Although the principles and objectives of this Charter may equally apply to off-site interpretation, its main focus is interpretation and presentation at, or in the immediate vicinity of, cultural heritage sites.

* See definitions

D.2 Definitions

For the purposes of the present Charter:

a. **Interpretation** refers to the full range of potential activities intended to heighten public awareness and enhance understanding of cultural heritage site. These can include print and electronic publications, public lectures, on-site and directly related off-site installations, educational programmes, community activities, and ongoing research, training, and evaluation of the interpretation process itself.

b. **Presentation** more specifically denotes the carefully planned communication of interpretive content through the arrangement of interpretive information, physical access, and interpretive infrastructure at a cultural heritage site. It can be conveyed through a variety of technical means, including, yet not requiring, such elements as informational panels, museum-type displays, formalized walking tours, lectures and guided tours, and multimedia applications and websites.

c. **Interpretive infrastructure** refers to physical installations, facilities, and areas at, or connected with a cultural heritage site that may be specifically utilised for the purposes of interpretation and presentation including those supporting interpretation via new and existing technologies.

d. **Site interpreters** refers to staff or volunteers at a cultural heritage site who are permanently or temporarily engaged in the public communication of information relating to the values and significance of the site.

e. **Cultural Heritage Site** refers to a place, locality, natural landscape, settlement area, architectural complex, archaeological site, or standing structure that is recognized and often legally protected as a place of historical and cultural significance.

D.3 Objectives

In recognizing that interpretation and presentation are part of the overall process of cultural heritage conservation and management, this Charter seeks to establish seven cardinal principles, upon which Interpretation and Presentation – in whatever form or medium is deemed appropriate in specific circumstances – should be based.

- Principle 1: Access and Understanding
- Principle 2: Information Sources
- Principle 3: Attention to Setting and Context
- Principle 4: Preservation of Authenticity
- Principle 5: Planning for Sustainability
- Principle 6: Concern for Inclusiveness
- Principle 7: Importance of Research, Training, and Evaluation

Following from these seven principles, the objectives of this Charter are to:

a. Facilitate understanding and appreciation of cultural heritage sites and foster public awareness and engagement in the need for their protection and conservation.

b. Communicate the meaning of cultural heritage sites to a range of audiences through careful, documented recognition of significance, through accepted scientific and scholarly methods as well as from living cultural traditions.

c. Safeguard the tangible and intangible values of cultural heritage sites in their natural and cultural settings and social contexts.

d. Respect the authenticity of cultural heritage sites, by communicating the significance of their historic fabric and cultural values and protecting them from the adverse impact of intrusive interpretive infrastructure, visitor pressure, inaccurate or inappropriate interpretation.

e. Contribute to the sustainable conservation of cultural heritage sites, through promoting public understanding of, and participation in, ongoing conservation efforts, ensuring long-term maintenance of the interpretive infrastructure and regular review of its interpretive contents.

f. Encourage inclusiveness in the interpretation of cultural heritage sites, by facilitating the involvement of stakeholders and associated communities in the development and implementation of interpretive programmes.

g. Develop technical and professional guidelines for heritage interpretation and presentation, including technologies, research, and training. Such guidelines must be appropriate and sustainable in their social contexts.

D.4 Principles

Principle 1: Access and Understanding

Interpretation and presentation programmes should facilitate physical and intellectual access by the public to cultural heritage sites.

Effective interpretation and presentation should enhance personal experience, increase public respect and understanding, and communicate the importance of the conservation of cultural heritage sites.

Interpretation and presentation should encourage individuals and communities to reflect on their own perceptions of a site and assist them in establishing a meaningful connection to it. The aim should be to stimulate further interest, learning, experience, and exploration.

Interpretation and presentation programmes should identify and assess their audiences demographically and culturally. Every effort should be made to communicate the site's values and significance to its varied audiences.

The diversity of language among visitors and associated communities connected with a heritage site should be taken into account in the interpretive infrastructure.

Interpretation and presentation activities should also be physically accessible to the public, in all its variety.

In cases where physical access to a cultural heritage site is restricted due to conservation concerns, cultural sensitivities, adaptive re-use, or safety issues, interpretation and presentation should be provided off-site.

Principle 2: Information Sources

Interpretation and presentation should be based on evidence gathered through accepted scientific and scholarly methods as well as from living cultural traditions.

Interpretation should show the range of oral and written information, material remains, traditions, and meanings attributed to a site. The sources of this information should be documented, archived, and made accessible to the public.

Interpretation should be based on a well-researched, multidisciplinary study of the site and its surroundings. It should also acknowledge that meaningful interpretation necessarily includes reflection on alternative historical hypotheses, local traditions, and stories.

At cultural heritage sites where traditional storytelling or memories of historical participants provide an important source of information about the significance of the site, interpretive programmes should incorporate these oral testimonies – either indirectly, through the facilities of the interpretive infrastructure, or directly, through the active participation of members of associated communities as on-site interpreters.

Visual reconstructions, whether by artists, architects, or computer modellers, should be based upon detailed and systematic analysis of environmental, archaeological, architectural, and historical data, including analysis of written, oral and iconographic sources, and photography. The information sources on which such visual renderings are based should be clearly documented and alternative reconstructions based on the same evidence, when available, should be provided for comparison.

Interpretation and presentation programmes and activities should also be documented and archived for future reference and reflection.

Principle 3: Context and Setting

The Interpretation and Presentation of cultural heritage sites should relate to their wider social, cultural, historical, and natural contexts and settings.

Interpretation should explore the significance of a site in its multi-faceted historical, political, spiritual, and artistic contexts. It should consider all aspects of the site's cultural, social, and environmental significance and values.

The public interpretation of a cultural heritage site should clearly distinguish and date the successive phases and influences in its evolution. The contributions of all periods to the significance of a site should be respected.

Interpretation should also take into account all groups that have contributed to the historical and cultural significance of the site.

The surrounding landscape, natural environment, and geographical setting are integral parts of a site's historical and cultural significance, and, as such, should be considered in its interpretation.

Intangible elements of a site's heritage such as cultural and spiritual traditions, stories, music, dance, theatre, literature, visual arts, local customs and culinary heritage should be considered in its interpretation.

The cross-cultural significance of heritage sites, as well as the range of perspectives about them based on scholarly research, ancient records, and living traditions, should be considered in the formulation of interpretive programmes.

Principle 4: Authenticity

The Interpretation and presentation of cultural heritage sites must respect the basic tenets of authenticity in the spirit of the Nara Document (1994).

Authenticity is a concern relevant to human communities as well as material remains. The design of a heritage interpretation programme should respect the traditional social functions of the site and the cultural practices and dignity of local residents and associated communities.

Interpretation and presentation should contribute to the conservation of the authenticity of a cultural heritage site by communicating its significance without adversely impacting its cultural values or irreversibly altering its fabric.

All visible interpretive infrastructures (such as kiosks, walking paths, and information panels) must be sensitive to the character, setting and the cultural and natural significance of the site, while remaining easily identifiable.

On-site concerts, dramatic performances, and other interpretive programmes must be carefully planned to protect the significance and physical surroundings of the site and minimise disturbance to the local residents.

Principle 5: Sustainability

The interpretation plan for a cultural heritage site must be sensitive to its natural and cultural environment, with social, financial, and environmental sustainability among its central goals.

The development and implementation of interpretation and presentation programmes should be an integral part of the overall planning, budgeting, and management process of cultural heritage sites.

The potential effect of interpretive infrastructure and visitor numbers on the cultural value, physical characteristics, integrity, and natural environment of the site must be fully considered in heritage impact assessment studies.

Interpretation and presentation should serve a wide range of conservation, educational and cultural objectives. The success of an interpretive programme should not be evaluated solely on the basis of visitor attendance figures or revenue.

Interpretation and presentation should be an integral part of the conservation process, enhancing the public's awareness of specific conservation problems encountered at the site and explaining the efforts being taken to protect the site's physical integrity and authenticity.

Any technical or technological elements selected to become a permanent part of a site's interpretive infrastructure should be designed and constructed in a manner that will ensure effective and regular maintenance.

Interpretive programmes should aim to provide equitable and sustainable economic, social, and cultural benefits to all stakeholders through education, training and employment opportunities in site interpretation programmes.

Principle 6: Inclusiveness

The Interpretation and Presentation of cultural heritage sites must be the result of meaningful collaboration between heritage professionals, host and associated communities, and other stakeholders.

The multidisciplinary expertise of scholars, community members, conservation experts, governmental authorities, site managers and interpreters, tourism operators, and other professionals should be integrated in the formulation of interpretation and presentation programmes.

The traditional rights, responsibilities, and interests of property owners and host and associated communities should be noted and respected in the planning of site interpretation and presentation programmes.

Plans for expansion or revision of interpretation and presentation programmes should be open for public comment and involvement. It is the right and responsibility of all to make their opinions and perspectives known.

Because the question of intellectual property and traditional cultural rights is especially relevant to the interpretation process and its expression in various communication media (such as on-site multimedia presentations, digital media, and printed materials), legal ownership and right to use images, texts, and other interpretive materials should be discussed, clarified, and agreed in the planning process.

Principle 7: Research, Training, and Evaluation

Continuing research, training, and evaluation are essential components of the interpretation of a cultural heritage site.

The interpretation of a cultural heritage site should not be considered to be completed with the completion of a specific interpretive infrastructure. Continuing research and consultation are important to furthering the understanding and appreciation of a site's significance. Regular review should be an integral element in every heritage interpretation programme.

The interpretive programme and infrastructure should be designed and constructed in a way that facilitates ongoing content revision and/or expansion.

Interpretation and presentation programmes and their physical impact on a site should be continuously monitored and evaluated, and periodic changes made on the basis of both scientific and scholarly analysis and public feedback. Visitors and members of associated communities as well as heritage professionals should be involved in this evaluation process.

Every interpretation programme should be considered as an educational resource for people of all ages. Its design should take into account its possible uses in school curricula, informal and lifelong learning programmes, communications and information media, special activities, events, and seasonal volunteer involvement.

The training of qualified professionals in the specialised fields of heritage interpretation and presentation, such as content creation, management, technology, guiding, and education, is a crucial objective. In addition, basic academic conservation programmes should include a component on interpretation and presentation in their courses of study.

On-site training programmes and courses should be developed with the objective of updating and informing heritage and interpretation staff of all levels and associated and host communities of recent developments and innovations in the field.

International cooperation and sharing of experience are essential to developing and maintaining standards in interpretation methods and technologies. To that end, international conferences, workshops and exchanges of professional staff as well as national and regional meetings should be encouraged. These will provide an opportunity for the regular sharing of information about the diversity of interpretive approaches and experiences in various regions and cultures.

