

# THE MERSEY GATEWAY PROJECT

## DELIVERY PHASE

### LANDSCAPE AND VISUAL AMENITY

#### CHAPTER 12.0

## LANDSCAPE AND VISUAL AMENITY

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## 12. LANDSCAPE AND VISUAL ASSESSMENT

### 12.1 Introduction

- 12.1.1 This Chapter of the Further Applications Environmental Statement ('Further Applications ES') reviews the landscape and visual amenity in the vicinity of the Mersey Gateway Project (the Project) and assesses the potential effect of the Project upon those topics.
- 12.1.2 The Project primarily involves the construction and operation of a new road crossing of the River Mersey (the 'New Bridge'). In addition to the New Bridge the Project involves enhancements to the existing highway network: de-linking works associated with the existing Silver Jubilee Bridge (SJB) and other new or amended infrastructure.
- 12.1.3 The Proposals comprised in the Further Applications affect the Project specifically as follows:
- a. Adoption of Open Road Tolling Technology from opening, as opposed to the barrier tolling authorised by the Permissions and Orders:
  - b. Redesign of the on- and off-slips at the formerly proposed Widnes Loops Junction to remove the loops configuration from the proposals and provide a grade separated roundabout junction:
  - c. Changes to the vertical alignment of the mainline of the Project as a result of other design changes:
  - d. Adjustments to the alignment at Lodge Lane Junction to remove the need to replace the existing busway bridge: and
  - e. Adoption of urban highway standards in some locations where rural standards had been used.
- 12.1.4 The Chapter is a substantial update of the previous Landscape and Visual Amenity Chapter contained in the Orders ES and addresses:
- a. Landscape Institute Guidance Note 1/11 on photography and photomontage in landscape and visual assessment, which was published in March 2011. This document targets advice for Projects that include tall structures such as wind turbines. As such it is relevant to the Mersey Gateway Bridge;
  - b. the developing Project;
  - c. changes in the baseline assessment, including Halton Borough Council's Landscape Character Assessment; and
  - d. assessment and consideration of landscape and visual receptors across the whole study area.

#### ***Route Alignment***

- 12.1.5 The Project, including both the New Bridge and the highway alignment which is the subject of the Landscape and Visual Assessment is shown in Figures 12.14.1 - 13 and it is fully described in Chapter 2. Chapter 2 describes the Proposals in more detail.

- 12.1.6 The route alignment of the Project is assessed in this chapter in terms of: the construction of: (i) new highway between South Widnes and North Runcorn; (ii) modifications to the existing highway network on the SJB and its approaches from South Widnes; and (iii) modifications to the Central Expressway and the Expressway links to Junction 12 of the M56; (iv) the demolition and removal of sections of existing highway as a consequence of the construction of the Project, and is covered by the nine Project Zones outlined in Chapter 2 and further described in the Design and Access Statement (DAS) that accompanies the Further Applications.

## 12.2 Purpose of the Study

- 12.2.1 The purpose of this study is to assess the effects of the construction and operation of the Project on the landscape and visual amenity of the areas affected by the works.
- 12.2.2 The assessment of landscape and visual amenity considers the landscape/townscape in which the Project is to be located, and the predicted effects of the Project upon landscape character, and upon views and visual amenity. Broadly these are categorised as landscape effects and visual impacts.
- a. *Landscape effects* are changes in the fabric, character and quality of the landscape, including changes to the townscape of an area within an urban fabric such as Widnes and Runcorn. This may in turn affect the perceived value ascribed to an area. These can include direct effects upon specific landscape/townscape elements (such as loss of buildings, trees or areas of grass) or effects on landscape/townscape character and designated areas of landscape.
  - b. *Visual impacts* relate to specific changes in the composition of views and the effects of those changes on visual receptors (e.g. residents, business users, users of recreational open space).
- 12.2.3 The identification of potential landscape/townscape and visual effects is an important part of the iterative design process because it can help avoid or minimise potential negative effects of the Project and, where appropriate, can also help in seeking opportunities for the enhancement of the area that can be secured via the Project. Modifications to the Project have been developed in response to the identification of effects.

12.2.4 A description of the Proposals that are to be included in the Project is provided in Chapter 2: those relevant to this Landscape and Visual Chapter are summarised in the following table.

Area	Summary of Proposals
A – Speke Road	<ul style="list-style-type: none"> <li>a. Toll plazas removed;</li> <li>b. Extent of overall works reduced to reflect removal of toll plazas;</li> <li>c. Slip roads and embankments re-designed to reflect removal of toll plaza, low retaining wall added on northern off slip; and</li> <li>d. The reduced extent of the works means there will be no requirement for any works that might affect either Stewards Brook or the Old Lane Subway.</li> </ul>
B - Ditton Junction to Freight Line	<ul style="list-style-type: none"> <li>a. Toll plazas removed;</li> <li>b. Slip roads and embankments re-designed to reflect removal of toll plazas;</li> </ul>
C - Freight Line to St Helens Canal including the Widnes Loops Junction	<ul style="list-style-type: none"> <li>a. Toll plazas removed;</li> <li>b. Junction, slip road and embankments re-designed (as roundabout) to reflect the removal of the toll plazas;</li> <li>c. Alternative construction of embankment / structures at Victoria Road;</li> <li>d. Revisions to the alignment to take account of the changes including a reduction in the vertical alignment and moving of the horizontal alignment to the south;</li> </ul>
D - Mersey Gateway Bridge	<ul style="list-style-type: none"> <li>a. Provision of greater flexibility in design details of the New Bridge covering the deck design and cable arrangements including removal of potential provision for future light rapid transit.</li> <li>b. Revision to the northern abutment and the New Bridge to tie into the lower vertical alignment in Area C. This revision does not affect the navigational clearances and the clearance over St Helens Canal's canal is maintained. ;</li> </ul>
E - Astmoor Viaduct	<ul style="list-style-type: none"> <li>a. Provision of greater flexibility in design details of the New Bridge covering the deck design; and</li> <li>b. Providing flexibility in approach viaduct design.</li> </ul>
F - Bridgewater Junction	<ul style="list-style-type: none"> <li>a. Minor re-alignment of slip roads and associated embankments;</li> <li>b. Extent of slip road works reduced; and</li> </ul>
G - Central Expressway, Lodge Lane and Weston Link Junction	<ul style="list-style-type: none"> <li>a. Re-alignment of Calvers Road omitted;</li> <li>b. Merge / diverge to Halton Lea reinstated;</li> <li>c. Addition of retaining walls and traffic signals at Central Expressway slips to accommodate design developments;</li> <li>d. Existing Busway bridge retained with adjustments in line / level to fit alignment through existing bridge;</li> <li>e. Simplified route for footway/bridleway at Weston Link Junction; and</li> <li>f. Overall extent of slip road works reduced;</li> </ul>
H - M56 Junction 12	<ul style="list-style-type: none"> <li>a. No changes to proposals.</li> </ul>
I - Silver Jubilee Bridge and Widnes De-Linking	<ul style="list-style-type: none"> <li>a. Removal of toll plazas; and</li> <li>b. Queensway reduced to three lanes to accommodate cycle/footway over existing structures</li> </ul>

## 12.3 The Study Area

### *Definition of the Study Area*

- 12.3.1 The Study Area for this assessment is defined by the estimated area within which the Project was potentially visible in order to allow assessment of the likely significant adverse effects of the Project on the landscape and visual resource of the study area.
- 12.3.2 The Project comprises two main built elements:
- a. The New Bridge, which is a tall structure, up to 150m high, and that will be widely visible in the landscape and may have significant impacts on an extensive study area; and
  - b. the highway on either side of the New Bridge structure, which will have less impact on the wider area, but whose impact on the surrounding communities will need to be assessed. The Landscape and Visual Assessment covers both the above elements. This has been a fundamental requirement in the consideration of the study area.
- 12.3.3 A wider study area of 30km radius from the centre point of the New Bridge was adopted as shown in Figure 12.1; Site Location and Wider/ Intermediate Study Areas. This study area defines the area in which the New Bridge could have a potentially significant landscape and/or visual effect. However, it is not a boundary beyond which the Bridge will no longer be visible. It is generally accepted in landscape and visual assessment methodologies for tall structures (such as wind turbines) that beyond 30km the structure will only be visible as a minor element in very clear conditions. The 30km distance is therefore considered a reasonable cut off point for current assessment purposes.
- 12.3.4 A 'Zone of Theoretical Visibility' (ZTV) was calculated in order to assist with the assessment of the effect on wider views. 23 viewpoints were then selected, agreed in principle with Halton Borough Council, and adjusted following an onsite review. The viewpoints were selected to be representative of different visual receptor groups and distances throughout the study area.
- 12.3.5 The ZTV indicates that impacts on the landscape and visual receptors are likely to be limited in the more distant reaches of the wider study area. Therefore, an intermediate study area with a 10km radius from the centre point of the New Bridge has been introduced. This is illustrated in Figure 12.1. Within the intermediate study area a fuller assessment of the Project will be carried out.
- 12.3.6 A Local study area comprising a 500m corridor to either side of the road was adopted as shown in Figure 12.2; Local Study Area considering the potential visual impacts of the highway elements of the Project. This area was assessed through field survey and adjusted as necessary. Viewpoints were selected within this local study area to be representative of the various receptor groups identified and cover the nine Project Areas listed in Chapter 2.

## 12.4 Relevant Legislation and Planning Policy

### ***Landscape / Townscape Policy Context***

- 12.4.1 Various statutes and policy documents provide the policy framework for the direct and indirect protection, conservation and enhancement of important landscapes, areas of visual quality, and individual components of the landscape such as hedgerows and trees. The Government's objectives for national land use planning policy are outlined in national planning guidance which is reflected in regional and local planning policy. The following paragraphs outline this framework at a national, regional and local level. It relates the guidance to features of significance in the Study Area and the Project. Figure 12.3: Intermediate Study Area: Planning and Designations illustrates areas covered by the planning guidance.

### ***European Landscape Convention, Council of Europe, 2000***

- 12.4.2 The context of landscape policy in the UK can be placed within the broad framework provided by the European Landscape Convention (ELC). The ELC was signed by the Government in February 2006 and signals a commitment to support the aims of the Convention, which include promoting landscape protection, management and planning. It covers both rural and urban situations, and suggests that: "*Landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors*".

### ***National Policy Framework***

- 12.4.3 The Government's objectives for national land use planning policy are outlined in Planning Policy Guidance Notes (PPG) and Planning Policy Statements (PPS). Other guidance of relevance is provided in Government Circulars and legislation and guidance published by the Government's statutory environmental bodies.

### ***Planning Policy Statements (PPS)***

- 12.4.4 *PPS 1 : Delivering Sustainable Development (2005);*  
PPS1 states that "sustainable development is the core principle underpinning planning" (paragraph 3) and suggests that it can be delivered through the protection and enhancement of "the quality, character and amenity value of the countryside and urban areas as a whole" (paragraph 17). Paragraph 35 states that "High quality and inclusive design should be the aim of all those involved in the development process. It means ensuring a place will function well and add to the overall character and quality of the area, not just for the short term but over the lifetime of the development".

### ***Planning Policy Guidance Notes (PPG)***

- 12.4.5 *PPG 2 : Green Belt*  
Green belt Policy in PPG2 states (on visual): - "*Green belt should not be injured by proposals for development within or conspicuous from the Green belt which, although they would not prejudice purposes of including land in green belt, they might be visually detrimental by reason of their siting, materials or design*".

### **National Planning Policy Framework (NPPF)**

- 12.4.6 In July 2011, The Government issued the draft National Planning Policy Framework. This document is aimed at simplifying the existing national policy documents (Planning Policy Statements (PPS) and Planning Policy Guidance (PPG)) into one document, with the aim of make the planning system accessible for communities and to promote sustainable growth. Advice from the Planning Inspectorate in relation to the NPPF is:

“It is a consultation document and, therefore, subject to potential amendment. It is capable of being a material consideration, although the weight to be given to it will be a matter for the decision maker in each particular case. The current Planning Policy Statements, Guidance notes and Circulars remain in place until cancelled.”

- 12.4.7 The draft NPPF identifies the following relevant sections:

- a. **Delivering Sustainable Development**  
The planning system needs build a strong economy to allow growth and innovation including the provision of infrastructure. It needs to promote communities, creating a built environment, that reflect the community's needs and supports its health and well-being; whilst it also protects and enhances our natural, built and historic environment. These three components should be pursued in an integrated way, looking for solutions which deliver multiple goals.
- b. **Green Belt**  
Belt policy prevents urban sprawl by keeping land permanently open, to prevent neighbouring towns merging, to preserve the character of historic towns, to safeguard the countryside and to encourage the recycling of urban land. Certain forms of development are not inappropriate in Green Belt provided they preserve the openness of the Green Belt and may include local transport infrastructure which can demonstrate a requirement for a Green Belt location.
- c. **Natural Environment**  
The planning system aims to conserve and enhance the natural and local environment by protecting valued landscapes, minimising impacts on biodiversity and preventing development from contributing to unacceptable levels of pollution and development plans should minimise adverse effects on the local and natural environment.
- d. **Design**  
The design of the built environment is indivisible from good planning and should contribute positively to making places better for people, creating attractive, usable and durable places. This is a key element in achieving sustainable development.

### **Regional Spatial Strategy for the North West**

- 12.4.8 The Coalition Government intends to abolish Regional Spatial Strategy (RSS) under powers of the Localism Act 2011(s109). Until the Secretary of State issues such an order, to revoke whole or parts of the RSS, the RSS for the North West remains part of the statutory development plan. Applicable policies include:

### **DP7: Promote Environmental Quality**

- 12.4.9 Environmental quality (including air, coastal and inland waters), should be protected and enhanced.

### **RDF3: The Coast**

- 12.4.10 The economic importance of the coast and the regeneration of coastal communities should be enhanced to safeguard, restore or make sustainable use of the natural, built and cultural heritage assets of the North West Coast and address issues of environmental decline and socio-economic decline.

### **RDF4: Green Belts**

- 12.4.11 Overall the general extent of the Region's Green Belt will be maintained.

### **EM1: Integrated Enhancement and Protection of the Region's Environmental Assets**

- 12.4.12 The Region's environmental assets should be identified, protected, enhanced and managed. Plans, strategies, proposals and schemes should deliver an integrated approach to conserving and enhancing the landscape, natural environment, historic environment and woodlands of the region.

### **EM3: Green Infrastructure**

- 12.4.13 Plans, strategies, proposals and schemes should aim to deliver wider spatial outcomes that incorporate environmental and socio-economic benefits by conserving and managing existing green infrastructure and creating new green infrastructure, enhancing its functionality, quality, connectivity and accessibility.

### ***Local Policy Framework***

#### ***Local Policy***

- 12.4.14 The Local Development Framework (LDF) is the overall name for the collection of planning documents that are currently being produced by the Council and which will eventually replace Halton's current statutory development plan, the Unitary Development Plan (UDP).
- 12.4.15 In May 2011, Halton Council published the Revised Proposed Submission Document and submitted it to Government for examination, which is scheduled for November 2011. The Core Strategy is not yet adopted, however given its advanced stage of development and the extent of public consultation in its preparation, it is capable of carrying material weight.

#### ***Halton Unitary Development Plan (adopted 7th April 2005) Halton Borough Council***

- 12.4.16 The policies and proposals relevant to the landscape assessment are itemised below. Each of these has been considered throughout the assessment of landscape and visual effects.

## **Regeneration Action Areas**

- 12.4.17 RG1 Action Area 1, Southern Widnes: This action area is proposed in an area of mixed uses including housing. The visual quality of the built and natural environment should be enhanced; the quality of design of any new development should enhance surroundings; public spaces should be included and the objective is to raise the overall amenity and appearance of the area. Specific opportunities include conservation area enhancement at West Bank promenade; tourist development based on Spike Island and the Catalyst Museum and water based recreation facilities.
- 12.4.18 RG3 Action Area 3, Widnes Waterfront: Acceptable uses will include employment, residential, leisure and open space. The nature and design of new development should take advantage of the waterside location beside the St Helens Canal and the Mersey Estuary. Provision should be made for increased public access to the waterside and significant improvements to the waterside environment and the visual quality of the built and natural environment should be enhanced.
- 12.4.19 RG6 Action Area 6, Castlefields and Norton Priory: Development within this area will embrace new housing, open space and community uses and the western fringe of this area bounds the Central Expressway. Local landscape and amenities include the Bridgewater Canal.

## **The Environmental Priority Area**

- 12.4.20 The A562 from Liverpool to the SJB: This is one of a number of main transport corridors where one of the objectives should be improvement schemes involving land, buildings and landscaping to reduce negative impressions for travellers.

## **The Built Environment**

- 12.4.21 Promoting a quality built environment through enhancement initiatives based on a proper assessment of the character and defining characteristics of the surrounding natural and built environment is a key aim of the specific policy statements relating to archaeology, conservation areas and listed buildings and area based enhancement schemes. The conservation of the natural and historic environment is regarded as an essential element of sustainability. Key aspects for consideration include respecting and utilising positive site characteristics; townscape value; architectural and historical characteristics and their interrelationship with landscape features; creating visual interest and maintaining and protecting views which are important to the character and visual amenity of the local area.

## **BE3 - Environmental Priority Areas**

- 12.4.22 Environmental priority areas within the Borough of Hatton are largely focused upon the waterfront / townscape fringes of Runcorn and Widnes where they abut the Mersey estuary. Within the environmental priority areas proposals for development will be expected to be of a quality of design that enhances the quality and appearance of the area and development, visible from main transport routes should be of a high quality of design in terms of landscape, boundary treatments and facing materials.

## The Green Environment

- 12.4.23 Policies relating to the Green environment are extensive, and most will be relevant to the landscape and visual assessment. Of particular significance are:
- a. GE6 – proposed developments include Wigg Island;
  - b. GE10 – protection of linkages in green space systems. These embrace a strategic aim to encourage access to the waterfront;
  - c. GE19 – protection of sites for importance of nature conservation;
  - d. GE20 – protection and creation of local nature reserves;
  - e. GE23 – protection of areas of Special Landscape Value. A designation which applies to the whole of the Mersey estuary within the borough and includes important landscape features notably Wigg Island and Spike Island;
  - f. GE24 – protection of important landscape features. These include the Bridgewater Canal, Spike Island, Wigg Island and the Trans-Pennine Trail (West Bank dock section Widnes);
  - g. GE28 – the Mersey Forest. The largest in area of the twelve community forests being established throughout England. Identified opportunities include the banks of the Mersey east of the SJB (excluding the important areas of marshland); and
  - h. GE29 – canals and rivers. Development adjacent to the St Helens Canal, the Bridgewater Canal and/or the River Mersey will not be permitted if it would have an unacceptable effect on important amenity landscape and or ecological characteristics; the viability of important landscape and wildlife resources; attractive views along, onto or from the canals or river; the provision or improvement of access points onto the canals, towpath or rivers edge and the establishment of the greenway network.

### **Core Strategy**

- 12.4.24 The policies and proposals relevant to the landscape assessment from the Halton Core Strategy Revised Proposed Submission (May 2011) are itemised below:

#### **CS1: Halton's Spatial Strategy**

- 12.4.25 The Spatial Strategy for Halton is focused around a balanced mix of prioritised urban regeneration supported by appropriate levels of greenfield expansion. The strategy will largely be realised by the delivery of four "Key Areas of Change" across the Borough where the majority of new development will be located, these include South Widnes and West Runcorn

#### **CS2: Sustainable Development Principles**

- 12.4.26 This policy includes principles for the sustainable development of the Borough, including the regeneration and remediation of its urban areas and greenspaces and the conservation and enhancement of the natural and historic environment.

#### **CS6: Greenbelt**

- 12.4.27 The policy outlines the broad acceptance that the existing extent of the Greenbelt will remain largely unchanged over the initial plan period.

### **CS9: Key Area of Change CS9: South Widnes**

- 12.4.28 A mix of uses including a combination of employment, retail, leisure and residential development will be achieved across South Widnes over the Core Strategy period. Specifically development and regeneration opportunities presented by the Mersey Gateway Project particularly associated with the restructuring of West Bank will provide for new employment and residential uses and the delivery of a new neighbourhood centre appropriate to the needs of the local community. take advantage of opportunities to improve sustainable transport provision.
- 12.4.29 Principles of strong urban design in order to reflect the prominent waterside environment and gateway locations will be adopted, facilitating public access to the waterfront and avoiding adverse effects on the integrity of the Mersey Estuary Special Protection Area (SPA) and/or Ramsar site.

### **CS10: Key Area of Change CS10: West Runcorn**

- 12.4.30 The regeneration of West Runcorn over the Core Strategy period will be achieved through a number of development opportunities, including capitalising on the development and regeneration opportunities presented by the Mersey Gateway Project particularly associated with the removal of redundant infrastructure associated with the Silver Jubilee Bridge.

### **CS16: Policy CS16: The Mersey Gateway Project**

- 12.4.31 Development proposals will take advantage of the regeneration and development opportunities attributable to the Mersey Gateway Project, especially where this can assist in raising the quality of design in an area and in the creation of gateway features. This will be particularly encouraged in the South Widnes (CS9) and West Runcorn (CS10) Key Areas of Change. Negative environmental impacts caused by the construction of the Mersey Gateway will be mitigated where appropriate, and opportunities to enhance the natural environment sought.

### **CS18: High Quality Design**

- 12.4.32 Achieving and raising the quality of design is a priority for all development in Halton. All development design should and respond positively to the context and identity of Halton, including waterfront areas, the historic and natural environment and the identified Key Areas of Change.

