UISCE ÉIREANN : IRISH WATER

Water Supply Project

Eastern and Midlands Region

Final Options Appraisal Report

The Preferred Scheme

Volume 4

Appendix I

Transmission Pipeline Route Corridor Selection

November 2016

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Water Supply Project, Eastern and Midlands Region

Irish Water

Final Options Appraisal Report – Linear Infrastructure Siting

Appendix I Transmission Pipeline Route Corridor Selection

November 2016

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1. Preferred Scheme – Transmission Pipeline

1.1 Background

Section 12 of the *FOAR – Main Report* outlines the multi-criteria analysis (MCA) used in the identification of a "Preferred 200m Pipeline Corridor" for siting the Transmission Pipeline (Linear Infrastructure). This Appendix I details the process employed in this MCA.

The Preliminary Options Appraisal Report (POAR) identified a "Least Constrained Route Corridor" (generally 2km wide) for siting a supply main, between the water treatment plant and the termination point.

The methodology employed in siting this supply main was documented in the POAR, *Appendix B: Site Selection Methodology*; and its implementation on the Water Supply Project included in its *Appendix F*.

The POAR *Site Selection Methodology*, amongst other things, sets out a 5 step process for identification of pipeline corridors, via a multi-criteria analysis based on the principle of least constraint and the development of constraint mapping, with the objective of determining an "Indicative 50m Pipeline Corridor"

In this regard the "Least Constrained Route Corridor" identified in the POAR represented Step 2 in the site selection methodology (**Figure 1-1**).

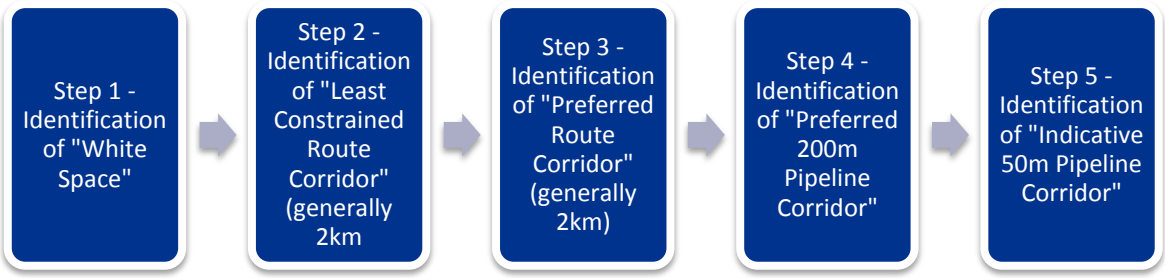


Figure 1-1 - "Linear Corridor Methodology" Process Flow Summary, *Site Selection Methodology*

Since publication of the POAR Step 3, Identification of "Preferred Route Corridor" and Step 4 Identification of "Preferred 200m Pipeline Corridor" have been completed, and are presented in Sections 1.2, 1.4 and 1.5.

Step 5 is discussed in Section 1.6.

1.2 Terminology

A variety of terms are used throughout this Appendix I when making reference to the main stages of the Transmission Pipeline. The terminology used is captured in Table 1 1 below

Table 1-1 Pipeline Terminology

Pipeline Terminology	Description
Least Constrained Route Corridor (generally 2km)	Issued for consultation as part of POAR The option was "Least Constrained" among several options examined.
Preferred Route Corridor (generally 2km)	Amendments to "Least Constrained" based on FOAR Consultation Feedback. What was "Least Constrained" is now elevated to "Preferred".
Preliminary 200m Pipeline Corridor	Desk based proposal to establish initial route for environmental surveys to assess, and vary.
Preferred 200m Pipeline Corridor	Established post environmental surveys and issued for consultation as part of FOAR.
Indicative 50m Pipeline Corridor	Desk based proposal supported by investigative survey feedback issued for landowner engagement.

1.3 Identification of "Preferred Route Corridor" (generally 2km)

Step 3 of the *Site Selection Methodology* details the methodology employed in confirming the "Preferred Route Corridor" (generally 2km wide); and is based on incorporation of the feedback from the public consultation on the "Preliminary Route Corridors" and "Least Constrained Route Corridor" identified/ consulted upon for Step 2 of the process.

As part of the POAR public consultation process, feedback was received from a number of stakeholders on the "Least Constrained Route Corridor". This feedback formed the basis for a detailed review undertaken by the project team of the "Least Constrained Route Corridor". The review resulted in a number of refinements to this corridor; detailed in Sections 1.3.1 to 1.3.5 below.

The review was supported by site visits onto the lands that potentially could be affected by the proposed scheme, field surveys and consultations with landowners.

Note: The "Least Constrained Route Corridor" (generally 2km) was informed by 'desktop' investigation, and contrasts with the development of a 200m corridor which is required to 'prove' a technically viable route. The methodology employed in identification of the 200m corridor is outlined in Sections 1.4 and 1.5.

It is also important to note that while the 2km corridor was established as 'least constrained' in the POAR, between nodal points and when taken on its overall length, this does not mean that it is fully optimised locally at every location along its route. Subsequent work outlined in Sections 1.3 to 1.5, outlines where local adjustments have been made, to achieve a locally less constrained position.

1.3.1 Lower Lake (Parteen Basin)

The western boundary of the "Least Constrained Route Corridor" was amended to accurately reflect the riparian boundary of Parteen Basin and the positioning of non-linear infrastructure sites (Section 11 of *FOAR – Main Report*); as shown in **Figure 1-2**. The 2km least constrained corridor was broadened on the approaches to Parteen Basin, to include the areas within which the non-linear infrastructure sites were then proposed and sited, and assessed for 'least constraint' in their own right. Further work on pipeline routing then concentrates on linking the preferred raw water intake site with the preferred water treatment plant site, as fixed points in this area.

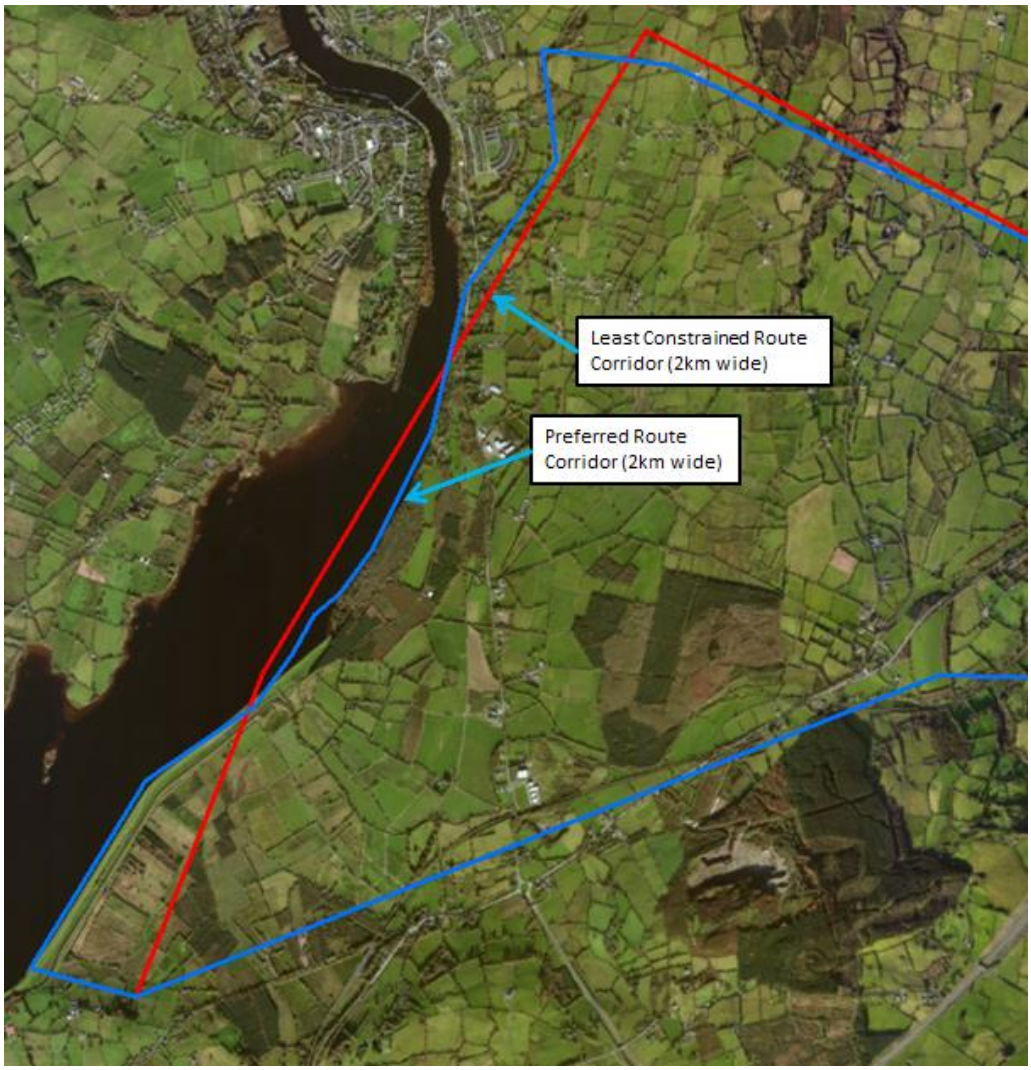


Figure 1-2 – "Least Constrained Route Corridor" (generally 2km) and "Preferred Route Corridor" (generally 2km) at Parteen Basin

1.3.2 Annaghmore

Due to the high density of constraints identified in the area of Annaghmore, south of Tullamore (Co. Offaly), it was established that a "Preferred 200m Pipeline Corridor" would be difficult to route within the area originally identified for the "Least Constrained Route Corridor" (generally 2km) alignment; as shown in **Figure 1-3**. The environmental constraints identified included:

- Groundwater vulnerability;
- Additional habitats (raised bogs);
- Woodland habitats; and
- Forestry

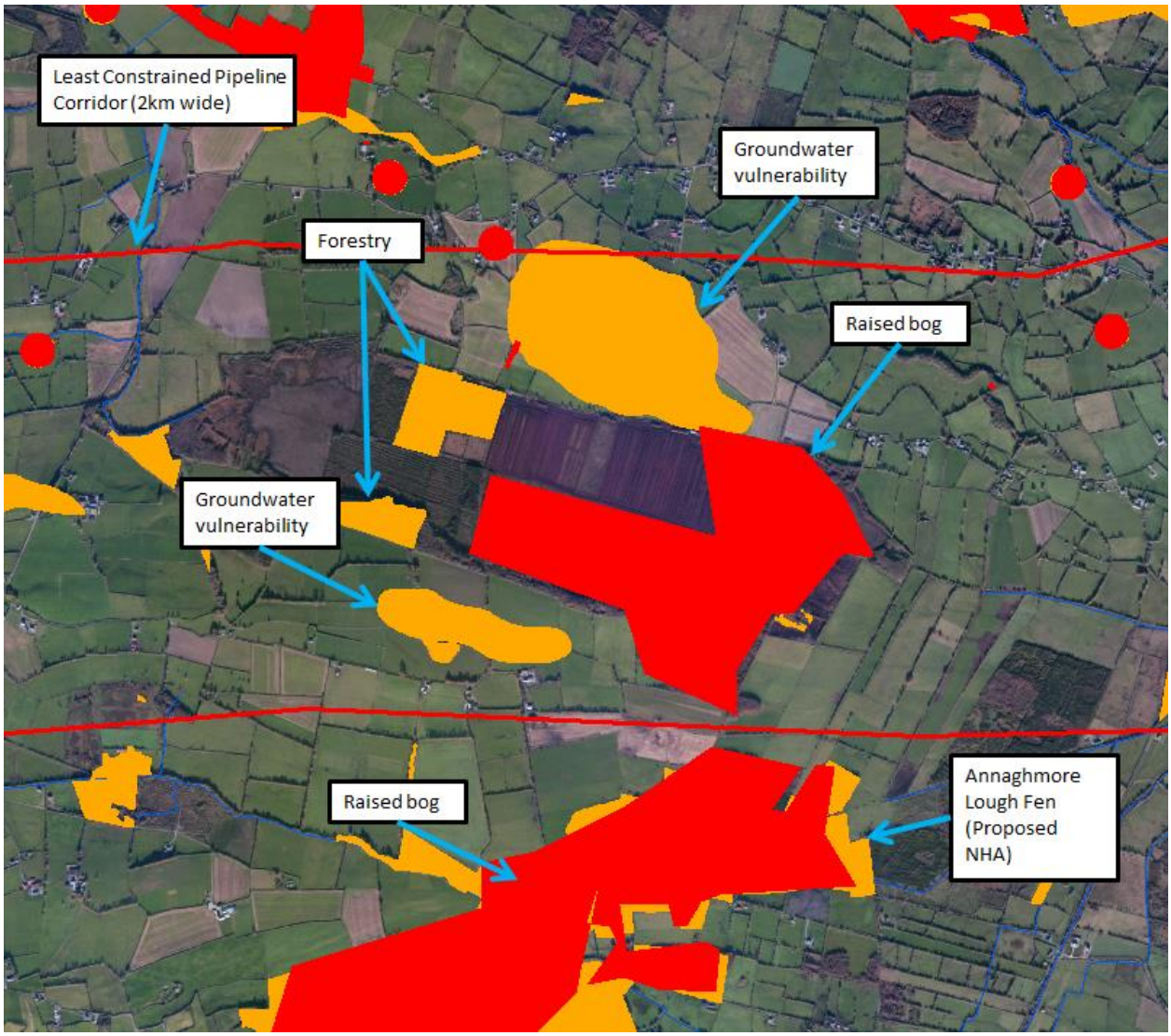


Figure 1-3 – "Least Constrained Route Corridor" (generally 2km) at Annaghmore

A detailed review of this area was conducted and a minor positional amendment was made to the "Least Constrained Route Corridor", in consideration of these environmental constraints. The amended corridor allowed the identification of a 200m wide corridor in this area within the known constraints; and became part of the "Preferred Route Corridor" (generally 2km). The amended corridor is re-positioned slightly south of its original position; as shown in Figure 1-4.

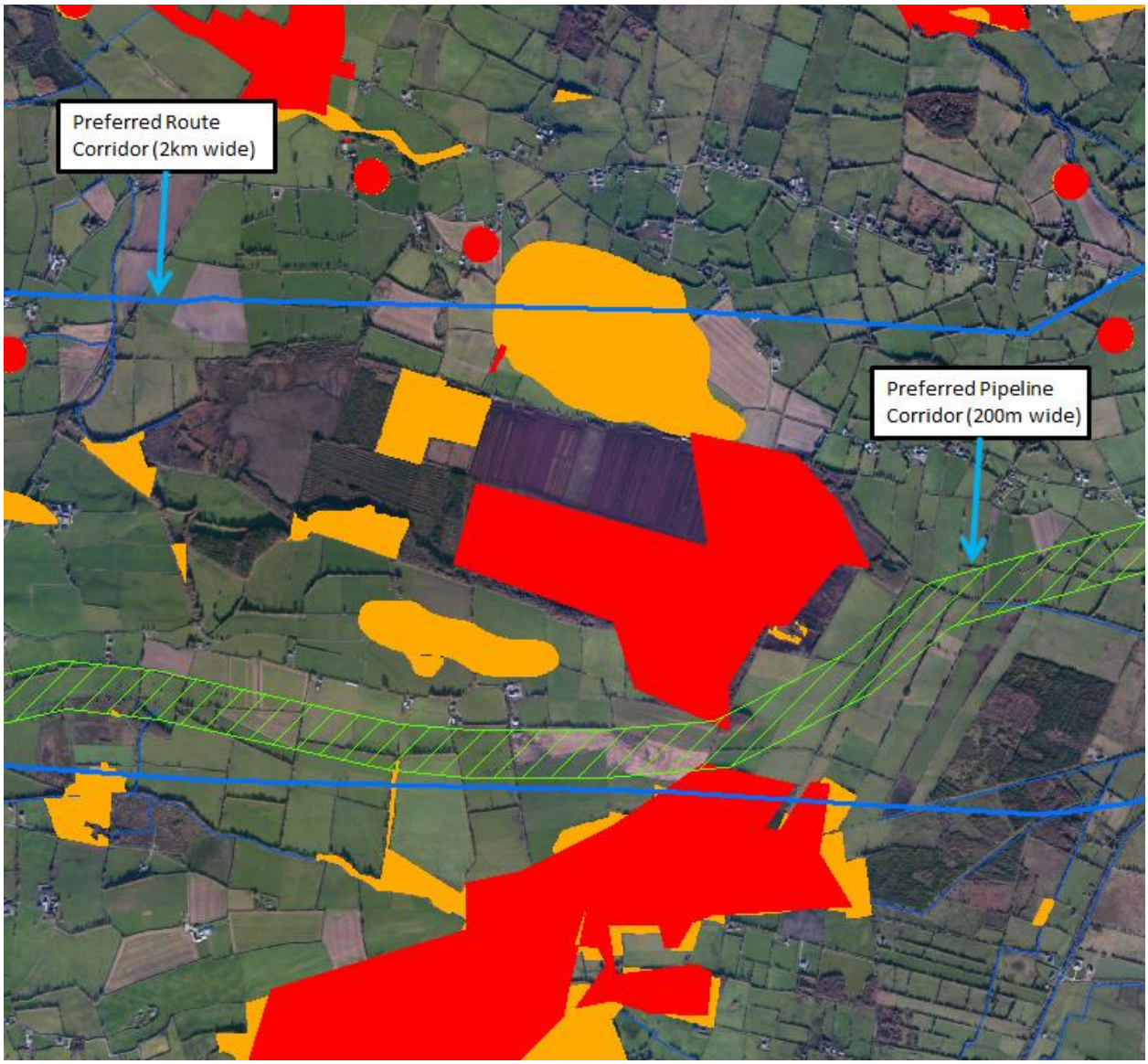


Figure 1-4 – "Preferred Route Corridor" (generally 2km) at Annaghmore

1.3.3 Esker Bog

The positioning of the "Least Constrained Route Corridor", to the south west of Edenderry, was shown to pass directly through Esker Bog (see Figure 1-5). It was subsequently confirmed through stakeholder consultation that this bog is currently in production.

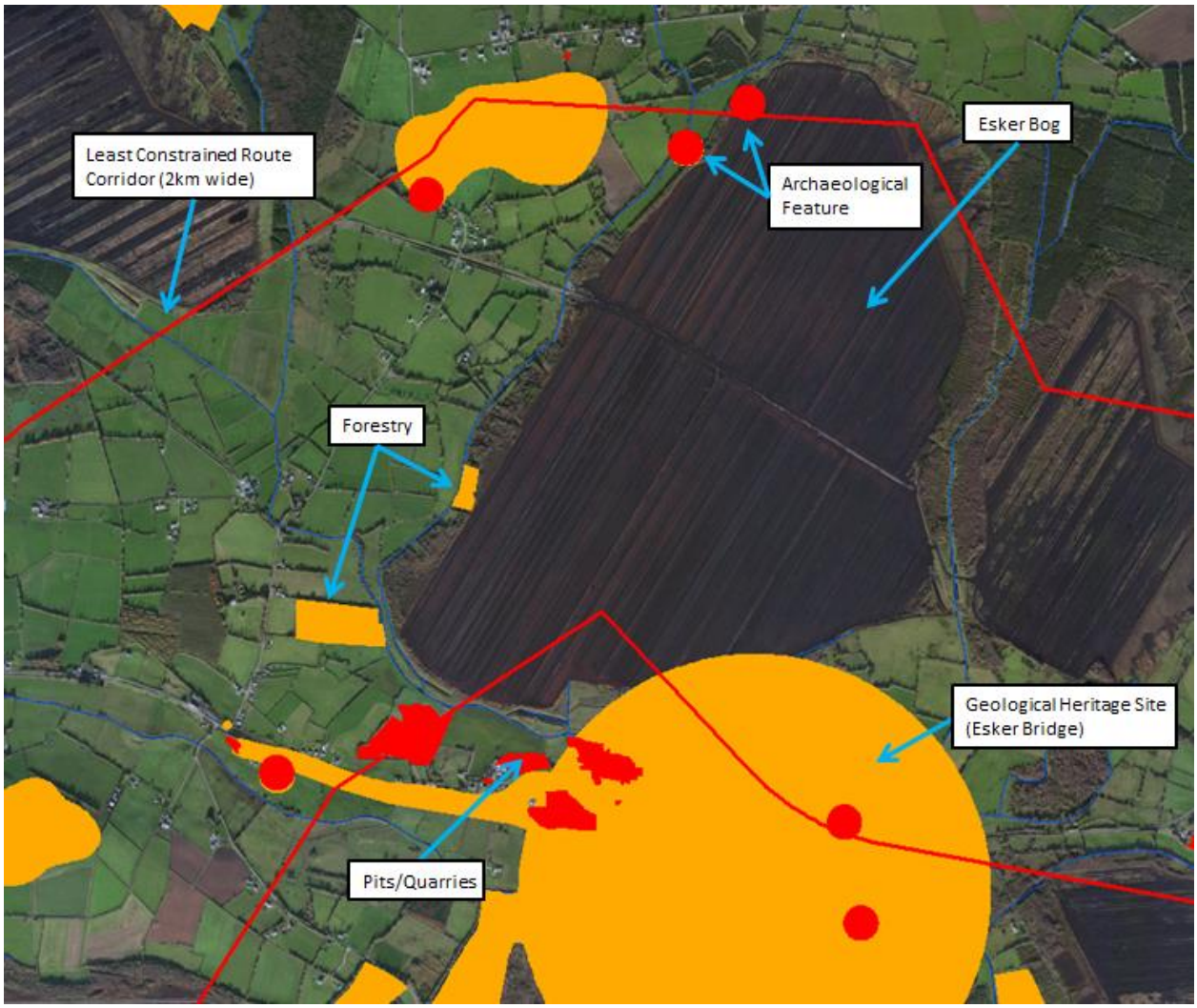


Figure 1-5 – "Least Constrained Route Corridor" (generally 2km) at Esker Bog

Consequently, a detailed review of this area was conducted and realignment to the "Least Constrained Route Corridor" was proposed, enabling the identification of a 200m wide corridor in this area within the known constraints. The positioning of the 200m corridor is cognisant, and mitigatory, of the:

- Impact on peat production lands; and
- Impact on future habitat regeneration plans

It was determined that the alignment should be re-positioned slightly south of the original location of the "Least Constrained Route Corridor, to allow a 200m corridor to skirt the boundary of the active bog workings (see Figure 1-6). It is noted that no new landowners are affected by this re-alignment. This became part of the "Preferred Route Corridor" (generally 2km).

Figure 1-6 – "Preferred Route Corridor" (generally 2km) at Esker Bog

1.3.4 Timahoe North Bog

The positioning of the "Least Constrained Route Corridor", to the south of Enfield, was shown to pass directly through Timahoe North Bog (see Figure 1-7). It was subsequently confirmed through stakeholder consultation that an existing wetland habitat in this area and a section of original undisturbed bog remnant should be avoided, in order to minimise impacts on these habitats.

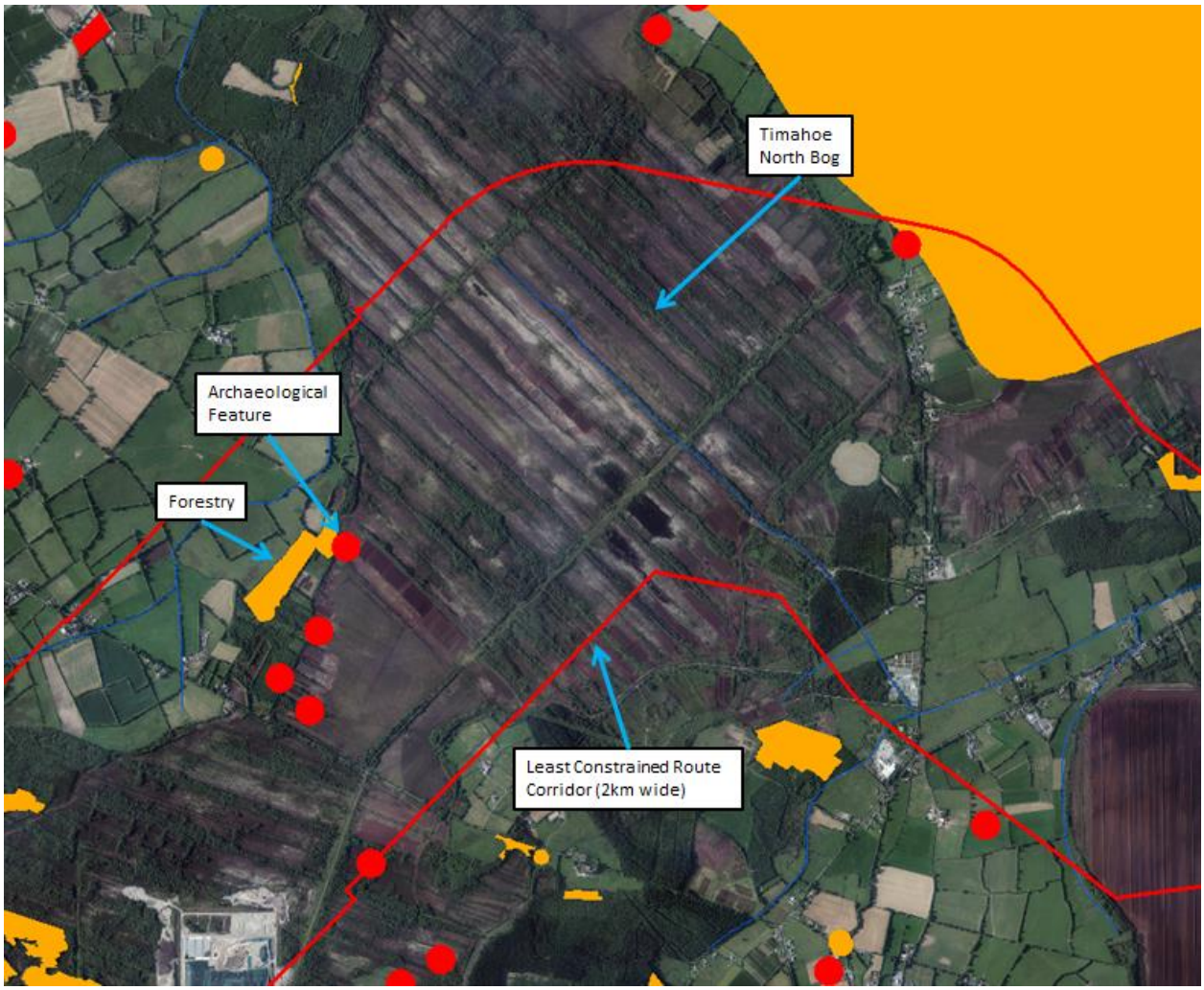


Figure 1-7 – "Least Constrained Route Corridor" (generally 2km) at Timahoe North Bog

A detailed review of this area proposed a local amendment to the "Least Constrained Route Corridor", enabling the identification of a 200m wide corridor which would avoid the identified important habitat in this area. The positioning of the 200m corridor is cognisant, and mitigatory, of the:

Impact of existing wetland; and

Impact on bog remnant

It was determined that the route should be re-positioned slightly south of its original location skirting the boundary of the bog (see Figure 1-8). It is noted that no new landowners are affected by this re-alignment. This became part of the "Preferred Route Corridor" (generally 2km).

Figure 1-8 – "Preferred Route Corridor" (generally 2km) at Timahoe North Bog

1.3.5 North Kildare

Feedback received during the POAR public consultation indicated that the positioning of the "Least Constrained Route Corridor", to the south of Maynooth, passed through an area of high constraint density, and directly through a number of large scale local enterprises (see Figure 1-9), which were not immediately identifiable through the earlier 'desktop' investigations. This local constraint density would make it difficult to route a 200m corridor, within the 2km alignment of the overall "Least Constrained Route Corridor".

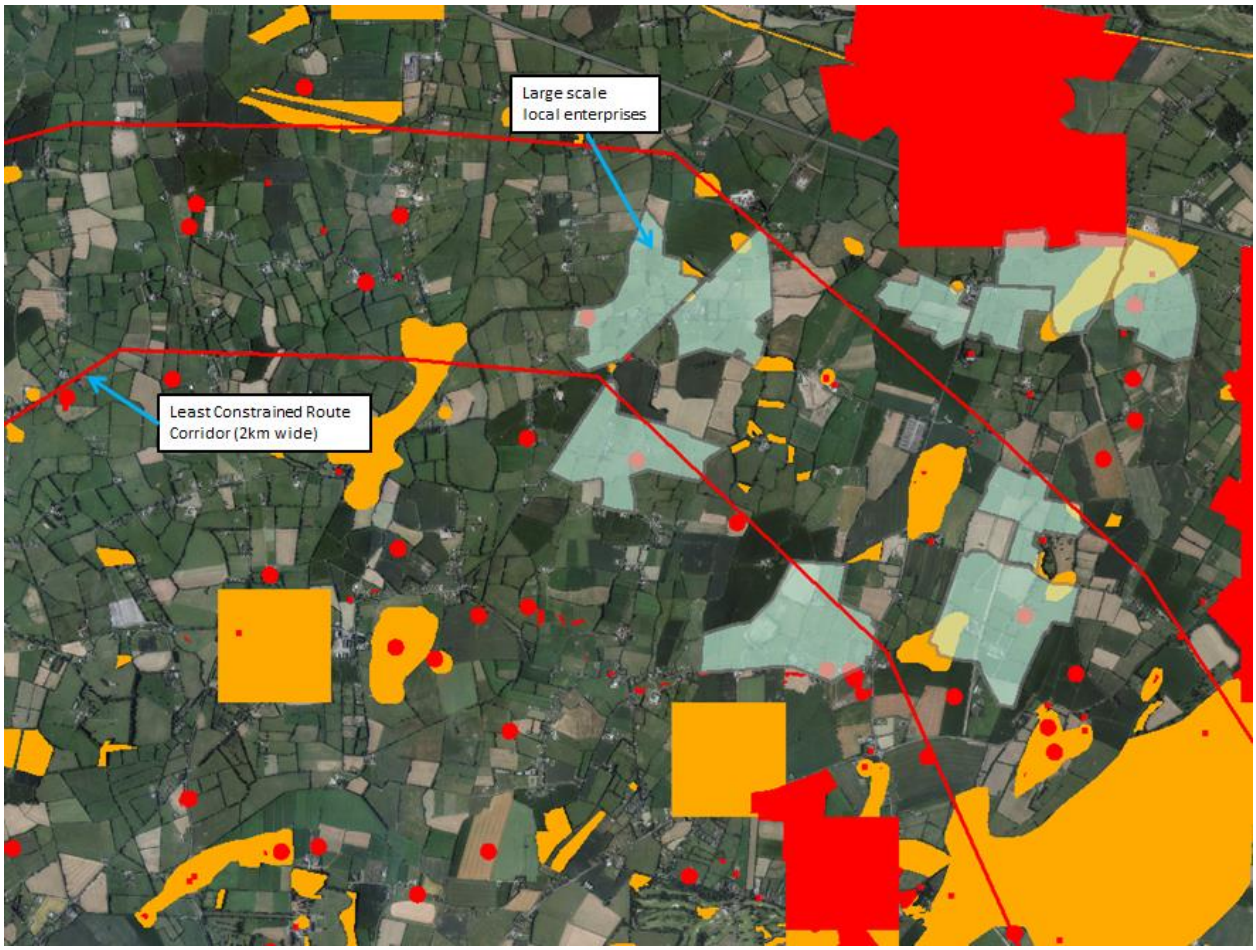


Figure 1-9 – "Least Constrained Route Corridor" (generally 2km) in North Kildare

A re-assessment of the potential route corridors in this area, as shown in the area of the Barreen Loop in Figure 1-10, was carried out. These corridors were previously considered as part of the POAR published in November 2015.

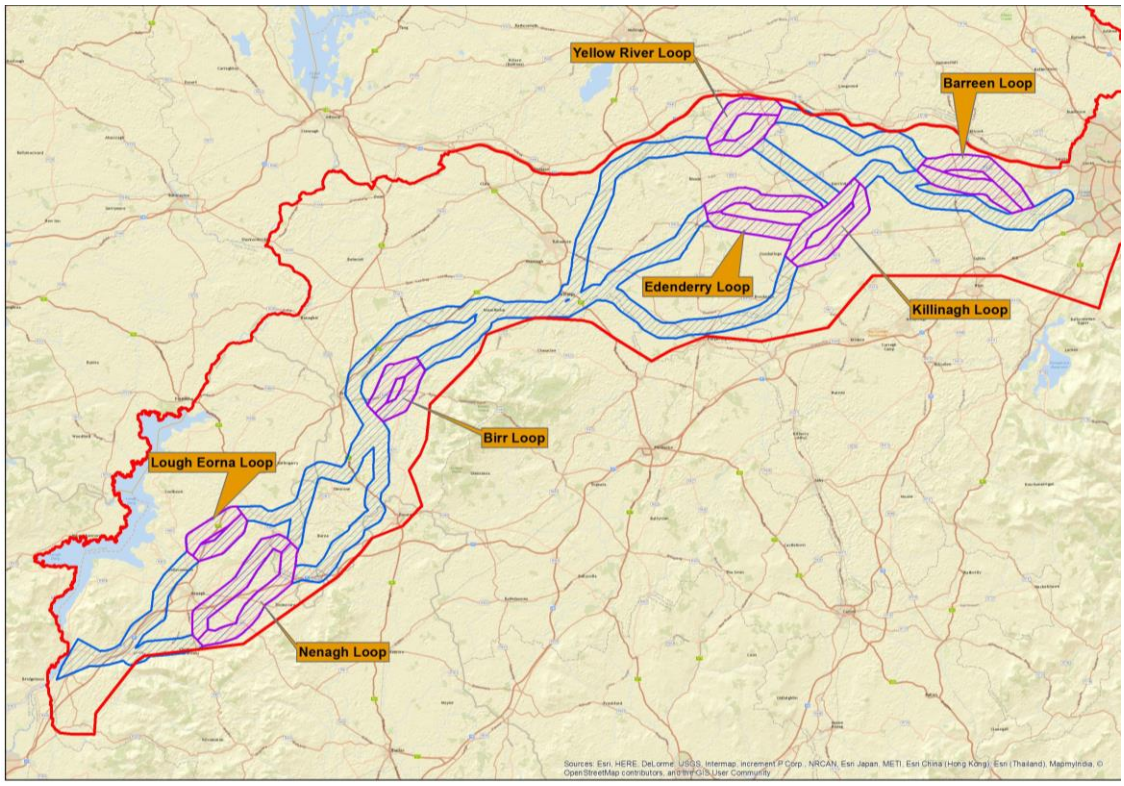


Figure 1-10 – Preliminary Route Corridors and Loops

As shown on Figure 1-10 there were a number of options, and sub-options (loops) considered for routing a proposed water supply main. In North Kildare the Barreen Loop, which identified two potential route corridors, is pertinent to this re-assessment. The Multi-Criteria Analysis (MCA) process, originally developed in the POAR, identified the northern loop as the least constrained option for the following reasons:

- It encounters the lowest number of road crossings;
- The southern loop contains two County Geological Sites: Liffey Oxbow Lake and St. Patrick's Well;
- The southern loop contains areas of cutover bog; and
- Lower potential for air and noise impacts

In light of the additional information coming from the on-the-ground surveys, where the earlier conclusion drawn was that this northern loop was the least constrained, a re-examination of the Barreen Loop was conducted.

It was concluded through the MCA, which incorporated the latest up-to-date constraint datasets, that a "Preferred Route Corridor" should incorporate some areas of both the northern and southern stretches of this Barreen Loop, as shown in Figure 1-11.

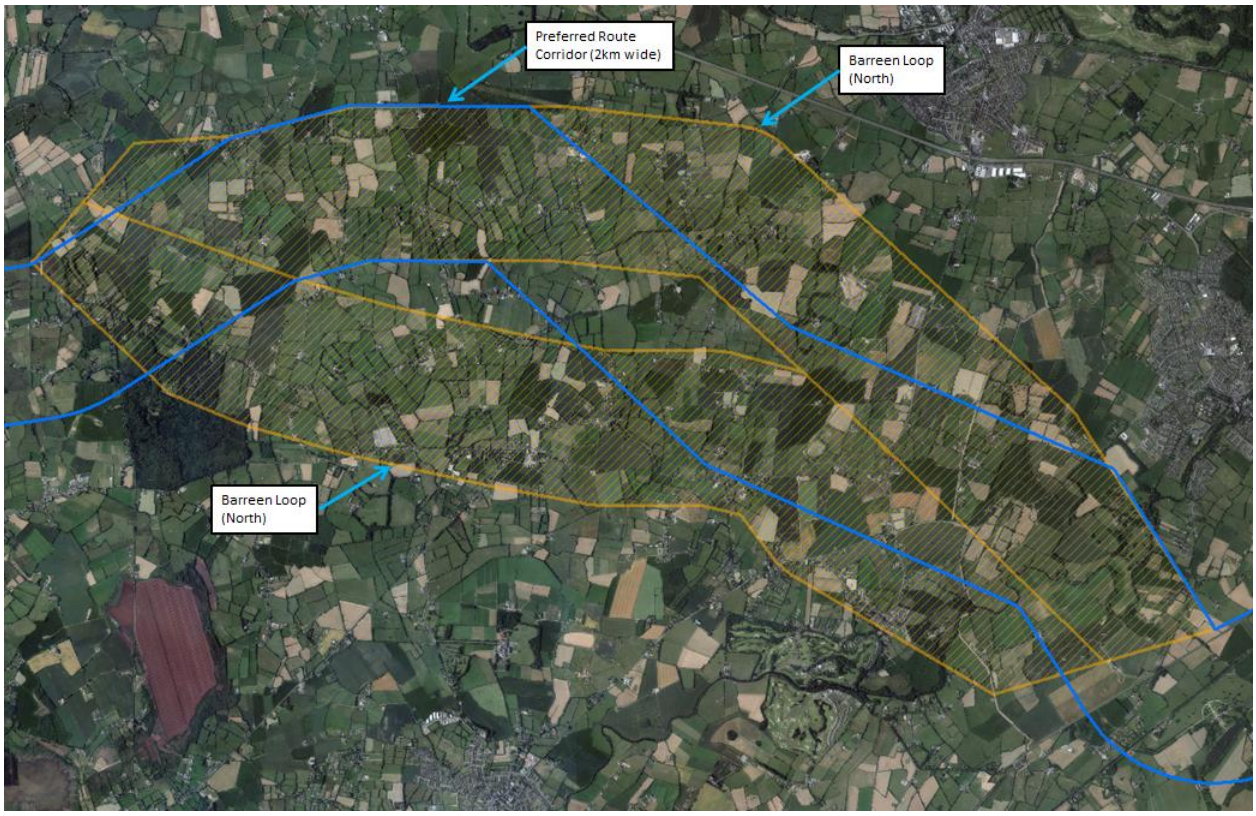


Figure 1-11 – "Preferred Route Corridor" (generally 2km) in North Kildare

1.3.6 Summary – Refining the "Least Constrained Route Corridor" (generally 2km)

The POAR identified a "Least Constrained Route Corridor (generally 2km).

Subsequent to feedback from the public consultation on the POAR, and other stakeholders, site visits onto the lands that potentially could be affected by the proposed scheme, and field surveys arranged in consultation with landowners, a number of corrections to the alignment were made to this "Least Constrained Route Corridor (generally 2km). These corrections were made at the following locations:

- Parteen Basin (Lower Lake) (Section 1.3.1)
- Annaghmore (Section 1.3.2)
- Esker Bog (Section 1.3.3)
- Timahoe North Bog (Section 1.3.4)
- North Kildare (Section 1.3.5)

The "Least Constrained Route Corridor (generally 2km), incorporating the re-alignments at Parteen Basin (Lower Lake), Annaghmore, Esker Bog, Timahoe North Bog and North Kildare, is the **"Preferred Route Corridor" (generally 2km).** See section 1.7 for mapping.

1.4 Constraints Mapping – "Preferred 200m Pipeline Corridor"

For Step 4 of the linear infrastructure site selection process (see **Figure 1-1**) the following Specialists/ specialisms were engaged:

- Engineering
- Cultural Heritage
- Ecology
- Noise & Vibration
- Air Quality
- Traffic
- Landscape and Visual
- Agronomy
- Soils/Geology
- Water Quality/Hydrology
- Hydrogeology

The selection of the "Preferred 200m Pipeline Corridor" is based upon the following:

- Constraints, or datasets, are mapped and assigned a red or amber classification by the Specialists/ specialisms (Section 1.4.1); and
- Consideration of technical constraints/requirements including obstructions, ground conditions, accessibility, idealistic elevation and landowner impact (Section 1)).

Step 4 is a further refinement of the site selection process.

1.4.1 Constraints Classification by Specialists

A list of constraints was compiled, classified on the basis of potential impact, by each of the project specialists and incorporated within a GIS database. The following classification system was adopted:

Table 1-2 Classification System

Colour	Classification	Criteria
Red	High	Avoid unless no alternative available
Amber	Medium	Avoid where possible
Green	Low	Minimal impact if encountered

The constraints and assigned classification are detailed in Table 1-3 below.

Table 1-3 Constraints database and classification

Dataset	Source	High	Medium	Low
Quarries	EPA	x		
Landfills	EPA	x		
Licensed IPPC Facilities	EPA	x		
Water Treatment Plants	EPA	x		
Waste Water Treatment Plants	EPA	x		
Mines	EPA	x		

Dataset	Source	High	Medium	Low
National Monuments: - Subject to a preservation order (or temporary preservation order). - In the ownership or guardianship of the Minister for Arts, Heritage and the Gaeltacht or a Local Authority.	DoAHG	x		
Settlements	CSO	x		
Building Density (>100 per Km2)	Processed from Geodirectory (An Post)	x		
Record of Protected Structures	local authority	x		
Recreational Waters WFD Annex V (iii)	EPA	x		
Limestone Pavement	NPWS	x		
Pearl Mussels	NPWS	x		
Nature Preserves	NPWS	x		
Nature Preserves	NPWS	x		
Pollardstown Fen	Processed Data (from GSI datasets)	x		
Curragh Aquifer	Processed Data (from GSI datasets)	x		
Ancient Woodlands	NPWS	x		
Fens	NPWS	x		
Turloughs	NPWS	x		
Coastal Lagoon	NPWS	x		
Intact Raised Bog	NPWS	x		
Blanket Bog	NPWS	x		
Salt Marsh	NPWS	x		
Potential Turloughs	NPWS	x		
Building Density (>50 per Km2)	Processed from Geodirectory (An Post)		x	

Dataset	Source	High	Medium	Low
Lakes WFD	EPA		x	
Zoning Ireland	DoECLG		x	
Geological Heritage Sites Exceptions do apply so review on a case by case basis.	GSI		x	
Groundwater Vulnerability (Subsets include Extreme and Extreme Rock at Surface)	GSI		x	
Karst Features	GSI		x	
Wet Heath	Source NPWS: Significant Ecological Receptor sensitive to development. Evaluation will range between Local and International Importance		x	
Floodplains	OPW		x	
Coastal Floodplains	OPW - Irish Coastal Protection Strategy Study (ICPSS)		x	
Coillte Forestry	Coillte		x	
Salmonid Water Salmonid Regulations (S.I. 293 / 1988)	EPA		x	
Waters used for the abstraction of drinking water WFD Annex V (i)	EPA		x	
Areas designated to protect economically significant aquatic species WFD Annex V (ii)	EPA		x	
Recreational Waters WFD Annex V (iii)	EPA		x	
Tree Preservation Orders	local authority		x	
Mineral Locations	GSI		x	
Source Protection Area	GSI		x	
Bathing Water Locations	EPA		x	
WFD Coastal Water Bodies	EPA		x	

Dataset	Source	High	Medium	Low
WFD Transitional Water Bodies	EPA		x	
National Trails, Walking routes and Cycle Routes	local authority		x	
Dive Clubs	MIDA		x	
Fishing Ports	MIDA		x	
Marinas	MIDA		x	
Moorings	MIDA		x	
Sailing Clubs	MIDA		x	
Surf Clubs	MIDA		x	
Blue Marinas	MIDA		x	
Water Abstraction Point	EPA		x	
Windsurfing Schools	MIDA		x	
Landscape Character Areas (Local Authorities)	local authority		x	
Sensitive Land Cover Kilkenny	local authority		x	
Views Prospects Local Authorities	local authority		x	
Architectural Conservation Areas (ACA)	local authority		x	
County Geological Sites	GSI		x	
National Parks should be included	NBDC		x	
Forestry 12	Department Of Agriculture		x	
Special Areas of Conservation (SAC) (Natura 2000 Sites)	NPWS		x	
Special Protection Areas (SPA) (Natura 2000 Sites)	NPWS		x	
Record of Monuments and Place (RMP)	DoAHG		x	
Proposed Natural Heritage Areas (pNHA)	NPWS		x	
Ramsar	NPWS		x	
Unesco Sites	MIDA		x	
Natural Heritage Areas (NHA)	NPWS		x	
Native Woodland Survey 2010	NPWS		x	
Local Authority Habitat Surveys	local authority		x	
Important Bird Areas (Refuge for Fauna)	MIDA		x	
Iwebs data Bird watch Ireland	BW Ireland		x	
Wintering bird Site - International / National/ Regional	BW Ireland		x	
I-webs Site Local	BW Ireland		x	
Woodland Habitat	NPWS		x	

Dataset	Source	High	Medium	Low
Semi Natural Grasslands	NPWS		x	
Raised Bog (un-surveyed) – vegetated	NPWS		x	
Soil (Subsets Include different Bog Classes)	EPA			x
Subsoil (Subsets Include different Bog Classes)	EPA			x
Commonage Base Plan 2011	NPWS			x
Commonage Base Station 2011	NPWS			x
Commonage Base SU 2011	NPWS			x
High Power Electric Transmission Lines	ESB			x for Material Assets
WFD Groundwater Bodies	EPA			x
Groundwater Zones of Contribution	EPA			x
Blue Flag Beaches	MIDA			x
Fishing Spots	MIDA			x
Green Coast Award	MIDA			x
Surf Spots	MIDA			x
Contaminated Land	EPA, County Council			x

These constraints were assessed in further detail and augmented with a number of technical constraints (see Section 1.4.2) to define the “Preliminary 200m Pipeline Corridor”. The classification system of Table 1-2 was not employed in the mapping of technical constraints.

Using the refined data sets, Specialists were employed on the following basis:

1) Individual Specialists were engaged to independently assess the routing option relative to the criteria applicable to their field of expertise, and establish an initial position on the least impact.
2) The initial position of each Specialist was collated and their collective findings presented in a workshop setting.
3) In this workshop setting, the collective findings were discussed to reach a consensus of agreement on a least constrained route.

Table 1-4 Applicable Criteria for each Specialism

Specialism	Applicable Criteria
Ecology	Biodiversity, Flora and Fauna, Fisheries
Air and Noise	Air/Climatic Factors
Cultural Heritage	Cultural Heritage (including Architecture & Archaeology)
Soils, Geology and Hydrogeology	Soils, Geology and Hydrogeology
Landscape and visual	Landscape & Visual
Agronomy	Material Assets (Land use)
Water	Water
Engineering	Material Assets (Energy), Safety, Engineering and Design, Capital and Operational Cost, Sustainability, Risk
Planning	Planning Policy
People	Tourism, Population, Human Health

1.4.2 Technical Constraints

The engineering constraints used to augment the environmental constraints were:

- Obstructions;
- Ground Conditions;
- Accessibility;
- Idealistic Elevation; and
- Landowner Impact.

1.4.2.1 Obstructions

Any proposed engineering solution will be directly influenced by the number of physical obstructions impacting the pipeline alignment, e.g. properties (domestic/non-domestic), roads, rivers, railways, etc.

The 'Preferred 200m Pipeline Corridor' will have multiple crossings of major obstructions (e.g. national, primary & secondary roads, major rivers and railways) and minor crossings (e.g. local and regional roads, minor rivers and streams). The engineering intent was to keep the number of these crossings to a minimum.

1.4.2.2 Ground Conditions

The assessment considered the potential ground conditions; in particular, it endeavoured to avoid areas of poor ground (e.g. peat, lake deposits, soils containing alluvial or fluvioglacial deposits, and shallow rock or karst features), wherever possible.

Challenging soil types introduce additional constructability issues e.g. establishing a firm foundation; and can require extensive ground improvement measures (both temporary and permanent) to ensure a robust design. From experience, these soils often require large scale dewatering works during the construction phase. The use of expensive ground stabilisation options, such as mechanically stabilized geogrids and piling, may be necessary.

Likewise, rock, where encountered, can be a challenge requiring local engineering solutions; the use of rock-breaking is employed where shallow rock is encountered. Ground stabilisation, as outlined above and including grouting of voids, may be necessary where karst features are encountered.

1.4.2.3 Access

Sufficient access will be required along the route to allow the Contractor to undertake the works in a timely manner. The works will involve the use of large plant, equipment and materials. The national and regional road networks will be relied upon to facilitate access; subject to confirmation from Transport Infrastructure Ireland and Local Authorities as regards their suitability to facilitate construction activity, including load/width restrictions etc.; and may involve:

- upgrading the existing road network and
- construction of temporary access roads along the route

The identification of suitable access to the pipeline route can have a significant bearing on how construction traffic is managed, and by association, works sequencing. Ultimately, ease of access to the completed works is paramount for operation and maintenance.

1.4.2.4 Elevation Profile

In the development of a preferred route, the selected route will directly influence the engineering solution to be adopted; the ground, or elevation, profile is a critical parameter in this regard as it is a major factor in system operation. Through the constraint mapping, and MCA analysis, a number of observations were made on the route between the abstraction and termination points. The proposed route traverses north east from Parteen Basin Reservoir, but south of Nenagh town through the northern part of County Tipperary and into County Offaly. For the most part the elevation is on an upward trajectory, except for a 'dip' at the Little Brosna River, to a high point in the vicinity of the County Tipperary/ County Offaly border. The route continues to skirt the southern perimeter of County Offaly, maintaining a due east direction through County Kildare and onwards to the Termination Point Reservoir in County Dublin.

This route is typical of the general topography between the Parteen Basin (Lower Lake) and south County Dublin whereby the lands in County Offaly are higher relative to the abstraction and termination points. Consequently, any route through these lands means a high point becomes a key component of any engineering solution, and becomes an integral part of any design.

An engineering solution will look to make use of this topography; and will consider how this elevation can be integrated, and optimised, within the scheme.

Wherever the constraint mapping, and MCA analysis, permits it is preferable to use the topography to create a 'smoother' profile, i.e. one that limits the extent of undulation along the route. This can reduce engineering complexities in system design, and induce efficiencies in operation and maintenance practices.

1.4.2.5 Landowner Impact

A further refinement of the constraint mapping data sets incorporated An Post's Geodirectory which categorises each building as either residential or commercial located to within a metre. The 'Preferred 200m Pipeline Corridor' is aligned to be outside these created Geodirectory buffers.

The 40m buffer dimension reflects a conservative position on the footprint of residential properties/commercial premises and potential outbuildings; while ensuring a minimum buffer from residential dwellings such that construction impacts can be properly managed.

In developing the "Indicative 50m Pipeline Corridor" the extremity of the 50m was routed along the boundaries of fields (where possible) in order to reduce, or minimise, the overall impact of the route on landowners.

1.5 "Preferred 200m Pipeline Corridor" Selection Methodology

The constraint data sets outlined in Section 1.4 were employed to identify areas of least constraint from within the "Preferred Route Corridor" (generally 2km) in order to reduce the study width from 2km to 200m. This reduced width is the 'Preferred 200m Pipeline Corridor'.

The following process was adopted in defining the 'Preferred 200m Pipeline Corridor':

1) The environmental and technical constraints were carried forward and refined within the GIS database;
2) Data from Ordnance Survey Ireland was also mapped to take account of additional buildings e.g. farmhouses, sheds, etc. not previously identified by Geodirectory.
3) Areas were excluded where a constraint, or combination of constraints, ("High" or "Medium" classification) were of sufficient extent to influence the routing of the 200m corridor.