APPENDIX E – BASELINE ANALYSIS

Baseline Analysis

Site	Heritage Character		
	River	Cultural Meanders	Site Narrative
WEST	Although small in scale, relative to the urban metropolis of the 21st century, the Roman city of *Londinium* initiated 2,000 years of urbanisation that has had a marked and intensifying effect on the Thames. However, culturally the Thames has been a focus of activity for at least 250,000 years, in ways that are particularly evident over the 12,000 years since the end of the last glaciation (Devensian). Knowing how the post-Devensian river evolved is essential to any understanding of how the river sustained pre-urban culture and the degree to which urbanisation has modified the river. The Thames valley downstream of Teddington comprises an increasingly wide floodplain containing a tide-dominated estuary that can be subdivided into a river dominated zone and a mixed energy (river/marine) zone of tidal meanders. The transition between these zones currently occurs around Battersea. Beyond Gravesend the estuary is marine dominated. The lower reaches of various Thames tributaries rivers share characteristics with the respective zones at the point of confluence, but are otherwise river dominated. Sea level change plays a significant part in determining the extent of the different zones, as a result the transition between river dominated and mixed energy zones may have been different in the past. An equally significant factor has been the topographic template that developed in the late Devensian. The most notable aspect of this template are the Devensian modifications to earlier gravel terraces and the deposition of the Shepperton Gravels. These influence the pattern of drainage and also define an undulating surface, with contrasting locations of higher and lower ground. Much of this topographic template is now buried beneath alluvial silts and clays that have accumulated over the past 12,000 years as the river evolved in response to climatic and sea level changes. These form a wedge of Holocene deposits within the floodplain which is limited in depth and extent within the river dominated zone, but becomes increasingly complex within the mixed energy zone and thickens downstream to reach a maximum depth of c. 35m within the marine estuary. The pre-urban river operated relatively freely within the floodplain, passing through various stages of development: from an early arrangement of multiple-channels separated by gravel bars to a single wide river channel, within which gravel islands occurred. These islands are sometimes referred to as 'eyots'. Derived from the Old or Middle English *ei*, islands features as a toponym at various riverside locations that were probably still surrounded by river water in the early middle ages, such as Bermondsey, Thorney, Chelsea, and Battersea. This dynamic of an evolving river and land prone to varying degrees of wetland formation has influenced the formation		
ACTST		**Recreation to industry: society in transition** This tunnel section largely relates to the river dominated zone. Medieval manorial estates and associate rural riverside communities, described in the 12th century Domesday Book as operating a feudal economy based on agriculture and fishing, formed part of numerous regional tenurial units bordering the Thames. Riverside medieval settlements, such as Putney and Battersea, were part of riparian estates held principally by long-term noble landowners occupying riverside manor houses/ palaces. In addition to secular landowners, a number of the major English bishoprics had London residences along the river e.g. York House at Battersea. Monastic houses located in the cities of Westminster and London also held significant riverside manorial properties. This mix of secular and ecclesiastical later medieval riverside estates west of the City of Westminster contrasts markedly with those east of the City of London, where the principal riparian landowners were the Crown and medieval monastic institutions. The riverine character of this stretch of the Thames, and its proximity to the Tudor, Stuart and Georgian London court, was to further attract numerous aristocratic riverside mansions and villas built during the 16th, 17th and early 18th centuries, often on land disposed following the Dissolution of the Monasteries between 1536 and 1541. Over this period traditional riverside communities saw a reduction in customary commonable rights held since the medieval period. Established landholding families and institutions retained valuable riverside estates close to the city, as both a source of agricultural income and as increasingly formalised pleasure grounds or recreational space. As a result significant stretches of the river became socially selective places by the 18th century. In addition, from the 17th century extensive areas of intensive horticulture characterised the immediate environs of the City of Westminster, e.g. Chelsea, Fulham and Battersea (see also Central section below). The more exclusive areas were often intended to represent idealised pastoral or more formalised genteel landscapes. Although rural in character, they were nevertheless subject to the social and economic factors evident within the adjoining urban areas. In some cases, especially in the vicinity of Chelsea and Vauxhall, 18th century private pleasure grounds operated as commercial public attractions or sports venues, catering for the recreational interests of the growing urban middle class. Modernity arrives with the transformational force of coal-powered steam technology in the 1840-60s. Land with river access to the Port of London attracted substantial value and the historic estates were sold, with former landowning families taking residencies in the new fashionable squares in districts such as Mayfair, but displacing communities associated with the market gardens that surrounding the city. In contrast to the riverside upstream of Brentford/Kew, where vestiges of the character of the pre-industrial riverside estates survive, the TTT west section, with few exceptions, such as Chelsea Royal Hospital/Ranelagh Gardens, was transformed from rural arcadia to industrial urban riverscape in a matter of decades. Between the mid-19th century and early 20th century dramatic economic and social change remade society, along modes that would come to typify modernity. Industrialisation included both large scale urban infrastructure, in particular bridges and the MBW sewer system, and entrepreneurial manufacturing and distribution businesses, mainly serving regional markets. Both had common labour and river transport requirement. As a result purpose built wharves were constructed through further encroachment and reclamation of the riverside. Planned residential estates for workers were created on adjoining greenfield sites. The dynamics of later market globalisation and major changes in urban infrastructure meant that many of the original late 19th/early 20th century riverside business did not survive into the later years of the 20th century, e.g. T&W Farmiloe (Kirtling Street). Burroughs and Wellcome (Dormay Street) is a prominent exception, going on to become a global pharmaceutical business, but only after it had relocated. In contrast to the decline of commercial riverside activity, the relative permanence of infrastructure means that Bazalgette's sewer system is now a notable physical survivor of the industrial heyday. It continues to illustrate the significant influence of urban infrastructure on the rapid and radical re-fashioning of the pre-War west London riverside. Domestic and industrial areas were physically interlinked, influencing the character of the new urban communities created upstream of Westminster. The sewer pumping stations now stand as quality architecture charting industrial design by municipal authorities through the late 19th and first half of 20th century, situated within wider patterns of late 20th century post-industrial regeneration.	Agricultural land until 1887 when Acton Sewage Disposal Works was built by Metropolitan Board of Works adjacent to western branch of Stamford Brook. Further development of treatment facilities at beginning of 20th century, with storm tanks constructed in 1905. Site currently occupied by 6 modern storm tanks, associated 20th century and remnant 19th century structures. Contemporary with the construction of Acton Storm Tanks many manufacturing enterprises based in central London expanded and relocated to the outskirts. The Napiers Motor Works adjoined the Storm Tanks site until closure shortly after the Second World War. The company was one of a number of vehicle manufactures, such as CAV and Lucas (automobile components) and Du Cros (cars), to establish factories at Acton, which was described in the 1920's as "Motor Town". In 1932 the motor industry employed 5,400 people, some 80% of the workers in the district. By 1956 The Times considered Acton to be one of the two largest concentrations of industry south of Birmingham.
HAMPS			Thames-side setting at confluence of Parr Ditch within Fulham Reach CA. Previously a 17th century country estate, centred on Brandenburg House, latterly home of Queen Caroline, wife of George IV. Buried with the inscription 'Caroline of Brunswick, the injured Queen of England', George IV's wife died at Brandenburg House, on 7 August 1821 at the age of 53, having been physical refused entry to George IV's Coronation earlier that year on 29 April. The House was demolished in 1823 on the Instruction of George IV. In 1795 George, then Prince of Wales, had entered into an arranged marriage with Caroline, his first cousin, in order to secure Parliament money to pay of his debts. Caroline was immediately instructed that George found her disgusting and had no intention of living with her. She took taken residence in Hammersmith when George ascended to the throne, after a period of exile, having been banished from the Royal Court. Throughout the marriage Caroline was denied the status of Consort, was socially excluded within the British Court and subject to secrete parliamentary commissions (*Delicate Investigation*) attempting to prove she was an adulteress. In June 1820 George put before Parliament The Bill of Pains and Penalties, which sought to remove Caroline's privileges and titles as George's wife, which was defeated in the House of Lords. Their Royal public estrangement, which lasted all twenty six years of marriage, was widely reported in the Regency forerunners to the tabloid press. Caroline received popular support as the public regarded her as having been wronged by her highly unpopular husband, George VI. Her experiences highlighted inequalities, even for the most privileged of women. Through her disenfranchisement she gained the role of political figurehead for the Reform Movement, which sought restrictions on the authority of the monarch and a strengthening of Parliament. LCC's 1960's concrete minimalist pumping station replaced the redundant 19th century Haig distillery, a sugar refinery and an area of 19th/20th century industrial housing.
BAREL			Riverside setting at the confluence of the Beverley Brook, distant to medieval settlement foci at Barnes, Putney and Mortlake. Comprising part of the manorial Barn Elms estate held by St Paul's Cathedral from the 14th to 17th centuries. Barn Elms manor house and its associated watermeadows, embankments and water features, possibly fish ponds, were leased by Elizabeth I for Sir Francis Walsingham (the 'Queen's Spymaster') between 1579-1590 on his retirement as her Secretary of State. The medieval manor house was replaced with a mansion in the late 17th century and further 18th century remodelling took place during the tenure of the Hoare banking family. The estate was sold to provide land required for construction and access to the original Hammersmith Bridge. The surviving mansion became home to the Ranelagh Polo Club (named after Ranelagh Gardens – see CREWD below) between 1878 and 1939 when the grounds were remodelled to provide polo pitches, tennis courts, golf course and croquet lawns within a parkland setting, incorporating the former fish pond as ornamental features. Following a fire the mansion was demolished in 1954 and the parkland became municipal playing fields and a sports centre.
PUTEF			Riverside setting within Putney Embankment CA, a historic riverside village centre with legacy of medieval, 18th, 19th and early 20th century buildings. Historic street plan is juxtaposed against regular street plan of later residential estates. Imposing late 19th/early 20th century buildings set back from the Thames overlook the Embankment and Waterman's Green. Site of a historic ferry crossing, with a medieval church at both ferry access points. St Mary's Church, adjoining the LLAU, was venue of the 1647 'Putney debates' concerning a new constitution based on principles of human rights drafted during the 1642-51 English Civil War. Ferry crossing replaced in the 18th century by a timber bridge. Current bridge designed by Sir Joseph Bazalgette in 1880s which incorporates two sewer outfalls. Embankment to west of LLAU has been a focal point for recreational and competitive rowing since 19th century.
DRMST			Currently low quality brownfield land at the mouth of the Wandle to the north of historic settlement and river crossing at Wandsworth. Former wetland reclaimed in 19th century to accommodate expanding industries exploiting the water resources of the Wandle. Former industries operating from the site include malt processing, but of greatest significance is the first Burrough and Wellcome (B&W) factory, which was located on Bell Lane Wharf. Founded by businessman, collector and philanthropist Sir Henry Wellcome, B&W evolved to become part of a multi-national pharmaceutical company (GlaxoSmithKline) and Sir Henry established a research institute (Wellcome Trust). Both are now global drivers of innovation and research in human health and culture.
CARRR			Riverside setting in Sands End CA. Historic embanked 'town meadow' until wharfage was created for Metropolitan Asylum Board ambulance service in late 19th/early 20th century, transporting urban victims of infectious disease by paddle steamers to isolation hospital ships moored at Dartford. London Council assumed responsibility for ambulance service in 1930 ceased operations at Carnwath site. Mid-20th century industrial wharves, developed, in association with former local cement works, remains active industrial concern.
KNGGP			Tributary valley location on the gravel terrace to west of the Wandle floodplain. Historically open farm land to south of medieval settlement and Wandle crossing at Wandsworth. Peripheral to the 18th/19th century water based industries located on the adjacent Wandle floodplain and a unique 18th century hybrid railway, designed by eminent canal and harbour engineer William Jessop. Site forms part of a municipal park created in 1921-23 in a typical Edwardian style, included ornamental gardens, trees and winding pathways. Later leisure facilities added, including greyhound stadium (demolished), tennis courts, bowling green and bandstand.
FALPS			Located on the Falconbrook, a minor Thames tributary, partially following the course of the ancient Battersea Channel. Historically open land to the east of the Battersea mansion of the Archbishop of York, a site that became Price's Candle Factory in 1856, which operated until the 1980s. Thames Water Utilities Limited (TWUL) 1970's concrete minimalist pumping station replaced 1905 pumping station connected to the southern Low Level Sewer, on a site that had previously accommodate 19th century terraced housing.