### **CS20: Policy CS20: Natural and Historic Environment**

- 12.4.33 Halton's natural and heritage assets, and landscape character contribute to the Borough's local distinctiveness. Opportunities to enhance the value and management of Halton's natural and heritage assets and compensation measures for any loss will be undertaken.

### **CS21: Green Infrastructure**

- 12.4.34 Halton's green infrastructure network will be protected, enhanced and expanded, where appropriate. Halton Borough Council working alongside other partners and agencies responsible for the delivery and maintenance of green infrastructure

## **Designations**

- 12.4.35 The area and features indicated on Figure 12.03 refer to those landscape designations identified to inform and determine policy objectives in the Council UDP.
- 12.4.36 Of note are the fact that the areas of the Upper Mersey which lie within the borough and form the focus of the study area are designated as an Area of Special Landscape and that key landscape features affected by the scheme proposals – Spike Island and Wigg Island are identified as ‘Important Landscape Features’. Some parts are also designated as Green Belt.
- 12.4.37 The designations also identify two environmental priority areas which embrace both developed and undeveloped areas of the estuary margins along both the northern and southern fringes of the estuary throughout the study area.
- 12.4.38 Within the estuary the extensive inter-tidal sand and mudflats, together with large areas of saltmarsh are of sufficient importance for the areas downstream of the SJB to be designated a Site of Special Scientific Interest (SSSI). The Mersey Estuary is also a Special Protection Area (SPA) and a Ramsar Site being a wetland of international importance. In consequence, the whole of the estuary within Halton Borough is identified as an area of Special Landscape Value (SLV) of local significance in the borough, containing Sites of Importance for Nature Conservation (SINC).
- 12.4.39 In terms of terrestrial ecology, the areas of recognised value are predominantly on the southern side of the estuary and include Flood Brook Clough SSSI, Runcorn Hill Local Nature Reserve (LNR) and a number of non-statutory and local sites including the disused St Helens Canal Site of Biological Importance (SBI), the Upper Mersey SBI both of which are Grade A. A number of SBI’s and SINC’s are associated with important landscape features such as Norbury Wood and Big Wood. These areas represent much of the remaining open space within the developed area of Runcorn, all of which have either been classified as areas of Special Landscape Value of Important landscape Features in the Council UDP.
- 12.4.40 There are ten designated Conservation areas within the Borough of Halton, designated for their character and architectural quality. These are shown on Figure 12.3 and include
- a. Daresbury
  - b. Hale Road
  - c. Hale village
  - d. Halebank
  - e. Halton village
  - f. Higher Runcorn
  - g. Moore
  - h. Victoria Square
  - i. West Bank
  - j. Weston Village.
- 12.4.41 There are many Listed Buildings / Structures within the Local and Intermediate Study Areas, most of which are clustered within and around the Conservation Areas, these have not been considered on an individual basis at this stage of the assessment..

- 12.4.42 There are seven Scheduled Monuments within the Borough of Halton, designated for their cultural heritage these are shown on Figure 12.11 and include:
- a. Halton Castle, Runcorn
  - b. Norton Priory, Runcorn
  - c. Lovel's Hall, Widnes
  - d. New Manor Farm, Preston Brook
  - e. Crenshaw Hall, Widnes
  - f. Cross, St Lukes Church, Farnworth
  - g. Duck decoy pond, Marsh Bridge, Hale
- 12.4.43 Trees and woodlands adjacent to, or within the anticipated boundary of the extent of works are not under the protection of Tree Preservation Orders (TPO's).

## 12.5 Assessment Methodology and Significance Criteria

### *Methodology*

- 12.5.1 The methodology for the Landscape/townscape and visual assessment has been developed in accordance with 'Guidelines for Landscape and Visual Assessment' (the Landscape Institute and Institute of Environmental Management and Assessment 2002). The Assessment is also in accordance with the requirements of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011. The methodology has been developed to address the specific requirements of the study whilst remaining standard in its approach.

### *Assessment Techniques / Methodology Guidelines*

- 12.5.2 There are four stages within the EIA process that lead to the identification of potential impacts, the predicted magnitude of their effect and the assessment of their significance, these are:
- a. Identification and evaluation of the baseline landscape/townscape and visual context of the identified study area (for which see above);
  - b. Review of the proposed development and identification of potential sources of effect;
  - c. Prediction of landscape/townscape and visual effects and the appraisal of their significance; and
  - d. Mitigation measures and the identification of residual effects.
- 12.5.3 The assessment process involves desk-study, fieldwork observations, photography, modelling of predicted effects through photomontages and subjective professional judgement. Fieldwork was undertaken in October/November 2011 in clear conditions.

### **Stage 1: Baseline**

- 12.5.4 The initial step in any landscape or visual assessment is to record the existing landscape and visual conditions throughout the study area. The data collected, forms the basis from which the occurrence, estimation of magnitude and significance of the landscape and visual effects of the Project may be identified and assessed. Data collected and reviewed includes:
- a. Planning policy context at a national, regional and local level to determine the status of the landscape within the study area and its level of importance within the wider landscape, as outlined in 12.4;
  - b. Factual description of the landscape, typically including landform based on geology and topography, landscape/townscape elements, land use patterns, settlement patterns, patterns of communication and any general trends for change;
  - c. Establishment of the quality, condition and character of the landscape/townscape, in order to ascertain the sensitivity of the landscape resource and its ability to adapt to change. This includes a review of the current landscape character documentation;
  - d. Location of the Project, establishing the area from which the proposals can be seen ZTVI, and determining the groups of users (receptors) who can be reasonably foreseen to have their views altered as a result of the proposals.
- 12.5.5 The value, sensitivity, condition and enhancement potential of the study area is also assessed. Value and sensitivity are two major components of impact assessment and we set out below how they are incorporated into the assessment process as set out below.

## Value

- 12.5.6 An analysis of landscape *value* (assessed here as *high*, *medium* or *low*) aims to reflect the value of the landscape/townscape at a specific scale and identify the people or groups to whom it is important and why. In doing this, the assessment must distinguish between importance at different scales. For example, some features are locally abundant but may be nationally or internationally scarce, or nationally abundant but locally scarce. Table 12.5.1 below sets out the value criteria for this project:

**Table 12.5.1: Criteria Applied to Value of Landscape/Townscape & Visual Amenity**

Value	Typical Landscape Receptor	Typical Visual Receptor or Features where Setting is Protected
<b>High</b>	Important elements or landscape of a particularly distinctive and valued character (e.g. National Park; AONB) susceptible to relatively small changes.	Residential properties, visual or setting effect to Scheduled Ancient Monuments, Conservation Areas and Listed Buildings (Grade 1).
<b>Medium</b>	A landscape of moderately valued characteristics, perhaps of local significance and reasonably tolerant of changes, or a formerly highly sensitive landscape whose sensitivity has been reduced by the presence of intrusive features.	Sporting and recreational pursuits; public rights of way, student accommodation, offices, visual or setting effects to archaeological sites and other Listed Buildings.
<b>Low</b>	A relatively low value or degraded landscape tolerant of substantial change without adverse effect on character.	Industry, road users, railway users, archaeological sites where setting is not an issue.

## Sensitivity

- 12.5.7 The determination of the *sensitivity* of the landscape/townscape resource is based on the ability of the landscape/townscape to accommodate change and reflects such factors as its value, condition, degree to which particular elements or characteristics can be replaced or substituted and compatibility of a development with the existing character and land uses. *Sensitivity* varies between receptor types, for example a small-scale rural landscape may be more sensitive to change than an urban fringe landscape, which has been heavily modified by man-made detractors. The following Table 12.5.2 sets out the sensitivity criteria for this project:

**Table 12.5.2: Criteria Applied to Sensitivity of Landscape/Townscape**

Sensitivity	Typical Criteria
High	No change can be accommodated without impact on value and/or loss of character. Substitution or replacement not possible.
Medium	Some change can be accommodated without impact on value and/or loss of character or minor changes can be compensated by replacement or substitution.
Low	Larger scale change can be accommodated without impact on value and/or loss of character or changes can be eliminated by replacement or substitution and/or are beneficial to value and character.

- 12.5.8 The *sensitivity* of a visual receptor is based on factors such as the level of awareness or interest that the receptor has of views and the length of time the visual receptor is aware of the view. As outlined in Table 12.5.3 below, residents and certain recreational users will normally be more sensitive to changes of view than car drivers, given the relative speed at which the observer moves and the level of awareness the observer is likely to have in a view.

**Table 12.5.3: Criteria Applied to Sensitivity of Visual Receptors**

Sensitivity	Typical Visual Receptors
High	Residents, views of or within highly valued landscapes e.g. AONBs, strategic footpath/cycle route users.
Medium	Recreation (sports pitch users etc), employment (offices), users of local lanes.
Low	Employment (industrial), strategic transport users.

## Stage 2: Effects Assessment

- 12.5.9 The Project has been appraised to identify the key visual elements and associated activities during its construction and operation and to identify the potential sources of effect.
- 12.5.10 Potential sources of effect are considered at three stages of development. At each stage, any soft landscape mitigation measures (i.e. planting) will have an increasing screening effect as outlined below:
- Construction Phase*: During the construction stage new landscape measures will be at varying stages of maturity and will therefore have variable screening effect.
  - Operation - Year One (Winter)*: The first winter following road opening. At this stage, the mitigation effect of planting will be limited.
  - Operation - Year 15 (Winter)*: By year fifteen, screen planting will partially screen the road, although the uppermost parts of the road will still be visible.

### **Zone of Theoretical Visibility**

- 12.5.11 The study area for the visibility analysis is determined by calculating the 'Zone of Theoretical Visibility' (ZTV). This term is used to describe the area over which a development can theoretically be seen and is also known as a 'Zone of Visual Influence' (ZVI) or 'Visual Envelope' (VE). However, the term ZTV is preferred for its emphasis of two key factors that are often misunderstood:
- a. visibility maps represent where a development may be seen theoretically – that is, it may not actually be visible in reality, for example due to localised screening; and,
  - b. the maps indicate potential visibility only, that is, the areas within which there may be a line of sight. They do not convey the nature or magnitude of visual effects, for example whether visibility will result in positive or negative effects and whether these will be significant or not.
- 12.5.12 The ZTV of a development proposal can be determined by:
- a. computer aided digital terrain modelling; or,
  - b. field based evaluation supported by an appraisal of the effects of the development from selected viewpoints.
- 12.5.13 These techniques can be used individually or in parallel. Computer aided terrain analysis is a useful tool in the evaluation of the visibility of an extensive area, as for the Wider Study Area. The ZTV for the Wider Study Area is shown in Figure 12.7. The ZTV has been generated based on 1:10,000 digital terrain model data. The ZTV is divided to show areas from where the bridge deck and towers are visible and from where one or more of the towers are visible. The modelling does not consider the screening effects of any woodland or individual trees, buildings, structures or other elements present in the area.
- 12.5.14 Computer derived visual appraisal techniques are less useful in urban or relatively flat areas as is the case for the Local Study Area. Because of these limitations, it was decided to assess the potential effects of the highway alignment on the visual amenity of the area by means of field survey and viewpoint analysis only.
- 12.5.15 The assessment of landscape/townscape and visual effect from these viewpoints ascertains the degree of change of view resulting from the Project. In assessing the likely effect of the New Bridge or highway, a description of the existing view is provided, the sensitivity of the viewpoint is stated and the magnitude of change is identified. This is discussed further in the section below.

### **Prediction of Landscape and Visual Effects and Appraisal of their Significance**

- 12.5.16 In predicting landscape/townscape and visual effects, it is necessary to establish not only the *sensitivity* of the landscape/townscape and visual receptors as explained in Stage 1, but also to establish the *magnitude* of change arising from the proposed development. The relationship between these two factors identifies the *significance* of the effect, which may be high, medium or low and can be either beneficial or adverse depending on the nature of the development and the mitigation and enhancement measures proposed.

12.5.17 Determining the *magnitude* of change requires an appraisal of largely quantitative effects, for example loss of an open view, whilst identifying the significance of an effect requires a value judgement. There is not necessarily a direct relationship between the two factors. For instance, changes of a relatively low magnitude may be considered highly significant if affecting a highly sensitive landscape. Table 12.5.4 below sets out the magnitude criteria for this project.

**Table 12.5.4: Definition of Magnitude of Effect on Landscape/Townscape & Visual Amenity**

<b>Magnitude of Effect</b>	<b>Criteria for Assessing Landscape Effect</b>	<b>Criteria for Assessing Visual Effect</b>
<b>High</b>	Notable change or loss in landscape/townscape characteristics over a wide area or very intense change over a small area.	The majority of viewers are affected; major changes in view; open views of site.
<b>Medium</b>	Moderate changes or loss in landscape/townscape characteristics.	Many viewers affected; moderate change in view, oblique/partial views of the site.
<b>Low</b>	Slight change or loss in any components of the landscape/townscape.	Few viewers affected; minor changes in view.
<b>Negligible</b>	Virtually no changes to landscape/townscape characteristics.	Obscured view; barely perceptible changes.

12.5.18 There is no standard methodology for the quantification of the scale or magnitude of relative effects. However, it is generally based on the following:

- a. the scale of the change in view with respect to the loss or addition of features in the view and changes in its composition including the proportion of the view occupied by the proposed development;
- b. the degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape/townscape elements and characteristics in terms of form, scale and mass, line, height, colour and texture;
- c. the duration and nature of the effect, whether temporary or permanent, intermittent or continuous etc;
- d. the angle of view in relation to the main activity of the receptor;
- e. the distance of the viewpoint from the proposed receptor; and
- f. the extent of the area over which the changes would be visible.

***Significance of Effect***

12.5.19 The potential *significance* of landscape/townscape and visual effects is determined by combining the *magnitude* of the potential effect and the *sensitivity* of the landscape/townscape setting to change. It should be emphasised, however, that this process is not easily quantifiable; there is not an absolute scoring system. Instead, the correlation of the two factors is ultimately a matter of professional judgement. It should also be noted that all effects can be beneficial or adverse.

12.5.20 The establishment of *thresholds of effect*, or impact significance, is recognised as a valid way of standardising the conclusions of the landscape/townscape and visual assessment. For the purposes of this assessment, these thresholds are identified in Table 12.5.5 below:

**Table 12.5.5: Definition of Significance Criteria**

<b>Significance Criteria for Landscape/Townscape Effects</b>	
<b>Major adverse</b>	The proposed scheme would result in effects that cannot be successfully mitigated; are at considerable variance to the integrity of the landscape/townscape; and would be substantially damaging to a high quality landscape/townscape.
<b>Moderate adverse</b>	The proposed scheme would be out of scale with the landscape/townscape and at odds with the local pattern and landform and would have an adverse effect on a landscape/townscape of recognised quality.
<b>Slight adverse</b>	The proposed scheme would not quite fit into the landform and scale of the landscape/townscape and would adversely affect an area of recognised landscape/townscape quality.
<b>Negligible</b>	The proposed scheme would complement the scale, landform and pattern of the landscape/townscape and maintain existing landscape/townscape quality.
<b>Slight beneficial</b>	The proposed scheme has potential to improve the landscape/townscape quality and character, fit in with the scale, landform and pattern of the landscape/townscape and enable restoration of valued landscape characteristic features partially lost through other land uses.
<b>Moderate beneficial</b>	The proposed scheme is reasonably appropriate in its context, has the potential to fit well with the landscape/townscape and improve its quality through removal of damage caused by existing uses.
<b>Major Beneficial</b>	The proposed scheme is entirely appropriate in its context, has the potential to fit very well with the landscape/townscape and improve its quality through removal of damage caused by existing uses.

<b>Significance Criteria for Visual Amenity Effects</b>	
<b>Major adverse</b>	Where the scheme would cause a significant deterioration in the existing view.
<b>Moderate adverse</b>	Where the scheme would cause a noticeable deterioration in the existing view.
<b>Slight adverse</b>	Where the scheme would cause a barely perceptible deterioration in the existing view.
<b>Negligible</b>	No discernable deterioration or improvement in the existing view.
<b>Slight beneficial</b>	Where the scheme would cause a barely perceptible improvement in the existing view.
<b>Moderate beneficial</b>	Where the scheme would cause a noticeable improvement in the existing view.
<b>Major Beneficial</b>	Where the scheme would cause a significant improvement in the existing view.

12.5.21 Any significance of effect assessed as 'major' or 'moderate' in terms of the criteria defined above would be considered 'significant'. Any effect assessed as 'slight' or 'negligible' would be considered as 'non-significant' and therefore 'non-material'.

#### **Stage 4: Residual Effect**

- 12.5.22 The purpose of mitigation is to avoid, reduce and, where possible, remedy or offset any significant adverse effects resulting from the proposed development. The most effective mitigation measures are ones which, rather than being a damage limitation exercise, are integral to the scheme. A distinction is therefore made between landscape measures designed as an intrinsic part of the scheme (primary measures) and those which are intended to specifically counter any residual negative effects of the development (secondary measures). Residual effects are those effects, which remain after mitigation. The significance of these is assessed using the methods outlined previously.

#### **Presentation of Images and Graphic Techniques**

- 12.5.23 Photographs have been taken to illustrate the existing view from each of the selected viewpoints and these are accompanied by wireframe representations of the New Bridge to aid the assessment process. Photomontages have been produced to illustrate the visual appearance of the New Bridge from representative viewpoints across the study area. Both the above were carried out in accordance with the following methodology.
- 12.5.24 The photographs were taken with a fixed focal length lens (effectively 50mm) on a digital SLR camera, to give an angle of view similar to that of the human eye.
- 12.5.25 Photographs were taken in clear weather conditions that were as close to ideal as possible throughout the duration of the study. For each of the photographs a consistent aperture was used and the shutter speed adjusted to accommodate the light conditions at the time the photograph was taken.
- 12.5.26 The photographs shown for each viewpoint cover a variety of included angles, each of which is recorded on the relevant presentation material. An included angle of 40° is commonly held to reflect the normal human field of vision. However, the inclusion of an included angle of greater than 40° (around 90°) has been used for the viewpoints identified for the production of photomontages as this is deemed to allow the viewer to experience the determined view within a section of its wider landscape. This included angle allows the viewer better to understand and identify familiar features of the setting within which the New Bridge will sit.
- 12.5.27 When reproduced at A3 scale, as is the case in this assessment, the photographs and photomontages should be viewed from the specified distance accompanying each photomontage in order to provide as accurate an impression as possible of the real effect on the views. This distance is included alongside the presentation material.
- 12.5.28 Wire frame representations of the New Bridge and the surrounding landscape were created using digital terrain modelling. These were compared with the existing view to assist in the analysis of the likely magnitude of change and as such the level of impact of the visual receptors. For key views, the wire frame representations were matched to photographs using Ordnance Survey grid references to create photomontages in order to predict the theoretical appearance of the New Bridge.
- 12.5.29 It should be noted that photographs and other graphic material used throughout the report are intended to be used for illustrative purposes.

## 12.6 Baseline

### Introduction

- 12.6.1 This section describes the existing landscape/townscape and visual resource of the Wider and Intermediate Study Areas. It identifies, examines and evaluates the range of landscape/townscape and visual elements that contribute to the appearance and character of the area in order to provide a 'baseline' landscape/townscape and visual context against which the effects of the development can be reviewed. The Intermediate Study Area baseline incorporates a sufficient level of detail to inform the assessment of the Local Study Area, negating the need for further baseline development.

### Landscape Planning Context: Designated Landscapes

#### The Wider Study Area

- 12.6.2 There are no areas designated for their landscape quality at a national scale within the Wider Study Area.

#### The Intermediate Study Area

- 12.6.3 Within the Mersey Estuary the extensive inter-tidal sand and mudflats together with large areas of saltmarsh are of sufficient importance for the areas downstream of the SJB to be designated a Site of Special Scientific Interest (SSSI), a Special Protection Area (SPA) and a Ramsar Site being a wetland of international importance. Although the Estuary upstream of the SJB is not designated as an SSSI, Ramsar the whole of the estuary within Halton Borough is identified as an area of Special Landscape Value (SLV) of local significance in the borough containing Sites of Importance for Nature Conservation (SINC).
- 12.6.4 Areas of the Upper Mersey which lie within Halton Borough Council and form the focus of the study area are also designated as an Area of Special Landscape and that key landscape features affected by the scheme proposals – Spike Island and Wigg Island are identified as 'Important Landscape Features'.
- 12.6.5 Furthermore, between the Manchester Ship Canal and the south side of the Estuary, Wigg Island lies within Green Belt where national policy includes a general presumption against inappropriate development so as to preserve the open nature of the Green Belt.
- 12.6.6 The designations also identify two environmental priority areas which embrace both developed and undeveloped areas of the estuary margins along both the northern and southern fringes of the estuary throughout the study area.
- 12.6.7 All of these designations seek to preserve the open and undeveloped nature of the landscape and therefore the designated areas are considered to be of high sensitivity.

## Landscape/ Townscape Character

### The Wider Study Area

#### Regional Level Landscape Character Areas

- 12.6.8 The landscape character of the Wider Study Area has been described in the Countryside Commission's 'Countryside Character Assessment (Volume 2: North West). This gives a broad-scale description of the landscape, how it has been defined and shaped by natural historical and sociological events including local geology soils, topography, landcover and landuse. Collectively these features of the landscape combine to create the unique character of the local landscape.
- 12.6.9 Eleven character areas have been identified within the 30km radius of the Wider Study Area. Their details are described below, including an assessment of their value and sensitivity and these are illustrated in Figure 12.4: Wider Study Area Landscape Character Areas.

