

## WEST EAST LINK MAIN: NON-TECHNICAL SUMMARY

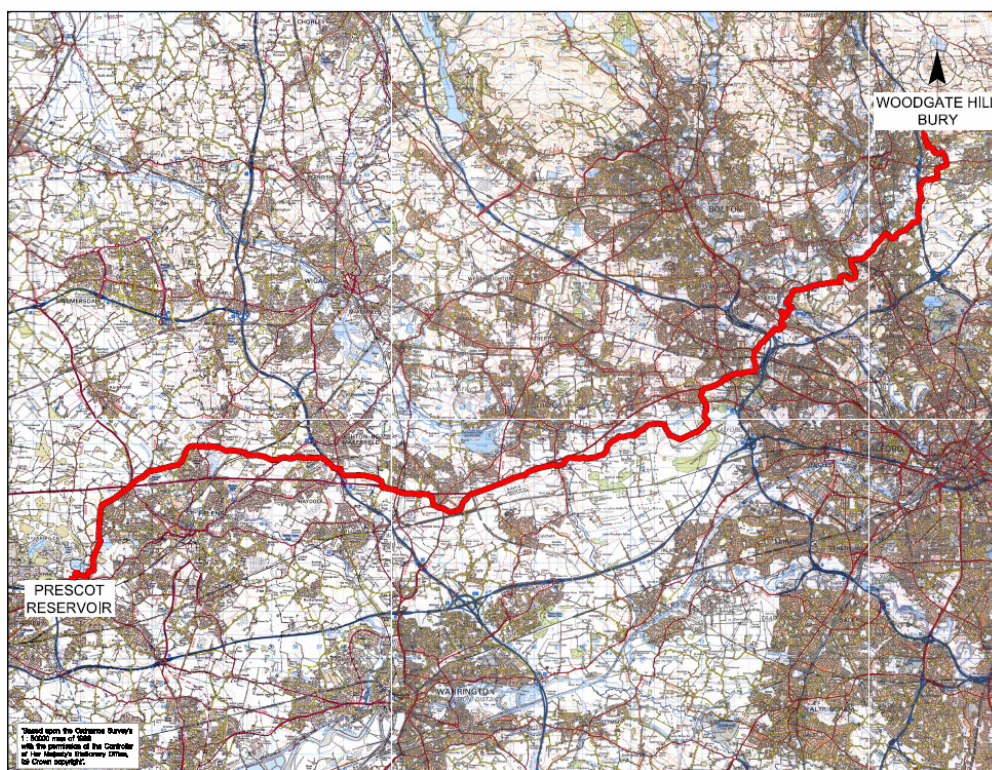
### INTRODUCTION

United Utilities is responsible for delivering clean, fresh water to around one million households in the North West of England.

United Utilities propose to install a new dedicated regional large diameter trunk main (LDTM) to transfer bulk supplies of potable water bi-directionally between Prescott Reservoirs, to the east of Liverpool and Woodgate Hill Reservoirs to the east of Bury. This water pipeline will be referred to as the West East Link Main (WELM).

The proposed WELM will be approximately 54km in length and will pass through the administrative areas of Knowsley, St Helens, Wigan, Warrington, Salford, Bolton, Bury and Rochdale. The construction of the WELM is likely to impact the immediate and surrounding environment.

MWH has been tasked by United Utilities with producing the Environmental Statement (ES) for the project which will support the planning application(s).



### BACKGROUND TO THE PROJECT

The new asset will allow immediate transfer of bulk supplies from major potable water storage sites should problems occur with one of the key supplying aqueducts. An added benefit of the WELM is that it will allow over the next five years, critical maintenance activities and regulatory quality enhancements that would be carried out on some of the existing regional pipelines / aqueducts supplying Manchester and Liverpool.

The project need has been identified by United Utilities Water Strategy and Planning with an objective to identify a cost effective solution to the provision of

the WELM capable of satisfying EU Directives and Policy Drivers, Security and Emergency Measures Directive (SEMD) and regulatory LDTM Programme Drivers. .

United Utilities will appoint a Contractor to carry out the detailed design of the pipeline and undertake the construction. Construction is currently planned for 2009 to 2010. The pipeline will be designed, constructed and operated to meet all the requirements of all the relevant standards and specifications.