Site	Heritage Character		
	River	Cultural Meanders	Site Narrative
CENTRAL	of habitats, the availability of ecosystem resources and the nature of sediment accumulation within the floodplain, all factors that have a significant effect on the occurrence of past cultural activity and the survival of archaeological evidence. Prior to the foundation of *Londinium* the floodplain was a permanent or temporary home to successive and multiple communities whose cultural practices were no less diverse than the changing riverine environment they inhabited. One of the most notable cultural feature of the pre-urban Thames is the tradition of votive deposition that occurred from the Neolithic period through to the Iron Age, with some evidence to suggest it may have continued into the Roman period. Important objects, including highly ornamented and exquisitely crafted metalwork (e.g. Battersea Shield), were cast into the water in substantial numbers. In some instances objects had been deliberately damaged before deposition. A concentration of objects occur within the river dominated zone upstream of Vauxhall, where there is also evidence for a Bronze Age bridge or jetty structure having been built into the river. Palaeo-environmental evidence contained within the floodplain Holocene deposits chart local and regional environmental change and reveal the extent to which the natural ecosystem was modified by cultural activity, especially woodland vegetation clearance. This is likely to be associated with evidence for prehistoric cultivation of the free-draining eyots and the creation of brushwood trackways, allowing movement across the wetlands and the different elements of the floodplain topography. The river was also a prehistoric communication route, used to extend maritime links to coastal Britain and continental Europe. The discovery of the Dover Bronze Age ship, which was capable of cross-Channel voyage, would affirm the evidence in the upper Thames for the		
CREWD		**From 'Babylon' to World City: Civic London** This tunnel section marks the transition from the river-dominated to the mixed energy estuary zone. Geographically and historically it is intimately linked to the early urban development of the metropolis. The City of London's origins lies in the original Roman port and administrative/ commercial centre, whilst the City of Westminster foundation rests on a medieval ecclesiastical centre and later a Royal court and seat of democratic government. The Thames was central to their development, with the river providing a context for displays of authority and pageantry. Closely inter-related, each adjoining city gave rise to distinct urban entities situated on free draining locations within an extensive river wetland complex. Both areas experienced early reclamation schemes and a long history of river management, with river transport, commerce, as well as improvements to navigation, defining the timing and nature of changes to the character of the river frontage until the mid-19th century. The river and its tributaries also served an additional function as the nascent urban sewage disposal system. London, by the early 17th century, was gaining an increasingly global influence. As a major European capital it was to play a significant role in the interflow of people across north-west Europe and beyond in the post-Reformation upheaval. Great Britain was also establishing mercantile colonies across the Americas, Africa, Australasia and the Indian sub-continent, which included both the voluntary and involuntary intra continental and trans-continental displacement of people. During the course of the 18th and 19th centuries London become the epicentre of a world-wide trading and mercantile empire, which attracted an influx of people of ever greater diversity. The condition of London's urban fabric rapidly became unequal to its economic and social needs. Disraeli, writing in 1847, describes the metropolis as 'a modern Babylon', teeming with a myriad people, languages and cultures. In 1858 The Great Stink demonstrated the degree to which the metropolis was already exceeding the environmental capacity of the river on which its well-being and prosperity depended. This was the social and environmental context for two separate but inter-related changes that were to have a major effect on the character of the river. The most obvious involved the state-led creation of the Metropolitan Board of Works, as an institution of local governance with a mandate to resolve London's infrastructure needs. This was the means by which the current drainage infrastructure and the Thames Embankments were created under the auspices of its Chief Engineer, Sir Joseph Bazalgette. However, beyond the relatively compact historic urban core urban the implications of post-Reformation population mobility was bringing about economic, social and environmental consequence no less transformative than the works of the MBW. The growth of market gardens between the 17th and 19th centuries was based on horticultural skills introduced from the mid-16th century by Flemish Protestants and French Huguenot refugees. Excluded from trading within the city boundary, the Huguenot community leased extensive peripheral areas of lowlying riverside to the immediate west and south of the historic boundaries of Westminster and the City of London.	Thames-side setting at confluence of Counter's Creek (Chelsea Creek) within the Thames CA. Historically the site formed a strip of riverside meadow south of 18th century country houses (Ashburnham House & Chelsea Farm) and associated commercial pleasure gardens, frequented by Georgian and early Victorian society. Cremorne Gardens opened in 1845, but closed in 1877, when the adjoining riverside was developed to create Cremorne Wharf and Pier, providing warehouses serving local industries. Subsequently a grid of Victorian and Edwardian residential streets were laid out. Lots Road Pumping Station and Lots Road Power Station were constructed between 1902 and 1904.The Pumping Station was designed by London County Council Works Department under Chief Engineers Sir Alexander Binnie and then Sir Maurice Fitzmaurice and replaced part of Cremorne Wharf. The Power Station, in it's time the world's largest, provided electricity to the London Underground system until it's decommission in 2002. The pumping station remains a TWUL operational asset containing 1930 pumps, engines, gauges and pipework.
CHEEF			This stretch of the Thames lies within the Royal Hospital CA at the former confluence of the Westbourne. It has been a popular riverside city retreat since the Tudor period, when numerous aristocratic estates operated alongside a local population concerned with horticulture, both market and nursery gardening, and river transport. Since the 17th century Christopher Wren's Chelsea Hospital has cared for pensioned military personnel within a highly formalised parkland setting. The adjoining Ranelagh Gardens are a legacy of Ranelagh House, built in 1688-89 by the first Earl of Ranelagh, Treasurer of Chelsea Hospital (1685-1702), which was demolished in 1805. In the mid-18th century Ranelagh Gardens were open to the public as a commercial pleasure garden, containing various attractions such as the Rotunda, a venue for music recitals. The Rotunda witnesses a performance by nine year old Mozart and helped popularised the European masquerade ball among the middle-class English public. The Rotunda and garden, the subject of a number of paintings by Canaletto, was re-designed in the 19th century by John Gibson, an apprentice to Joseph Paxton, who also was the first superintendent of Battersea Park. The gardens were a venue for Fulham Football Club in 1886-8, when it was known as the Ranelagh Ground. The formal riverside character was extended with an esplanade when Bazalgette opened the Chelsea Embankment, constructed as part of the Metropolitan Board of Works sewer system between 1871 and 1874. The Royal Hospital and Ranelagh Gardens have hosted the Royal *Horticultural Great Spring* (Chelsea Flower Show) show since 1913.
KRTST			Formerly historic riverside wetlands and open strip fields held by medieval Westminster Abbey that formed part of the main arable areas of the medieval parish centred on Battersea. 17th century records of a windmill at the site reflect the prevalence of commercial agriculture at riverside lands in the immediate environs of the cities of Westminster and London. The arrival of Flemish Protestants and French Huguenot refugees from the mid-16th century influenced the development of intensive market gardens and osier beds at Nine Elms. Battersea was a major supplier of fresh vegetables, notably asparagus (known as 'Battersea bundles'), to the nearby city. Riverside locations were preferred in order to bulk ship manure used as fertiliser and to create hotbeds, which extended both the range of vegetable grown and the length of the season. Shortly after the construction of the original Battersea Bridge in 1770s the stretch of the river downstream was reclaimed to create timber wet docks and wharves incorporating a new river wall, with barge beds located on the foreshore. Further industrial transformation came when, in the late19th/early 20th century, the docks were infilled to accommodate new manufacturing enterprises. T&W Farmiloe, an entrepreneurial family business trading in glass and lead, operated wharves, warehouse and factory building at the site from 1884-1988. Farmiloe, which largely served the UK's expanding urban markets, illustrate a wider pattern of 19/20th century manufacturing and chemical businesses associated with Battersea riverside.
HEAPS			The arrival in London of Flemish Protestants and French Huguenot refugees from the mid-17th century contributed to the social and economic development of host communities. Semi-rural villages surrounding London, such as Wandsworth and Battersea, were preferred settlement locations, as food and housing were cheaper and trade less exposed to City of London guild control. The Huguenot's founded various charitable and education institutions that gave the immigrant community a degree of self-reliance within the new host country. One of their notable achievements was in the field of horticulture, advancing scientific approaches through the development of intensive market gardens and osier beds at places like Nine Elms and Battersea, which were a major supplier of fresh vegetables, notably asparagus (known as 'Battersea bundles'), to the nearby city.