#### CA 32: Lancashire and Amounderness Plain

- 12.6.10 To the north west of the Study Area the landscape is characterised by the southern reaches of the Lancashire and Amounderness Plain, a flat or gently rolling landscape broken by isolated hills such as the Upholland Ridge a millstone grit outcrop to the south east. The high grade agricultural land forms large scale pastoral and arable fields, dissected by rectilinear drainage channels and a network of lanes with few hedgerows and trees. There are extensive views across the open and flat landscape, punctuated by woodland blocks and brick built farmsteads. The large towns of Ormskirk and Skelmersdale and, at the southern edge, the Mersey conurbation are significant settlements within an otherwise rural area.

The landscape value of this character area is medium but its sensitivity is low due to the existing impacts of the built up nature of much of the area.

#### CA 55: Manchester Conurbation

- 12.6.11 The western edge of the Manchester Conurbation CA is found on the eastern edges of the study area, and the Mersey Valley forms the largest stretch of continuous countryside within the conurbation. The area is bisected by motorways and other major road corridors and fringed by industrial, business and residential uses with expanding need for water treatment and landfill sites. Recreational pressures also impact on the landscape with playing fields, golfcourses and country parks limiting farmland and more natural habitats.

The landscape value of this character area is low due to its degraded nature and its sensitivity is low due to its already highly modified nature.

### **CA 56: Lancashire Coal Measures**

- 12.6.12 To the north east of the study area the landscape is characterised by an elevated and undulating landscape, with the Upholland Ridge forming a vantage point at its western extremity. The landscape is dominated by its industrial heritage associated with mining activities. The area is heavily settled with degraded agricultural land separated by ribbons of development base around the mines and industry with an intermingling of housing and industry. The loss of deep coal mining has left a legacy of dereliction, with flashes and waste heaps impacting on the landscape. However, these are being reclaimed and new housing is expanding the settlements.

The landscape value of this character area is low due to its degraded nature and its sensitivity is low due to its already highly modified nature.

### **CA 57: Sefton Coast**

- 12.6.13 To the north east, the southern extremity of the Sefton Coast JCA reaches into the study area. This is a broad and open landscape of low lying coastal areas with blocks of coniferous planting.

The landscape value of this character area is medium due to the qualities of the coastal landscape and its sensitivity is medium.

### **CA 58: Merseyside Conurbation**

- 12.6.14 The city of Liverpool and its surroundings and the urban and industrial areas of Birkenhead and the Wirral dominate the landscape, with the Mersey Estuary providing a strong break between the two. The built up nature of the area overrides any remnants of the original landscape with only small pockets of open countryside.

The landscape value of this character area is low due to its built up characteristics and its sensitivity is low due to its already highly modified nature.

### **CA 59: Wirral**

- 12.6.15 To the west of the study area the western part of the Wirral peninsular slopes down from the Mid Wirral sandstone ridge to the Dee Estuary. The low lying plain is punctuated by sandstone outcrops, supporting heathland and mature pines. The mid-sized pastoral fields are bounded by clipped hedgerows and the presence of large country estates is apparent in the more formal landscapes, bisected by an intricate pattern of lanes and footpaths.

The landscape value of this character area is medium due to the qualities of the coastal landscape and its sensitivity is medium.

### **CA 60: Mersey Valley**

- 12.6.16 Central to the study area the distinctive Mersey Valley is characterised by the River, its estuary and tributaries set within a broad linear valley. The low lying landscape historically formed a natural barrier until the development of crossing points, by the Romans at Warrington and later at Runcorn. The landscape types vary from the salt marshes of the estuary to the semi natural mosslands to the west of Manchester and the regular and large scale field patterns of the river valley in between. Tree cover is scarce and generally associated with the settlements. Runcorn, Widnes, Warrington and Ellesmere Port cover much of the study area and are linked by a dense communication network of roads, rail and canals, together with prominent power lines. The combination of deep waterways and surrounding natural resources of coal to the north in Lancashire and salt and ore to the south in Cheshire has led to an estuarine landscape dominated by ports, oil refineries and heavy industry.

The landscape value of this character area is medium where the natural qualities of the open estuary landscape are compromised by the industrial margins and its sensitivity is low.

### **CA 61: Shropshire, Cheshire and Staffordshire Plain**

- 12.6.17 To the south of the study area the landscape is characterised by an extensive and gently rolling plain, a rural landscape with a strong field pattern dominated by dairy farming and bounded by well managed hedges with plentiful hedgerow trees. Woodlands are infrequent although meres and field ponds are common. The settlement pattern includes scattered farmsteads, hamlets and market towns.

The landscape value of this character area is medium due to the qualities of the rural landscape and its sensitivity is medium.

### **CA 62: Cheshire Sandstone Ridge**

- 12.6.18 The Cheshire sandstone ridge cuts through JCA 61 as a prominent ridge of higher land at 120 to 230m with steeply sloping sides covered by rough pasture and deciduous and mixed woodland, giving a distinctive feel to the area. There is evidence of quarrying and gravel extraction with water filled pits now used for recreation.

The landscape value of this character area is medium due to the qualities of the rural landscape and its sensitivity is medium.

### **CA 13 (Wales) Deeside and Wrexham**

- 12.6.19 To the south west of the study area the broad flat flood plain adjacent to the Dee estuary is characterised by the industrial nature of the area, with the industrial infrastructure around Connah's Quay, including the power station and the suspension bridge over the River Dee dominating views.

The landscape value of this character area is low due to its industrial characteristics and its sensitivity is low due to its already highly modified nature.

## **CA14 (Wales) Maelor**

- 12.6.20 To the far south west the Maelor CA minimally falls into the study area. Given the extent of coverage and the long distance of the area from the Project any impacts will be negligible, therefore the area has not been described or assessed.

### **Intermediate Study Area:**

#### **Detailed Landscape Character Assessment**

- 12.6.21 Within 10km of the Project it is more likely that the New Bridge will have a significant effect on the surrounding landscape. Therefore, a more detailed appraisal of the site and its immediate surrounding landscape has been carried out and this is outlined below. This description also covers the Local Study Area as required for the assessment of the highway scheme.

#### ***Topography/Landform***

- 12.6.22 Figure 12.5: Intermediate Study Area Topography illustrates the topographical range at 5m contour intervals of an area around Widnes and Runcorn which includes both the intermediate (in part) and local study areas.
- 12.6.23 The contour plan indicates the distinction between the low-lying landform of the Widnes area and the more distinctive landform of Runcorn. Around Widnes the landform falls towards the Mersey from a height of only 20 – 30m north of the town centre to 5m on the fringes of the Upper Mersey Estuary. Also apparent is the clearly defined promontory of West Bank.
- 12.6.24 In the Runcorn area, the contours indicate a relatively steep rise to 80m + around the high points of Runcorn Hill and Halton Castle and the north facing valley containing Norton Priory and Town Park. The topography falls once more towards the Southern and Weston Point Expressways and the M56 at Junction 12 where the contours average 50m with a ridge between Runcorn Hill and Halton Castle.
- 12.6.25 The transportation corridors including expressways, canals and railways run with the grain of the landscape in contrast to the Runcorn Gap Crossings and the New Bridge which cut across the grain of the landscape.

#### ***Overview***

- 12.6.26 The physical influences which have shaped the landscape include the marked differences in geology and topography on the northern and southern sides of the estuary, the hydrology of the tidal stretch of the Mersey, the ecology of both the estuary and its margins, the terrestrial ecology of the land overlooking the estuary and, most notably, the influences of human occupation, settlement and land use.
- 12.6.27 Widnes and Runcorn originally developed as settlements on the northern and southern shores of the Runcorn Gap ferry / bridge crossing, and subsequently prospered and expanded to their current size largely as a result of the introduction of the heavy chemical industry, soap production and iron founding. The peak of their prosperity was in the early 1900's and subsequent years have seen a substantial decline in these industries and, accordingly, prosperity

- 12.6.28 The historical importance of the Runcorn Gap, the natural landform constriction which provided early ferry crossings and, subsequently, the first upstream opportunity to bridge the Mersey Estuary, underpins the growth of the medieval settlements of Halton and Runcorn Old Town and West Bank which sit at either end of the historical ferry / bridge crossing. The development of the associated ports, the alignment of the St Helens Canal on the northern margin of the estuary and the Bridgewater Canal and the Manchester Ship Canal on the southern margin, stimulated the growth of chemical and processing industries and the resultant expansion of settlement.
- 12.6.29 The post-industrial landscape which is now emerging is characterised not only by the successive phases of historical development but also by the consequent improvements to the water quality of the estuary (the Mersey Basin has now been the subject of a focused programme of clean-up campaigns for more than a quarter of a century). This has, in turn, improved habitats and stimulated nature conservation efforts.
- 12.6.30 Consequently, the particular cultural heritage of the area and the appreciation of the natural environment, particularly of the estuary and its bird-life, are inextricably linked with the perception of the quality, visual amenity and value of the landscape.
- 12.6.31 The Manchester Ship Canal forms a continuous, linear feature immediately adjacent to the estuary and is backed by an industrial fringe albeit of smaller scale and generally more recent origin than that to the north. The industrial fringe gives way to mixed, but principally residential, development on the north facing slopes which culminate in the vantage point of Halton Castle, visible from much of the area on the northern bank. Throughout the slopes there are both intermittent and panoramic views across the estuary.
- 12.6.32 As noted above, the most dominant element, if not the most attractive feature, of the Upper Estuary landscape is the Fiddlers Ferry Power Station. The SJB forms a more attractive element in this landscape. When viewed together these features define the location of this part of the Mersey Estuary in the wider scene.

### ***Historic Landscape***

- 12.6.33 A crossing point of the Mersey Gateway at Runcorn Gap may have existed since Roman times and is documented from the Medieval period.
- 12.6.34 Runcorn remained a small settlement until the opening of the Bridgewater Canal in 1776, when improved transportation provided the economic stimulus for industrial development and maritime trade. From the late eighteenth century Runcorn was a fashionable spa town, whose status only diminished as industrialisation increased in the nineteenth century. Halton meanwhile was absorbed in Runcorn's suburbs and Widnes developed a little later, the first chemical factory being built by John Hutchinson in 1849. Rapid industrialisation led to a demand for housing and social infrastructure for the increased population in the area.
- 12.6.35 A study of early OS maps for the study area shows the development of settlement, industry and infrastructure within what was a primarily rural landscape. The Runcorn settlement was largely confined to the area between the shore and the Bridgewater Canal with a large area of woodland/rough pasture to the east extending almost from the estuary to the village of Halton. The field systems indicate medieval and later enclosure patterns. The increase in the number of buildings around Runcorn was related to the increased industry in the area with a density of building constructed around the estuary, canal, road and rail routes.

- 12.6.36 Runcorn was situated at the terminus of five canals – St Helens Canal Sankey Navigation, the Bridgewater Canal, the Weaver Navigation, the Runcorn to Latchford Canal and the Manchester Ship Canal. This greatly assisted its economic growth in the eighteenth and nineteenth centuries, together with the development of the road and rail networks. The Mersey was first bridged in 1868, by the Aethelfleda Railway Bridge; by 1905 the transporter bridge was opened and by 1961 the current SJB had replaced the transporter bridge being, at the time of its construction, one of the largest steel arches in Europe.
- 12.6.37 The mid-nineteenth century development of the chemical industry at Widnes and Runcorn arose from the accessibility of the means of transport for raw materials and finished products, as well as from the ability to develop industries that created much waste in sparsely populated areas. A ready supply of good quality water from the Bunter Sandstone aquifer also assisted the chemical industry development. Other major industries developed, including soap manufacture and shipbuilding, some as a direct result from the impetus of the chemical industry development. However, the most notable negative effect of the major industrialisation of the area was the huge amount of waste produced, particularly by the chemical industry. Indeed this led to the description of Widnes in 1888 as *'the dirtiest, ugliest and most depressing town in England'*. (Diggle,1961).

### ***Landscape/ Townscape Elements***

#### ***Overview of Widnes and Its Environs***

- 12.6.38 Widnes is situated on the north bank of the River Mersey. It is a low lying town which occupies a broad tract of gently sloping ground which falls southwards towards the river.
- 12.6.39 Other than occasional outcrops of the underlying red sandstone, there are no distinctive landscape features and the town, which is characterised by its expansion in the Victorian era as a centre of the manufacture and processing of chemicals, has expanded from a core of high density terraced housing surrounding a compact town centre to absorb many of the surrounding villages into its urban fabric.
- 12.6.40 To the south of the town a spur of land projecting into the river contains the area of West Bank which, together with a spur projecting northwards from Runcorn, forms a narrowing of the Mersey to create the Runcorn Gap. This natural constriction became a focus for a ferry crossing and, subsequently, the first point upstream in the Mersey Estuary at which it was possible to construct a bridge crossing.
- 12.6.41 The estuary is fringed by a mix of large and small scale industrial development, residential development and, latterly, edge of town commercial and retail expansion. Views of the estuary from adjacent residential areas and areas of public access are largely blocked or screened by the industrial/commercial fringe apart from intermittent views from the canal side and some of the adjacent areas.
- 12.6.42 Between the industrial developments and shoreline of the River Mersey the local Garston to Timperley Freight railway line runs adjacent to and parallel with the St Helens Canal.

- 12.6.43 The A557 Widnes Eastern bypass forms a distinctive transportation corridor which is both visually dominant and a physical barrier, especially the elevated Queensway Highway and the SJB approaches. Other than this, transportation corridors do not form visually significant landscape features being largely contained within the existing urban fabric or absorbed into the existing landform and land cover.

#### ***Overview of Runcorn and its Environs***

- 12.6.44 The old town of Runcorn is situated on a spur of land which projects northwards into the River Mersey. The Manchester Ship Canal forms a continuous, linear feature immediately adjacent to the estuary, backed by an industrial fringe although of smaller scale and generally more recent origin than in Widnes, which gives way to mixed, but principally residential, development.
- 12.6.45 In contrast to Widnes, the wider landscape and townscape is distinctive, with the north facing slopes of the margins of the Mersey rising steeply to form a local ridge which runs parallel to the estuary and culminates in natural outcrops of red sandstone, the most prominent of which is occupied by Halton Castle. The topography allows both intermittent and panoramic views from the mainly residential areas of the town over the estuary to the north.
- 12.6.46 As with Widnes, the older parts of Runcorn are characterised by high density predominantly terraced housing areas clustered around a compact town centre which expanded to absorb adjacent villages. This is in contrast with the new town, built to the east of the existing town in the 1960's and 70's and which now defines much of Runcorn's character with its clusters of purpose-built, high density residential districts. These are delineated by a series of expressways and bus ways, which provide links between the various districts and focus upon the purpose built commercial and retail centre of Halton Lea. Notwithstanding the generally high density housing and areas of associated development, there are significant areas of open green space, in particular heath land on Runcorn Hill, and the extensive Town Park created as part of the new town. This lies immediately to the south of Norton Priory, a museum and surrounding gardens open to the public.
- 12.6.47 The Daresbury Expressway, busway and Bridgewater Canal follow the contours of the slopes, but do not register as prominent features in the wider context. Much more significant, are the natural valley features which punctuate the slopes. Running in a north south direction they contain the remnants of the natural land cover, open spaces and, most notably, the Central Expressway. The system of Expressways, although segregating the main traffic flows from the main urban areas, can create barriers to access but they are crossed in key locations by a system of bridges and underpasses, which link the residential areas to the main urban centres.
- 12.6.48 Both Widnes and Runcorn contain landscape and townscape features which contribute to a sense of identity and place. In Widnes these include the town centre; West Bank; the Catalyst Museum; Spike Island; Industrial land (west of Cornwall Street in the Waterloo Road Area, around the former West Bank Dock area, the Catalyst Trade Park and around Moss Bank) and the retail and commercial areas centred upon the Green Oaks shopping centre. In Runcorn these include Runcorn Old Town, Runcorn Old Quay frontage, Wigg Island, Halton Castle, the Astmoor Industrial Estate and the Dukesfield Dock area.

### ***Description of the Mersey Estuary and Runcorn Gap***

- 12.6.49 The estuary and its saltmarshes are designated as an Area of Special Landscape Value and include two significant open spaces on the margins of the estuary. Spike Island, on the northern shore adjacent to West Bank, and Wigg Island, adjacent to the south shore, are designated as Important Landscape Features due to their value as public open space and for their nature conservation interest and industrial heritage significance.
- 12.6.50 The estuary landscape includes two contrasting landmarks. Located on the northern bank of the estuary, the Fiddlers Ferry Power Station is a well-known, if not well loved, feature in the landscape, visible from the Pennines and a significant feature in the local landscape. The Silver Jubilee Bridge, in juxtaposition with the adjacent Aethelfleda railway bridge, forms the present Mersey crossing at Runcorn Gap.
- 12.6.51 The SJB, although a lighter structure than the power station, is also visible from the Pennines (depending on weather conditions). Widely visible within the Intermediate study the SJB is a principal focal point for the surrounding urban areas of Runcorn and Widnes and itself affords spectacular views of the estuary.

### ***Local Landscape Areas***

- 12.6.52 The majority of the Intermediate Study Area all falls within the CA60: Mersey Basin regional character area. This details the landscape context as outlined in 12.6.16 above but does not provide detail on local landscape character. The local landscape character has therefore been analysed in more detail as set out below and in Figure 12.6: Intermediate Study Area Landscape Character Areas. The Local Landscape Areas also apply to the Local Study Area, as it is considered there is no need to go further into the grain of the landscape within the Local Study Area.
- 12.6.53 A Landscape Character Assessment was undertaken on behalf of Halton Borough Council in 2009 to inform the Local Development Framework. The document considers the background of the area and areas for future change, including the Mersey Gateway Project. It divides the Borough by broad landscape type and then into nine separate landscape character areas covering rural areas within the Borough. The nine character areas are:
- a. Preston on the Hill Undulating Farmland;
  - b. Daresbury Sandstone Escarpment;
  - c. Upper Mersey Estuary;
  - d. Norton Wooded Parkland;
  - e. Ball O'Ditton Parkland;
  - f. Moore Village and Kekwick Brook Valley;
  - g. North Widnes Farmland;
  - h. Hale Shore and Farmland; and
  - i. Runcorn Heath and Heath Parkland.
- 12.6.54 These areas all fall within the Mersey valley character area and the detailed assessment given is often not applicable to the wider visual impacts of the New Bridge. However, reference is made to these areas when applicable within the local landscape character areas outlined below that have been developed specifically for this study and cover both rural and urban areas.

### ***The Inter-tidal Estuary***

- 12.6.55 The expanse of saltmarsh, mudflats, sand banks and tidal channels of the estuary between the SJB and Fiddlers Ferry Power Station is characterised by the expansive and open scale of the natural estuary landscape, changing with the tides and weather conditions and forming strong links to birdlife, within a manmade surrounding environment. It is a spectacular landscape of a scale where the natural qualities of the environment are not subsumed by the surrounding infrastructure.
- 12.6.56 The area is largely contiguous with the Upper Mersey Estuary LCA which recognises the strengths of the River Mersey as a strong feature of the landscape, the increasing use of the saltmarshes for recreation and nature conservation and the recognition that a new bridge could be an attractive feature within the estuary if it allows the SJB to remain as a distinctive feature in its own right.

The landscape value of this character area is high, although its visual appeal is compromised by the degraded margins. The sensitivity of the landscape is considered to be medium as this large scale landscape has already been degraded by manmade impacts on its edges, including Fiddlers Ferry Power Station, and it has already been crossed by the SJB.

### ***Industrial Margins***

- 12.6.57 The heavily industrialised margins of the estuary, containing the Manchester Ship Canal, St Helens Canal, road and rail corridors and industrial units of varying scales, are characterised by large scale and manmade features including the ThermPhos industrial complex and Fiddlers Ferry Power Station which have agglomerated through the historical and continuing industrial development of the area. These large scale complexes demonstrate the capacity of the estuarine landscape to absorb development.

The landscape value of this character area is low, due to its industrial and manmade nature and its sensitivity is low due to the existing manmade features and scale of the landscape.

### ***Linear Waterways***

- 12.6.58 The linear waterways of the St Helens Canal and the Manchester Ship Canal lie within the Industrial margins character area but are assessed separately due to their linear form from which there tend to be focused forward views. The linear waterways, although despoiled, are in themselves features of local interest capable of improvement, particularly with increased use for recreation.

The landscape value of this character area is low, due to its industrial and manmade surroundings and its sensitivity is medium due to the focused views and recreational potential of the canals.

### ***Runcorn Slopes***

- 12.6.59 The north facing slopes of Runcorn and Halton comprise mixed urban development, an intricate area, which contains pockets of both degraded and poor landscape and areas of good quality landscape around the more historic features, such as the village of Halton. The slopes overlook the estuary and these views characterise the area, as typified by the view from Halton Castle. The Runcorn Hill and Heathlands LCA includes sectors of open land within the urban form which afford extensive views towards the Estuary and Widnes.

The landscape value of this character area is medium, due to the quality of the views afforded from it and its sensitivity is medium, not high, due to the level of manmade features already contained within those views.

### ***Central Widnes***

- 12.6.60 To the north of West Bank, beyond a narrow strip of industrial use the residential areas of Widnes and Halton are characterised by a tight knit urban fabric of low rise residential housing and Halton High Street.

The landscape value of this character area is low due to its developed nature and lack of outward views and its sensitivity is low.