### NEED FOR AN ENVIRONMENTAL STATEMENT

The *Town and Country Planning (Environmental Impact Assessment) (England and Wales) (as amended) Regulations 1999* (the "EIA Regulations") require that, before planning consent is granted for certain types of development, an EIA must be undertaken. The WELM project falls within Schedule 2 of the EIA Regulations, this means that it is at the discretion of the Local Planning Authority as to whether an EIA is required.

The content and conclusions of the Environmental Impact Assessment are summarised in this non-technical summary.

### ALTERNATIVES AND ROUTE SELECTION

In order to find an acceptable solution to meet the project need six strategic options were identified.

Option 2:-

*"The construct of a link between the two strategic service reservoirs at Prescot and Woodgate Hill, at the termination point of the Haweswater and Vyrnwy / Dee LDTMs respectively"*

was chosen as it satisfied all the project drivers fully, is operationally discrete and does not place any reliance on existing infrastructure.

With respect to the route selection for the proposed pipeline the major environmental constraints within the area were identified as: -

- The avoidance of settlements such as St Helens, Ashton in Makerfield, Golborne, Walkden, Kearsley, Radcliffe, Heywood and Bury in addition to the various smaller towns and villages
- Careful route selection between crossings mindful of minimising impacts during construction, particularly in urbanised areas by maximising cross country routing
- The evaluation of archaeological importance/cultural heritage
- The impacts on protected species, Sites of Biological Importance (SBIs) and areas of ecological interest
- The potential to impact features of heritage value including Scheduled Monuments and Historic Parks and Gardens and Conservation Areas
- Temporary disruption to landscape features and local drainage
- Concerns over the extent of work affecting mature and significant trees
- The route passes through areas of historical, industrial and mining activities

- The crossing of fluvial flood risk areas such as the flood plains of the Rivers Irwell and River Roch
- Engineering considerations (such as major roads, overhead cables, rivers, railways, other utility pipelines, side slopes and difficult ground conditions);
- The avoidance of infilled or contaminated areas;
- Active landfill sites

## **PIPELINE CONSTRUCTION**

Construction of the pipeline is currently planned to commence in February 2009. Main construction activities will take place between April and October to minimise the effects on land and to facilitate successful reinstatement. Prior to February, there may be some facilitation works such as trial pits, surveying and accommodation works. Landowners/occupiers will be consulted on all land drainage matters. It is intended that reinstatement operations will start in May 2009. Maintenance will run for one year from project completion and expected to be fully operational in April 2011.

Pipeline construction is a sequential process comprised of a distinct number of operations with the principal phases is outlined below: -

### **Pre-construction works**

Pre-construction works will include surveying and pegging out the route. This will establish the precise alignment, particularly in relation to field boundaries, mature trees and environmentally sensitive areas. Geotechnical surveys will be carried out to establish ground conditions using trial pits and boreholes. Landowners and farmers will be consulted throughout these processes.

### **Pre-construction drainage**

Pre-construction works will include installation of drainage to protect and maintain existing drainage systems, limit damage to the soil structure, minimise surface run-off and aid recovery from construction activity.

### **Working Width Preparation**

All construction activities will normally be undertaken within a fenced strip of land, known as the working width. This will generally be 43m wide although this may be narrowed in particular areas to minimise the potential impact upon sensitive sites. A wider working width is necessary at roads, watercourses, railways and service crossings to facilitate safe working, storage and manoeuvring.

The topsoil will be stripped from the working width and stored to one side so that it is not mixed with subsoil or trafficked over by vehicles. Existing third-party services will be located and marked. Warning posts and barriers will be erected for overhead cables and temporary crossing points indicated. If appropriate ditches/small streams will be flumed by the installation of temporary pipes and ramped over to create a continuous running track for construction vehicles and allow continuous flow of water within the ditch. Access along the working width will be confined to the 'running track' within the working width. The 'running track' is generally the subsoil, however in certain locations, such as service crossing or wet areas additional protection may be used for example, bogmats, geotextile or temporary stone roads.