One typical example showing the mapping of environmental constraints is provided in Figure 1-12.

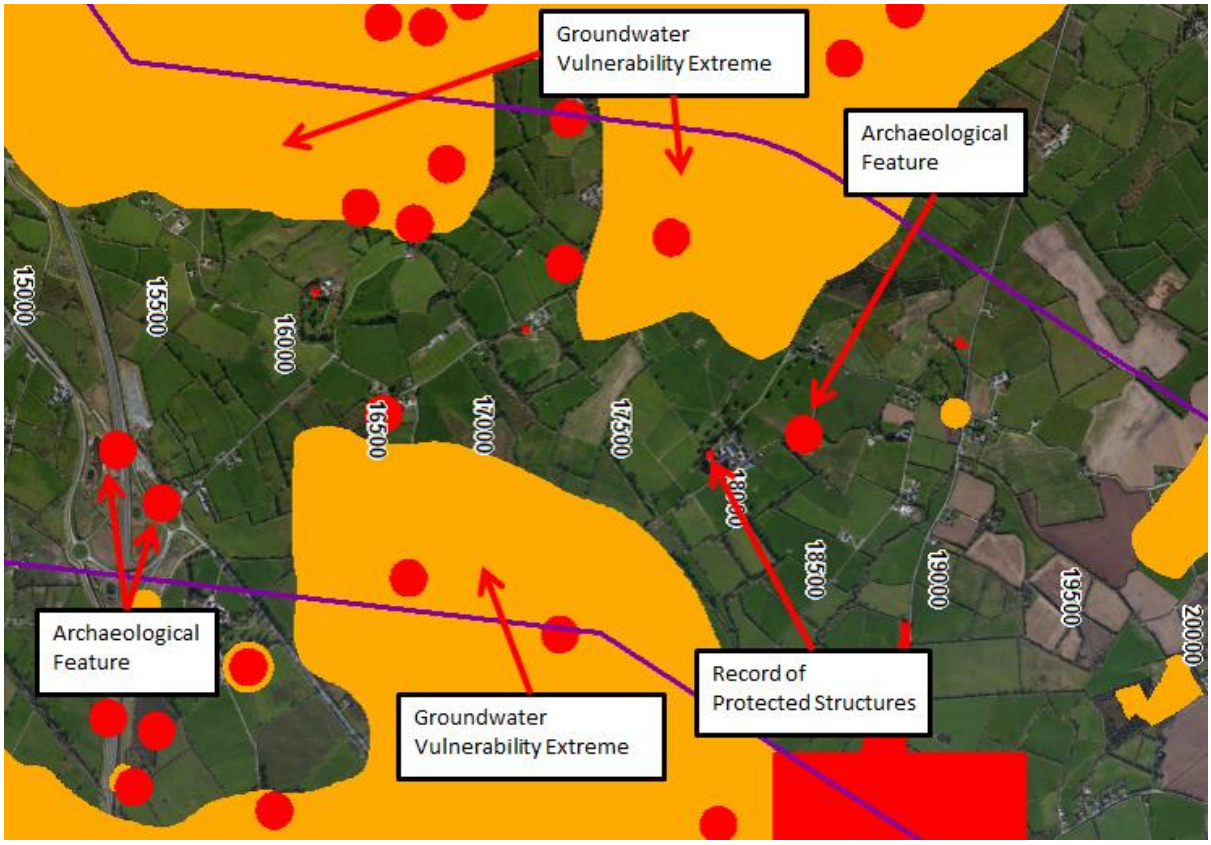


Figure 1-12 – Typical example of environmental constraints identified within the 'Preferred Route Corridor' (generally 2km)

This mapping is developed further with the merging of technical constraints (see Section 1.4.2). This considered, inter alia, the following:

a) Maintaining a pipeline elevation profile to optimise system (engineering) operation;
b) Avoidance of areas of poor ground, where possible;
c) Minimising the number of major obstructions such as road, rail and river crossings;
d) Minimising landowner impact; and
e) Ease of access, both during construction and operation, to the existing road infrastructure.

For the same area extent shown in Figure 1-12 the technical constraints are identified in Figure 1-13.

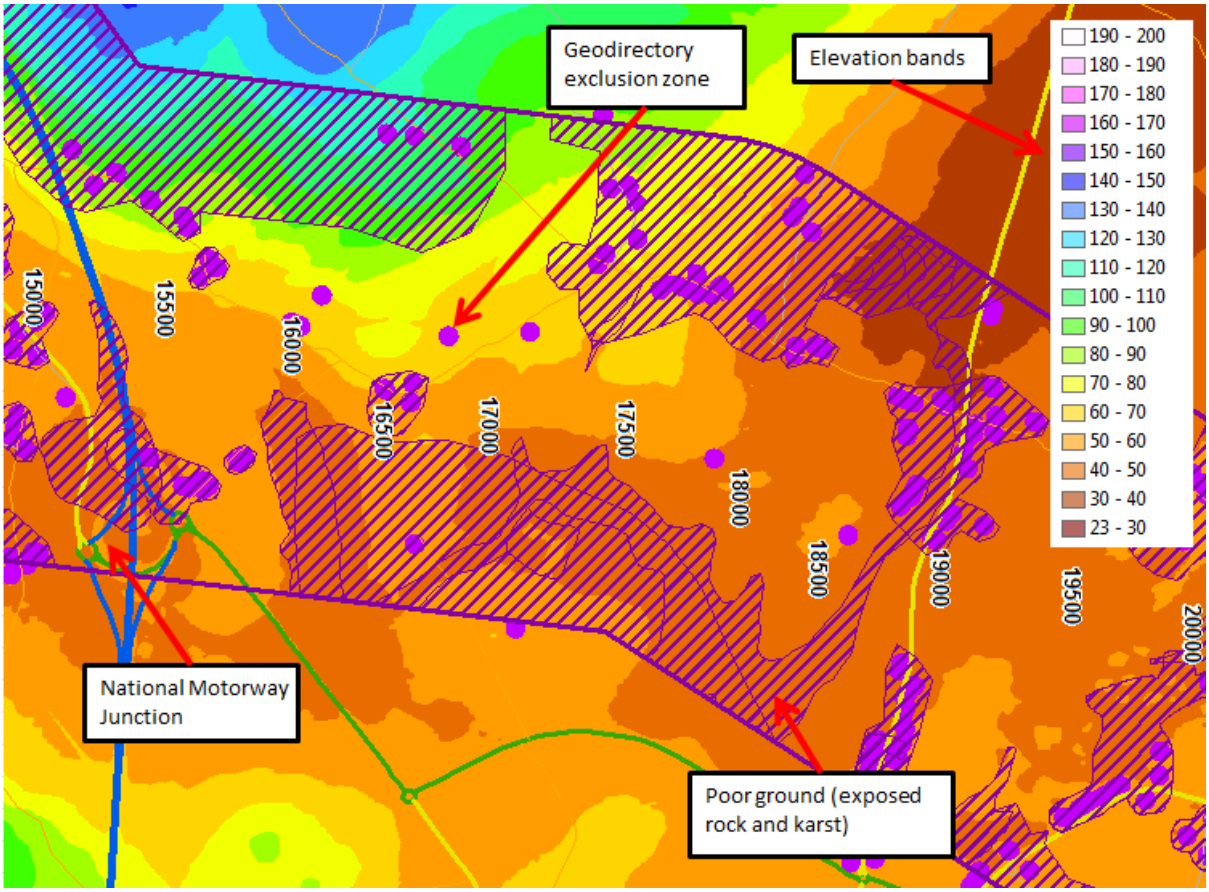


Figure 1-13 – Typical example of technical constraints identified within the 'Preferred Route Corridor' (generally 2km)

The combined effect of environmental and technical constraints, informed the decision making process; see Figure 1-14.

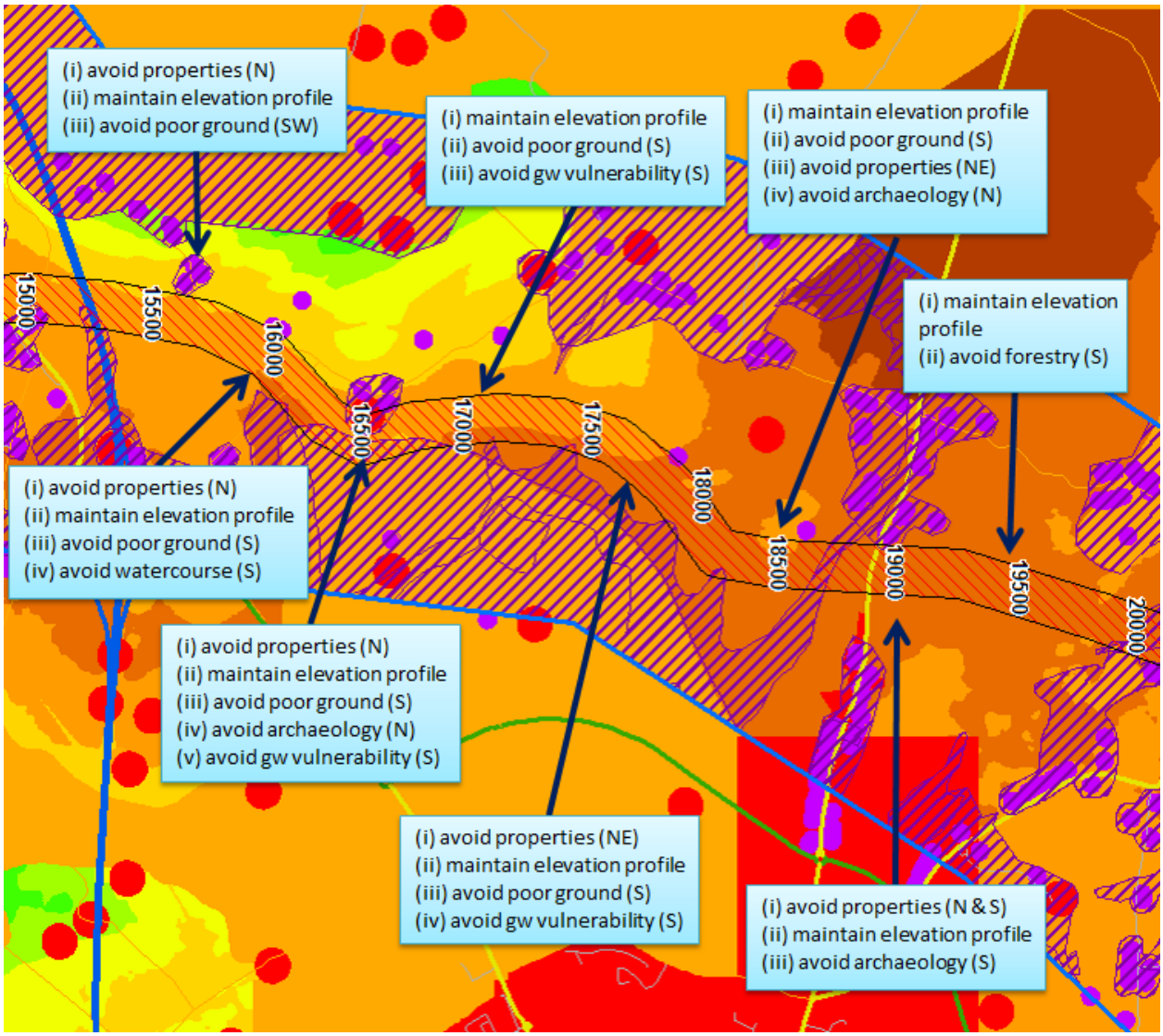


Figure 1-14 – Typical example of decision making process adopted in defining the 'Preliminary 200m Pipeline Corridor'

This represented an initial desktop assessment into the identification of a 'Preliminary 200m Pipeline Corridor'; reached, by consensus, by the various Specialists/ specialisms.

The assessment is an iterative process which affords each of the specialisms opportunity to promote constraints, categorise their importance, and ensure appropriate actions, mitigatory or otherwise, have been taken. Figure 1-15 gives a sample 'snapshot' of how information was recorded from Specialists; and the appropriate correction. *Note: the constraint classification, and consensus reached between specialisms, was paramount in confirming the desktop assessment of the 'Preliminary 200m Pipeline Corridor'.*

Specialism Chainage	Biodiversity, Flora and Fauna (terrestrial)	Biodiversity, Flora and Fauna (Aquatic)	Landscape & Visual	Traffic and Transportation	Adjust Corridor
17500	Reduce no of hedgerows	Reduce no of stream crossings	several mature treeline between 17000 - 17500		Corridor adjusted to east between 17500-18500 to avoid mature treelines
18000			several mature tree stands tree lines to be avoided	Low Impact - crossing of local road approx chainage 18000	
18500					
19000			stream crossing and road crossing	Low Impact - crossing of R494 Regional Road approx chainage 19000	No change to corridor.
19500			Mature treelines and copse of trees		

Figure 1-15 – Sample - Specialist Assessments on the 'Preliminary 200m Pipeline Corridor'

To validate a 'Preferred 200m Pipeline Corridor', field investigation were carried out, between May 2016 and October 2016, where the Specialists surveyed this pipeline corridor. This was supported by landowner liaison and consultation with local stakeholders to avail of local advice and knowledge, and to establish known facts that may have a bearing on pipeline routing.

Subsequently, the in situ investigations have resulted in adjustments to the "Preliminary 200m Pipeline Corridor" as originally positioned using environmental and technical datasets, and Geodirectory; see Figure 1-16.

The 'Preliminary 200m Pipeline Corridor', incorporating adjustments from in situ investigations is the **"Preferred 200m Pipeline Corridor".** See section 1.7 for mapping.

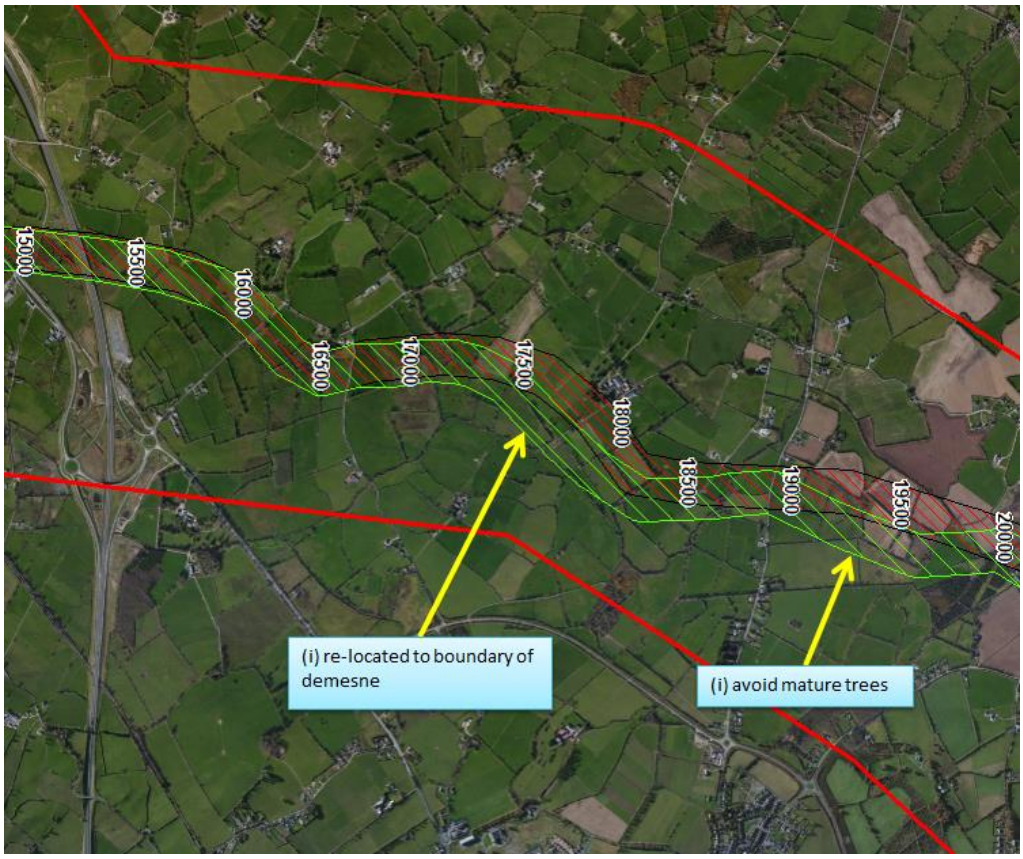


Figure 1-16 – Sample – Identification of 'Preferred 200m Pipeline Corridor' following Environmental Surveys

1.6 "Indicative 50m Pipeline Corridor" Selection Methodology

The selection of the "Indicative 50m Pipeline Corridor", the next step in siting of the supply main, has been identified in consideration of known technical and environmental constraints, as well as feedback from landowners as part of the investigative surveys. The final corridor will be subject to the following:

- Feedback from the FOAR public consultation on the "Preferred 200m Pipeline Corridor", and actions arising;
- A further constraints/requirements mapping exercise with the inclusion of an extended constraints/requirements dataset, augmented by additional information upon completion of the environmental surveys, as required;
- Ongoing hydraulic design; and
- Ongoing consultation with landowners.

The "indicative 50m Pipeline Corridor" will be further developed and refined for positional adjustments arising from work outlined in this Section 1.6.

1.6.1 Public Consultation Feedback

This final consultative step in the process will consider, in particular, the public consultation on the "Preferred 200m Pipeline Corridor", any pertinent issues that may have arisen over the intervening period, the corrective actions taken, where required, but ensuring that at all times proposals are aligned with the environmental assessments.

> *Note: Design work is continuing on the "Indicative 50m Pipeline Corridor, within which the final pipeline position will be situated, and some changes are to be expected as part of that process. While such changes will take place after this fourth stage of non-statutory Public Consultation; engagement with affected landowners and communities will be an ongoing process, and the final position of the pipeline route will be part of the planning application documentation, on which An Bord Pleanála will conduct statutory consultation under the planning process.*

1.6.2 Environmental Surveys

Extensive field surveys are required to support the establishment of a robust environmental baseline. The extent and scope of these surveys were identified by the Specialists/ specialisms during the desktop review (during the preparation of the POAR), and undertaken in support of the identification of the 'Preferred 200m Pipeline Corridor' carried out for this FOAR. These surveys will continue, and support, a full and proper impact assessment of the "Indicative 50m Pipeline Corridor" and to enable suitable mitigation to be incorporated, as required.

The FOAR is offered for public consultation along with an *EIS Scoping Report*, where comments are invited on the scope and methodologies proposed for Environmental Impact Assessment on the preferred scheme.

1.6.3 Landowner Engagement

Landowner engagement is currently being carried out by Irish Water via Landowner Liaison Officers (LLOs). The function of LLOs includes relaying issues raised by landowners to the project team for consideration in the identification of the "Indicative 50m Pipeline Corridor.

> *Note: The "Indicative 50m Pipeline Corridor" refers to the minimum easement required to facilitate construction of the works, generally; however it should be noted that additional space is likely to be required, at major road and other infrastructure crossings, and otherwise at intervals of approximately 500m to provide working and stockpiling space for surplus excavated materials.*

Because of the large pipeline diameter and route curvature limitations, positional adjustments, where possible, will be undertaken in a collective way, taking these issues into account.

The “Indicative 50m Pipeline Corridor” represents the least constrained route for the construction of a supply main between the water treatment plant and the termination point reservoir, the point of connection to the Dublin Water Supply Area; primarily defined by extensive environmental constraint mapping, and optimised (engineering) to efficiently convey the treated water.

The final route will incorporate those line adjustments which are possible within the engineering constraints of a large diameter pipeline, and developed from a collective consideration of views expressed in consultation with each of the individual landowners, taking account of their advices with regard to their particular lands, and aligned to cause the least impact, during construction and operation.

1.7 Drawings

The ‘Preferred 200m Pipeline Corridor’ and an “Indicative 50m Pipeline Corridor” is presented in this Report (refer to Schedule of Drawings – main body of FOAR).

Supporting drawings are presented within this appendix as a number of map sets, as detailed in Table 1-5.

Table 1-5 Drawing List and Description

Map Set	Map Number	Contents	Description
1	32105801-FOAR-001 to 32105801-FOAR-034	Constraints database Least Constrained Route Corridor (generally 2km) Preliminary 200m Pipeline Corridor	The maps outline the desktop review undertaken in identifying an initial “Preliminary 200m Pipeline Corridor” from within the “Least Constrained Route Corridor” (generally 2km) as defined in the POAR. The constraints database outlined in Section 1.4.1 and Section 1.4.2 is presented along the corridor length.
2	32105801-FOAR-036 to 32105801-FOAR-070	Preferred Route Corridor (generally 2km) Preliminary 200m Pipeline Corridor Preferred 200m Pipeline Corridor Least Constrained Sites	The maps capture the environmental surveys undertaken in investigating the initial “Preliminary 200m Pipeline Corridor”, and subsequent identification of the “Preferred 200m Pipeline Corridor”. Residual impacts remaining within the “Preferred 200m Pipeline Corridor” which require further investigation during the next Step are highlighted for consideration. Non-linear infrastructure sites are presented to assist the reader in understanding the reasons for route selection. The positioning of the non-linear infrastructure sites are presented within Chapter 11 of the *FOAR – Main Report.*
3	32105801-FOAR-100 to 32105801-FOAR-189	Preferred 200m Pipeline Corridor Indicative 50m Pipeline Corridor	Presented within the Schedule of Drawings in the *FOAR – Main Report.* The maps show the “Indicative 50m Pipeline Corridor” from within the “Preferred 200m Pipeline Corridor”.

Least Constrained Pipeline Route Corridor (generally 2km) & Preliminary 200m Pipeline Corridor

Drawing No.	Title
32105801-FOAR-001	Identification of Preliminary 200m Pipeline Corridor: 0 to 5km
32105801-FOAR-002	Identification of Preliminary 200m Pipeline Corridor: 5 to 10km
32105801-FOAR-003	Identification of Preliminary 200m Pipeline Corridor: 10 to 15km
32105801-FOAR-004	Identification of Preliminary 200m Pipeline Corridor: 15 to 20km
32105801-FOAR-005	Identification of Preliminary 200m Pipeline Corridor: 20 to 25km
32105801-FOAR-006	Identification of Preliminary 200m Pipeline Corridor: 25 to 30km
32105801-FOAR-007	Identification of Preliminary 200m Pipeline Corridor: 30 to 35km
32105801-FOAR-008	Identification of Preliminary 200m Pipeline Corridor: 35 to 40km
32105801-FOAR-009	Identification of Preliminary 200m Pipeline Corridor: 40 to 45km
32105801-FOAR-010	Identification of Preliminary 200m Pipeline Corridor: 45 to 50km
32105801-FOAR-011	Identification of Preliminary 200m Pipeline Corridor: 50 to 55km
32105801-FOAR-012	Identification of Preliminary 200m Pipeline Corridor: 55 to 60km
32105801-FOAR-013	Identification of Preliminary 200m Pipeline Corridor: 60 to 65km
32105801-FOAR-014	Identification of Preliminary 200m Pipeline Corridor: 65 to 70km
32105801-FOAR-015	Identification of Preliminary 200m Pipeline Corridor: 70 to 75km
32105801-FOAR-016	Identification of Preliminary 200m Pipeline Corridor: 75 to 80km
32105801-FOAR-017	Identification of Preliminary 200m Pipeline Corridor: 80 to 85km
32105801-FOAR-018	Identification of Preliminary 200m Pipeline Corridor: 85 to 90km
32105801-FOAR-019	Identification of Preliminary 200m Pipeline Corridor: 90 to 95km

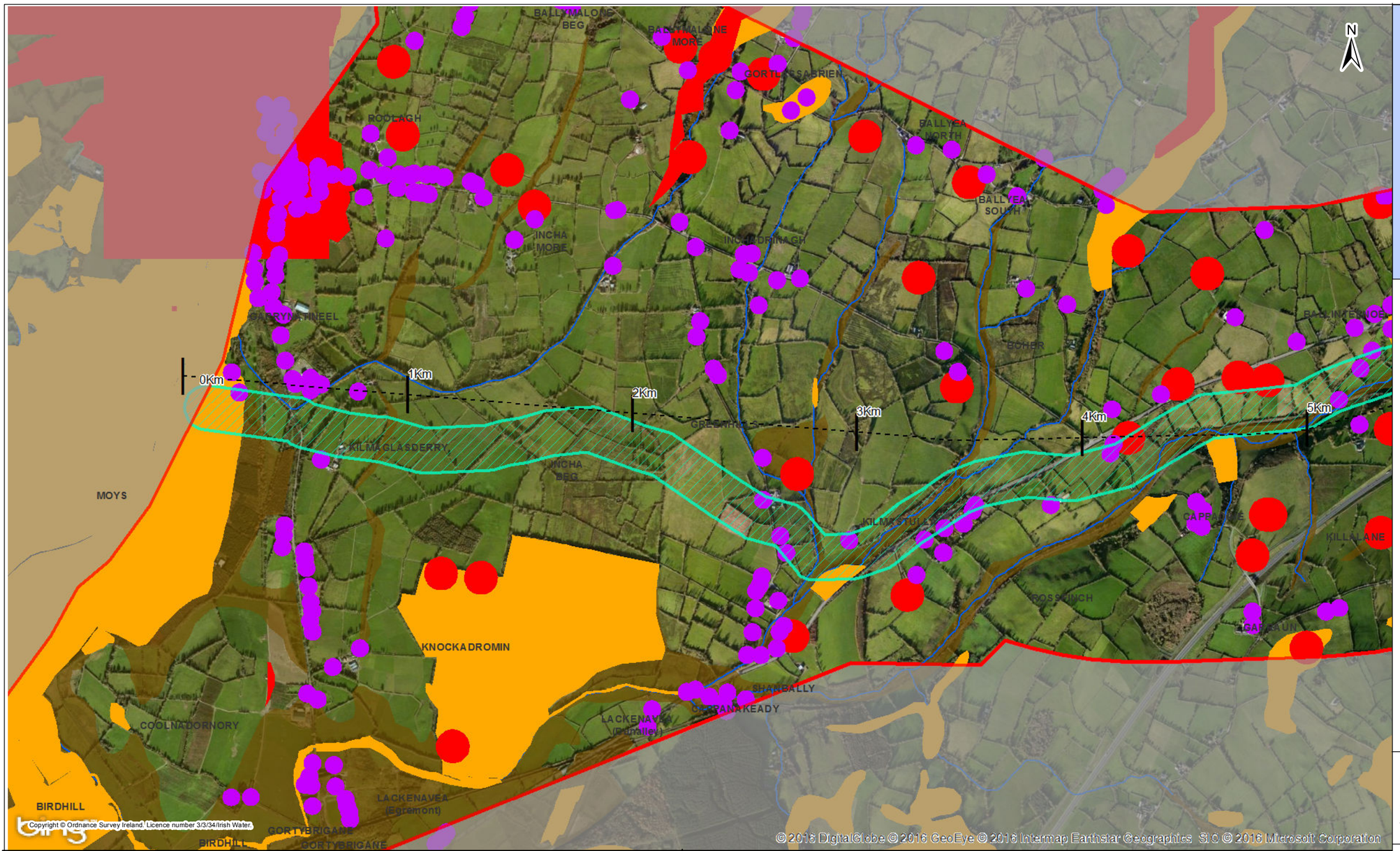
Drawing No.	Title
32105801-FOAR-020	Identification of Preliminary 200m Pipeline Corridor: 95 to 100km
32105801-FOAR-021	Identification of Preliminary 200m Pipeline Corridor: 100 to 105km
32105801-FOAR-022	Identification of Preliminary 200m Pipeline Corridor: 105 to 110km
32105801-FOAR-023	Identification of Preliminary 200m Pipeline Corridor: 110 to 115km
32105801-FOAR-024	Identification of Preliminary 200m Pipeline Corridor: 115 to 120km
32105801-FOAR-025	Identification of Preliminary 200m Pipeline Corridor: 120 to 125km
32105801-FOAR-026	Identification of Preliminary 200m Pipeline Corridor: 125 to 130km
32105801-FOAR-027	Identification of Preliminary 200m Pipeline Corridor: 130 to 135km
32105801-FOAR-028	Identification of Preliminary 200m Pipeline Corridor: 135 to 140km
32105801-FOAR-029	Identification of Preliminary 200m Pipeline Corridor: 140 to 145km
32105801-FOAR-030	Identification of Preliminary 200m Pipeline Corridor: 145to 150km
32105801-FOAR-031	Identification of Preliminary 200m Pipeline Corridor: 150 to 155km
32105801-FOAR-032	Identification of Preliminary 200m Pipeline Corridor: 155 to 160km
32105801-FOAR-033	Identification of Preliminary 200m Pipeline Corridor: 160 to 165km
32105801-FOAR-034	Identification of Preliminary 200m Pipeline Corridor: 165 to 170km

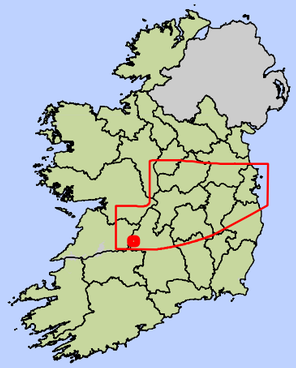
Preliminary 200m Pipeline Corridor &

Preferred 200m Pipeline Corridor

Drawing No.	Title
32105801-FOAR-036	Identification of Preferred 200m Pipeline Corridor: 0 to 5km
32105801-FOAR-037	Identification of Preferred 200m Pipeline Corridor: 5 to 10km
32105801-FOAR-038	Identification of Preferred 200m Pipeline Corridor: 10 to 15km
32105801-FOAR-039	Identification of Preferred 200m Pipeline Corridor: 15 to 20km
32105801-FOAR-040	Identification of Preferred 200m Pipeline Corridor: 20 to 25km
32105801-FOAR-041	Identification of Preferred 200m Pipeline Corridor: 25 to 30km
32105801-FOAR-042	Identification of Preferred 200m Pipeline Corridor: 30 to 35km
32105801-FOAR-043	Identification of Preferred 200m Pipeline Corridor: 35 to 40km
32105801-FOAR-044	Identification of Preferred 200m Pipeline Corridor: 40 to 45km
32105801-FOAR-045	Identification of Preferred 200m Pipeline Corridor: 45 to 50km
32105801-FOAR-046	Identification of Preferred 200m Pipeline Corridor: 50 to 55km
32105801-FOAR-047	Identification of Preferred 200m Pipeline Corridor: 55 to 60km
32105801-FOAR-048	Identification of Preferred 200m Pipeline Corridor: 60 to 65km
32105801-FOAR-049	Identification of Preferred 200m Pipeline Corridor: 65 to 70km
32105801-FOAR-050	Identification of Preferred 200m Pipeline Corridor: 70 to 75km
32105801-FOAR-051	Identification of Preferred 200m Pipeline Corridor: 75 to 80km
32105801-FOAR-052	Identification of Preferred 200m Pipeline Corridor: 80 to 85km
32105801-FOAR-053	Identification of Preferred 200m Pipeline Corridor: 85 to 90km
32105801-FOAR-054	Identification of Preferred 200m Pipeline Corridor: 90 to 95km

Drawing No.	Title
32105801-FOAR-055	Identification of Preferred 200m Pipeline Corridor: 95 to 100km
32105801-FOAR-056	Identification of Preferred 200m Pipeline Corridor: 100 to 105km
32105801-FOAR-057	Identification of Preferred 200m Pipeline Corridor: 105 to 110km
32105801-FOAR-058	Identification of Preferred 200m Pipeline Corridor: 110 to 115km
32105801-FOAR-059	Identification of Preferred 200m Pipeline Corridor: 115 to 120km
32105801-FOAR-060	Identification of Preferred 200m Pipeline Corridor: 120 to 125km
32105801-FOAR-061	Identification of Preferred 200m Pipeline Corridor: 125 to 130km
32105801-FOAR-062	Identification of Preferred 200m Pipeline Corridor: 130 to 135km
32105801-FOAR-063	Identification of Preferred 200m Pipeline Corridor: 135 to 140km
32105801-FOAR-064	Identification of Preferred 200m Pipeline Corridor: 140 to 145km
32105801-FOAR-065	Identification of Preferred 200m Pipeline Corridor: 145to 150km
32105801-FOAR-066	Identification of Preferred 200m Pipeline Corridor: 150 to 155km
32105801-FOAR-067	Identification of Preferred 200m Pipeline Corridor: 155 to 160km
32105801-FOAR-068	Identification of Preferred 200m Pipeline Corridor: 160 to 165km
32105801-FOAR-069	Identification of Preferred 200m Pipeline Corridor: 165 to 170km
32105801-FOAR-070	Identification of Preferred 200m Pipeline Corridor: 170 to 175km





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN · IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 0 to 5 km

Drawing Status: **For Issue**

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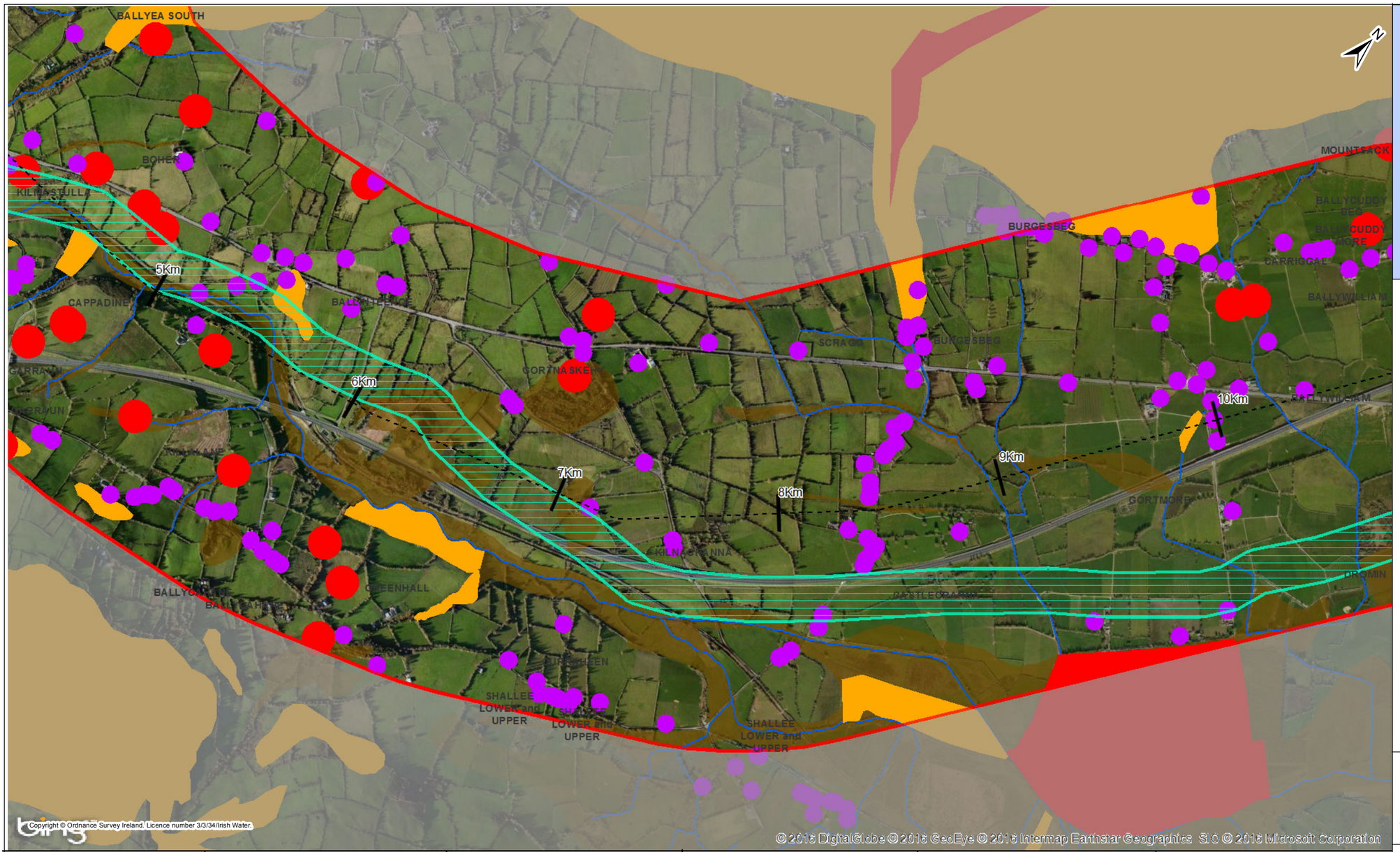
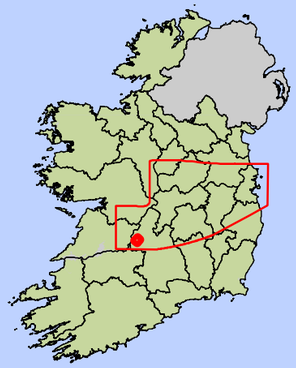
Filepath	G:\IJ\GIS\32105801 - WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR Constraints Maps\Identification of Preliminary Pipeline Corridor 0-5.mxd		

Drawing No.: 32105801-FOAR-001

Chainage	0 to 1 km	1 to 2 km	2 to 3 km	3 to 4 km	4 to 5 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Forestry/mature woodland - Settlements - Properties - Poor ground (alluvium) - Lower River Shannon Special Area of Conservation - Roolagh River - Kilmastulla River - Designed landscape (demesne) - Material Assets (Fort Henry Business Park) - R494 & R496 regional road	- National Monuments - Properties - Forestry - Mature tree lines - Poor ground (alluvium) - Roolagh River - Kilmastulla River - R496 regional road	- Properties - Poor ground (alluvium) - Groundwater Vulnerability Rock at or Near Surface or Karst Feature - National Monuments - R496 & R445 regional road	- National Monuments - Properties - SMR Zone (Archaeology) - R496 & R445 regional road - National rail line - Dense riparian woodland - Designed landscape (demesne)	- Properties - Poor ground (alluvium) - National Monuments - R445 regional road - National rail line





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS | TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 5 to 10 km

Drawing Status: **For Issue**

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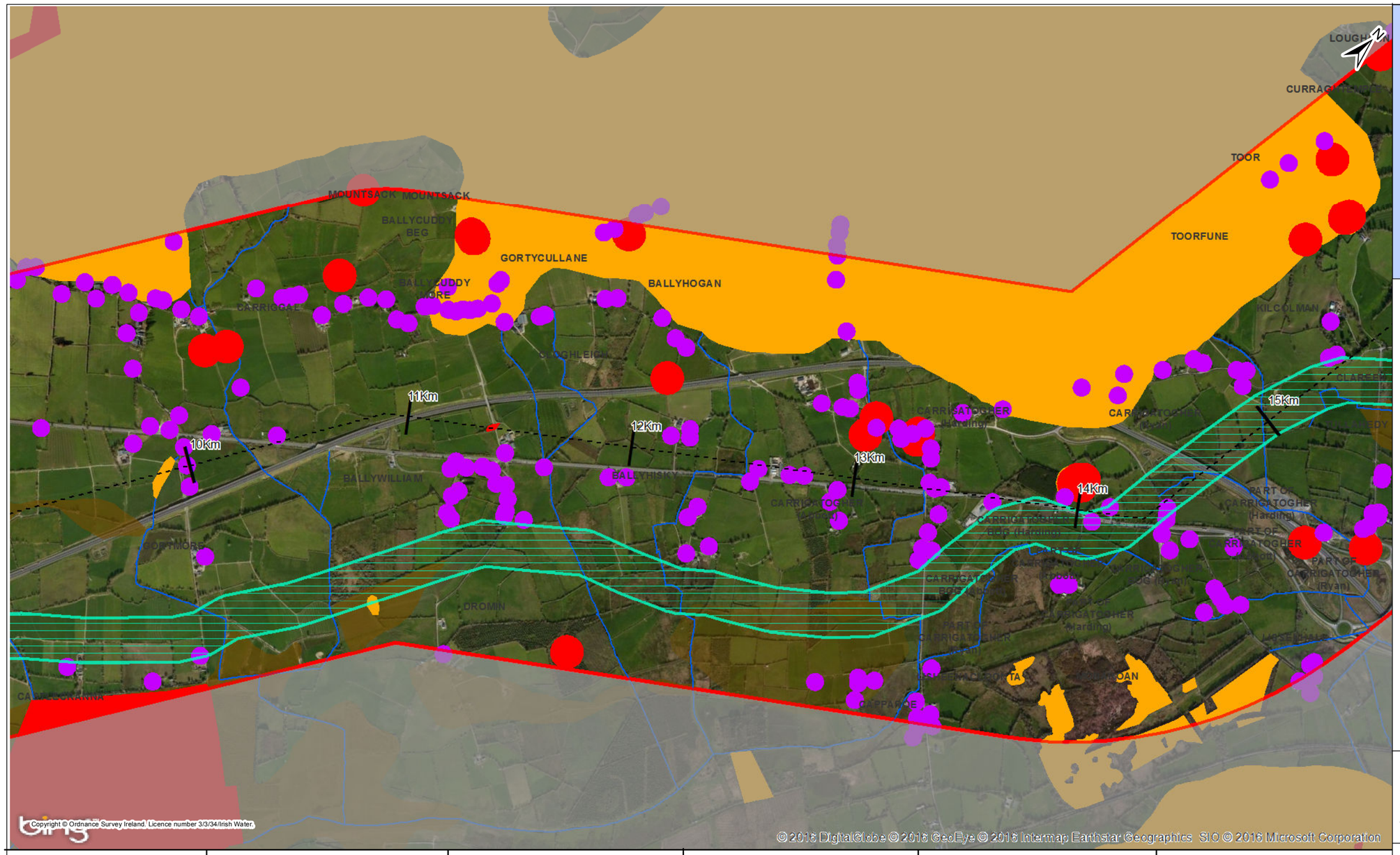
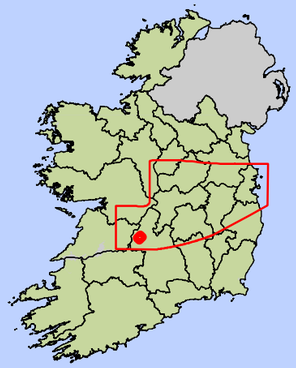
Drawing No.: 32105801-FOAR-002

Chainage	5 to 6 km	6 to 7 km	7 to 8 km	8 to 9 km	9 to 10 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - National Monument - Poor ground (Alluvium) - River Killalane - Local Stream - R445 regional road - M7 motorway - National rail line	- Properties - National Monuments - Forestry - Poor ground (Alluvium) - Poor ground (glaciofluvial sands and gravels) - River Kilmastulla - River killalne - R445 & R499 regional road - M7 motorway - National rail line - Designed landscape (demesne)	- Properties - Poor ground (alluvium) - River Gortnaskehy - Forestry - River Burgesbeg Groundwater Vulnerability Rock at or Near Surface or Karst Feature - Groundwater Vulnerabilty Extreme - R445 & R499 regional road - M7 motorway - National rail line - Designed landscape (demesne)	- Properties - National Monuments - Poor ground (Alluvium) - River Burgesbeg - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface - River Ballycuddy Beg - R445 regional road - M7 motorway - Designed landscape (demesne)	- Properties - National Monuments - Poor ground (Alluvium) - Rivers Gortmore - R445 regional road - M7 motorway





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

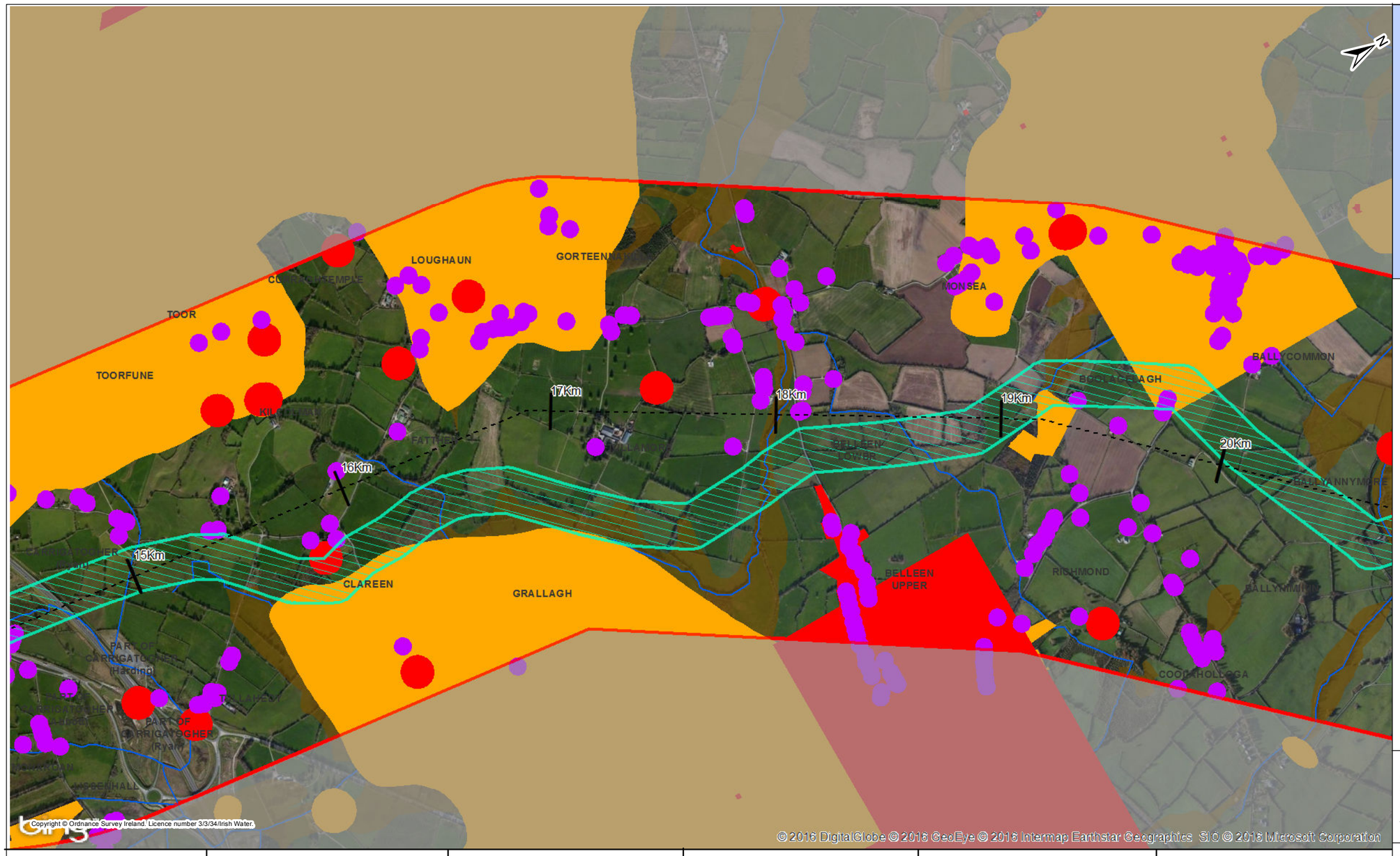
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 10 to 15 km

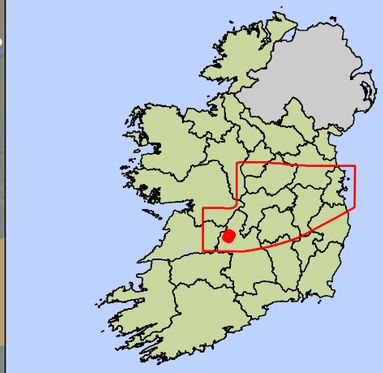
Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\GIS\32105801 - WSP-ORGIS Tasks\5_Mxds\Report Maps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 10-15.mxd		

Drawing No.: 32105801-FOAR-003

Chainage	10 to 11 km	11 to 12 km	12 to 13 km	13 to 14 km	14 to 15 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - National Monuments - River Carriggal - River Gortmore -Gortmore Mines - Made Ground - Poor ground (alluvium) -Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Poor ground (exposed rock) - Groundwater Vulnerabilty Extreme - R445 regional road - M7 motorway	- Properties - National Monuments - River Ballycuddy More - River Mountsack - Pits and Quarries - Subsoils Exposed Rock and Karst - Poor ground (lake deposits) - Poor ground (exposed rock and karst) - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - R445 regional road - M7 motorway	- Properties - National Monuments - River Cloghleigh - Rivers Patrickswelll - River Mountsack - Poor ground (glaciofluvial sands and gravels) - Poor ground (bogs) - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - SMR Zone (Archaeology) - R445 regional road - M7 motorway	- Properties - National Monuments - River Patrickswell - River Abbott - Ardgregane Stream - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Poor ground (bogs) - Poor ground (exposed rock and karst) - SMR Zone (Archaeology) - R445 regional road - M7 motorway	- Properties - National Monuments - Forestry - River Abbott - Rivers Toorfune - River Harding - River Ryan - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Poor ground (alluvium) - Poor ground (exposed rock and karst) - R445 regional road - M7 motorway





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN / IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

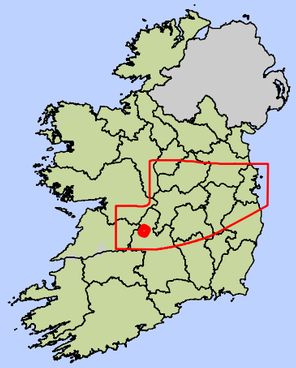
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 15 to 20 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRGIS\32105801 - WSP-DRGIS Tasks\5_Mxds\Report Maps\FOAR Constraints Maps\Identification of Preliminary Pipeline Corridor 15-20.mxd		

Drawing No.: 32105801-FOAR-004

Chainage	15 to 16 km	16 to 17 km	17 to 18 km	18 to 19 km	19 to 20 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - National Monuments - River Kilcolman - Poor ground (alluvium) - Groundwater Vulnerability Extreme - Groundwater Vulnerability Rock at or Near Surface or Karst feature - SMR Zone (Archaeology) - Designed landscape (demesne)	- Properties - National Monuments - Poor ground (bog) - Poor ground (exposed rock and karst) - Poor ground (alluvium) - Groundwater Vulnerability Extreme - Groundwater Vulnerability Rock at or Near Surface or Karst feature - Poor ground (glaciofluvial sands and gravels) - Ardgreganestream - River Fatthen - Designed landscape (demesne)	- Properties - National Monuments - Poor ground (alluvium) - Pits and Quarries - Groundwater Vulnerability Extreme - Ardgreganestream - River Monsea - SMR Zone (Archaeology) - Designed landscape (demesne)	- Properties - Made ground - Poor ground (alluvium) - Settlements - Nenagh Legal Town and its Environs - Forestry - Groundwater Vulnerability Extreme - River Monsea - Ardgregane Stream - R494 regional road - Designed landscape (demesne)	- Properties - National Monument - Poor ground (bogs) - Poor ground (exposed rock and karst) - Made ground - Poor ground (lake deposits) - Poor ground (alluvium) - Settlements - Protected Structures - Forestry - Groundwater Vulnerability Extreme - Groundwater Vulnerability Rock at or Near Surface or Karst feature - River Moyroe - Rivers Monsea - Rivers Nenagh - SMR Zone (Archaeology) - R495 regional road



Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Chainage	20 to 21 km	21 to 22 km	22 to 23 km	23 to 24 km	24 to 25 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - National Monuments - Poor ground (glaciofluvial sands and gravels) - Poor ground (alluvium) - Protected Structures - Landscapes - River Moyroe - River Nenagh - Rivers Monsea - Designed landscape (demesne)	- Properties - National Monuments - Additional habitats - Poor ground (bog) - Poor ground (glaciofluvial sands and gravels) - Poor ground (alluvium) - Landscapes - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River Moyroe - Rivers Nenagh - Rivers Upper Ballyanny - SMR Zone (Archaeology) - Designed landscape (demesne)	- Properties - National Monumnets - Poor gound (alluvium) - Landscapes - Protected structures - River Nenagh - Rivers Upper ballyanny - Knigh Hill stream - R493 regional road - Designed landscape (demesne)	- Properties - National Monumnets - Landscapes - Poor ground (exposed rock and karst) - Poor ground (glaciofluvial sands and gravels) - Poor ground (alluvium) - Pits and quarries - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River Nenagh - SMR Zone (Archaeology)	- Properties - National Monuments - Poor ground (exposed rock and karst) - Poor ground (lake deposits) - Poor ground (alluvium) - Lough Ourna - Forestry - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Additional Habitats - SMR Zone (Archaeology) - Designed landscape (demesne)

