Western HVDC Link

Wirral Borough Council - Report to Cabinet

1. PURPOSE OF THE REPORT

This Report has been prepared by National Grid Electricity Transmission (NGET) and SP Transmission (SPT). It provides an overview of the proposed Western High Voltage Direct Current (HVDC) Link which is a major electricity transmission project that will reinforce and provide additional capacity on the Great Britain Transmission System.

The Report provides details of how the project has been developed, the approach taken to environmental appraisal and community engagement and how the project will be taken forward into, and during construction. The remainder of this report is structured as follows:

2. Background to the Project;
3. Project Description;
4. Development and Assessment of the Underground Cable Route;
5. Pinch Points – Arrowe Park and Cable Landfall; and
6. Next Steps.

More information on the development of the project, the environmental appraisal and consultation can be found on the project website at www.westernhvdclink.co.uk.

2. BACKGROUND TO THE PROJECT

In 2009 the Department for Energy and Climate Change (DECC) published the UK Renewable Energy Strategy (RES). The RES sets out how the UK will meet its legally-binding target of ensuring 15% of the country's energy comes from renewable sources by 2020. The increase in the development of renewable energy has had a significant impact on the GB Transmission System. An increase in the volumes of electricity generated and requests from generators for connection to the network has resulted in a need to increase the capacity of the transmission system. Scotland is connected to the wider transmission system by two cross-border 400kV overhead transmission lines. NGET and SPT have maximised the power carrying capacity of these existing lines, but the amount of power which needs to be moved across this part of the system continues to grow, particularly as more renewable generators connect to the system. As a result there is a requirement to increase transmission capacity between England and Scotland.

In 2009 the Electricity Networks Strategy Group (ENSG), a cross industry group comprising representatives of the electricity transmission companies, the Office of Gas and Electricity Markets (Ofgem) and the Department of Energy and Climate Change (DECC), requested that the GB Transmission Licence Holders undertake a study to identify and evaluate a number of potential electricity transmission network solutions which would accommodate electricity generation and demand scenarios consistent with the Government targets. The ENSG study concluded that up to 2015 there was a requirement to proceed with incremental upgrades of the existing cross-border 400kV transmission lines and to proceed with the development of the Western HVDC Link.

The project will connect the electricity transmission network in Scotland with England and Wales by a subsea HVDC cable. This will increase cross-border transmission capacity on the GB Transmission System by approximately 2000 Mega Watts (MW) and support the continued development of renewable energy generation in line with UK Government and European targets.

3. PROJECT DESCRIPTION

The Western HVDC Link comprises approximately 420km of underground and subsea cables, two converter stations, a substation and overhead line works. Approximately 20km of underground cable is within Wirral Borough Council's administrative boundary.

For the purposes of environmental assessment and planning, the Western HVDC Link has been separated into 3 parts as follows:

- **Northern Point of Connection:** A converter station and substation at Hunterston in North Ayrshire, Scotland, overhead line realignment and approximately 4km of underground HVDC cable to a landfall at Ardneil Bay. The converter station and substation will be connected to the existing transmission system by approximately 500m of underground HVAC cable.
- **Marine Cable Route:** Approximately 385km of subsea HVDC cable from Ardneil Bay in Scotland to Leasowe on the Wirral Foreshore in the north west of England.
- **Southern Point of Connection:** Approximately 33km of underground HVDC cable through the Wirral to a converter station at Connah's Quay in Deeside, North Wales. The converter station will be connected to the existing transmission system by approximately 500m of underground HVAC cable.

The consenting requirements for each part of the project are contained in the table below:

WESTERN HVDC LINK - PROJECT CONSENTING REQUIRMENTS			
Location	**Project Component**	**Consenting Authority**	**Consent Required**
Hunterston, North Ayrshire	Converter and Substation	North Ayrshire Council	Planning Permission in Principle
Hunterston, North Ayrshire	Underground Cable	n/a	Permitted Development
Hunterston, North Ayrshire	400kV Overhead Line Realignment	Scottish Government	Section 37 Consent
Scottish Terrestrial Waters	Subsea cable	Marine Scotland	Marine Licence
Northern Irish Territorial Waters	Subsea Cable	Northern Ireland Environment Agency	Marine Licence
Isle of Man Territorial Waters	Subsea Cable	Isle of Man Dept of Infrastructure	Submarine Cable Consent
English Territorial Waters	Subsea Cable	Marine Management Organisation	Marine Licence

WESTERN HVDC LINK - PROJECT CONSENTING REQUIRMENTS			
Location	**Project Component**	**Consenting Authority**	**Consent Required**
Welsh Territorial Waters	Subsea Cable	Welsh Assembly Government	Marine Licence
Wirral Peninsula	Underground Cable	n/a	Permitted Development*
Connah's Quay, Flintshire	Converter Station	Flintshire County Council	Outline Planning Permission

* Underground cables in England and Wales constitute Permitted Development under part 17, Class G of the Town and Country Planning (General Permitted Development) Order 1995; therefore planning permission is not required for the installation of the underground cables. However, the underground cable is subject to a range of environmental legislation and a number of secondary permits are required. These include protected species licences, flood defence, land drainage and drainage discharge consents. These will be sought as part of the detailed design prior to the commencement of construction.