### **Pipe Delivery, Stringing and Bending**

The pipe will be securely stored at temporary storage yards along the pipeline route. The pipe will be delivered by lorry to designated access points along the working width (at areas where ground is suitable) and placed on wooden supports or skids along a line parallel to the trench line. If ground conditions are unsuitable (i.e. soft), the pipe will be transferred using pipe carriers. Once on site, the sections will be welded or jointed together.

Once the trench has been dug, the excavated material will generally be stored on the opposite side of the working width from the topsoil to prevent mixing of subsoil and topsoil. The pipe will be carefully lowered into the trench and backfilled with subsoil. Sand (or similar material) padding and surround may be used to protect the pipe if the backfill material is particularly stony and in areas of rock. The backfilled materials will be consolidated by tamping or rolling to ensure consolidation in layers comparable with the adjacent subsoil.

### **Post-construction drainage**

Post-construction drainage will be laid as an aid to soil recovery within the working width to ensure that the drainage infrastructure affected by construction is adequately reinstated. United Utilities have already undertaken a detailed drainage design. These measures will be agreed with the landowner/occupier having regard to soil type, existing drainage systems and land levels.

### **Reinstatement**

The working width will be reinstated with the original soil profile. Subsoil will be ripped to relieve compaction and stones and debris will be removed prior to topsoil replacement. Topsoil will be re-spread across the working width to its former depth. After replacement, the topsoil will be cultivated and stone picked as required. Agricultural areas will be returned to their former land-use as rapidly as possible. The replacement of field boundaries is important to reduce the visual impact of the pipeline. Fences and walls will be reinstated to meet the landowner/occupier's requirements. Hedgerows and other woodland features will be replanted using a suitable mix of native species.

### **Road Crossings**

All public roads will be crossed using open cut technique where practicable. Where non-open cut techniques are used additional working areas will be required and pits will be excavated either side of the road to accommodate the necessary machinery. Traffic management will be implemented, where required to minimise disruption to normal traffic operation during construction.

### **Watercourse Crossings**

For each watercourse crossing the Environment Agency will be consulted during the detailed design stage to discuss methods and to obtain the relevant consents. For this pipeline project the techniques to be used for the crossing of watercourses have yet to be determined, however initial discussion have taken place with the Environment Agency. It is anticipated that the major watercourses will be crossed using trenchless techniques, subject to suitable ground and groundwater conditions. Smaller watercourses and ditches will be crossed using open cut construction methods where practicable and in agreement with the regulatory authorities. During open-cut construction water flow will be maintained either by diverting flow through flume pipes or by over pumping. After laying the pipe, trenches will be backfilled and normal water flow will be restored. The banks and bed of the watercourses will be reinstated to their original form.

### **Pipeline Operation and Maintenance**

Once construction is complete, the pipeline will be internally cleaned, inspected, tested and commissioned for full operation. It is anticipated that testing and commissioning of the entire pipeline and facilities will be completed by April 2011. The Contractor will construct the pipeline in accordance with health, safety and environmental legislation, applicable standards and design codes.

The pipeline will be owned by United Utilities who will be responsible for its operation, ongoing maintenance and monitoring..

### **POTENTIAL IMPACTS AND PROPOSED MITIGATION MEASURES**

#### **Land use and Planning**

The routing of the pipeline has taken into account the relevant policies issued in the Unitary Development Plans (UDPs) for the following administrative areas; Knowlsey Council (Adopted 2006), St Helens Council (Adopted July 1998), Wigan Council (Adopted April 2006), Warrington Borough Council (Adopted January 2006), Salford City Council (Adopted June 2006), Bolton Council (Adopted April 2005), Bury Metropolitan Borough (Adopted August 2007) and Rochdale Metropolitan Borough Council (Adopted June 2006).

The pipeline development will not prejudice the policy objectives of the approved plans.

Detailed routing of the pipeline has also taken into account known planning constraints within the proximity of the proposed pipeline route.

There are three planned major future developments within close range of the proposed pipeline; firstly a proposed shallow mine working on land at Carters Fold, St Helens; secondly the proposed redevelopment of Walkden High School in Worsley and thirdly a proposed large mixed use development site including a racecourse, an equestrian centre and a golf course planning to be built west of Worsley and east of Astley Green (Known as Salford Forest Park). The impacts of the pipeline will primarily be from the construction phase of the project and therefore are temporary in nature. Additionally, prompt reinstatement, maintenance and aftercare will further mitigate impacts.