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN IRISH WATER

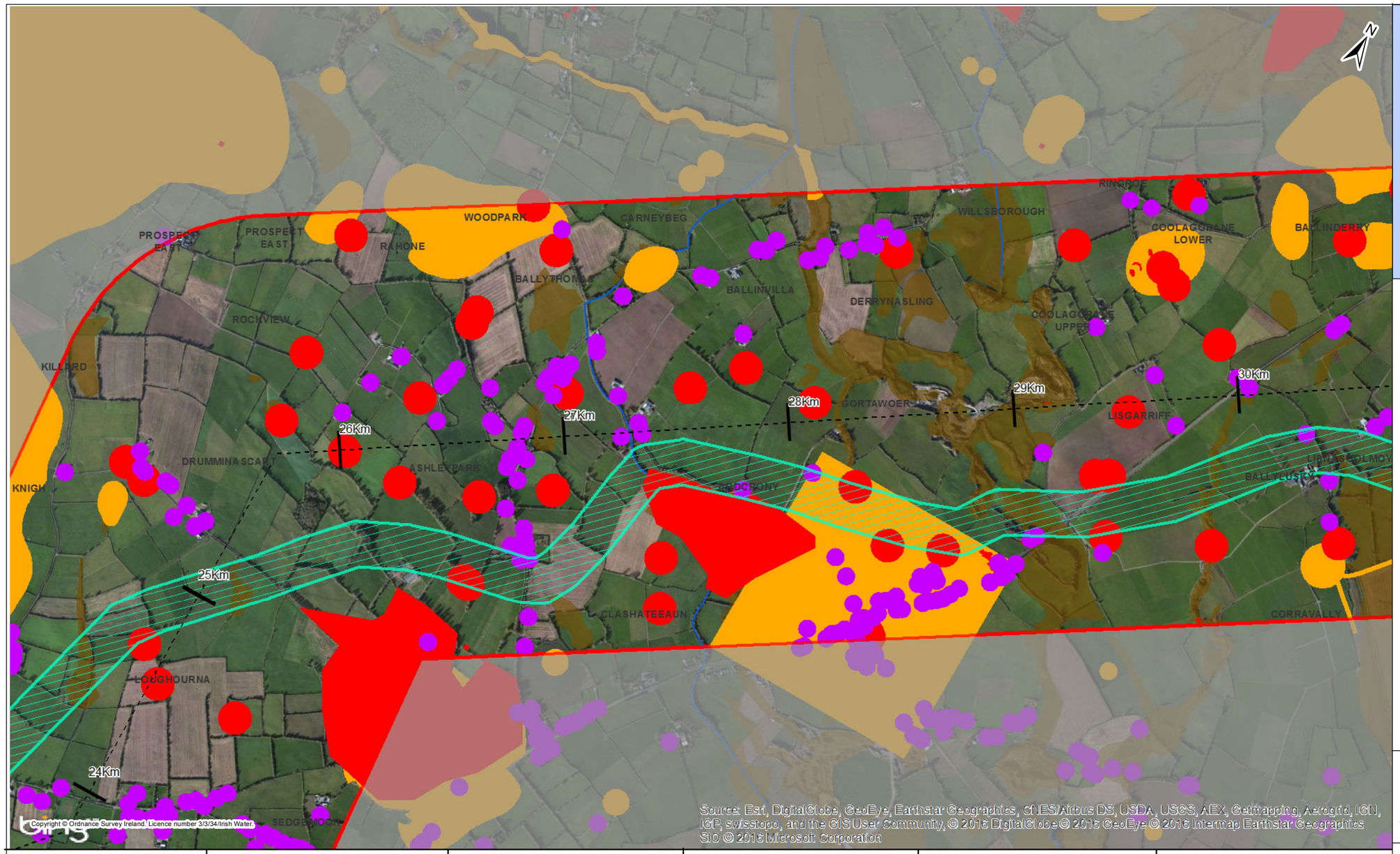
Project: Water Supply Project - Eastern and Midlands Region

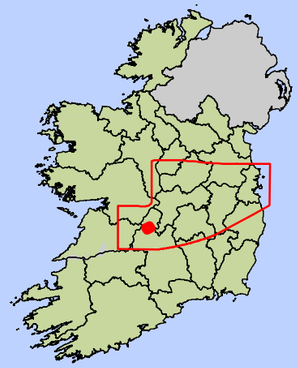
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 20 to 25 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\GIS\32105801 - WSP-ORGIS Tasks\5_Mxds\Report Maps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 20-25.mxd		

Drawing No.: 32105801-FOAR-005





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Chainage	25 to 26 km	26 to 27 km	27 to 28 km	28 to 29 km	29 to 30 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - SMR Zone (Archaeology) - Lough Ourna - Karst features (incl. sinking streams)	- Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - SMR Zone (Archaeology) - Lough Ourna - Karst features (incl. sinking streams) - Designed landscape (demesne)	- Karst features (incl. sinking streams)	- Karst features (incl. sinking streams) - Designed landscape (demesne)	- Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - SMR Zone (Archaeology) - N52 National Road

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

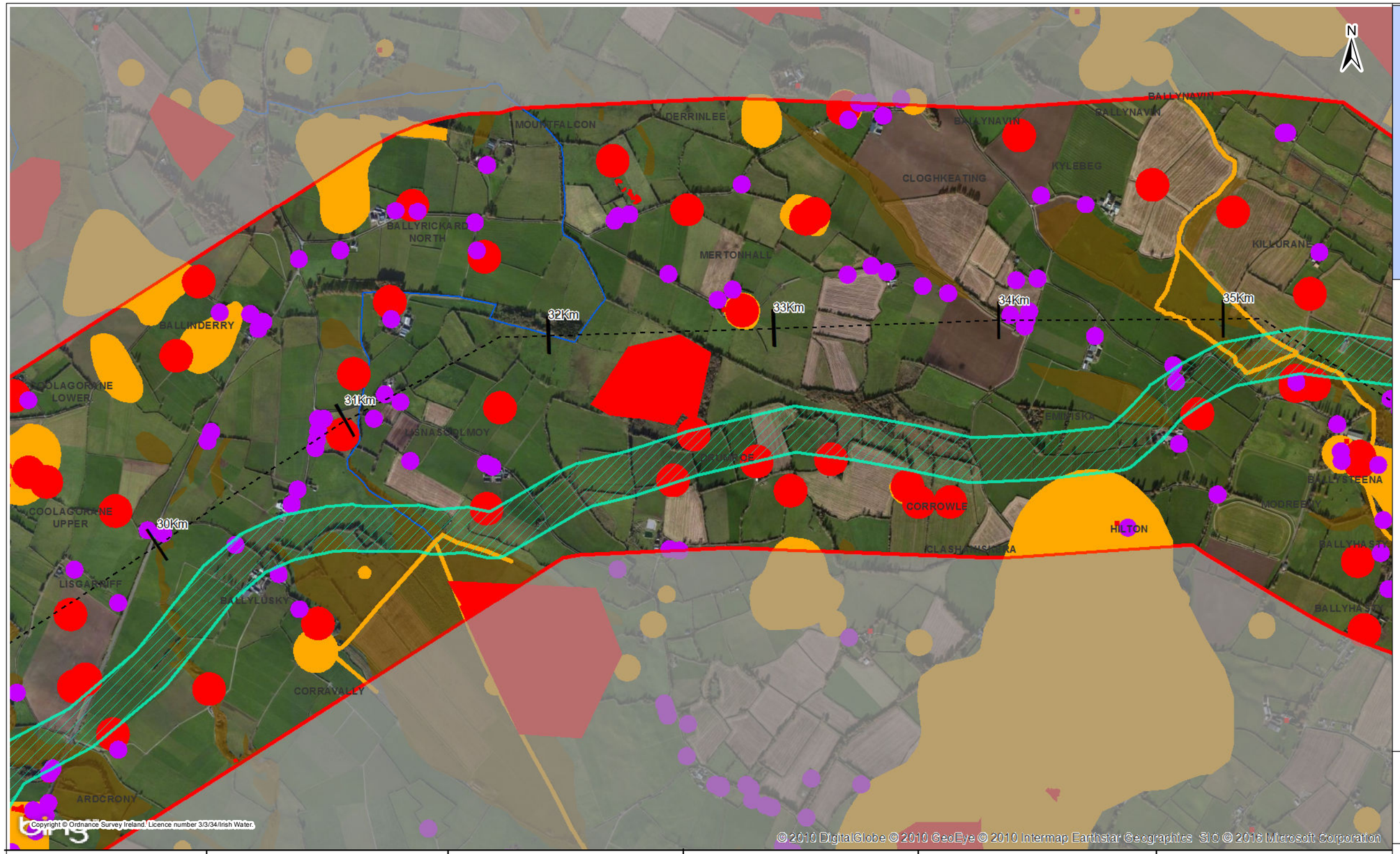
Project: Water Supply Project - Eastern and Midlands Region

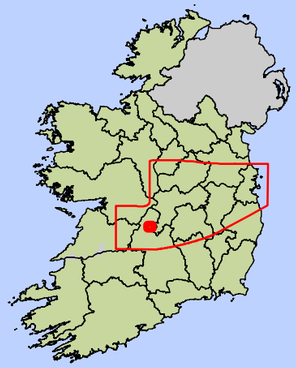
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 25 to 30 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRGIS\32105801 - WSP-DIR\GIS Tasks\5_Mxds\Report Maps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 25-30.mxd		

Drawing No.: 32105801-FOAR-006





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

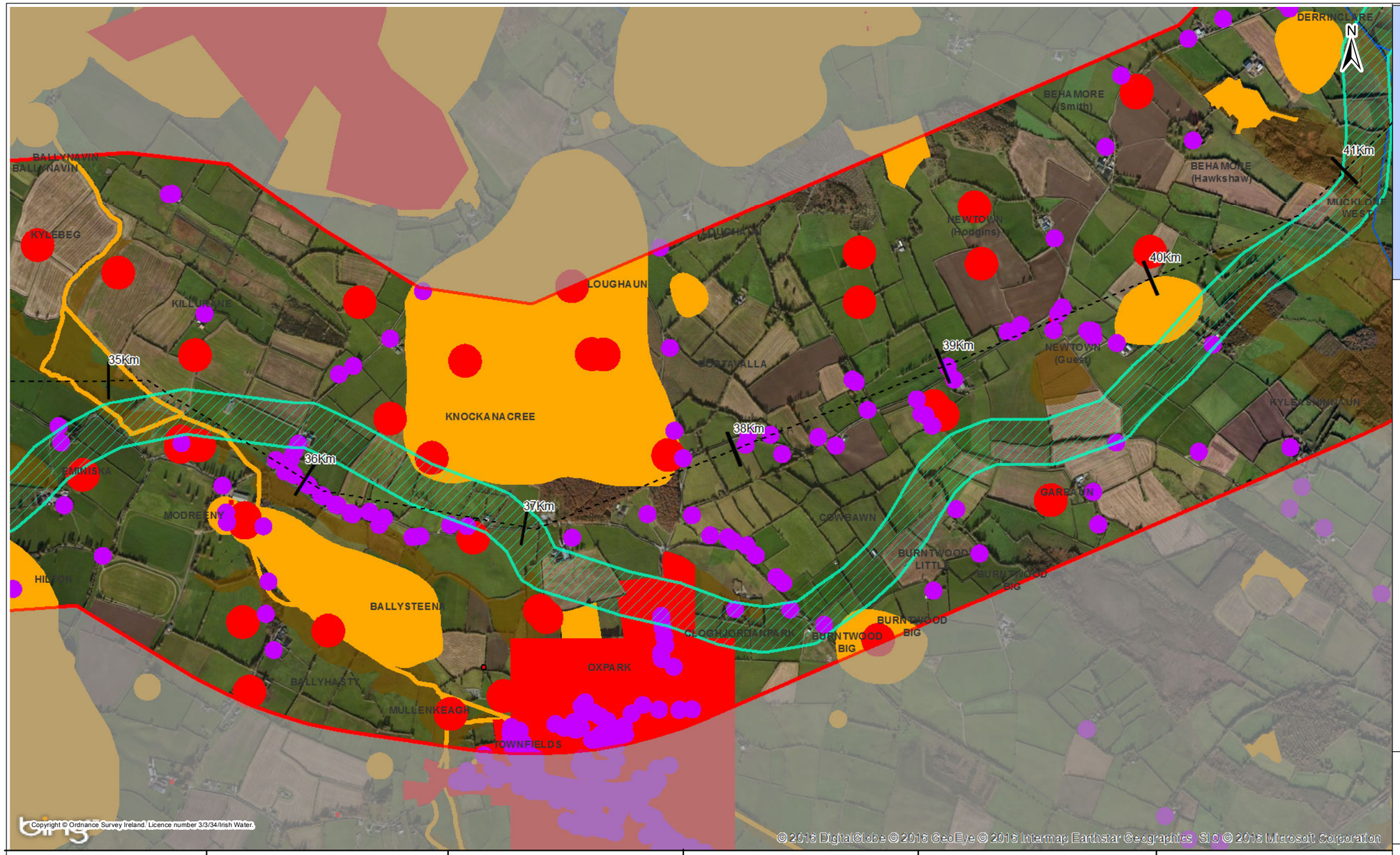
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 30 to 35 km

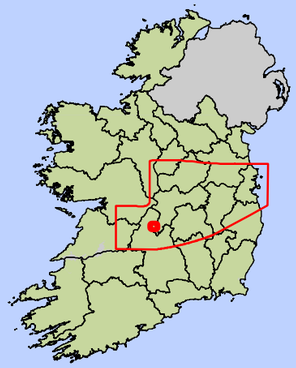
Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRGIS\32105801 - WSP-DIR\GIS Tasks\5_Mxds\Report Maps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 30-35.mxd		

Drawing No.: 32105801-FOAR-007

Chainage	30 to 31 km	31 to 32 km	32 to 33 km	33 to 34 km	34 to 35 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - NationalMonuments - Poor ground (glacifluvialsands and gravels) - Poor ground (alluvium) - Poor ground (exposed rock and karst) - Poor ground (lake deposits) - SMR Zone (Archaeobgy) - Landscapes - Pits and quarries - Forestry - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River Corravaly - SMR Zone (Archaeobgy) - N52 NationalRoad - Designed landscape (demesne)	- Properties - NationalMonuments - Poor ground (glacifluvialsands and gravels) - Poor ground (lake deposits) - Poor ground (alluvium) - Landscapes - AddtionalHabtats - Protected structures - Forestry - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature -River Shesheraghmore - River Corravaly - River Lisnasoolmoy - Designed landscape (demesne)	- Properties - NationalMonuments - Poor ground (lake deposits) - Poor ground (bog) - Poor ground (rock and karst) - Poor ground (glacifluvialsands and gravels) - Landscapes - AddtionalHabtats - Pits and quarries - Protected structures - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River Sheshersaghmore - Designed landscape (demesne)	- Properties - NationalMonuments -Additonalhabtats - Poor ground (bog) - Poor ground (exposed rock and karst) - Poor ground (lake deposits) - Poor ground (alluvium) - Landscapes - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River Sheshersaghmore - Designed landscape (demesne)	- Properties - NationalMonuments - Poor ground (peat) - Poor ground (alluvium) - Poor ground (exposed rock and karst) - Poor ground (glacifluvialsands and gravels) - Landscapes - Protected structures - SMR Zone (Archaeobgy) - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River Balyfinboy - R490 regionalroad - Designed landscape (demesne)





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS | TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN | IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

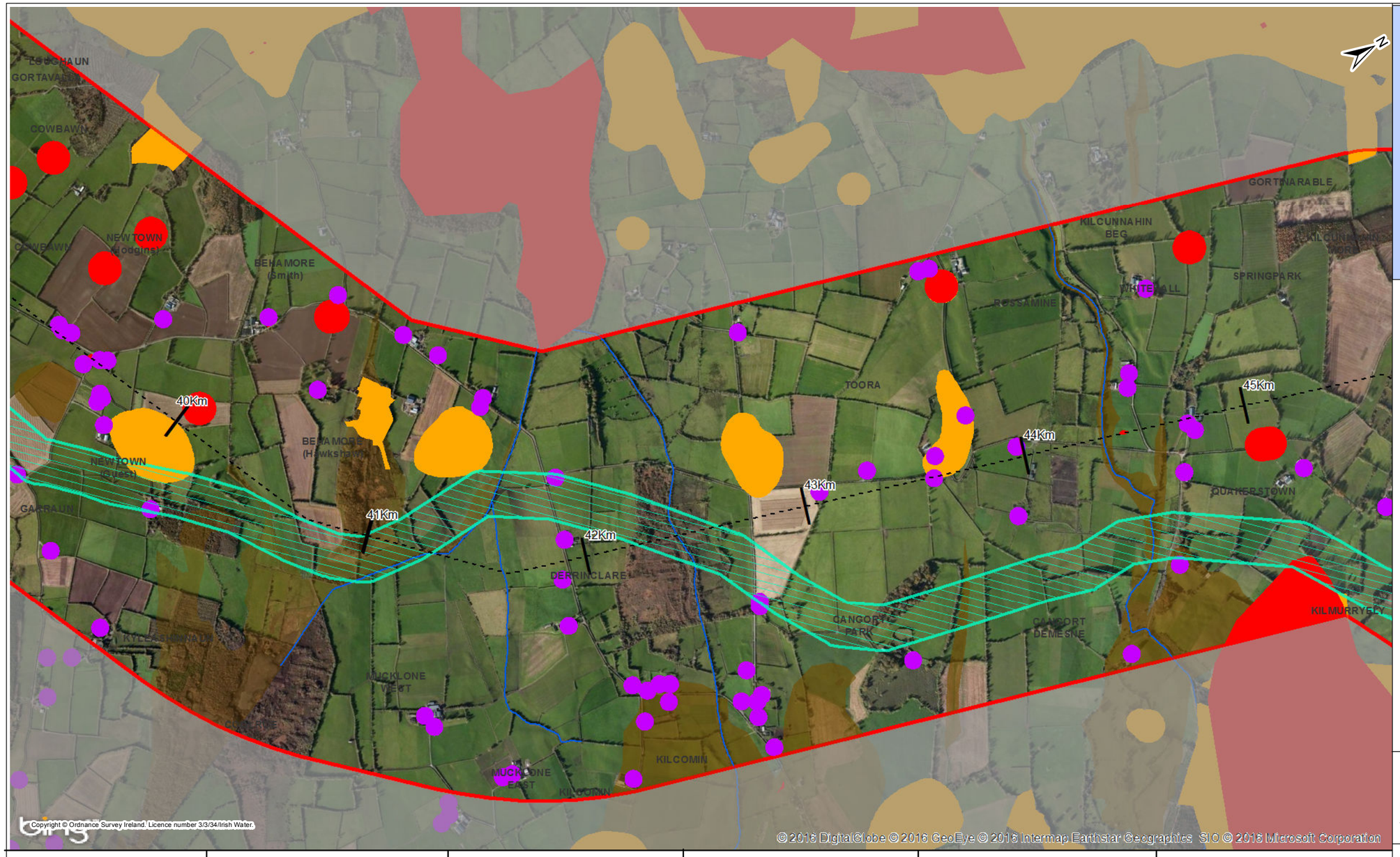
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 35 to 40 km

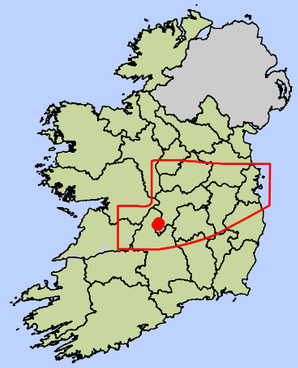
Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\GIS\32105801 - WSP-ORGIS Tasks\5_Mxds\Report Maps\FOAR Constraints Maps\Identification of Preliminary Pipeline Corridor 35-40.mxd		

Drawing No.: 32105801-FOAR-008

Chainage	35 to 36 km	36 to 37 km	37 to 38 km	38 to 39 km	39 to 40 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - National Monuments - Poor ground (glaciofluvial sands and gravels) - Poor ground (alluvium) -Poor ground (bog) - Poor ground (exposed rock and karst) - Landscapes - Protected structure - SMR Zone (Archaeology) - Groundwater Vulnerabilty Extreme - Designed landscape (demesne)-Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River Ballyfinboy - R490 regional road	- Properties - National Monuments - SMR Zone (Archaeology) - Poor ground (peat) - Poor ground (alluvium) - Poor ground (expost rock and karst) - Landscapes - Wastewater treatment plant - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River Ballyfinboy - SMR Zone (Archaeology) - Designed landscape (demesne)	- Properties - National Monuments - Poor ground (exposed rock and karst) - Poor ground (alluvium) - Landscapes - Settlements - Protected structures - Forestry - SMR Zone (Archaeology) - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - SMR Zone (Archaeology) - Designed landscape (demesne)	- Properties - National Monuments - Poor ground (exposed rock and karst) - Poor ground (alluvium) - Landscapes - Protected structure - Forestry - SMR Zone (Archaeology) - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - SMR Zone (Archaeology) - R491regional road	- Properties - National Monuments - Poor ground (exposed rock and karst) - Poor ground (lake deposits) - Landscapes - Protected structures - Forestry - SMR Zone (Archaeology) - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - SMR Zone (Archaeology) - R491regional road





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE EIREANN | IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

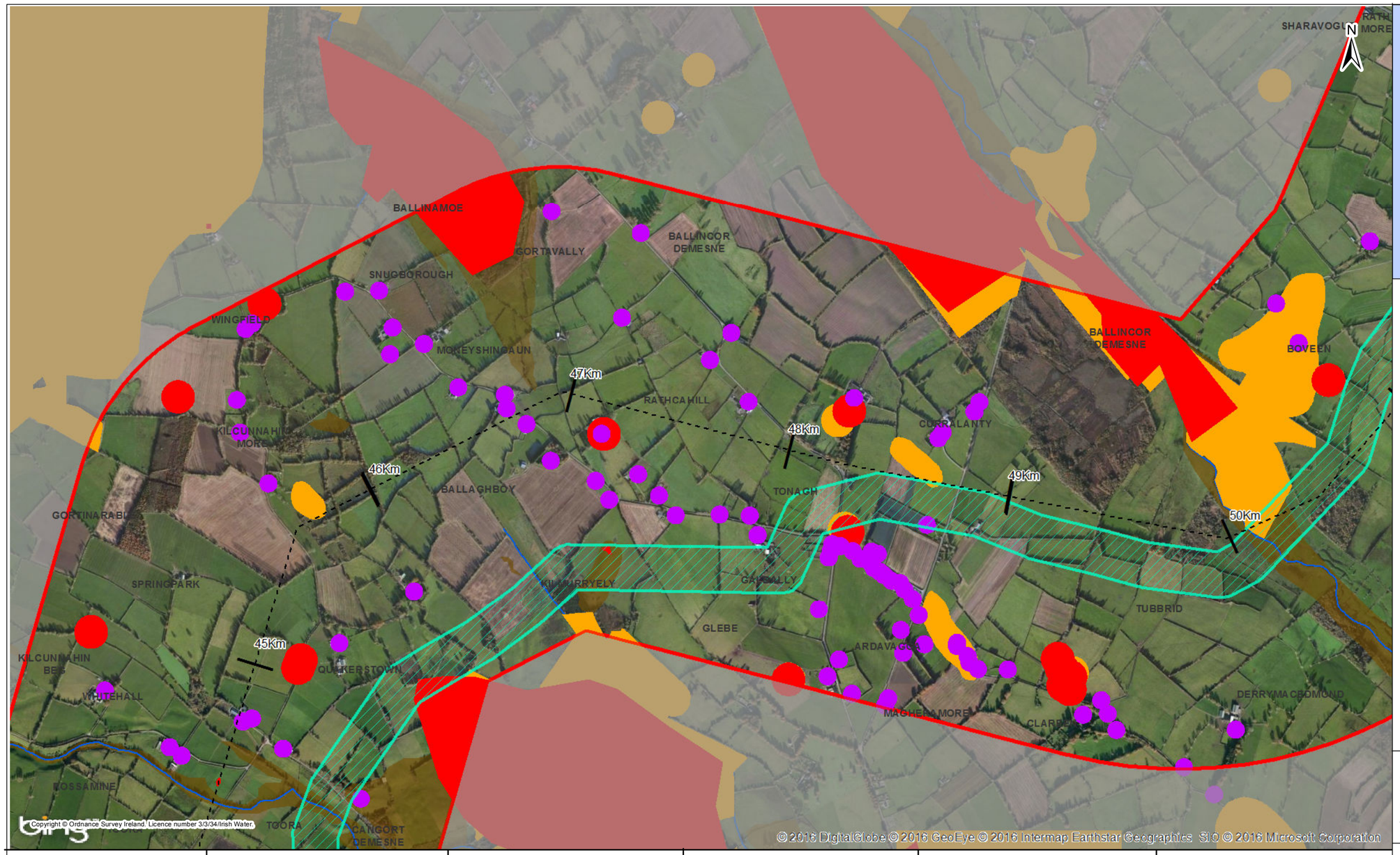
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 40 to 45 km

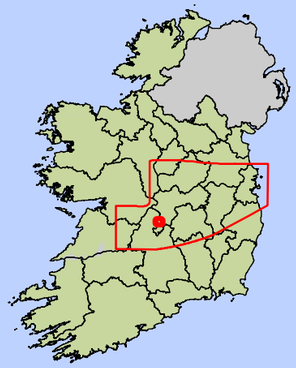
Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRGIS\32105801 - WSP-ORGIS Tasks\5_Mxds\Report Maps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 40-45.mxd		

Drawing No.: 32105801-FOAR-009

Chainage	40 to 41 km	41 to 42 km	42 to 43 km	43 to 44 km	44 to 45 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - National Monuments - SMR Zone (Archaeology) - Regional Road (R491) - Poor ground (bogs) - Poor ground (lake deposits) - Poor ground (exposed rock and karst) - Landscapes - Protected structures - Forestry - SMR Zone (Archaeology) - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River west mucklone - R491 regional road - Designed landscape (demesne)	- Properties - Poor ground (exposed rock and karst) - Poor ground (bogs) - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River Derrinclare - River west mucklone - R491 regional road	- Properties - Poor ground (bog) - Poor ground (expost rock and karst) - Poor ground ((glaciofluvial sands and gravels) - Poor ground (alluvium) - Landscapes - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River Derrinclare - River west mucklone - R491 regional road	- Properties - National Monuments - Poor ground (Exposed Rock and Karst) - Poor ground (glaciofluvial sands and gravels) - Poor ground (alluvium) - Landscapes - Architectural Conservation Area Offaly - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Designed landscape (demesne)	- Properties - National Monuments - Poor ground (bogs) - Poor ground (glaciofluvial sands and gravels) - Poor ground (alluvium) - Landscape - Additional Habitats - Pit sand quarries - Woodland habitats - SMR Zone (Archaeology) - Groundwater Vulnerabilty Extreme - Shinrone stream - Designed landscape (demesne)





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS | TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN / IRISH WATER

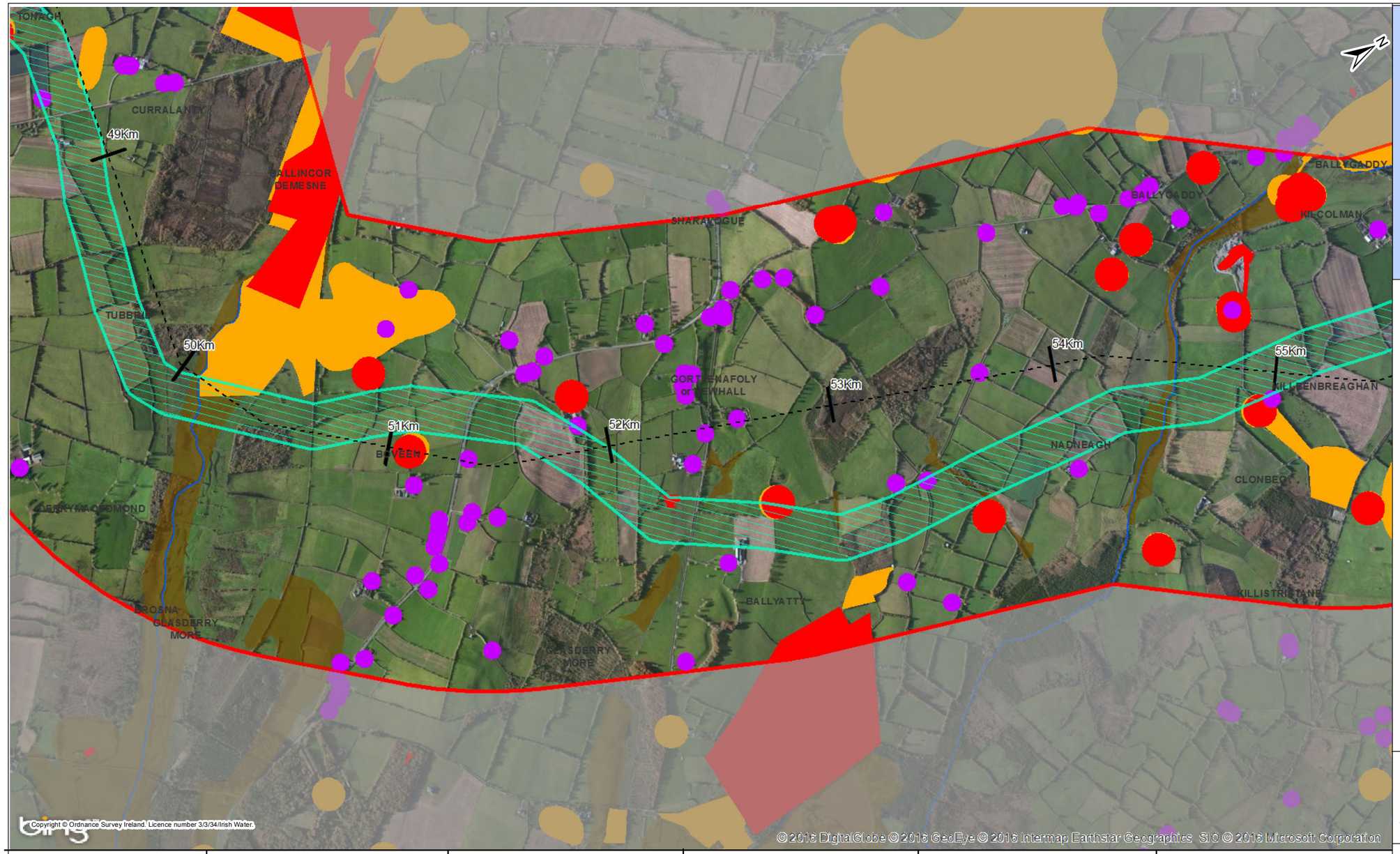
Project: Water Supply Project - Eastern and Midlands Region

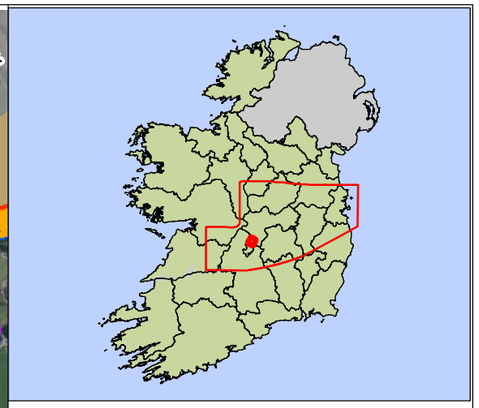
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 45 to 50 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRGIS\32105801 - WSP-ORGIS Tasks\5_Mxds\Report Maps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 45-50.mxd		
Drawing No.	32105801-FOAR-010		

Chainage	45 to 46 km	46 to 47 km	47 to 48 km	48 to 49 km	49 to 50 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - National Monuments - Poor ground (exposed rock and karst) - Poor ground (glaciofluvial sands and gravels) - Poor ground (alluvium) - Landscapes - Additional Habitats - Cangort bog NHA - Woodland habitats - Forestry - SMR Zone (Archaeology) - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Designed landscape (demesne)	- Properties - Poor ground (bogs) - Poor ground (glaciofluvial sands and gravels) - Poor ground (alluvium) - Landscapes - Additional Habitats - Cangort bog NHA - Woodland habitats - River Quakerstown - Designed landscape (demesne)	- Properties - National Monuments - Poor ground (glaciofluvial sands and gravels) - Landscapes - Pits and quarries - Cangort bog NHA - River Quakerstown - Designed landscape (demesne)	- Properties - National Monuments - Poor ground (exposed rock and karst) - Landscapes - Additional habitats - SMR Zone (Archaeology) - Coillte forest property - Architectural Conservation Areas Offaly - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - R492 regional road - Designed landscape (demesne)	- Properties - National Monuments - Poor ground (exposed rock and karst) - Poor ground (glaciofluvial sands and gravels) - Poor ground (alluvium) - Landscapes - Additional Habitats - Cangort bog NHA - Woodland habitats - Forestry - SMR Zone (Archaeology) - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Designed landscape (demesne)





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Chainage	50 to 51 km	51 to 52 km	52 to 53 km	53 to 54 km	54 to 55 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - National Monuments - Poor ground (exposed rock and karst) - Poor ground (glaciofluvial sands and gravels) - Poor ground (alluvium) - Additional Habitats - Forestry - Semi naturual grassland - Architectural Conservation Areas Offaly - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River little brosna	- Properties - National Monuments - SMR Zone (Archaeology) - Architectural Conservation Areas Offaly - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - N62 National Road	- Properties - National Monuments - Poor ground (bogs) - Poor ground (lake deposits) - Poor grounds (alluvium) - Landscapes - Additional Habitats - Architectural Conservation Areas Offaly - River birr - N62 National Road	- Properties - National Monuments - Poor ground (alluvium) - Landscapes - Additional habitats - Forestry - Architectural Conservation Areas Offaly - River birr - Designed landscape (demesne)	- Properties - National Monuments - Poor soils (alluvium) - Pits and quarries - Forestry - Architectural Conservation Areas Offaly - River Birr

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN IRISH WATER

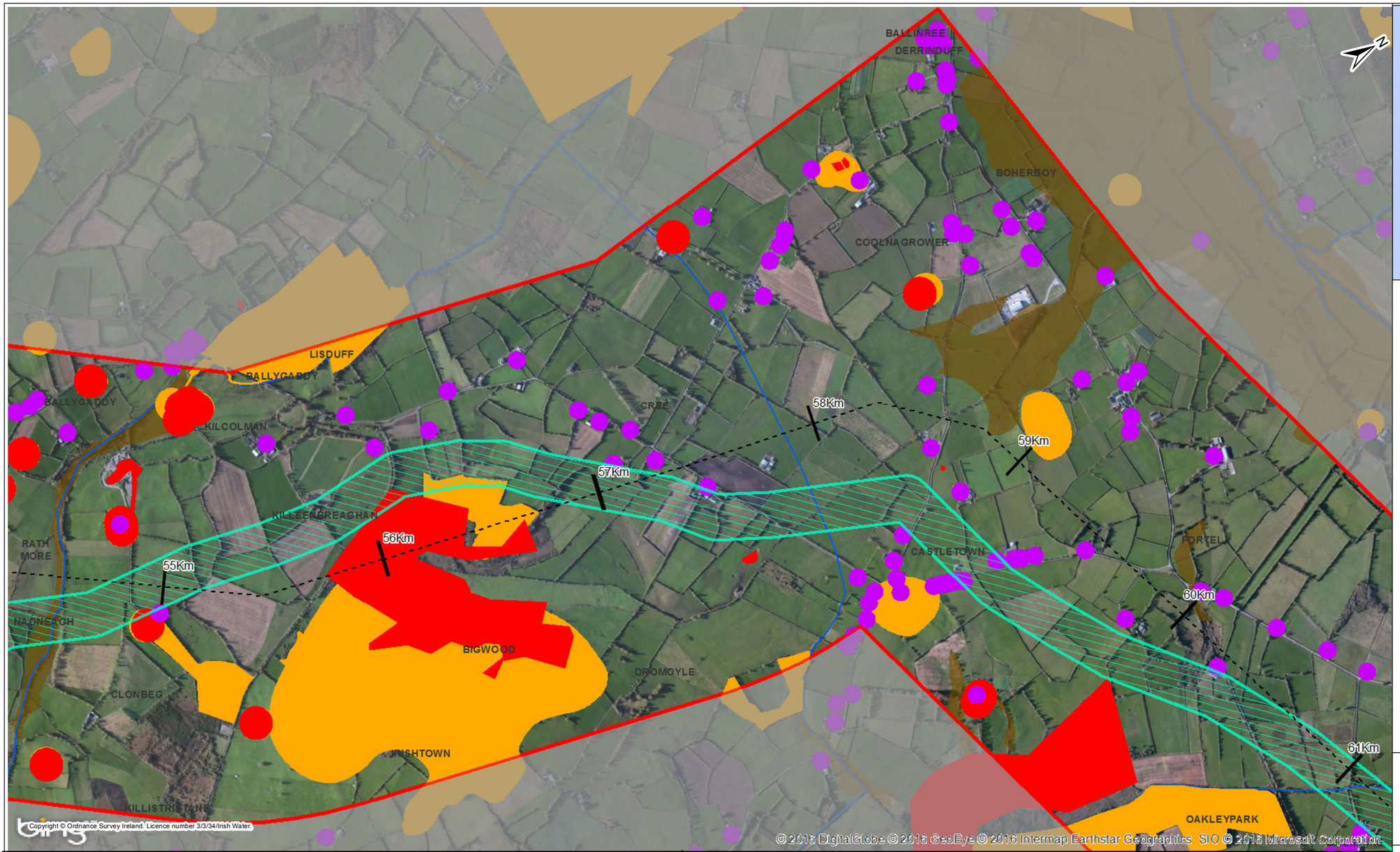
Project: Water Supply Project - Eastern and Midlands Region

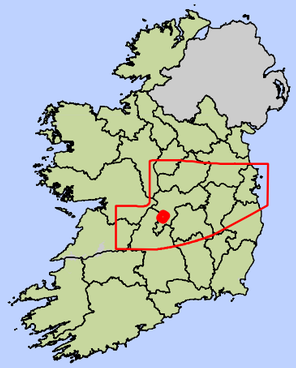
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 50 to 55 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRG\B32105801 - WSP-DR\GIS Tasks\6_Mxds\Report Maps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 50-55.mxd		

Drawing No.: 32105801-FOAR-011





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS | TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

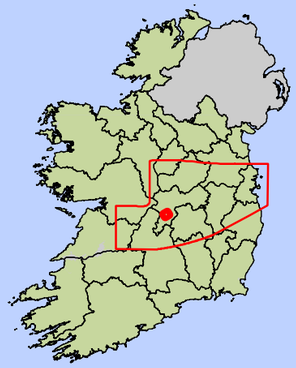
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 55 to 60 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\JIG\B32105801-WSP-DR\GIS Tasks\6_Mxd\ReportMaps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 55-60.mxd		

Drawing No. 32105801-FOAR-012

Chainage	55 to 56 km	56 to 57 km	57 to 58 km	58 to 59 km	59 to 60 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - poor ground (exposed rock and karst) - National Monuments - Additional habitats - Lisduff Fen SAC - Woodland habitats - Forestry - Landscsape classification areas offaly high sensitvity - Native woodland survey - Architectural Conservation Areas Offaly - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River birr	- Properties - National Monuments - Poor ground (exposed rock and karst) - Additional habitats - Woodland habitats - Semi natural grasslands - Native woodland survey - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River birr	- Properties - Pits and quarries - River north kilcolman - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature	- Properties - National Monuments - Poor ground (exposed rock and karst) - Poor ground (glaciofluvial sands and gravels) - Poor ground (alluvium) - Additional habitats - Pits and quarries - Architectural Conservation Areas Offaly - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature	- Properties - Poor ground (expost rock and karst) - Poor ground (glaciofluvial sands and gravels) - Landscapes - Additional habitats - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Designed landscape (demesne)



Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE EIREANN - IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

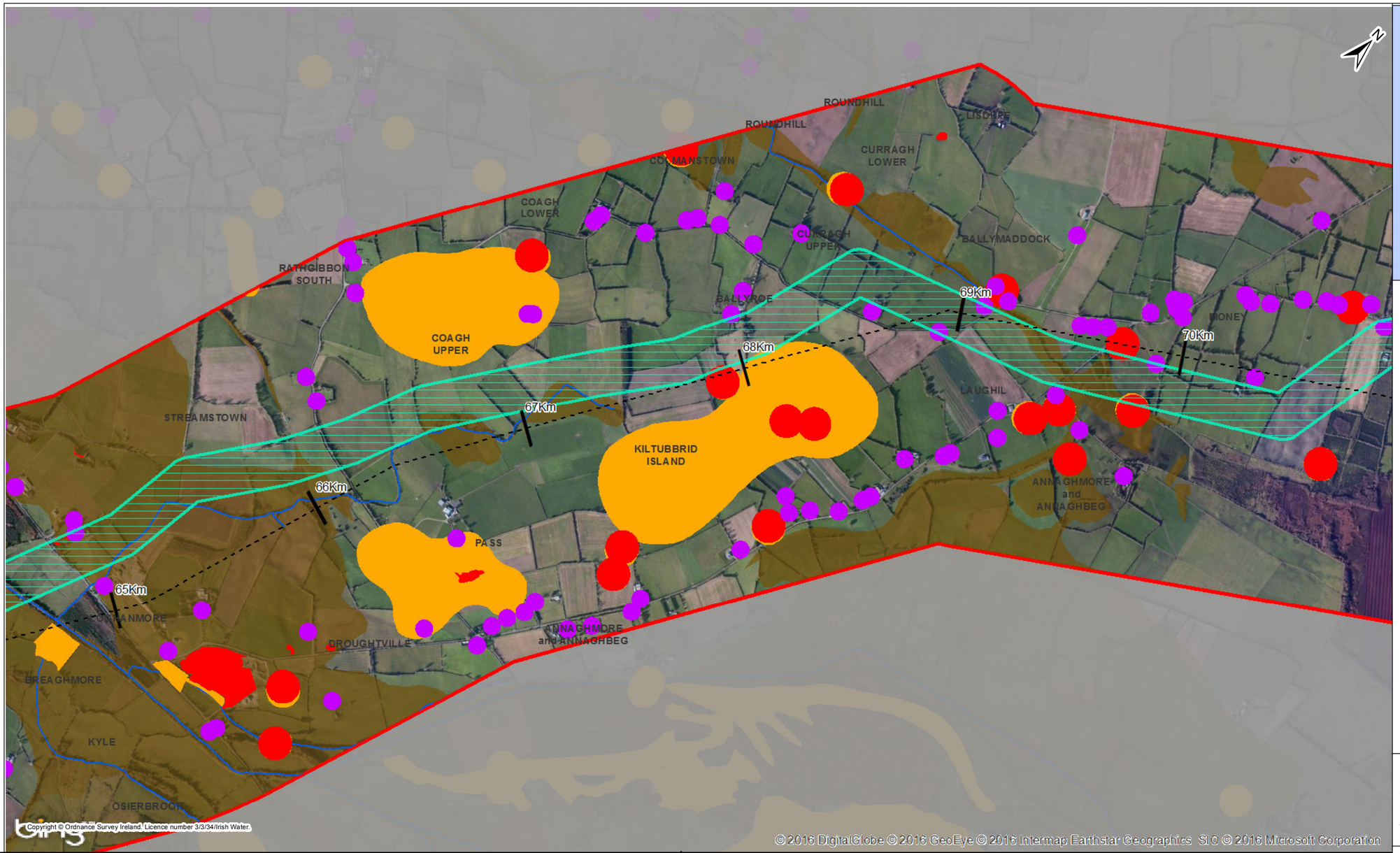
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 60 to 65 km

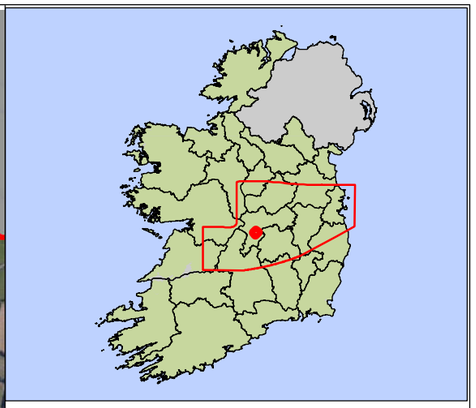
Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\AIG\B32105801 - WSP-DR\GIS Tasks\6_Mxds\Report Maps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 60-65.mxd		

Drawing No.: 32105801-FOAR-013

Chainage	60 to 61 km	61 to 62 km	62 to 63 km	63 to 64 km	64 to 65 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - Poor ground (glaciofluvial sandsand gravels) - Poor ground (alluvium) - Landscapes - Additional Habitats - Forestry - River kilmaine - Designed landscape (demesne)	- Properties - National Monuments - Poor ground (alluvium) - Landscapes - SMR Zone (Archaeology) - Architectural Conservation Areas Offaly - Clareen stream - River oakleypark - River Kilmaine - Designed landscape (demesne)	- Properties - Poor ground (alluvium) - Landscapes - River Breaghmore	- Properties - National Monuments - Poor ground (alluvium) - Poor ground (exposed rock and karst) - Poor ground (glaciofluvial sandsand gravels) - Poor ground (lake deposits) - Landscapes - Pit sand quarries - Forestry - Architectural Conservation Areas Offaly - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River camcor - River Breaghmore	- Properties - National Monuments - Poor ground (glaciofluvial sandsand gravels) - Poor ground (alluvium) - Landscapes - Pit sand quarries - Proposed natural heritage area - Forestry - Semi natural grassland - Architectural Conservation Areas Offaly - River Camcor - River Osierbrook - River Breaghmore - R440 regional road - Designed landscape (demesne)





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

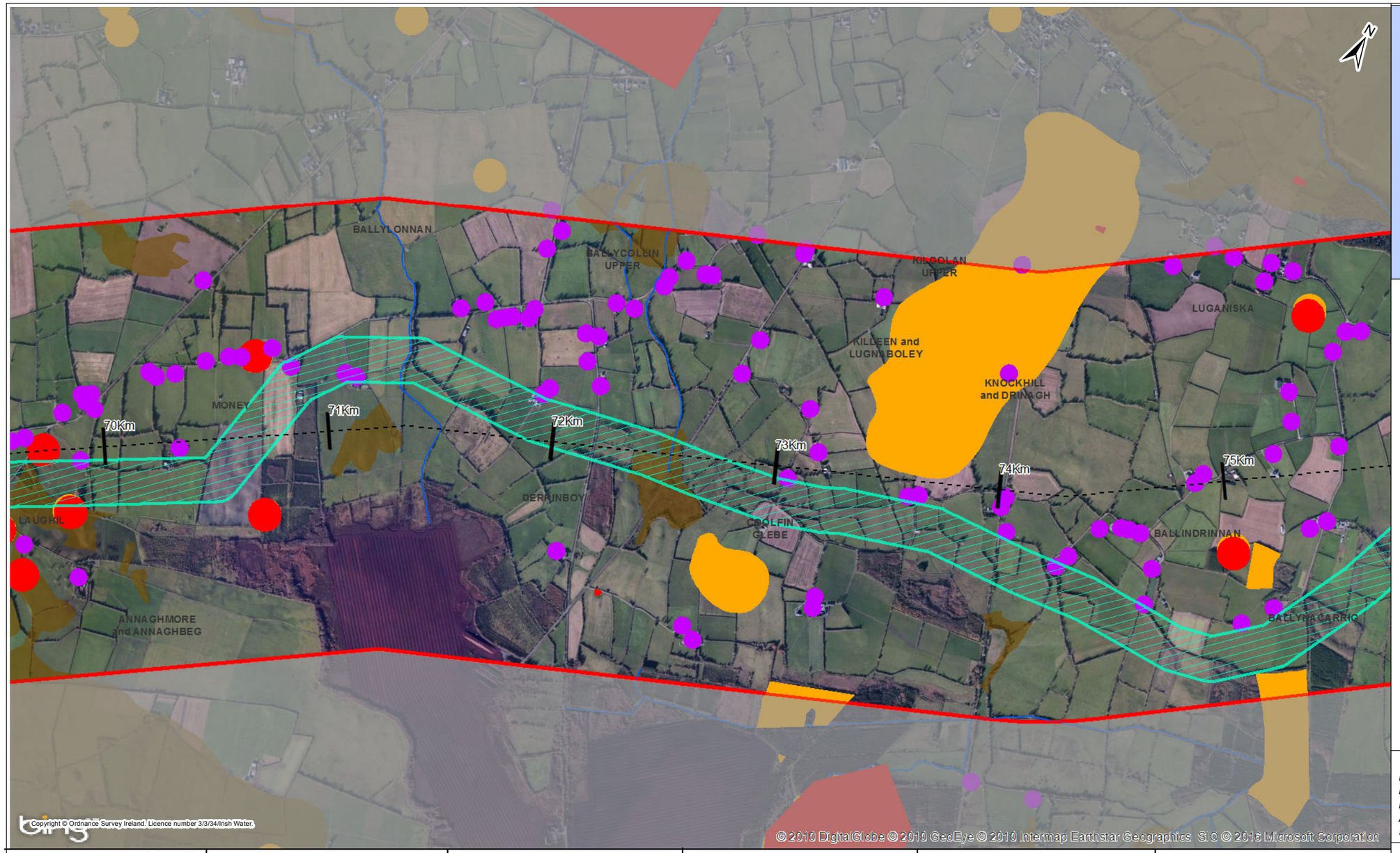
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 65 to 70 km

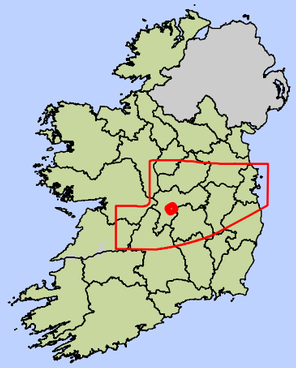
Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	O:\JIG\32105801-WSP-DR\GIS Tasks\5_Mxd\Report Maps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 65-70.mxd		

Drawing No.: 32105801-FOAR-014

Chainage	65 to 66 km	66 to 67 km	67 to 68 km	68 to 69 km	69 to 70 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - National Monuments - Poor ground (bogs) - Poor ground (glaciofluvial sands and gravels) - Poor ground (lake deposits) - Poor ground (alluvium) - Landscapes - Pits and quarries - Forestry - Architectural Conservation Areas Offaly - River camcor - River osierbrook - River upper caogh - River pass - Designed landscape (demesne)	- Properties - National Monumnets - Poor ground (exposed rock and karst) - Poor ground (glaciofluvial sands and gravels) - Poor ground (alluvium) - Landscapes - Pits and quarries - Architectural Conservation Areas Offaly - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River upper coagh - Designed landscape (demesne)	- Properties - National Monuments - Poor ground (exposed rock and karst) - Poor ground (alluvium) - Architectural Conservation Areas Offaly - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River upper coagh	- Properties - National Monumnets - Poor ground (glaciofluvial sands and gravels) - Poor ground (alluvium) - Poor ground (exposed rock and karst) - Poor ground (lake deposits) - Pits and quarries - Architectural Conservation Areas Offaly - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River rapemills	- Properties - National Monuments - Poor ground (glaciofluvial sands and gravels) - Poor ground (alluvium) - Pits and quarries - Architectural Conservation Areas Offaly





