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InterGen

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Report

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**SEE UNDERGROUND GAS
PIPELINE AND ASSOCIATED AGI
NON-TECHNICAL SUMMARY OF THE
ENVIRONMENTAL STATEMENT
FURTHER INFORMATION
DOCUMENT**

Revision History

<i>Revision</i>	<i>Date</i>	<i>Purpose / Status</i>	<i>Document Ref.</i>	<i>Comments</i>
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LIST OF ABBREVIATIONS

AGI	Above Ground Installation
CEMP	Construction Environmental Management Plan
ERP	Emergency Response Plan
ES	Environmental Statement
ES FID	Environmental Statement Further Information Document
ha	hectare
km	kilometre
m	metre
m ²	square metre
mm	millimetre
SEE	Spalding Energy Expansion
SEEL	Spalding Energy Expansion Limited
SHDC	South Holland District Council
SWMP	Site Waste Management Plan

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1 INTRODUCTION

1.1 Overview

- 1.1.1 In February 2010, In February 2010, Spalding Energy Expansion Limited (SEEL) submitted an application for planning permission under the Town and Country Planning Act 1990 (the Original Permission Application) to South Holland District Council (SHDC) to construct an underground gas pipeline and associated Above Ground Installation (AGI) required in connection with the Spalding Energy Expansion (SEE).
- 1.1.2 Amongst other documents / studies, the Original Permission Application was accompanied by an Environmental Statement (ES) (the February 2010 ES).
- 1.1.3 On 8 June 2010, planning permission (Reference: H16-0135-10) for the underground gas pipeline and associated AGI was granted (the Original Permission).

1.2 Purpose of this Document

- 1.2.1 SEEL is submitting a replacement application for planning permission to SHDC (the Replacement Application). The effect of the Replacement Application, if granted, would be to extend the time during which the Proposed Development (i.e. the underground gas pipeline and associated AGI) covered by the Original Permission can be commenced.
- 1.2.2 To accompany the Replacement Application, SEEL is providing the following information to SHDC:
 - A Replacement Application Environmental Statement Further Information Document (ES FID), which includes (amongst other items):
 - Updated environmental baseline information; and,
 - An assessment of whether the likely significant effects on the environment of the Proposed Development (i.e. the underground gas pipeline and associated AGI) differ from those described in the February 2010 ES; and,
 - Where there is potential for the likely significant effects to differ, an updated impact assessment.
 - Where there is no potential for the likely significant effects to differ, an explanation and / or supporting information.
- 1.2.3 Used in combination, the information in the February 2010 ES and the Replacement Application ES FID provide the results of a comprehensive and independent assessment of the likely significant effects on the environment, as described in Schedule 4 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (the EIA Regulations), of the Proposed Development.
- 1.2.4 This document is a Non-Technical Summary of the Replacement Application ES FID.

2 THE PROPOSED DEVELOPMENT

2.1 Overview

- 2.1.1 The Proposed Development comprises the construction of an underground gas pipeline and an associated AGI along with other necessary equipment. Other than a small increase in the proposed underground gas pipeline diameter, the Proposed Development is considered to be as described in the February 2010 ES. A summary description is provided in this sub-Section for information.
- 2.1.2 The proposed underground gas pipeline is approximately 8 kilometres (km) in length and will be buried between an extension of the existing AGI compound at Wragg Marsh and a new Gas Receiving Facility within the proposed SEE site. The proposed underground gas pipeline route broadly parallels that of the existing Spalding CCGT generating station underground gas pipeline.
- 2.1.3 Following completion of construction, the only permanent above ground features of the Proposed Development will be the associated AGI compound, aerial marker posts, cathodic protection posts, and M4 mark posts. To enable the monitoring and control of the underground gas pipeline and associated AGI, control cables between the proposed SEE site and the associated AGI compound will be installed with the underground gas pipeline.
- 2.1.4 Table 2.1 lists the specifications of the Proposed Development.