#### **Physical Environment**

Superficial deposits underlie the majority of the proposed pipeline route. These deposits comprise Alluvium, Glacio-fluvial deposits but primarily Glacial Till. Solid rock lies beneath the superficial deposits. Rock may also be encountered at the surface in some areas along the proposed pipeline route or at shallow depths where superficial deposits are thin or absent, or where the pipeline is buried deeper (e.g. at major road, rail and river crossings). Over most of the proposed pipeline route it is anticipated that there will be in excess of 8 metres of superficial deposits overlying the bedrock which is predominantly low permeability glacial till. A number of environmental and geotechnical surveys have been carried out to identify geological and hydrological features along the route.

A potential impact from construction is the release of ground contamination into the groundwater. The proposed pipeline route is in close proximity to three known landfill sites; the first is recorded in Boo Hole, Heywood and two others are recorded Virador Waste Management sites at Whitehead, adjacent to Astley Green, Wigan and Pilsworth Quarry, Bury.

The proposed pipeline route however passes through areas of predominantly agricultural land thus the risk of encountering areas of contamination is generally

low. However should areas of contamination be found then appropriate mitigation measures will be adopted in consultation with the Environment Agency.

The proposed pipeline traverses through a number of 'Areas of Search' for Minerals in Bolton, Bury and Rochdale, as outlined in the corresponding Unitary Development Plans. There are multiple areas of contaminated land measured between low to high risk contaminated sites that lie within 1km of the proposed pipeline.

These areas present potential sources of contamination but these have been avoided by careful routing of the pipeline.

The proposed pipeline crosses major, minor and non aquifers, however there are six major aquifers with high vulnerability ratings that are present beneath the pipeline route. These aquifers are highly permeable and are able to support large-scale water abstractions for public water supplies and other purposes. The remainder of the ground beneath the proposed pipeline route is classed as minor aquifers. One small non aquifer occurs to the west of Salford. Due to the thickness and low permeability of the overlying glacial till it is anticipated that this will reduce the risk of mobile pollution, if present, impacting on groundwater.

There are some relatively vulnerable areas of superficial deposits and areas of high soil vulnerability adjacent to the rivers. The Contractor will take soil and groundwater vulnerability into account during the detailed design of river crossings. Measures will be developed (in consultation with the Environment Agency) to mitigate any risk within these areas.

#### **Agriculture and Soils**

The proposed pipeline route passes through agricultural land of predominantly arable use. Of the agricultural land along the pipeline route, under the Defra Agricultural Land Classification system; the pipeline transects 4.2% of land which is capable of producing a very wide range of crops (Grade 1), the pipeline does not cross any land classified as Grade 2 (that produces a relatively wide range of crops), 63.4% of the pipeline crosses farm land classified as Grade 3 (yielding moderate to good crops) and 2% of the proposed pipeline crosses land classified as Grade 4 (which only produces a narrow range of crops)

Several agri-environment schemes have been identified which are crossed by or come in close proximity of the proposed alignment. These include Entry Level Stewardship, Organic Entry Level Stewardship or Countryside Stewardship Agreements along the proposed pipeline route. All activities impacting upon this land will be designed to ensure the conditions of such schemes are not prejudiced and will be in agreement with the farmers' requirements.

The main impacts on farming operations will be confined to the construction phase and the working width will be fully reinstated after construction. In order to minimise disruption, mitigation measures such as temporary water supplies, drainage systems and access provision will be agreed with the affected landowners and occupiers. Once reinstatement is fully established, there will be no impacts on farm activities.

In the long term during pipeline operation, United Utilities will have right of access over the land within a 10m permanent easement above the pipeline to maintain, repair and inspect the pipeline. Restrictions imposed will be to activities that could damage the pipeline for example, mineral extraction, the erection of buildings and the planting of some species of deep rooting trees.

### **Landscape and Visual Assessment**

The proposed pipeline route crosses generally low-lying, gently rolling topography, which is low lying towards the west of the pipeline, becoming higher in the east.

The majority of the proposed pipeline route lies between urban and suburban areas and crosses public open spaces such as golf courses and areas of tree planting. The proposed pipeline cannot be redirected away from complex areas of urban fringes/greenbelts (especially in the east), and so it will not be possible to avoid mature or significant trees.