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

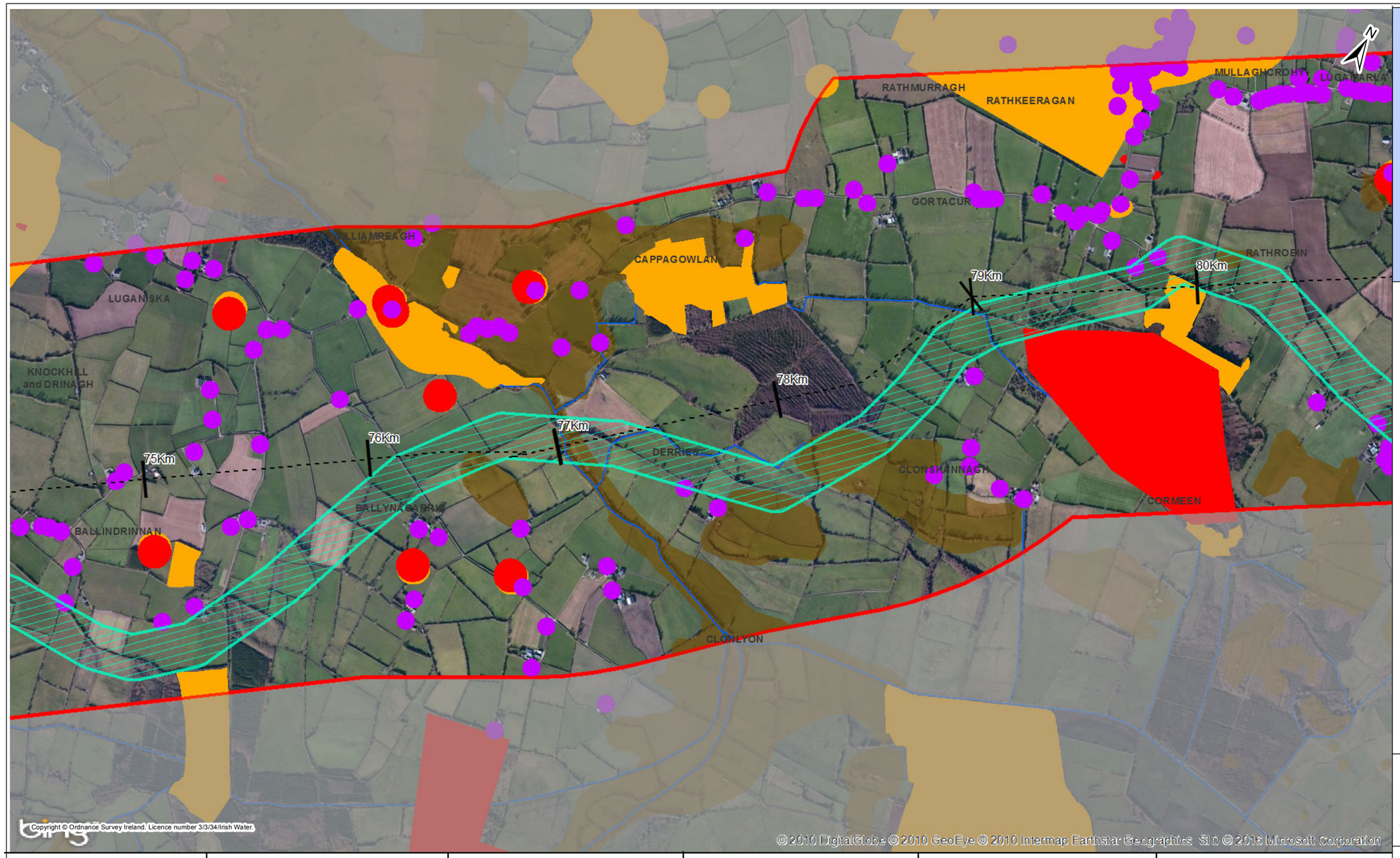
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 70 to 75 km

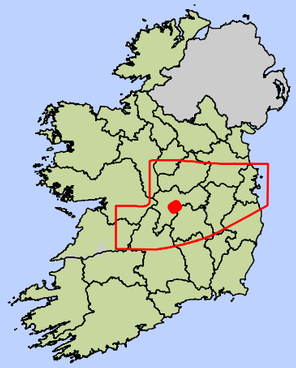
Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IG\IS32105801-WSP-DRGIS Tasks\5_Mxds\Report Maps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 70-75.mxd		

Drawing No. 32105801-FOAR-015

Chainage	70 to 71 km	71 to 72 km	72 to 73 km	73 to 74 km	74 to 75 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - National Monuments - Poor ground (glaciofluvial sands and gravels) - Poor ground (lake deposits) - Architectural Conservation Areas Offaly	- Properties - Poor ground (glaciofluvial sands and gravels) - Landscapes - River Kyleboher - Designed landscape (demesne)	- Properties - Poor ground (exposed rock and karst) - Poor ground (lake deposits) - Landscapes - Pits and quarries - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River knockhill - River upper ballycollin - River kilgolan lower	- Properties - Poor ground (exposed rock and karst) - Poor ground (alluvium) - Additional habitats - Forestry - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River black - River knockhill	- Properties - Poor ground (exposed rock and karst) - Poor ground (alluvium) - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River black





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE EIREANN / IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

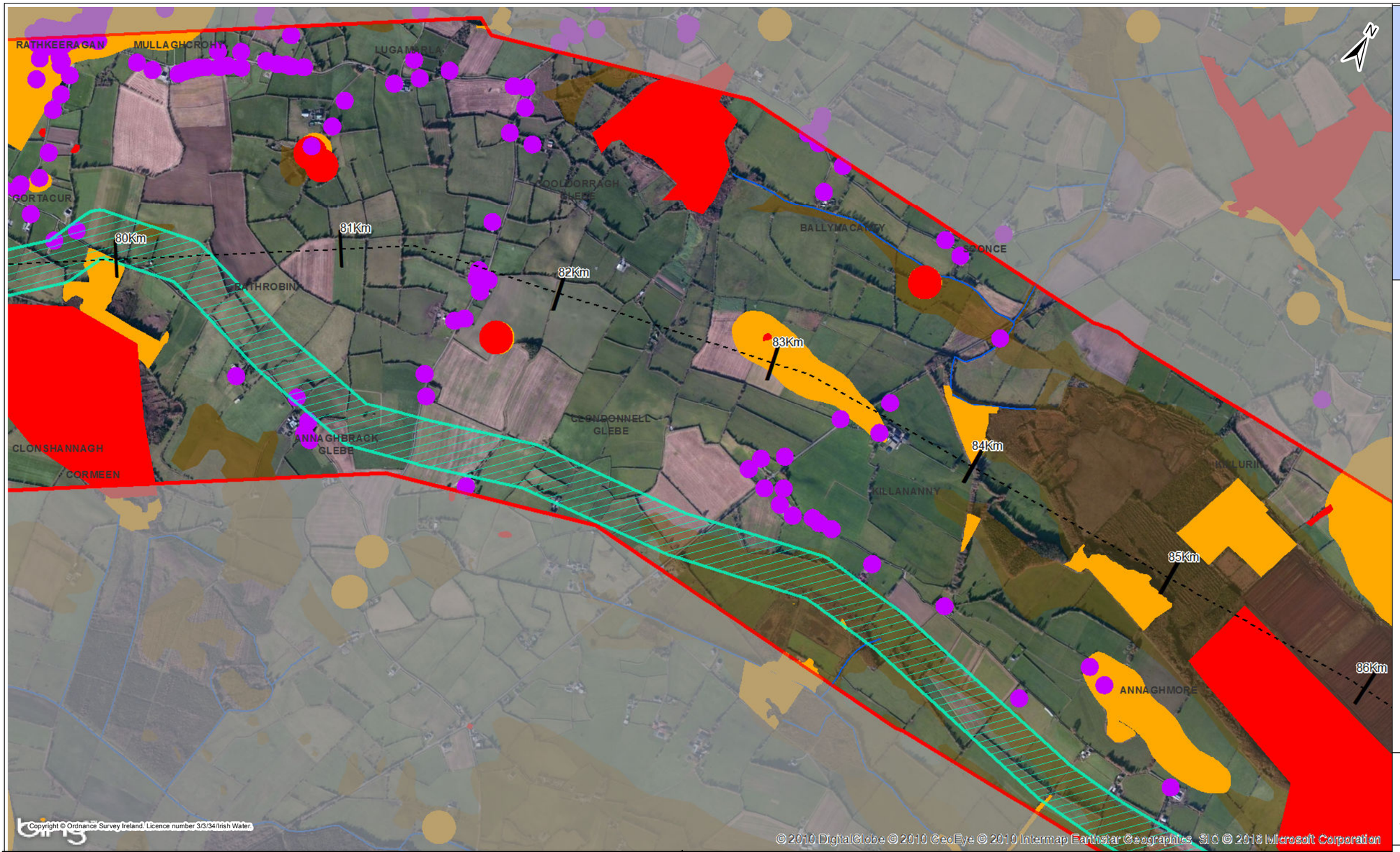
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 75 to 80 km

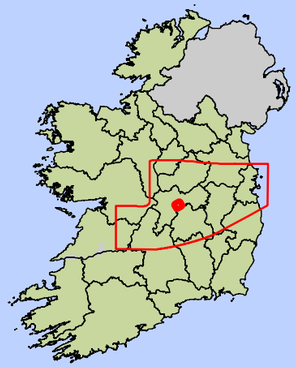
Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IG\IS\32105801 - WSP-DRGIS Tasks\8_Mxds\Report Maps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 75-80.mxd		

Drawing No.: 32105801-FOAR-016

Chainage	75 to 76 km	76 to 77 km	77 to 78 km	78 to 79 km	79 to 80 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - National Monuments - Forestry - Architectural Conservation Areas Offaly - Groundwater Vulnerabilty Extreme - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - River silver (kicormac)	- Properties - National Monuments - Poor ground (exposed rock and karst) - Poor ground (alluvium) - Poor ground (glaciofluvial sandsand gravels) - Landscapes - Additional habitats - Forestry - Architectural Conservation Areas Offaly - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - River silver - Designed landscape (demesne)	- Properties - Poor ground (glaciofluvial sandsand gravels) - Poor ground (alluvium) - Landscapes - Forestry - River silver - House derries - River gortacur	- Properties - Poor ground (glaciofluvial sandsand gravels) - National Monuments - Additional habitats - River house derries - River gortacur	- Properties - Poor ground (glaciofluvial sands& gravels) - Poor ground (exposed rock and karst) - Made ground - Poor ground (lake deposits) - Additional habitats - Pits and quarries - Wastewater treatment plant - Woodland habitats - Forestry - Native woodland survey - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - River soldier'shill - River house derries





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN · IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

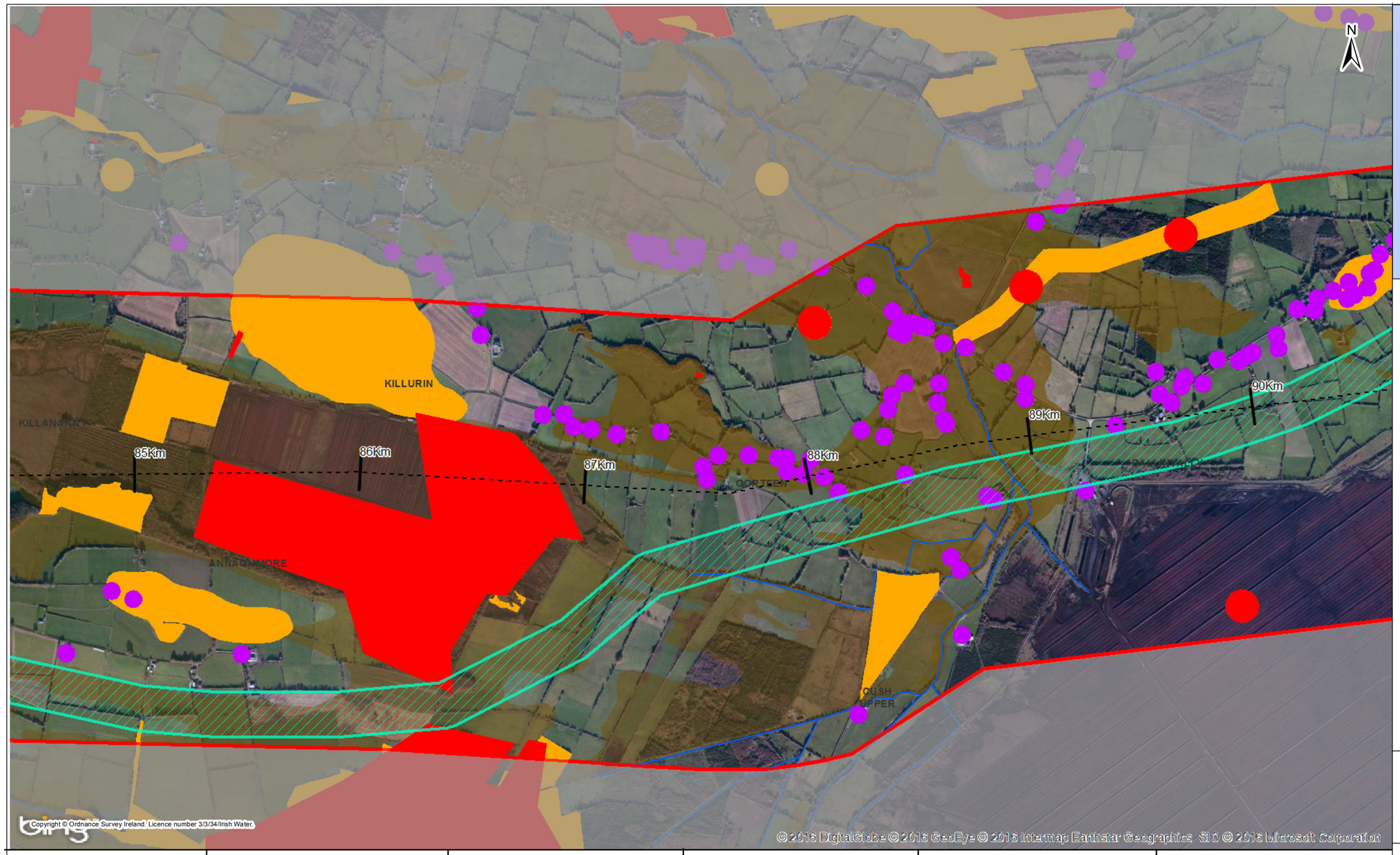
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 80 to 85 km

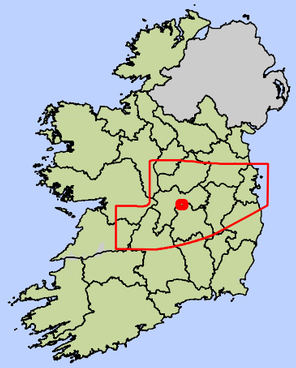
Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	O:\JIG\32105801-WSP-DR\GIS Tasks\6_Mxd\Report Maps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 80-85.mxd		

Drawing No.: 32105801-FOAR-017

Chainage	80 to 81 km	81 to 82 km	82 to 83 km	83 to 84 km	84 to 85 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - Poor ground (glaciofluvial sands and gravels) - Poor ground (lake deposits) - Poor ground (alluvium) - Additional habitats - Woodland habitats - SMR Zone (Archaeology) - Native woodland survey - Architectural Conservation Areas Offaly - Groundwater Vulnerabilty Extreme	- Properties - National Monuments - Poor ground (lake deposits) - Poor ground (alluvium) - Pits and quarries - SMR Zone (Archaeology) - Architectural Conservation Areas Offaly	- Properties - National monuments - Poor ground (bogs) - Poor ground (exposed rock and karst) - Poor ground (alluvium) - Additional hbitats - Pits and quarries - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - River Ballynacanty	- Properties - Poor ground (bogs) - Poor ground (rock and karst) - Poor ground (alluvium) - National Monuments - Woodland habiats - Forestry - Coillte forest property (killeigh) - Native woodland survey - Architectural Conservation Areas Offaly - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - River Killurin - R421regional road	- Properties - Poor ground (exposed rock and karst) - Woodland habitats - Forestry - Coillte forest property - Native woodland survey - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme -River killananny





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS® TOBIN Patrick J. Tobin & Co. Ltd.

Client: Uisce Éireann - Irish Water

Project: Water Supply Project - Eastern and Midlands Region

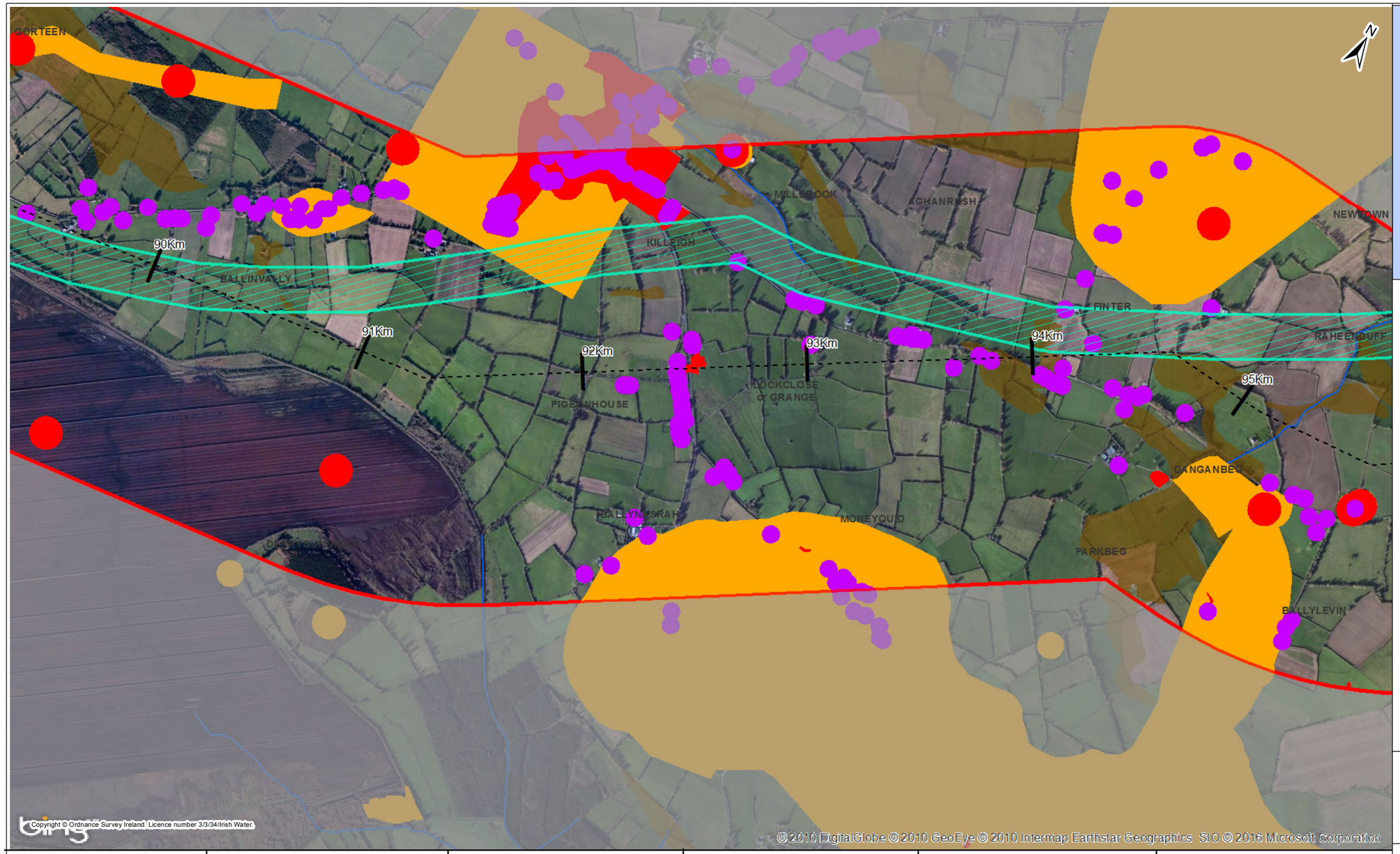
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 85 to 90 km

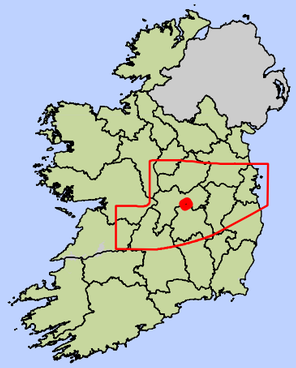
Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRG\32105801 - WSP-DR\GIS Tasks\8_Mxds\Report Maps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 85-90.mxd		

Drawing No.: 32105801-FOAR-018

Chainage	85 to 86 km	86 to 87 km	87 to 88 km	88 to 89 km	89 to 90 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - National Monuments - Poor ground (bogs) - Poor ground (exposed rock and karst) - Additional habitats - Pits and quarries - Woodland habitats - Forestry - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme	- Properties - Poor ground (bogs) - Poor ground (exposed rock and karst) - Poor ground (glaciofluvial sands and gravels) - Additional habitats - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme	- Properties - Poor ground (bogs) - Poor ground (alluvium) - Poor ground (glaciofluvial sands and gravels) - Pits and quarries	- Properties - National Monuments - Poor ground (bogs) - Poor ground (alluvium) - Poor ground (glaciofluvial sands and gravels) - Poor ground (lake deposits) -Pits and quarries - Forestry - SMR Zone (Archaeology) - Architectural Conservation Areas Offaly - River clodiagh	- Properties - National Monuments - Poor ground (bogs) - Poor ground (glaciofluvial sands and gravels) - Poor ground (lake deposits) - Architectural Conservation Areas Offaly - River clodiagh





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Chainage	90 to 91 km	91 to 92 km	92 to 93 km	93 to 94 km	94 to 95 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - NationalMonuments - Poor ground (bogs) - Poor ground (exposed rock and karst) - Poor ground (glacofluvialsands and gravels) - Poor ground (lake deposits) - SMR Zone (Archaeobgy) - ArchitecturalConservation Areas Of Faly - Groundwater Vuherabty Rock at or Near Surface or Karst feature - Groundwater Vuherabty Extreme	- Properties - NationalMonuments - Made ground - Landscapes - Settlements - SMR Zone (Archaeobgy) - ArchitecturalConservation Areas Of Faly - Groundwater Vuherabty Rock at or Near Surface or Karst feature - Groundwater Vuherabty Extreme - River pigeonhouse	- Properties - NationalMonuments - Poor ground (bogs) - Made ground - Poor ground (exposed rock and karst) - Poor ground (alluvium) - Poor ground (glacofluvialsands and gravels) - Landscapes - Settlements - Pits and quarries - SMR Zone (Archaeobgy) - ArchitecturalConservation Areas Of Faly - Groundwater Vuherabty Rock at or Near Surface or Karst feature - Groundwater Vuherabty Extreme - Kilegh stream - N80 nationalroad	- Properties - Poor ground (bogs) - Poor ground (exposed rock and karst) - Poor ground (alluvium) - Poor ground (glacofluvialsands and gravels) - Landscapes - Groundwater Vuherabty Rock at or Near Surface or Karst feature - Groundwater Vuherabty Extreme	- Properties - NationalMonuments - Poor ground (bogs) - Poor ground (alluvium) - Poor ground (glacofluvialsands and gravels) - Landscapes - Pits and quarries - Specialprotection area - Forestry - Source protection areas - ArchitecturalConservation Areas Of Faly - River Finter - Designed landscape (demesne)

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

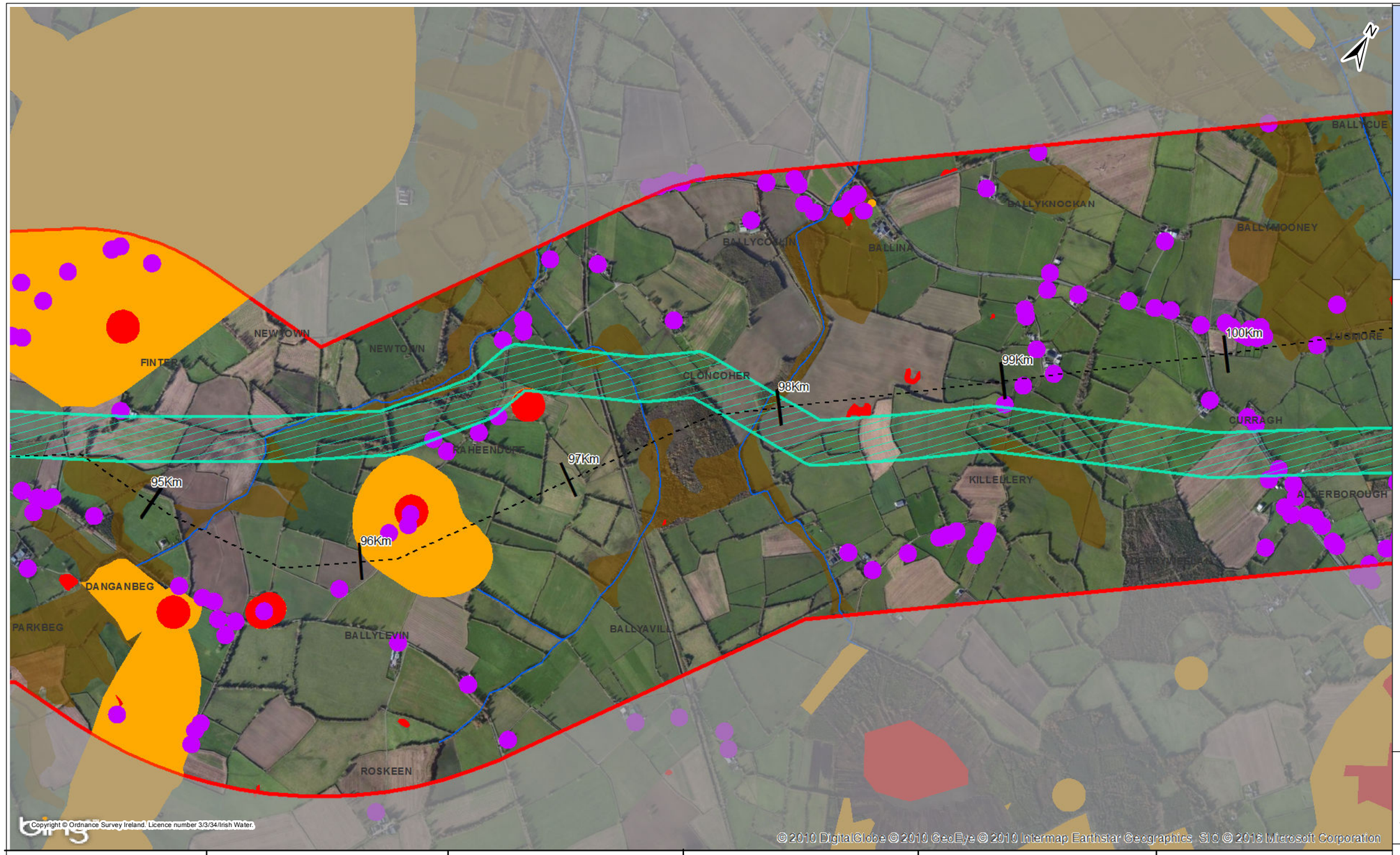
Project: Water Supply Project - Eastern and Midlands Region

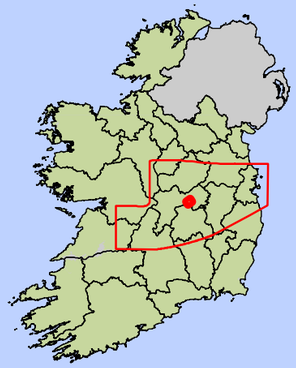
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 90 to 95 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IG\IS\32105801 - WSP-DRGIS Tasks\8_Made\Report Maps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 90-95.mxd		

Drawing No.: 32105801-FOAR-019





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE EIREANN - IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

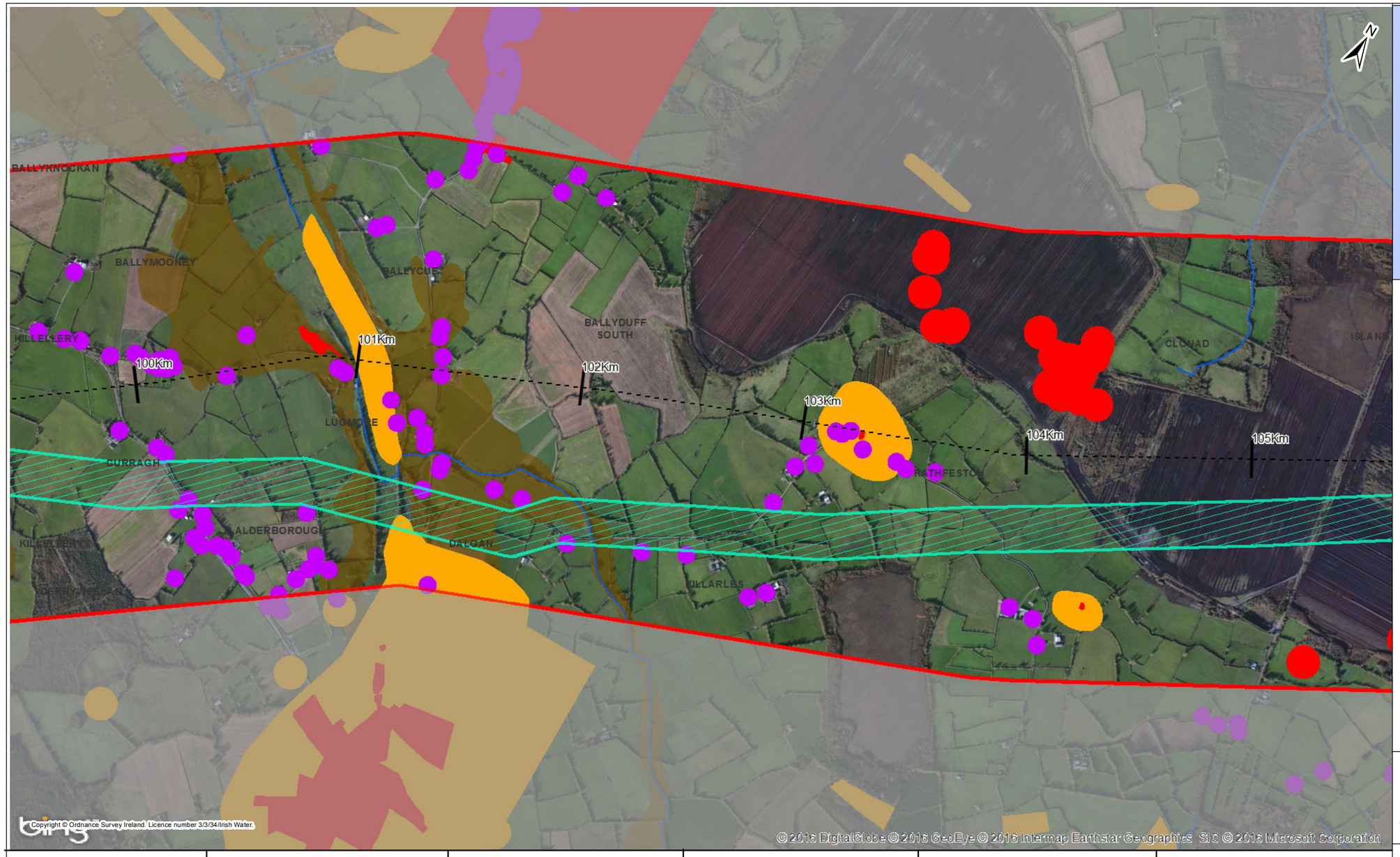
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 95 to 100 km

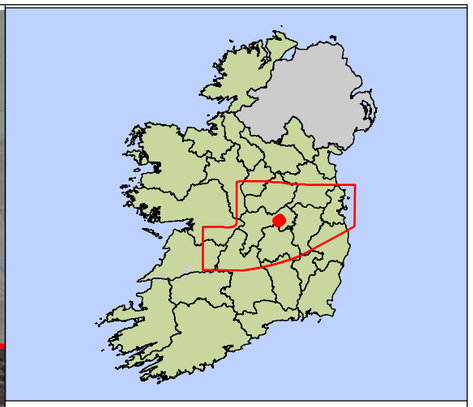
Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IE\GIS\32105801-WSP-DRGIS Tasks\IS_Mxds\Report Maps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 95-100.mxd		

Drawing No.: 32105801-FOAR-020

Chainage	95 to 96 km	96 to 97 km	97 to 98 km	98 to 99 km	99 to 100 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - National Monuments - Poor ground (alluvium) - Poor ground (glaciofluvial sandsand gravels) - Poor ground (lake deposits) - Landscapes - Pit sand quarries - Special area protection - Forestry - Source protection areas - Architectural Conservation Areas Offaly - River finter - Groundwater Vulnerabilty Extreme	- Properties - National Monuments - Poor ground (exposed rock and karst) - Poor ground (alluvium) - Poor ground (glaciofluvial sandsand gravels) - Landscapes - Pit sand quarries - SMR Zone (Archaeology) - Architectural Conservation Areas Offaly - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - River finter - River meelaghans - River raheenduff - Designed landscape (demesne)	- Properties - Poor ground (alluvium) - Poor ground (lake deposits) - River Annagharvey - River meelaghans - National rail line	- Properties - Poor ground (alluvium) - Poor ground (glaciofluvial sandsand gravels) - Poor ground (lake deposits) - Pit sand quarries - River annagharvey - R420 regional road	- Properties - Poor ground (glaciofluvial sandsand gravels) - Poor ground (lake deposits) - R420 regional road





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

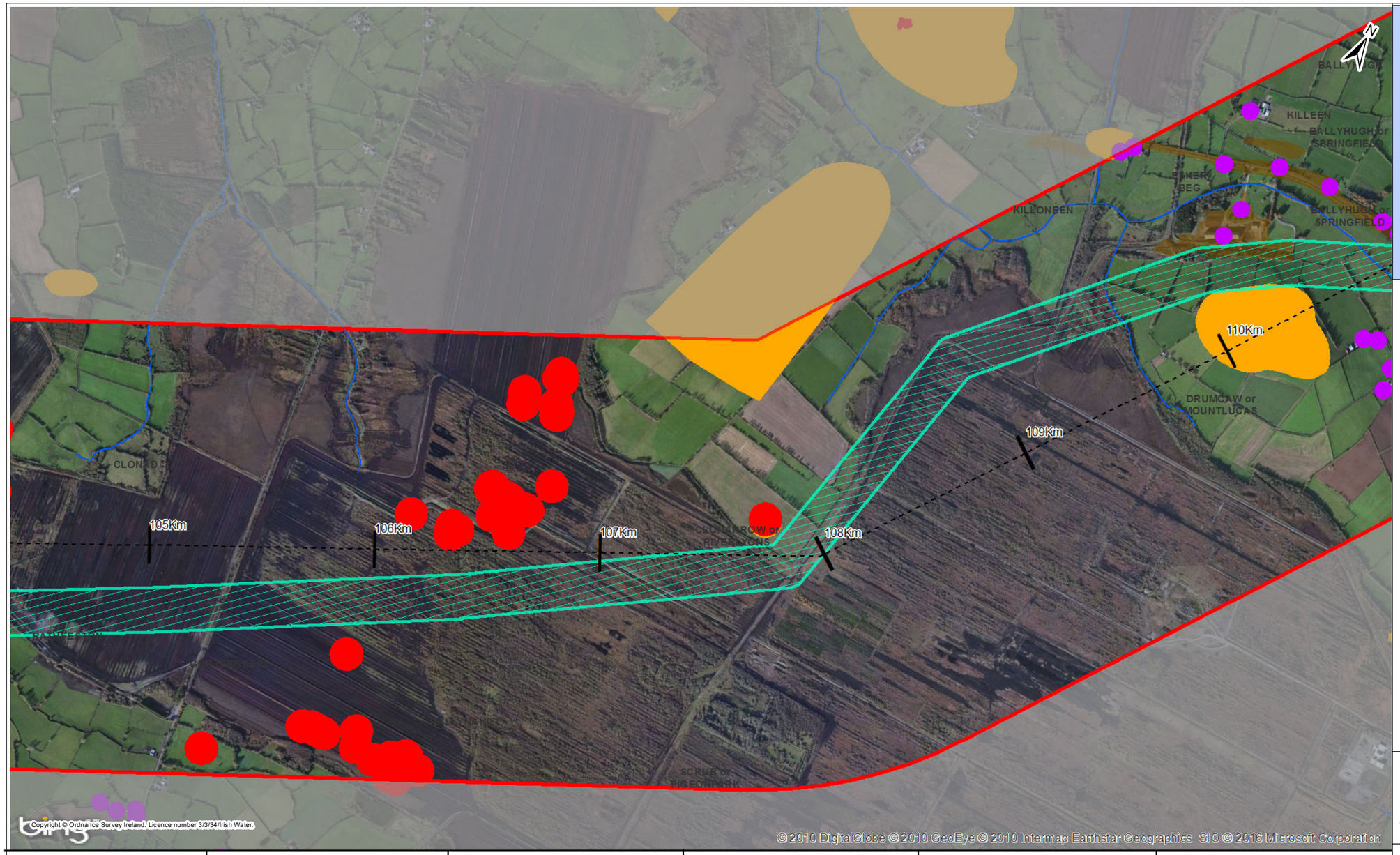
Client: UISCE EIREANN | IRISH WATER

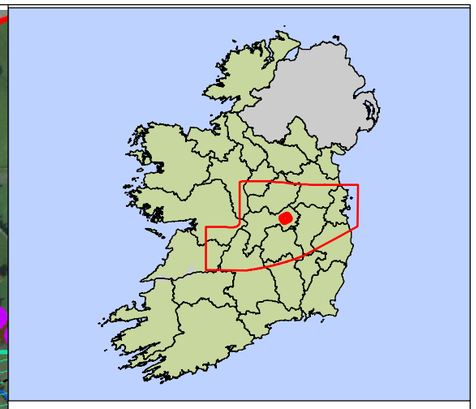
Project: Water Supply Project - Eastern and Midlands Region

Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 100 to 105 km

Drawing Status	**For Issue**		
Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IN\IS32105801-WSP-DR\GIS\Tasks\5_Mxds\Report\Maps\FOAR\Constraints\Map\Identification of Preliminary Pipeline Corridor 100-105.mxd		
Drawing No.	32105801-FOAR-021		

Chainage	100 to 101 km	101 to 102 km	102 to 103 km	103 to 104 km	104 to 105 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - Poor ground (glaciofluvial sands and gravels) - Landscapes - Pits and quarries - Landscape classification areas offaly high sensitivity - River Tullamore - R420 regional road - Designed landscape (demesne)	- Properties - Poor ground (alluvium) - Poor ground (glaciofluvial sands and gravels) - Settlements - Special protection area - Landscape classification areas offaly high sensitivity - Source protection area - River Tullamore	- Properties - Poor ground (alluvium) - Poor ground (glaciofluvial sands and gravels) - River Tullamore	- Properties - National Monuments - - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - Poor ground (exposed rock and karst) - Pits and quarries	- Properties - National Monuments - Poor ground (exposed rock and karst) - Landscapes - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - River rathfeston





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Chainage	105 to 106 km	106 to 107 km	107 to 108 km	108 to 109 km	109 to 110 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- National Monuments - River Clonad - Designed landscape (demesne)	- National Monuments - Regenerating and remnant peatland habitats (Annex I priority habitat)	- National Monuments - Special protection area - SMR Zone (Archaeology) - Source protection area - Architectural Conservation Areas Offaly - Bog remnant (annex I priority habitat)	- River philipstown	- Poor ground (glaciofluvial sands and gravels) - Made ground - Landscape - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - River Daingean

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE EIREANN | IRISH WATER

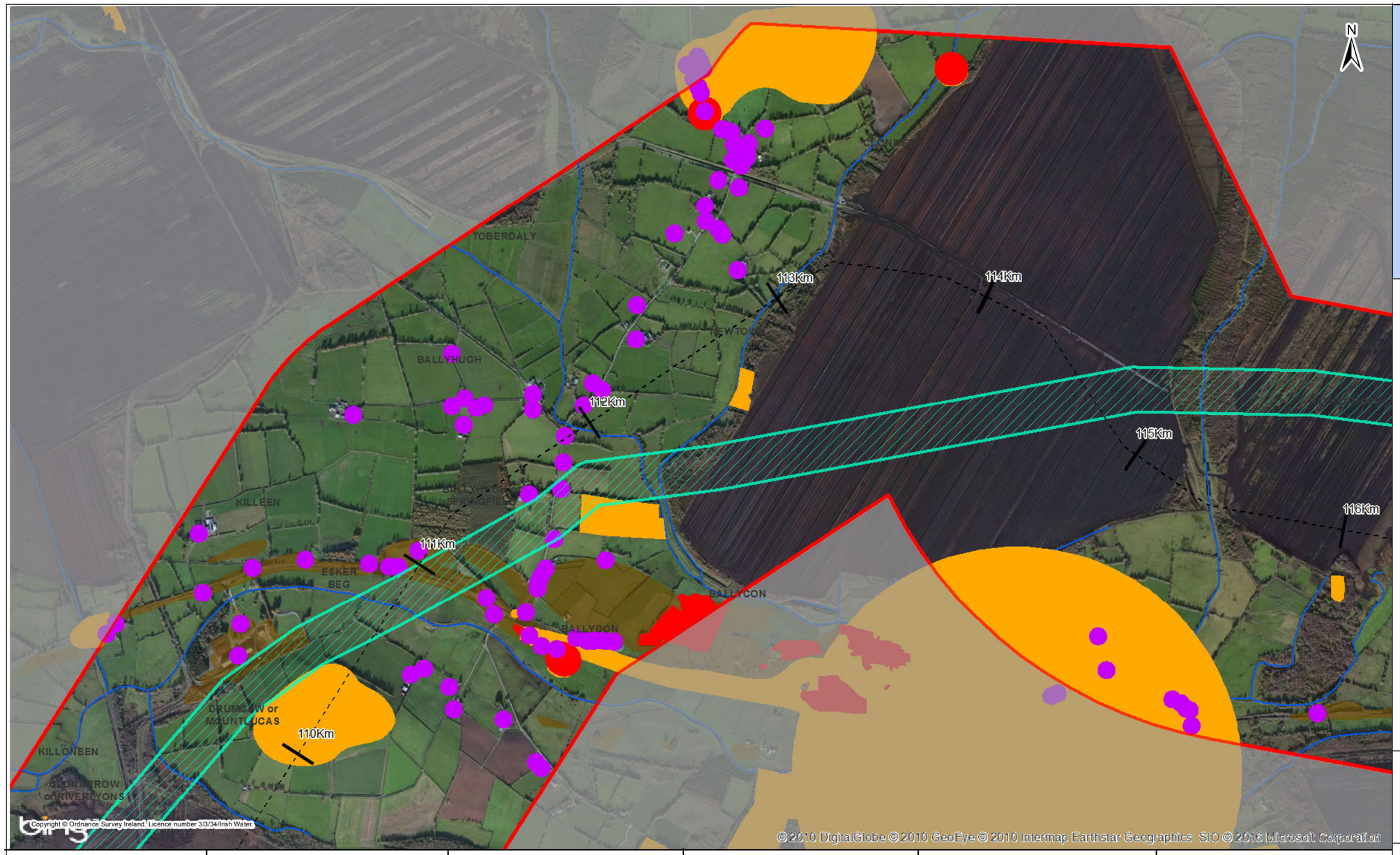
Project: Water Supply Project - Eastern and Midlands Region

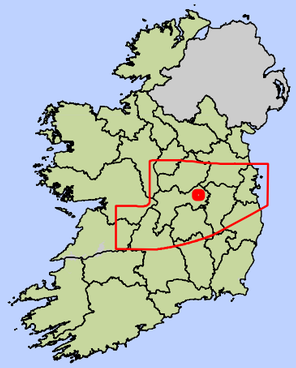
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 105 to 110 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IN\IS\32105801-WSP-DR\GIS\Tasks\5_Mxds\Report\Maps\FOAR\Constraints\Map\Identification of Preliminary Pipeline Corridor 105-110.mxd		

Drawing No.: 32105801-FOAR-022





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Chainage	110 to 111 km	111 to 112 km	112 to 113 km	113 to 114 km	114 to 115 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - Made ground - Poor ground (exposed rock and karst) - Poor ground (glaciofluvial sands and gravels) - Landscapes - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - River daingean - R402 & R400 regional road - Designed landscape (demesne)	- Properties - National Monuments - Pits and quarries - Poor ground (glaciofluvial sands and gravels) - Landscapes - Forestry - SMR Zone (Archaeology) - Landscape classification areas offaly high sensitivity - River daingean - River esker - R402 & R400 regional road - Bog remnant (annex I priority habitat) - Designed landscape (demesne)	- Properties - National Monuments - Poor ground (glaciofluvial sands and gravels) - Landscapes - Pits and quarries - Forestry - SMR Zone (Archaeology) - Landscape classification areas offaly high sensitivity - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - River rathcobican - River esker - R402 & R400 regional road - Designed landscape (demesne)	- National Monuments - Poor ground (exposed rock and karst) - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - SMR Zone (Archaeology) - Architectural Conservation Areas Offaly - River rathcobican - Bog remnant, semi-natural woodland and large peatland area	- Properties - National Monuments - Poor ground (glaciofluvial sands and gravels) - Geological heritage sites - Landscape classification areas offaly high sensitivity - River esker - Designed landscape (demesne) - Bog remnant, semi-natural woodland and large peatland area

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE EIREANN - IRISH WATER

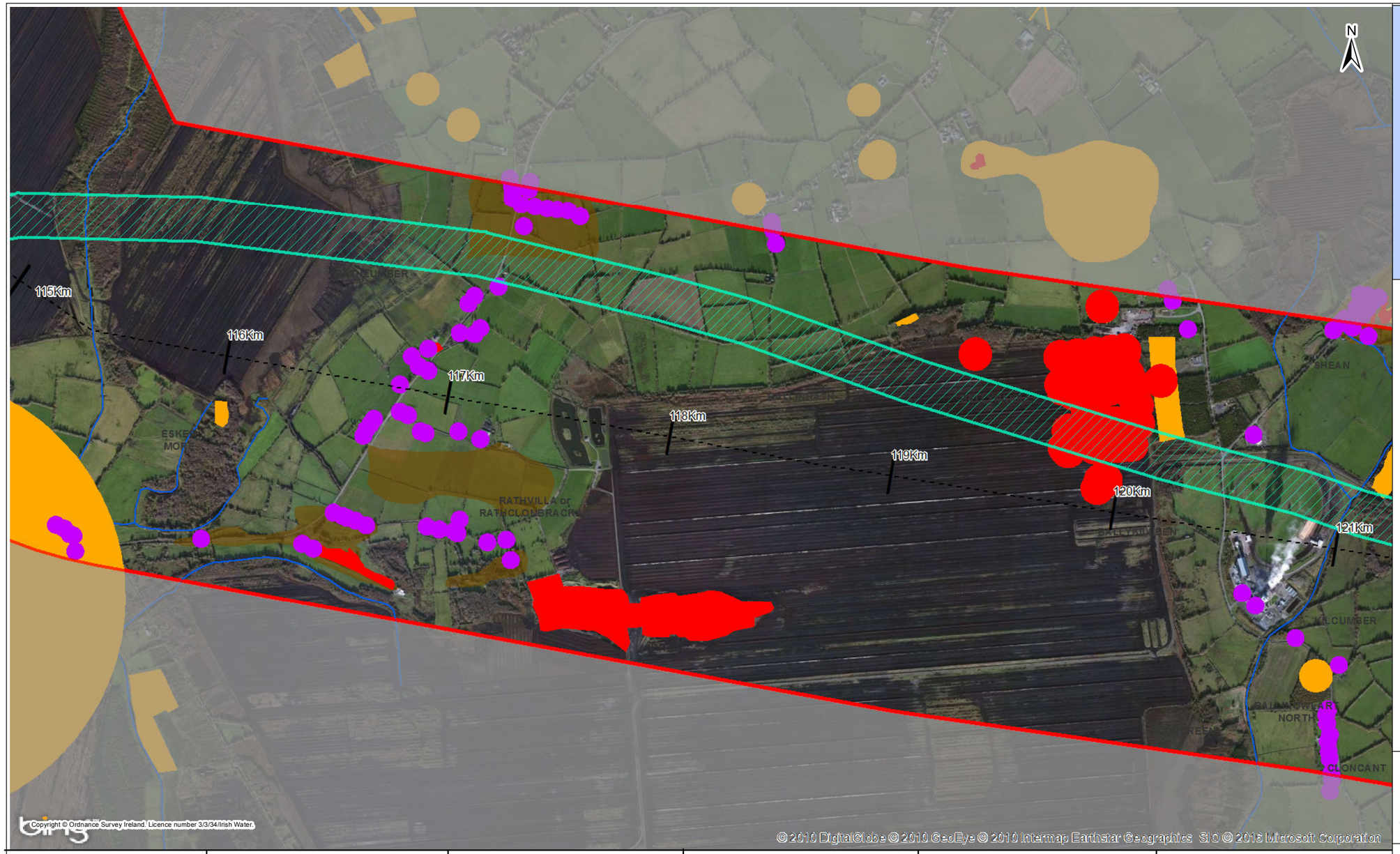
Project: Water Supply Project - Eastern and Midlands Region

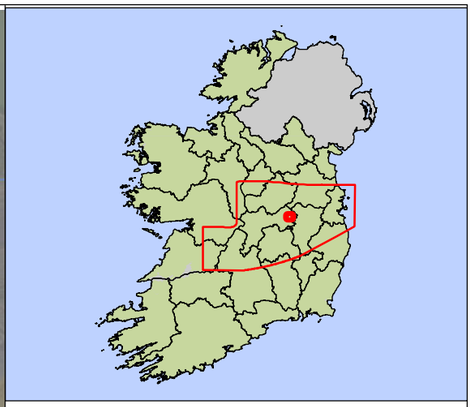
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 110 to 115 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IN\GIS\32105801-WSP-DR\GIS Tasks\5_Mxds\Report\Maps\FOAR\Constraints\Maps\IdentificationofPreliminaryPipelineCorridor110-115.mxd		

Drawing No.: 32105801-FOAR-023





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

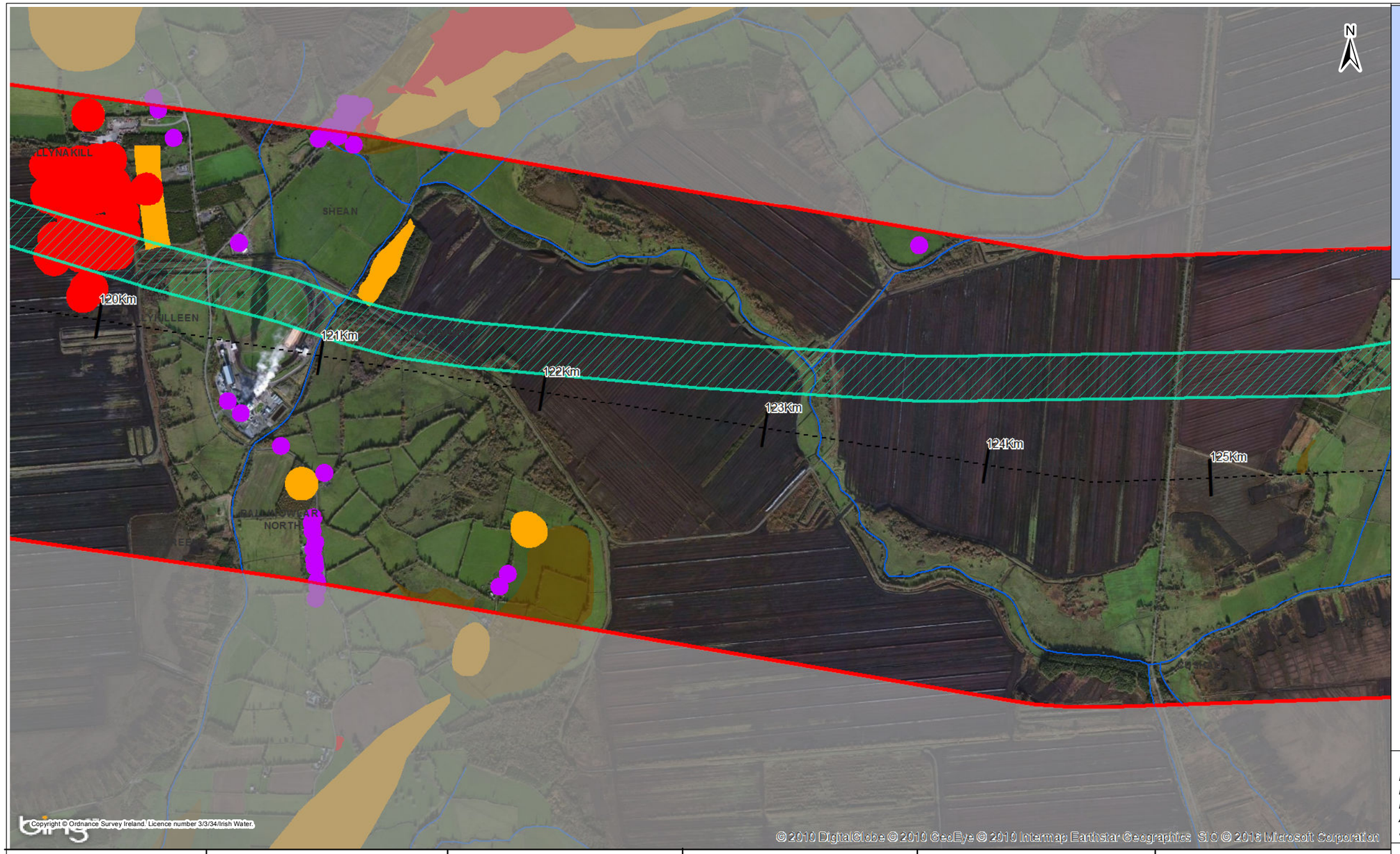
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 115 to 120 km