Proposed Works in Wirral Borough Council Administrative Boundary

The main element of the project within Wirral Borough Council's administrative boundary is the landing of the marine HVDC cable at Leasowe which will be Horizontally Directionally Drilled (HDD) beneath the sea defences on the Wirral foreshore and the installation of approximately 20km of underground HVDC cable. A summary of the main aspects of the proposed cable installation is detailed below.

The underground cable route is illustrated at Figure 1. It is approximately 33km in length (approximately 20km within Wirral administrative area) and is as direct as possible taking into account environmental and technical constraints. The cable crosses three areas owned by Wirral Borough Council at the landfall, land adjacent to Birkenhead Road and Arrowe Park Golf Course. For the most part the cable route is within agricultural fields; however there are a number of sections where the cable will cross roads and watercourses.

Underground Cable Characteristics

The cables are approximately 130mm in diameter, and weigh approximately 60kg/m. Two cables will be laid in a single cable trench approximately 1m deep and separated by approximately 0.5m (centre to centre). Where the cables are to be buried at a depth greater than 1m (e.g. at the landfall where the cables will be drilled beneath the sea defences), the cables will be separated and installed within separate ducts. A greater separation is required at increased depth to minimise the effects of heating.

The cables will likely be laid in sections of 500 to 800m in length with cable joints approximately 20m by 3m required between each section. A transition joint pit of similar size will be required at the Leasowe landfall where the underground and marine cables connect. Cable jointing will be undertaken within the temporary working corridor.

Temporary Working Corridor

A temporary working corridor will be established along the underground cable route length, an illustrative overview of this is provided at Figure 2. This will be approximately 30m wide at its maximum and will comprise:

- Cable installation trench approximately 1m deep and 1.5m wide for underground HVDC cables;
- Temporary haul road for delivery of cable drums and movement of installation traffic;
- Storage areas for excavated spoil;
- Measures for drainage and pollution control; and
- Fencing either side of the temporary corridor.

Installation Activities

Two alternative installation techniques will be used on the Wirral: direct cable burial and horizontal directional drilling.

Direct Cable Burial

The majority of the underground cable will be installed using this method. A trench approximately 1.5 wide and 1m deep will be excavated and spoil will be stored within the temporary working corridor. The underground cable will be installed within the trench which will be backfilled using a combination of cement bound sand and excavated soils.

Horizontal Directional Drilling (HDD)

HDD will be used to avoid above ground constraints for example sea defences, railways, larger water bodies or sensitive land uses. This involves the use of a drill to bore a route below the ground through which ducts will be pulled and cables installed.

Working Corridor Reinstatement

Following installation of the underground cable the temporary working corridor will be fully reinstated to its former condition.

Cable Operation

General Operation and Maintenance

The underground cable route will have an easement of 12m within which the cable will be installed. However, where the cable is installed at a greater depth (for HDD) a wider easement will be required. Within this swathe, above ground activities will be restricted in order to prevent potential damage to the underground cable. Whilst most farming activities could continue to be practised, there would be restrictions which prevent activities such as building works, excavations and planting of trees.

Land Agreements

NGET and SPT are currently finalising the easement agreements with land owners along the cable route including voluntary easement agreements with Wirral Borough Council over the three areas described above.

4. DEVELOPMENT AND ASSESSMENT OF THE UNDERGROUND CABLE ROUTE

Alternatives have been included at every stage of project development. From strategic alternatives of different transmission systems to alternative options identified during micro routeing. The following sections summaries this process from initial strategic studies, routeing, consultation and Environmental Appraisal.

Strategic Alternatives

The Electricity Networks Strategy Group (ENSG) considered alternative technologies which would provide additional cross-border capacity on the GB Transmission System in line with UK Government renewable energy targets. Alternative High Voltage Alternative Current (AC) and Direct Current (DC) systems including:

- AC and DC overhead lines;
- AC and DC underground cables; and
- AC and DC subsea cables.

These options were subject to high level assessment considering technically feasibility, environmental and planning issues, costs and economic viability and project deliverability. It was concluded that the most efficient means of providing additional cross-border transmission capacity would be the development of a subsea High Voltage Direct Current (HVDC) link between two points on the existing UK transmission system. A DC transmission system is more effective at transmitting electricity in bulk volumes from point to point; in this case moving renewable electricity generated in Scotland south to areas of demand. The two points in the system identified by the ENSG were Hunterston in North Ayrshire, Scotland and Deeside substation at Flintshire, North Wales.

Following publication of the ENSG report, NGET and SPT undertook further technical studies to identify alternative points on the GB Transmission System (in addition to Deeside and Hunterston) which a HVDC link could connect to.