Site	Heritage Character		
	River	Cultural Meanders	Site Narrative
ALBEF	movement of people and goods originating in the European mainland. The Thames floodplain was populated long before the Romans founded London around AD50, up to seven years after the Claudian invasion of AD43. And it is during the last 2,000 years that the river, through processes of management and utility that have increased in scale and intensity over time, has come to supported London's multiple urban functions as a capital city, seat of governance, commercial centre, port and industrial production and distribution hub, whilst also meeting the wider amenity interests of Londoners. For the last 1,000 years the Tideway is intimately linked to governance institutions concerned with managing the river to maintain connectivity, its operation as a waterway and fishery, as well as the protection of riparian land from flooding. The key governance institutions include the Crown, the Corporation of London, various commissions of sewers, the Thames Conservancy and now the PLA. Representational civic institutions also influenced the character of the Tideway, including the Metropolitan Board of Works and its successor bodies: London County Council, the Greater London Council and now the GLA and the London Mayor/Assembly. Jurisdiction for the Rivers Thames and Medway between Staines, Upnor and Southend-on Sea was held from the 12th to the mid-19th centuries by the Corporation of London, having been purchased from the Crown in 1197. This jurisdiction pertained to fishing rights and tolls on river traffic. Maintaining the navigation was critical to these interests and the Corporation held various powers to remove obstructions to ensure free navigation of the river, such as that granted in Magna Carta (1215, clause 33) and subsequent regulations concerning the removal of fish weirs. Revenues were generated by licensing various activities, including fishing and transportation, e.g. watermen and lightermen responsible for transporting passenger and goods traffic. Revenue also arose from tolls on goods passing through or over London Bridge, which until 1750 was the only bridge on the tidal Thames,	By the 18th century London's market gardens not only provisioned the urban centre, it also assisted in the relatively safe metabolising of organic waste generated by the expanding urban population. A need for a continuous supply of organic fertiliser supported large scale ancillary river transport services removing and delivering urban waste, including animal dung and human effluent. It was also serviced by a social underclass, including night-soil men, who are vividly chronicled by social reformers such as Henry Mayhew and Charles Dickens. Apart from assisting in the sustainable management of population growth, horticulture was a pioneer economic activity that led to a transformation of the riverside that extended beyond the pre-18th century urban core. Early small scale plots on marginal land gave way to extensive orchards and gardens on what had been cheap, poorly protected land vulnerable to flooding. By investing in flood defence and drainage improvements horticulture created a new supply of land that would prove equally suitable for London's 19th century industrial development. Eventually escalating land values reached levels beyond those market garden leaseholds could sustain, leading to the economic demise of large scale local food production in London. Ironically, food processing was to form a significant aspect of the industrial enterprises that took its place. This economic power of industry was to lead to even greater levels of investment in the riverside, with the creation of wharves and docks and a wide range of subsidiary services, such as barge building. In many instances, what started out as family companies or start-up enterprises, were to develop into major international concerns through the ability to reach global markets via the port of London.	Located within lowlying land near the mouth of a former channel of the Thames, sometimes referred to as the Battersea channel. Evidence of Mesolithic structures and Bronze Age structures are exposed in eroding peats and silts that infilled the channel. Sir Joseph Bazalgette, an engineer of Huguenot decent, designed a sewer system contained within the Victoria and Albert Embankments. The construction of Albert Embankment (1866-1869) and Victoria (1865-1870) involved large-scale re-modelling of the river. Following the 'Great Stink' in the summer of 1858 Parliament allocated £3 million to the Metropolitan Board of Works to improve London's polluted river. The task was taken on by chief engineer Joseph Bazalgette, who designed and constructed five major brick-lined sewers measuring 132 km (82 miles) that connected with existing sewers; three north of the river and two to the south. Pumping stations were built at strategic locations to keep the sewage flowing for discharge at outfalls at Beckton and Crossness. Building London's sewers was the biggest civil engineering project in the world at the time. Delays to allow the embankments to house new Underground lines meant that a final cholera epidemic hit London in 1866. The sewers were completed around 1870, with two extra sewers added about 1910. John Thwaites, the chair of the Metropolitan Board of Words, made note that the Thames Embankments were an important step in making London recognised as an exemplary imperial city, and that the embankments were the greatest public work to be taken in London. They were intended to reflect a Victorian view of modernity at a time of sweeping social, economic, political and administrative change. Imperial power was represented in the embankments' grandeur and in the way they controlled nature, i.e. the tidal river. They physically linked the two opposing areas of historic authority i.e. the cities of London and Westminster into a single metropolitan entity. They also provided London with a monumental Thames frontage and opened the river to its citizens. New steamboat piers and landing stairs were designed for river access. Above ground were tree lined roadway and a pedestrian promenade and highway, surfaced with York paving stone and decorative gaslight posts.
VCTEF			Located at the confluence of the Tyburn, the former river separating Thorney Island, the location of the medieval Palace and Abbey of Westminster, from the gravel ridge that forms The Strand, which was the site of the middle Saxon port and by the 16th century was dominated by aristocratic residential riverside houses, part of the Crown estate. By the early 19th century the river frontage had been extended and was occupied by numerous wharves.
BLABF			Located at the mouth of the Fleet, which separated the City of London, site of the Roman and Medieval port, from the medieval Inns of Court and legal quarter of London. The Fleet comprised a tidal inlet that provided access to wharves and docks on the western side of the City of London prior to the 18th century. Evidence of the former maritime associations was revealed in the 1960/70s with the discovery of Roman, medieval and 17th century ships that had sunk at the entrance to the inlet. By the early 19th century the river frontage had been extended and was occupied by numerous wharves.
SHTPS			Historic reclaimed land to the north and east of the Horsleydown eyot, adjoining the mouth of the Neckinger. Horsleydown was part of the land held by the Cluniac Abbey of Bermondsey, who established St Saviour's Dock at the mouth of the Neckinger. The Abbey surrendered their possessions to Henry VIII in 1537. Development of the Bermondsey riverside intensified in the late 17th century, with the creation of new riverside wharves and warehouses alongside earlier boatyards. This involved reclamation of the intertidal areas such as the site that later became the pumping station.
EAST			
CHAWF		**The 'Shipping Parishes' – Gateway to the World** Although still within the mixed energy estuary zone, this tunnel section correlates to the length of the river subject to the strongest marine influences. It is part of the historic *Pool of London* and is most intimately connected to London's strong maritime traditions. Downstream of the City of London the principal medieval riparian landowners were monastic institutions, including abbeys at St Mary Graces at Tower Hill, Bermondsey, Stratford Langthorne, Barking and St Peter's of Ghent at Greenwich. These played a key role in creating flood defences and reclaiming the more vulnerable stretches of the floodplain. The value of this land as pasture formed the main economic source of wealth sustaining the monasteries, although the creation of St Saviour's Dock may have also contributed to the income of Bermondsey Abbey. Secular communities along the riverside, such as Erith, Woolwich, Ratcliffe, Deptford, Greenwich, Rotherhithe and Bermondsey are associated with the earlier medieval traditions of ship-building and shipping.	Formerly riverside wetlands on the north margins of Bermondsey eyot, to the west of the mouth of the Neckinger. Fish weirs dating to Saxon period are recorded at this site. Bermondsey Wall represents the line of the medieval river wall built by Bermondsey Abbey to protect land to the south from flooding, which projects through Chambers Wharf. The Abbey was also responsible for establishing St Saviour's Dock near the mouth of the Neckinger. Following the dissolution of Bermondsey Abbey its estate was acquired c.1541 by Sir Thomas Pope, founder of Trinity College Oxford and a close associate of both Thomas More and Thomas Cromwell. Pope's personal wealth benefited from his time as treasurer and second officer of the institution set up to manage the property of religious houses annexed by the Crown during the dissolution. Subsequently land along the riverside was leased to various trades and merchants and the development of the Bermondsey riverside intensified from the late 17th century, when it became a centre for shipbuilding and leather working. Recent archaeological evaluation at Chambers Wharf has also recovered 17th century pottery waste that includes sugar cones, part of the supply chain involved in the triangular slave trade. These were manufactured for local sugarhouses that refined cane sugar products from imported raw material produced by West Indies slave plantation labour. Manufactured goods shipped from London would have been exchanged for West Africa slaves for transportation across the Atlantic to work in the West Indies sugar plantations. Successive phases of reclamation of the intertidal area was associated with creation of new riverside wharves and warehouses until the early 20th century when the current deck was constructed.

Site	Heritage Character		
	River	Cultural Meanders	Site Narrative
EARPS	the nearest being upstream at Kingston-upon-Thames. From 1514 river traffic was regulated throughout most of the Corporation of London's Thames jurisdiction, via the Company of Watermen and Lightermen, a City Guild that continues to be influential today. London Bridge and later bridges within the City of London, were financed from medieval charitable endowments held by the Bridge House Estate. Beyond the City the creation of Thames bridges began in earnest in the mid-18th century and, with the exception of the government financed Westminster Bridge, were promoted by private companies and use was subject to tolls. In all cases the replacement of ferries by bridges required compensation for the loss of income experienced by the members of the Company of Watermen and Lightermen. The Metropolitan Board of Works (MBW) became the principal instrument of London-wide government from December 1855 until it was succeeded by the London County Council in March 1889. From 1877 the MBW had authority within 'Inner London', including the Thames between Hammersmith and Woolwich. As well as constructing the main drainage system, the MBW instigated a wide range of urban infrastructure modernisations that affected the operation of the river and London more widely. This was concurrent with social and economic transformations associated with industrialisation, and helped prepare the metropolis for the onset of modernity. Improvements in transport infrastructure included the creation of new thoroughfares that reduced congestion. Also private bridges spanning the Thames came within its jurisdiction, allowing the removal of tolls, a programme for re-building those no longer adequate (Putney Bridge, Battersea Bridge, Waterloo Bridge and Hammersmith Bridge) and works to strengthen others. These achievements were a mark of the degree to which the MWB provided an effective voice for the civic interests of	Shipbuilding on the Thames took a major step forward, with the founding of the Royal Docks at Deptford and Woolwich and by the release of land suitable for shipbuilding following the dissolution of the monasteries (1536-41), both instigated by Henry VIII. They also played a significant scientific role in 16th century development of navigation and exploration. An early exponent of scientific navigations was John Dee, resident of Mortlake, who advised various merchant adventurer expeditions departing from Ratcliffe. Dee was a leading occultist, geographical adviser and advocate of the concept of a British Empire. He proposed that maritime dominance, colonizing of new lands, and exploitation of mineral resources, were the key to England gaining the power to withstand or challenge Spain. *Brytanici Imperij Limites* (The Limits of the British Empire), written late in the 1570s, outlined Dee's belief in Queen Elizabeth's power over most of the seas and a large amount of land in the northern hemisphere, claims he presented to Queen Elizabeth and her ministers in 1580. In 1584, Queen Elizabeth granted Sir Walter Raleigh a royal charter, authorizing the colonisation and rule of any "remote, heathen and barbarous lands, countries, and territories, not actually possessed of any Christian Prince, or inhabited by Christian People. Raleigh despatched an expedition from Blackwall, which establish the Roanoke Colony in 1587, in what is today Dare County, North Carolina. Also known as the 'Lost Colony', it had failed by 1590, and the first permanent English colony of Virginia was founded nearby in 1601, under the expedition led by John Ratcliffe, which also departed from Blackwall. This marked the start of an aggressive expansion of British sovereignty that was to continue over the subsequent three centuries. From the 17th century shipbuilding on the Thames increasingly reflects Britain's expanding mercantile interests, as illustrated by the construction of shipyards by the East India Dock and others. Local ship building concerns helped establish expanded riverside communities at Bermondsey and Rotherhithe. Various local commercial interests relied on the mercantile trades, including processing of sugar, coffee and tobacco, luxury commodities linked to the Atlantic slave trade. The early rapid development of Thames-side wharves and warehouses was served by maze of narrow streets lined with tightly packed rows of workers' houses, interspersed with larger and grander houses for merchants and dock officials. By the early 19th century the dock economy was a fundamental influence on the physical and social structure of the area, reflecting the importance of the Port of London and the British Empire. Massive warehouses were known as 'London's Larder': every variety of food, estimated to amount to three-quarters of London's imported provisions, was stored in Bermondsey riverside. Often, the ships took a human cargo back with them on their return journey. For example in the 18th century, south German Protestants fleeing persecution were housed at Hay's Wharf before taking ship for America. A need for increased port capacity was met by the construction of enclosed docks on either side of the Thames. These included West India Docks (1802), East India Docks (1803, originating from the Brunswick Dock of 1790), London Docks (1799-1815), Surrey Commercial Docks (1807, originating from the Howland Great Wet Dock of 1696), St Katharine Docks (1828), Royal Victoria Dock (1855), Millwall Dock (1868), Royal Albert Dock (1880), and Tilbury Docks (1886). The London Docks are a typical example of an enclosed dock and were built to the design of the architects and engineers Daniel Asher Alexander and John Rennie. These occupy a total area of about 30 acres (120,000 m^2), consisting of Western and	Former floodplain wetlands to the south east of the Rotherhithe eyot. Early post-glacial wetlands comprised a mosaic of lakes, marsh and streams and a diverse range of successional habitats. Land was reclaimed in the medieval period, partly drained by the Earl Sluice, a former channel that bisected the site and marked the historic parish and county boundary. 17th century and later impacts of urbanisation contrast to that experienced along the riverside. Encroachment began when docks constructed to the south of Rotherhithe in late 17th century were further expanded during the 18th century. The site remained in agricultural use until the mid-19th century development of industrial housing to the north west of the Earl Sluice and a chemical works to the south east. Residential expansion, the culverting of the Earl Sluice and the replacement of the chemical works with recreational space in the late 19th/early 20th century preceded housing clearance for the construction of the Earl Pumping Station in the 1940s. The nearby Greenland Dock, formerly known as the Howland Great Wet Dock, is one of the earliest enclosed docks within the historic Port of London. Built 1695-99 and later renamed Greenland Dock, it was expanded at the beginning of the 20th century. Originally used to refit East India Company merchant ships, from the early 18th century the dock was the berth and processing plant for the London's Arctic whaling fleet, which operated off the Atlantic coast of Norway and Greenland. Whaling was an important economic activity between the 16th-19th centuries. Initially operating under a charter of Elizabeth I, the Port of London whaling fleet played a leading role in the commercial exploitation in cetacean resources. It became commercially unviable in the early 19th century due to overexploitation and a decline in the market for whale oil following the development of chemical and petro-chemical alternatives.
DEPCS			Deptford High Street in the early 16th century was a rural location north of a former Saxon settlement established alongside a Roman road adjoining a crossing at the head of the tidal Ravensbourne (Deptford Broadway). Further north, the medieval riverside settlement at Deptford Strand on the site of a Saxon predecessor and centred on St Nicholas Church, was transformed when Henry VIII established a royal dockyard in 1513 and when further shipyards were built by the East India Company at the beginning of the 17th century. Over the next three centuries Deptford became 'a military-industrial satellite' settlement. Its rapid growth resulted in a population that by 1700 almost equalled Bristol. A petition to the New Churches Commission for a second church at Deptford was accepted in 1711 and the new parish of St Paul's created. St Paul's Church was designed by Thomas Archer in 1713 and consecrated in 1730. The grounds of the church included a rectory (demolished c.1886) and burial ground. St Paul's was one of 12 new London 'Queen Anne churches', built in response to widespread urban population expansion and counter the drift of literate skilled workers, such as those at Deptford, away from the Anglican church. A number of these new churches served London's riverside communities, including St Anne's, Limehouse; St John's, Horsleydown; St Alphege's, Greenwich and St George in the East. Other notable Queen Anne churches include St George's Hanover Square and Christ Church, Spittalfield. In 1910 an Act of Parliament enabled former burial grounds to be converted into public gardens. St Paul's was the first churchyard to do so, in 1912, when the headstones were moved to the perimeter, walks were laid out and railed, trees were planted along the walks. It opened as a public garden in 1913. The High Street retains many pre-1800 houses built to house artisans employed at the shipyards. Generally built by small scale speculative developers. The buildings at 104-108 and 116-118 Deptford High Street (known locally as 'Slade's Place') are typical of the domestic architecture of 18th century Deptford, but are notable as having been built by Mary Lacy, who by this time had adopted the surname of her partner Elizabeth Slade. Mary Lacy, whose 18th century memoirs (recently re-published by the National Maritime Museum Greenwich) describe her previous career as a mariner and naval shipwright in the guise of a man, highlight issues of gender identity and equality. Her contemporaries include activists, such as Mary Wollstonecraft, who campaigned for female education and gender equality. Mary Lacy's story is re-emerging as a valued aspect of Deptford maritime heritage, whilst Wollstonecraft set out the philosophical arguments that remain an inspiration for modern campaigners around the world.
GREPS			Located east of a Saxon settlement on the west bank of the Ravensbourne and to the north of a Roman road that crossed the Ravensbourne and climbed Shooters Hill, the Greenwich Pumping Station is on the east bank of Deptford Creek. Situated between historic settlements, few post-16th century buildings of limited scale and density are recorded alongside the medieval road connecting Greenwich to the Ravensbourne crossing (Greenwich High Road). Reclaimed as part of the 19th century industrialisation of the Creek, the location is dominated by infrastructure, including the London Greenwich Railway and Bazalgette's Italianate style Greenwich Pumping Station, opened in 1838 and 1865 respectively. The railway, the world's first inner city line designed specifically for passenger transport, was carried on a viaduct of 878 brick arches.