TABLE 2.1: SPECIFICATIONS OF THE PROPOSED DEVELOPMENT

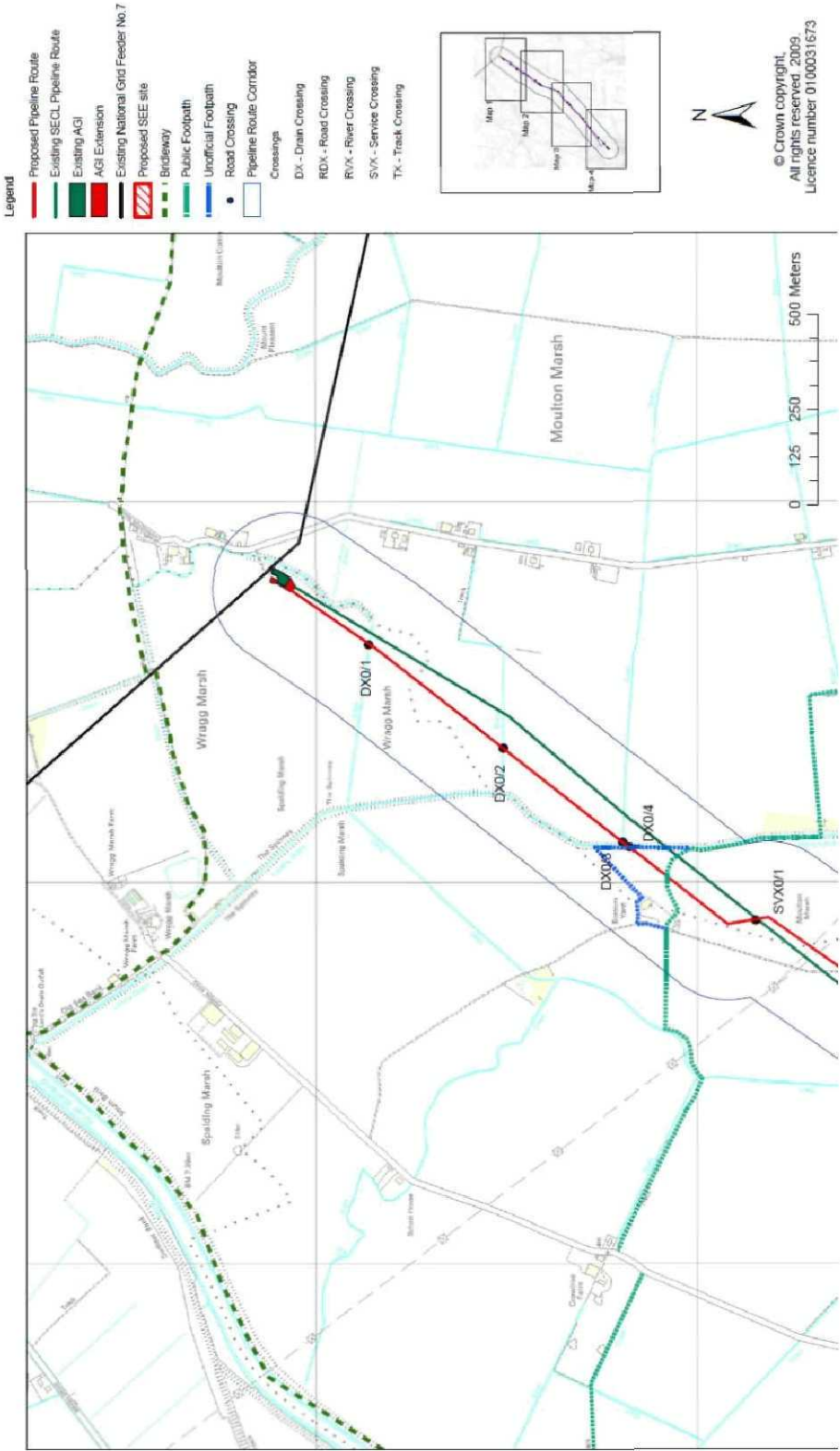
<i>Element</i>	<i>Specification</i>	<i>Comment</i>
Gas Pipeline		
Length	8.0 km	N / A
Material	High Grade Welded Steel	N / A
External Diameter	Up to 610 mm	Within the February 2010 ES, it was noted that the external diameter would be either 407 mm or 457 mm. It is now anticipated that the external diameter will be up to 610 mm. This does not change any other specifications, nor does it change the proposed underground gas pipeline route or construction / operation / decommissioning methods and associated 'working width' / easements / way leaves.
Design Operating Pressure	90.1 bar g	N / A
Wall Thickness	-	To comply with the requirements of the Institute of Gas Engineers' (IGE) Recommendations on Transmission and Distribution Practice – IGE/TD/1: Edition 5, 2009 - Steel Pipelines and Associated Installations for High Pressure Gas Transmission (Pipeline Design Standard IGE/TD/1).
Minimum Depth of Cover	1.1 m	In urban land.
	1.1 m	In suburban land.
	1.2 m	Under roads.
	1.2 m	Under watercourses.
Above Ground Installation (Connection Point to National Grid Gas National Transmission System)		
Approximate Area of New AGI Compound	1200 m ² 0.12 ha	N / A
Approximate Area of Overall AGI Compound	5600 m ² 0.56 ha	Including the exiting AGI compound, the proposed new AGI compound and associated landscaping.