In England and Wales consideration was given to a connection via existing or new substations at either Birkenhead or Capenhurst in North West England, Wylfa or Pentir in North Wales or Ironbridge, Rugeley or Draklow in the West Midlands. NGET concluded that none of these alternative options were technically or economically preferred as that would all require significant deeper reinforcement of the existing transmission system.

The results of this study defined the geographic scope of the study area of a Routeing and Siting Study, within which alternative options for the Western HVDC Link would be developed.

Routeing and Siting Study

The overall aim of the Routeing and Siting Study was to identify a ‘Preferred Option’ for the Western HVDC Link which balanced technical feasibility and economic viability whilst ensuring the least disturbance to people and the environment. The study considered a range of environmental, technical and economic constraints influencing the development of the Western HVDC Link. It was a constraints driven option appraisal which included the identification and evaluation of alternative converter station sites, and underground and subsea cable routes concluding with the identification of a ‘Preferred Option’.

The aims of the study took into account NGET and SPT’s statutory duties under the Electricity Act 1989 including the requirement to “develop and maintain an efficient, coordinated and economical system of electricity transmission”, and their Schedule 9 Commitments with respect to environment and population.

These statutory duties and the results of the work undertaken by the ENSG in the initial identification of the project have been translated into a specific routeing and siting objective to:

"Develop a 2 giga watt HVDC link between the 422kV AC networks in the South West of Scotland and Deeside which causes the least disturbance to the natural and built environment as well as the people who live, work and use it for recreation; is technically feasible; is economically viable; and is deliverable by 2015."

A two-stage process was taken to the Routeing and Siting Study. Firstly strategic routeing focused on major constraints and the development of routeing corridors or search areas, and secondly detailed routeing and siting which considered additional constraints leading to the development of detailed routes and identification of specific sites. The approach was iterative and involved integration of environmental and technical constraints as well as consideration of economic viability and deliverability. This included constraints mapping, site surveys and meetings with Wirral Borough Council and other key statutory consultees.

The approach taken to the project had a number of benefits, not least of all the systematic consideration of all key routeing and siting issues. The process has ensured:

- Consideration of environmental constraints and potential effects from the outset.
- Development of options which are technically feasible.
- Clear consideration of alternative options and identification of a Preferred Option.
- Informed and transparent decision making.

The results of the Routeing and Siting Study were published in February 2011 in a Consultation Document. The purpose of this Document was to explain to a range of statutory and non statutory consultees, stakeholders and local communities how the project had been developed and provide them with an opportunity to comment on the Preferred Option.

Cable Routeing Study Area

Dee Estuary

Initially the Dee Estuary was assessed for potential route options. A route option through the estuary would have allowed for a continuous marine cable route through to Deeside. However, due to the sediment fluctuations with the estuary, shipping in the channel and the risk of damage to the cable a route through the estuary was rejected. In addition the environmental designations Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC) and Special Protection Area (SPA) and other uses within the Estuary, in particular the transportation of Airbus wings to and from Mostyn Docks, further constrained this route option. Therefore, the study area for the southern point of connection cable route focussed on the terrestrial areas either side of the Estuary, North East Wales and the Wirral peninsular.

North East Wales

The Dee Estuary SAC, SPA and Ramsar protected sites lie east of the North East Wales study area. A large number of designations were also identified throughout this study area including the Clwydian Range AONB, a number of SACs, SSSIs and Scheduled Monuments including Offa's Dyke. In addition there are a vast range of locally designated ecological, historical and landscape designated sites within the study area. Whilst not as heavily populated as the Wirral study area, a number of moderately sized settlements including Abergele, Rhyl, Flint, Prestatyn, Dyserth, Rhuddlan and Holywell are within the study area. The North East Wales study area was considered to be technically constrained by accessibility and topography for the delivery of installation equipment associated with weight and height restrictions on local roads.

Five cable routes were identified and assessed from four landfall locations along the North East Wales coast: two route options from a landfall at Barkby Beach, two route options from landfalls either end of Ffrith Beach and one route option from a landfall at Abergele. Following the detailed Routeing Study these options were rejected on both environmental and technical grounds.

Wirral

The Wirral study area is bordered by a number of International and European designated sites. These include the Dee Estuary SAC which extends along the length of the North Wirral Foreshore. The North Wirral Foreshore is also designated as a SSSI and proposed SPA. The Dee Estuary SPA and Ramsar designation cover the Estuary itself, however, these do not extend along the North Wirral Foreshore.

A number of small SSSIs and locally designated Sites of Biological Importance (SBI) were identified throughout the study area. There are also a number of locally designed Areas of Special Landscape and Country/Coastal Parks. The land use is varied with a mixture of arable and pastoral agricultural land inter dispersed with settlements and a number of international championship standard golf courses. There are fewer significant environmental designations within the Wirral study area compared with that of North East Wales, however the Wirral is more heavily populated including the settlements of West Kirby, Meols, Hoylake, Greasby, Heswall, Moreton and Neston.