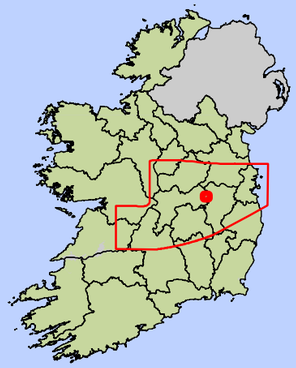
Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IrGIS\32105801-WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 115-120.mxd		

Drawing No.: 32105801-FOAR-024

Chainage	115 to 116 km	116 to 117 km	117 to 118 km	118 to 119 km	119 to 120 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - Poor ground (glaciofluvial sands and gravels) - Geological heritage sites - Forestry - Landscape classification areas offaly high sensitivity - River esker - River leitrim 14 - Bog remnant, semi-natural woodland and large peatland area	- Properties - Forestry - Poor ground (alluvium) - Poor ground (glaciofluvial sands and gravels) - Poor ground (bogs) - Pits and quarries - River rathlumber - River rathvilla - R402 regional road	- Properties - Poor ground (glaciofluvial sands and gravels) - Pits and quarries - R402 regional road	- Properties - Pits and quarries - Bog remnant	- National Monuments - Forestry - SMR Zone (Archaeology) - Architectural Conservation Areas Offaly - Bog remnant





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Chainage	120 to 121 km	121 to 122 km	122 to 123 km	123 to 124 km	124 to 125 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	-Properties - National Monuments - Poor ground (glaciofluvial sands and gravels) - Architectural Conservation Areas Offaly - River ballykilleen - River figile -R401regional road - Edenderry Power Station	- Properties - Poor ground (alluvium) - Poor ground (glaciofluvial sands and gravels) - Forestry - Architectural Conservation Areas Offaly - Groundwater Vulnerabilty Extreme - River figile - River shean 14 - Peat production zone	- Poor ground (glaciofluvial sands and gravels) - Groundwater Vulnerabilty Extreme - River figile - Peat production zone	- Properties - River cloncant - River figile - Peat production zone	- River figile - River lullybeg - River clonbrown - Peat production zone

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE EIREANN / IRISH WATER

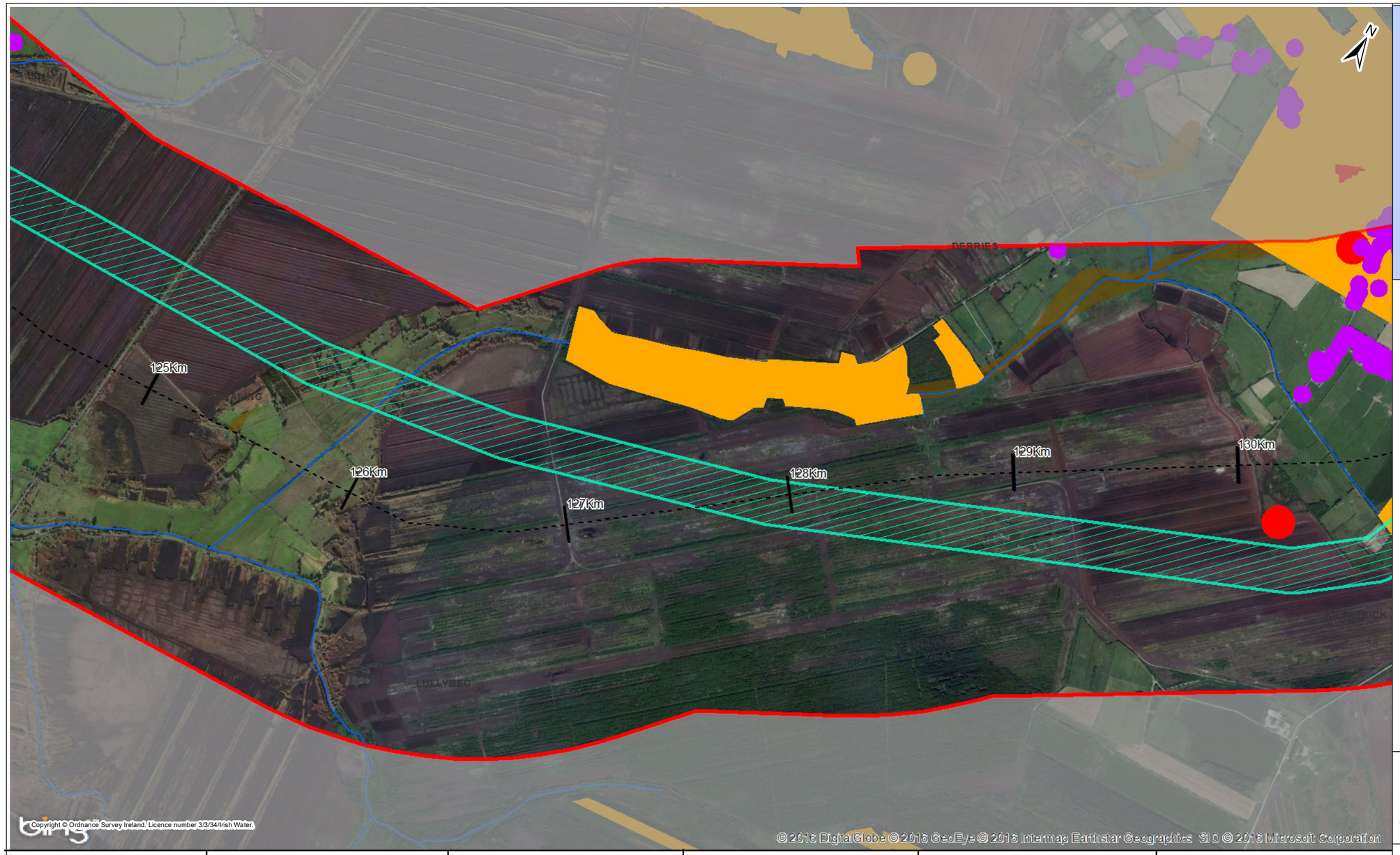
Project: Water Supply Project - Eastern and Midlands Region

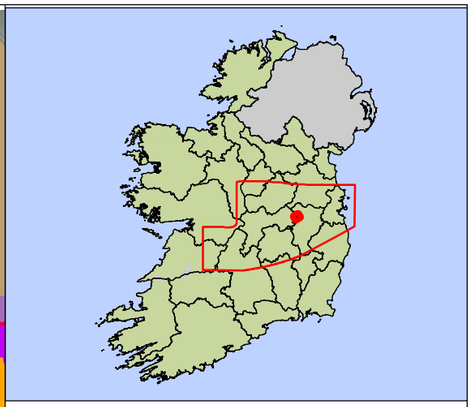
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 120 to 125 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IN\IS\32105801-WSP-DR\GIS\Tasks\5_Mxds\Report\Maps\FOAR\Constraints\Map\Identification of Preliminary Pipeline Corridor 120-125.mxd		

Drawing No.: 32105801-FOAR-025





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Chainage	125 to 126 km	126 to 127 km	127 to 128 km	128 to 129 km	129 to 130 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Poor ground (glaciofluvial sands and gravels) - River lullymore east - River figile	- River figile - River lullymore east - Bog remnant Annex I priority Habitat	- Poor ground (alluvium) - Forestry - River figile	- Poor ground (alluvium) - Forestry - River figile	- Properties - Poor ground (alluvium) - River figile - River abbeylough

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE EIREANN | IRISH WATER

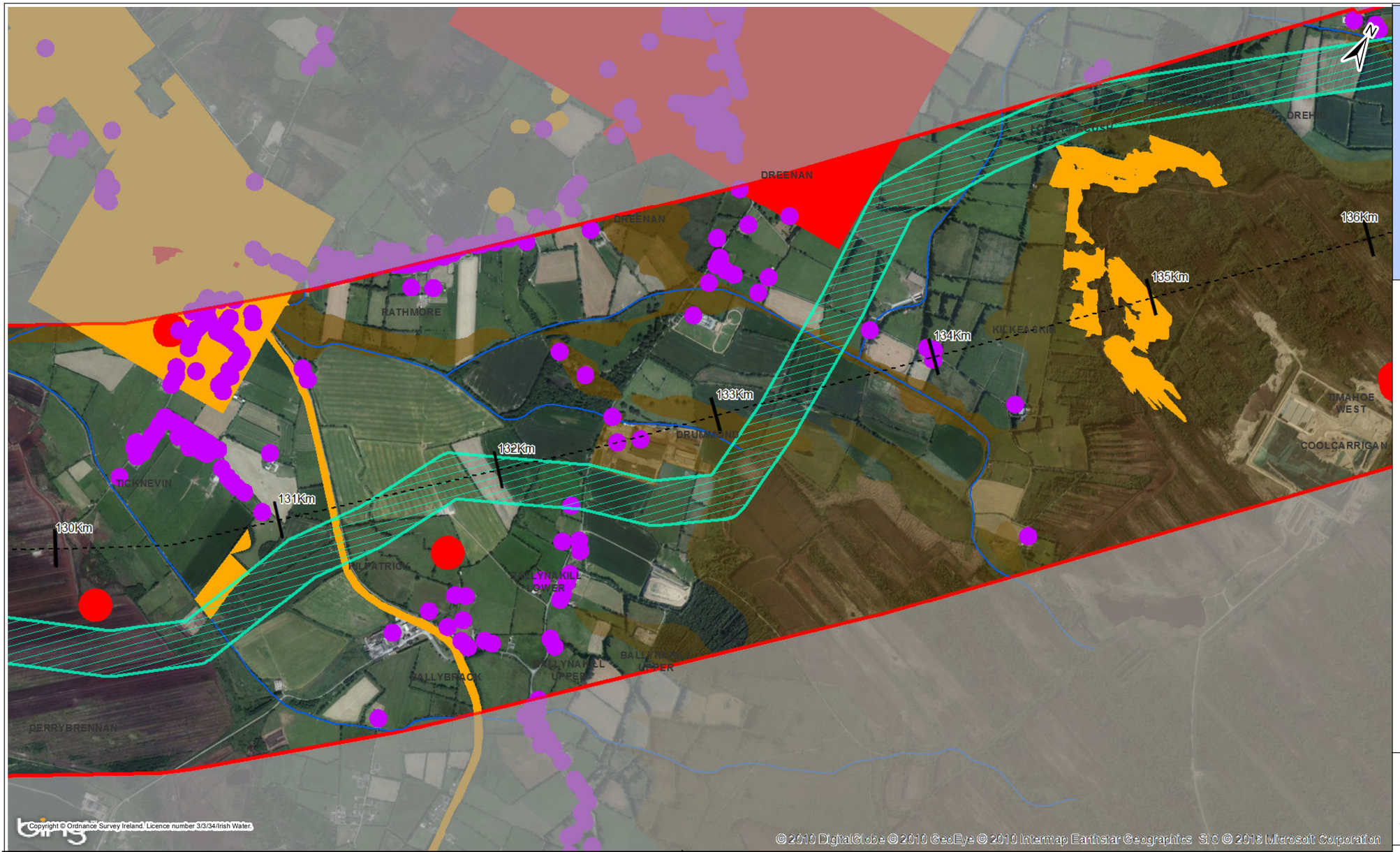
Project: Water Supply Project - Eastern and Midlands Region

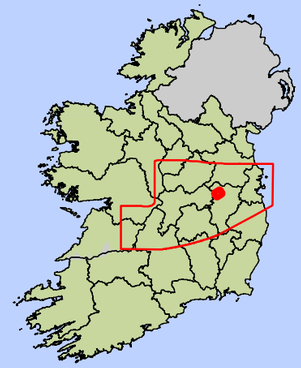
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 125 to 130 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IN\IS\32105801-WSP-DR\GIS\Tasks\5_Mxds\Report\Maps\FOAR\Constraints\Map\Identification of Preliminary Pipeline Corridor 125-130.mxd		

Drawing No. 32105801-FOAR-026





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN · IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

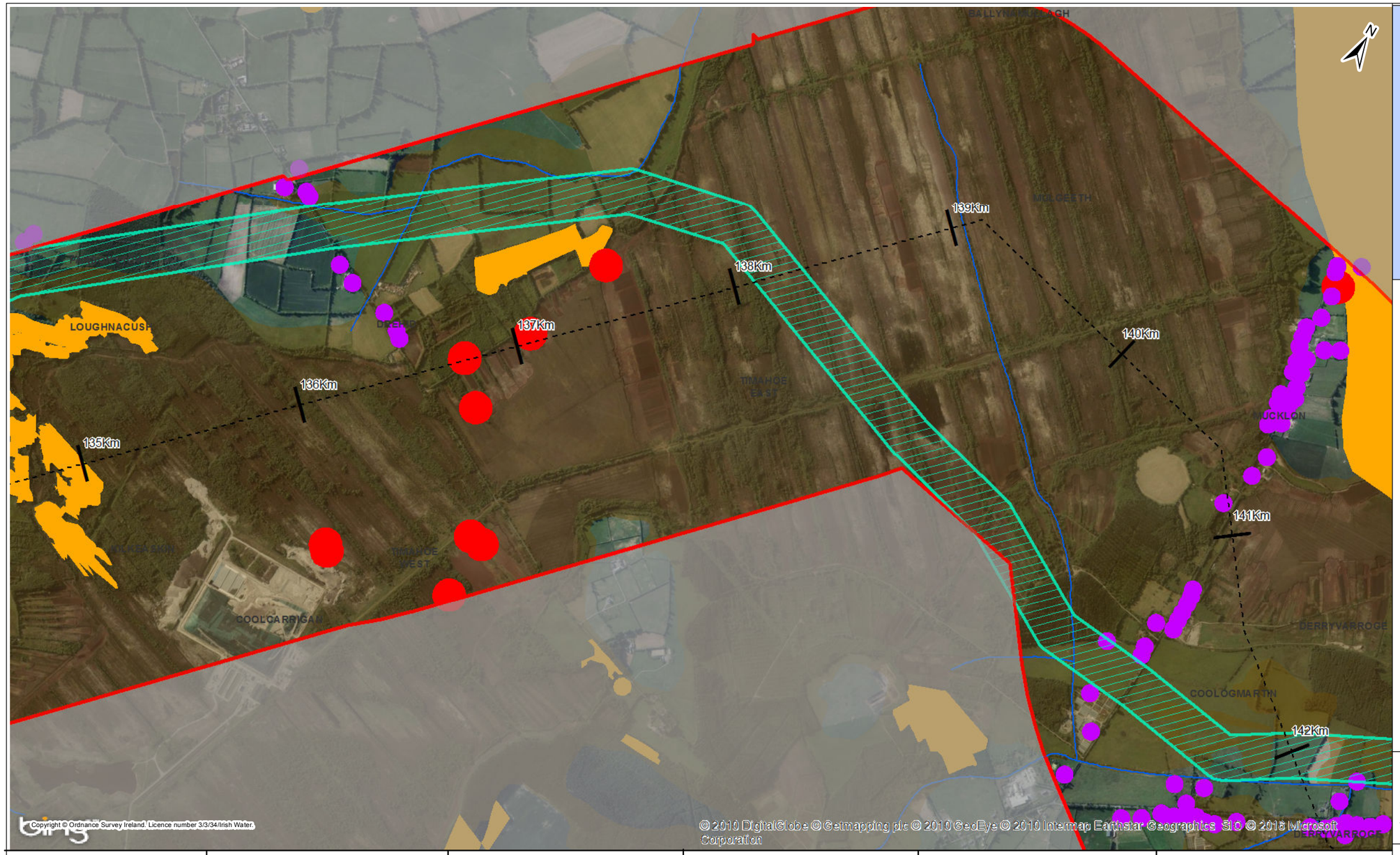
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 130 to 135 km

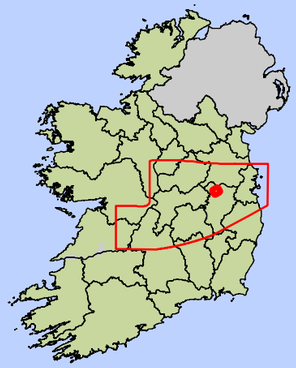
Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRIS\32105801-WSP-DR\GIS\Tasks\5_Mxds\Report\Maps\FOAR\Constraints\Map\Identification of Preliminary Pipeline Corridor 130-135.mxd		

Drawing No.: 32105801-FOAR-027

Chainage	130 to 131 km	131 to 132 km	132 to 133 km	133 to 134 km	134 to 135 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - National Monuments - Poor ground (alluvium) - River abbeylough - Forestry	- Properties - National Monuments - Poor ground (alluvium) - Poor ground (glaciofluvial sands and gravels) - Proposed natural heritage area - SMR Zone (Archaeology) - Landscape Classification Areas Kildare High - Grand canal - River figile - River abbeylough - River Kilkeaskin	- Properties - Made ground - Poor ground (glaciofluvial sands and gravels) - Poor ground (lake deposits) - Landscapes - River figile - River kilkeaskin - R403 regional road - Bog remnant - Designed landscape (demesne)	- Properties - Poor ground (bogs) - Poor ground (alluvium) - Poor ground (glaciofluvial sands and gravels) - Poor ground (lake deposits) - River parsonstown - Rive figile - River kilkeaskin	- Properties - Poor ground (alluvium) - Poor ground (glaciofluvial sands and gravels) - Woodland habitats - Forestry - River parsonstown - River figile - IPPC site - Designed landscape (demesne)





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Chainage	135 to 136 km	136 to 137 km	137 to 138 km	138 to 139 km	139 to 140 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Poor ground (bogs) - Woodland habitats - Drehid Waste Management Facility - Bog remnant	- Properties - Poor ground (bogs) - National Monuments - Ballynamullagh - Bog remnant	- Poor ground (bogs) - National Monuments - Woodland habitats - Native woodland survey -River ballynamullagh - Bog remnant	- Poor ground (bogs) - River mulgeeth - Bog remnant	- Poor ground (bogs) - River mulgeeth - Bog remnant

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 135 to 140 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
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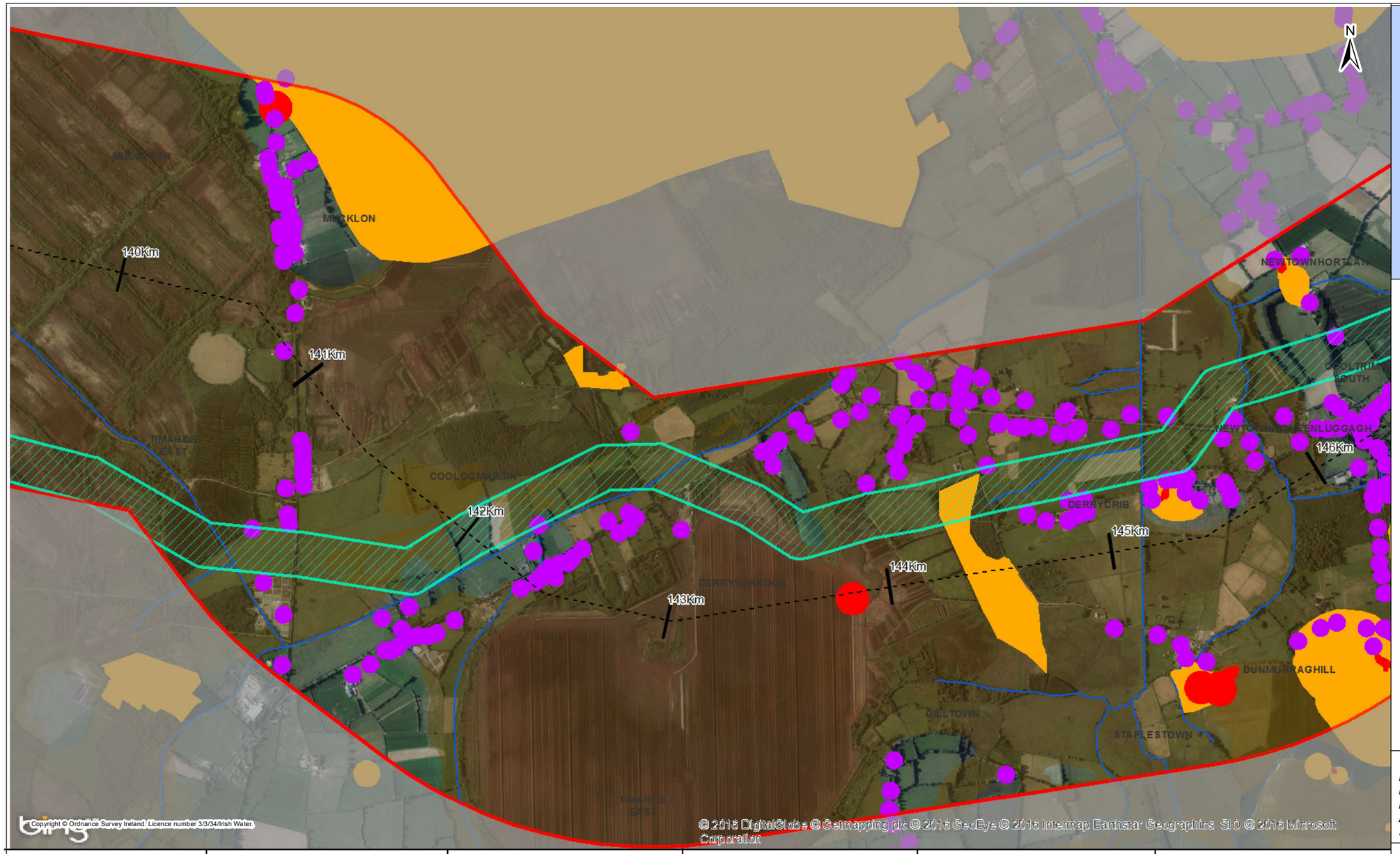
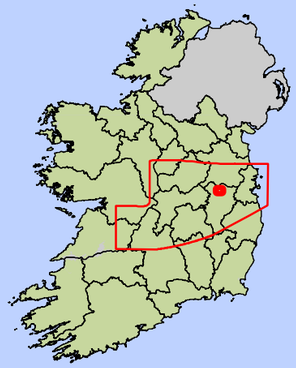
Drawing No.: 32105801-FOAR-028





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE EIREANN IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

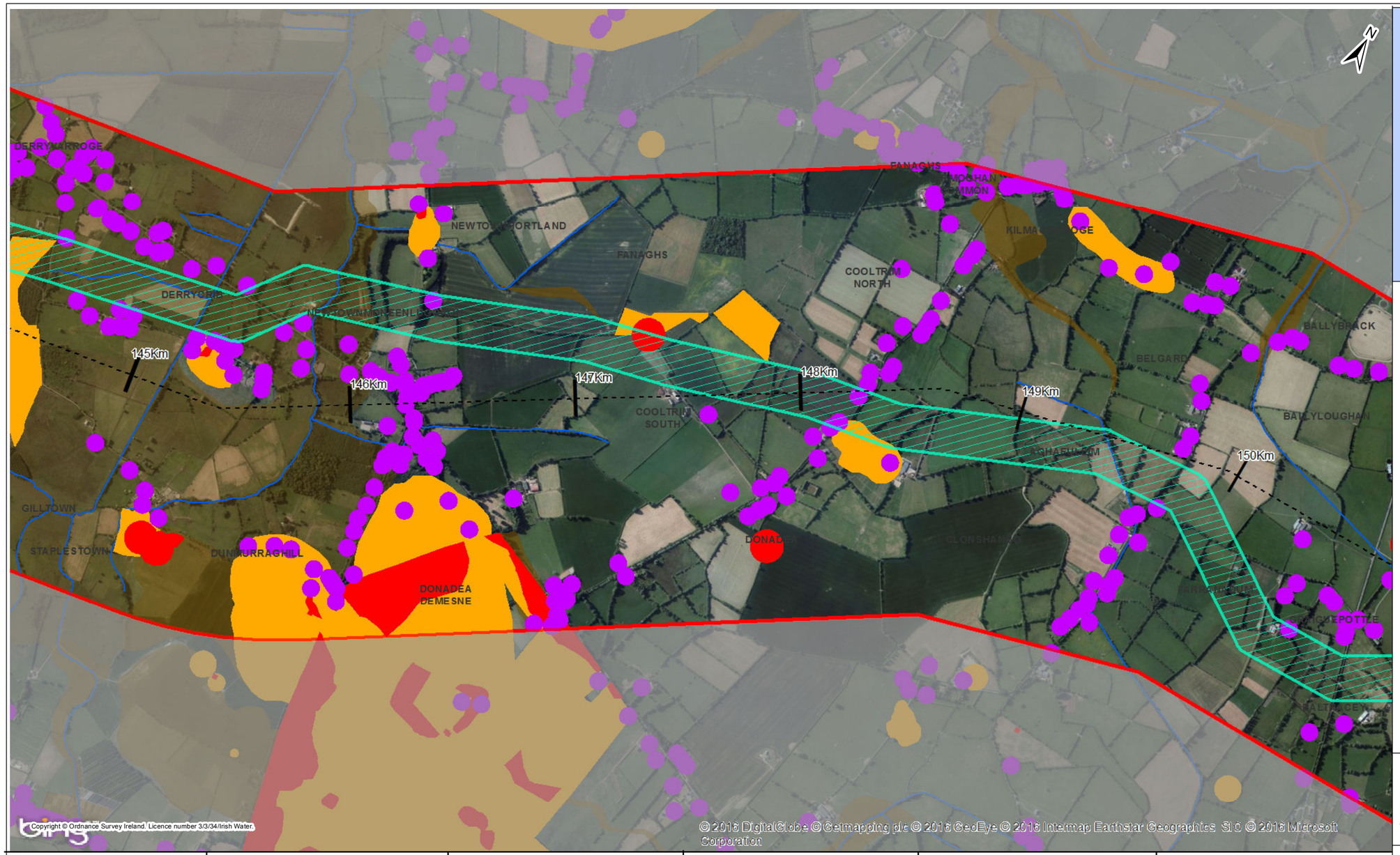
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 140 to 145 km

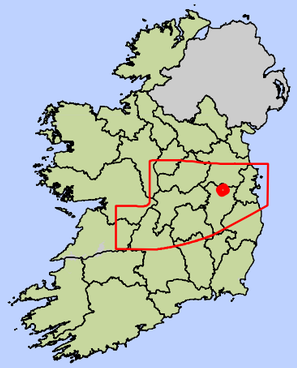
Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IN\IS\32105801-WSP-DR\GIS\Tasks\5_Mxds\Report\Maps\FOAR\Constraints\Map\Identification of Preliminary Pipeline Corridor 140-145.mxd		

Drawing No.: 32105801-FOAR-029

Chainage	140 to 141 km	141 to 142 km	142 to 143 km	143 to 144 km	144 to 145 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - National Monuments - Forestry - Coillte forest property (hortland) - Source protection area - Poor ground (bogs) - Bog remnant	- Properties - Forestry - Coillte forest property (hortland) - Source protection areas - Poor g round (bogs) - Poor ground (glaciofluvial sands and gravels) - Bog remnant	- Properties - Forestry - Coillte forest property (hortland) - Poor ground (bogs) - River mulgeeth - Bog remnant	- Properties - National Monuments - Forestry - Coillte forest property (hortland) - Poor ground (bogs) - River mulgeeth - Bog remnant	- Properties - Forestry - Coillte forest property (hortland) - Poor ground (bogs) - River dunmurraghill - River derryvarroge - River newtown moneenluggagh - River gilltown





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN · IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

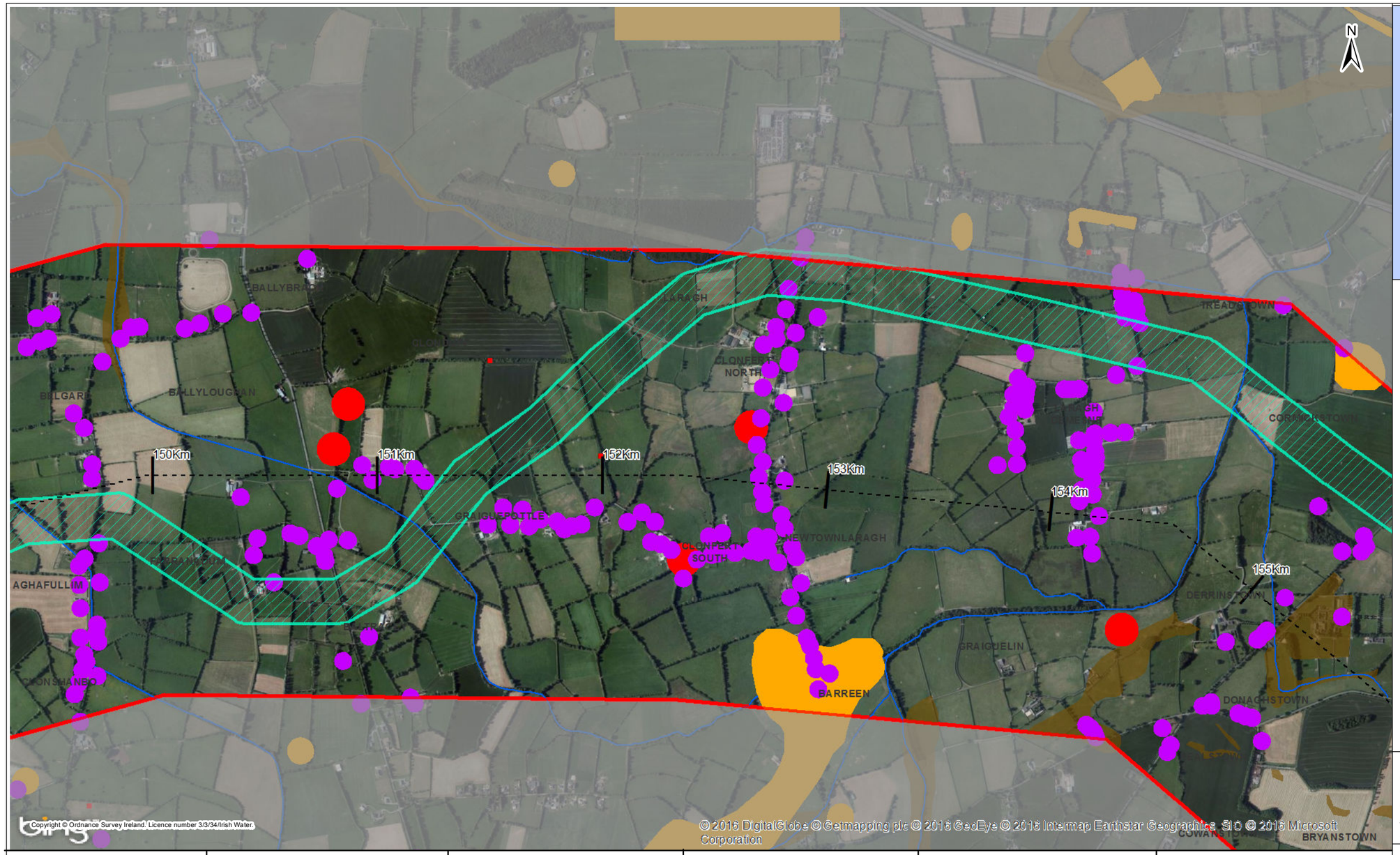
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 145 to 150 km

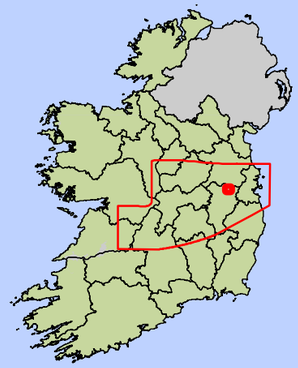
Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IE\IS32105801-WSP-DR\GIS\Tasks\5_Mxds\Report\Maps\FOAR\Constraints\Maps\IdentificationofPreliminaryPipelineCorridor145-150.mxd		

Drawing No.: 32105801-FOAR-030

Chainage	145 to 146 km	146 to 147 km	147 to 148 km	148 to 149 km	149 to 150 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - Pits and quarries - Forestry - SMR Zone (Archaeobgy) - Geobgicalheritagesites (St. Peters well) - Groundwater Vuherabty Rock at or Near Surface or Karst feature - Groundwater Vuherabty Extreme - Poor ground (bogs) - Poor ground (exposed rock and karst) - Poor ground (glacifluvialsands and gravels) - River derryvarroge - River derrycrb - River blackwater - River cootrimsouth	- Properties - NationalMonuments - Ancient woodland (donadea forest park) - Proposed naturalheritage area (donadea wood) - Woodland habitats - Forestry - SMR Zone (Archaeobgy) - Cote forest property (donadea) - Native woodland survey - Groundwater Vuherabty Rock at or Near Surface or Karst feature - Groundwater Vuherabty Extreme - Poor ground (exposed rock and karst) - Poor ground (aluvium) - Poor ground (glacifluvialsands and gravels) - Poor ground (lake deposts) - River newtownhortland - River cootrimsouth - Designed landscape (demesne)	- Properties - NationalMonuments - Forestry - SMR Zone (Archaeobgy) - Cote forest property (donadea) - Poor ground (aluvium)	- Properties - SMR Zone (Archaeobgy) - Groundwater Vuherabty Extreme - Poor ground (aluvium)	- Properties - Groundwater Vuherabty Extreme - Poor ground (aluvium) - River aghaflum - River batracy trblyreen





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

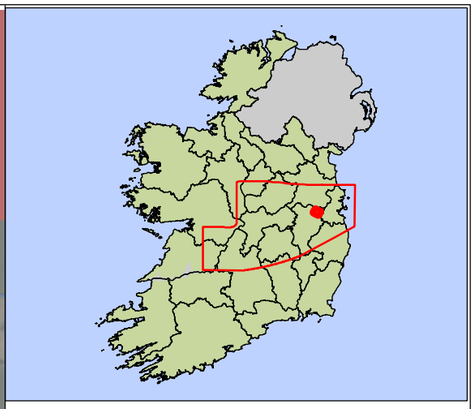
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 150 to 155 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IN\GIS\32105801-WSP-DR\GIS Tasks\5_Mxds\Report\Maps\FOAR\Constraints\Map\Identification of Preliminary Pipeline Corridor 150-155.mxd		

Drawing No.: 32105801-FOAR-031

Chainage	150 to 151 km	151 to 152 km	152 to 153 km	153 to 154 km	154 to 155 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - National Monuments - SMR Zone (Archaeology) - River baltracy trib lyreen - R407 regional road	- Properties - National Monuments - Groundwater Vulnerabilty Extreme - Poor ground (alluvium) - River baltracy trib lyreen - River clonshanbo	- Properties - National Monuments - SMR Zone (Archaeology) - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - Poor ground (exposed rock and karst) - Poor ground (alluvium) - River clonshanbo - River painestown - River baltracy trib lyreen	- Properties - National monuments - Pits and quarries - SMR Zone (Archaeology) - - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - Poor ground (exposed rock and karst) - Poor ground (alluvium) - Poor ground (glaciofluvial sands and gravels) - River lyreen - River clonshanbo - River newtownlaragh	- Properties - Pits and quarries - Poor ground (glaciofluvial sands and gravels)



Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Chainage	155 to 156 km	156 to 157 km	157 to 158 km	158 to 159 km	159 to 160 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - SMR Zone (Archaeology) - Poor ground (alluvium) - River lyreen - R408 regional road	- Propeties - Pits and quarries - SMR Zone (Archaeology) - Poor ground (alluvium) - Poor ground (glaciofluvial sands and gravels) - River lyreen	- Proeprties - Pits and quarries - SMR Zone (Archaeology) - Poor ground (glaciofluvial sands and gravels) - R406 regional road	- Properties - Pits and quarries - SMR Zone (Archaeology) - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - Made ground - Poor ground (exposed rock and karst) - Poor ground (glaciofluvial sands and gravels)	- Properties - Settlements - Pits and quarries - SMR Zone (Archaeology) - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - Poor ground (exposed rock and karst) - Poor ground (alluvium) - Poor ground (glaciofluvial sands and gravels) - Made ground - River johninstown - River posseckstown

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN IRISH WATER

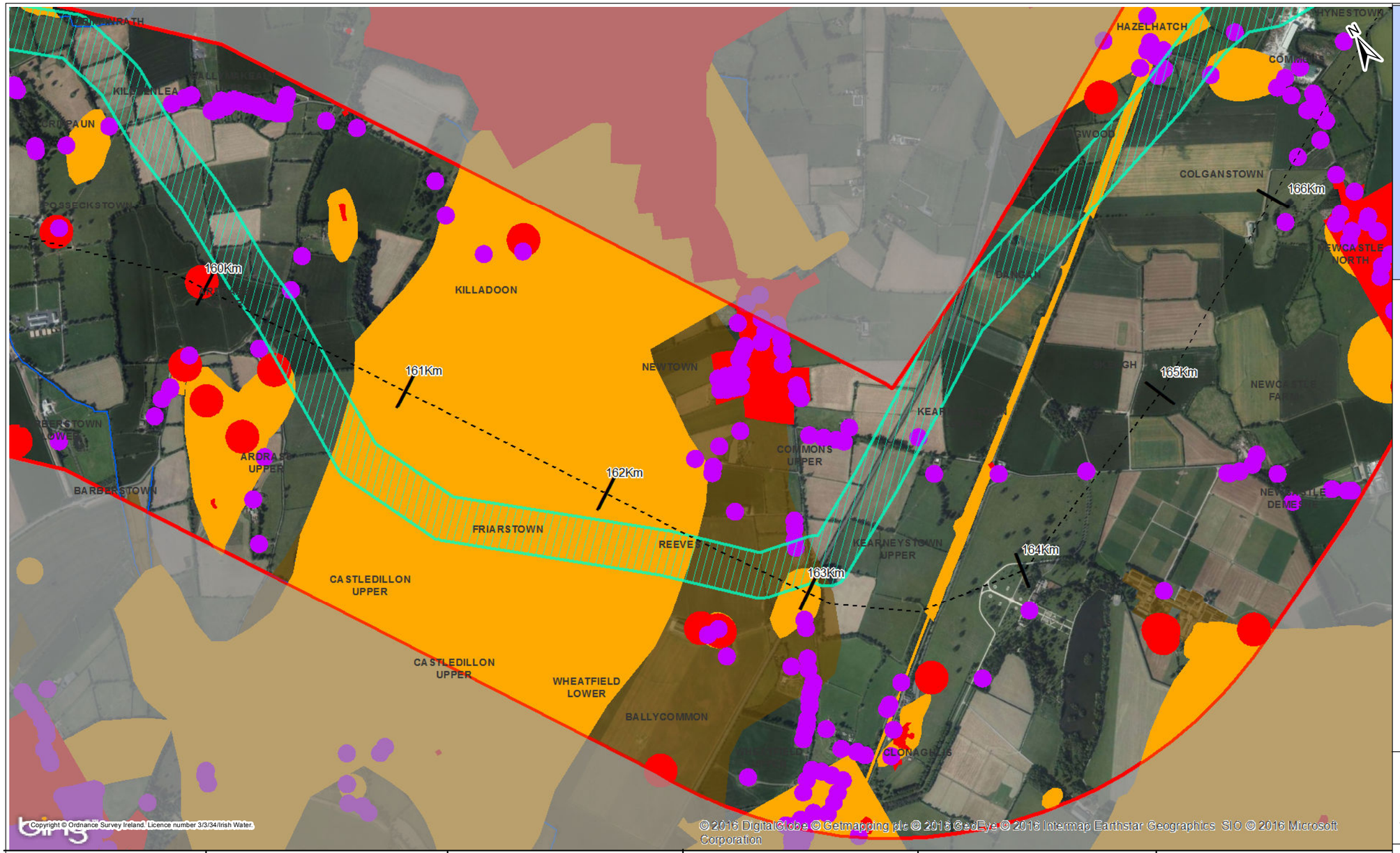
Project: Water Supply Project - Eastern and Midlands Region

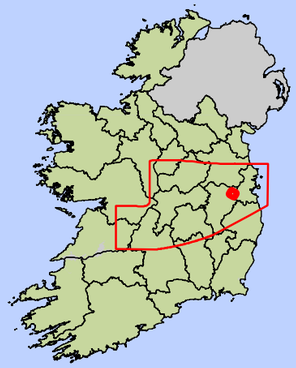
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 155 to 160 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IN\IS\32105801-WSP-DR\GIS\Tasks\5_Mxds\Report\Maps\FOAR\Constraints\Map\Identification of Preliminary Pipeline Corridor 155-160.mxd		

Drawing No.: 32105801-FOAR-032





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS | TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN | IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

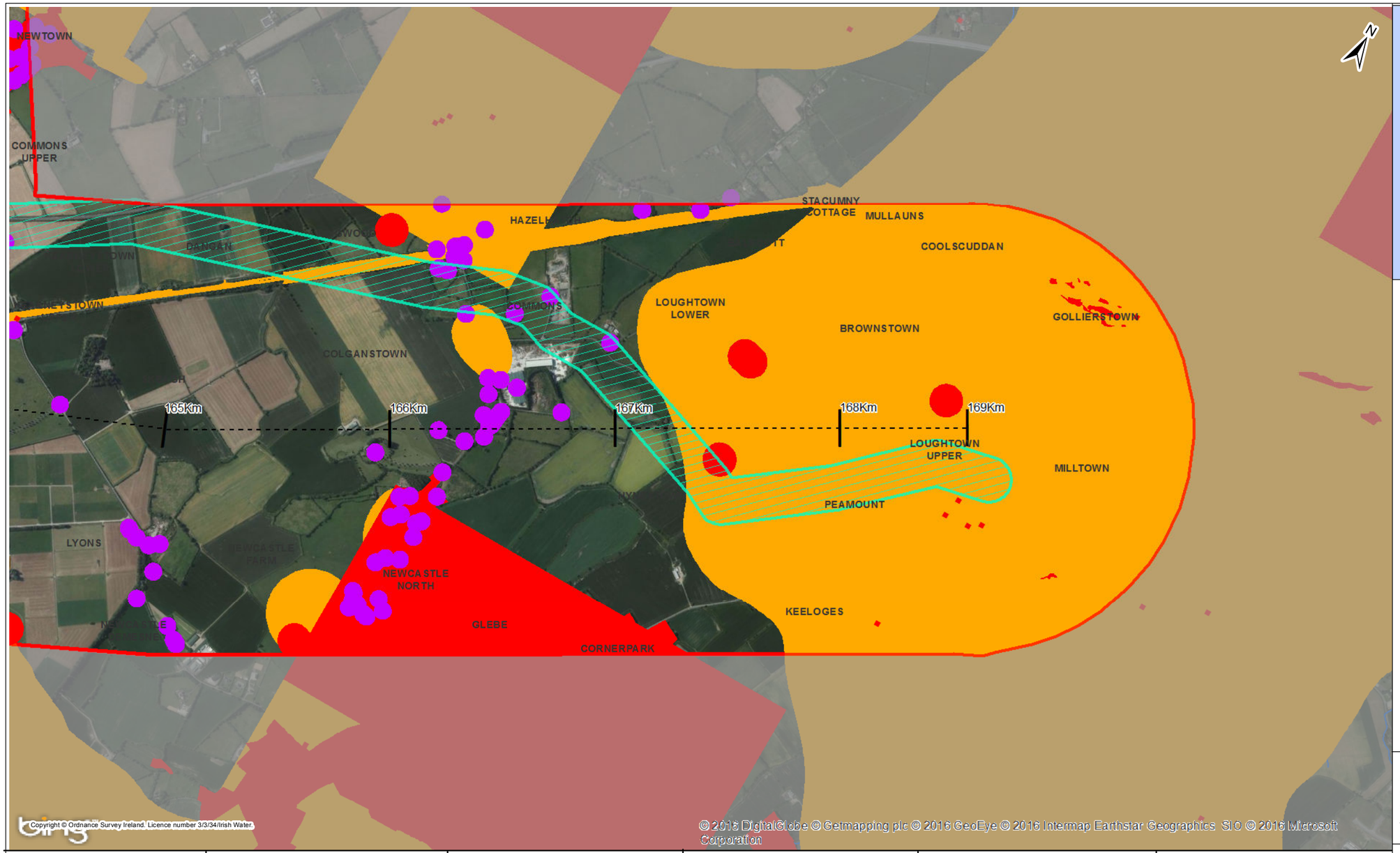
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 160 to 165 km

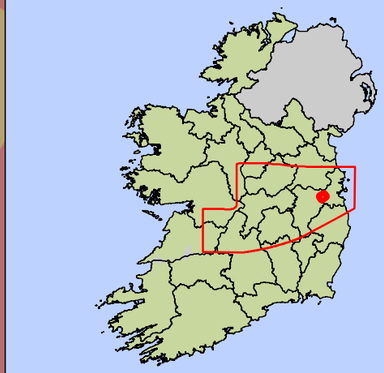
Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IN\IS\32105801-WSP-DR\GIS\Tasks\5_Mxds\Report\Maps\FOAR\Constraints\Map\Identification of Preliminary Pipeline Corridor 160-165.mxd		

Drawing No.: 32105801-FOAR-033

Chainage	160 to 161 km	161 to 162 km	162 to 163 km	163 to 164 km	164 to 165 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - National Monuments - Pits and quarries - Forestry - SMR Zone (Archaeology) - Landscape Classification Areas Kildare High - Geological heritage site (Tiffey oxbow) - Geological heritage site (St. Patricks well2) - Groundwater Vulnerability Rock at or Near Surface or Karst feature - Groundwater Vulnerability Extreme - Poor ground (exposed rock and karst) - Poor ground (alluvium) - Landscapes - River possesckstown - River ardrass bwer - River Tiffey - R403 regional road	- Properties - National Monuments - Settlements - Forestry - SMR Zone (Archaeology) - Landscape Classification Areas Kildare High - Groundwater Vulnerability Rock at or Near Surface or Karst feature - Groundwater Vulnerability Extreme - Poor ground (bogs) - Poor ground (exposed rock and karst) - Poor ground (glacial sands and gravels) Poor ground (alluvium) - River Tiffey - River Trarstown - River baymakealy - River kildoon - Designed landscape (demesne)	- Properties - Settlements - SMR Zone (Archaeology) - Landscape Classification Areas Kildare High - Groundwater Vulnerability Rock at or Near Surface or Karst feature - Groundwater Vulnerability Extreme - Poor ground (exposed rock and karst) - Poor ground (alluvium) - Poor ground (glacial sands and gravels) - Landscapes - River reeves - River castledon - River Tiffey - River simmonstown - National allhe - Designed landscape (demesne)	- Properties - Pits and quarries - Proposed natural heritage area (grand canal) - Forestry - SMR Zone (Archaeology) - Landscape Classification Areas Kildare High -Groundwater Vulnerability Rock at or Near Surface or Karst feature - Groundwater Vulnerability Extreme - Mineral locations - Poor ground (exposed rock and karst) - Poor ground (glacial sands and gravels) - Landscapes - Lakes - National allhe - Designed landscape (demesne)	- Properties - Proposed natural heritage area (grand canal) - Lakes - Forestry - SMR Zone (Archaeology) - Landscape Classification Areas Kildare High - Groundwater Vulnerability Rock at or Near Surface or Karst feature - Groundwater Vulnerability Extreme - Made ground - Poor ground (exposed rock and karst) - Poor ground (glacial sands and gravels) - Grand canal





Key

- Centreline of Least Constrained Route Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Route Corridor (Generally 2km)

Environmental Constraints

- Primary Constraints
- Secondary Constraints
- Rivers WFD

Technical Constraints

- Property Location - Including a 40m Buffer
- Poor Ground

Notes :-
Mapping Contains Initial Routing of a Preliminary 200m Pipeline Corridor. This Was Subject to a Detailed Assessment and Revision. The Current Allignment is Shown on Maps 32105801-FOAR-036 to 070

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

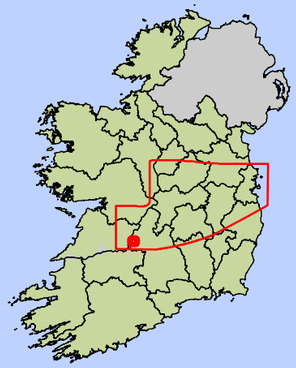
Drawing Title: Identification of Preliminary 200m Pipeline Corridor : 165 to 170 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IE\GIS\32105801-WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\Constraints Maps\Identification of Preliminary Pipeline Corridor 165-170.mxd		

Drawing No.: 32105801-FOAR-034

Chainage	165 to 166 km	166 to 167 km	167 to 168 km	168 to 169 km	169 to 170 km
Initial Desktop Assessment of Constraints in Least Constrained Route Corridor (Generally 2km) To Inform Identification of Preliminary 200m Pipeline Corridor	- Properties - National Monuments - Proposed natural heritage area (grand canal) - SMR Zone (Archaeology) - Landscape Classification Areas Kildare High - Geological heritage site (newcastle) - Grand canal	- Properties - Settlements - Pits and quarries - Proposed natural heritage area (grand canal) - SMR Zone (Archaeology) - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - Poor ground (exposed rock and karst) - Grand canal - R405 regional road	- Properties - Settlements - Proposed natural heritage area (grand canal) - SMR Zone (Archaeology) - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - Poor ground (exposed rock and karst)	- National Monuments - Proposed natural heritage area (grand canal) - Forestry - Groundwater Vulnerabilty Rock at or Near Surface or Karst feature - Groundwater Vulnerabilty Extreme - Poor ground (exposed rock and karst) - Designed landscape (demesne) - Grand canal	



Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	0 to 1 km	1 to 2 km	2 to 3 km	3 to 4 km	4 to 5 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	- Engineering: Selection of least constrained abstraction point and water treatment plant - Ecology: Semi-natural/native and potentially alluvial woodland - Landscape & Visual: Designed landscape & woodland.	- Engineering: Selection of least constrained abstraction point and water treatment plant	- Engineering: Selection of least constrained abstraction point and water treatment plant	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Population: local dwellings. Landscape & Visual: riparian woodland Ecology: alluvial woodland, Lower Shannon SAC Traffic: regional road crossing	None currently identified.	Population: local dwellings. Water: watercourse crossings	Ecology: badget sett, riparian zone	Ecology: riparian zone Landscape & Visual: riparian woodland. Traffic: regional road crossing

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

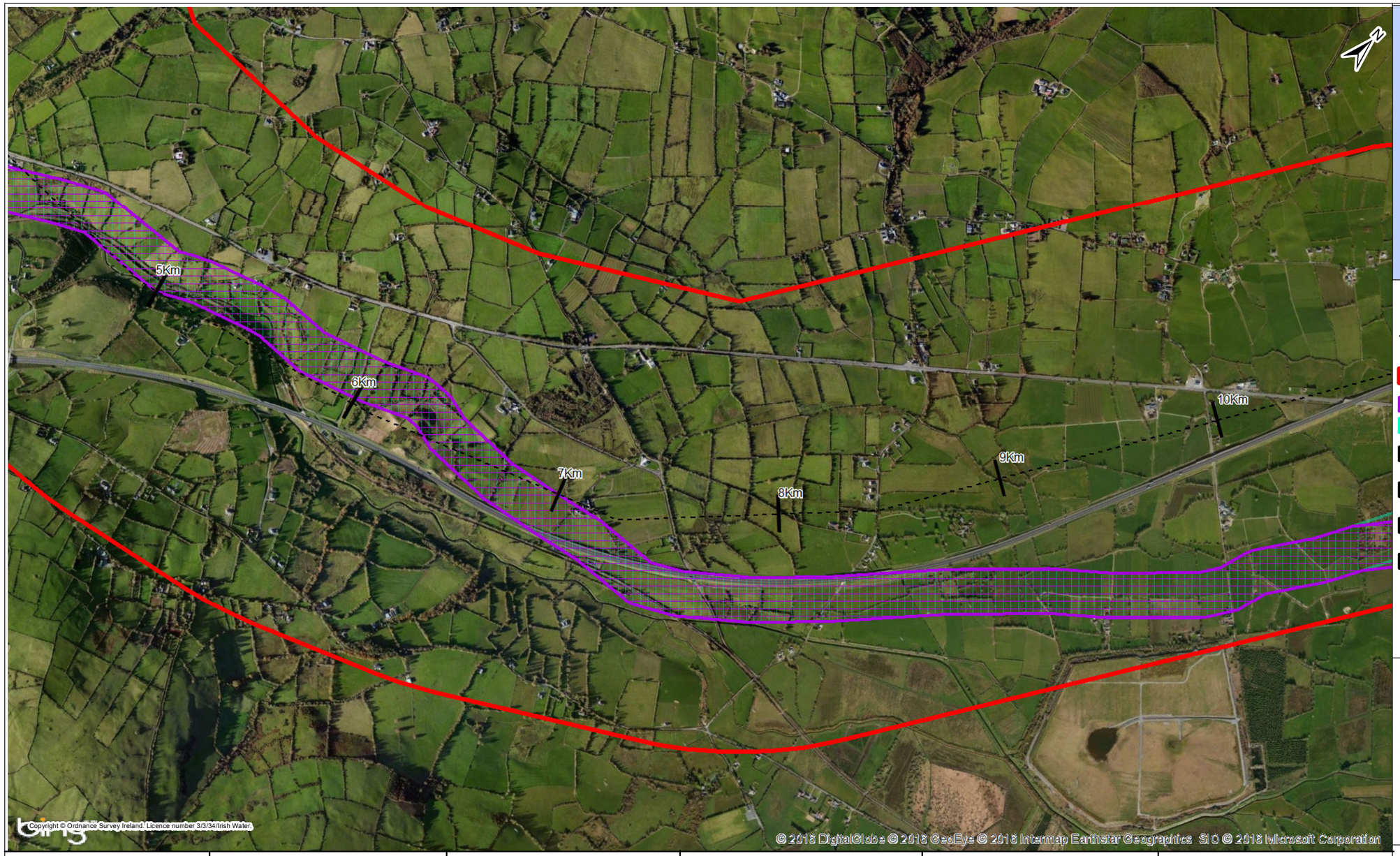
Project: Water Supply Project - Eastern and Midlands Region

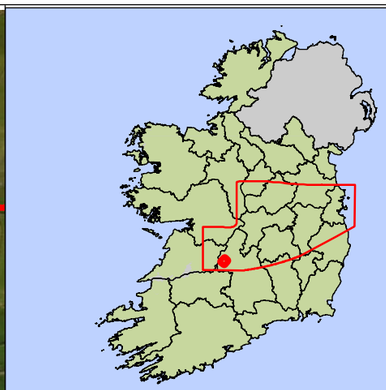
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 0 to 5 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IG\IS\32105801-WSP-DR\GIS Tasks\5_Mxd\4 Report Maps\FOAR\Corridor Selection Maps\Identification of Preferred Corridor-0-5.mxd		

Drawing No.: 32105801-FOAR-036





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	5 to 6 km	6 to 7 km	7 to 8 km	8 to 9 km	9 to 10 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	No change to route.	No change to route.	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Ecology: riparian zones, otter signs Population: local dwellings. Water: watercourse crossings	Ecology: riparian zone, badger sett	None currently identified.	Traffic: motorway crossing	Population: local dwellings.