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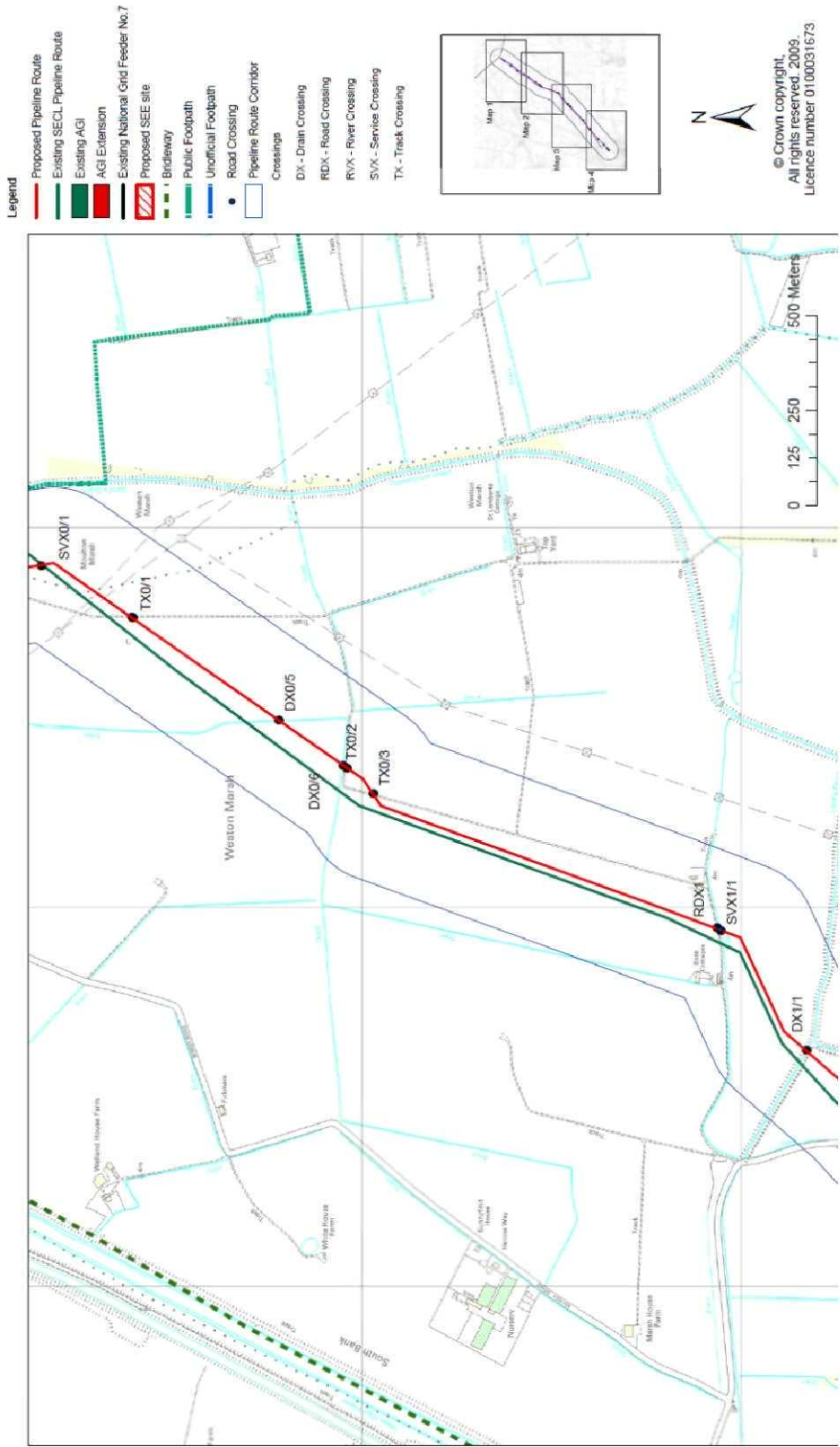
The Proposed Underground Gas Pipeline Route Description