There are no National Parks or Areas of Outstanding Natural Beauty (AONBs) within the pipeline route corridor. In the vicinity of the pipeline, there are areas of local landscape value designated by County and District Councils, however the proposed pipeline route does not pass through any of these significant areas.

The proposed pipeline route is adjacent to land designated as a Registered Historic Park and Garden, Knowsley Hall. The extent of the historic park and garden does not however include the starting point of the pipeline route at Prescott.

The proposed pipeline also does not intersect any listed buildings or conservation areas.

Within the districts that the pipeline crosses, there are a total of 12 TPOs that have been identified in close proximity to the proposed pipeline route. Measures will be considered during detailed design to avoid or at least minimise the impact of pipeline construction on Tree Preservation Orders (TPOs), such as use of non-open cut construction methods and alternative access arrangements for the running track. The Contractor will seek to minimise adverse effects on existing trees, woodlands and hedgerows. The relevant local authorities will be consulted on construction impacts and mitigation methods at an early stage.

The main impacts of the pipeline on the landscape will occur during the construction works, which could mean the loss of vegetation including woodland, tree belts and hedgerows. These impacts will be mostly temporary, since following pipeline construction the land will be reinstated to its original use and any features such as fences, hedges or walls will be replaced. The time taken for reinstated vegetation to establish will vary depending on its nature. Arable land will be returned to agricultural use immediately, whereas as more complex habitats will take longer to re-establish.

The main visual impacts will be to properties, public footpaths and roads.

The key to mitigating landscape and visual impacts is to ensure that the reinstatement is carried out promptly and to a high standard as soon as practical after construction. Mitigation measures to minimise the visual and landscape impacts include utilising existing gaps in hedgerows, woodlands and tree belts, where possible routing the pipeline through less dense areas of vegetation and early and careful reinstatement. Reinstatement will be subject to the requirements of the landowner.

The visual impact of the proposed pipeline route will reduce over time as the replacement planting become fully established. As a result the residual visual impact of the pipeline will reduce over time.

United Utilities are aware of the quality of the landscapes along the pipeline route and are committed to mitigating any adverse impacts upon landscape features.

## **Water Resources**

The proposed pipeline route falls within the North West River Basin District covering an area of 13,000 sq. km, from Cheshire in the South to the Lake District in the North.

The proposed pipeline route crosses several watercourses of potentially higher ecological value, including the 'Main Rivers' which are designated by the Environment Agency under the 'Water Resources Act 1991'. In addition there are many named and un-named streams, drains and other watercourses that are crossed by the proposed pipeline route. Named watercourses include; Mill Brook, Windle Brook, Rainford Brook, Black Brook, Dean Brook, Millingford Brook and Carr Brook, River Irwell and River Roch. Unnamed watercourses, including streams, ditches, ponds, culverts, drains, pipes and any other passage through which water may flow (excluding public surface water sewers and highway drains) are under control of the local authority.

In addition, the Bridgewater Canal is also crossed by the proposed pipeline route.

The proposed pipeline route crosses one groundwater source protection zone (SPZ) set up by the Environment Agency to protect aquifers used for public water supplies. The SPZ crossed by the proposed pipeline route will be protected through the mitigation measures adopted by the Contractor. The first part of the SPZ is traversed for approximately 5 km from the Prescott reservoirs to Windle Farm and the second part of the SPZ is traversed by the pipeline for approximately 14 km from Garswood Park to Allwood Farm, Moss Side.

As the proposed pipeline route crosses several water bodies, there are a number of potential causes of damage to the aquatic hydrology and so therefore, a range of mitigation measures are proposed in order to ensure that any impacts are kept to an absolute minimum.

The watercourse crossing points will be chosen in order to avoid the most ecologically sensitive habitat, and an extensive set of mitigation measures will be adopted by the Contractor. Mitigation measures will be further developed in association with the Environment Agency to avoid sediment discharge to groundwater and surface watercourses. Pollution prevention and control measures will also be implemented.

The appropriate consents will be obtained from the Environment Agency and other relevant authorities for construction and access across watercourses, works within flood plains and all abstractions from, and discharges to, watercourses as required. Watercourses will be reinstated to match the existing conditions, as far as possible, after construction.