Five potential route options were also identified and assessed through the Wirral. Three marine landfalls were identified; two along the North Wirral foreshore at Leasowe Lighthouse and Dove Point and a third on the banks of the Dee Estuary at Caldy Blacks. Whilst landing at any of the three landfalls would require a route through the Dee Estuary SAC, landing at Caldy would involve a much longer section to be routed through this designation. As such, a route through the Dee Estuary is not possible and the Caldy landfall was therefore not considered technically feasible resulting in the route option from this landfall being rejected. Two feasible landfall options at Leasowe and Dove Point were identified and four route options which could utilise either landfall. The four route options included a combination of on and off road options. Whilst unlikely to result in potentially significant effects on the environment, routeing in the roads would potentially result in a significant amount of population disturbance from the temporary road closures that would be required. Routes within roads are also constrained by the potential space available within the roads due to the presence of other services. Therefore due to the level of disturbance to the public and local residents likely from these options, the route options within roads were not considered to be feasible.

Preferred Option

Overall the route option through the natural green corridor with a number of short sections within roads and avoiding environmental designations as well as larger towns was identified as the Preferred Option as it was considered to be least environmentally disturbing and technically feasible option. However, it was acknowledged that there were a number of pinch points including Arrowe Park and that some local population disturbance would occur during cable installation; however, this will be temporary and will be reduced as much as practicably possible (see Section 5.0 for further details of pinch points).

Consultation

Consultation with statutory and non-statutory consultees, local communities and other stakeholders has formed a key element of the project. NGET and SPT have been committed to open and meaningful consultation with local communities and view this as an essential tool to ensure all stakeholders are aware of, have information about, and are afforded opportunities to be able to influence the development of the project. The aims of consultation at all stages have been underpinned by a Consultation Commitment:

"We will provide stakeholders, communities and consultees with the opportunity to inform our proposals for the Western HVDC Link and will take into account all of the views expressed. We will endeavour to

respond positively but where we cannot alter our proposals in response to consultation we will always provide a clear explanation of our decision."

A Consultation Document was published in February 2011 describing the development of the project and how the Preferred Option was identified. This was followed by a series of public information events to announce the Preferred Option. Feedback received during, and in the weeks following the public exhibition event was collated by the project team; responses were provided for each issue raised and are detailed in the Stage 1 Consultation Feedback Report (July 2011) which is available on the project website. We invited feedback as to the suitability of the preferred cable route, specific areas to avoid along the cable route corridor, whether there were any specific concerns during the installation works and any other questions. Where appropriate, feedback was used to further inform the development of the project; justification was given where feedback did not influence the cable route.

Since March 2011, workshop meetings have been held every 2 months with a number of officers from Wirral Borough Council (including highways, planning, regeneration, asset management and coastal protection) to discuss the most prominent issues regarding the development of the cable route (see the following sections) and agree the approach to future community engagement. Workshop meetings will continue to be held with Wirral Borough Council as the project develops.

Where key decisions have been made such as the section of a preferred landfall location or where clarification was required such as the reasons why routeing through the Dee Estuary is not considered to be feasible project fact sheets have be produced which has been made available on the project website and distributed to the local community where appropriate.

A Free Phone Hotline Number and Email Address was set up in February 2011 to allow members of the public to submit queries or comments, all of which are responded to by members of the project team.

Development of the Preferred Option Wirral Underground Cable Route

Since the identification of the 'Preferred Option', the underground cable route has been developed in detail. Public exhibition events were held in February 2011 which showed the Preferred Option as a wide corridor. The feedback from the public and the results of technical studies including discussions with cable suppliers and installers, the Environmental Appraisal, consultation with statutory and non-statutory consultees, stakeholders as well as land owner discussions have been used to finalise the underground cable route. This has been an iterative process considering technical and environmental constraints and land owner requirements. Throughout this process Wirral Council has been kept informed about the development of the route through a series of workshops to discuss key issues and the selection of route options including how decisions are communicated to the local community.

The output from the process is an underground cable route which has been developed to avoid known environmental constraints, avoid disturbance to the local community as much as possible and reduce land disturbance by avoiding sensitive areas identified by land owners.

As identified in the Routeing and Siting Study there were two key pinch points along the Wirral cable route where route options required further consideration. These areas were the landfall at the foreshore and Arrowe Park. Section 5.0 summarises how the route alignment has been developed at these locations in consultation with Wirral Borough Council.

Environmental Appraisal

The underground cables do not constitute "EIA development" as described in the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 or the Electricity Works (Environmental Impact Assessment) (England and Wales) (Amendment) Regulations 2007. Consequently a statutory EIA is not required. However, as Transmission Licence Holders under the Electricity Act 1989 and in accordance with their Schedule 9 Commitments, NGET and SPT are required to:

"(a) to have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and

(b) to do what he reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects."

Taking into account their Schedule 9 Commitments, NGET and SPT considered it appropriate to undertake a non-statutory Environmental Appraisal of the underground cable route through the Wirral.