- 2.1.5 The following sub-Section provides the proposed underground gas pipeline route description from north to south (i.e. from the new AGI compound to the proposed SEE site). For the purposes of clarity and understanding, it is recommended that the following Section be read in conjunction with Insert 2.1.
- 2.1.6 The crossings are also referenced in Insert 2.1 and are defined as follows:
- DX – Drain Crossing;
 - RDX – Road Crossing;
 - RVX – River Crossing;
 - SVX – Service Crossing; and
 - TX – Track Crossing.

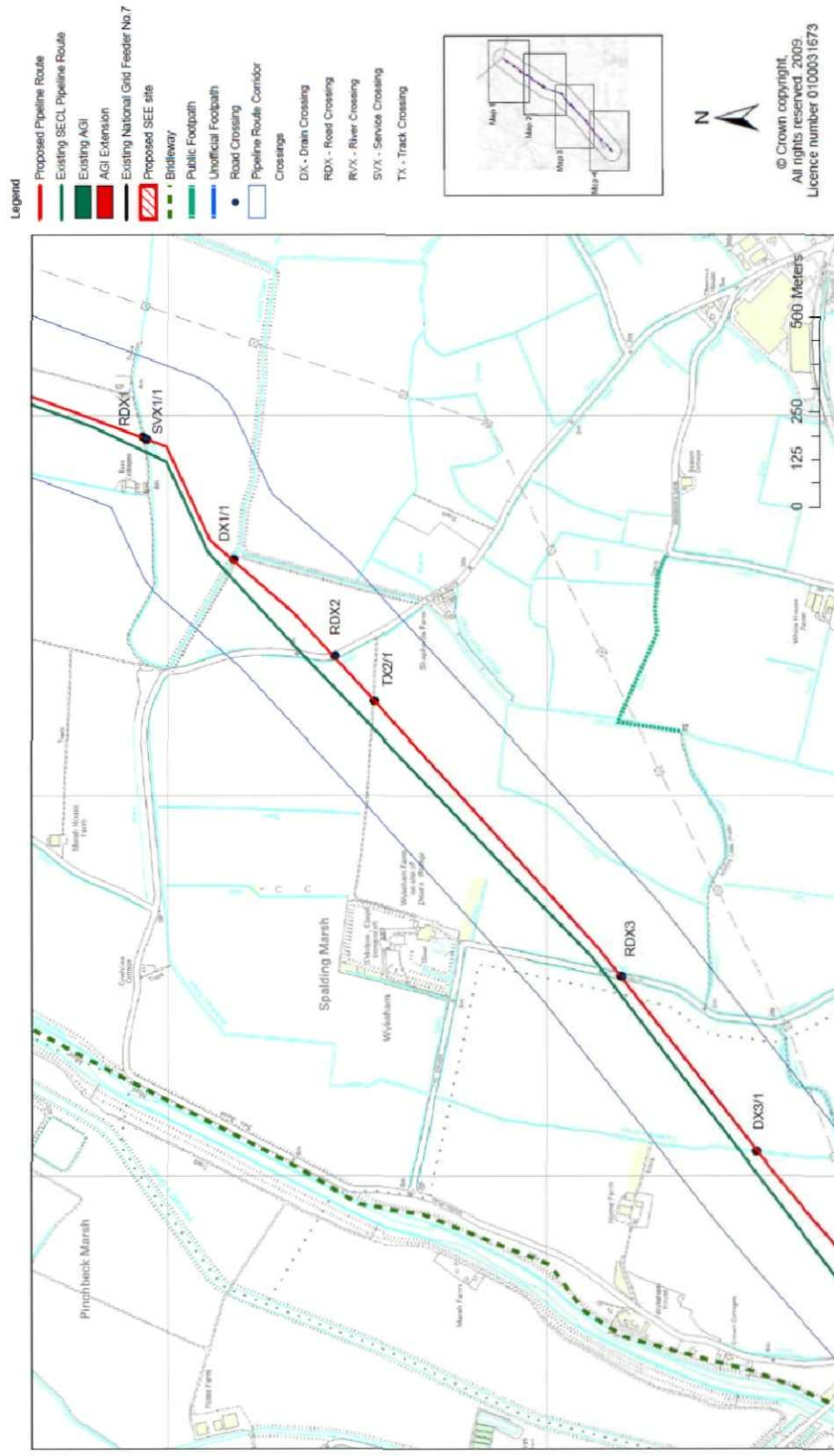
INSERT 2.1A – PROPOSED GAS PIPELINE ROUTE SECTION A