### ***Runcorn New Town***

- 12.6.61 To the south of the ridge dividing old Runcorn and the north facing slopes of Halton from the remainder of the combined settlements, extensive areas of housing, built during the development of the new town, are set within the parkway road system. Halton Lea Shopping Centre is set within this area and the developments are screened from the road system by mature planting along the roadways. The Runcorn Hill and Heathlands LCA includes sectors of open land within the urban form although most views towards the estuary are screened by the Runcorn ridge. The Norton Wooded Parkland similarly includes Norton Priory and the town park within its generally inward looking character area.

The landscape value of this character area is low due to its developed nature and lack of outward views and its sensitivity is low.

### ***Historic Settlement***

- 12.6.62 The more historic small scale areas of settlement of distinctive character on the north and south banks of the Runcorn Gap provides the setting for the SJB and railway bridge. Settlements of terraced housing in narrow streets interspersed with visually prominent and distinctive buildings are in sharp contrast to the size, scale and visual simplicity of the SJB, but provide it with a cohesive setting.

- 12.6.63 Around the periphery of the boundary of the Halton Borough, both to the north and south of the estuary, the industrial margins give way to areas of residential development and an increasingly open and natural landscape along the estuary margins.

The landscape value of this character area is high due to its small scale and historic nature and its sensitivity is medium due to the existing impacts of the SJB and the industrialised nature of the wider environment of the estuary.

## Future Landscape Change

- 12.6.64 The baseline landscape is not static and the evolution of the postindustrial landscape around the banks of the Upper Mersey has distinctive trends which are summarised as:
- a. Conservation and consolidation of the historic communities which fringe the Runcorn Gap;
  - b. The preservation and enhancement of the SJB and adjacent railway bridge;
  - c. The development through proactive policy objectives of a stronger terrestrial landscape infrastructure; and
  - d. The continuing enhancement and improvement of the nature conservation value of the estuary.
- 12.6.65 Allotted development zones are carefully targeted and focused upon opportunities to regenerate the existing sites and infrastructure, again with commitments to improving the landscape structure.
- 12.6.66 In the medium to longer term, the anticipated decommissioning and demolition of Fiddlers Ferry Power Station would be a significant visual change increasing the physical and visual quality of the landscape into which the Project would be set.

## Visual Assessment

- 12.6.67 There are a number of visual receptor groups within the study area who may be affected by the Project. These visual receptors are categorised into the following groups:
- a. settlements, representative of residential receptors;
  - b. users of amenity facilities, including Public Rights of Way, whose attention may be focussed on the landscape;
  - c. occupiers of business and industrial properties; and,
  - d. travellers on roads, railway lines and the Canal within and around the study area.
- 12.6.68 The ZTV as illustrated in Figure 12.7: Wider Study Area ZTV, has identified areas of theoretical visibility for the New Bridge within the 30km study area. This information has been used to assess areas from which the New Bridge and its towers are potentially visible, and a number of viewpoints have been selected and agreed with the Local Authority to allow an overall assessment of the visual impact of the Project to be carried out. These viewpoints have been selected to be representative of receptor types and to cover views representative of distances and directions over the whole study area and reflecting the initial findings of the ZTV.
- 12.6.69 The initial findings of the ZTV show relatively limited areas of potential impact on the Wider Study Area. Therefore, the baseline review has been carried out to consider the potential impact of the Project on the Wider Study Area landscape through the consideration of:
- a. Designated Landscape(s);
  - b. Landscape Character Areas; and
  - c. Wider Study Area Viewpoints.

12.6.70 As outlined in the discussion of the Study Area at 12.3.5, it is likely that findings from this review will show no significant impacts on the Wider Study area and therefore more detailed impacts on receptors will only be considered for the Intermediate and Local Study areas ie within 10km of the Project. The ZTV for the Intermediate Study Area is shown in Figure 12.8: Intermediate Study Area ZTV.

12.6.71 The locations of the viewpoints are indicated in Figure 12.9: Wider Study Area: Viewpoint Location Plan and Figure 12.10: Intermediate Study Area: Viewpoint Location Plan and listed below:

1. A562 Higher Road, to the west of Widnes
2. Hough Green
3. Spike Island
4. West Bank over the Mersey Estuary
5. Runcorn Promenade, Mersey Road
6. From the Entrance to Wigg Island
7. From Halton Castle
8. Wigg Island Eastern Side
9. Friend's Lane, Penketh
10. Union Bank Lane, M62
11. From Bob's Bridge, Lapwing Lane
12. Pickering Pasture/Hale Point, Trans Pennine Trail
13. Weston Link Junction
14. Footbridge (Central Expressway)
15. A558 Daresbury Expressway, Runcorn
16. Victoria Road, Widnes
17. Ship Street, Frodsham
18. Bridgewater Canal, Daresbury Science Park and Innovation Centre
19. National Waterways Museum, Ellesmere Port
20. Public Footpath, Cuddington
21. Garswood Road, Billinge
22. B5151 Willaston Road, Neston
23. Wimberry Hill Road, West Houghton

## **Wider Study Area**

### ***Settlements***

12.6.72 The settlement pattern within the wider study area is complex and includes many significant towns and conurbations.

12.6.73 To the north west of the study area Liverpool and the coalescing populations of Huyton, Knowsley, Kirby Crosby, Bootle, Wallasey, Birkenhead and Bebington form a significant conurbation. Here the vast majority of potential receptors will be enclosed by the surrounding built up areas and have limited views out over the surrounding area. Viewpoint 1 (which actually lies within the Intermediate Study Area) on the edge of Halewood is selected to be representative of views from the south east of the conurbation, picking up the likely worst case scenario from the findings of the ZTV.

- 12.6.74 To the north of the study area there are a large number of virtually coalescing settlements spreading through the gap from Liverpool to Greater Manchester. These settlements include Tyldesley, Atherton, Leigh, West Houghton, Hindley, Wigan, Ashton in Makerfield, Golborne, Newton le Willows, St Helens, Skelmersdale and Ormskirk. Much of this area does not fall within the ZTV or only shows exposure to the towers, not the deck of the New Bridge on the ZTV. Viewpoint 23 from West Houghton and Viewpoint 21 from Billinge are taken to be representative of views from this area.
- 12.6.75 To the east of the study area the coalescing populations of Altrincham, Sale, Urmston, Irlam, Worsley on the western edge of Manchester form a second cluster. However these areas only demonstrate exposure to the towers, not the deck of the New Bridge on the ZTV. Viewpoint 23 from West Houghton is generally indicative of views from this area.
- 12.6.76 Closer to the New Bridge but still to the east of the study area, Warrington lies within the Upper Mersey Valley and much of the town falls within the ZTV, often with theoretical visibility to the deck and towers. Viewpoint 9 (which actually lies within the Intermediate Study Area) is indicative of the worst case scenario in views from the settlement edge.
- 12.6.77 To the south of the study area the settlement pattern is less intense but still includes the city of Chester and several major towns including Knutsford, Northwich, Winsford, Middlewich, and Frodsham as well as other larger villages including Weaverham, Cuddington, Sandiway, Kelsall and Helsby. These settlements either do not fall within the ZTV, or only show exposure to the towers, not the deck of the New Bridge. Viewpoint 20 on the edge of Cuddington is taken to be representative of views from much of this area, together with Viewpoint 17 from Frodsham.
- 12.6.78 To the west of the study area Ellesmere Port sits as a stand-alone settlement on the south west bank of the lower Mersey Estuary with potentially clear views across the water to the Runcorn Gap. The ZTV indicates that there are potential views to the New Bridge and Viewpoint 19 is taken as representative of views from this area. Similarly Viewpoint 22 picks up views from the edge of Neston on the Wirral Peninsular.

### ***Intermediate Study Area***

#### ***Settlements***

- 12.6.79 To the north west of the study area the edge of the Liverpool conurbation has limited views out over the surrounding area. Viewpoint 1 on the edge of Halewood is selected to be representative of views from the south east of the conurbation, picking up the likely worst case scenario from the findings of the ZTV.
- 12.6.80 To the north of the study area the virtually coalescing settlements in the gap between Liverpool and Warrington include Whiston, Rainhill, Sutton and the stand alone village of Burtonwood. Much of this area falls within the ZTV and shows exposure to the towers and the deck of the New Bridge. Viewpoint 10, south of Lea Green, is taken to be representative of views from this area.
- 12.6.81 The western edge of Warrington lies within the Intermediate Study Area and falls within the ZTV, often with theoretical visibility of the deck and towers. Viewpoint 9 is indicative of the worst case scenario in views from the settlement edge.

- 12.6.82 To the south of the study area lies the town of Frodsham as well as the larger village of Helsby. The ZTV indicates these settlements will have exposure to the towers, but not the deck of the New Bridge, although there are potential viewpoints from Frodsham, which sits on the edge of a sandstone ridge and has extensive views to the north, which may provide views to the deck. Viewpoint 17 on the edge of Frodsham is taken to be representative of views from much of this area.
- 12.6.83 Finally, the towns of Widnes and Runcorn lie within the immediate vicinity of the New Bridge. To the north Viewpoints 2, 12, 3 and 4 are typical of views from the edge of Widnes, including West Bank and Hale Bank.
- 12.6.84 To the south, the views from the rising land above Runcorn are typified by Viewpoint 7 and from the old town by Viewpoint 5. To the south of the Runcorn the settlement falls into visual shadow as indicated on the ZTV.

### ***Cultural Heritage, Tourism and Amenity***

- 12.6.85 The Intermediate Study Area includes a number of visitor attractions and facilities for people's enjoyment of the countryside. These include historic sites, long distance footpaths, National Trust Sites and other recreational sites as outlined below and illustrated in Figure 12.11: Intermediate Study Area: Tourism and Recreational Amenity. Please note effects on Cultural Heritage are considered in detail within Chapter 13 of this ES. Viewer sensitivity for those engaged in the enjoyment of the countryside for its visual qualities is generally considered to be high. This includes those using long distance recreational routes or visiting local viewpoints and this sensitivity applies to the sites listed below.

### **Silver Jubilee Bridge**

- 12.6.86 The SJB crosses the River Mersey and the Manchester Ship Canal at the Runcorn Gap. The bridge has a main arch span of 330 m. It was opened in 1961 as a replacement for the Transporter Bridge, and widened in 1975–77, being renamed for the Queen's Silver Jubilee. The bridge is designated a Grade II listed structure. Its distinctive form has become a symbol for the north west region on a par with the Jodrell Bank radio telescope. It forms a distinctive element in local to mid-range views and can be seen from distances of 30km or more.

### **Halton Castle**

- 12.6.87 There are extensive views over the estuary from the local vantage point of Halton Castle, situated on the top of Halton Hill, a Scheduled Ancient Monument and Grade I listed building. The castle is largely ruined apart from the courthouse which has been converted into a public house, the Castle Hotel. The site is managed by the Norton Priory Museum Trust and the interior of the castle is occasionally opened to the public. Walks around the exterior give extensive views in all directions, including the Pennines and the mountains of North Wales.

### **Norton Priory Museum and Garden**

- 12.6.88 Norton Priory Museum & Garden is an award winning museum, including excavated medieval ruins, a SAM, Walled Gardens and a woodland and sculpture trail. It lies to the immediate east of the Project, bisected by the A55 and enclosed by woodland planting which limits views out to the surrounding area.

## Canals

- 12.6.89 St Helens canal is an important recreational resource and the Trans Pennine Trail runs along the towpath, on the southern side of the canal and adjacent to the estuary. The Trail is a long-distance, coast to coast route for walkers, horse riders and cyclists, between Southport and Hornsea a distance of over 300 kms. The Bridgewater Canal, used as a leisure cruising facility, commences near the centre of Runcorn Old Town and runs eastwards alongside the Bridgewater and Daresbury Expressways. There is also recreational use of the Manchester Ship Canal including pleasure cruises operated by Mersey Ferries.

## Long Distance Routes

- 12.6.90 As well as the Trans Pennine Trail the area includes the Sandstone Trail, running for 55 kilometres across rural Cheshire and north Shropshire, a popular long distance walk following the elevated ridge of wooded sandstone hills above the Cheshire Plain from Frodsham to Whitchurch. The Cheshire Ring Canal Walk runs for 156 miles, linking six historic canals including the Macclesfield, Peak Forest and Trent and Mersey Canals.

## Country Parks

- 12.6.91 There are a number of Country Parks and the National Trust Property at Helsby Hill within the study area as indicated on Figure 12.11, however where these sites are within the ZTV they are generally set within the urban fabric and views over the surrounding countryside are limited. Exceptions to this include Clock Face Colliery Country Park and Castle Hill Park, Frodsham. Clock Face is a 57 hectare former colliery site reclaimed and restored to create a community woodland and public open space within the Mersey Forest, about 6km to the north of the New Bridge.
- 12.6.92 To the west of Clock Face, *Dream* is a landmark sculpture sited on the former Sutton Manor Colliery in St Helens, close to Junction 7 of the M62. The 20 metre-high artwork in the form of a girl's head was designed by artist Jaume Plensa and sits on high ground giving views out over the surrounding landscape.
- 12.6.93 The War Memorial at Overton Hill is a local viewpoint with widespread views from the sandstone edge north over the whole of the Mersey Estuary and the wider area. SJB and Fiddlers Ferry Power Station are both clearly visible in the outstanding view. Castle Park lies below the ridge and is enclosed within woodland planting. The arts centre and gardens, designed by Edward Kemp, who also designed Stanley Park in Liverpool, is open to the public, between April 2005 and March 2006 Castle Park house went through extensive £2.2 million refurbishment to restore it to its original glory.

## The Mersey Estuary

- 12.6.94 The Estuary and its saltmarshes are designated as an Area of Special Landscape Value and includes two significant open spaces on the margins of the estuary. Spike Island, on the northern shore adjacent to West Bank, and Wigg Island, adjacent to the south shore, are designated as Important Landscape Features due to their value as public open space and for their nature conservation interest and industrial heritage significance. Wigg Island is also within the Green Belt.

- 12.6.95 **Spike Island**, found at the point where the St Helens Canal enters the Mersey, is a former soap works and processing plant and is now a popular recreation area, lying on the Trans-Pennine Trail and providing the setting for the 'Catalyst' Chemical Industry Museum lying on the edge of West Bank. Spike Island affords expansive views over the estuary.
- 12.6.96 **Catalyst** is an interactive science centre and museum devoted to chemistry and how the products of chemistry are used in everyday life. The museum is housed in the four-storey Tower Building, constructed around 1860 with a glass lift and an enclosed glazed roof-top observation deck, added in 1989 which gives widespread views over the Upper Mersey. It lies on the edge of West Bank with views out over Spike Island.
- 12.6.97 **Wigg Island**, is a community park with a strong emphasis on the enjoyment and appreciation of the nature conservation interest of the estuary. There are panoramic views over the estuary including from bird hides, at vantage points overlooking the adjacent saltmarsh. The Project Area lies on former chemical industry land and a former repository for the storage and manufacture of munitions lies to the east of the Project area.
- 12.6.98 There are several Conservation Areas within the study area as shown on Figure 12.3. However the majority of these are set within the urban fabric of the built up communities and views to the New Bridge are therefore likely to be screened by intervening buildings and settlements with views to the Bridge therefore being intermittent and not significant.

#### **Communications network**

- 12.6.99 The Intermediate Study Area includes a significant network of roads and rail as would be expected within the largely urban and highly populated study area and as outlined below and illustrated in Figure 12.12: Intermediate Study Area: Communications Network. The journey ambience of those receptors travelling within the confines of the Project is considered in Chapter 16: Transportation, however the visual effect of the Project on users of the wider transport network has been considered as part of impacts on visual amenity.
- 12.6.100 Viewer sensitivity for road, rail and waterway users can vary depending on the nature of the journey, the surrounding landscape/townscape context and the duration they are exposed to a particular view. Given the generally urban nature of the Intermediate study area and the assumed routine nature of most trips the sensitivity of those using the transport network is considered to be low.

#### **Roads**

- 12.6.101 The Intermediate Study Area includes a dense and widespread road system linking the large conurbations and towns within the area.
- 12.6.102 The motorway network includes the M62 and the M56 which run east west across the study area, to the north and the south of the area respectively. A network of dual carriageway A roads link from this motorway network into the main centres of Widnes, Runcorn and Warrington, and across to Liverpool and its environs. The speed of traffic on these fast moving routes and the built up nature of much of the surrounding area, together with areas where the roads run in lengthy cutting, limit many views from the road network. Those existing views are over a mixed rural and urban landscape where the impact of the large conurbations and their industrial hinterland give a manmade dominance to most views.

## **Rail**

- 12.6.103 The rail networks provides links between Manchester and Chester, Manchester and Liverpool, Crewe and Liverpool (crossing the Aethelfleda Bridge) and Crewe and Newton Le Willows. These lines are set within the urban fabric and views to the wider area are limited. As with the road network, views are over a mixed rural and urban landscape where the impact of the large conurbations and their industrial hinterland give a manmade dominance to most views. The Project area is also crossed by the Garston-Timperley Freight Line.

## **Canal**

- 12.6.104 The canal system has been covered where appropriate within the Recreation and Amenity section above.

## 12.7 Effects Assessment

### The Proposed Development

- 12.7.1 A description of the engineering and technical aspects of the proposed development is provided in Chapter 2 of this Further Applications ES.
- 12.7.2 The Landscape Proposals shown in Figures 12.14.1 to 12.14.13, supplemented by further detail in the Design and Access Statement that accompanies the Further Applications for the Project describe the Landscape Proposals for the Project. These have been prepared in response to the identified landscape/townscape and visual effects, the character of the area and consultation. It must be emphasised, however, that at this stage in the process, these are indicative of the character of the landscape proposals only and do not represent a fully resolved design. That would be the subject of later work and be approved prior to implementation of the works comprised in the Project.

### Sources of Effect

#### Construction

- 12.7.3 Construction would be undertaken over period of approximately two years. The construction phases of the proposed development are set out in the CMR as found in Appendix 2 of the Further Applications ES.
- 12.7.4 During construction, the landscape/townscape and visual effects will vary depending on the particular operations being carried out. Notwithstanding this, the following general factors may generate adverse visual effects for surrounding receptors and will need to be considered:
- a. Demolition and clearance works utilising heavy plant machinery;
  - b. Site stripping of trees, shrubs, hedgerows and other vegetation;
  - c. Earthworks;
  - d. Heavy construction and engineering works resulting in the temporary disturbance of the site as well as additional heavy vehicle movements within, to and from the site;
  - e. Working within a marine environment; and
  - f. Temporary facilities will be required during the construction phase and include
    - Haul roads, site offices and storage compounds;
    - Temporary hoardings/fencing may be required during the construction phase;
    - Cranes will be highly visible elements during the construction phase;
    - Temporary highway and footpath diversions will be required; and
    - Lighting, which may be required during the autumn and winter months in order to carry out construction activities safely.
- 12.7.5 The impacts during construction within the Wider and Intermediate Study Areas are likely to be minimal, and therefore have not been assessed separately.

## Operation

- 12.7.6 The main sources of permanent landscape/townscape and visual effects arising from the proposed development are:
- a. The New Bridge;
  - a. The highway, its structural earthworks and further bridge structures;
  - b. The proposed lighting scheme;
  - c. Major directional signage, including tolling signage and management;
  - d. Traffic (including the effects of vehicle lights); and
  - e. Noise attenuation and wind barriers.
- 12.7.7 Given that the final details of the Project will develop during the design development phase assumptions and recommendations have been made regarding aspects of the design which may have an influence on the landscape and visual assessment.
- 12.7.8 The findings of the assessment process are summarised in tabular form in terms of:
- a. construction phase effects;
  - b. the first year in which the Project would be fully operational; and
  - c. after fifteen years of operation when the landscape scheme would have matured.
- 12.7.9 The year 1 assessment of effects embraces the impacts of the scheme without landscape interventions, the traffic upon it and the daytime winter effects of lighting.

### **Prediction of Landscape/Townscape and visual effects and the appraisal of significance**

- 12.7.10 This section sets out the findings of the landscape/townscape and visual appraisal and assesses the significance of the likely residual effect of the proposed development with respect to landscape/townscape character and visual amenity i.e. those effects still likely to be significant in landscape/townscape and visual terms with all the mitigation measures in place.
- 12.7.11 The effects appraisal is set out in three sections to cover the Wider, Intermediate and Local Study Areas. The Wider and Intermediate Study Areas predominantly cover the effects of the New Bridge on the landscape, the Local Study Area is concerned with the potential effect of the Highway on the immediate townscape and receptors within that locality. Each section first considers the effect of the Project on the landscape, covering both designated landscape and landscape character areas. The section then covers effects on visual amenity through considering impacts on receptor groups and the selected viewpoints.

### **Effects on the Wider Study Area**

#### **Landscape Designations**

- 12.7.12 There are no nationally designated landscape within the wider study area, impacts on locally designated landscape have not been considered in the Wider Study Area.

## **Landscape Character Areas**

### **CA 32: Lancashire and Amounderness Plain**

- 12.7.13 The ZTV indicates there may be some limited areas where there are views to the bridge towers only from this character area. However given the distance of the area from the project, the limited spread of views and the low sensitivity of the landscape the level of change is low and the overall effect of the Project is considered to be negligible.

### **CA 55: Manchester Conurbation**

- 12.7.14 The ZTV indicates there may be some views to the bridge towers only from this character area. However given the built up nature of the area views are only likely from higher ground or tall buildings. Given the distance of the area from the Project and the low sensitivity of highly modified landscape the level of change is low and the overall effect the Project is considered to be negligible.