The underground cable route has been developed through an iterative constraints driven process. The main aim of the process has been to avoid, prevent or reduce potential environmental disturbance, including effects on natural and built heritage and the local community through careful routeing. As far as possible the underground cable route avoids protected sites, residential properties and other locally important features. However, during the installation some short term temporary adverse environmental effects remain. Following completion of the works all land will be returned to its original state and no significant residual effects are predicted. The following measures will be implemented throughout the project to minimise environmental effects as far as possible:

- During installation, the appointed Contractor will be required to operate under a detailed site specific Environmental Management Plan (EMP). It will, as a minimum, implement the mitigation measures identified within the Environmental Report. The EMP will set out a variety of control measures for managing the potential environmental effects of installation works including control and management of noise, dust, surface water runoff, waste and pollution control.
- The following summarises the mitigation which will be implemented to further minimise the short term temporary adverse environmental effects and disturbance.
- Prior to installation a Traffic Management Plan (TMP) will be prepared in consultation with Wirral, Cheshire West and Chester and Flintshire Councils. This will set out all installation access arrangements including agreed access points, delivery routes and times.
- In some more sensitive locations there is the potential for the use of temporary track way to mitigate effects.
- The use of HDD has been employed to avoid effects on woodland. Where hedgerows, field boundaries and trees are removed to make way for installation reinstatement planting is proposed to reinstate trees and hedgerows and the existing field patterns. This will also provide some level of enhancement where existing hedgerows are gappy or fragmented.
- A detailed approach to archaeological mitigation will from part of the Environmental Management Plan (EMP). This will be developed in consultation with the three local authorities and following guidance from the institute of Archaeologists. This could include targeted archaeological evaluation, geophysical survey as well as archaeological monitoring at key areas along the route as required.
- All watercourse crossings will be reinstated to their former state.
- All land will be fully reinstated.
- Appropriate PROW diversions will be put in place and all footpath crossing will be reinstated to the appropriate standard
- A Community Liaison Group (CLG) will also be established. This group will include contractors representatives and a representative from the local community. The group will be used to keep local residents informed of the installation activities including the timing of any road closures.

Conclusions

The underground cable route has been developed to avoid, prevent or reduce potential environmental disturbance, including effects on natural and built heritage and the local community, through careful routeing. Where sensitive sites could not be avoided by routeing, a HDD technique will be employed so as to avoid the potential for adverse effects.

During the installation of the cable there will be some temporary short term adverse effects and disturbance on landscape, habitats, beds and banks of watercourses, land use and on the local community.

Once operational the land will be fully reinstated appropriately to its previous use and no residual effects are predicted.

5. PINCH POINTS – ARROWE PARK AND CABLE LANDFALL

Arrowe Park

At the consultation events in February 2011, two options within the route corridor were presented, a route through Arrowe Park Golf Course and an alternative route along Thingwall Road East. Consultation raised concerns regarding the route option through Arrowe Park associated with ecological and recreational disturbance to the golf course.

Arrowe Park Golf Course

Arrowe Park Golf Course is also designated as a Site of Biological Importance. Ecologically the area contains mature woodland containing Ash, Turkey Oaks, Sycamore and Beech. Ground flora includes Primrose, Dog-violet, Pignut and Bluebell. Roughs around the golf course include ponds which support Great Crested Newts and rare mud snails have been recorded. Bats are known to roost throughout the park.

Thingwall Road East

Thingwall Road East contains a large number of services including a United Utilities sewer, SP distribution cables and telecommunication cables. Therefore this route option was considered to be constrained by space available to install the cable. There would also be significant disturbance to residents and road users caused by road closures during the installation period.

Environmental Appraisal

Within the Underground Cable Supporting Environmental Report an assessment was made of both options as it was deemed necessary to undertake further technical reviews of the two options to inform the decision. The Environmental Report concluded that a route through the golf course would minimise the community disturbance, however installing within Thingwall Road East would avoid any disturbance to the golf course.

Further Assessment

A more detailed technical review has subsequently been undertaken of both options. For the golf course route options were considered, an assessment of options and impacts was undertaken and a staged by stage drawing for the preferred option was produced. For Thingwall Road East a desk top utility search was undertaken followed by a ground penetrating radar survey including visual trial pits. Access pinch points were also identified.

The ground penetrating radar survey concluded that the footpaths on either side of the carriageway contained a large number of services. The carriageway itself is congested with services in a number of areas which in its current arrangement would not allow safe installation of the cables and there would be an unacceptable risk for ongoing operations and maintenance. Following this United Utilities were consulted on the possibility of diverting their services to accommodate the cable within the carriageway. UU confirmed that the route would not be acceptable due to a number of longitudinal clashes with the sewerage network and insufficient room to divert the sewers due to the presence of other utilities.

A review of options for installing within Arrowe Park was undertaken utilising HDDs to minimise effects on the course and the number of holes required to be closed. The Environmental Supporting Report had identified that up to six holes would potentially need to be closed during installation. However following the technical review options were identified where only three holes would need to be closed; of the three only one would need to be closed for the duration of the installation - a maximum period of 13 weeks. A map of the indicative cable route through the golf course is provided at Figure 3.