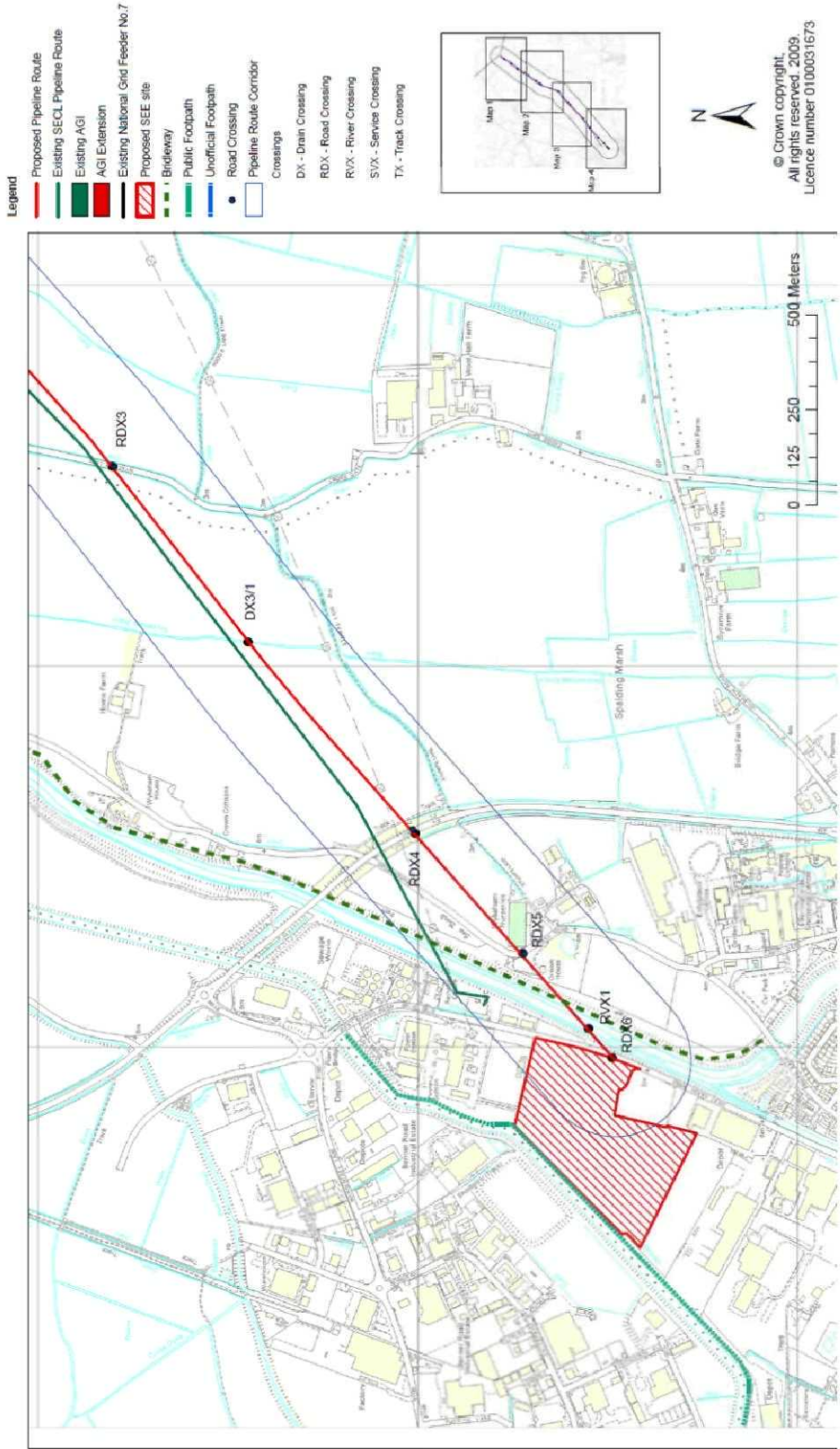
INSERT 2.1B – PROPOSED GAS PIPELINE ROUTE SECTION B