### **CA 56: Lancashire Coal Measures**

- 12.7.15 The ZTV indicates there are some views to the bridge towers from this area and more limited views to the bridge deck. However field study indicates that these views are often limited by the intervening settlements and vegetation. Given the distance of the area from the Project and the low sensitivity of the highly modified landscape the level of change is low and the overall effect of the Project is considered to be negligible

### **CA 57: Sefton Coast**

- 12.7.16 The ZTV indicates there is no view to the Project from this Character Area resulting in no effect.

### **CA 58: Merseyside Conurbation**

- 12.7.17 The ZTV indicates there are some views to the bridge towers from this area and more limited views to the bridge deck. However field study confirms that these views are limited by the intervening townscape. Given the distance of the area from the Project and the low sensitivity of the highly urban landscape the level of change is low and the overall effect of the Project is considered to be negligible.

### **CA 59: Wirral**

- 12.7.18 The ZTV indicates there are some views to the bridge towers from this area and more limited views to the bridge deck. However field study confirms that these views are limited by intervening built and natural features. Given the distance of the area from the Project and the minimal areas of view, although the sensitivity of the landscape is medium, the level of change is low and the overall effect the Project is considered to be negligible.

### **CA 60: Mersey Valley**

- 12.7.19 The Project lies within the Mersey Valley Character Area and the character area will be considered in more detail in the review of the Intermediate study area. However, the ZTV indicates there are views to the bridge towers from this area and more limited views to the bridge deck, both from the west and the east towards the Project. These views tend to be focused along the Mersey Valley. To the east the ZTV indicates views from Warrington are possible. However, field study indicates that these are largely shielded by the built form of Warrington and significant further screening by existing vegetation. To the west Viewpoint 19 typifies the nature of views and here views to the New Bridge are largely screened by the landform of Runcorn and the SJB. Given that this part of the character area lies at over 10km from the Project and the highly modified landscape is of low sensitivity the level of change is low and the overall effect of the Project is considered to be negligible.

### **CA 61: Shropshire, Cheshire and Staffordshire Plain**

- 12.7.20 The ZTV indicates there may be some views to the bridge towers only from this character area. However given the gently rolling nature of the landscape and the strong hedgerow tree cover views from this area will be intermittent at most. Given the distance of the area from the Project and the minimal areas of view, although the sensitivity of the landscape is medium, the level of change is low and the overall effect the Project is considered to be negligible.

### **CA 62: Cheshire Sandstone Ridge**

- 12.7.21 The ZTV indicates there may be some views to the bridge towers only from this character area. However, given the extent of woodland cover views from this area will be intermittent at most. Given the distance of the area from the Project and the minimal areas of view, although the sensitivity of the landscape is medium, the level of change is low and the overall effect the Project is considered to be negligible.

### **CA 13 (Wales) Deeside and Wrexham**

- 12.7.22 The ZTV indicates there are some views to the bridge towers from this area and more limited views to the bridge deck. However, field study indicates that these views are dominated by the intervening industrial landscape around Connah's Quay. Given the distance of the area from the Project and the low sensitivity of the highly modified landscape the level of change is low and the overall effect of the Project is considered to be negligible.

**CA14 (Wales) Maelor**

12.7.23 The ZTV indicates there is no view to the Project from this Character Area resulting in no effect.

**Table 12.7.1 Effect on Landscape: Wider Study Area**

<b>Effect</b>	<b>Receptor and sensitivity</b>	<b>Nature of effect</b>	<b>Significance of effect</b>
<b>Construction and Operation phases</b>			
Visual effect of the New Bridge on the landscape character of the wider study area.	All Landscape Character Areas within 10 to 30km distance from the Project. Low to medium sensitivity.	Neutral Long term Permanent Indirect Low	Negligible (Not significant(N.S.))

**Viewpoints**

- 12.7.24 Viewpoints have been selected over the Wider Study Area which fall within the ZTV and give a representative series of viewpoints to aid the assessment of the effect of the New Bridge on the Wider Study Area. Given the limited extent of areas falling within the ZTV compounded by the screening effects of built development and vegetation the number of views is limited.
- 12.7.25 Viewpoints are shown on Figure 12.9 and the photograph, its location and the description of the existing view and the effect of the New Bridge are given in Appendix 12.1. A summary table of the viewpoints is given below. The clear lack of significant effects from any of these viewpoints confirm the findings of the Landscape Character effects whereby the New Bridge will have very limited impact on the Wider Study Area.

**Table 12.7.2 Effect on Viewpoints: Wider Study Area**

<b>Effect</b>	<b>Receptor sensitivity and</b>	<b>Nature of effect</b>	<b>Significance of effect</b>
<b>Construction and Operation phases</b>			
Visual effect of the New Bridge in views from Ellesmere Port	Viewpoint 19 High Sensitivity	Positive Long term Permanent Indirect Low	Slight beneficial (N.S.)
Visual effect of the New Bridge from Cuddington	Viewpoint 20 Medium Sensitivity	Positive Long term Permanent Indirect Low	Slight beneficial (N.S.)
Visual effect of the New Bridge from Billinge	Viewpoint 21 Medium Sensitivity	Positive Long term Permanent Indirect Low	Slight beneficial (N.S.)
Visual effect of the New Bridge	Viewpoint 22 Low sensitivity	Neutral Long term Permanent Indirect None	None (N.S.)
Visual effect of the New Bridge	Viewpoint 23 Medium Sensitivity	Neutral Long term Permanent Indirect Low	Slight (N.S.)

**Conclusion**

- 12.7.26 There are no significant impacts on any Designated Landscapes, on any of the Landscape Character Areas or on the selected Viewpoints. The study shows that although the Bridge will be visible in parts of the wider landscape and will form a distinctive element in these views it will not dominate those views as a significant feature.
- 12.7.27 Overall, the effects of the New Bridge on the Wider Study Area are therefore considered to be minimal. However it should be noted that the bridge will be visible at certain locations throughout the Wider Study Area and beyond as is found currently for the SJB. Like the SJB, it is reasonable to assume that the New Bridge with its distinctive design and simple, light structure, will become a 'locator' feature for the region, bringing a positive visual element into the landscape.

## Effects on the Intermediate Study Area

### Designated Landscape

- 12.7.28 The Halton Borough UDP designates the Mersey Estuary and its saltmarshes, including Wigg and Spike Islands, as an Area of Special Landscape Value, this landscape is considered to be of high sensitivity. The New Bridge will bisect this area and introduce a new and manmade element which will form a significant new element in the landscape, resulting in a moderate level of impact. However given the urban and semi industrial nature of much of the surrounding landscape the New Bridge will not alter the character of the area. Given the high landscape sensitivity and the moderate level of change the overall effect of the Project is considered to be moderate to high, this is considered significant.
- 12.7.29 Wigg and Spike Islands are also included as Greenspace, Open Countryside, Undeveloped Coastal Zone and Wigg Island also lies within the Greenbelt. All of these designations seek to preserve the open and rural nature of the landscape. The introduction of the New Bridge into these areas will result in a high level of change, altering the locally open and rural character and introduce built elements into the immediate landscape. Given the high landscape sensitivity (as outlined in 12.6.3-12.6.7), and the high level of change, the overall effect of the Project is considered to be high, this is considered significant.

### Landscape/Townscape Character Areas

- 12.7.30 Although the majority of the intermediate study area falls within Character Area 60: Mersey Valley three other character areas are found within the 10km radius as follows:

#### CA 56: Lancashire Coal Measures

- 12.7.31 The ZTV indicates there are some views to the bridge towers from this area and more limited views to the bridge deck. However, field study indicates that these views are often limited by the intervening settlements and vegetation. Given the low sensitivity of the highly modified landscape the level of change is low and the overall effect of the Project is considered to be negligible.

#### CA 58: Merseyside Conurbation

- 12.7.32 The ZTV indicates there are views to the bridge towers and to the bridge deck. However, field study confirms that these views are limited by the intervening townscape. Viewpoint 1 is typical of views from the edge of the conurbation towards the Project. Given the low sensitivity of the highly urban landscape and the low level of change the overall effect of the Project is considered to be negligible.

#### CA 61: Shropshire, Cheshire and Staffordshire Plain

- 12.7.33 The ZTV indicates there are some views to the bridge towers from this area and more limited views to the bridge deck. However given the gently rolling nature of the landscape and the strong hedgerow tree cover views from this area will be intermittent. Given the areas of view, although the sensitivity of the landscape is medium, the level of change is low and the overall effect the Project is considered to be low.

## **CA 60: Mersey Valley**

- 12.7.34 The Project lies within the Mersey Valley Character Area and the ZTV indicates there are views to both the bridge towers and the bridge deck from almost all of the Intermediate Study Area. However much of this area is heavily built up. Views tend to be limited to the edges of the settlement areas where these are predominantly flat as, for example, around Warrington (as typified by viewpoint 9) and Widnes (as typified by viewpoint 2). The north facing slopes of Runcorn are the exception, where the higher land gives widespread views out over the estuary, as typified by viewpoint 7.
- 12.7.35 Given the extent and potential level of effect over this character area it has been further divided as outlined below to allow a more detailed assessment to be carried out, based on the character areas detailed in the baseline.

### **The Inter-tidal Estuary**

- 12.7.36 The New Bridge will form a new and major element in the landscape of the Inter-tidal Estuary, highly visible throughout the expansive and open scale of the natural estuary landscape. However, given the ability of the landscape to incorporate manmade elements and the pre-existence of these elements within the area, the character of the estuary will not change significantly.
- 12.7.37 Given the medium sensitivity of this landscape type, where natural and manmade elements are able to coexist, combined with a medium level of change the overall effect of the Project is considered to be moderate, this is considered significant. However, given the dramatic nature of the landscape and the high level of design quality of the New Bridge, at a scale that is in keeping with the landscape, this is considered to be a positive effect.

### **Industrial Margins**

- 12.7.38 The New Bridge will form a new and major element in views from the heavily industrialised margins of the estuary. However, those views will be limited by the intervening built forms of the industrial sheds. The Bridge will be a positive element within this highly manmade environment and be of a scale and character that will sit easily within the existing landscape character.
- 12.7.39 Given the low sensitivity of this landscape type combined with a low level of change the overall effect of the Project is considered to be low, this is not considered significant. However, given the high level of design quality of the New Bridge this is considered to be a positive effect.

### **Linear Waterways**

- 12.7.40 The New Bridge will form a new and major element along the linear waterways of the St Helens Canal, the Bridgewater Canal and the Manchester Ship Canal. It will be in keeping with the landscape character of the canals, which are already crossed by the SJB and Aethelfleda Bridge and the surrounding area however, as the bridge will cross directly over the Canals the impact will be locally high.
- 12.7.41 Given the medium sensitivity of this landscape type combined with an overall medium level of change the overall effect of the Project is moderate, this is considered significant. However, given the high level of design quality of the New Bridge this is considered to be a positive effect.

### **Runcorn Slopes**

- 12.7.42 The New Bridge will form a new element in the widespread views from the highly populated residential areas of Runcorn which look north over the estuary. It will be a significant but not dominant element in those views and be of a scale and type in keeping with the SJB and Fiddlers Ferry Power Station. It will not change the character of the view.
- 12.7.43 Given the medium sensitivity of this landscape type combined with a medium level of change the overall effect of the Project is moderate, this is considered significant. However, given the high level of design quality of the New Bridge and the level of manmade features already contained within those views this is considered to be a positive effect.

### **Central Widnes**

- 12.7.44 The New Bridge will largely be screened by intervening buildings within the tight knit urban fabric of Widnes and will not form a significant element in the townscape of this character area.
- 12.7.45 Given the low sensitivity of this character area combined with a low level of change due to its developed nature and lack of outward views the overall effect of the Project is low, this is not considered significant.

### **Runcorn New Town**

- 12.7.46 Views to the New Bridge will largely be screened by the ridge dividing old Runcorn and the north facing slopes of Halton from the remainder of the combined settlements and will not form a significant element in the townscape of the area.
- 12.7.47 Given the low sensitivity of this character area combined with a low level of change due to its developed nature and lack of outward views the overall effect of the Project is low, this is not considered significant.

### **Historic Settlement**

- 12.7.48 The size of the New Bridge will be in contrast with the more historic small scale areas of settlement of distinctive character on the north and south banks of the Runcorn Gap, however it will mirror the scale of the existing Bridges. The New Bridge lies more remotely from West Bank and Old Runcorn and therefore the impact of New Bridge is low.
- 12.7.49 Given the medium sensitivity of the character area combined with the low level of change the overall effect of the Project is low, due to the existing impacts of the SJB and Aethelfleda Bridge, this is not considered significant.

**Table 12.7.3 Effect on Landscape: Intermediate Study Area**

Effect	Receptor sensitivity and	Nature of effect	Significance of effect
<b>Construction and Operation phases</b>			
Visual effect of the New Bridge on the area of special landscape value.	<b>UDP designation: ASLV</b> High sensitivity	Negative Long term Permanent Indirect Medium	Moderate adverse
Visual effect of the New Bridge on the Greenbelt etc.	<b>UDP designation: Greenbelt etc</b> High sensitivity	Negative Long term Permanent Indirect High	Major adverse
Visual effect of the New Bridge on the landscape character area.	<b>CA 56: Lancashire Coal Measures</b> Low sensitivity.	Neutral Long term Permanent Indirect Low	Negligible (N.S.)
Visual effect of the New Bridge on the landscape character area.	<b>CA 58: Merseyside Conurbation</b> Low sensitivity.	Neutral Long term Permanent Indirect Low	Negligible (N.S.)
Visual effect of the New Bridge on the landscape character area.	<b>CA 61: Shropshire, Cheshire and Staffordshire Plain</b> Medium sensitivity	Neutral Long term Permanent Indirect Low	Slight adverse (N.S.)
Visual effect of the New Bridge on the local landscape character.	<b>The Inter-tidal Estuary</b> Medium sensitivity	Positive Long term Permanent Indirect Medium	Moderate beneficial
Visual effect of the New Bridge on the local landscape character area.	<b>Industrial Margins</b> Low sensitivity	Positive Long term Permanent Indirect Low	Low positive (N.S.)
Visual effect of the New Bridge on the local landscape character area.	<b>Linear Waterways</b> Medium sensitivity	Positive Long term Permanent Indirect Medium	Moderate beneficial
Visual effect of the New Bridge on the local landscape	<b>Runcorn Slopes</b> Medium sensitivity	Positive Long term Permanent	Moderate beneficial

character area.		Indirect Medium	
Visual effect of the New Bridge on the local landscape character area.	<b>Central Widnes</b> Low sensitivity	Neutral Long term Permanent Indirect Low	Low neutral (N.S.)
Visual effect of the New Bridge on the local landscape character area.	<b>Runcorn New Town</b> Low sensitivity	Neutral Long term Permanent Indirect Low	Low neutral (N.S.)
Visual effect of the New Bridge on the local landscape character area.	<b>Historic Settlement</b> Medium sensitivity	Neutral Long term Permanent Indirect Low	Low neutral (N.S.)

### Effects on Visual Receptors

#### Viewpoints

- 12.7.50 Viewpoints have been selected over the Intermediate Study Area which fall within the ZTV and give a representative series of viewpoints to aid the assessment of the effect of the New Bridge on the Intermediate Study Area.
- 12.7.51 Viewpoints are shown on Figure 12.10 and the photograph, its location and the description of the existing view and the effect of the New Bridge are given in Appendix 12.1. A summary table of the viewpoints is given below and the significance of effect is given. However these viewpoints are representative only and act as a tool to aid overall analysis of effect on receptor types and landscapes in the study area. Mitigation is not considered for these individual views at this stage.

**Table 12.7.4 Effect on Viewpoints: Intermediate Study Area**

Effect	Receptor sensitivity	and	Nature of effect	Significance of effect
<b>Construction and Operation phases</b>				
Visual effect of the New Bridge on view from edge of Liverpool	Viewpoint 1 Low sensitivity		Positive Long term Permanent Indirect Low/moderate	Slight beneficial (N.S.)
Visual effect of the New Bridge from west edge of Widnes	Viewpoint 2 High Sensitivity		Neutral Long term Permanent Indirect Low	Slight (N.S.)
Visual effect of the New Bridge from Spike Island, in front of Catalyst.	Viewpoint 3 High Sensitivity		Positive Long term Permanent Indirect High	Major beneficial
Visual effect of the New Bridge from West Bank, Widnes	Viewpoint 4 High Sensitivity		Neutral Long term Permanent Indirect High	Major beneficial
Visual effect of the New Bridge from Runcorn Promenade	Viewpoint 5 High Sensitivity		Neutral Long term Permanent Indirect Medium	Moderate beneficial
Visual effect of the New Bridge in views from Wigg Island	Viewpoint 6 High Sensitivity		Negative Long term Permanent Indirect High	Major negative
Visual effect of the New Bridge in views from Halton Castle	Viewpoint 7 High Sensitivity		Positive Long term Permanent Indirect Medium	Moderate beneficial
Visual effect of the New Bridge from Wigg Island, east of the Bridge	Viewpoint 8 High Sensitivity		Negative Long term Permanent Indirect Low	Slight adverse (N.S.)
Visual effect of the New Bridge from west edge of Warrington	Viewpoint 9 Low/High Sensitivity		Neutral Long term Permanent Indirect	Slight (N.S.)

		Low	
Visual effect of the New Bridge from the M62, north of the New Bridge.	Viewpoint 10 Low Sensitivity	Positive Long term Permanent Indirect Low	Low adverse (N.S.)
Visual effect of the New Bridge from the Mersey valley floodplain to the east.	Viewpoint 11 Medium/high sensitivity	Positive Long term Permanent Indirect Medium	Moderate beneficial
Visual effect of the New Bridge from Pickering Pasture, on the Trans Pennine Trail.	Viewpoint 12 High Sensitivity	Negative Long term Permanent Indirect Moderate	Moderate adverse
Visual effect of the New Bridge on the Astmoor area	Viewpoint 15 Low sensitivity	Negative Long term Permanent Indirect High	Moderate adverse
Visual effect of the New Bridge on Victoria Road, Widnes	Viewpoint 16 Low sensitivity	Positive Long term Permanent Indirect High	Moderate adverse
Visual effect of the New Bridge in views from Frodsham (village).	Viewpoint 17 High Sensitivity	Neutral Long term Permanent Indirect None	None
Visual effect of the New Bridge in views from Daresbury Science Park, east of Runcorn.	Viewpoint 18 Medium Sensitivity	Positive Long term Permanent Indirect Low	Slight beneficial (N.S.)

## Visual Receptors

### ***Effects on Settlements: Intermediate Study Area***

- 12.7.52 The effects of the New Bridge on settlements in the intermediate Study Area are outlined below and summarised in table 12.7.5. As residential areas the receptor sensitivity is considered to be high.
- 12.7.53 Given the limited views from the edges of the Liverpool conurbation and the relative distance to the New Bridge, coupled with the screening effect of intervening features the visual impact of the New Bridge is considered to be low. Although the sensitivity of the receptor is high, the overall significance is low. This correlates with the findings of Viewpoint 1.

- 12.7.54 Given the limited views from settlements in the gap between Liverpool and Warrington and the relative distance to the New Bridge, coupled with the screening effect of intervening features the visual impact of the New Bridge is generally considered to be low. However, this is a widespread area where the topography will allow occasional wider views where the Bridge could be seen as a more significant feature. Although the sensitivity of the receptor is high the overall significance is low. This correlates with the findings of Viewpoint 10.
- 12.7.55 Views from the western edge of Warrington are generally screened by intervening vegetation which will limit views to the New Bridge, the visual impact of the Bridge is therefore considered to be low. Although the sensitivity of the receptor is high the overall significance is low. This correlates with the findings of Viewpoint 9.
- 12.7.56 The ridge line which runs through Runcorn creates an area of higher land which screens views of the bridge from the majority of Frodsham and Helsby, with no visual impact on these settlements, correlating with the findings of Viewpoint 17. However, there are potential views from the higher areas of Frodsham from the edge of the sandstone ridge with extensive views to the north, as views from Overton Hill indicate, as discussed in 12.7.70.
- 12.7.57 Widnes lies within the immediate vicinity of the New Bridge and the effects of the Project will vary considerably within the town as the highway alignment runs through the immediate area. These effects are dealt with in more detail within the Local Study Area. However, the impacts of the New Bridge on the town as a whole are considered here.
- 12.7.58 The majority of the residential area of Widnes (as described in the Central Widnes character area) lies a kilometre back from the estuary edge, behind a corridor of industrial development (as described in the Industrial Margins character area). The industrial area and road infrastructure shields many views from the residential areas to the Estuary and therefore from views of the New Bridge, although given the height and proximity of the towers they may be visible over the tops of the buildings. Overall, the visual impact of the Bridge is considered to be low. This correlates with the findings of Viewpoint 2.
- 12.7.59 West Bank, as described in the Historic Settlement character area, lies on a promontory on the north bank of the Estuary with widespread views over the Mersey. Residential areas on the edge of West Bank will have limited screening from intervening properties and have direct and open views to the New Bridge, resulting in a high impact on some views. Overall the visual impact of the Bridge is considered to be high, this correlates with the findings of Viewpoint 3
- 12.7.60 Views from the rising land above Runcorn (as described in the Runcorn Slopes character area) are at times open and widespread, although these vary dependant on topography and intervening vegetation, giving some extensive views to the New Bridge as it runs across the Estuary, forming a significant but not dominant element in the view. Overall, the visual impact of the Bridge is considered to be moderate. This correlates with the findings of Viewpoint 7.
- 12.7.61 Runcorn Old Town (as described in the Historic Settlement character area) lies to the west of the New Bridge and there will be some open views across the Estuary to the Bridge. However many of the properties will be screened by intervening buildings and, given the dominant influence of the SJB, the Bridge may be an additional feature in an already compromised view, reducing its visual impact. Overall, the visual impact of the Bridge is considered to be low/moderate, with Viewpoint 5 representing the more extreme findings of this assessment.