Site	Heritage Character		
	River	Cultural Meanders	Site Narrative
KEMPF	Londoners in the face of powerful vested interests. This is illustrated by the outcome of disputes with the Crown that spanned a decade during the construction of the Victoria Embankment. The MWB's jurisdiction over the riverside was initially challenged by the Crown in 1862, who claimed there would be a loss of amenity to the river frontage adjoining its properties. This claim was not sustained, but in 1870 the Crown again sought to assert rights to develop part of the reclaimed land following construction of the Embankment, which had been achieved entirely at taxpayer expense. This claim was eventually resolved in 1872 following a strong public response in support of the MBW insistence that the Embankment should be protected for the recreational benefit of Londoners. Bazalgette's Victorian sewer system is exceptional in its scale, its use of steam driven pumping technology, the fact that it was retrofitted to a major urban entity and employed a range of ground breaking technical engineering innovations. These are all standards of a remarkable achievement. It was, however, based on river management principles that had preceded it and has been responsible for the medieval reclamation schemes that for centuries protected land alongside the tidal Thames. The construction of river walls to protect land from tidal flood, the adaptation of existing natural tributary drainage features to carry water away from the land and the creation of channels to intercept and collect surface water are all features broadly common to both the pre-industrial and industrial systems of water management employed on the Thames. This longevity and continuity of cultural practices is also associated with the other notable river traditions, such as ship-building and fishing, although each responds differently to the transformative effects of 19th century industrialisation. Pre-industrial and industrial communities of the Thames have been engaged in shipbuilding. There are relatively few records of the Thames shipbuilding industry before the 16th century. However, it seems probable that shipyards were already established beyond the city by the 11th and 12th centuries. The establishment of Tudor naval ship yards at Deptford and Woolwich was transformative and between 1512 and 1915 Thames shipbuilding became a major industry. It reached its apogee with the construction of its largest ship, Brunel's *Great Eastern*, which had a 27,000 tons displacement on its launch in 1858. In those four centuries, some 5,000 ships were launched into the Thames from the Royal Dockyards at Deptford and Woolwich, and from the many private shipyards along its banks. In contrast to ship building the role of the Thames fisheries follows a different	Eastern docks linked by the short Tobacco Dock. The Western Dock was connected to the Thames by Hermitage Basin to the south west and Wapping Basin to the south. The Eastern Dock connected to the Thames via the Shadwell Basin to the east. Apart from the expanding port, land that had previously been market garden or historic grazing marsh was also taken for the large scale manufacturing and food processing industries that relied on the port import/export facilities. Tinned food was first canned by Bryan Donkins in 1811 at Bermondsey. A roll-call of leading food brands operating at Bermondsey from the late 19th century, often producing secondary commodities based on the established sugar refining capacity, include Crosse & Blackwell, Pearce Duff, Liptons, Peek Frean and Courage Brewery. The advent of steam meant bigger and bigger steamships. The railway network revolutionised cargo distribution. Free trade and the liberalisation of port legislation also allowed many other ports to open up and take business away from London. Whilst the Second World War saw a period of intense use, in the 1960s the inability of the older parts of the Port of London to compete with the expanding container ports downstream became rapidly evident. The arrival of containerised shipping and a new preference for road transportation from the docks was ill suited to the traditional urban port. It led to a rapid decline in commercial traffic into the city port. Commercial shipping was rapidly driven out of the upper tidal reaches of the Thames and by the 1970s commercial river activity was virtually dead.	Former riverside wetlands that were part of the medieval estates of the Dean and Chapter of St Paul's, who reclaimed the marsh by constructing a drainage system that also powered a tidal mill located on the Thames riverside. Immediately to the west, the free draining riverside was occupied by the medieval and later maritime settlement of Ratcliffe. Ratcliffe's principal purpose was the equipping, refit and repair of ships, mainly smaller vessels. Both royal and merchant ships were fitted out and victualled at Ratcliffe in the 16th century. It was here that a number of Elizabethan merchant adventurer expeditions departed on voyages that contributed to early navigation and exploration. The 1553 *Company of Merchant Adventurers to New Lands* expedition departed under the command of Sir Hugh Willoughby to seek a north east sea route via the Arctic to China and India. Willoughby, with two thirds of his company, perished in the Norwegian sea. His navigator, Richard Chancellor, managed to reach Archangel and travel on to Moscow where he negotiated a company trading agreement with Tsar Ivan the Terrible. Sir Martin Frobisher, who was later knighted for his service in repelling the Spanish Armada in 1588, also prepared at Ratcliffe for voyages undertaken 1576-78 seeking the north west passage, which resulted in exploration of north eastern Canada. Both Wiloughby and the Frobisher were advised by the mathematician, astronomer and geographer John Dee, advisor to Queen Elizabeth I. He put navigation and scientific knowledge acquired from studies in Europe at the service of the 1553 expedition and, as a result, became a scientific adviser to the Muscovy Company. Dee was again brought in as an adviser in 1576 and gave a crash-course to Frobisher, Hall and others in the mathematical science of navigation and was an adviser on the smelting of iron ore, which Frobisher planned to exploit in order to finance the expedition. In 1649 the Dean and Chapter sold the drained marshes and in 1665 Thomas Neale developed a waterworks on the site of the former drainage/mill ponds. He also created a new riverside settlement west of Ratcliffe that became known as Lower Shadwell, which included St Paul's Church, built in 1656. Chiefly inhabited by professions and trades connected with shipping, St Paul's became known as the 'mariner's church'. Seventy five sea captains and their wives were buried in the grounds between 1725-95. Other notable people associated with the church include Captain James Cook, whose eldest son was baptised there in 1763. Also Jane Rudolph, mother of Thomas Jefferson, American Founding Father and principal author of the Declaration of Independence, was baptised at the church in 1718. The construction of the second of London's enclosed docks in 1805, on the site of Neale's waterworks and adjoining land, transformed Shadwell. Its riverside communities suffered over-crowding and displacement, with dock labourers replacing sea captains. The docks continued to dominate the area and in 1904-08 the Rotherhithe tunnel was constructed to carry foot and horse-drawn traffic between the docks on either side of the river. In 1922 the London County Council realised the creation of a park to commemorate the reign of George VII. First considered by committee established by parliament in 1910 the construction was delayed by WWI. Many of Shadwell's streets and buildings were cleared, including the derelict fish market which had been established under powers conferred on a private company in 1882 and transferred with adjacent property to the City Corporation in 1901.
BEKST			The Royal Foundation of St Katharine adjoins Bekesbourne. Created in 1147, the Foundation has benefited from the Royal patronage of the female monarch for over 850 years, administering religious and charitable services to the poor of East London. This role of the Queen and the social welfare of East London had particular resonance during the Second World War. Founded by Queen Matilda, the wife of King Stephen, the founding Charter described the Foundation as, "My hospital next to the Tower of London", which she placed in the custody of the Priory of the Holy Trinity at Aldgate. Queen Eleanor granted a new Charter in 1273 stipulating that the Foundation was to be in the patronage of the Queens of England. The duties of the Foundation lay in celebrating Mass and in serving the poor infirm in the Hospital. At the beginning of the 18th century the Foundation also provided charity schools for both boys and girls. Having survived both the 16th Reformation and the 17th puritan Protectorate, the Church and Hospital was demolished in 1825 to make way for an extension to St Katharine Docks, which was opened in 1828. George IV's estranged wife, Queen Caroline, had died in 1821 and the Foundation was without a Queen Patron at this crucial time. It was the King who agreed to the destruction. Consequently, the Foundation was removed to a new site in Regents Park at the time when it was needed most in East London. The nineteenth century saw a rapid deterioration in the district. The squalid conditions led to frequent outbreaks of disease and in 1866 there was a cholera epidemic. Father Lowder, working among the poor in the new church of St Peter's, London Docks, in Wapping, struggling to raise money for food and medical supplies as the people of its old area were dying of starvation or lack of medicines, looked bitterly at St. Katharine's with its large endowments. Whilst several attempts were made by the clergy of Stepney to obtain the benefit of St. Katharine's endowments, the Foundation in Regents Park remained "a kind of aristocratic Almshouse". It was not until 1914 that St Katharine's funds were put to more appropriate use. The Foundation's two functions, of worship and charitable works, were separated and funds transferred to the Royal College of St. Katharine, which was set up by Queen Alexandra, the widow of Edward VII, to undertake welfare work in Poplar. After the Second World War the future of the Foundation was once more reconsidered, and under the patronage of Queen Mary, the widow of George V, it was reconstituted in 1948 as the Royal Foundation of St Katharine and returned to its home area, its two functions of worship and service to the community once more united. The Foundation moved to the blitzed site of St James Ratcliffe. The surviving Georgian manor-house Vicarage became the Master's House. In 1952 a new Royal Chapel was built in a plain modern style, incorporating carved wooden stalls and Jacobean pulpit from the previous Foundation church. New accommodation was also built for conferences and retreats, forming a villa shaped complex with the Chapel and Old Vicarage. In 2002 renovation and extension of the retreat and conference facilities was undertaken and the Chapel re-ordered in memory of Queen Elizabeth the Queen Mother, for 49 years Patron and friend of the Foundation. The Chapel of 1951, a simple brick-faced portal frame monument to post-war austerity is important in the history of English architecture, housing, as it did, exceptional fittings preserved from earlier sites, alongside more radical furnishings of its time. Fine medieval and modern wood carving is juxtaposed to the great slate altar of 1951; the modern glass rose windows by Alan Younger FMGP cast light onto finely preserved carvings of the 14th century; a modern Christus looks down on Sir Julius Caesar's pulpit and a chamber organ dating from the 18th century. The Foundation now provides conference and accommodation facilities more suited to contemporary ecclesiastical needs and ministers to the changing facets of East London life and beyond.