## **Ecology**

Ecological survey work was undertaken during 2007 and 2008. The survey corridor was generally defined as being a maximum of 250m either side of the proposed pipeline route. All surveys were completed during optimum survey periods and using standard survey methodologies where possible.

Within 5km of the proposed pipeline route there are two SACs, 11 Sites of Special Scientific Interest (SSSI) and one proposed SSSI.

The closest international and nationally designated site to the proposed pipeline route is Manchester Mosses SAC (also known as Astley and Bedford Moss SSSI), which is approximately 600m distance from the pipeline route. This site is not impacted.



The proposed pipeline route does not intersect any formally designated national sites (SSIs), however, one pSSSI (Botany Bay Woods) is bisected by the pipeline route

There are 13 SBIs (Sites of Biological Importance) and 28 LWS (Local Wildlife Sites) within 1km of the proposed pipeline route. There is one LNR (Local Nature Reserve), and one proposed (pLNR), within 5km of the proposed pipeline route.

Seven SBIs and eight LWS and are along the proposed pipeline route. One woodland on the Natural England Inventory of Ancient Woodland at Ringley Wood is also crossed by the route.

Much of the temporary land-take required for the construction of the proposed pipeline route comprises land under arable cultivation. The temporary loss of this habitat is not of major significance to the botanical value of the area and areas will be reinstated following construction. Other habitats which are of greater conservation value are occasionally crossed, including Improved and semi-improved grassland, marshy grassland, isolated pockets of acid grassland, mossland, broadleaved woodland and scrub. The majority of these occasionally impacted habitats are local or national rarities and as such are part of the UK biodiversity action plan or local biodiversity action plans.

All hedgerows crossed by the proposed pipeline route have been surveyed, totalling approximately 143 hedgerows. The majority of these are species poor. .

Due to the temporary, short term nature of below-ground pipeline installation and the narrow envelope of direct impact, perceived affects upon features of nature conservation interest are generally temporary and short-term beyond the permanent loss of ancient features, such as ancient woodland.

21 ponds lie within 20m of the proposed route, and three are directly impacted. 42 watercourses are crossed by the proposed pipeline route, including River Roch and Irwell and the Bridgewater Canal.

Evidence of a number of protected species were found along the proposed pipeline route including water voles, badgers, bats, great crested newts, and Kingfishers which are specially protected under Schedule 1 of the Wildlife and Countryside Act 1981 and 12 bird species that are red listed as species of conservation concern.

It is considered that impacts on protected species are small scale and can be dealt with effectively with only slightly significant impacts. The key consideration where impacts are unavoidable is the sensitive timing of mitigation and strict control of construction activity.

Many stands of invasive plants, most of which are situated alongside watercourses, are crossed by the proposed pipeline route. Mitigation measures will be implemented to manage these species and prevent their spread.

### **Archaeology**

A Rapid Archaeological Desk Based Assessment and walkover survey has been conducted along the pipeline route, incorporating a 250m corridor either side of the proposed alignment of the WELM.

The assessments identified that the proposed pipeline route does not affect any scheduled ancient monuments, listed buildings or conservation areas, additionally there are no recorded Battlefields in the area. However, it has been established there is one registered Historic Park and Garden (Knowsley Hall), which is in relatively close proximity to the east of the proposed pipeline route.

There are no known/recorded nationally important sites located within the Study Corridor. The Desk-based Assessment also did not identify any regionally important sites within the Study Corridor and the archaeological potential of the proposed pipeline route has been found to be minimal.

### **Traffic and Transportation**

The proposed pipeline route crosses three motorways, fourteen main roads, three minor roads and other non classified roads and tracks. There are also nine railways (including the metro link, heritage railways and dismantled railways) and one canal crossing which is intersected by the proposed pipeline.

The majority of plant and traffic used during pipeline construction will gain access to the proposed pipeline route down and along the working width rather than by public highways where possible. Traffic levels on trunk roads will increase, but the impact will depend on vehicle movements associated with the pipeline construction. Careful planning of the route and timing of movements will minimise traffic disturbance. It is anticipated that potential traffic impacts within the area due to the pipeline proposals will be minimal and localised.