- 12.7.62 To the south of the Runcorn (as described in the Runcorn New Town character area) the settlement falls into visual shadow as indicated on the ZTV and there will be no visual impacts on this area from the New Bridge.

**Table 12.7.5 Effects on Settlements: Intermediate Study Area**

<b>Effect</b>	<b>Receptor and sensitivity</b>	<b>Nature of effect</b>	<b>Significance of effect</b>
<b>Construction and Operation phases</b>			
Visual effect of the New Bridge on the views from residential properties on the edge of Liverpool.	Liverpool Conurbation High sensitivity.	Positive Long term Permanent Indirect Low	Slight beneficial (N.S.)
Visual effect of the New Bridge on the coalescing settlements of Whiston etc.	Settlements to the north High sensitivity.	Positive Long term Permanent Indirect Low	Slight beneficial (N.S.)
Visual effect of the New Bridge from residential properties in western Warrington area.	Warrington High sensitivity	Positive Long term Permanent Indirect Low	Slight beneficial (N.S.)
Visual effect of the New Bridge on the village of Frodsham, lower areas only.	Frodsham High sensitivity	Positive Long term Permanent Indirect None	None
Visual effect of the New Bridge on Central Widnes generally.	Widnes High sensitivity	Positive Long term Permanent Indirect Low	Slight beneficial (N.S.)
Visual effect of the New Bridge on West Bank.	West Bank, Widnes High sensitivity	Positive/negative Long term Permanent Indirect High	Major, adverse/beneficial may vary
Visual effect of the New Bridge on views north from the Runcorn slopes.	Runcorn Slopes High sensitivity	Positive Long term Permanent Indirect Medium	Moderate beneficial
Visual effect of the New Bridge on views north from Runcorn Old Town.	Runcorn Old Town High sensitivity	Neutral Long term Permanent Indirect Low/Moderate	Moderate beneficial

Visual effect of the New Bridge on views north from Runcorn New Town.	Runcorn New Town High sensitivity	Neutral Long term Permanent Indirect None	None
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***Effects on Cultural Heritage, Tourism and Amenity: Intermediate Study Area***

12.7.63 The effects of the New Bridge on visitor attractions in the Intermediate Study Area are outlined below and summarised in Table 12.7.6.

**Silver Jubilee Bridge**

12.7.64 The New Bridge is located 1.8km upstream of the existing SJB and will form a new and dominant feature in the setting of the SJB and the Aethelfleda railway bridges. When viewed from the west on the Middle Mersey and its margins, the New Bridge will form a backdrop to the existing bridges and, due to its contrasting architectural form, the collective view should both allow each bridge to be separately discernible and cumulatively give an exciting approach to the Runcorn Gap for water traffic. From the east the distance, alignment and design of the New Bridge predominantly allows it to be read as a separate element to the existing SJB although the bridges will be visible in the same landscape and this may detract from the current simplicity of view, reducing the iconic status of the SJB. However, the SJB will also provide a viewing point for the New Bridge and its de-linking will allow the potential improvement of the pedestrian environment through the SJB area.

12.7.65 Given the moderate sensitivity of this receptor combined with a moderate level of change the overall effect of the Project is medium, this is considered significant. However, given the high level of design quality of the New Bridge and the opportunities to improve the local pedestrian environment of the SJB this is considered to be a positive effect.

**Halton Castle**

a. The New Bridge will form a new element in the widespread views from the local vantage point of Halton Castle which look north over the estuary. It will be a significant but not dominant element in those views and be of a scale and type in keeping with the SJB and Fiddlers Ferry Power Station. It will not change the character of the view.

12.7.66 Given the high sensitivity of this receptor type combined with a moderate level of change the overall effect of the Project is medium, this is considered significant. However, given the high level of design quality of the New Bridge and the level of manmade features already contained within those views this is considered to be a positive effect.

**Norton Priory Museum and Garden**

12.7.67 Norton Priory Museum and Garden lies within an enclosed landscape where the wooded periphery limit views out, although there may be some glimpsed views to the New Bridge. However impacts on the Museum and its gardens will be negligible and are not considered significant.

## Canals

- 12.7.68 The New Bridge will form a new and major element along the recreational waterways of the St Helens Canal, the Bridgewater Canal and the Manchester Ship Canal. It will be in keeping with the character of the canals as they pass through this industrial area and the character of the routes will not be altered. However, as the bridge will cross directly over the Canals, the impact on recreational users of the canal will be locally high.
- 12.7.69 Given the high sensitivity of this receptor type combined with an overall medium level of change the overall effect of the Project is moderate, this is considered significant. However, given the high level of design quality of the New Bridge this could be considered a positive effect although this will vary with individual perceptions.

## Long Distance Routes

### The Sandstone Trail and the Cheshire Ring Canal Walk

- 12.7.70 Both these long distance trails run through the Cheshire countryside and at points along their route they may have views of the New Bridge. However, these will be intermittent and the Bridge will not form a dominant element in the landscape. Although the sensitivity of this receptor type is high the overall low level of change will result in a slight overall effect, this is not considered significant.

## Country Parks

- 12.7.71 **Clock Face Park** lies at a height of approximately 40m AOD which allow views out to the south towards the Project. However, the Park is generally enclosed by planting that screens views, although there may be some glimpsed views of the New Bridge. Although the sensitivity of this receptor type is high the overall low level of change will result in a slight overall effect, this is not considered significant.

## The Dream

- 12.7.72 The Dream lies within Sutton Manor Park where the rising topography is often enclosed by planting although there are widespread views from the southern slope of the park which looks south over the estuary. The New Bridge will form a new element in these views and be of a scale and type in keeping with the existing SJB and Fiddler's Ferry Power Station. It will not change the character of the view.
- 12.7.73 Given the high sensitivity of this receptor type combined with a low level of change, the overall effect of the Project is slight, this is not considered significant. However, given the high level of design quality of the bridge and the level of manmade features already contained within those views, this is considered to be a positive effect.

## Overton Hill, Frodsham

- 12.7.74 The New Bridge will form a distinct new element in this outstanding view, however the Bridge will be in keeping with the scale and disparate elements of the view, adding a new point of interest but not inherently altering its character. The magnitude of change is considered medium, combining with a high receptor sensitivity to give an overall moderate level of impact.

## **The Mersey Estuary**

### **Spike Island**

- 12.7.75 The New Bridge will be visible in its entirety as it crosses Spike Island forming a new and highly dominant feature over the entire island. The view is already formed of a dramatic combination of natural and manmade features and therefore the character of the view will not change. The magnitude of change is considered to be high.

Given the high sensitivity of this receptor type and the predicted high magnitude of change the overall effect of the Project is major, this is considered significant. However given the high level of design quality of the new bridge this could be considered to be a positive effect, but will be dependent upon individual perception and could be at odds with the management of the site as a nature reserve.

### **Wigg Island**

- 12.7.76 The New Bridge will be visible in its entirety as it crosses Spike Island forming a new and highly dominant feature over the entire island. The view is already formed of a dramatic combination of natural and manmade features and therefore the character of the view will not change. The magnitude of change is considered to be high.

Given the high sensitivity of this receptor type and the predicted high magnitude of change the overall effect of the Project is major, this is considered significant. However given the high level of design quality of the new bridge this could be considered to be a positive effect, but will be dependent upon individual perception and could be at odds with the management of the site as a community park.

**Table 12.7.6 Effect on Recreational Receptors: Intermediate Study Area**

Effect	Receptor sensitivity	and	Nature of effect	Significance of effect
<b>Construction and Operation phases</b>				
Visual effect of the New Bridge on the views from the Castle.	<b>Halton Castle</b> High sensitivity.		Positive Long term Permanent Indirect Medium	Moderate beneficial
Visual effect of the New Bridge on the setting of the gardens.	<b>Norton Priory Museum and Garden</b> High sensitivity.		Neutral Long term Permanent Indirect Negligible	Negligible (N.S.)
Visual effect of the New Bridge on the recreational use of the St Helens and Bridgewater and Manchester Ship canals, including the Trans Pennine Trail.	<b>Canals</b> High sensitivity		Positive/negative Long term Permanent Indirect Medium	Moderate, adverse/beneficial may vary
Visual effect of the New Bridge on the recreational use of the trails.	<b>Long Distance Routes: Sandstone Trail and Cheshire Ring</b> High sensitivity		Neutral Long term Permanent Indirect Low	Slight (N.S.)
Visual effect of the New Bridge on views from the park.	<b>Clock Face Park</b> High sensitivity		Neutral Long term Permanent Indirect Low	Negligible
Visual effect of the New Bridge on views from the sculpture.	<b>The Dream</b> High sensitivity		Positive Long term Permanent Indirect Low	Slight beneficial (N.S.)
Visual effect of the New Bridge on views from the War Memorial.	<b>Overton Hill</b> High sensitivity		Positive Long term Permanent Indirect Medium	Moderate beneficial
Visual effect of the New Bridge on users of the Nature reserve.	<b>Spike Island</b> High sensitivity		Neutral Long term Permanent Indirect High	Major, adverse/beneficial may vary
Visual effect of the New Bridge on users of the community park.	<b>Wigg Island</b> High sensitivity		Neutral Long term Permanent Indirect High	Major, adverse/beneficial may vary

### **Effects on Communication Receptors: Intermediate Study Area**

12.7.77 The effects of the New Bridge on Communications receptors in the Intermediate Study Area are outlined below and summarised in table 12.7.7

#### **Roads**

12.7.78 The speed of traffic on the urban roads through the Intermediate Study Area and the limited views from the road network to the New Bridge indicate that the impact on road users will be low and, given the functional nature of the majority of journeys, the overall effect will be slight, this is not considered significant.

#### **Rail**

12.7.79 Within the Intermediate Study Area there are limited views from the rail network to the New Bridge indicating that the impact on rail users will be low and, given the functional nature of the majority of journeys, the overall effect will be slight, this is not considered significant.

**Table 12.7.7 Effect on Communication Receptors: Intermediate Study Area**

<b>Effect</b>	<b>Receptor sensitivity and</b>	<b>Nature of effect</b>	<b>Significance of effect</b>
<b>Construction and Operation phases</b>			
Visual effect of the New Bridge on road users.	Road users Low sensitivity.	Positive Long term Permanent Indirect Low	Slight beneficial (N.S.)
Visual effect of the New Bridge on rail users.	Rail Users Low sensitivity.	Positive Long term Permanent Indirect Low	Slight beneficial (N.S.)

## Local Study Area

12.7.80 A local study area of a 500m corridor to either side of the road was adopted as shown in Figure 12.2: Local Study Area and Area Breakdown considering the potential visual impacts of the highway elements of the Project. This area was assessed through field survey and adjusted as necessary. Viewpoints were selected within this local study area to be representative of the various receptor groups identified and cover the nine Project Zones and illustrated in Figure 12.13: Local Study Area Viewpoint Location Plan. Full descriptions of the potential effects of the Project on these receptors, are given in Appendix 12.4: Viewpoints: Highway Scheme. A summary of this information is set out in Tables 12.7.8/9 below:

**Table 12.7.8 Effect on Viewpoints: Local Study Area: Construction**

Effect	Receptor sensitivity and	Nature of effect	Significance of effect
<b>Construction phase</b>			
Visual effect of the works, including compound, on view	Viewpoint A Medium/high	Negative Short term Temporary Indirect Negligible	Negligible (N.S.)
Visual effect of the construction works on the view	Viewpoint B Low	Negative Short term Temporary Indirect High	Moderate adverse
Visual effect of the construction works on the view	Viewpoint C Medium/high	Negative Short term Temporary Indirect Low	Slight adverse (N.S.)
Visual effect of the construction works on the view	Viewpoint D Low	Negative Short term Temporary Indirect Medium	Moderate adverse
Visual effect of the construction works on the view	Viewpoint E Low	Negative Short term Temporary Indirect Medium	Moderate adverse
Visual effect of the construction works on the view	Viewpoint F Low	Negative Short term Temporary Indirect High	Moderate adverse
Visual effect of the construction works on the view	Viewpoint G Low	Negative Short term Temporary	Moderate adverse

		Indirect High	
Visual effect of the construction works on the view	Viewpoint H High	Negative Short term Temporary Indirect Low	Slight adverse (N.S.)
Visual effect of the construction works on the view	Viewpoint I High	Negative Short term Temporary Indirect Low	Slight adverse (N.S.)
Visual effect of the construction works on the view	Viewpoint J High	Negative Short term Temporary Indirect Low	Slight adverse (N.S.)
Visual effect of the construction works on the view	Viewpoint K High	Negative Short term Temporary Indirect Low	Slight adverse (N.S.)
Visual effect of the construction works on the view	Viewpoint L High	Negative Short term Temporary Indirect Low	Slight adverse (N.S.)
Visual effect of the construction works on the view	Viewpoint M High	Negative Short term Temporary Indirect Low	Slight adverse (N.S.)

**Table 12.7.9 Effect on Viewpoints: Local Study Area: Operation Year 1**

Effect	Receptor sensitivity	and	Nature of effect	Significance of effect
<b>Operation Year 1</b>				
Visual effect of the new highway on the view	Viewpoint A Medium/high		Neutral Long term Permanent Indirect Negligible	Negligible
Visual effect of the new highway on the view	Viewpoint B Low		Positive Long term Permanent Indirect High	Slight adverse (N.S.)
Visual effect of the new highway on the view	Viewpoint C Medium/high		Neutral Long term Permanent Indirect Low	Slight (N.S.)
Visual effect of the new highway on the view	Viewpoint D Low		Neutral Long term Permanent Indirect Medium	Slight (N.S.)
Visual effect of the new highway on the view	Viewpoint E Low		Positive Long term Permanent Indirect Medium	Low beneficial (N.S.)
Visual effect of the new highway on the view	Viewpoint F Low		Positive Long term Permanent Indirect High	Low beneficial (N.S.)
Visual effect of the new highway on the view	Viewpoint G Low		Negative Long term Permanent Indirect High	Moderate adverse
Visual effect of the new highway on the view	Viewpoint H High		Negative Long term Permanent Indirect Low	Slight adverse (N.S.)
Visual effect of the new highway on the view	Viewpoint I High		Negative Long term Permanent Indirect	Slight adverse (N.S.)

		Low	
Visual effect of the new highway on the view	Viewpoint J High	Negative Long term Permanent Indirect Low	Slight adverse (N.S.)
Visual effect of the new highway on the view	Viewpoint K High	Negative Long term Permanent Indirect Low	Slight adverse (N.S.)
Visual effect of the new highway on the view	Viewpoint L High	Negative Long term Permanent Indirect Low	Slight adverse (N.S.)
Visual effect of the new highway on the view	Viewpoint M High	Negative Long term Permanent Indirect Low	Slight adverse (N.S.)

**Assessment of effects by Project Area:**

- 12.7.81 The Project Areas are shown on Figure 12.2 and the Updated Reference Landscape Design is indicated on Figures 12.14.1-13.

**Area A: Speke Road Tie In**

Refer to Viewpoint A: Hough Green

- 12.7.82 The Updated Reference Design and adoption of Open Road Tolling has removed the need for a toll plaza within the open space of St Michaels Golf Course so that the existing highway runs largely unchanged through this area. The perimeter structure planting to the disused golf course will be retained and will substantially screen the highway from external views, bolstered by the introduction of further linear planting adjacent to the highway.
- 12.7.83 To the north receptors include residential properties in the Montgomery and Cunningham Road area which are of high sensitivity, and industrial premises along Ditton Road to the south which are of low sensitivity. The effect of the Project at Operation Year 1 is assessed as negligible, resulting in a negligible overall effect, this is not considered significant. The impacts will be further reduced by Year 15 when the landscape has further matured.
- 12.7.84 During construction it is likely that a compound will be located on land to the south of the existing Speke Road. There may be some need for the removal of existing vegetation and the impacts of the site infrastructure, lighting and traffic movement will be visible in the local area, resulting in a low adverse effect, this is not considered significant.

## **Area B: Ditton Junction to Freight Line**

Refer to Viewpoint B: Ditton Junction

- 12.7.85 Ditton Junction is currently a large but unimposing 'gateway' to Widnes town centre. The Project will include the removal of the over-bridge linking to the existing SJB and the reconfiguration of the junction, with significant earthworks required to lift the raised highway over the new junction. The significant areas of land around the reconfigured junction will be softened with an extensive landscape scheme which includes landscaped attenuation ponds and future plots for development.
- 12.7.86 Receptors include those using the road network and occupants of surrounding industrial premises, both groups are of low sensitivity. The Project will have a medium level of change on the surrounding area, but given the positive aspects of the removal of the over bridge and the introduction of the large areas of soft landscape this is considered to have an overall positive effect, this will be limited to a slight beneficial effect in Year 1, rising to a moderate beneficial in Year 15 as the planting matures, softening and screening the highway..
- 12.7.87 During construction the removal of the existing highway and the construction of new structures and embankments will result in significant construction works with the engineering works, traffic movements etc causing moderate visual disturbance to the surrounding receptors resulting in a moderate adverse effect, this is considered significant.

## **Area C: Freight Line to St Helen's Canal**

Refer to Viewpoint C: Anne Street West, Viewpoint E: Cromwell Street and Visualisations in Appendix 12.3

- 12.7.88 From Ditton Junction to Victoria Road the highway rises on embankment in the approach to the Bridge, crossing the Garston to Timperley freight railway line and Victoria Road at a height of about 8-10m. The embankment will be extensively planted with dense tree and shrub planting to screen the elevated highway. The removal of the Widnes Eastern Bypass Bridge linking to the existing SJB will remove impacts to the south of the new road.
- 12.7.89 Surrounding receptors are limited to industrial/ commercial properties along Victoria Road which are of low sensitivity. As the scheme replaces one elevated section of highway with another and includes provision for the substantial landscaping of the embankments and surrounding areas the level of change resulting from the Project is considered to be slight beneficial at Operation Year 1, with an increasingly positive effect to give a moderate beneficial effect Operation Year 15 resulting from the substantial improvements to visual amenity through the maturing landscape treatment.
- 12.7.90 At Victoria Road the existing elevated link to the SJB will be demolished and replaced with a combination of viaduct crossing and landscaped embankments. The detail design of this area will be developed as part of the on-going design development of the Project and a number of possible options are being considered. Illustrations of these are included within the DAS and as illustrated in Appendix 12.2 and described below. The particular impacts of the Project are also discussed in the commentary on Viewpoint F: Victoria Road.

- 12.7.91 **Option A** includes an embankment with woodland edge planting and abutments to either side of Victoria Road, which will also locally open up views and links between West Bank and Widnes town centre and remove buildings and structures of low visual quality with opportunities to create an improved public realm and setting for the Waterloo Centre. The planting on embankment will soften and screen the highway from the surrounding area.
- 12.7.92 **Option B** includes a reinforced structure, for example a crib wall which could be planted, and abutments to either side of Victoria Road, which will also locally open up views and links between West Bank and Widnes town centre and remove buildings and structures of low visual quality with opportunities to create an improved public realm and setting for the Waterloo Centre. Additional screen planting at grade with Victoria Road would screen views to the highway and provide a green setting for the area.
- 12.7.93 **Option C** includes an embankment with woodland edge planting and abutments to the west side of Victoria Road, and a viaduct from Victoria Road to the Widnes Loops Junction. Views between West Bank and Widnes town centre will be more open, with planting introduced at grade with Victoria Road to soften the highway structures. Buildings and structures of low visual quality will be removed with opportunities to create an improved public realm and setting for the Waterloo Centre.
- 12.7.94 Visually all options will create a broader, more open thoroughfare and greenspace to replace the existing, visually restricted Widnes Eastern Bypass Bridge. This will substantially improve visual permeability between West Bank and Widnes town centre. The demolition of buildings and structures of low visual quality to enable construction of the highway will release land to allow for the integration of the scheme into the townscape. The Project will not significantly change the character of the area but will be a positive visual improvement.
- 12.7.95 Receptors include those using the road network and occupants of surrounding premises, both groups are of low sensitivity. The Project will have a medium level of change on the surrounding area, but given the positive aspects of the introduction of the large areas of soft landscape this is considered to have an overall positive effect although this will be limited at Operation Year 1, giving a slight beneficial effect, rising to a moderate beneficial at Year 15.
- 12.7.96 From Victoria Road to the St Helens Canal the new structure and intersection, including rising access links to the Bridge run approximately 6-13m above grade, set in an existing area of industrial buildings, and the development of the project will necessitate the demolition of existing structures. The highway and its associated structures will be set within large areas of landscape, with significant parcels of woodland planting, attenuation ponds and woodland scale planting which soften the appearance of the bridge approach and improve the visual amenity of the immediate locality.
- 12.7.97 Receptors include those using the road network and occupants of surrounding industrial premises, both groups are of low sensitivity. The Project will have a medium level of change on the surrounding area, but given the positive aspects of the introduction of the large areas of soft landscape this is considered to have an overall positive effect although this will be limited at Operation Year 1, giving a slight beneficial effect, rising to a moderate beneficial effect in Operation Year 15.