Site	Heritage Character		
	River	Cultural Meanders	Site Narrative
ABMPS	trajectory, being diminished in importance as industrialisation of the Thames intensified. Foreshore remains of Roman and Saxon fish traps are evidence for precursors to the medieval fisheries based on Thames populations of smelt, salmon and eel. These fisheries operated on an increasingly commercial scale until the late 18th century and included the export of eels to the Dutch. In addition North Sea fishing fleets supplying the city operated from Thames ports such as Barking between the 15th and 19th centuries. Improvements in transportation and communication, as well as economic and technological advances, have reduced the commercial viability of the Thames shipbuilding and fishing traditions and even the 19th and 20th century manufacturing industries are greatly diminished. In contrast the need to continue to protect property within the evolving and expanding World City means that river management remains a prime consideration, as illustrated by the construction of the Thames Barrier, which has operated since 1982. The Tideway Tunnel is a 21st century solution that sustains the viability of the Victorian main drainage system, which itself applied principles of land improvement that medieval riparian landowners employed in commercial enterprises that contributed to the growth of urban London, through the provision of commodities, the generation of capital and by providing land resources that gave scope for later urban expansion. The demise of historic prohibitive or commercial riparian activities, Tideway's improvements to water quality, alongside with transformative programmes of post-industrial regeneration of the riverside, present a historic opportunity for expanding access to river resources.		The site is located between the Channelsea River and the Three Mills Walls River, both elements of the multi-channelled tidal Stratford Back rivers, fed by the River Lee. Elongated 'islands' separating the river channels are a characteristic feature. This natural tidal drainage system was easily adapted to power early watermills, with five recorded in the Lower Lee in the 11th century Domesday Book. The Lower Lee was formerly part of the estates held by the Abbey of Stratford Langthorne, founded in 1135. Prone to flooding, the estate was reclaimed to create economically productive medieval grazing marsh that the Abbey drained and protected in tandem with operating tidal mills at Three Mills. The medieval Abbey Mill was separately owned by Barking Abbey, as an endowment to support the maintenance of the Bow and Channelsea bridges. Further expansion of the medieval mills followed the dissolution of the monasteries in 1538/39, with products including gunpowder and grain for gin distilleries. The Abbey Mills pumping station complex, comprising buildings A, B, C, D, E, F, was designed to raise sewage to the level of the elevated Northern Outfall Sewer as part of Bazalgette's drainage system. Building A, known as the 'cathedral of sewage', was constructed from 1865-8, initially by the engineer Sir Joseph Bazalgette to the designs of the architect Charles Driver, for the Metropolitan Board of Works' Main Drainage Project. It is an exotic hybrid of architectural styles with elements drawn from the Byzantine, Italian Gothic and Russian Orthodox schools. It was originally set within formally landscaped gardens and a series of semi-detached workers' cottages on Abbey Road are contemporary with the main pumping station (1865) and designed in a similar Gothic derived style. Building B was originally built in 1891-6 to deal with flows from the Isle of Dogs branch sewer and diverted flows from the West Ham pumping station. Building C was originally a gas engine house built during 1910-14. Building D was built in 1970-1 to divert flows from West Ham to Abbey Mills and to pump storm water to Abbey Creek. Building F, a replacement principal pumping station, was constructed during the 1990s on the north bank of the Channelsea River. The contemporary design is in stark contrast to the highly ornamented appearance of the 19th century complex.
BESTW			Located to the east of Barking Creek, the tidal inlet formed by the mouth of the River Roding the site is more typical of the lower reaches of the Thames beyond the immediate influence of urban London. Up to 10m of Holocene deposits seal a basal floodplain complex of undulating gravel surfaces and infilled channels. These deposits provide a high resolution record of local environmental change linked to sea level change and cultural activity for a period of c.12k years, i.e. the Mesolithic through to the medieval period. By the late middle ages the site formed part of the extensive marshland holdings of the nearby Stratford Langthorne and Barking Abbeys. The historic grazing marshes in the lower reaches of the Thames were especially prone to inundation, despite the extensive infrastructure of earthen flood embankments and drainage systems. Piecemeal recovery was still continuing in the early 16th century following two or more powerful storm surges in the 1370s. A pragmatic adaptation to the changing environment is evident, as the Abbey's economic interests shifting from farming to the licensing of fishing weirs or kiddles placed in the flooded marshes. Permanent reclamation occurred as a consequence of London's increasing demand for cheap land suitable for large scale industries and its need to provide waste management infrastructure during its rapid expansion in the mid-19th century. Up to 5m of made ground deposits raised the land above the level of the vulnerable historic grazing marsh on which gas works, etc. were constructed, completely transforming the character of the riverside.

APPENDIX F – OPPORTUNITIES AND CONSTRAINTS

F.1 Site Specific Heritage Asset Associations

Site specific heritage asset associations (refer to relevant Tideway ES volume for additional asset descriptions)

Site	Designated Heritage Assets	Non-designated Heritage Assets	Archaeology
WEST			
HAMPS	Fulham Reach CA Caselnau CA Hammersmith Bridge Grade II* listed building Locally listed buildings: Former Hammersmith Pumping Station; 48 to 64 Chancellor's Road; and St Mark's Church		Winslow Road APA Saxon settlement 17th century brick and glass making industries associated with Brandenburg House Parr Ditch
BAREL	Fulham Reach CA Bishops Park CA	Barn Elms Park Barn Elms School Sports Centre Grounds Barn Elm Plane Tree, London's oldest and largest plane tree	Barnes Common APA Palaeo-environmental remains Eyot between the Thames and Beverly Brook Iron Age settlement
PUTEF	Putney Embankment CA Putney Bridge Grade II listed building Group of 5 Grade II listed bollards on Putney Embankment St Mary's Church Grade II* listed building Locally listed buildings: Star and Garter Hotel; Star and Garter Mansions; and Richmond Mansions	Putney Embankment	Neolithic to Roman settlement remains Likely Saxon settlement Medieval crossing point Brick vaults associated with Putney Bridge
DRMST	Wandsworth Town CA Wentworth House Grade II listed building	19th century river wall 19th century causeway wall 19th century cobbled granite setts The Armoury public house	19th/20th century barge bed
CARRR	Sands End CA Wandsworth Park Grade II registered park and garden	Wandsworth Bridge	Prehistoric activity 19th century West Wharf ambulance centre of the Metropolitan Asylums Board
KNGGP	Down Lodge Grade II listed building	King George Park	Palaeo-environmental evidence River Wandle APA
FALPS		100-112 York Road formerly part of Price's Candle Factory	Falcon Brook palaeo-environmental evidence APA defining the potential of the prehistoric and historic floodplain of the Thames along the Wandsworth riverside Post-medieval remains of the early 20th century Falconbrook pumping station and cellars of mid-19th century terraced housing
CREWD	Thames CA Lots Road Pumping Station Grade II listed building	Lots Road Power Station Chelsea Wharf 19th century Cremorne Pier 19th century river wall Counter's Creek 19th century sewer	Palaeo-environmental evidence Prehistoric evidence – higher dry ground and wetland/floodplain fringes
CHEEF	Royal Hospital CA Thames CA Royal Hospital of Chelsea Grade I listed building Ranelagh Gardens Grade II registered park and garden Battersea Park Grade II* registered park and garden and CA Chelsea Embankment river wall Grade II listed building Chelsea Bridge Grade II listed building Bull Ring Gate Grade II listed building MBW sewer ventilation column Grade II listed		River Westbourne Neolithic silty peat deposits 19th century CSO outfall apron of the Ranelagh Sewer

Site	Designated Heritage Assets	Non-designated Heritage Assets	Archaeology
CENTRAL			
HEAPS	Dolphin Square CA Pimlico CA Churchill Gardens CA Battersea Power Station Grade II* listed building	Views of Heritage Value as set out in the ES Tide Mill Dock South Western Storm Relief Sewer Post-medieval wall possibly surviving boundary wall of industrial buildings	Thames floodplain APA Palaeo-environmental or Archaeological deposits within alluvium associated with the Battersea Channel and the River Effra Saxon activity on the foreshore including fishtraps and land reclamation Middle Dock Wharf Industrial buildings from the 18th century onwards Piled jetties
ALBEF	Palace of Westminster WHS Albert Embankment CA Millbank CA Lambeth Palace CA Pimlico CA Smith Square CA Vauxhall Bridge Grade II* listed building Albert Embankment river wall, lamp standards and benches, all Grade II listed structures	Unlisted section of river wall Timber dolphins Lack's Dock	Mesolithic Roundwood structure and peat deposit Prehistoric occupation Potential early medieval ferry crossing
VCTEF	Palace of Westminster WHS Whitehall CA Savoy CA South Bank CA Bazalgette's Grade II listed Victoria Embankment river wall Sir Joseph Bazalgette memorial Grade II listed structure Catenary lamp standards Grade II listed structures Grade II listed benches with sphinx and camel design Victoria Embankment Gardens Grade II* registered park and gardens Ministry of Defence Grade I listed building	London plane trees Tattershall Castle Registered Historic Ship	Saxon Ludenwic and Thorney Island ASAP River Tyburn
BLABF	Whitefriars CA Temples CA South Bank CA Old Barge House CA Unilever House Grade II* listed building Sion College Grade II* listed building City of London School Grade II* listed building Hamilton House Grade II* listed building Victoria Embankment Grade II listed building Benches with sphinx and camel design Grade II listed structures River wall and sturgeon lamps Grade II listed structures Blackfriars Bridge Grade II listed building	The President Registered Historic Ship Bazalgette's No. 1 lower level sewer Former London Fire Brigade Pump House	River Fleet Roman, medieval and post-medieval shipwrecks
SHTPS	Tower Bridge CA St Saviour's Dock CA Wheat Wharf Grade II listed building Anise Warehouse Grade II listed building	Shad Thames Pumping Station and Superintendents House	Borough, Bermondsey and river Archaeological Priority Zone Neckinger 17th to 19th century riverside warehouses