Any disruption or impact to the local network (including construction traffic) will be reduced through the implementation of a number of mitigation measures. To minimise the impact of construction traffic on the road network, a Traffic Management Plan (TMP) will be developed in agreed with the Highways Authorities and the Police. This plan will take into account the nature of the transport infrastructure within the area of the pipeline, and its suitability for the transport of pipe and machinery to and between different sections of the pipeline's working width.

Overall it is envisaged that the increase in traffic due to pipeline construction will have no impact or will be both low and localised, mainly affecting 'A' roads due to additional traffic relative to existing levels. Pre- and post construction records of the condition of the roads used during construction will be kept and defects resulting from construction or construction traffic will be identified and appropriate reinstatement to the original condition will be undertaken as necessary, in agreement with the relevant highways authority.

### **Noise and Vibration**

Noise impacts will arise during the construction period, which may temporarily affect people living in close proximity to the pipeline.

Due to the heavily urbanised nature of some parts of the proposed pipeline, nine sensitive locations have been identified, which are to be considered as 'worse case' scenarios. Concentrations of properties closest to the pipeline are around Ecclestone, Walkden, Radcliffe and Bury, however Boothstown, Kearsley and Whitefield may also be affected. Mitigation of noise levels will be in compliance with Section 72 of the Control of Pollution Act 1974.

Residents that are affected by the pipeline construction will be informed by an official of the proposed time schedule; blasting operations will have to be scheduled and construction will be confined to certain allotted periods throughout the week, with the Environmental Health Officer to be notified if any construction is to be taken place outside normal working hours or at night time. Noise levels will fluctuate during the project's duration and it is not anticipated that residents will have to live with a constant increase in noise.

Noise will be controlled in compliance with British Standard BS 5228 (Noise Control on Construction and Open Sites). Careful siting, silencing and screening of equipment will help minimise noise during construction and sensitive timing of

operations. Nearby residents will be advised of the times and duration of any abnormally noisy activity likely to cause concern.

### **Emissions**

The main sources of emissions arising during the construction, commissioning and operational phases of the project will be liquid effluent, air emissions and solid waste. Relevant preventative measures and contingency procedures will be adopted throughout the project in the event of environmental incidents.

The following measures will be applied: Fuel and Chemical Storage handling will be stored within bunded areas or within secondary containment in an approved manner in accordance with the Control of Pollution Regulations 2001 and The Environment Agency's Pollution Prevention Guidelines PPG 02 and PPG26. No re-fuelling of machinery or fuel storage will occur within 30m of watercourses and 50m of springs, wells and boreholes. All plant will be inspected for fuel and oil leaks before being accepted for delivery onto the working width. Thereafter, regular maintenance inspections will be carried out to minimise the risk of ground contamination from leaking machinery.

All equipment used on site will be correctly adjusted and maintained to control air emissions. Most plant machinery will be powered by diesel engines. In dry weather, any mud and dust generated by vehicle movements along the working width will be controlled by damping down using water spraying equipment, road brushes and imposing speed restrictions on vehicles.

An integral part of the Project Environmental Management Plan (PEMP) will be a Waste Management Plan (WMP) produced by the Contractor. This will detail the Waste Management Provisions and Procedures and identify likely wastes arising and appropriate handling and disposal methods. In addition, the PEMP will identify waste minimisation techniques and will promote the hierarchy of waste management i.e. 'reduce, reuse recycling and recover' with responsible disposal being the last resort wherever possible.

It is anticipated that there should be no residual impacts from the construction or operation of the proposed gas pipeline.

### **Socio-Economic and Tourism**

The area through which the proposed pipeline route passes is predominantly rural to the western end becoming more urbanised to the east. The potential impact from construction of the proposed pipeline includes the impact to Public Rights of Ways, National Trails, recreational facilities such as golf courses, fishing facilities, access land, hotels, country parks, and other major businesses. In turn, these impacts effect tourism as highlighted below.

The socio-economic impact of the project will be minimal but on the whole positive to the local economy. Direct employment generated during construction of the proposed pipeline will total 550 jobs, plus a number of indirect or clerical jobs within support services. However, a number of other indirect benefits will be felt within the local area, mainly through the use of local services, accommodation, purchasing of materials and food through local suppliers during construction. Due to the duration of the project there could be; a potential loss of revenue to some local businesses; a temporary loss of, or access to other recreational activities; there will be temporary closure or diversions of Public Rights of Way (PRoW) and other trails/footpaths used by the local community and visitors and there may be nuisance impacts to local communities and tourists. However, long term significant negative impacts upon the local community are not expected, other than temporary disturbance during construction.