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN · IRISH WATER

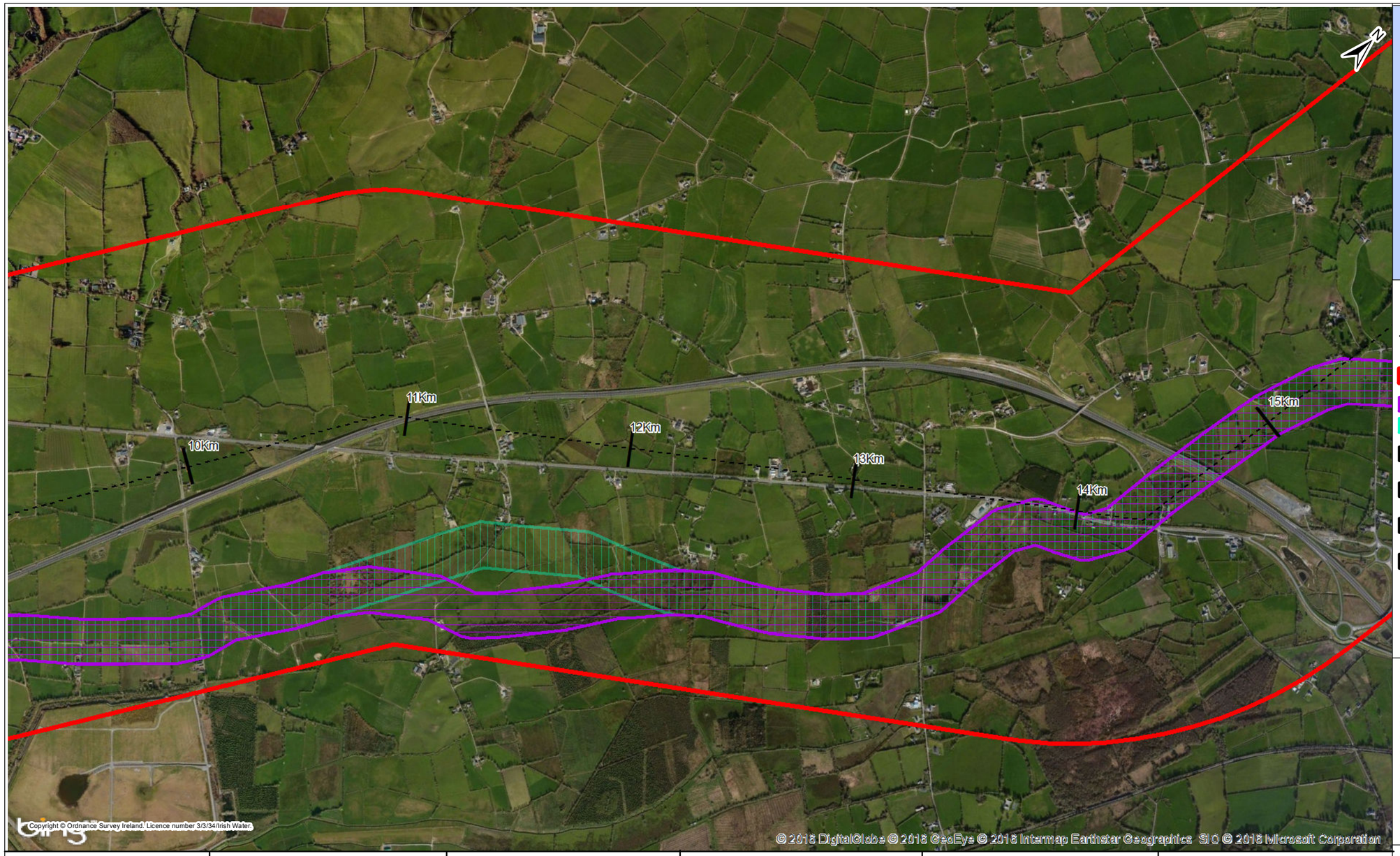
Project: Water Supply Project - Eastern and Midlands Region

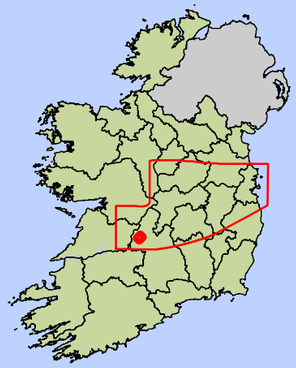
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 5 to 10 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IE\GIS\32105801-WSP\DR\GIS Tasks\5_Mxds\ReportMaps\FOAR\CorridorSelection Maps\Identification of Preferred Corridor 5-10.mxd		

Drawing No.: 32105801-FOAR-037





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	10 to 11 km	11 to 12 km	12 to 13 km	13 to 14 km	14 to 15 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	Population: reduced human impact	No change to route.	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Material assets: local enterprise. Traffic: local road footprint	Material assets: local enterprise.	Population: local dwellings.	Material assets: local enterprise.	None currently identified.

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS® TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN · IRISH WATER

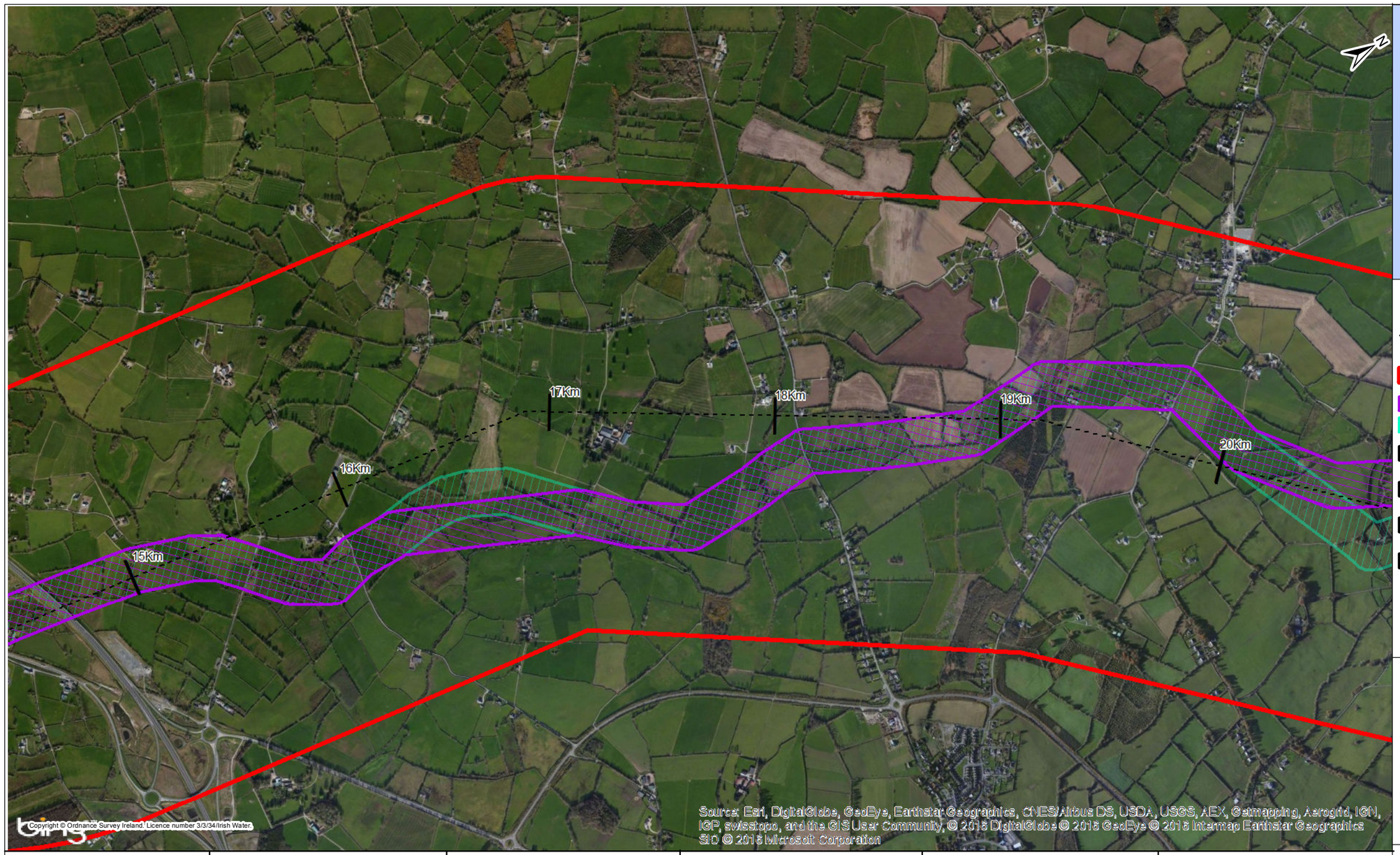
Project: Water Supply Project - Eastern and Midlands Region

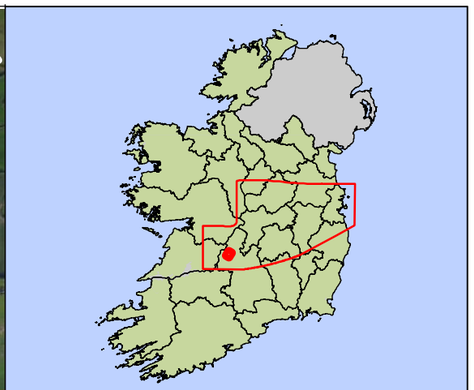
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 10 to 15 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IN\GIS\32105801-WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\Corridor Selection Maps\Identification of Preferred Corridor 10-15.mxd		

Drawing No.: 32105801-FOAR-038





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	15 to 16 km	16 to 17 km	17 to 18 km	18 to 19 km	19 to 20 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	Population: reduced human impact	No change to route.	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Water: proximity to watercourse. Material assets: local enterprise. Traffic: regional road & motorway crossing	None currently identified.	Water: watercourse crossings Material assets: local enterprise.	Landscape & Visual: designed landscape. Material assets: local enterprise. Ecology - close proximity to river, badger sett.	None currently identified.

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN · IRISH WATER

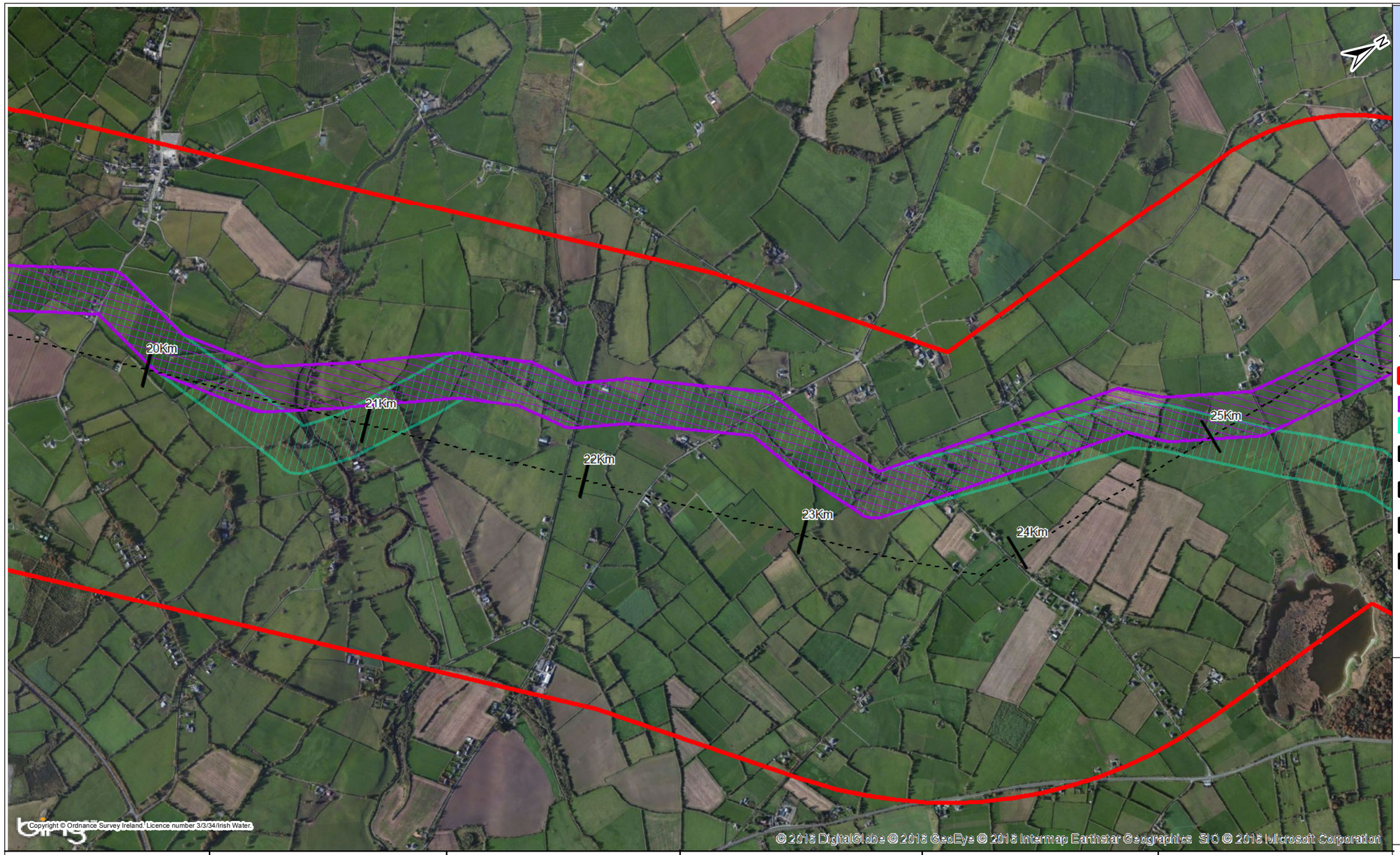
Project: Water Supply Project - Eastern and Midlands Region

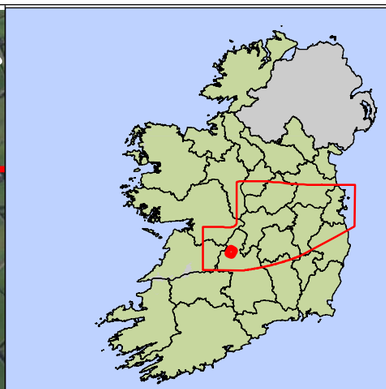
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 15 to 20 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IrlGIS\32105801-WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\Corridor Selection Maps\Identification of Preferred Corridor 15-20.mxd		

Drawing No.: 32105801-FOAR-039





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

Chainage	20 to 21 km	21 to 22 km	22 to 23 km	23 to 24 km	24 to 25 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	- Archaeology: Protected Structure (Ballyanymore House) - Landscape & Visual: designed landscape	- Archaeology: Protected Structure (Ballyanymore House) - Landscape & Visual: designed landscape	No change to route.	No change to route.	Population: reduced human impact
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Population: local dwellings. Ecology: badger sett	None currently identified.	None currently identified.	Material assets: local enterprise.	Material assets: local enterprise. Traffic: road crossing

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Client: UISCE ÉIREANN - IRISH WATER

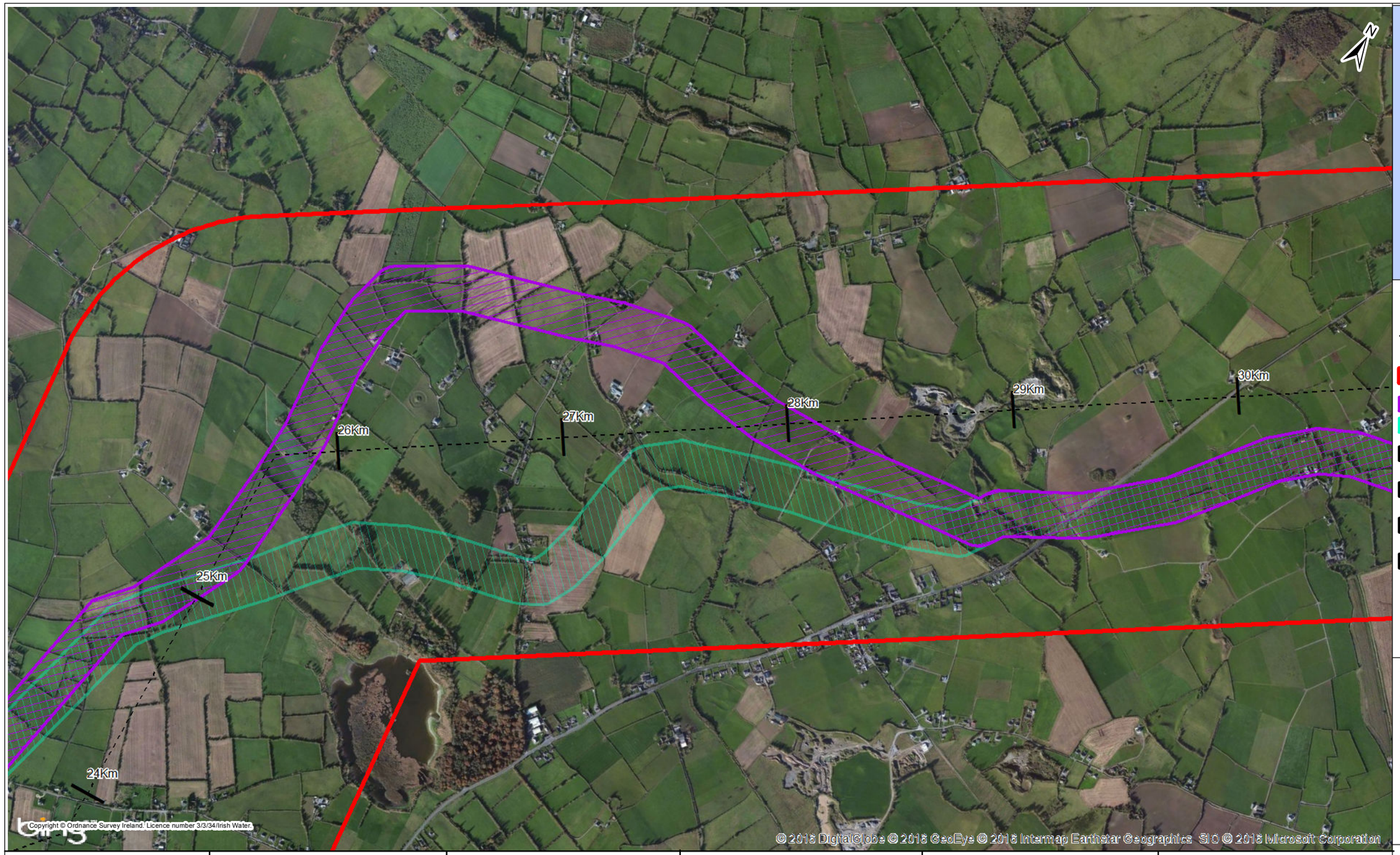
Project: Water Supply Project - Eastern and Midlands Region

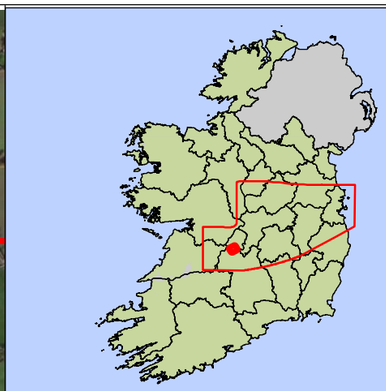
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 20 to 25 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRG\32105801-WSP-DRGIS Tasks\5_Mxds\Report Maps\FOAR\Corridor Selection Maps\Identification of Preferred Corridor 20-25 v2.mxd		

Drawing No.: 32105801-FOAR-040





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	25 to 26 km	26 to 27 km	27 to 28 km	28 to 29 km	29 to 30 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	- Ecology: Proposed Natural Heritage Area (Lough Ourna) - bat roost/foraging corridor, snipe and woodcock breeding, woodland - Hydrogeology: Lough Eorna	- Ecology: Proposed Natural Heritage Area (Lough Ourna) - bat roost/foraging corridor, snipe and woodcock breeding, woodland - Hydrogeology: Lough Eorna	- Hydrogeology: Ardcroney Turloughs (groundwater)	- Hydrogeology: Ardcroney Turloughs (groundwater)	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Material assets: local enterprise. Traffic: road crossing	Soils: groundwater impacts in wetland	Soils: groundwater impacts in wetland	Soils: groundwater impacts in wetland Traffic: road crossing Cultural Heritage: recorded monuments	Soils: groundwater impacts in wetland Landscape & Visual: mature trees

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

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Client: UISCE ÉIREANN - IRISH WATER

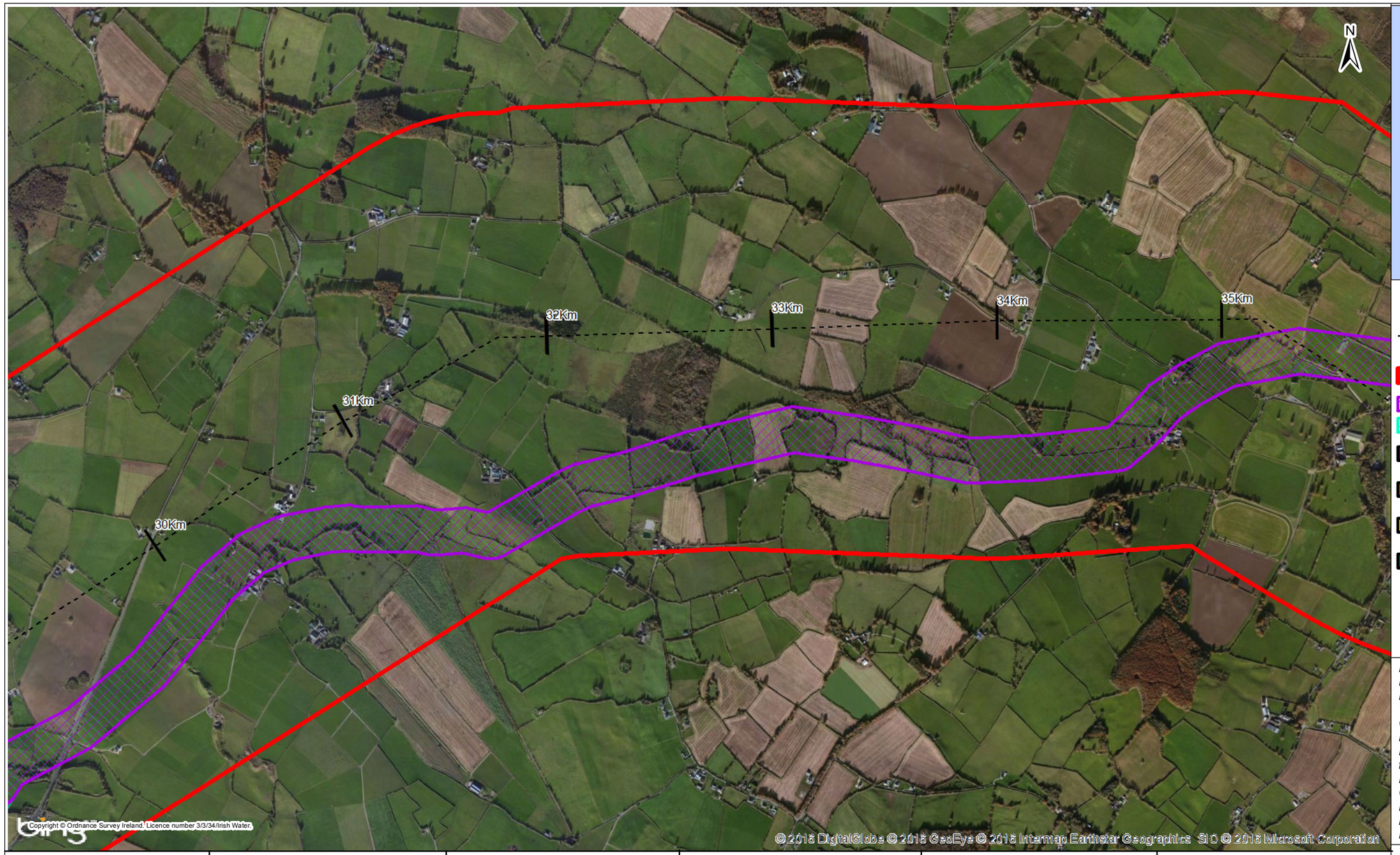
Project: Water Supply Project - Eastern and Midlands Region

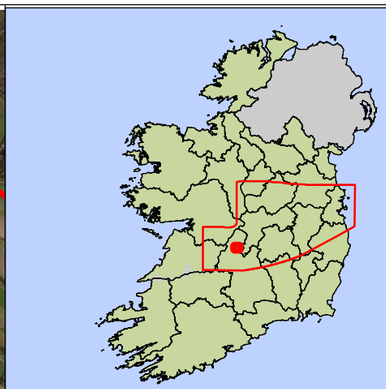
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 25 to 30 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRG\32105801-WSP-DRG\IS Tasks\5_Mxds\Report Maps\FOAR\Corridor Selection Maps\Identification of Preferred Corridor 25-30 v2.mxd		

Drawing No.: 32105801-FOAR-041





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	30 to 31 km	31 to 32 km	32 to 33 km	33 to 34 km	34 to 35 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	No change to route.	No change to route.	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Material assets: local enterprise. Ecology: esker & badger sett	Material assets: local enterprise. Traffic: local road junction	Soils: karst features. Material assets: local enterprise. Water: watercourse crossings. Cultural Heritage: enclosure.	Soils: karst features. Material assets: local enterprise. Ecology: badger sett.	Ecology: badger sett, woodland.

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

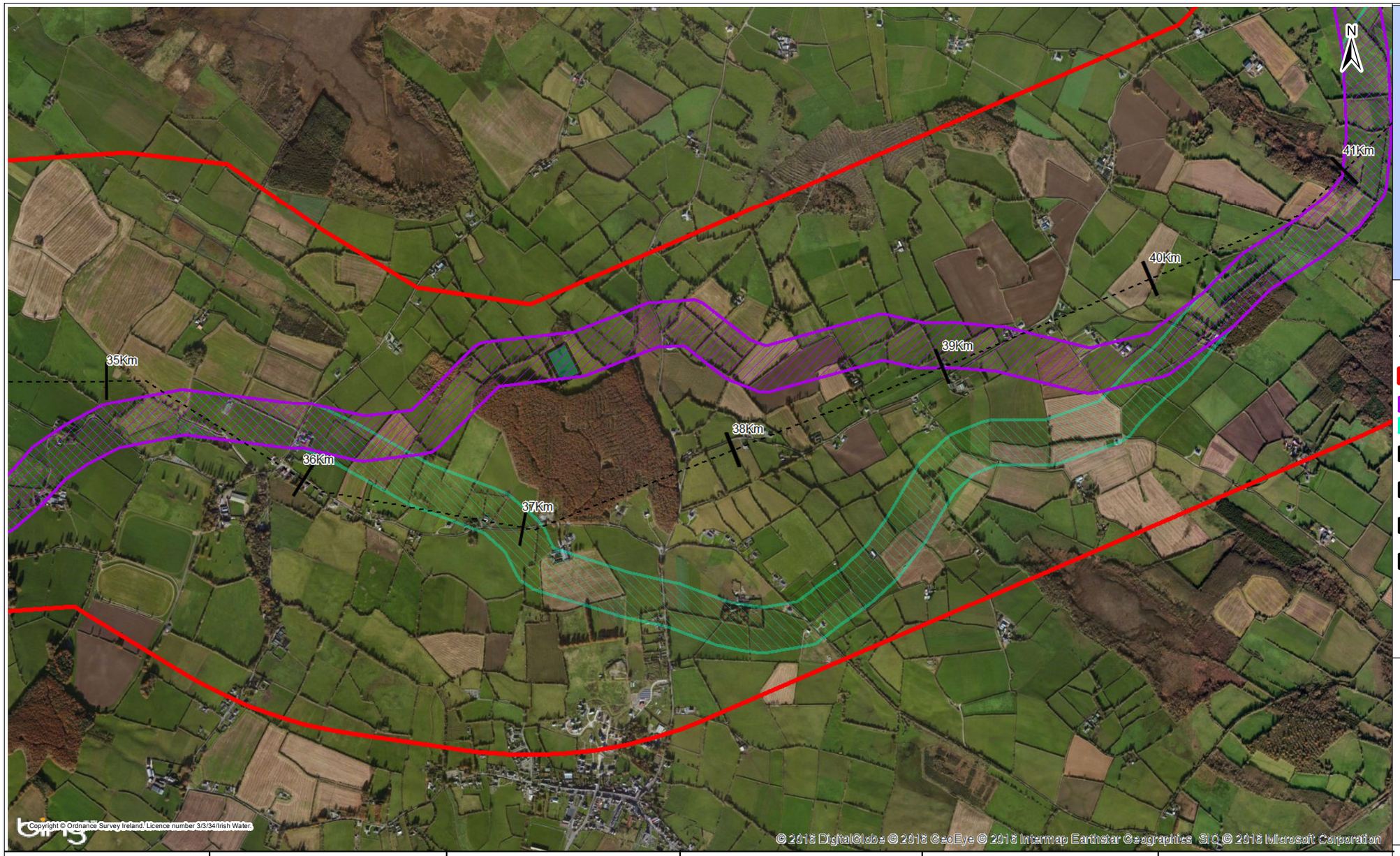
Project: Water Supply Project - Eastern and Midlands Region

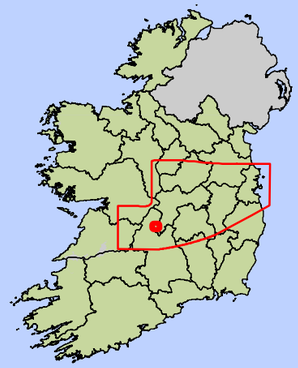
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 30 to 35 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRG\32105801- WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\CorridorSelection Maps\Identification of Preferred Corridor 30-35v2.mxd		

Drawing No.: 32105801-FOAR-042





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	35 to 36 km	36 to 37 km	37 to 38 km	38 to 39 km	39 to 40 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	Engineering: selection of break pressure tank location at higher elevation	Engineering: selection of break pressure tank location at higher elevation	Engineering: selection of break pressure tank location at higher elevation	Engineering: selection of break pressure tank location at higher elevation
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Material assets: local enterprise, stud farm. Ecology: lapwing breeding & wet grassland	Material assets: local enterprise. Traffic: regional road crossing	Material assets: local enterprise. Population: local dwellings. Landscape & Visual: recreational amenity	Landscape & Visual: recreational amenity Cultural Heritage: recorded monuments	Landscape & Visual: recreational amenity Traffic: road crossing

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN · IRISH WATER

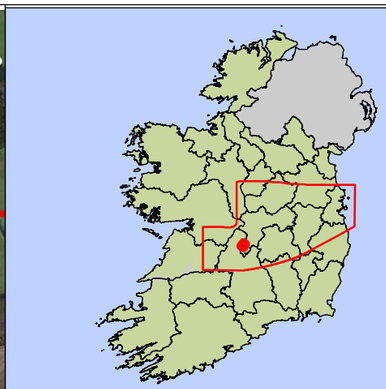
Project: Water Supply Project - Eastern and Midlands Region

Drawing Title: Identification of Preferred 200m Pipeline Corridor : 35 to 40 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IN\IS\32105801-WSP-DR\GIS\Tasks\5_Mxds\ReportMaps\FOAR\CorridorSelectionMaps\Identification of Preferred Corridor 35-40.mxd		

Drawing No.: 32105801-FOAR-043



Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-

Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor

Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report

Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	40 to 41 km	41 to 42 km	42 to 43 km	43 to 44 km	44 to 45 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	Ecology: Molinia grassland, willow/alder scrub, quaking mire. Potentially corresponding to Annex I complex.	Ecology: Wetlands, for wintering birds, WS recorded. Connectivity corridor	Landscape & Visual: wooded lake and walled garden Water: small lake	Ecology: Cangort Bog NHA and potential bat roost, mature trees
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Landscape & Visual: recreational amenity Traffic: road crossing	Traffic: road crossing Material assets: local enterprise.	Ecology: broadleaved woodland	Ecology: semi-natural woodland. Water: watercourse crossings Traffic: road crossings	Landscape & Visual: recreational amenity Traffic: road crossing

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN · IRISH WATER

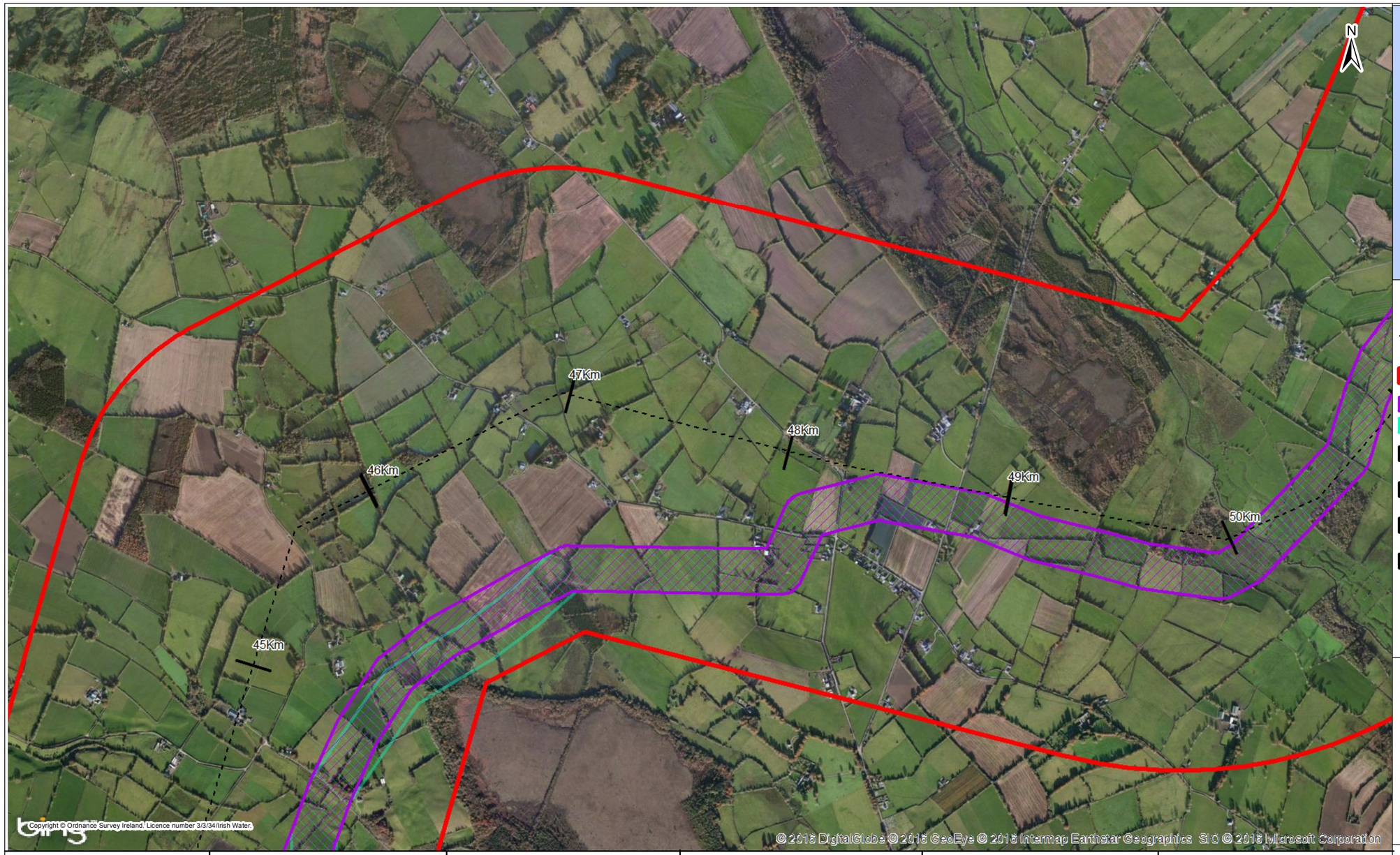
Project: Water Supply Project - Eastern and Midlands Region

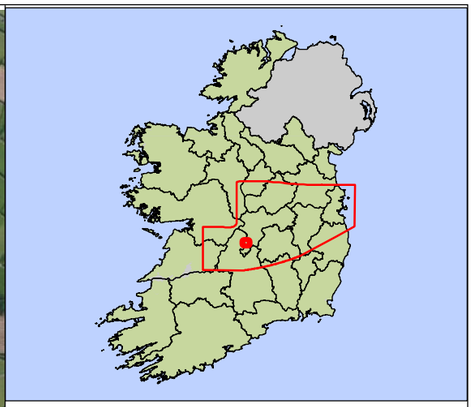
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 40 to 45 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IrlGIS\32105801-WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\Corridor Selection Maps\Identification of Preferred Corridor 40-45 m.mxd		

Drawing No.: 32105801-FOAR-044





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	45 to 46 km	46 to 47 km	47 to 48 km	48 to 49 km	49 to 50 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	Ecology: Cangort Bog NHA and potential bat roost, mature trees	Ecology: Cangort Bog NHA and potential bat roost, mature trees	No change to route.	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Cultural Heritage: demesne.	Traffic: road crossing	None currently identified.	None currently identified.	Material assets: local enterprise. Traffic: local road junction

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN · IRISH WATER

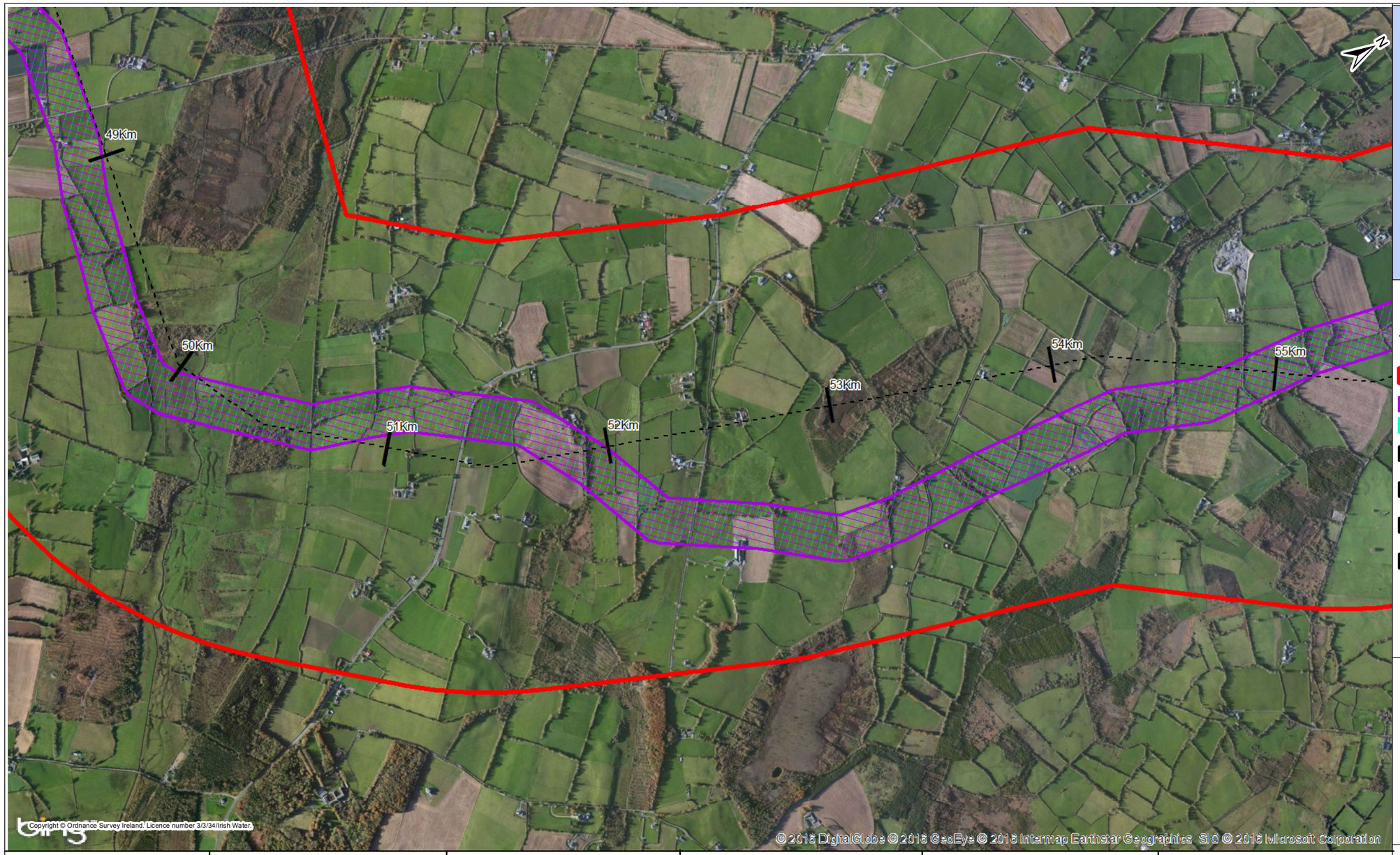
Project: Water Supply Project - Eastern and Midlands Region

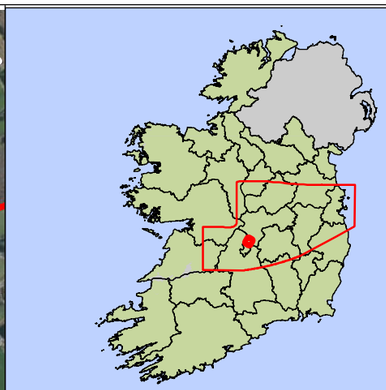
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 45 to 50 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IrlGIS\32105801-WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\Corridor Selection Maps\Identification of Preferred Corridor 45-50.mxd		

Drawing No.: 32105801-FOAR-045





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	50 to 51 km	51 to 52 km	52 to 53 km	53 to 54 km	54 to 55 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	No change to route.	No change to route.	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Material assets: local enterprise.	Soils: Little Brosna river crossing Ecology: broadleaved woodland	Soils: Little Brosna river crossing Ecology: broadleaved woodland Traffic: national secondary road crossing	None currently identified.	Ecology: Pine Martin, bat roost potential

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

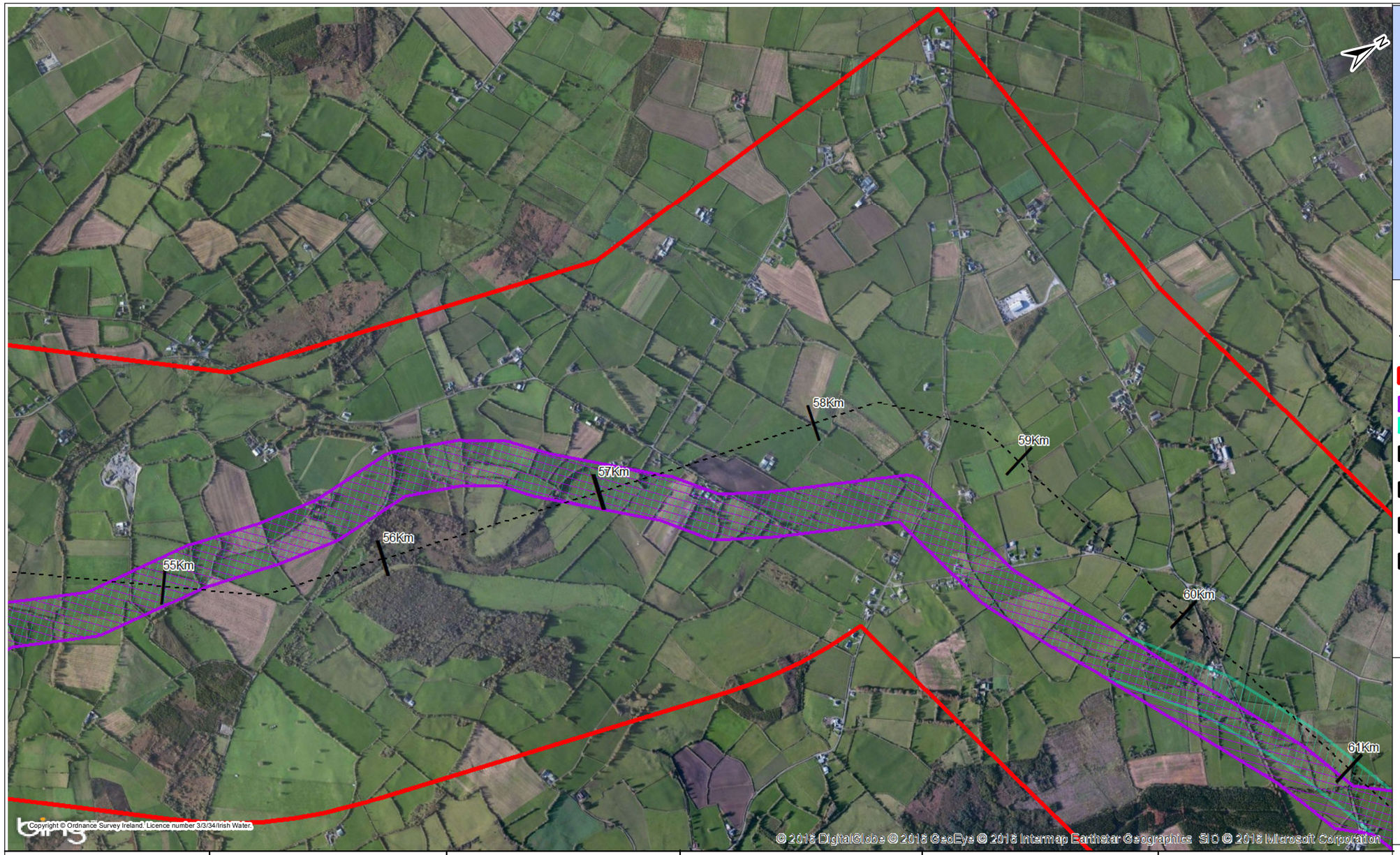
Project: Water Supply Project - Eastern and Midlands Region

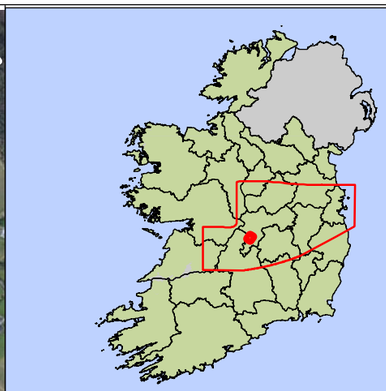
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 50 to 55 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IrlGIS\32105801 - WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\Corridor Selection Maps\Identification of Preferred Corridor 50-55 m.mxd		

Drawing No.: 32105801-FOAR-046





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	55 to 56 km	56 to 57 km	57 to 58 km	58 to 59 km	59 to 60 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	No change to route.	No change to route.	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Soils: Lisduff Fen. Population: local dwellings. Ecology: badger sett, woodland	Soils: Lisduff Fen. Ecology: badger sett.	Soils: Lisduff Fen. Ecology: badger sett.	Material assets: local enterprise. Population: local dwellings.	Material assets: local enterprise.