- 12.7.98 At the crossing of the St Helens Canal the highway runs on structure 13m above the existing canal and, although the structure is relatively open and at a height which will not cause oppressive shadowing, the local prominence of the structure will detract from the existing character of the area.
- 12.7.99 Receptors include those using the Canal and Trans Pennine Trail for recreation and are considered to be of high sensitivity. Given the medium level of change the overall impact of the Project is assessed as moderate adverse at Operation Year 1. Planting in the vicinity will mitigate the impacts of the structure, resulting in a low adverse impact at Year 15.
- 12.7.100 During construction the significant demolition and construction works and traffic movements throughout Area C will cause high visual disturbance to the surrounding receptors resulting in a high adverse effect, this is considered significant.

#### **Area D: Mersey Gateway Bridge**

- 12.7.101 The Intermediate Study Area assessment considers the ability of the landscape to accommodate the size, scale and alignment of the New Bridge and the more general impacts on visual receptors. However, the Local Study Area assessment relates to the intrusiveness of the immediate structure in the local environment.
- 12.7.102 The New Bridge will be designed to allow extensive open views to the wider estuary and its margins by using the slimness of the tower structures, lightness of cable stays and the subtle selection and use of colour finishes for the towers above deck level, limiting the visual dominance of the Bridge.
- 12.7.103 The New Bridge runs across Widnes Warth, adjacent to Spike Island, at a height of 16-20 AOD with little opportunity for screening in the currently open and semi natural salt marsh landscape. Although the structure is relatively open and at a height which will not cause oppressive shadowing, the local prominence of the structure will detract from the existing qualities of the area, significantly changing its character.
- 12.7.104 Visual receptors include those using Spike Island for recreation and are considered to be of high sensitivity. The impact on the landscape and recreation has been considered in the Intermediate study area, although locally impacts on the landscape will be more significant. Given the medium level of change the overall impact of the Project is assessed as moderate adverse at Operation Year 1 which remains at Year 15.
- 12.7.105 The New Bridge crosses Wigg Island at a height of around 25m AOD and is again, for the most part, open to full view in a publicly accessible and tranquil area of the estuary although the height of the deck and the openness of the structure will allow through-views and take traffic out of normal lines of sight at close range. Existing mature tree cover will also integrate the structure with the landscape at its southern point adjacent to the Manchester Ship Canal. Scope for landscape mitigation is limited within the open landscape of the saltmarshes.
- 12.7.106 Visual receptors include those using Wigg Island for recreation and are considered to be of high sensitivity. The impact on the landscape and recreation has been considered in the Intermediate study area, although locally impacts on the landscape will be more significant. Given the moderate level of change the overall impact of the Project is assessed as moderate adverse at Operation Year 1, falling to slight/moderate at Year 15 as the planting matures.

- 12.7.107 During construction the significant construction works and traffic movements will cause medium visual disturbance to the surrounding receptors to both sides of the estuary resulting in a moderate adverse effect.

#### **Area E: Astmoor**

Refer to Viewpoint G: Astmoor Road, and Visualisation: Astmoor Viaduct in Appendix 12.3

- 12.7.108 From Wigg Island the Project crosses the Manchester Ship Canal and Astmoor Road Industrial Estate, on a high level multi-span viaduct 20m – 25m AOD. The elevated structure will be partially screened by existing vegetation and surrounding buildings but the crossing points of linear routes will be exposed to view.
- 12.7.109 Receptors include those using the road network and occupants of surrounding industrial premises, both groups are of low sensitivity. The Project will have a medium level of change on the surrounding area and the significance of effect is assessed as moderate adverse.
- 12.7.110 During construction the significant construction works and traffic movements will cause medium visual disturbance to the surrounding receptors resulting in a moderate adverse effect, this is considered significant.

#### **Area F: Bridgewater Junction**

Refer to Viewpoint H: Caesars Close and Visualisation: Bridgewater Canal

- 12.7.111 The Bridgewater Junction modifications are largely contained within the existing junction, although a high level multi-span viaduct 20m – 25m above ground level is required over the existing Central Expressway and the Bridgewater Canal. The existing Junction sits in a natural valley containing the Central Expressway and is visually contained by linear planting on the Upper Runcorn slopes, originally introduced to screen the existing Expressway from surrounding residential areas. The highway and its associated structures will be set within large areas of landscape, with significant parcels of woodland planting, attenuation ponds and woodland scale planting which will soften the appearance of the junction and improve the visual amenity of the immediate locality.
- 12.7.112 Receptors include occupants of surrounding residential areas, users of the Bridgewater Canal and those using the road network, who are of high and low sensitivity respectively. The Project will have a medium level of change on the surrounding area and the significance of effect is assessed as moderate adverse at Operation Year 1 when the screening effects of the landscape scheme will be limited.
- 12.7.113 During construction the significant construction works and traffic movements will cause medium visual disturbance to the surrounding receptors resulting in a moderate adverse effect, this is considered significant.

#### **Area G**

Refer to Viewpoints H: Caesars Close, I: Calvers, J: Gaunts Way, K: Grangeway, L: The Glebe and M: Boston Avenue.

- 12.7.114 The existing Expressway corridor will largely be maintained and followed with modifications to the junctions sitting within the corridor. Modifications to the existing junctions and new over bridges will sit within the existing expressing corridor, much of which is in cutting and noise attenuation barriers will run along the majority of the expressway.

- 12.7.115 From Halton Brow to Halton Lea junctions changes to the highway alignment are limited and the existing planting along the highway will be retained. Residential properties to either side of the road will have some views to the road, although it lies in cutting for much of its length. There will be views to the noise attenuation barriers, although their impact will be mitigated through the use of wood as the primary material and softened by planting. Alterations to Lodge Lane Junction include the introduction of an overbridge in the centre of the Junction, which would sit approximately at grade with the surrounding area, 5m above the existing junction which is in cutting. Other alterations are limited and the existing planting will be retained and strengthened by further planting adjacent to the road. Noise attenuation barriers will continue through the scheme.
- 12.7.116 Receptors include occupants of surrounding residential areas and those using the road network, who are of high and low sensitivity respectively. Generally the Project will have a low level of change on the surrounding area and the significance of effect is assessed as slight adverse at Operation Year 1 when the screening effects of the landscape scheme will be limited. However, the level of change will be greater where vegetation, which performed a screening function, is lost and is assessed as moderate adverse.
- 12.7.117 During construction the construction works and traffic movements will cause low visual disturbance to the surrounding receptors resulting in a slight adverse effect, this is not considered significant.

#### **Area H**

- 12.7.118 From the south of Weston Point Junction to the area around the M56 Junction 12 works to the existing highway and Junction arrangements will be minimal, contained within the area of the existing highway and allowing the existing landscape planting to be retained.
- 12.7.119 Receptors include residential properties to the north east of the highway, which are of high sensitivity. Some scattered properties set within farmland are also found to the southwest of the highway. However, given to low level of works being undertaken any visual impact will be negligible in both the construction and operation phases.

#### **Area I**

Refer to Viewpoint D: Desoto Road East

- 12.7.120 The area around the SJB link is, in part, visually degraded and is visually compromised by the high volume of traffic along the SJB, which impacts on the community of West Bank. The proposal to de-link the A533, the demolition of the existing elevated approach to the Ditton Junction and the recent configuration of the SJB to provide two lanes of traffic with improved facilities for pedestrians and cyclists would substantially improve visual amenity for the commuters of West Bank. The magnitude of effect is assessed as high, the sensitivity of the West Bank community and parts of the Runcorn Old Town community is assessed as high and the significance of effect is assessed as moderate beneficial.

**Table 12.7.10 Visual Impact on Scheme Area basis**

<b>Effect</b>	<b>Receptor sensitivity</b>	<b>and</b>	<b>Nature of effect</b>	<b>Significance of effect</b>
<b>Construction</b>				
Visual effect of the construction compound, demolition and construction works on the surrounding area	Area A Low/High Sensitivity		Positive Short term Temporary Indirect Low	Slight adverse (N.S.)
<b>Operation Year 1</b>				
Visual effect of new road layout on surrounding area	Area A Low/High Sensitivity		Neutral Long term Permanent Indirect Negligible	Negligible (N.S.)
<b>Construction</b>				
Visual effect of demolition and construction works on surrounding area	Area B Low Sensitivity		Negative Short term Temporary Indirect Medium	Moderate adverse
<b>Operation Year 1</b>				
Visual effect of new road layout on surrounding area	Area B Low Sensitivity		Positive Long term Permanent Indirect Medium	Slight positive (N.S.)
<b>Construction</b>				
Visual effect of new road layout on surrounding area	Area C Low Sensitivity		Negative Short term Temporary Indirect High	Major adverse
Visual effect of road structure on users of St Helens Canal/ Trans Pennine Trail	Area C High Sensitivity		Negative Short term Temporary Indirect High	Major adverse
<b>Operation Year 1</b>				
Visual effect of new road layout on surrounding area	Area C Low Sensitivity		Positive Long term Permanent Indirect Medium	Slight beneficial
Visual effect of road structure on users of St Helens Canal/	Area C High Sensitivity		Negative Long term Permanent	Moderate adverse

Trans Pennine Trail		Indirect Medium	
<b>Construction</b>			
Visual effect of demolition and construction works on users of Spike Island	Area D High Sensitivity	Negative Short term Temporary Indirect Medium	Moderate adverse
Visual effect of demolition and construction works on users of Wigg Island	Area D High Sensitivity	Negative Short term Temporary Indirect Medium	Moderate adverse
<b>Operation Year 1</b>			
Visual effect of bridge structure on users of Spike Island	Area D High Sensitivity	Negative Long term Permanent Indirect Medium	Moderate adverse
Visual effect of bridge structure on users of Spike Island	Area D High Sensitivity	Negative Long term Permanent Indirect Medium	Moderate adverse
<b>Construction</b>			
Visual effect of construction works on Astmoor Road area	Area E Low Sensitivity	Negative Short term Temporary Indirect Medium	Moderate adverse
<b>Operation Year 1</b>			
Visual effect of the bridge structure works on Astmoor Road area	Area E Low Sensitivity	Negative Long term Permanent Indirect Low/Medium	Not significant
<b>Construction</b>			
Visual effect of construction works on area surrounding Bridgewater Junction	Area F Low/High Sensitivity	Negative Short term Temporary Indirect Medium	Moderate adverse
<b>Operation Year 1</b>			
Visual effect of new road layout on area surrounding Bridgewater Junction	Area F Low/High Sensitivity	Negative Long term Permanent Indirect Medium	Moderate adverse
<b>Construction</b>			

Visual effect of construction works on area surrounding Central Expressway	Area G High Sensitivity	Negative Short term Temporary Indirect Low/Medium	Not significant
<b>Operation Year 1</b>			
Visual effect of new road layout on area surrounding Central Expressway	Area G High Sensitivity	Negative Long term Permanent Indirect Low	Not significant
<b>Construction</b>			
Visual effect of construction works on area surrounding the M56 Junction 12	Area H Low/High Sensitivity	Neutral Long term Permanent Indirect Negligible	Not significant
<b>Operation Year 1</b>			
Visual effect of new road layout on area surrounding the M56 Junction 12	Area H Low/High Sensitivity	Neutral Long term Permanent Indirect Negligible	Not significant
<b>Construction</b>			
Visual effect of construction works on SJB environment	Area I Low/High Sensitivity	Negative Short term Temporary Indirect Low	Not significant
<b>Operation Year 1</b>			
Visual effect of new road layout on SJB environment	Area I Low/high Sensitivity	Positive Long term Permanent Indirect Medium	Moderate beneficial

### Lighting

- 12.7.121 The existing highway is currently lit and this would be maintained for the Project. The lighting scheme for the Project will include the removal of mast lighting from the existing junctions and the replacement of all lighting types with a single design of lighting column that will be consistent and give an identity to the route in the day and at night. The lighting will reduce light spill and columns will be positioned to reduce visual impact on structures.
- 12.7.122 The landscape scheme will screen views to the lighting columns as the scheme matures and, given the existing highway is lit the effects of the new lighting along the length of the highway will be minimal and will result in only negligible impacts.

12.7.123 However, the highway lighting will continue along the length of the New Bridge and introduce lighting, both from the lighting scheme and moving car lights, into the dark night skies of the Estuary landscape. This will result in a moderate change to the visual night time environment, this is considered a significant and negative change.

## 12.8 Mitigation, Compensation, Enhancement and Monitoring

### *Mitigation and Enhancement Measures*

12.8.1 As discussed earlier in this chapter mitigation measures may be considered under the following categories:

- a. The ability to mitigate effects at source through the sensitive design of the highway scheme including its horizontal and vertical alignment, design and detailing including the form and colour of the main structures;
- b. The introduction of primary measures that intrinsically comprise part of the overall scheme design and improve local environment;
- c. Secondary measures designed to address the remaining significant negative effects of the final development proposals; and
- d. Compensation for loss of existing landscape features and or amenity.

### *The Design and Access Statement*

12.8.2 The development of the Project has been undertaken as an iterative design process where the initial scheme design has followed an optimisation of highway and vertical alignments to minimise impacts on sensitive receptors. In addition the design of the structural and architectural components of the scheme have been considered in a holistic manner to develop a design which is responsive to its environment and utilizes materials colours and details which enhance the appearance of the scheme and minimise its visual impacts.

12.8.3 This design guidance has been included in the Design and Access Statement and the design development will be expected to adhere to and follow this guidance.

### *The Landscape Proposals*

12.8.4 The Landscape Proposals form part of the primary mitigation measures for the Project. The strategic approach behind these proposals is outlined below and illustrated in Figures 12.14.1-7. Further detail is given in the Design and Access statement and the accompanying visualisations in Appendix 12.2. They incorporate measures to integrate the scheme into its surroundings, mitigate the effect of its construction and screen views of traffic.

12.8.5 The overall aims and objectives of the landscape strategy are summarised as follows:

- a. To accord with all regional and national planning guidance;
- b. To provide an attractive setting for the highway and to make a positive contribution to the site and its surroundings;
- c. To minimise the adverse impact of the Project through strategies of avoidance, reduction and remediation;
- d. To retain vegetation that is ecologically or visually important and to create new opportunities for nature conservation and bio diversity;
- e. To minimise visual impact on the surrounding areas;
- f. To enhance the existing landscape of the site;
- g. To provide effective screening to neighbouring land uses; and
- h. To contribute to the sustainability of the Project

### ***Preliminary Discussion of Mitigation Techniques***

- 12.8.6 Options for mitigation of effects associated with the Project include a combination of those measures detailed in Volume 10 of the DMRB (Highways Agency. 2001).
- a. Earth Mounding: a technique of creating natural-looking landform to integrate the structure and geometry of highway design with the surrounding landscape;
  - b. Screen Bunds: linear, often less natural-looking mounding usually situated parallel and adjacent to the highway to provide visual / noise attenuation; and
  - c. Planting, which has a primary objective of mitigation has two distinct functions: to integrate the highway with its surroundings and screen / filter views of the highway scheme from receptors. Both these functions are regarded as being effective only in the medium to long term. Planting with a screening function is usually planted at a density of 1.5m centres for trees and 1.0m centres for shrubs around the perimeter of the planting plot. The objective is to achieve a vertical screen for ground level to a height sufficient to screen traffic and screen / filter the effects of lighting. Planting intended to integrate the highway with its surroundings can be a variable density, height and species composition and is often far more extensive (sometimes on a woodland scale) than screen planting.

### ***Mitigation Hierarchy***

- 12.8.7 Mitigation measures have been considered for both the design, operational and construction phases (during which measures may be temporary) in accordance with the mitigation hierarchy indicated in Chapter 3, Table 3.2.

### ***Design Phase:***

- 12.8.8 The Project has, where possible, been aligned to be located as far as possible from residential areas as these receptors are considered to be highly sensitive to visual effects.
- 12.8.9 In developing the Updated Reference Design, changes to the scheme authorized by the Permissions and Orders have contributed to a reduction in landscape and visual effect as follows:
- a. The removal of the Widnes tolling plaza from its location at the former golf course site has resulted in less visual effect;
  - b. The options proposed to Victoria Road in the Further Applications illustrative designs allow intervisibility through the structure whilst the embankment, softened with woodland planting screens views to the Project and also improves screening to the railway line. The reduced height of the structure also reduces impact on the surrounding area.
  - c. The relocation of the northern abutment of the New Bridge to the north of the St Helens Canal and the provision of an open viaduct structure for the bridge approach instead of an earthworks embankment as originally envisaged has reduced visual effect and improved visual permeability particularly for users of the Trans-Pennine Trail;
  - d. Similarly, the provision of a viaduct structure for the southern approach to the New Bridge as it crosses Wigg Island has reduced the visual effect of the Project;
  - e. The reduction of slip road works to the Bridgewater Junction and Central Expressway Junctions has reduced the impact on land requirements and loss of existing screen planting; and
  - f. The reduction of works to existing junctions and crossings on the Central Expressway, including those at Calvers Road, Halton Lea, the Busway bridge and Weston Link footway

bridge has reduced changes and therefore impacts on the area surrounding the Central Expressway.

- 12.8.10 The landscape scheme, where it is reasonable and beneficial to do so, utilises available land for appropriate mitigation measures, maximising opportunities for planting to screen the route and integrate it into its surroundings. This particularly applies to the highway corridor between Ditton Junction and the Upper Mersey where land take for mitigation by landscape measures extends beyond that required for highway construction.
- 12.8.11 In Widnes the Project gives opportunities for land assembly and redevelopment and where potential development sites have been identified, land take has been minimised. Development sites would be developed to fit with the highway proposals, screening views of traffic and integrating the scale and geometry of the highway with its surroundings. If development opportunities do not materialise, the sites will be landscaped to achieve further mitigation.
- 12.8.12 The landscape scheme for the Project has been considered as an integral part of the development of the design. The areas of proposed landscape treatment accord with the replanting /woodland establishment of the Mersey Forest in terms of location, scale, species and opportunities for habitat diversification and expansion. The extent and diversity of tree and shrub planting will create green corridors in areas where none existed previously and the provision of new planting will be substantially in excess of that which is lost.

#### ***Construction Phase***

- 12.8.13 The works will be executed within clearly defined work areas accessed from within the highway boundary and approached through prescribed access routes. Where possible, existing vegetation within the work areas will be retained and protected.
- 12.8.14 Where achievable, vertical barriers and other visual attenuation measures will be implemented as initial works, to enable screening of the construction works.
- 12.8.15 In the event of any features earmarked for retention within the work areas being lost contractual measures for appropriate compensation will be enforced.

#### ***Operational Phase***

- 12.8.16 Measures intended to mitigate effect (e.g. screen planting) will be monitored during the establishment maintenance period to ensure design objectives are being met and, following the establishment phase, will be managed to ensure that the intended objectives are met and sustained.
- 12.8.17 As the landscape treatment matures the maintenance regime will be responsive to beneficial naturally occurring local variations and detrimental changes (for example invasive species will be controlled with a view to eradication). The effects upon nearby receptors will be monitored to ensure that the landscape scheme does not become over dominant to the extent that it creates unintended obstructions. Any part or components of the landscape scheme considered to be essential to the project which are lost through diverse physical damage (e.g. vandalism, road traffic accident) or other unforeseen incident will be replaced in the most appropriate manner.

## **Mitigation Techniques**

### **Earth-shaping and Mounding**

- 12.8.18 These techniques are utilised visually to integrate the structural landform of highway construction (cutting and embankments) with the natural topography of the landform. These techniques are less appropriate for the Project where integration is best achieved by planting and / or redevelopment of the urban fabric around the route corridor. However, there are opportunities for considering earth shaping and mounding in selected locations. Prime locations where earth shaping would help to integrate the Project with its surroundings are around Ditton Junction, Victoria Road Junction and the Bridgewater Junction.

### **Vertical Barriers**

- 12.8.19 Vertical barriers deployed for noise attenuation should in themselves integrate with their surroundings. The DAS sets out proposals for timber panels which would be visually recessive and suitable for the urban and semi rural situations in which they would be deployed. In the more urban situations timber panels could be used in association with brick plinths and pillars to promote visual coherence with the surroundings.
- 12.8.20 The exception to the use of timber panels will be on the approaches to the New Bridge where transparent barriers will allow views over the estuary from the highway.

### **Materials and Finishes**

- 12.8.21 In visually prominent locations such as Victoria Road, St Helens Canal and the Bridgewater Canal appropriately detailed facades utilising brick and stone will be used to express the design of the structures and integrate them into their immediate context.
- 12.8.22 Use of subtle, visually recessive colour themes have been considered to assist with the integration of the New Bridge into the estuary landscape.

### **Soft Landscape**

- 12.8.23 The proposals have been developed between October 2006 and November 2007, and revisited in October 2011 in consultation with the design engineers. The agreed scope of work embraced:
- a. Visual screening of the highway and its traffic;
  - b. Integration of the route into the surrounding landscape, involving amendments to the engineering design, and the strengthening/enhancement of the existing landscape pattern and structure;
  - c. The protection and enhancement of existing habitats and the creation of a diverse matrix of integrated habitats to be managed for wildlife and nature conservation interest;
  - d. Improvements to the visual amenity, particularly in those parts which have a more urban context, for example around Widnes; and
  - e. Improved public access, particularly embracing 'green route' aspirations.