Conclusions

Following the assessments it was concluded that installing along Thingwall Road East was not a viable option due to the presence of the other services within the Road; this was also confirmed by UU. Arrowe Park offered a viable solution whereby disturbance could be minimised by drilling (where practical) and timing of the installation.

Cable Landfall

Two technically feasible landfall options on the north Wirral Foreshore were presented at the public exhibitions in February 2011. One at Dove Point near Meols and the other at Leasowe adjacent the lighthouse. The level of environmental disturbance at both was considered to be similar and the decision was made to consult further and wait for the outcome of detailed intertidal surveys and further marine investigations before a decision was made.

The foreshore at both landfalls is a European protected site due to its important ecological interests. The coastal areas are designated locally as a Coastal Park and Site of Biological Importance. A marine cable approach to Dove Point would have passed through a larger section of these European sites whereas the landfall at Leasowe was considered likely to result in greater disturbance to the local onshore designations.

At both landfalls there would be temporary disturbance to local residents during the installation period; however it was considered that this disturbance would be likely to be greater at Dove Point due to the larger number of residential properties close to the landfall location.

Feedback from Consultation

Following the consultation events in February 2011 there were a number of responses which related specifically to the landfall options. The majority of these raised concerns about the Dove Point landfall including disturbance to moorings, local access to the marine parade, primary school and the coastguard station.

Additional Information

After the consultation period in February 2011 intertidal ecological surveys were undertaken on the approaches to both landfalls to inform the selection of the preferred landfall localtion. The surveys did not identify any defining features of ecological importance at either of the two landfalls. Therefore, ecological considerations did not influence the selection of the preferred landfall location.

A detailed seabed survey was also undertaken. One of the key considerations is to ensure that the marine cable can be buried at a constant depth to allow the mechanical protection to reduce the risk of damage and to maintain a constant electrical capacity of the cable; therefore technical marine issues were considered in determining the preferred landfall option. The detailed seabed survey work and related historical data identified further information on the East Hoyle Spit through which a marine cable to a landfall at Dove Point would need to be routed.

The spit was identified to be migrating and steep sided with a 10-12m rise along a distance of 150-200m. The migration of the spit would have either resulted in the cable becoming deeply buried which could affect the electrical capacity of the cable, or the cable becoming exposed and 'free spanning' which would require extensive remediation work and which would be likely to result in a lasting navigational hazard.

The approach to this landfall would have also required a longer section of cable to be installed within the intertidal zone increasing the difficulty of the installation.

The landfall at Leasowe requires an overall longer marine cable route and is a less direct route on land with an additional 2km of cable that would need to be installed onshore.

The use of either landfall would have resulted in minor temporary disturbance on the environment and local population. However the additional information on the east Hoyle Spit identified during the detailed seabed survey and related historical data was considered to be a key risk due to the likelihood of either increased burial or an exposed free spanning cable. This was the key determinant in the selection of the Preferred Option.

Route Alignment

Further micro routeing has been undertaken since the announcement of the proposed route. The landfall has been realigned from Leasowe Lighthouse car park to the west. Micro routeing has also ensured that the Horizontal Directional Drill lunch/exit pit is south of the Coastal Park and Site of Biological Importance, thereby avoiding any direct effects on these sites.

6. NEXT STEPS

Over the next few months there may be some small scale micro routeing of the cable alignment following final feedback from effected landowners. Following easement agreements a contractor will be appointed in early 2012 and a newsletter will be produced and circulated to all relevant February 2012 Local Area Forums and all statutory and non-statutory stakeholders listed on the project database. The newsletter will include the following:

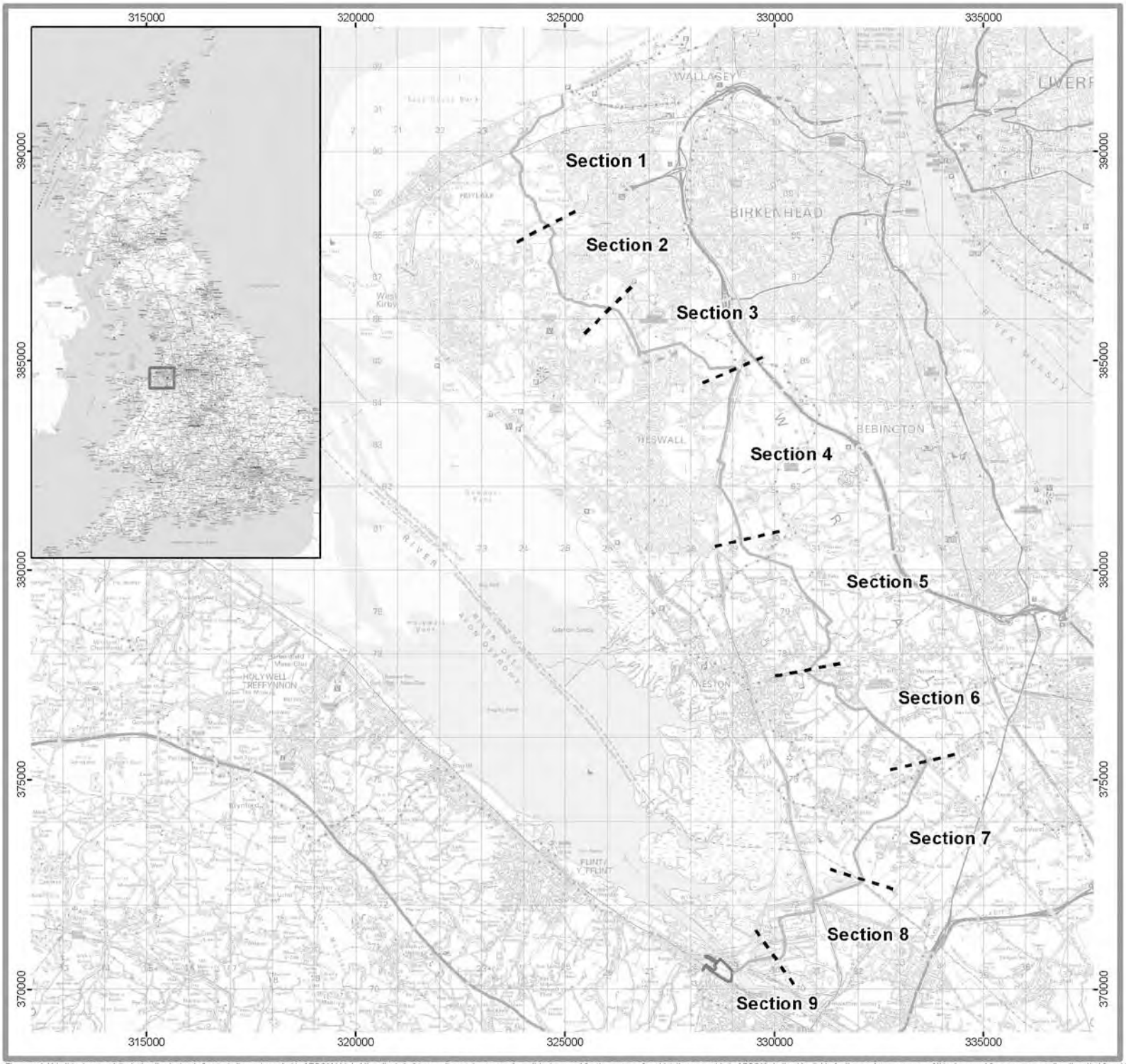
- Latest developments/where the project is currently up to including consents position and the final cable route alignment;
- Information setting out how the feedback from the exhibition events has influenced the project;
- Details of future community engagement strategy; and
- Continued consultation and notification of construction works.

Following appointment of a contractor the detail of construction will be developed. This will include, timing of the installation, details of road and lane closures, HDD locations, details of footpaths diversions etc. It is our intention to provide this information for the Local Area Forums to be held in June 2012.

The construction of the cable is programmed to commence in Summer 2013. Prior to the commencement of the construction works, public information events will be held at various locations along the cable route in mid to late 2012; the details of the public information events will be agreed with Wirral Borough Council. These events will be used to inform local residents of the detail of the construction period.

A Community Liaison Group (CLG) will also be established prior to the commencement of the construction activities. The CLG will include a Contractor's representative as well as representatives from the local community and businesses and NGET or SPT. The CLG will be used to consult with the local community about installation activities including any details of temporary closures of roads and PROWs.

Figure 1 Wirral Underground Cable Route



SP TRANSMISSION nationalgrid

Key

- Planning Application Boundary
- Underground HVDC Cable
- Underground HVDC - Alternative Cable Route

0 0.5 1 2 3 Km

N

AECOM

Scale:	1:125,000 @ A3	Drawn By:	TR
Date:	SEPTEMBER 2011	Checked By:	DR
Ref:	60161093	Version Control:	---