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

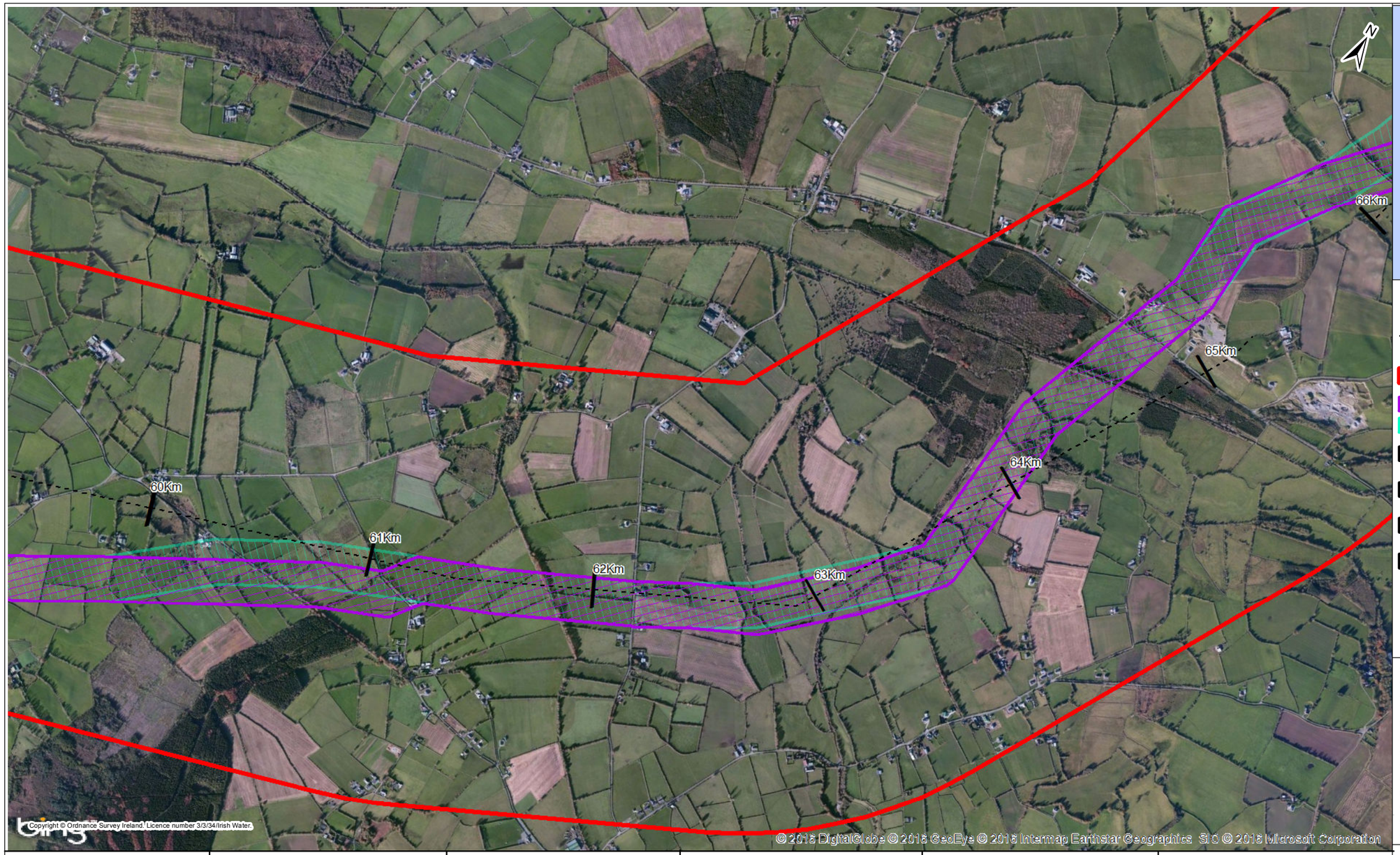
Project: Water Supply Project - Eastern and Midlands Region

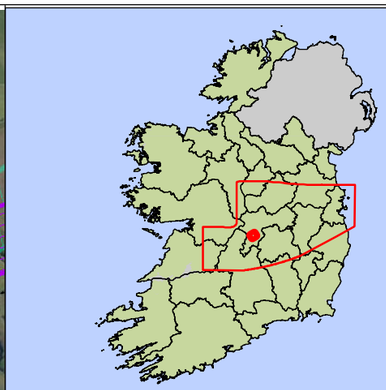
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 55 to 60 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IrlGIS\32105801-WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\Corridor Selection Maps\Identification of Preferred Corridor 55-60.mxd		

Drawing No.: 32105801-FOAR-047





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	60 to 61 km	61 to 62 km	62 to 63 km	63 to 64 km	64 to 65 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	Population: reduced human impact	Population: reduce human impacts	Population: reduced human impact	Population: reduced human impact	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Population: local dwellings.	Material assets: local enterprise.	Material assets: local enterprise. Water: watercourse crossings Ecology: otter, crayfish & bat roost potential	Material assets: local enterprise. Ecology: otter, crayfish & bat roost potential	Material assets: local enterprise.

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN · IRISH WATER

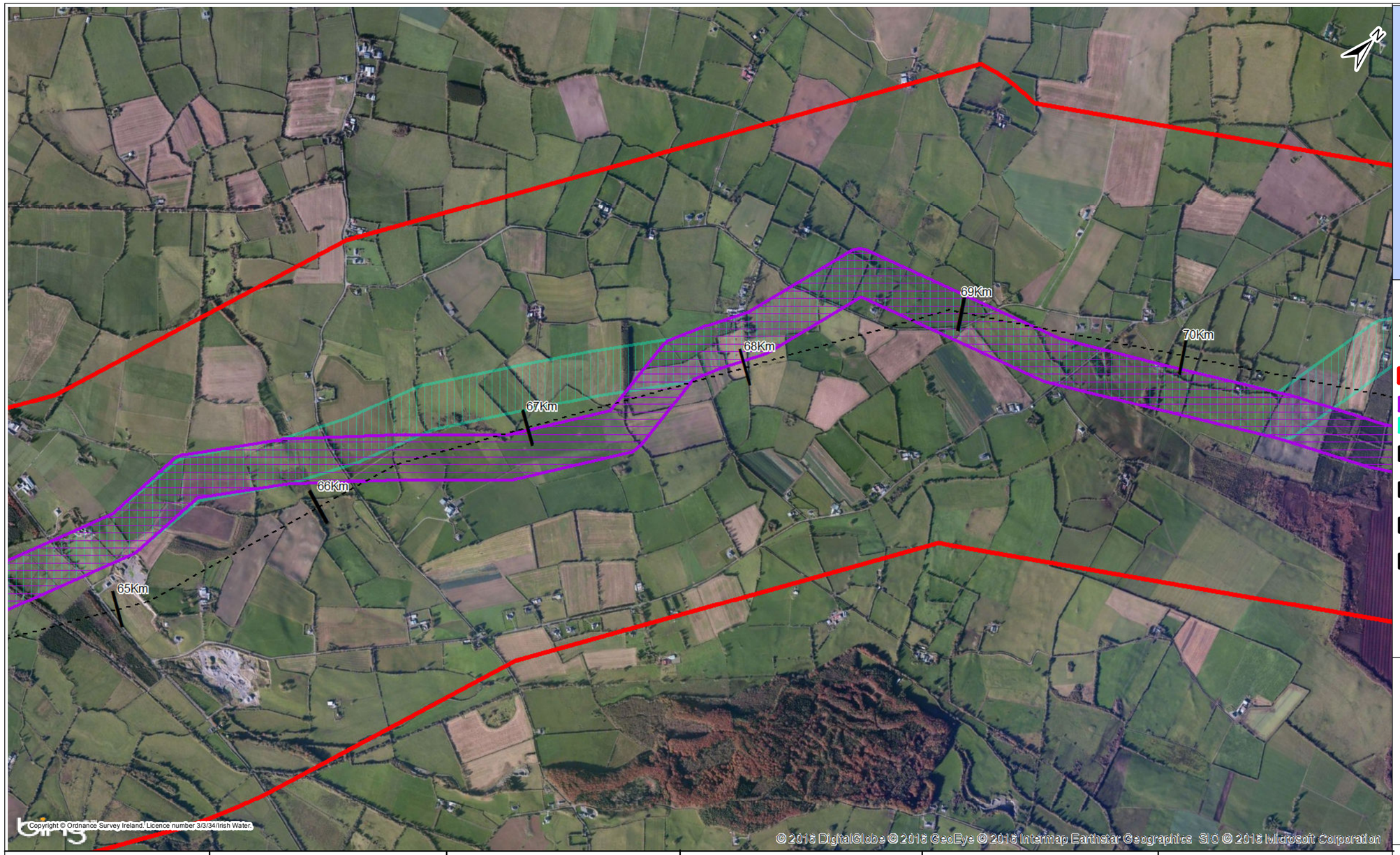
Project: Water Supply Project - Eastern and Midlands Region

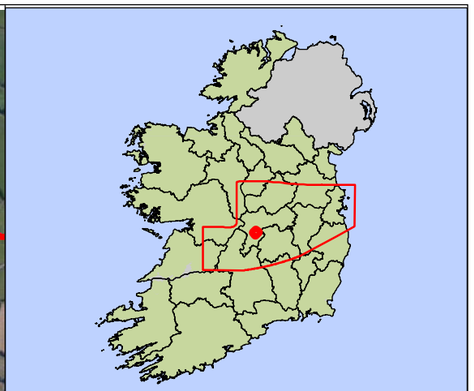
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 60 to 65 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IrlGIS\32105801-WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\Corridor Selection Maps\Identification of Preferred Corridor 60-65 m.mxd		

Drawing No.: 32105801-FOAR-048





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	65 to 66 km	66 to 67 km	67 to 68 km	68 to 69 km	69 to 70 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	Ecology: Annex I Fen habitat, potential obstruction of groundwater pathway and mature woodland.	Ecology: Annex I Fen habitat, potential obstruction of groundwater pathway and mature woodland.	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	None currently identified.	Ecology: broadleaved woodland. Population: local dwellings.	Water: watercourse crossing. Traffic: road crossing	Water: watercourse crossing. Material assets: local enterprise.	Traffic: road crossing

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

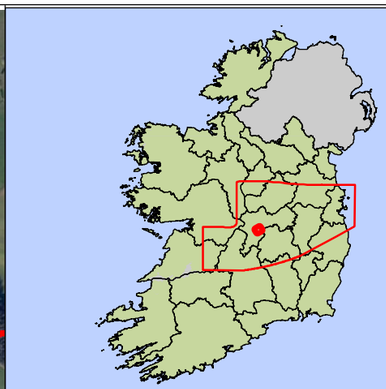
Project: Water Supply Project - Eastern and Midlands Region

Drawing Title: Identification of Preferred 200m Pipeline Corridor : 65 to 70 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IrlGIS\32105801 - WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\Corridor Selection Maps\Identification of Preferred Corridor 65-70.mxd		

Drawing No.: 32105801-FOAR-049



Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	70 to 71 km	71 to 72 km	72 to 73 km	73 to 74 km	74 to 75 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	Population: reduced human impact	Population: reduced human impact	No change to route.	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	None currently identified.	Ecology: badger sett, mature trees	Ecology: badger sett. Population: local dwellings.	None currently identified.	Ecology: badger sett. Material assets: local enterprise. Water: proximity to watercourse.

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

Drawing Title: Identification of Preferred 200m Pipeline Corridor : 70 to 75 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
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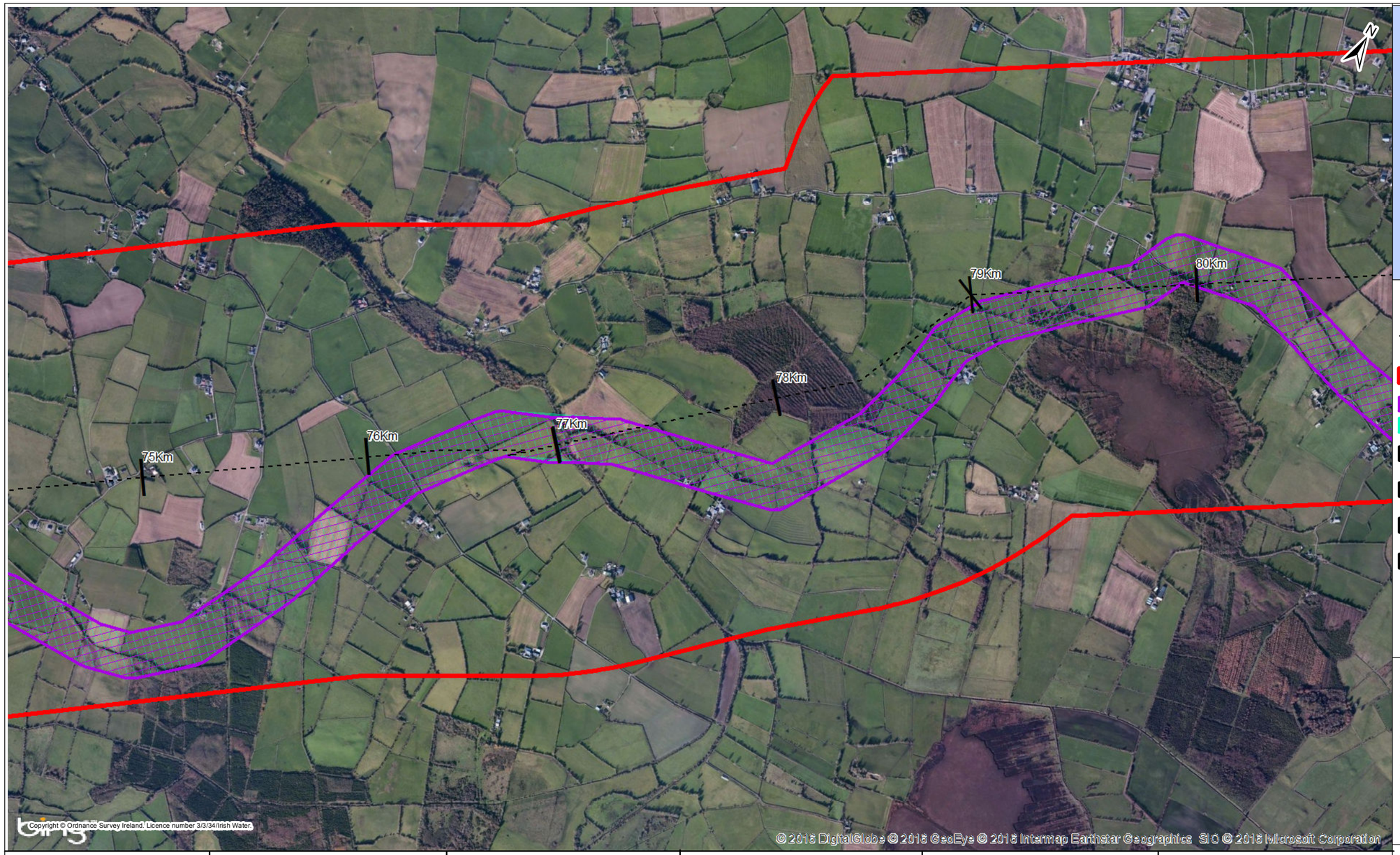
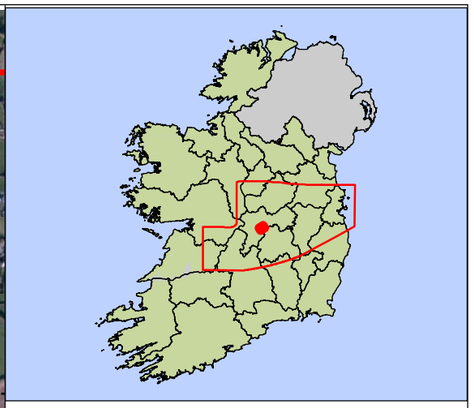
Drawing No.: 32105801-FOAR-050





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	75 to 76 km	76 to 77 km	77 to 78 km	78 to 79 km	79 to 80 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	No change to route.	No change to route.	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Population: local dwellings.	None currently identified.	Ecology: plantation forestry Material assets: local enterprise.	Material assets: local enterprise. Water: close proximity to watercourse.	Material assets: local enterprise. Tourism: walking trail. Ecology: Silver River (otter, badger sett, crayfish)

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

Drawing Title: Identification of Preferred 200m Pipeline Corridor : 75 to 80 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
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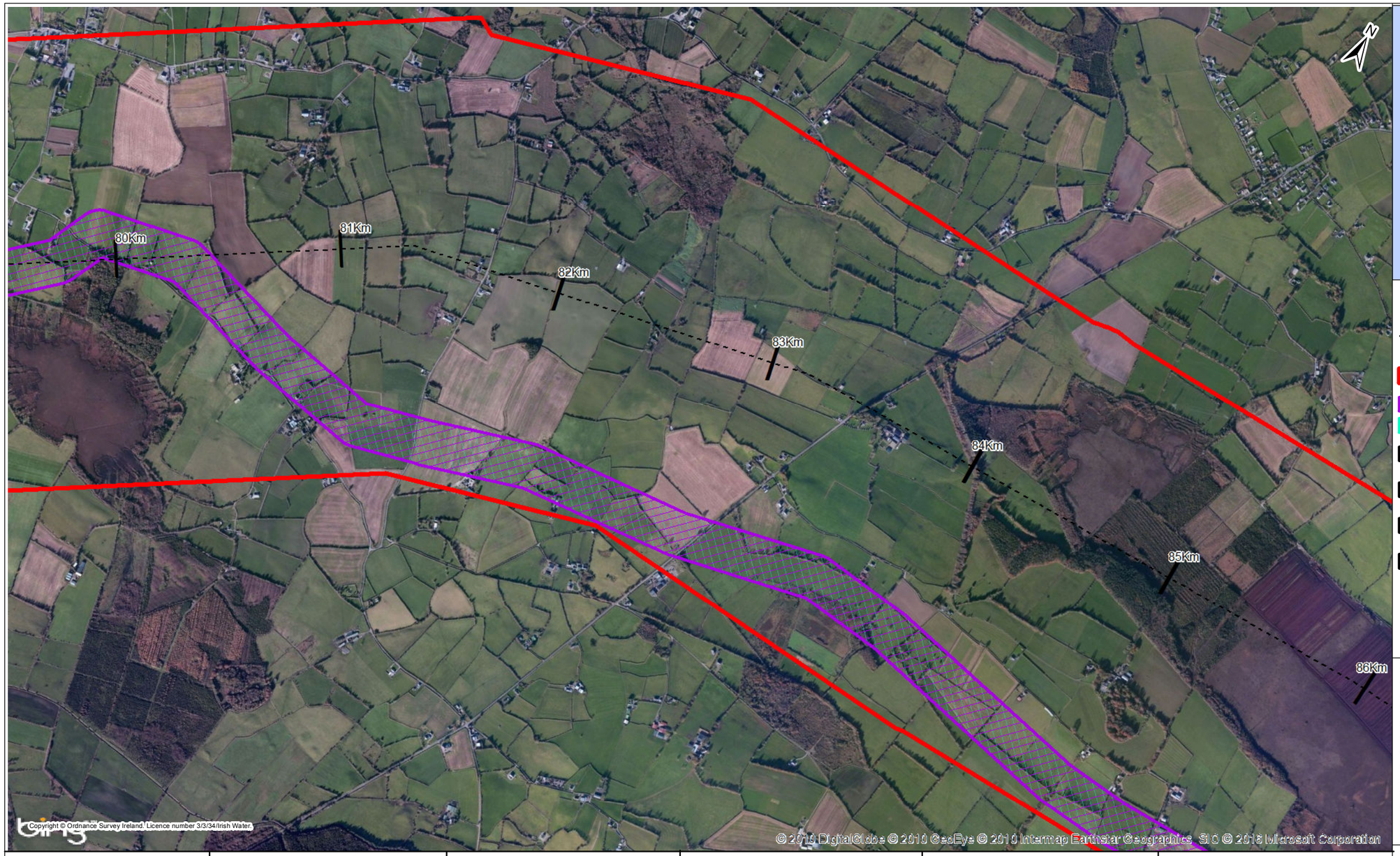
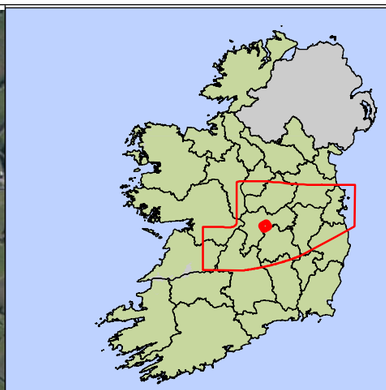
Drawing No.: 32105801-FOAR-051





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	80 to 81 km	81 to 82 km	82 to 83 km	83 to 84 km	84 to 85 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	No change to route.	No change to route.	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Population: local dwellings. Material assets: local enterprise.	Ecology: badger sett, otter holt & frog Traffic: local road junction	Ecology: spotted flycatcher Population: local dwellings. Traffic: local road junction	Ecology: badger sett, Pine Martin Population: local dwellings. Material assets: local enterprise.	Material assets: local enterprise.

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN · IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

Drawing Title: Identification of Preferred 200m Pipeline Corridor : 80 to 85 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
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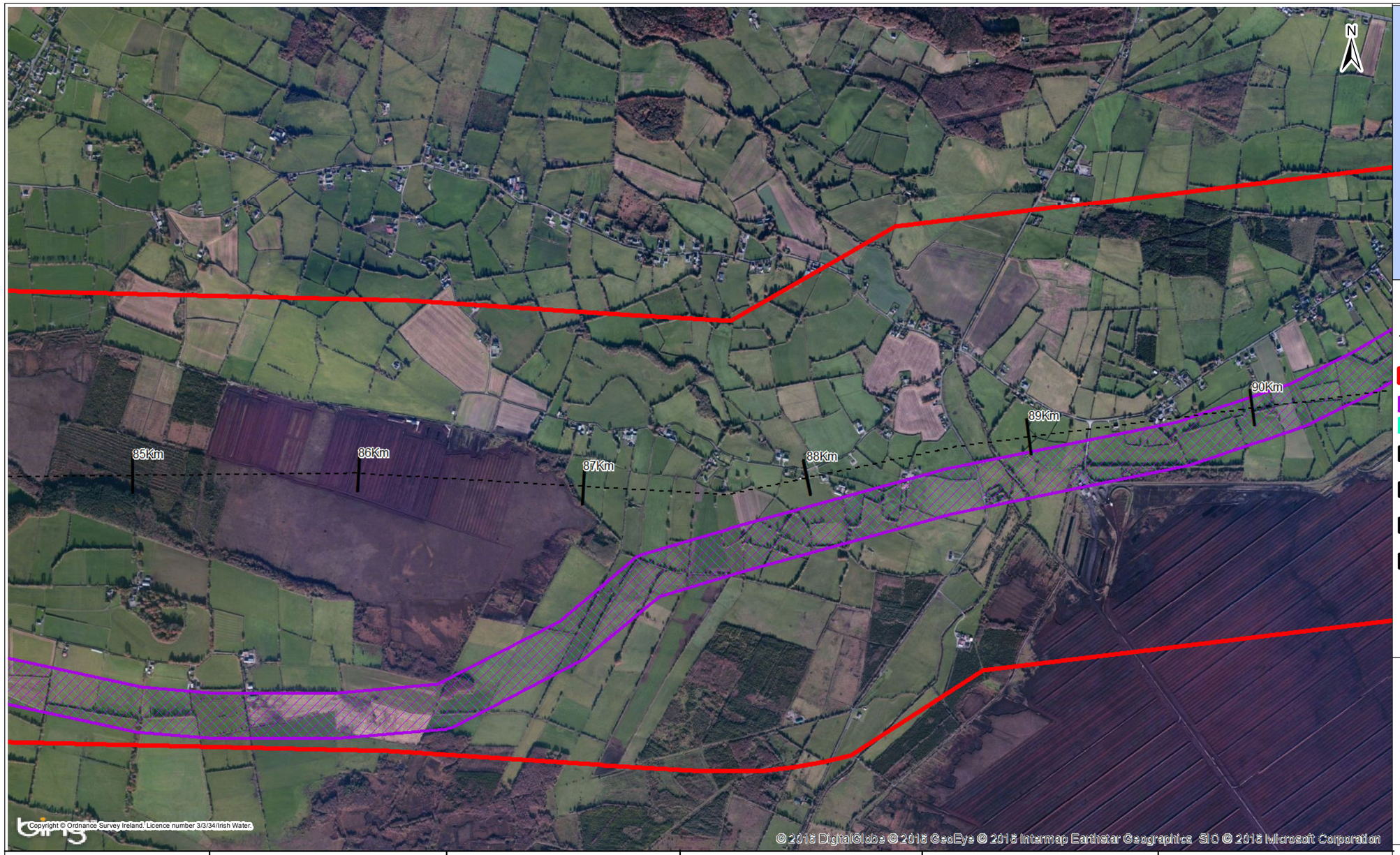
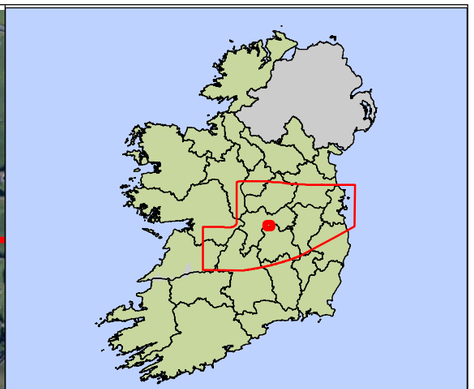
Drawing No.: 32105801-FOAR-052





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	85 to 86 km	86 to 87 km	87 to 88 km	88 to 89 km	89 to 90 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	No change to route.	No change to route.	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Material assets: local enterprise.	Ecology: broadleaved woodland. Water: watercourse crossing.	Soils: Annaghmore Fen.	Soils: Annaghmore Fen.	Ecology: birch woodland. Soils: Annaghmore Fen.

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

Drawing Title: Identification of Preferred 200m Pipeline Corridor : 85 to 90 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
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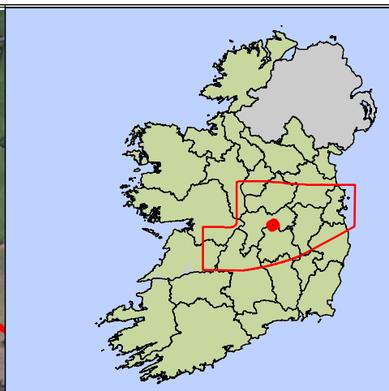
Drawing No.: 32105801-FOAR-053



Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	90 to 91 km	91 to 92 km	92 to 93 km	93 to 94 km	94 to 95 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	No change to route.	No change to route.	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Water: watercourse crossing. Material assets: local enterprise.	Water: watercourse crossing. Material assets: local enterprise. Population - local dwellings Ecology - bat roost, badger sett.	Material assets: local enterprise.	None currently identified.	Ecology: badger sett. Population: local dwellings.

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

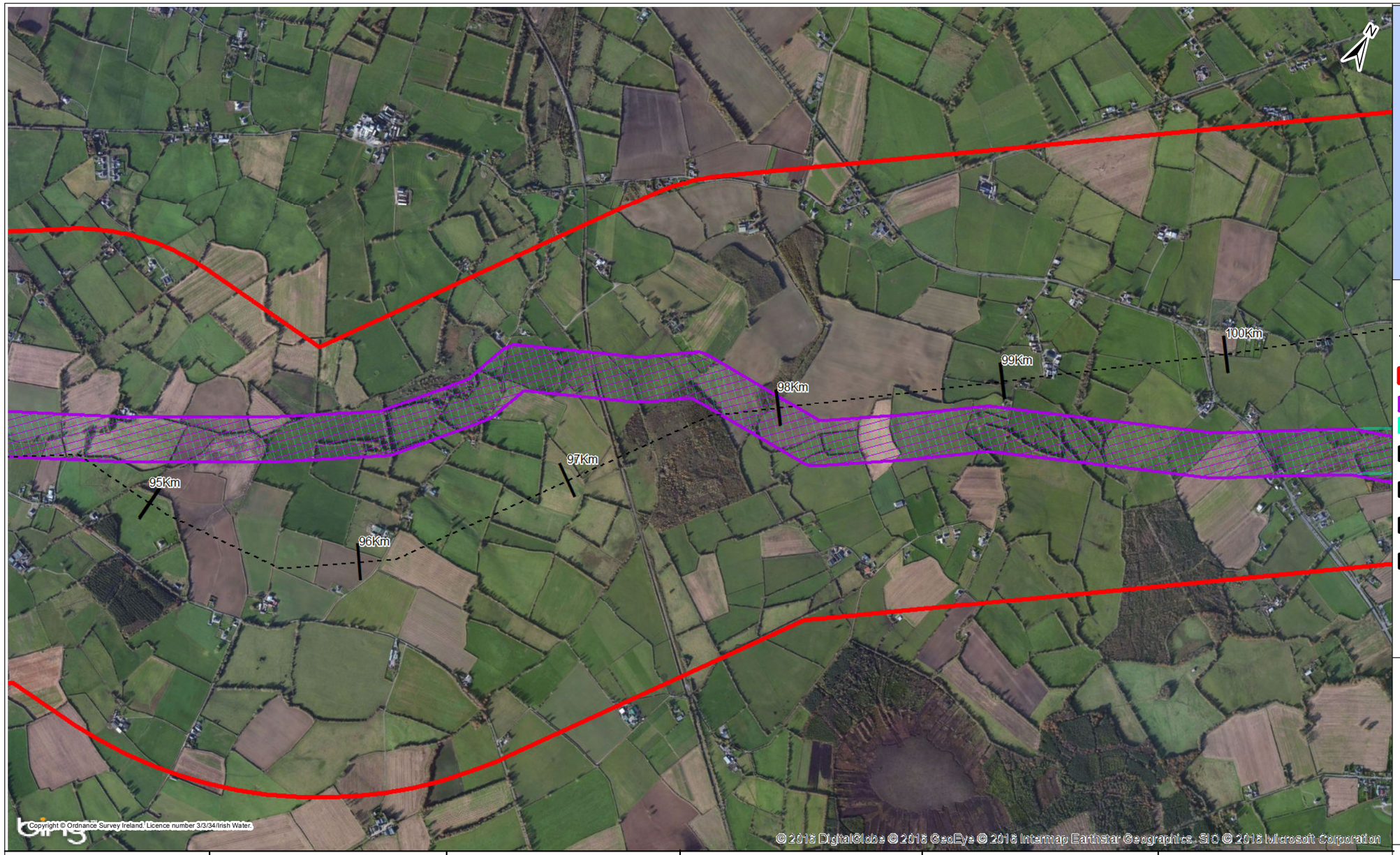
Project: Water Supply Project - Eastern and Midlands Region

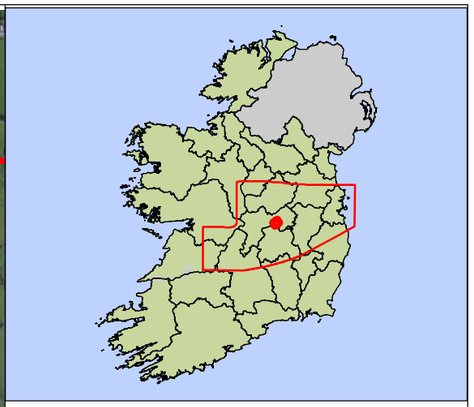
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 90 to 95 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IN\GIS\32105801-WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\Corridor Selection Maps\Identification of Preferred Corridor 90-95.mxd		

Drawing No.: 32105801-FOAR-054





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	95 to 96 km	96 to 97 km	97 to 98 km	98 to 99 km	99 to 100 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	No change to route.	No change to route.	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Water: close proximity to watercourse Traffic: national secondary road crossing	None currently identified.	Soils: Source Protection Zone. Population - local dwellings	None currently identified.	Ecology: Rich fen and Flush Archaeology: moated site Traffic: rail crossing

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

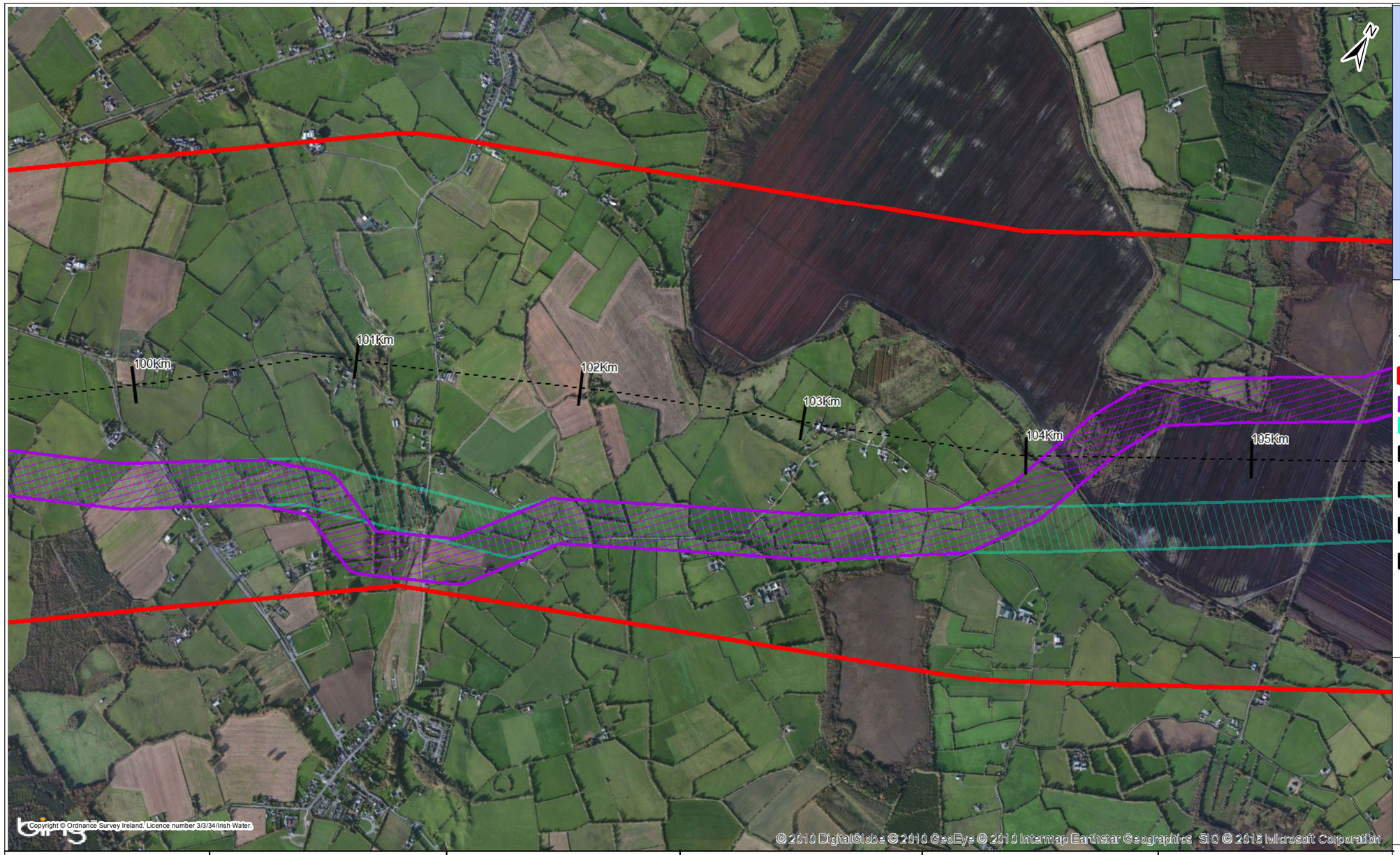
Project: Water Supply Project - Eastern and Midlands Region

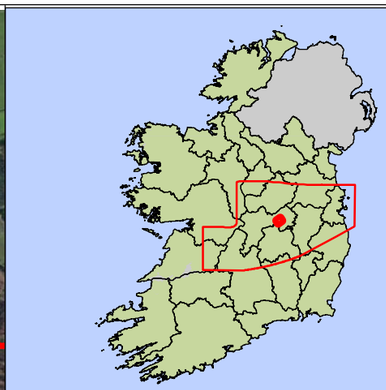
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 95 to 100 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRGIS\32105801-WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\Corridor Selection Maps\Identification of Preferred Corridor 95-100.mxd		

Drawing No.: 32105801-FOAR-055





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	100 to 101 km	101 to 102 km	102 to 103 km	103 to 104 km	104 to 105 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	Ecology: snipe, otter & bat potential, badger sett	No change to route.	No change to route.	Ecology: wetland ponds, raised bog Engineering: windfarm, peat production zones
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Ecology: broadleaved woodland.	None currently identified.	None currently identified.	Soils: Source Protection Zone.	Soils: Source Protection Zone. Landscape & Visual: mature trees. Traffic: road crossing.

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

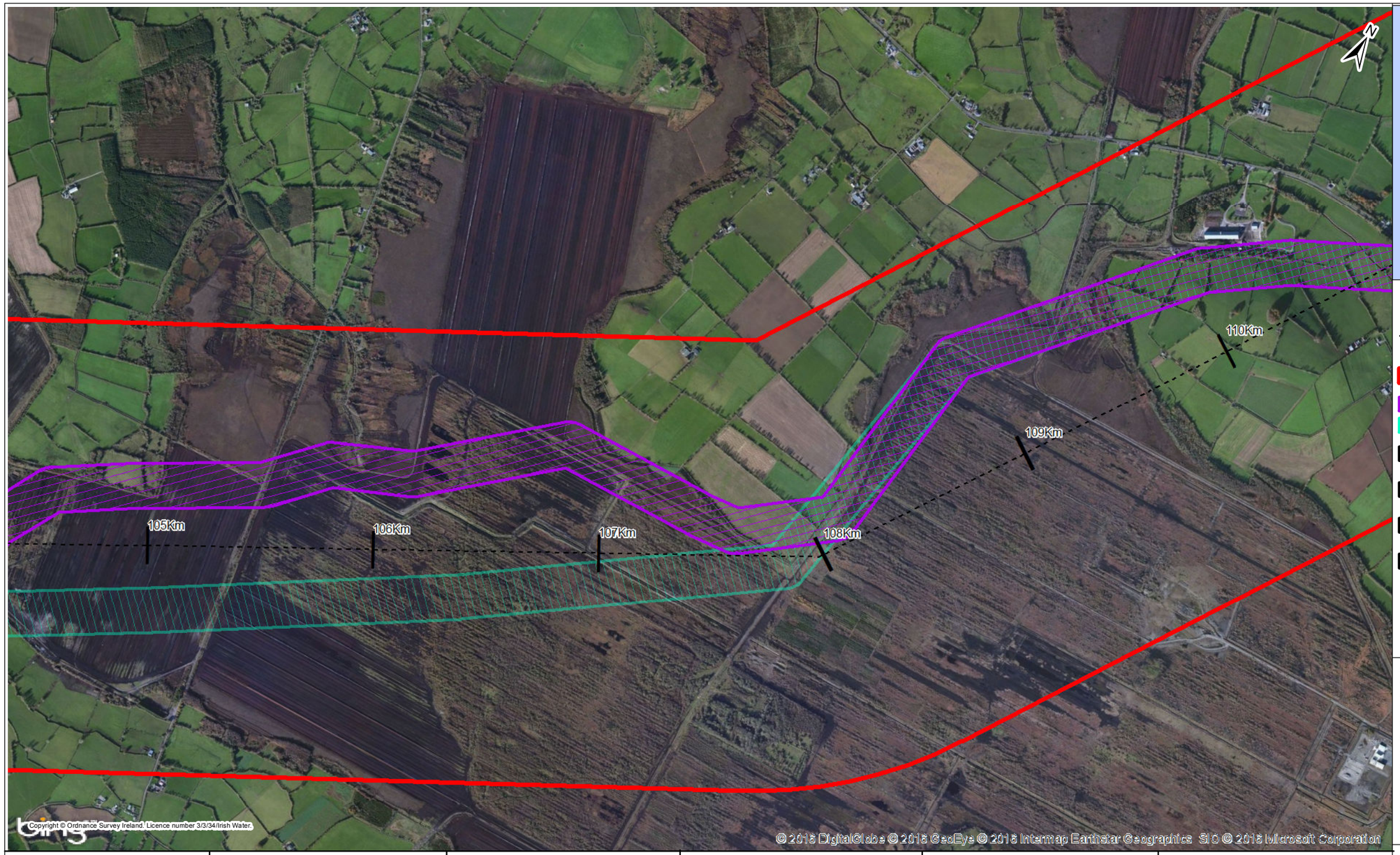
Project: Water Supply Project - Eastern and Midlands Region

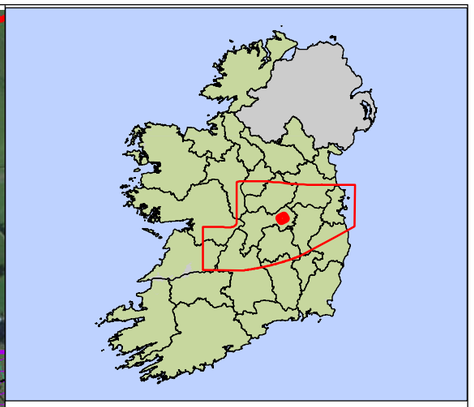
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 100 to 105 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRGIS\32105801- WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\CorridorSelection Maps\Identification of Preferred Corridor 100-105.mxd		

Drawing No.: 32105801-FOAR-056





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	105 to 106 km	106 to 107 km	107 to 108 km	108 to 109 km	109 to 110 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	Ecology: wetland ponds, raised bog Engineering: windfarm, peat production zones	Ecology: wetland ponds, raised bog Engineering: windfarm, peat production zones	Ecology: wetland ponds, raised bog Engineering: windfarm, peat production zones	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	None currently identified.	Ecology: raised bog.	Water: close proximity to watercourse	Landscape & Visual: mature trees. Traffic: road crossing.	Traffic: road crossing.

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

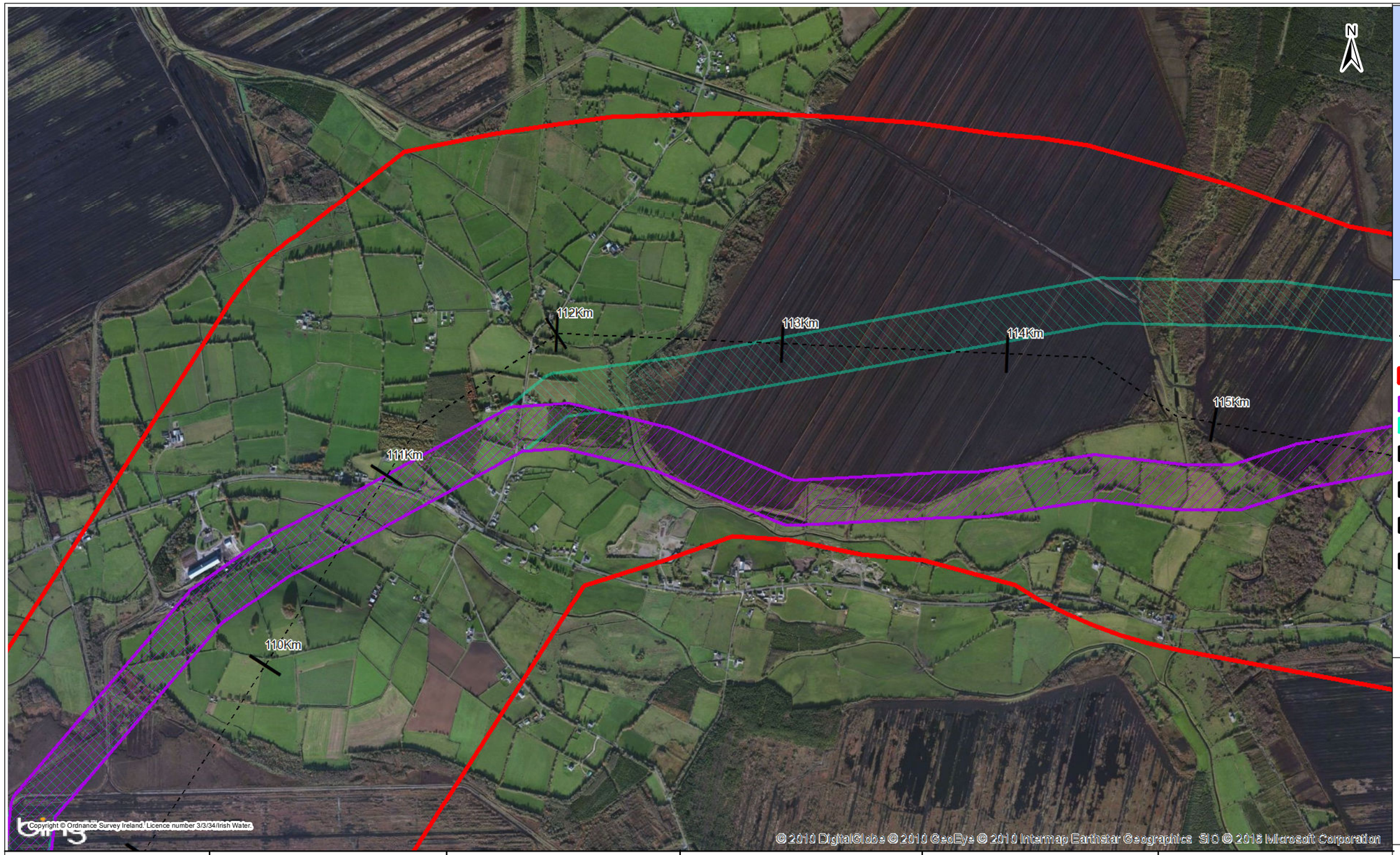
Project: Water Supply Project - Eastern and Midlands Region

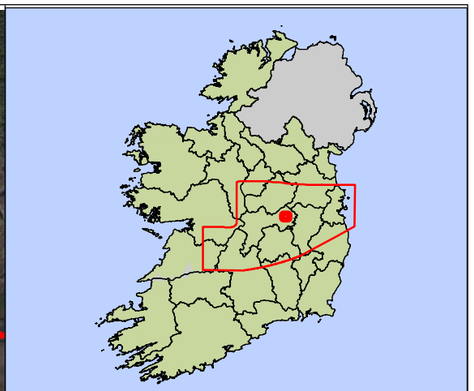
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 105 to 110 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRG\32105801-WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\CorridorSelection Maps\Identification of Preferred Corridor 105-110.mxd		

Drawing No.: 32105801-FOAR-057





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	110 to 111 km	111 to 112 km	112 to 113 km	113 to 114 km	114 to 115 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	Engineering: peat production zones	Engineering: peat production zones	Engineering: peat production zones	Engineering: peat production zones
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	None currently identified.	Ecology: badger sett	Ecology: heath/bog Soils: intact peat areas.	Ecology: badger sett Cultural Heritage: demesne Soils: intact peat areas.	Water: watercourse crossings. Landscape & Visual: stately home & mature tree lines

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

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Client: UISCE ÉIREANN - IRISH WATER

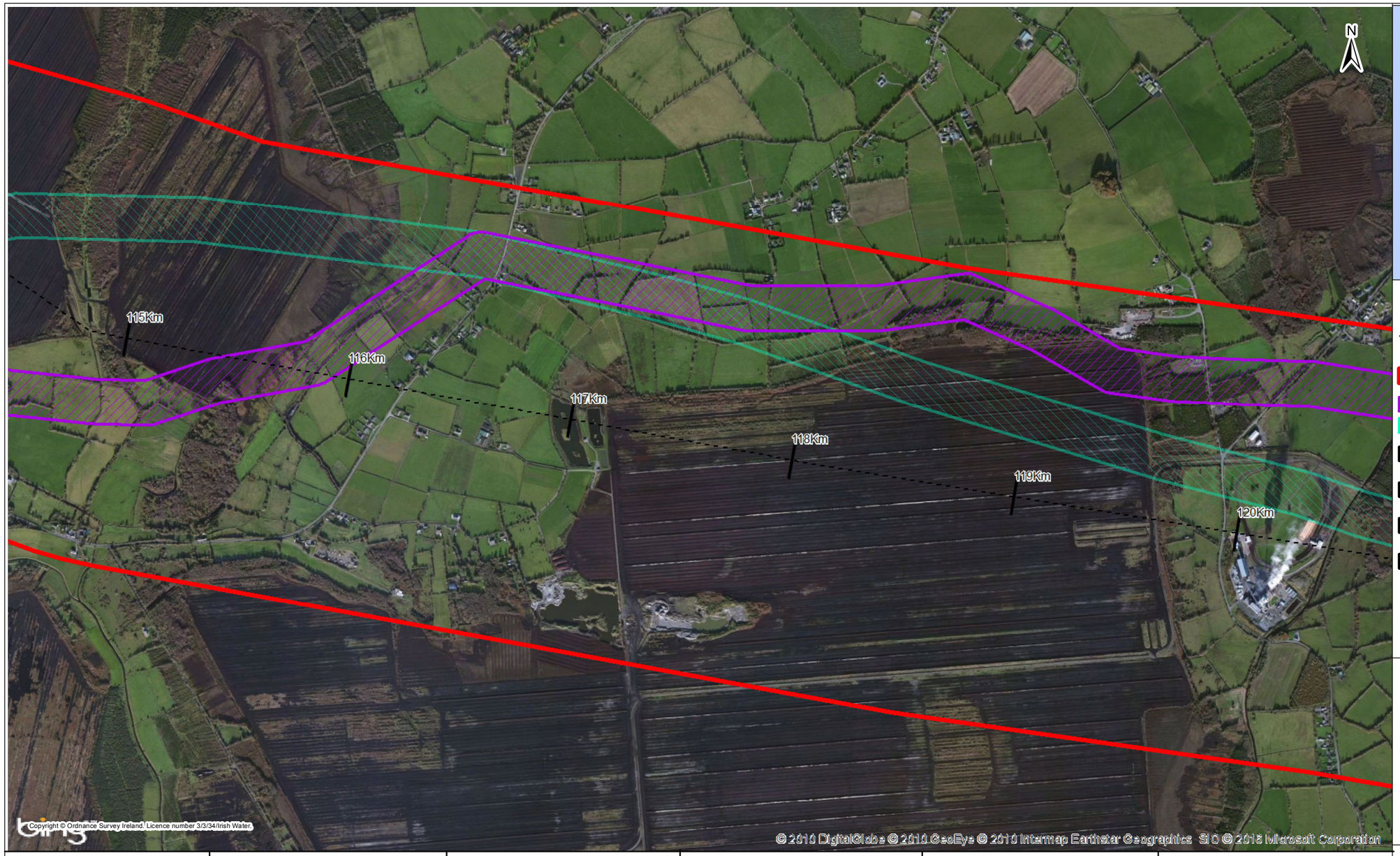
Project: Water Supply Project - Eastern and Midlands Region

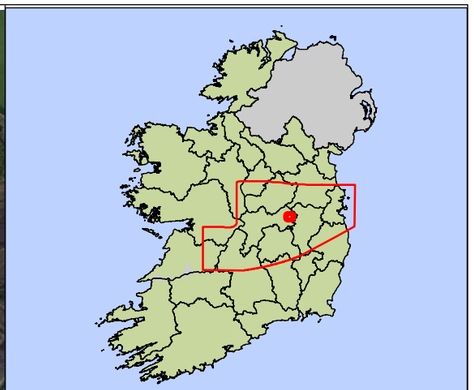
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 110 to 115 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRG\32105801 - WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\Corridor Selection Maps\Identification of Preferred Corridor 110-115.mxd		

Drawing No.: 32105801-FOAR-058





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	115 to 116 km	116 to 117 km	117 to 118 km	118 to 119 km	119 to 120 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	Engineering: peat production zones	Engineering: peat production zones	Population: reduced human impact	Engineering: peat production zones	Engineering: peat production zones
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	None currently identified.	None currently identified.	None currently identified.	Traffic: road crossing	None currently identified.