- 12.8.24 Inherent in the landscape scheme are the benefits to the wider area in improved visual amenity from the extensive introduction of planting in areas devoid of tree cover and the introduction of highlights of ornamental planting in key locations, for example around 'gateway' junctions into Runcorn and Widnes.
- 12.8.25 Opportunities for ecological enhancement through the diversification of habitat can also have a visual dimension by using native species selected for colour and form planted in drifts in selected areas to maximise visual as well as ecological interest.
- 12.8.26 The landscape elements and environmental function codes are summarised overleaf and have been applied to the Further Applications Design scheme layout. The landscape treatments have been formulated with reference to the following:
- a. Design Manual for Roads and Bridges Volumes 10 and 11 (Department of Transport);
  - b. Series 3000 Specification for Highway Works; and
  - c. The standard nomenclature defined by the Highways Agency. This defines planting types (Landscape Elements) and identifies environmental function codes which help to determine the appropriate Landscape Elements to be incorporated into the scheme. The landscape elements are divided into broad classification types e.g. hedges, which are then subdivided again according to their detailed design or management needs, in conjunction with the stated environmental function. The range of elements is indicated in Table 12.8.1.
- 12.8.27 The majority of proposals consist of the naturalistic planting of native species appropriate to the area at an average density of 1.5 metre centres. This should provide filtration and screening of traffic and engineering structures within 7 – 10 years although a planting width of around 30 metres would be needed to provide visual mitigation in winter. In urban areas and at key focal points more ornamental and non-native species would be considered.
- 12.8.28 These measures conform to Highways Agency recommendations and guidelines and recognise the need to maximise environmental benefit in the knowledge that whole-life management and maintenance costs can be substantially greater than the implementation costs – naturalistic planting is environmentally more beneficial and less expensive to implement and maintain than more ornamental treatments.

**Table 12.8.1 – Landscape Elements**

REF	DATASET	CORE DATA	AS-&-WHEN
LE1.1	Amenity Grass Areas	<input type="checkbox"/>	
LE1.2	Grassland with Bulbs	X	<input type="checkbox"/>
LE1.3	Species Rich (or conservation) Grassland	<input type="checkbox"/>	
LE1.4	Rock and Scree	X	
LE1.5	Heath and Moorland	X	
LE1.6	Open Grassland		<input type="checkbox"/>
LE2.1	Woodland	<input type="checkbox"/>	
LE2.2	Woodland Edge	<input type="checkbox"/>	
LE2.3	High Forest	X	
LE2.4	Linear Belts of Shrubs and Trees	<input type="checkbox"/>	
LE2.5	Shrubs with Intermittent Trees	<input type="checkbox"/>	
LE2.6	Shrubs	<input type="checkbox"/>	
LE2.7	Scattered Trees	<input type="checkbox"/>	
LE2.8	Scrub	<input type="checkbox"/>	
LE3.1	Amenity Tree and Shrub Planting	<input type="checkbox"/>	
LE3.2	Ornamental Shrubs	X	<input type="checkbox"/>
LE3.3	Groundcover	<input type="checkbox"/>	
LE3.4	Climbers and Trailers	X	
LE4.1	Ornamental Species Hedges	X	
LE4.2	Native Species Hedges	<input type="checkbox"/>	
LE4.3	Native Species Hedgerows	<input type="checkbox"/>	
LE4.4	Native Hedgerows with Trees	<input type="checkbox"/>	
LE5.1	Individual Trees	<input type="checkbox"/>	
LE6.1	Water Bodies and Associated Plants	X	<input type="checkbox"/>
LE6.2	Banks and Ditches		<input type="checkbox"/>
LE6.3	Reed Beds		<input type="checkbox"/>
LE6.4	Marsh and Wet Grassland		<input type="checkbox"/>
LE7	Hard Landscape Features		<input type="checkbox"/>

**Environmental Function Codes**

- EFA Visual screening
- EFB Landscape Integration
- EFC Enhancing the Built Environment
- EFD Nature Conservation and Biodiversity. EFE Visual amenity
- EFF Heritage
- EFG Auditory amenity. EFH Water quality

- 12.8.29 The indicated landscape treatments represent the initial phase of a seamless and ongoing process of design, implementation and management and as such do not address detail planting design, the percentage of individual species in each planting mix or specific construction phase operational requirements (e.g. protection of existing trees and working margins).

***Summary of Mitigation Measures applied to the Project***

- 12.8.30 The main mitigation measures are summarised below: -

***Area A***

- 12.8.31 As the highway is contained by mature vegetation on the perimeter of the golf course an opportunity for mitigation measures to improve ecological diversity has been taken. Measures promoted include intermittent tree planting, hedgerows and scrub to maintain the open character whilst improving amenity and wildlife value.

***Area B***

- 12.8.32 Dense woodland scale planting has been promoted to screen the Project but the margins around Ditton interchange include more ornamental planting mixes at this 'gateway' to Widnes.

***Area C***

- 12.8.33 Woodland scale planting of variable density with scrub and wildflower grassland will provide screening, integrate the junction into its surroundings and establish a diverse matrix of habitats.

***Area D***

- 12.8.34 At Wigg Island woodland scale planting in intermittent groupings will help to integrate the scale of the New Bridge approaches with the surrounding tree cover whilst continuing to permit through-views. Additional planting has been promoted to provide ecological and landscape diversity.

***Area F***

- 12.8.35 At the Bridgewater junction measures including woodland scale planting, intermittent tree and shrub planting, ornamental shrubbery, shrub and wildflower grassland extend and enrich the areas of existing planting and improve its effectiveness in screening the Project.

***Area G***

- 12.8.36 Along the Expressway Corridor measures similar to those for the Bridgewater Junction have been promoted alongside the enhancement of the existing roadside margins including increasing wildflower species.

***Area I***

- 12.8.37 Linear belts of woodland scale tree and shrub planting will improve visual amenity and screen views of traffic.

## 12.9 Residual Effects

### *Assessment of Residual Effects*

12.9.1 Residual effects have been considered as effects which cannot be mitigated; potential identified effects not fully mitigated and effects resulting from mitigation measures.

### *Effects which cannot be mitigated*

12.9.2 Identified effects which cannot be mitigated principally relate to the New Bridge and there are a number of considerations:

- a. The visual dominance, obstruction and intrusiveness of the bridge when viewed from close quarters;
- b. The physical and visual intrusion to Wigg Island and the crossing of the Bridgewater Canal and St Helens Canal / Trans-Pennine Trail recreation routes;
- c. The accumulated effect of lighting (deck lighting and traffic) where the bridge deck can be viewed along the alignment from vantage points and specific receptor viewpoints; and
- d. The views of moving traffic which can be more intrusive than the static structure.

12.9.3 Some aspects of the above will also be true of other bridge structures but to a much lesser degree.

### *Potential identified effects not fully mitigated*

12.9.4 The effect of lighting is the most prevalent aspect of the scheme which cannot be fully mitigated and is a consideration throughout the scheme.

12.9.5 The use of planting to screen the highway will also partially screen and filter the effect of lighting but full screening cannot be achieved and the effectiveness of planting will be in the long term so short and medium terms effects will prevail.

### *Effects resulting from mitigation measures*

12.9.6 The introduction of screen planting will obstruct existing views but as this is a gradual change brought about as planting matures it is regarded as less intrusive than measures such as vertical noise attenuation barriers which in themselves may warrant screening.

### *Summary of residual effects in construction phase*

12.9.7 Effects not capable of mitigation include:

- a. The demolition of the existing sections of elevated highway; and
- b. The construction of the New Bridge.

12.9.8 The effects of construction on landscape and visual receptors are not considered to be significant within the Wider Study Area.

12.9.9 Overall the visual effects for construction have not been considered separately in the Intermediate Study Area appraisal. Those landscape and visual receptors that are registering significant impacts will register similar impacts during both the Construction and Operation Periods. Mitigation possibilities during construction will be limited to good working practice which will not have a significant effect on the Intermediate Study Area.

- 12.9.10 However, the management of the construction project should include a clear and exciting communications strategy to engage the local and wider population in the building process of the New Bridge, particularly from areas such as Catalyst and Wigg Island where the emergence of the Bridge will be a spectacular process. This could be seen as a positive effect.
- 12.9.11 Within the Local Study Area the Project will result in several significant impacts during the construction phase. Mitigation possibilities during construction will generally be limited to good working practice and the implementation of the Communications strategy as outlined above. Significant negative impacts will remain during construction as follows:
- a. Demolition and construction within area B, including the removal of the existing elevated highway and the construction of Ditton Road and Victoria Road Junctions.
  - b. Construction of the Bridge in the vicinity of the St Helens Canal/Trans Pennine Trail
  - c. Construction of the Bridge at Spike Island and Wigg Island
  - d. Changes to the Bridgewater Junction

#### ***Summary of residual effects in operational phase***

- 12.9.12 The effects of the Project on landscape and visual receptors are not considered to be significant within the Wider Study Area, although it should be noted that the New Bridge is considered to be a generally positive new feature in the wider landscape that will add to the character of the region.
- 12.9.13 Within the Intermediate Study Area the significant residual effects on landscape and visual receptors are summarised as follows:
- a. Adverse impacts on the Greenbelt
  - b. Beneficial effects to the Inter-tidal Estuary, Linear Waterways and the Runcorn Slopes local character areas
  - c. Beneficial effects to views from the West Bank and Runcorn slopes settlements.
  - d. Impacts on views from Spike and Wigg Islands, although the perception of the adverse or beneficial impact on these views may vary with the individual receptors. Generally the Bridge is considered to have a beneficial effect on the wider views due to its spectacular qualities.
- 12.9.14 Within the Local Study Area the significant residual effects on landscape and visual receptors are summarised as follows:
- a. Beneficial effects on the urban environment around Ditton Road and Victoria Road Junctions and within Area B generally.
  - b. Adverse impacts on the users of Wigg and Spike Islands locally to the Bridge
  - c. Beneficial effects on the environment of the SJB.
- 12.9.15 Any residual effects associated with the proposed mitigation measures would predominantly relate to the obstruction of existing views as screen planting matures and are considered to be of low residual significance.

## Summary Tables

12.9.16 A summary of mitigation measures and residual effects for wider area receptors, intermediate receptors and receptors within the Local Study Area is provided in the following tables.

**Table 12.9.1 Residual Effect on Landscape: Intermediate Study Area**

Effect	Receptor and sensitivity	Nature of effect	Significance of effect	Mitigation and Enhancement	Residual significance
<b>Construction and Operation</b>					
Visual effect of the New Bridge on the area of special landscape value.	<b>UDP designation: ASLV</b> High sensitivity	Negative Long term Permanent Indirect Medium	Moderate adverse	Planting to edge of saltmarsh. Light bridge design.	Slight adverse (N.S.)
Visual effect of the New Bridge on the area of Greenbelt etc.	<b>UDP designation: Greenbelt etc</b> High sensitivity	Negative Long term Permanent Indirect Medium	Major adverse	Planting to edge of saltmarsh. Light bridge design.	Moderate adverse
Visual effect of the New Bridge on the local landscape character.	<b>The Inter-tidal Estuary</b> Medium sensitivity	Positive Long term Permanent Indirect Medium	Moderate beneficial	Non required	Moderate beneficial
Visual effect of the New Bridge on the local landscape character area.	<b>Linear Waterways</b> Medium sensitivity	Positive Long term Permanent Indirect Medium	Moderate beneficial	Non required	Moderate beneficial
Visual effect of the New Bridge on the local landscape character area.	<b>Runcorn Slopes</b> Medium sensitivity	Positive Long term Permanent Indirect Medium	Moderate beneficial	Non required	Moderate beneficial

**Table 12.9.2 Residual Effect on Settlements: Intermediate Study Area**

<b>Effect</b>	<b>Receptor and sensitivity</b>	<b>Nature of effect</b>	<b>Significance of effect</b>	<b>Mitigation and Enhancement</b>	<b>Residual significance</b>
<b>Construction and Operation phases</b>					
Visual effect of the New Bridge on West Bank.	West Bank, Widnes High sensitivity	Neutral Long term Permanent Indirect Low	Major, adverse/beneficial may vary	Light bridge design	Major, adverse/beneficial may vary
Visual effect of the New Bridge on views north from the Runcorn slopes.	Runcorn Slopes High sensitivity	Positive Long term Permanent Indirect Medium	Moderate beneficial	Non required	Moderate beneficial

**Table 12.9.3 Residual Effect on Recreational Receptors: Intermediate Study Area**

<b>Effect</b>	<b>Receptor and sensitivity</b>	<b>Nature of effect</b>	<b>Significance of effect</b>	<b>Mitigation and enhancement</b>	<b>Residual significance</b>
<b>Construction and Operation phases</b>					
Visual effect of the New Bridge on users of the Nature reserve.	<b>Spike Island</b> High sensitivity	Varies Long term Permanent Indirect High	Major, adverse/beneficial may vary	Light bridge design	Moderate, adverse/beneficial may vary
Visual effect of the New Bridge on users of the community park.	<b>Wigg Island</b> High sensitivity	Varies Long term Permanent Indirect High	Major, adverse/beneficial may vary	Light bridge design Planting to screen bridge structure	Moderate, adverse/beneficial may vary

**Table 12.9.5 Residual Effect on Local Study Area by Highway Scheme Basis**

<b>Effect</b>	<b>Receptor and sensitivity</b>	<b>Nature of effect</b>	<b>Significance of effect</b>	<b>Mitigation and enhancement</b>	<b>Residual significance</b>
<b>Construction</b>					
Visual effect of demolition and construction works on surrounding area	Area B Low Sensitivity	Negative Short term Temporary Indirect Low	Moderate adverse	Implementation of screen hoardings and good work practices	Moderate adverse
<b>Operation Year 1</b>					
Visual effect of new road layout on surrounding area	Area B Low Sensitivity	Positive Long term Permanent Indirect Low	Slight positive (N.S.)	Implementation of landscape scheme to improve surrounding area and screen road	Slight positive (N.S.)
<b>Operation Year 15</b>					
Visual effect of new road layout on surrounding area	Area B Low Sensitivity	Positive Long term Permanent Indirect Medium	Slight positive (N.S.)	Maturing of landscape scheme increases screening and environmental improvements	Moderate positive
<b>Construction</b>					
Visual effect of road structure on users of St Helens Canal/ Trans Pennine Trail	Area C High Sensitivity	Negative Short term Temporary Indirect High	Major adverse	Implementation of good work practices. Communication Strategy.	Major adverse
<b>Operation Year 1</b>					
Visual effect of road structure on users of St Helens Canal/ Trans Pennine Trail	Area C High Sensitivity	Negative Long term Permanent Indirect Medium	Moderate adverse	Detail design of bridge abutments and surrounding spaces to improve pedestrian environment. Screen planting to soften views.	Slight/moderate adverse
<b>Operation Year 15</b>					
Visual effect of road structure on	Area C High Sensitivity	Negative Long term Permanent	Slight/moderate adverse	Maturing of landscape scheme	Slight adverse (N.S.)

users of St Helens Canal/ Trans Pennine Trail		Indirect Medium		increases screening and environmental improvements	
<b>Construction</b>					
Visual effect of demolition and construction works on users of Spike Island	Area D High Sensitivity	Negative Short term Temporary Indirect Medium	Moderate adverse	Implementation of good work practices. Communication Strategy.	Moderate adverse
Visual effect of demolition and construction works on users of Wigg Island	Area D High Sensitivity	Negative Short term Temporary Indirect Medium	Moderate adverse	Implementation of good work practices. Communication Strategy.	Moderate adverse
<b>Operation Year 1</b>					
Visual effect of bridge structure on users of Spike Island	Area D High Sensitivity	Negative Long term Permanent Indirect Medium	Moderate adverse	Light Bridge Design.	Moderate adverse
Visual effect of bridge structure on users of Wigg Island	Area D High Sensitivity	Negative Long term Permanent Indirect Medium	Moderate adverse	Light Bridge design Planting to screen bridge structure	Moderate adverse
<b>Operation Year 15</b>					
Visual effect of bridge structure on users of Spike Island	Area D High Sensitivity	Negative Long term Permanent Indirect Medium	Moderate adverse	No further mitigation possible	Moderate adverse
Visual effect of bridge structure on users of Wigg Island	Area D High Sensitivity	Negative Long term Permanent Indirect Medium	Moderate adverse	Maturing of landscape scheme increases screening and environmental improvements	Slight/moderate adverse
<b>Construction</b>					
Visual effect of construction works on Astmoor Road area	Area E Low Sensitivity	Negative Short term Temporary Indirect Medium	Moderate adverse	Implementation of screen hoardings and good work practices	Moderate adverse
<b>Construction</b>					

Visual effect of construction works on area surrounding Bridgewater Junction	Area F Low/High Sensitivity	Negative Short term Temporary Indirect Medium	Moderate adverse	Implementation of screen hoardings and good work practices	Moderate adverse
<b>Operation Year 1</b>					
Visual effect of new road layout on area surrounding Bridgewater Junction	Area F Low/High Sensitivity	Negative Long term Permanent Indirect Medium	Moderate adverse	Implementation of landscape scheme to improve surrounding area and screen road	Slight/Moderate adverse
<b>Operation Year 15</b>					
Visual effect of new road layout on area surrounding Bridgewater Junction	Area F Low/High Sensitivity	Negative Long term Permanent Indirect Medium	Moderate adverse	Maturing of landscape scheme increases screening and environmental improvements	Low adverse (N.S.)
<b>Operation Year 1</b>					
Visual effect of new road layout on SJB environment	Area I Low/high Sensitivity	Positive Long term Permanent Indirect Medium	Moderate adverse	Improvements to pedestrian environment achieved through implementation of scheme	Moderate adverse

## The Further Applications Proposals

12.9.17 In terms of the Further Applications proposals, it is considered that, following mitigation, the effect of the modifications would be as follows:

Area	Summary of Proposals	Summary of Effects
A – Speke Road	<ul style="list-style-type: none"> <li>a. Toll plazas removed;</li> <li>b. Extent of overall works reduced to reflect removal of toll plazas;</li> <li>c. Slip roads and embankments re-designed to reflect removal of toll plaza, low retaining wall added on northern off slip; and</li> <li>d. The reduced extent of the works means there will be no requirement for any works that might affect either Stewards Brook or the Old Lane Subway.</li> </ul>	Removal of Toll plazas reduces visual intrusion on surrounding area Generally reduction in extent of works contains scheme within existing highway and limits visual impact
B - Ditton Junction to Freight Line	<ul style="list-style-type: none"> <li>a. Toll plazas removed;</li> <li>b. Slip roads and embankments re-designed to reflect removal of toll plazas;</li> </ul>	Removal of Toll plazas and reworking of junction slip roads reduce visual impact of highway scheme on surrounding area
C - Freight Line to St Helens Canal including the Widnes Loops Junction	<ul style="list-style-type: none"> <li>a. Toll plazas removed;</li> <li>b. Junction, slip road and embankments re-designed (as roundabout) to reflect the removal of the toll plazas;</li> <li>c. Alternative construction of embankment / structures at Victoria Road;</li> <li>d. Revisions to the alignment to take account of the changes including a reduction in the vertical alignment and moving of the horizontal alignment to the south;</li> </ul>	Removal of Toll plazas and reworking of junction reduces visual impact of junction.
D - Mersey Gateway Bridge	<ul style="list-style-type: none"> <li>b. Revision to the northern abutment and the New bridge to tie into the lower vertical alignment in Area C. This revision does not affect the navigational clearances and the clearance over St Helens Canal's canal is maintained.</li> </ul>	Reduced clearance over Canal and Salt Marshes will slightly increase visual impact on receptors at a local level but not at a significant level.
E - Astmoor Viaduct	<ul style="list-style-type: none"> <li>a. Provision of greater flexibility in design details of the New Bridge covering the deck design; and</li> <li>b. Providing flexibility in approach viaduct design.</li> </ul>	See general comment on design flexibility below.
F - Bridgewater Junction	<ul style="list-style-type: none"> <li>a. Minor re-alignment of slip roads and associated embankments;</li> <li>b. Extent of slip road works reduced</li> </ul>	Reworking of slip roads reduces visual impact of Junction
G - Central	<ul style="list-style-type: none"> <li>a. Re-alignment of Calvers Road</li> </ul>	Reworking of proposals generally

Area	Summary of Proposals	Summary of Effects
Expressway, Lodge Lane and Weston Link Junction	omitted; b. Merge / diverge to Halton Lea reinstated; c. Addition of retaining walls and traffic signals at Central Expressway slips to accommodate design developments; d. Existing Busway bridge retained with adjustments in line / level to fit alignment through existing bridge; e. Simplified route for footway/bridleway at Weston Link Junction; and f. Overall extent of slip road works reduced;	along the Central Expressway reduces visual changes along the Expressway, with the retention of more areas of existing bunding and planting, so reducing visual impact on the surrounding areas.
H - M56 Junction 12	b. No changes to proposals.	
I - Silver Jubilee Bridge and Widnes De-Linking	a. Removal of toll plazas; and b. Queensway reduced to three lanes to accommodate cycle/footway over existing structures	Removing toll plazas reduces visual impact

### Summary of Effects

12.9.18 The effects of the modifications resulting from the Further Applications proposals result in a reduction in the level of visual impact of the Project generally along the extent of the route, principally resulting from

- a. The removal of the Toll plazas;
- b. The consequent reduction in size/complexity of the junctions in Area C; and
- c. The reduction in changes along the Central Expressway.

No additional significant landscape or visual effects have been found due to the amendments to the design.

12.9.19 The provision of greater flexibility in design details of the New Bridge and the flexibility in approach viaduct design will be controlled through the DAS and will ensure the source mitigation by good design will be carried forward in the developing scheme.