Figure 2.1
Underground HVDC Cable Route

Western HVDC Link

Figure 2 Typical HVDC Cable Construction Corridor

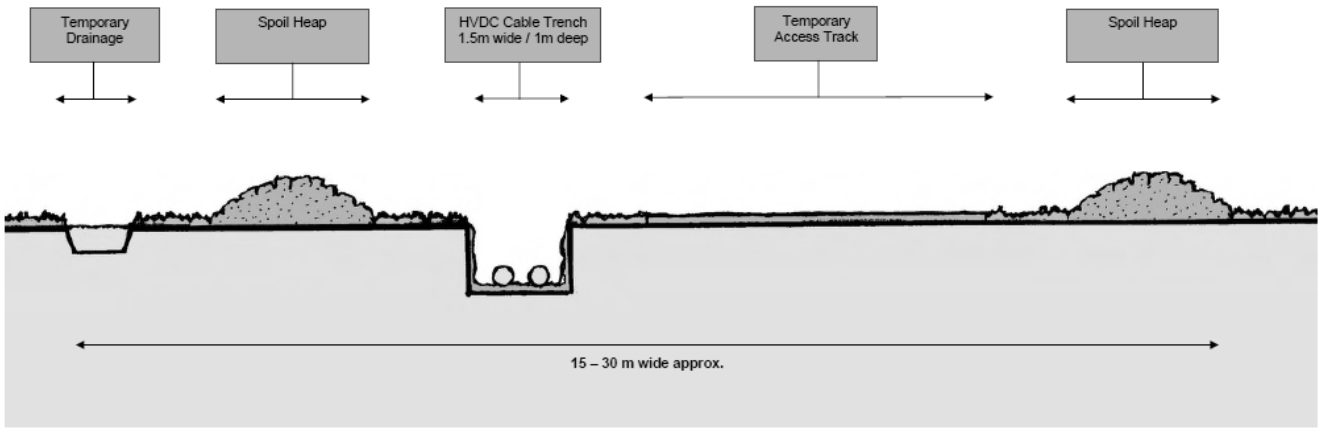
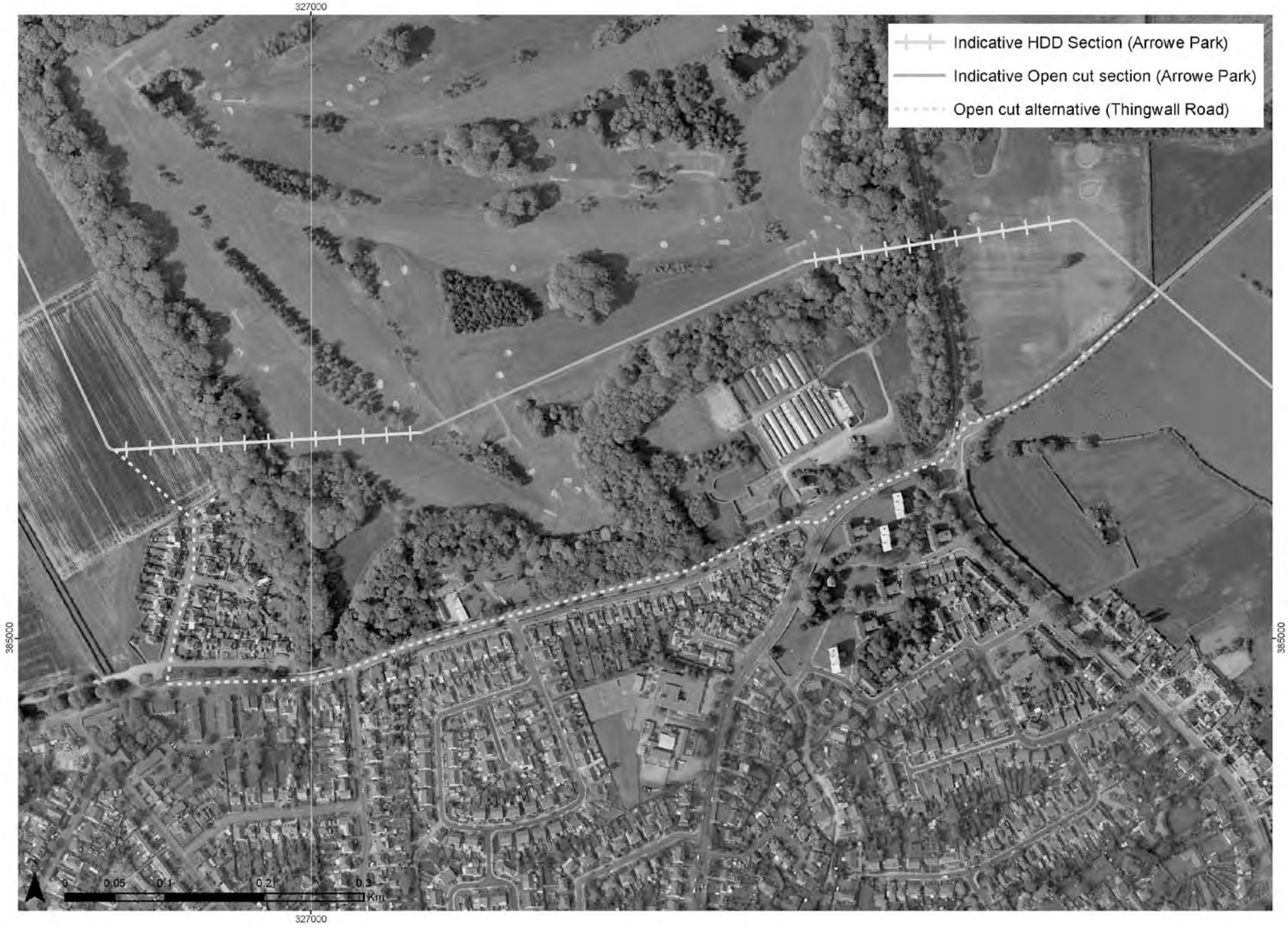


Figure 3 Indicative Routeing - Arrowe Country Park


327000
385000
Indicative HDD Section (Arrowe Park)
Indicative Open cut section (Arrowe Park)
Open cut alternative (Thingwall Road)
0
0.05
0.1
0.2
0.3
Km
327000
385000