INSERT 2.1C – PROPOSED GAS PIPELINE ROUTE SECTION C



INSERT 2.1D – PROPOSED GAS PIPELINE ROUTE SECTION D



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Section A – Insert 2.1A

- 2.1.7 The proposed underground gas pipeline commences at the proposed new AGI compound which would be an extension to the existing AGI compound at Wragg Marsh, approximately 200 m to the south of Bottom Farm, at the end of Carrington Road.
- 2.1.8 From the proposed new AGI compound, the proposed underground gas pipeline heads in a south west direction for approximately 1.4 km towards Bottom Yard, crossing agricultural land and several drains (DX0/1, DX0/2, DX0/3 and DX0/4). DX0/4 is Lord's Drain, a key drainage channel controlled by South Holland Internal Drainage Board.
- 2.1.9 Immediately after crossing Lord's Drain, the proposed underground gas pipeline crosses a public footpath (Path No. WSTN/7/1).
- 2.1.10 After passing Bottom Yard, the proposed underground gas pipeline turns directly south for approximately 120 m and crosses the Spalding CCGT generating station underground gas pipeline (SVX0/1).

Section B – Insert 2.1B

- 2.1.11 Approximately 30 m to the south of the crossing of the Spalding CCGT generating station underground gas pipeline, the proposed underground gas pipeline turns back in a south west direction. After approximately 250 m the proposed underground gas pipeline crosses an unnamed track (TX0/1), linking Bottom Yard and Top Yard.
- 2.1.12 The proposed underground gas pipeline then continues in a south west direction, crossing two drains (DX0/5 and DX0/6) and an unnamed track (TX0/2). The proposed underground gas pipeline then turns further west for approximately 100 m and crosses a third unnamed track (TX0/3).
- 2.1.13 After TX0/3 the proposed underground gas pipeline route turns south for approximately 1 km towards Bass Cottages. Approximately 150 m to the east of Bass Cottages, the proposed underground gas pipeline crosses an unnamed road (RDX1), built on a medieval sea defence feature known as 'Roman Bank' or 'Sea Bank', and a water main (SVX1/1).
- 2.1.14 The proposed underground gas pipeline then turns west for approximately 250 m, before crossing Wykeham Drain (DX1/1)

Section C – Insert 2.1C

- 2.1.15 After crossing Wykeham Drain, the proposed underground gas pipeline route turns south west for approximately 350 m before crossing StoneGate (RDX2) and an unnamed track (TX2/1).
- 2.1.16 The proposed underground gas pipeline then continues south west for 2 km, crossing Wykeham Lane (RDX3) and Wykeham Drain (DX3/1) for the second time.