It is anticipated that the impacts to tourism and recreation as a result of the pipeline construction and operation will be temporary and of a localised nature. Tourism and recreational activities along the proposed pipeline route includes horse riding, walking, country parks and golf courses.

Particular areas of importance for tourism and recreation that are crossed by the pipeline route include the River Irwell, and the Bridgewater Canal, which supports various tourism activities including fishing, boating and walking.

Other tourist attractions in the area include Knowsley Safari Park, Knowsley Hall, Carr Mill Dam, Haydock Race Course, Pennington Flash Country Park, Clifton Country Park and the East Lancashire Light Railway, tourists using the roads to access these attractions may notice minor visual impacts or slightly elevated traffic levels.

The proposed route crosses a total of 91 public rights of way, of which 88 are footpaths and 3 are designated public bridleways. Access to definitive rights of way will be open to a practicable limit, but temporary closures may be necessary in the interest of public safety. The Glazebrook Trail and Network Cycle Network Route 55 are both affected by the proposed pipeline and will require temporary closure during the construction phase.

To ensure any necessary period of closure for these routes is kept to a minimum, the appropriate closure notices will be applied for and where necessary diversion routes put in place. Where a footpath is crossed, stiles or gates will be constructed in the right of way fencing. Suitable access routes across the site will be maintained and directional signs and warning signs erected in order to allow safe public access across the working width.

Seven golf courses are located along the proposed pipeline route, five of which are directly impacted. Pipeline construction within the golfing facilities may disrupt business due to partial closure or restricted access, reduced enjoyment to players in terms of visual attractiveness and the health and safety of players during construction which together, will create a loss of revenue. To minimise the disruption and disturbance for the golf courses, discussions and liaisons will continue throughout the detailed design and construction phases with the relevant owners.

It is anticipated that the impacts to tourism and recreation as a result of the pipeline construction and operation will be minor and temporary with the majority of tourists and recreational users in the area remaining completely unaffected from the proposal. It is envisaged the greatest impacts may be for people using identified fishing areas, golf courses and public rights of way close to the pipeline works, however these may only pose a temporary inconvenience to the user due to the transient nature of the work.

### **Environmental Management**

The pipeline will be managed and implemented through the Project Environmental Management Plan (PEMP) during design, construction and commissioning. This is vital in ensuring the component implementation of mitigation measures identified during the planning stages of the project. During the course of this project the Contractor will continually assess the environmental implications of the pipeline construction, seeking the co-operation of United Utilities, subcontractors, suppliers and employees in minimising adverse effects.

All site management will have received relevant training on both the general and site specific environmental matters prior to the commencement of any pre-construction and construction activities. This will help ensure that site personnel

are fully aware of the key environmental issues of the site and management procedures, which have been set in place to mitigate impacts.

An Environmental Manager as a minimum will be employed by the Contractor during the duration of the construction phase. The environmental manager will be responsible for advising the project management team, liaising with environmental consultees, preparing applications for consents and licences relating to environmental issues, maintaining communications with both statutory authorities, non-statutory groups, and United Utilities. The intention is to avoid conflict of interests and facilitate the smooth running of the project by addressing any contentious issues promptly.

An Environmental Incident Response Team will also be available during the construction period to assist with environmental incidents and mitigation works.

The requirements and wishes of landowners and occupiers will be adhered to, as far as possible. Those directly affected by the pipeline will be kept informed of all relevant activity, and they will continue to be consulted with regard to the requirements for access to land and the provision of services such as water for stock. Residents likely to be affected by pipeline activities will be contacted before the start of construction. Members of the public will be able to contact United Utilities for more information or to discuss potential areas of concern.

The production of this Environmental Statement forms only one part of United Utilities and their Contractors' continuing environmental management of the pipeline throughout the design and construction process through to reinstatement, commissioning and operation. The PEMP will be continuously reviewed in order to incorporate additional environmental information and lessons learnt during the works.

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