Site	Designated Heritage Assets	Non-designated Heritage Assets	Archaeology
EAST			
EARPS		Shad Pumping Station	Borough, Bermondsey and river Archaeological Priority Zone Bermondsey Lake Palaeo-environmental remains Prehistoric activity in wetland environment Earl sluice
DEPCS	St Paul's CA Deptford High Street CA St Paul's Church Grade I St Paul's Churchyard walls Grade II Railway viaduct Grade II listed building	19th/20th century brick wall possibly a boundary wall that separated the former housing on Deptford Church Street from industrial premises 19th century cobbled surface St Joseph's Roman Catholic Primary School	Foundations of the former Rectory of St Paul's Church 18th century and later housing
GREPS	Maritime Greenwich World Heritage Site Creekside CA Ashburnham Triangle CA Greenwich Pumping Station, two Beam Houses and linking Boiler House Grade II listed buildings Two Coal Houses Grade II listed buildings Network Rail viaduct Grade II listed building Protected London Panorama from Blackheath to St Paul's Cathedral	London and Greenwich Railway and lifting bridge London Electric Supply Corporation Substation Bazalgette sewage infrastructure Brick chimney	Area of Archaeological Potential (AAP) covering Greenwich Park, Greenwich town centre historic settlement and Thames foreshore Deptford Creek Palaeo-environmental remains Former industrial buildings
KEMPF	Wapping Wall CA Rotherhithe Tunnel airshaft Grade II listed building St Paul's Church Grade II* listed building St Paul's Terrace Grade II listed building	King Edward Memorial Park Sir Hugh Willoughby, Stephen Borough, William Borough, Sir Martin Frobisher Memorial	APA defining an area of potential for palaeo-environmental remains preserved in the deep alluvial deposits associated with the River Thames and for remains associated with historical riverfront activity Evidence of post-medieval riverside structures and industries
BEKES	Royal Foundation of St Katharine's Grade II* listed building 1-15 Barnes Street Grade II listed buildings 2-10 Barnes Street Grade II listed buildings Railway bridge, Commercial Road Grade II listed structure Archway to Rotherhithe Tunnel approach Grade II listed structure Railway viaduct to north of Regent Canal Dock Grade II structure	Former St James Church burial ground public park (Metropolitan Public Gardens Association 1891)	Former St James Church burial ground Former Rose Lane Chapel burial ground Former sugar refinery 18th century Limehouse porcelain factory
ABMPS	Three Mills CA Abbey Mills Pumping Station buildings Grade II* listed buildings Bromley-by-Bow Gasholders Grade II listed building Channelsea River Bridge (carries the Northern Outfall Sewer) Grade II listed building West Ham Pumping Station Grade II listed building	Northern Outfall Sewer (embankment and 'Greenway')	River Lee, Prescott Channel, Channelsea River and Abbey Creek Palaeo-environmental remains Prehistoric occupation
BESTW	Sewage treatment works chimney Grade II listed building		Thames floodplain APA

Operational site/no public realm capacity

Third Party public realm restrictions

Available public realm

F.2 Public realm and interpretation opportunities

Site	Description of proposals for permissive public realm sites	Long-term ownership
WEST		
ACTST	No permissive public realm	Operational Thames Water Site no public access
HAMPS	No permissive public realm	Operational Thames Water Site no public access
BAREL	Landscape features	Thames Water to own assets only and maintenance rights
PUTEF	New permanent platform that could become permissive public open space	Foreshore area under TWUL ownership
DRMST	No permissive public realm	Private
CARRR	New riverside walkway New permissive public realm	Under Thames Water ownership (long lease)
KNGGP	New hard-standing area with ventilation column Re-modelling of soft landscaping and paths New depression (700mm deep) for flood mitigation Brown roof on kiosk	Hard-standing and kiosk area under Thames Water ownership (150 year long lease)
CENTRAL		
FALPS	Above-ground project works mostly within pumping station compound New landscaping	Thames Water will retain ownership of pumping station area and retain access to it
CREWD	Half permissive public realm, half TWUL operational site	Private
CHEEF	New foreshore including planting, seating, ventilation columns and electrical and control kiosks Intertidal terrace Landscaped area to Bull Ring	The ‘Bull Ring’ is owned by the local highway authority Foreshore area under TWUL ownership
KRTST	Landscaping within the highway Improve the public realm of the Thames Path	Private
HEAPS	Mixture of existing and new foreshore Part of the overall site is a Thames Water operational site, but just Middle Wharf is in Thames Water ownership The new foreshore is mostly a concrete structure with LED light strips	Thames Water under a 150 year lease Foreshore area under TWUL ownership
ALBEF	2 new foreshore structures: extension of existing and alterations to existing walkway Lockable gates to circular foreshore structure to prevent public access/use, for security reasons New shaft structure including Thames Path, planting, seating, ventilation columns and electrical and control kiosks Intertidal terraces	New foreshore areas under Thames Water ownership
VCTEF	New foreshore development Granite finishes Ventilation column in public walk/highway	Foreshore area under TWUL ownership Vent Column owned by Thames Water Replaced trees, owned by TfL
BLABF	Lift and stairs on the eastern side of Blackfriars Bridge New foreshore structure including Thames Path, planting, seating, ventilation columns, kiosks, lighting and water feature New access to relocated Blackfriars Millennium Pier Reinstatement of coach parking New mooring to President vessel Street trees	Foreshore area under TWUL ownership New river wall, handrail and balustrades under Thames Water ownership Existing river wall is under ownership of either TfL or CoL (tbc), they wish for Thames Water to purchase it due to the tie-ins to the wall, though Thames Water does not agree. Discussions are on-going If Thames Water does not need access to the commercial space and kiosk they may be, subject to planning permission
SHTPS*	No permissive public realm	Thames Water
EAST		
CHAWF	No permissive public realm Existing public right of way along outside the perimeter of the site along Loftie Street, Chambers Street and East Lane	Private Thames Water will retain ownership of a small area next to river wall to accommodate kiosk and ventilation columns
EARPS*	Works sit at the back of pavement on Croft Street. Replacement street trees within Croft Street may be required	Thames Water
DEPCS	Re-landscaped public open space incorporating possible new children’s play area Kiosk Possible ‘green wall/trellis type screen along Deptford Church Street frontage illustrated on submitted drawings New ventilation columns Streetscape enhancements outside of open space	Shaft and areas around associated structures likely to be under Thames Water ownership with surface being long lease to LB Lewisham Enhancement works to Coffey and Crossfield Streets to be maintained by Lewisham as highway land
GREPS	No permissive public realm	Thames Water
KEMPF	New foreshore structure with surface to be incorporated as extension too existing park Area adjacent to foreshore structure and access route to site through park from Glamis Road to be public realm within existing park Potential areas outside of limits of land to be acquired or used (LLAU) and within the park for improvements through Section 106 agreement Potential area around Shadwell Basin for improvements through Section 106 agreement	The objective is that everything in the existing park will go back to the local authority, with rights of access over it to Thames Water/ Infrastructure Provider Foreshore structure under TWUL ownership
BEKES	No permissive public realm	Thames Water
ABMPS	No permissive public realm	Thames Water
BESTW	No permissive public realm	Thames Water

APPENDIX G – GENERIC AND SITE SPECIFIC DESIGN PRINCIPLES

G.1 Summary of design principles

Summary of design principles

Site	Generic design principles								Specific design principles	Comment
	HRTG.01	HRTG.02	HRTG.03	HRTG.04	HRTG.05	HRTG.06	HRTG.07	HRTG.08		
ACTST										Construction within operational site. No public realm.
HAMPS										Public realm outside operational site compound is responsibility of residential developers.
BAREL										
PUTEF									PUTEF.01; PUTEF.02; PUTEF.03; PUTEF.07; PUTEF.12; PUTEF.13; PUTEF.17 & PUTEF.20	Requires design treatment of vent column, interception chamber and kiosk to minimise effects of designated bridge. Requires retention/reinstatement of heritage street furniture (bollards) and University Boat Race stone. Heritage Interpretation to inform design of foreshore structures and public art.
DRMST										
KNGGP										
CARRR									CARRR.16 & CARRR.17	Requires appropriate replacement of trees.
FALPS										
CREWD									CREWD.02	Depot facilities to be reinstated following construction. Scale and design of depot to respect setting of historic pumping station.
CHEEF									CHEEF.01; CHEEF.04; CHEEF.06; CHEEF.11; CHEEF.12 & CHEEF.13	Requires design treatment of foreshore structure to respect existing river wall and views of Monument Walk and Royal Hospital Chelsea. Parish boundary stone to be retained and heritage interpretation to reference lost River Westbourne.
KRTST										Site to return to operational wharf. Public realm outside operational site to conform to existing Strategy for adjacent development.
HEAPS										
ALBEF									ALBEF.02; ALBEF.03; ALBEF.10; ALBEF.13; ALBEF.14; ALBEF.16 & ALBEF.20	Requires design treatment of permanent works to respect designated Vauxhall Bridge and landscaping to include suitable planting, interpretation referencing lost River Effra and creation of viewing points to Westminster WHS.
VCTEF									VCTEF.01; VCTEF.03; VCTEF.04; VCTEF.05; VCTEF.07; VCTEF.11; VCTEF.12; VCTEF.14 & VCTEF.17	Sturgeon lamps stand and sphinx benches to be removed and retained for later reinstatement at or close to original position. All new materials and street furniture to be appropriate to historic setting within Bazalgette's embankment and river wall. Design of viewing platforms on the new foreshore structure and position of reinstated listed benches to maximise views of the Palace of Westminster WHS. Pergola structure and railings to frame, but not obstruct, views of the river from Whitehall and Victoria Embankment Gardens.
BLABF									BLABF.01; BLABF.03; BLABF.08; BLABF.11; BLABF.12; BLABF.14; BLABF.15; BLABF.17; BLABF.18; BLABF.19; BLABF.22; BLABF.23; BLABF.24; BLABF.26; BLABF.29 & BLABF.30	Design of new public realm and replacement Millennium Pier to recognise the historic context of the area and setting of listed bridge. Provision of new stair/lift access between Blackfriars Station and Millennium Pier, access to President Moorings and screening to voids below Blackfriars Bridge to limit visual impact and changes to fabric of heritage assets. All new materials, including the use of natural stone, and street furniture to be appropriate to historic context. Sturgeon lamps stands to be removed and retained for later reinstatement at or close to original position following completion of foreshore structure. Trees on Victoria Embankment to be semi-mature Plane. Lion's Head along river wall to be incorporated into design. Design to respect views from the river to listed building along Victoria Embankment and St Paul's. West end of foreshore structure to form a raised viewing platform, with railings that minimise obstruction of views.
CHAWF										Site is approved as mixed-use redevelopment and landscaping of the Chambers Wharf site, to be carried out by others, shall commence after the completion of the project works on the site.
KEMPF									KEMPF.01; KEMPF.03; KEMPF.06 & KEMPF.11	Foreshore structure and landscape design to reinforce character of the public park, with appropriate riverside trees. Memorial benches and bandstand shall be reinstated and landscape treatment to include views of the river from the park. Permanent access route shall be designed to improve views of the Rotherhithe Tunnel air shaft from the Thames Path.
EARPS										
DEPCS									DEPCS.06	The design shall create an integrated and accessible public space to enhance the setting of the listed St Paul's church.
GREPS									GREPS.02; GREPS.03; GREPS.04; GREPS.09 & GREPS.12	Condition of land between DLR and Network Rail listed viaduct to be suitable for future public realm improvements. Raised level shaft structure to be included in architectural and landscape design. York Stone slabs to be reused for interruption chamber roof. Fenestration to East Beam Engine House to be renovated/replaced and lantern to be refurbished (or replaced with a replica) as part of ventilation system.
ABMPS									ABMPS.02	Located within operational TWUL site. Design of the ventilation outlets shall be in keeping with the context. The signature design ventilation column shall not be used.
BESTW	Covered by Lee Tunnel									
SHTPS									SHTPS.02	The materials for the new annex building shall be low-maintenance and durable. They shall preserve or enhance the character of the conservation area and the setting of the listed Wheat Wharf.
BEKST										