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

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Client: UISCE ÉIREANN · IRISH WATER

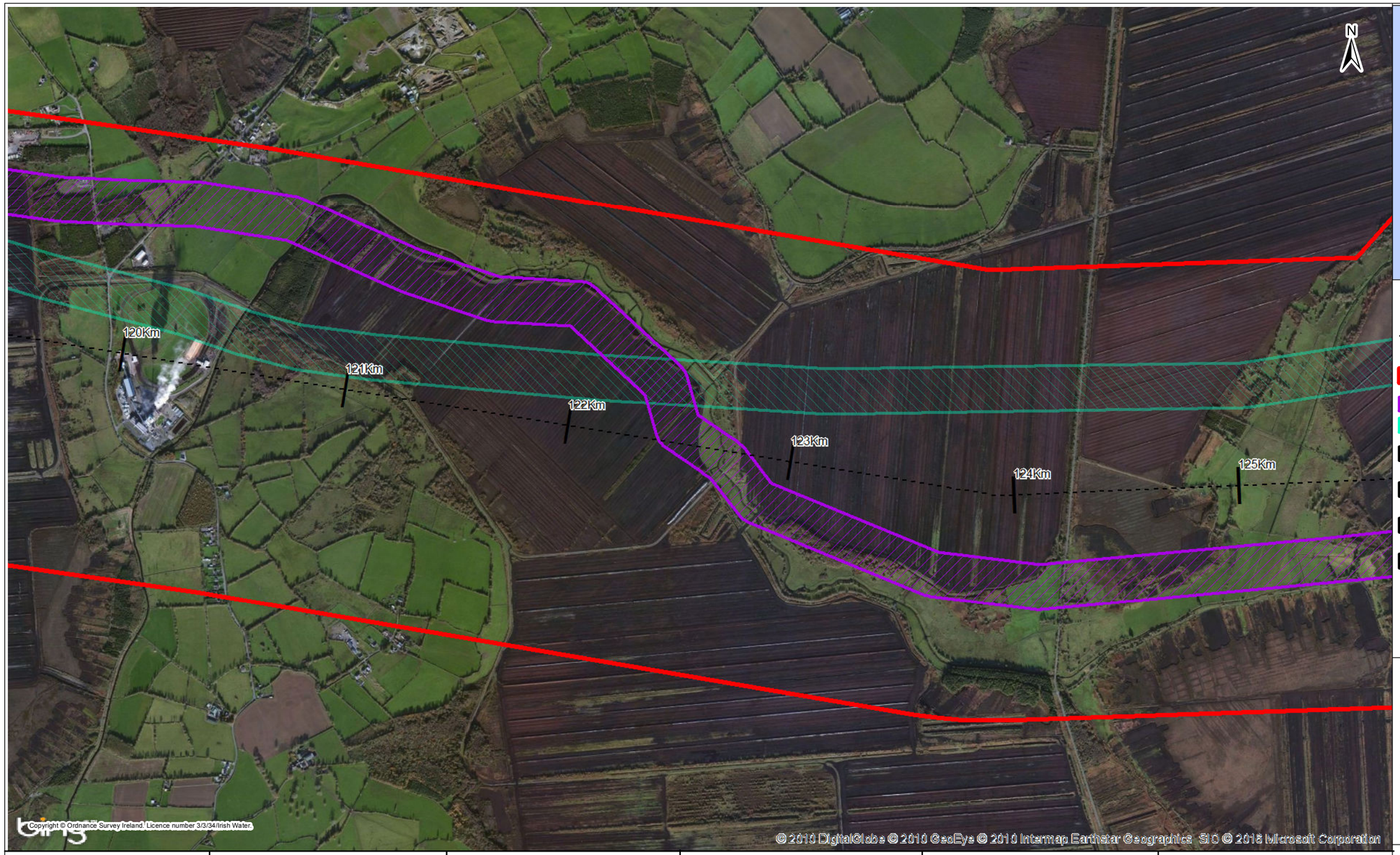
Project: Water Supply Project - Eastern and Midlands Region

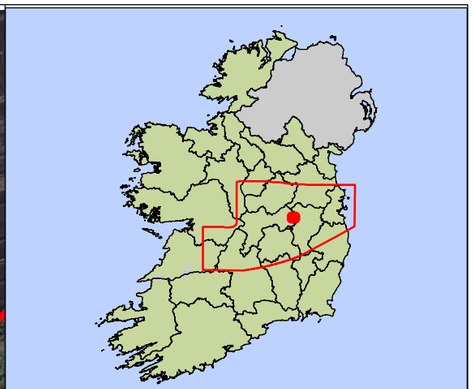
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 115 to 120 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRG\32105801-WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\CorridorSelectionMaps\Identification of Preferred Corridor 115-120.mxd		

Drawing No.: 32105801-FOAR-059





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	120 to 121 km	121 to 122 km	122 to 123 km	123 to 124 km	124 to 125 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	Engineering: power station	Engineering: peat production zones	Engineering: peat production zones	Engineering: peat production zones	Engineering: peat production zones
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Ecology: badger sett	Ecology: broadleaved woodland	Ecology: habitats Population: local dwellings/ enterprises Traffic: road crossings	Ecology: habitats Population: local dwellings/ enterprises Traffic: road crossings	Ecology: habitats

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

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Client: UISCE ÉIREANN · IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

Drawing Title: Identification of Preferred 200m Pipeline Corridor : 120 to 125 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
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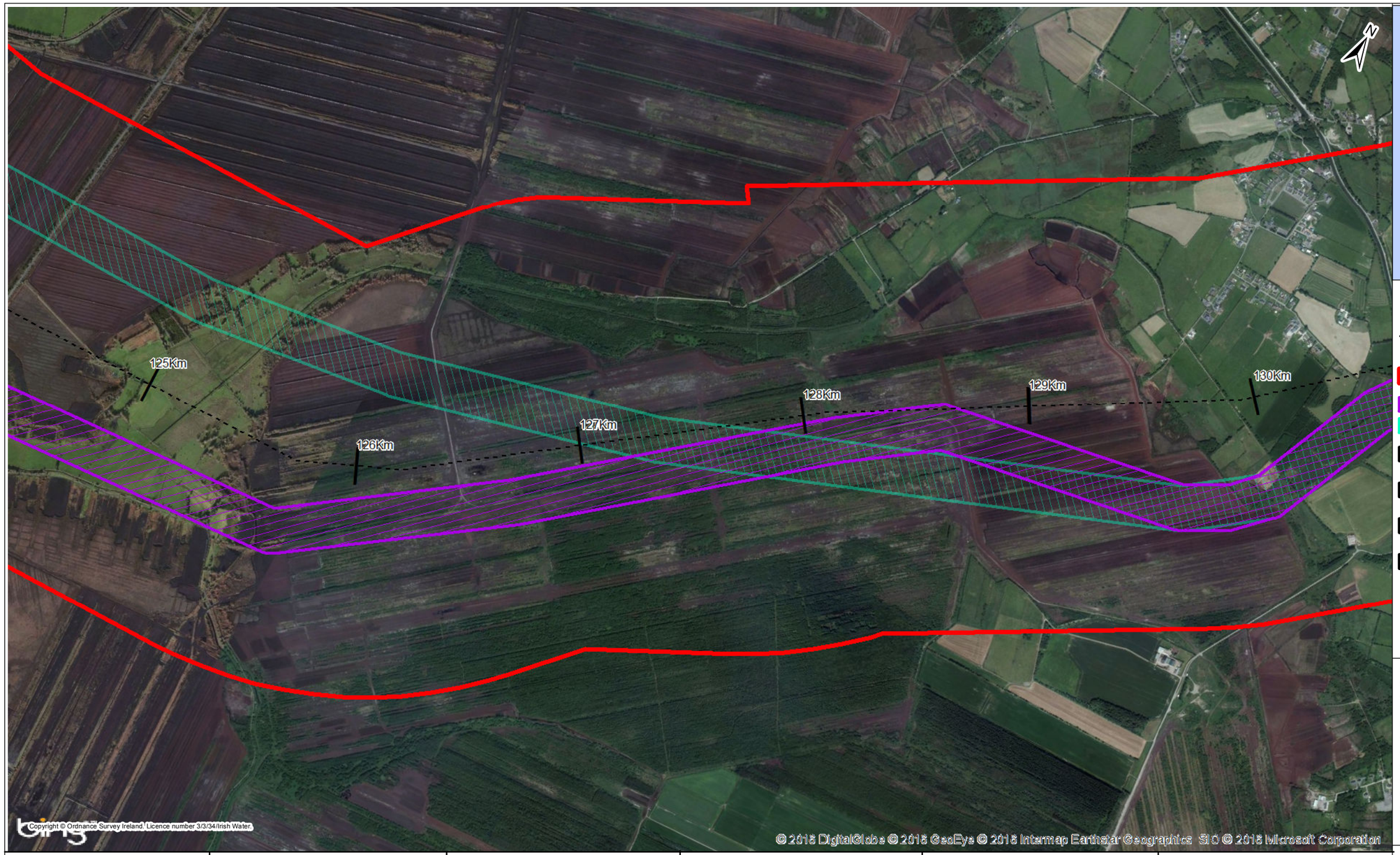
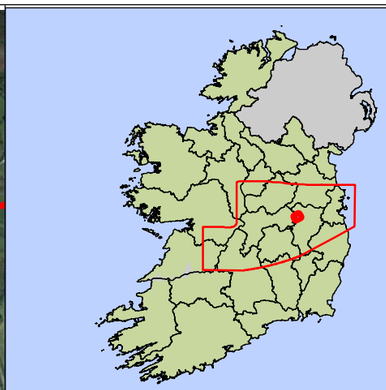
Drawing No.: 32105801-FOAR-060





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	125 to 126 km	126 to 127 km	127 to 128 km	128 to 129 km	129 to 130 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	Engineering: peat production zones	Engineering: peat production zones	Engineering: peat production zones	Engineering: peat production zones	Engineering: peat production zones
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Ecology: habitats Traffic: road crossings	Ecology: habitats	Ecology: badger sett & Japanese Knotweed	Ecology: breeding bird sites	Traffic: road crossing

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN · IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

Drawing Title: Identification of Preferred 200m Pipeline Corridor : 125 to 130 km

Drawing Status: **For Issue**

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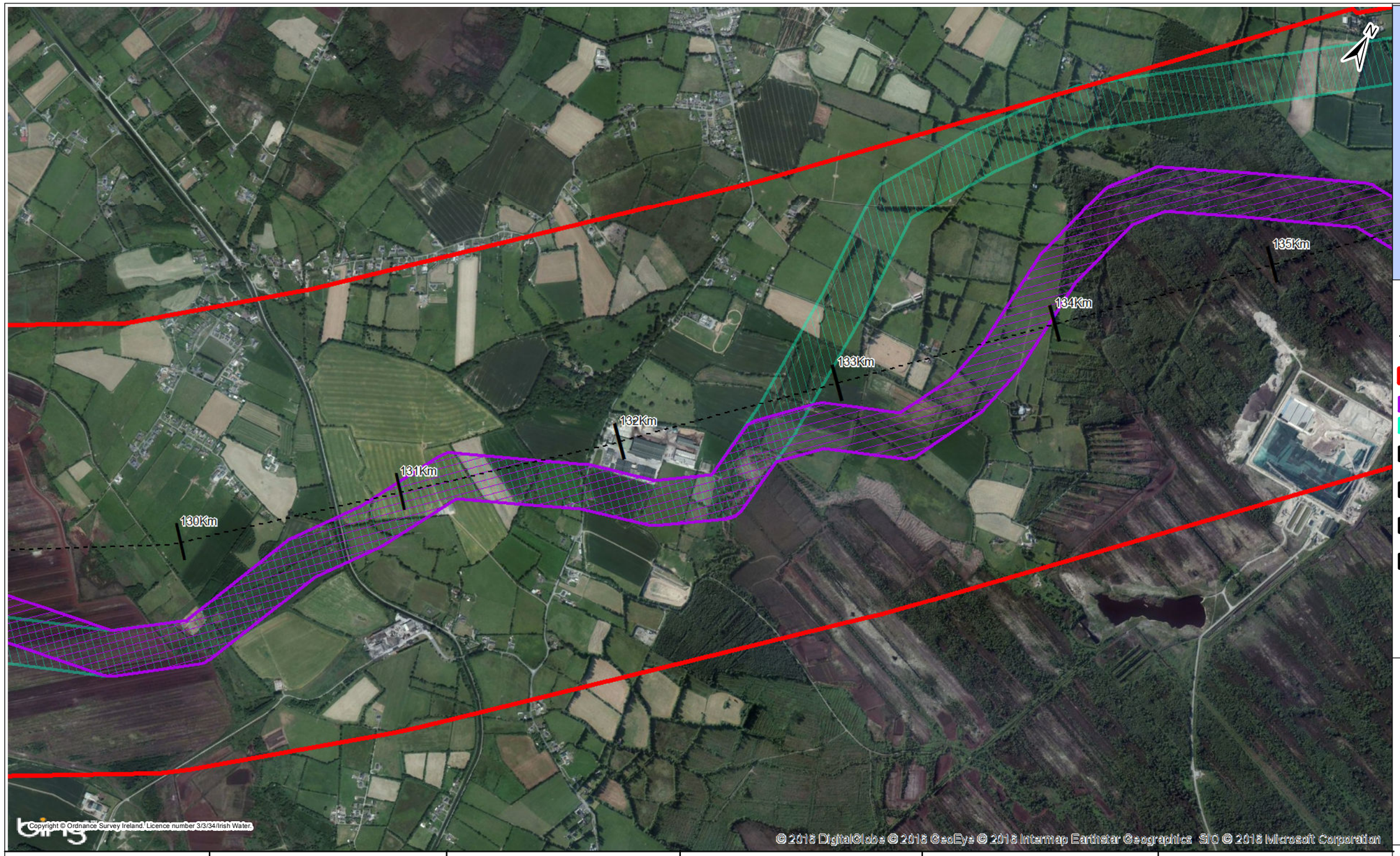
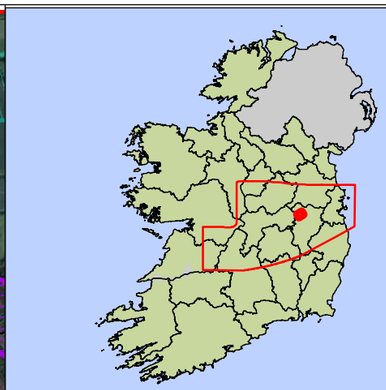
Drawing No.: 32105801-FOAR-061





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	130 to 131 km	131 to 132 km	132 to 133 km	133 to 134 km	134 to 135 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	No change to route.	Population: reduce human impacts	Population: reduce human impacts	Population: reduce human impacts
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	None currently identified.	None currently identified.	None currently identified.	None currently identified.	Ecology: badger sett Tourism: canal crossing & walking trail

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

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Client: UISCE ÉIREANN · IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

Drawing Title: Identification of Preferred 200m Pipeline Corridor : 130 to 135 km

Drawing Status: **For Issue**

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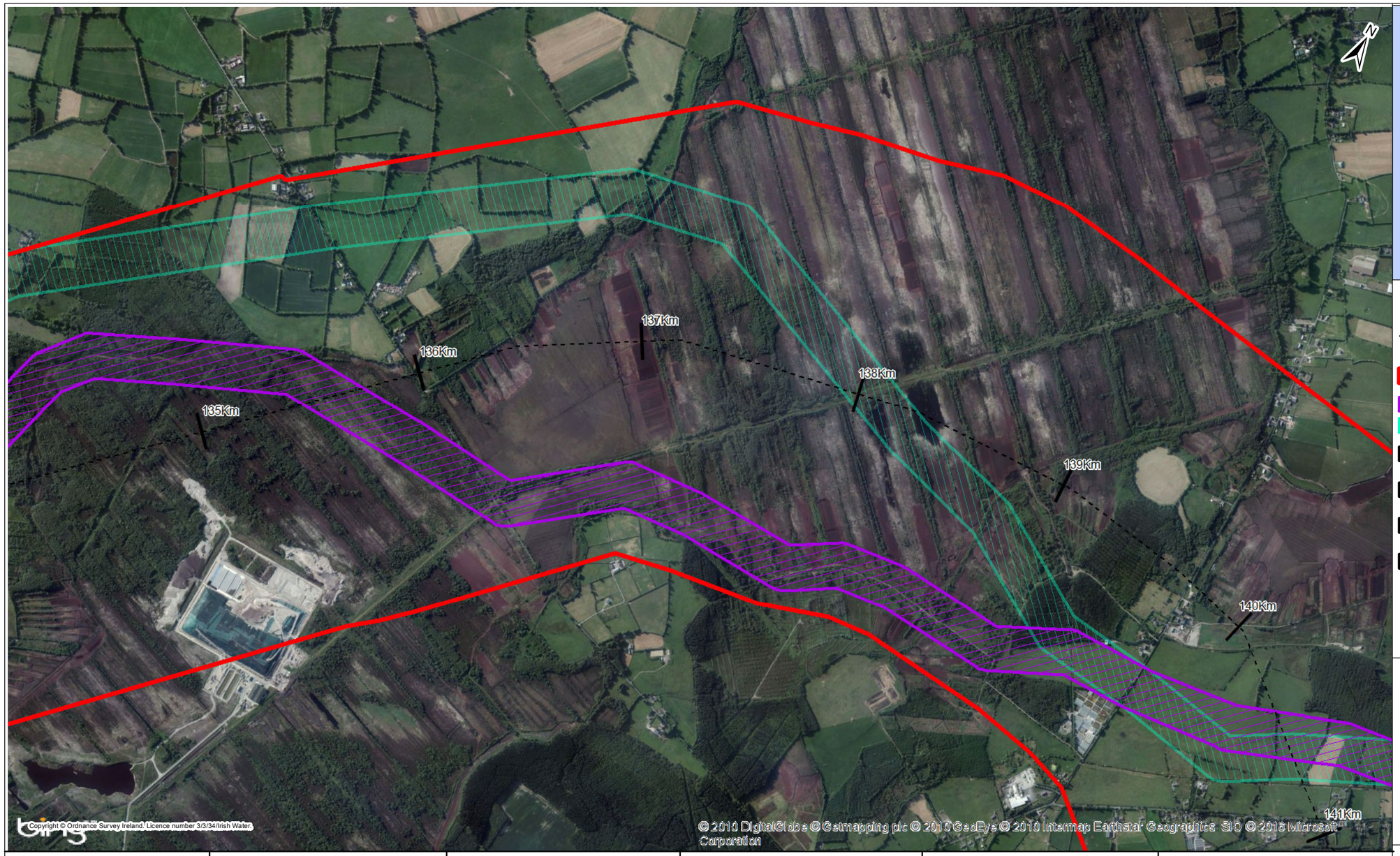
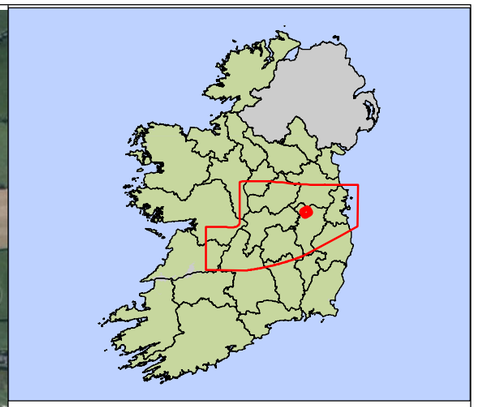
Drawing No.: 32105801-FOAR-062





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	135 to 136 km	136 to 137 km	137 to 138 km	138 to 139 km	139 to 140 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	Population: reduce human impacts	Population: reduce human impacts	Population: reduce human impacts	Population: reduce human impacts	Population: reduce human impacts
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Population: local dwellings.	Population: local dwellings.	Traffic: road crossing	Landscape & Visual: woodland	Landscape & Visual: woodland

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

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Client: UISCE ÉIREANN : IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

Drawing Title: Identification of Preferred 200m Pipeline Corridor : 135 to 140 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
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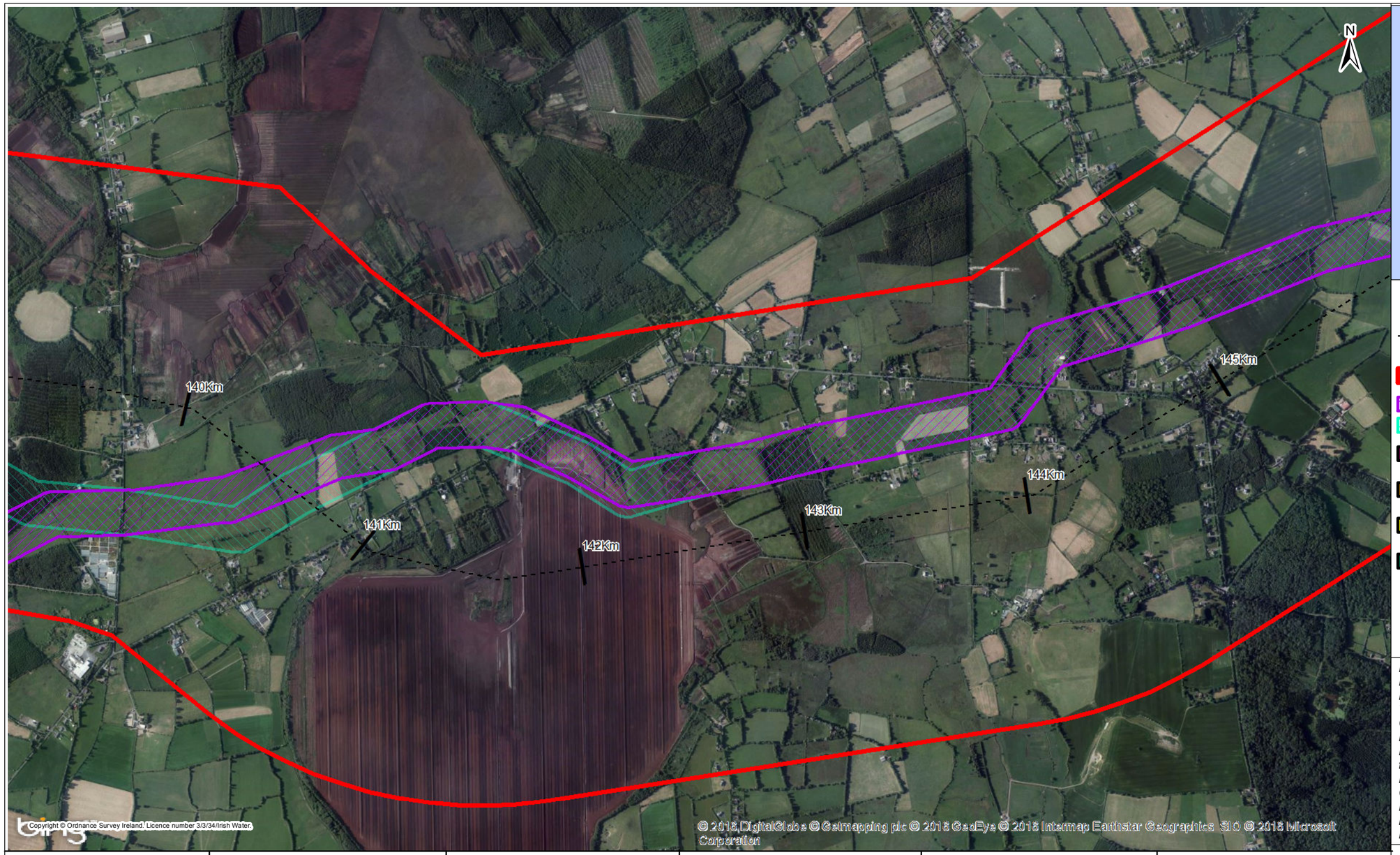
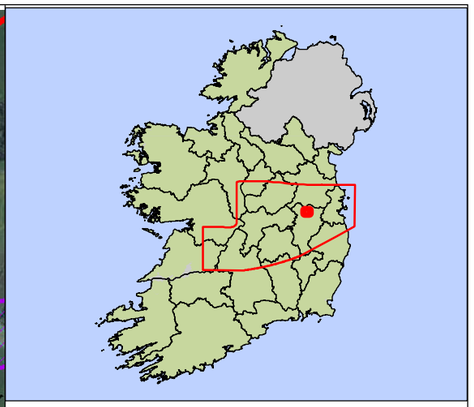
Drawing No.: 32105801-FOAR-063





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	140 to 141 km	141 to 142 km	142 to 143 km	143 to 144 km	144 to 145 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	Population: reduced human impact	Population: reduced human impact	Population: reduce human impacts	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Ecology: snipe.	Soils: intact peat areas.	Soils: intact peat areas.	None currently identified.	None currently identified.

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

Drawing Title: Identification of Preferred 200m Pipeline Corridor : 140 to 145 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
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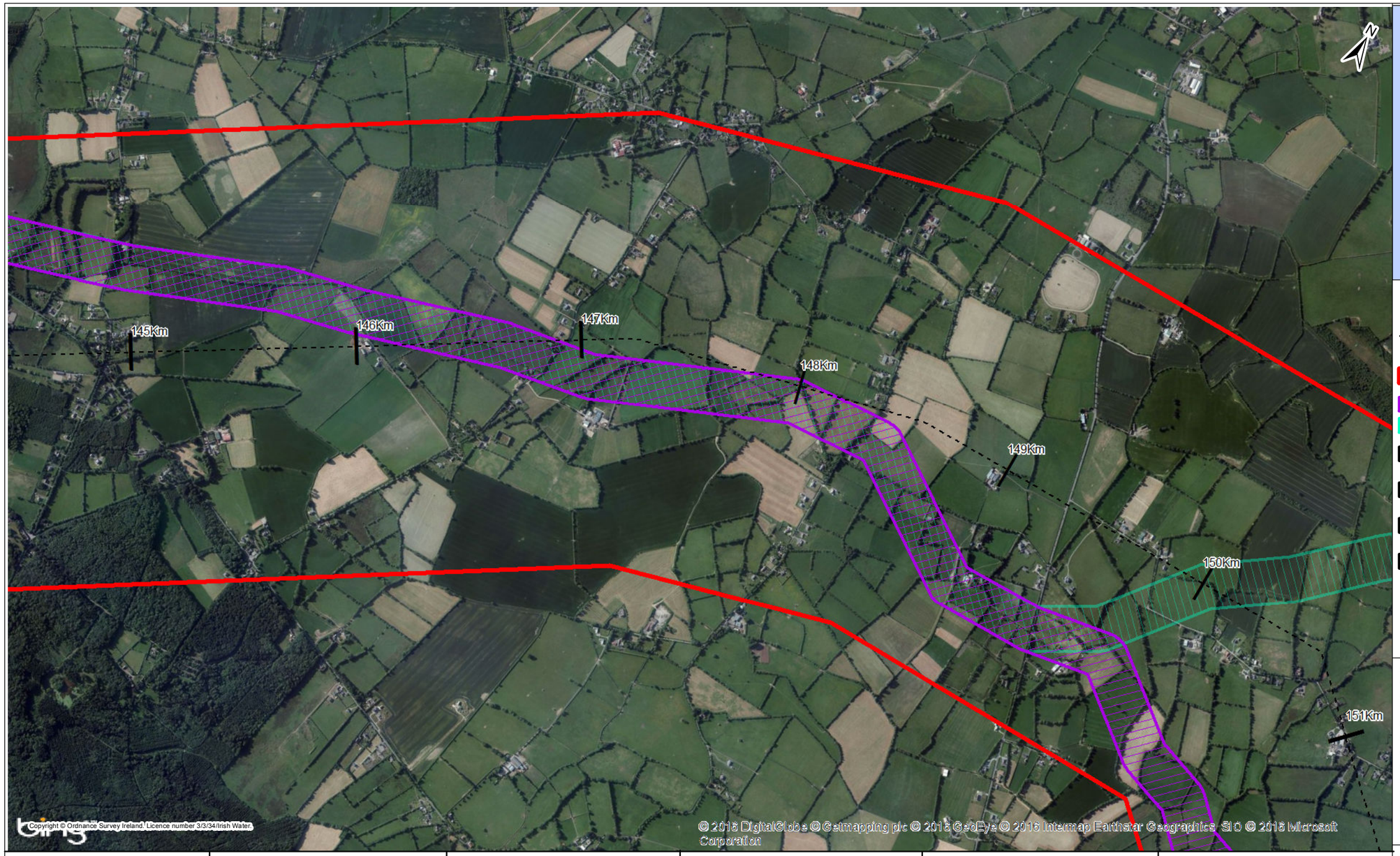
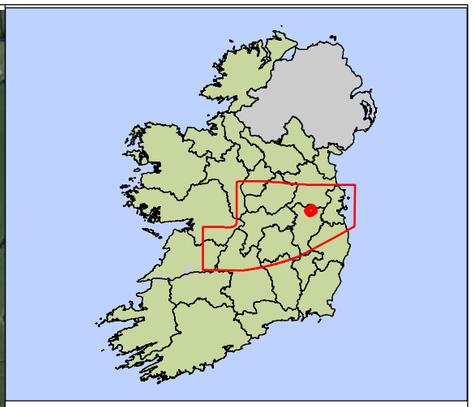
Filepath	G:\IRG\32105801- WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\CorridorSelection Maps\Identification of Preferred Corridor 140-145.mxd		

Drawing No.: 32105801-FOAR-064





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

Chainage	145 to 146 km	146 to 147 km	147 to 148 km	148 to 149 km	149 to 150 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	No change to route.	No change to route.	No change to route.	No change to route.	Population: reduce human impacts
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	None currently identified.	Ecology: badger sett Water: proximity to watercouse	Ecology: breeding site	Ecology: badger sett and bat roost potential	Landscape & Visual: design landscape Ecology: frog, commuting corridor for bats

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN · IRISH WATER

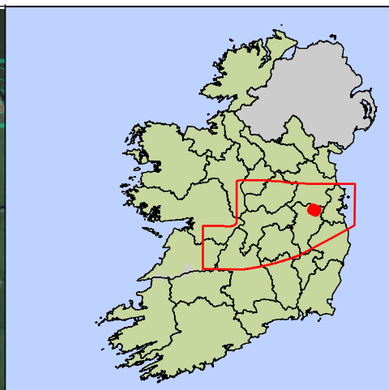
Project: Water Supply Project - Eastern and Midlands Region

Drawing Title: Identification of Preferred 200m Pipeline Corridor : 145 to 150 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRIS\32105801- WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\CorridorSelection Maps\Identification of Preferred Corridor 145-150.mxd		

Drawing No.: 32105801-FOAR-065



Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	150 to 151 km	151 to 152 km	152 to 153 km	153 to 154 km	154 to 155 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	Population: reduce human impacts	Population: reduce human impacts	Population: reduce human impacts	Population: reduce human impacts	Population: reduce human impacts
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Material assets: local enterprise.	Material assets: local enterprise. Population: local dwellings.	Material assets: local enterprise. Population: local dwellings.	None currently identified.	Material assets: local enterprise. Water: watercourse crossing.

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

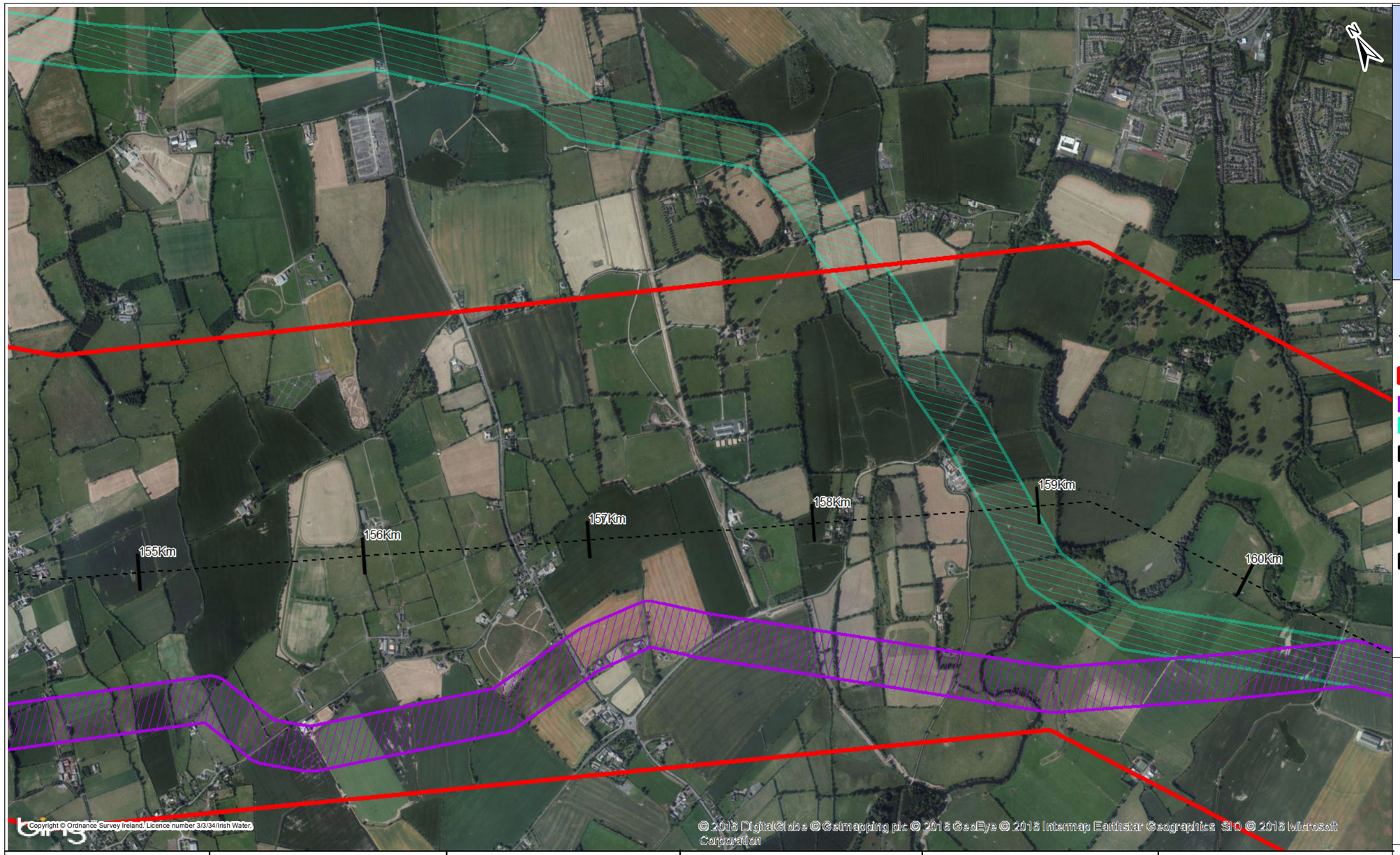
Project: Water Supply Project - Eastern and Midlands Region

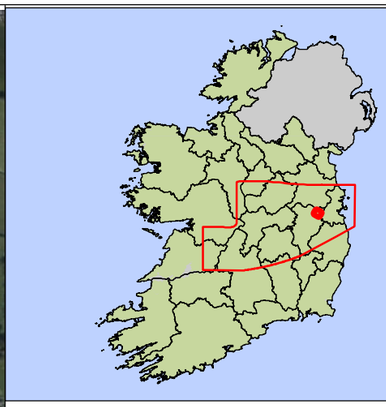
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 150 to 155 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRG\32105801- WSP-DIR\GIS Tasks\5_Mxds\Report Maps\FOAR\CorridorSelection Maps\Identification of Preferred Corridor 150-155.mxd		

Drawing No.: 32105801-FOAR-066





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	155 to 156 km	156 to 157 km	157 to 158 km	158 to 159 km	159 to 160 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	Population: reduce human impacts	Population: reduce human impacts	Population: reduce human impacts	Population: reduce human impacts	Population: reduce human impacts
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Water: watercourse crossing.	Water: watercourse crossing. Landscape & Visual: mature trees Traffic: road crossing	Water: watercourse crossing. Traffic: road crossing	Water: watercourse crossing. Traffic: road crossing	Population: local enterprise. Traffic: road crossing Cultural Heritage: recorded monuments

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

JACOBS TOBIN Patrick J. Tobin & Co. Ltd.

Client: UISCE ÉIREANN - IRISH WATER

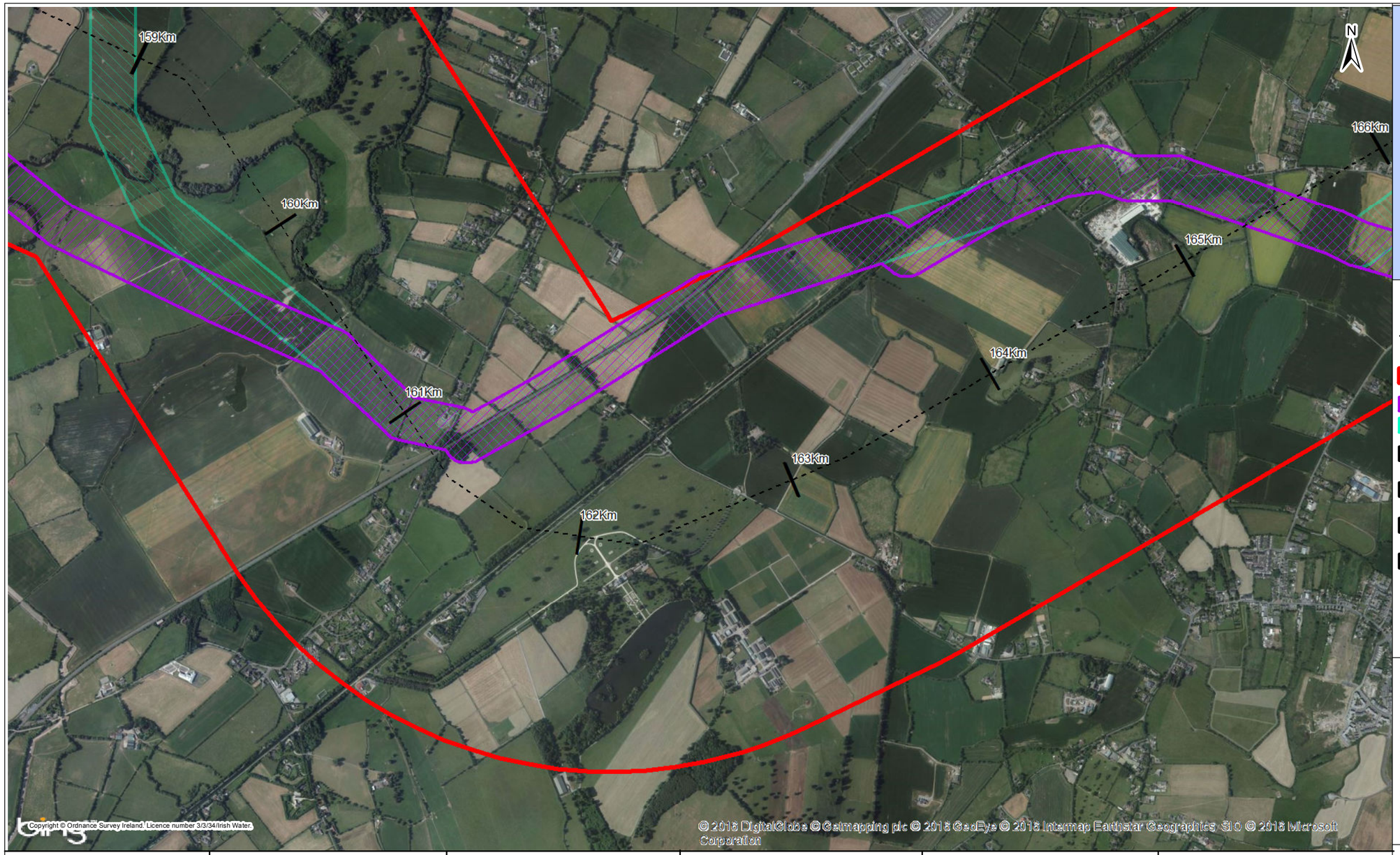
Project: Water Supply Project - Eastern and Midlands Region

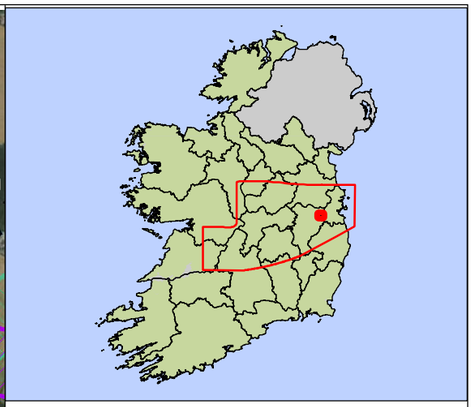
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 155 to 160 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRGIS\32105801- WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\CorridorSelection Maps\Identification of Preferred Corridor 155-160.mxd		

Drawing No.: 32105801-FOAR-067





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Chainage	160 to 161 km	161 to 162 km	162 to 163 km	163 to 164 km	164 to 165 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	Population: reduce human impacts	Population: reduce human impacts	No change to route.	No change to route.	No change to route.
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	None currently identified.	None currently identified.	Water: watercourse crossing.	Traffic: road crossing	Water: watercourse crossing.

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

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Client: UISCE ÉIREANN - IRISH WATER

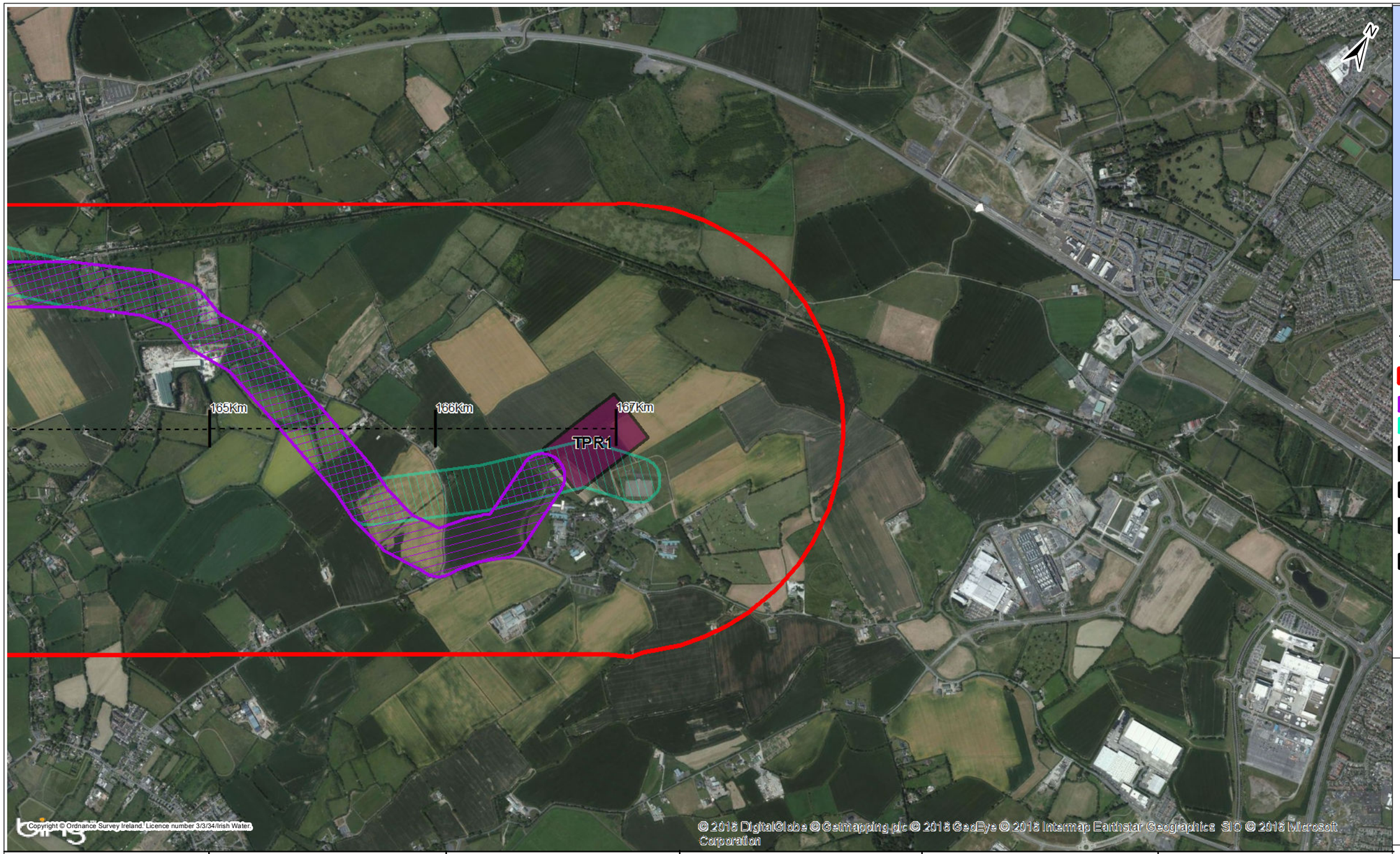
Project: Water Supply Project - Eastern and Midlands Region

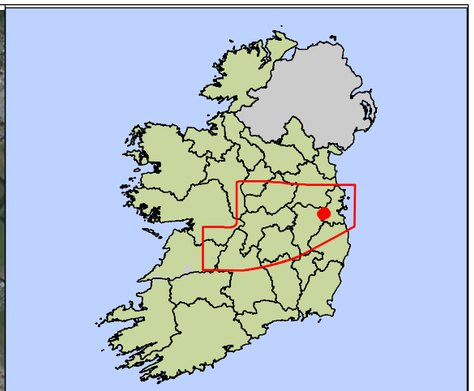
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 160 to 165 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRG\32105801- WSP-DR\GIS Tasks\5_Mxds\Report Maps\FOAR\CorridorSelection Maps\Identification of Preferred Corridor 160-165.mxd		

Drawing No.: 32105801-FOAR-068





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

Chainage	165 to 166 km	166 to 167 km	167 to 168 km	168 to 169 km	169 to 170 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor	Engineering: route adjusted to better integrate with other client projects	Engineering: route adjusted to better integrate with other client projects			
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Ecology: Liffey corridor. Riparian habitat & Otter & Craytish Ecology: watercourse crossing Soils: oxbox lake. Traffic: rail crossing	Soils: oxbox lake.	Ecology: broadleaved woodland. Population: local dwellings.	None currently identified.	Ecology: Grand Canal crossing

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Client: UISCE ÉIREANN - IRISH WATER

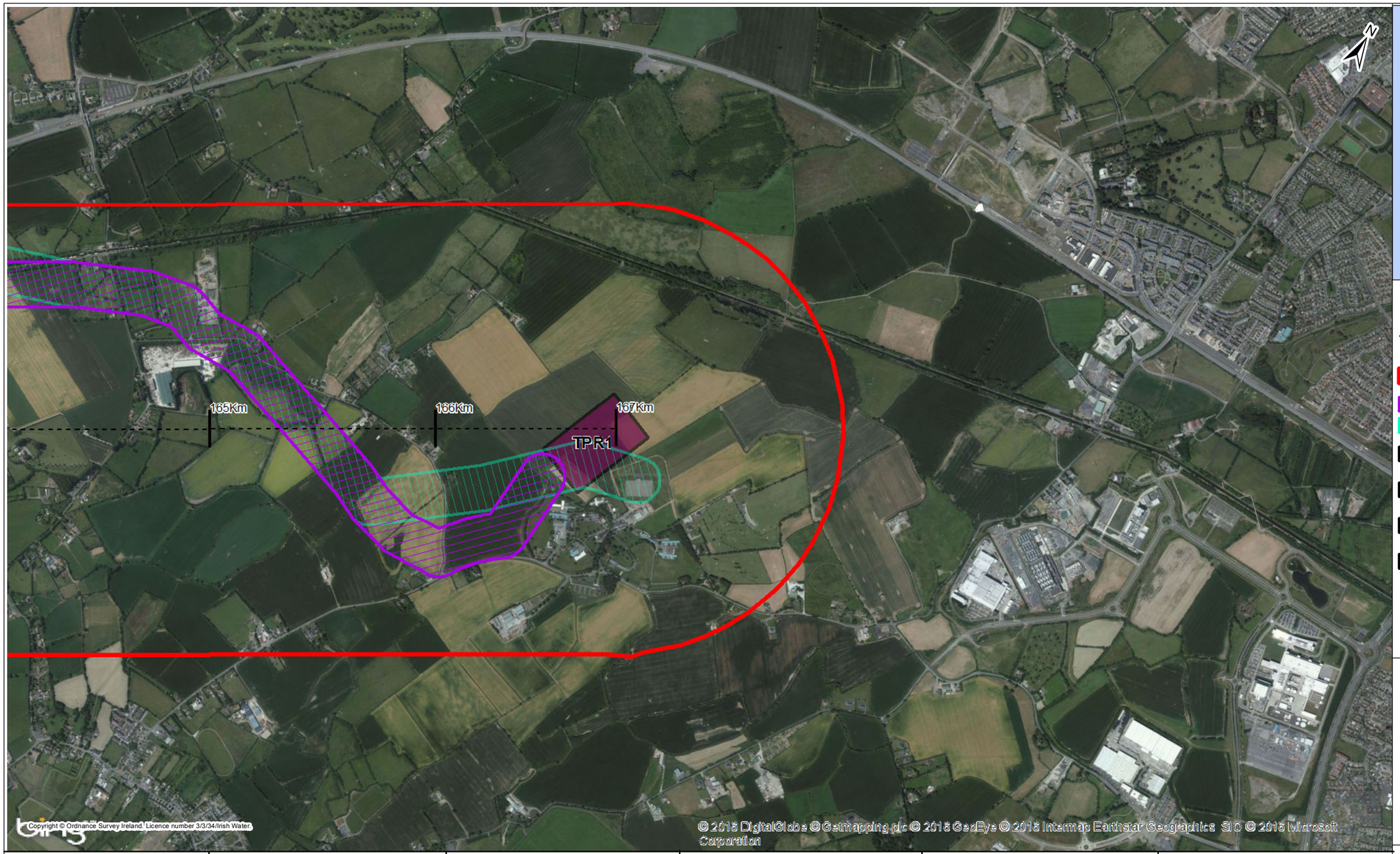
Project: Water Supply Project - Eastern and Midlands Region

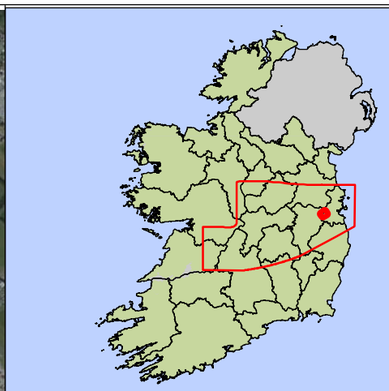
Drawing Title: Identification of Preferred 200m Pipeline Corridor : 165 to 170 km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRG\32105801- WSP-DIR\GIS Tasks\5_Mxds\Report Maps\FOAR\Corridor Selection Maps\Identification of Preferred Corridor 165-170.mxd		

Drawing No.: 32105801-FOAR-069





Key

- Centreline of Preferred Route Corridor
- Preferred Route Corridor (Generally 2km)
- Preferred 200m Pipeline Corridor
- Preliminary 200m Pipeline Corridor
- Least Constrained Termination Point Reservoir Site
- Least Constrained Raw Water Abstraction Site
- Least Constrained Water Treatment Plant Site
- Least Constrained Break Pressure Tank Site

Notes :-
Note 1 - Whilst the Preferred 200m Pipeline Corridor Represents the Least Constrained Route for a Pipeline There are a Number of Constraints Within it. These are Considered in the Identification of an Indicative 50m Pipeline Corridor
Note 2 - An Indicative 50m Pipeline Corridor is Shown in the FOAR Main Report
Note 3 - Chainage Refers to Preferred 200m Pipeline Corridor and Not the Centreline of the Preferred Route Corridor (Generally 2km). The Preferred 200m Pipeline Corridor Chainage is Shown in the FOAR Main Report

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
1	02/11/2016	For Issue	PW	CK	DS	MG

Chainage	170 to 171 km	171 to 172 km	172 to 173 km	173 to 174 km	174 to 175 km
Feedback From Environmental Surveys Defining Preferred 200m Pipeline Corridor					
Residual Constraints within Preferred 200m Pipeline Corridor (See Note 3)	Population: local dwellings.	None currently identified.	None currently identified.	Population: local dwellings.	

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Client: UISCE ÉIREANN - IRISH WATER

Project: Water Supply Project - Eastern and Midlands Region

Drawing Title: Identification of Preferred 200m Pipeline Corridor : 170 to 175km

Drawing Status: **For Issue**

Scale @A3	1:19,000		DO NOT SCALE
Jacobs No.	32105801	Client No.	WSP1
Filepath	G:\IRG\S32105801-WSP-DIR\GIS Tasks\5_Mxds\Report Maps\FOAR\Corridor Selection Maps\Identification of Preferred Corridor 170-175.mxd		

Drawing No.: 32105801-FOAR-070

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