G.2 DCO design designations

DCO design

Worksite Name	Design Status for Worksite/Element of worksite based		
	Illustrative	Indicative	For approval
Acton Storm Tanks	Appearance of the Ventilation Column	Worksite (save for illustrative elements)	N/A
Hammersmith Pumping Station	Worksite	N/A	N/A
Barn Elms	Temporary and permanent replacement changing facilities	Worksite (save for illustrative elements)	N/A
Putney Embankment Foreshore	Location of reinstated listed bollards	Worksite (save for “for approval” and illustrative elements)	Maximum extent of loss to listed structures
Carnwath Road Riverside	N/A	Worksite	N/A
Dormay Street	N/A	Worksite	N/A
King Georges Park	N/A	Worksite	N/A
Falconbrook Pumping Station	N/A	Worksite	N/A
Cremorne Wharf Depot	Works outside the Listed Building	N/A	Works to the Listed Building
Chelsea Embankment Foreshore	Worksite	N/A	N/A
Kirtling Street	Appearance of the combined kiosk and ventilation structure	Worksite (save for illustrative elements)	N/A
Heathwall	N/A	Worksite	N/A
Albert Embankment Foreshore	N/A	Worksite	N/A
Victoria Embankment Foreshore	N/A	Worksite (save for “for approval” elements)	Permanent moorings and Maximum extent of loss to listed structures
Blackfriars Bridge Foreshore	Permanent Mooring for “President”	Worksite (save for “for approval” elements)	Maximum extent of loss to listed structures
Chambers Wharf	Worksite (save for “for approval” elements)	N/A	Finished site levels
Earl Pumping Station	Worksite	N/A	N/A
Deptford Church Street	Worksite	N/A	N/A
Greenwich Pumping Station	Works outside the Listed Buildings	Proposed works to the Listed Buildings	Maximum extent of loss to Listed Buildings
King Edward Memorial Park Foreshore	Worksite	N/A	N/A
Abbey Mills Pumping Station	Worksite	N/A	N/A

APPENDIX H – PROCESS FOR THE DEVELOPMENT OF HERITAGE INTERPRETATION AND LANDSCAPE PROPOSALS

Process for the development of Heritage Interpretation & Landscape Proposals

Architecture & Landscape

	PREPARATION	GATE1	CONCEPT DESIGN	GATE2	DEVELOPED DESIGN	GATE3	DETAILED DESIGN	GATE4	FOR CONSTRUCTION AND MANUFACTURE	GATE5	TESTING, COMMISSIONING, OPERATION AND MAINTENANCE	GATE6
WI (HIGH LEVEL) REQS	Describe how designs will be undertaken prior to commencing the design, including objectives and planned deliverables; review of information, criteria, other inputs to the design and constraints.These include the following as regards Heritage Interpretation - DCO Requirement PW11 - The Design Principles - Parameter Plans - OAWSI		Develop feasibility, preliminary, outline and conceptual designs		Develop the accepted concept design to show spatial arrangements, type of construction, materials and appearance which are co-ordinated with detailed proposals for civil, structural and MEICA design		Develop the accepted concept design to show spatial arrangements, type of construction, materials and appearance which are fully co-ordinated with detailed proposals for civil, structural and MEICA design.		Submit designs prior to manufacture and construction. Before 'Gate 5', the Contractor shall have obtained from the relevant Consent granting bodies all Consents applicable to that submission, unless otherwise agreed by the Project Manager		The Contractor shall provide operation and maintenance documents, as constructed records, manuals and other information for the purposes of testing, commissioning, operation, maintenance and takeover of the works	
WHO ACCEPTS PROPOSALS?	Tideway		Tideway		Tideway		Tideway		Tideway		Tideway	
WHEN IS THAMES WATER (TWUL) CONSULTED?					Thames Water		Thames Water		Thames Water		Thames Water	
GENERAL REQS	Development of a design management plan to include strategies for stakeholder engagement and the Contractor's programme for further gate submissions.		Verify Indicative Design: Prepare sufficient information to agree a single concept design including relevant outline strategies (for example for structural design) and outline material specifications for principal components and finishes. Progressive Design Review with Tideway and TWUL teams including reviews against criteria of the HIS		Develop the accepted concept design to show spatial arrangements, type of construction, materials and appearance which are co-ordinated with detailed proposals for civil, structural and MEICA design. CABE REVIEW (SELECTED PUBLIC REALM AND SITES) & INTERDISCIPLINARY DESIGN REVIEW		Prepare technical designs, calculations and specification sufficient to coordinate components and elements of the proposals including information on statutory standards, maintenance and construction and operational safety. Details of interpretive artwork to be incorporated with Architecture and landscape proposals. Progressive Design Review of co-ordinated Architecture, Landscape and Interpretive material proposals with Tideway and TWUL teams - to include review against the requirements of the HIS.		Provide further technical information to demonstrate how the design intent, objectives and requirements for the site have been realised in the detailed design.		Full details of management and maintenance processes. Contractor to maintain landscape (including artworks) throughout the 'defects and system commissioning period'. Maintenance requirements may be refined in this period. All above ground Works to be handed over to TWUL upon "Completion of the Whole of the Works" unless agreed otherwise.	
ADDITIONAL REQS FOR ILLUSTRATIVE ELEMENTS	Submit an initial site appraisal report and initial project brief.		Conduct feasibility and options studies. Engage with relevant stakeholders. Submit a design report that conveys the site analysis and design intentions, including aims, constraints and concept proposals.	CABE REVIEW								
ARTIST SELECTION AND INPUT	**Brief Development for each site:** -Public Arts Consultants (PAC's) collate Site information and HIS narratives -Thames Tideway Tunnel Project teams meet to agree the possible scale, nature (eg. colour, lighting, sculpture) -PAC's produce a draft brief. Includes budget and criteria for artist selection -The draft brief is circulated both internally and externally for comment Brief signed off by Tideway Management Team		**Artist Selection** PAC's collate long list of artists appropriate to the requirements of the brief. The long listed artists are scored and ranked according to the criteria of the brief to establish shortlist of 3. The shortlisted artists are asked to develop an initial proposal. The artist's initial proposals are by Artist Selection Panel. The highest scoring artist is appointed.		**Design Development:** Artist Feeds into the design development process. The timing and scope will vary according to the type of commission and its level of integration with the overall landscape and architecture scheme. The artists will attend Independent Design Review by Design Council CABE where applicable. The MWC design teams will lead this process but the artist shall produce/collaborate in the development of presentation material for the review.		Artist to review Contractors coordinated drawings, work with their preferred fabricator(s), or submit details of their own production processes, as relevant to their commission in the production of the MWC's Gate 5 commission. Further details and samples to be submitted for external approval as necessary.		Artwork to be fabricated and installed in accordance with the approved/accepted details. Artist to produce a maintenance plan. Artist to be available to inspect works on site and offer support.	
ENGAGEMENT WITH OTHERS & CONSENTS	Local Authorities and Other relevant stakeholders invited to review brief.		Stakeholders invited to submit names to long list and (where appropriate and available) participate in shortlisting process -Local Authority Representative (Typically Arts officer) -Community and/or Arts organisation representative as appropriate		The MWCs will present arts proposals to external bodies as part of their ongoing stakeholder engagement process for architecture and landscape throughout Gates 2, 3 and 4. The artist will attend stakeholder meetings as necessary. This may include presentations to Local Authority arts/culture panels.		<<<Discharge all Consents (Gate 5 cannot be awarded without this)>>> MWC's Applications (both Draft and Final) to Discharge DCO Requirements and to include a statement of how proposals respond to PW11 and HRTG.07 (see evaluation criteria) including full details of interpretive artwork for the site. The Artist and MWCs will present proposals to Local Authority arts and heritage panels as required.			

GENERAL ARRAANGEMENT FIXED

DETAILS OF INTERPRETIVE ARTWORK TO BE INCLUDED IN SUBMISSION

ALL CONSENTS DISCHARGED

APPENDIX I – HERITAGE INTERPRETATION – DESIGN STATEMENT

I.1 Applications to Discharge DCO Requirements are to include a statement of how the proposals respond to PW11 and HRGT.07, i.e. the Heritage Interpretation Strategy

Heritage Interpretation – Design Statement

Heritage interpretation – design statement	
Site	
HIS aim	To challenge perceptions and perspectives so that people have new opportunities to encounter the Thames and experience its history and influence on London's contemporary culture and ways of living.
HIS theme	River of Liberty.
Design statement	Description of how the design meets the HIS aim, objectives and theme and references the cultural meander and liberty site narratives. Include evidence of how the design responds to the HIS Cultural Manifesto (summarised below).

Manifesto Evaluation Criteria
The approach to delivery will explore cultural attributes that provide a platform on which to build and embed Interpretations that are integrated and relevant to the river setting, are meaningful to Londoners and re-connects people with the river.
The approach to delivery is to be grounded in the popular cultural dimension of the lived experiences of former communities, to be made available to contemporary and future Londoners through heritage interpretation.
The approach to delivery will consider meanings and values represented by the river's heritage that are open in nature and leave scope for responses particular to personal stories, whatever their specific nature.
The approach to delivery will explore the inherent richness and complexity of the river heritage, and its capacity for multiple readings and plurality of meanings.
The approach to delivery will presents heritage interpretations in a contemporary setting with an awareness of emerging economic, social, political and environmental shifts that have a global dimension and are relevant to London's evolving World City status.
The approach to delivery will articulate the under-represented cultural role of the river, exploring its potential as a physical, psychological and allegorical cultural entity.
Tideway will emulate Bazalgette's achievements, through new representations at locations along the Embankments, but also more widely along the river, which reflect different values and will re-contextualize the mid-19th century architectural statement and its inherent cultural symbolism, whilst still recognising the design benchmarks set by local heritage character.

For more information about Tideway

08000 30 80 80 | **www.tideway.london** | **helpdesk@tideway.london**

For our language interpretation service call: **08000 30 80 80**

For information in Braille or large print call: **08000 30 80 80**