Section D – Insert 2.1D

- 2.1.17 After crossing Wykeham Drain for the second time, the proposed underground gas pipeline crosses the A16 (RDX4), which is built on an unpiled embankment. The proposed underground gas pipeline then continues 400 m in the same south west direction, passing beneath the north-west corner of Wykeham Nurseries before crossing Marsh Road (RDX5). Marsh Road is also built on top of Sea Bank.
- 2.1.18 After crossing Marsh Road, the proposed underground gas pipeline passes Ornam House¹, which lies immediately to the south, and then crosses a public bridleway (Path No. SPAL/14/2) adjacent to the River Welland.

¹ Whilst Ornam House is marked on the Ordnance Survey Map, it is understood that this building has now been demolished.

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- 2.1.19 The proposed underground gas pipeline then crosses the River Welland (RVX1) and finally crosses West Marsh Road (RDX6), under which a sewer is located, before reaching the Gas Receiving Facility within the proposed SEE site boundary.

Marker Posts

- 2.1.20 Following the completion of construction and permanent reinstatement, the underground gas pipeline will be marked. This is an important feature of all underground gas pipelines, and indeed Regulation 16 of the Pipelines Safety Regulations 1996 states that:

"For the purposes of ensuring that no damage is caused to a pipeline, the operator shall take such steps to inform persons of its existence and whereabouts as are reasonable".

- 2.1.21 Accordingly, the underground gas pipeline will be marked by aerial marker posts (approximately 2 m high), cathodic protection posts (approximately 1 m high) and M4 mark posts (approximately 0.6 m high). These will be placed along the route of the underground gas pipeline to identify the existence of the underground gas pipeline and provide contact information for anyone wishing to carry out work in the area.

Crossing Schedule

- 2.1.22 Table 2.2 presents the crossing schedule for the underground gas pipeline.

TABLE 2.2: CROSSING SCHEDULE FOR THE UNDERGROUND GAS PIPELINE

Crossing Number	Description / Location	Crossing Technique²
DX0/1	Unnamed Drain	Open Cut
DX0/2	Unnamed Drain	Open Cut
DX0/3	Unnamed Drain	Trenchless (likely HDD)
DX0/4	Lord's Drain	Trenchless (likely HDD)
SVX0/1	Existing Spalding CCGT generating station underground gas pipeline	Trenchless (likely Auger Bore)
TX0/1	Unnamed Track	Open Cut
DX0/5	Unnamed Drain	Open Cut
DX0/6	Unnamed Drain	Open Cut
TX0/2	Unnamed Track	Open Cut
TX0/3	Unnamed Track	Open Cut
RDX1	Unnamed Road	Trenchless (likely Auger Bore)
SVX1/1	Water Main	Trenchless (likely Auger Bore)
DX1/1	Wykeham Drain	Open Cut
RDX2	StoneGate	Trenchless (likely Auger Bore)
TX2/1	Unnamed Track	Open Cut
RDX3	Wykeham Lane	Trenchless (likely Auger Bore)
DX3/1	Wykeham Drain	Open Cut
RDX4	A16	Trenchless (likely HDD)
RDX5	Marsh Road	Trenchless (likely HDD)
RVX1	River Welland	Trenchless (likely HDD)
RDX6	West Marsh Road	Trenchless (likely HDD)

A Note of Further Route Refinement

- 2.1.23 It should be noted that further minor route refinements may also occur at the detailed design stage. These would be a result of: further stakeholder consultations; land owner /

² Construction methods / crossing techniques are described in more detail in Section 5 (Construction, Operation and Decommissioning).

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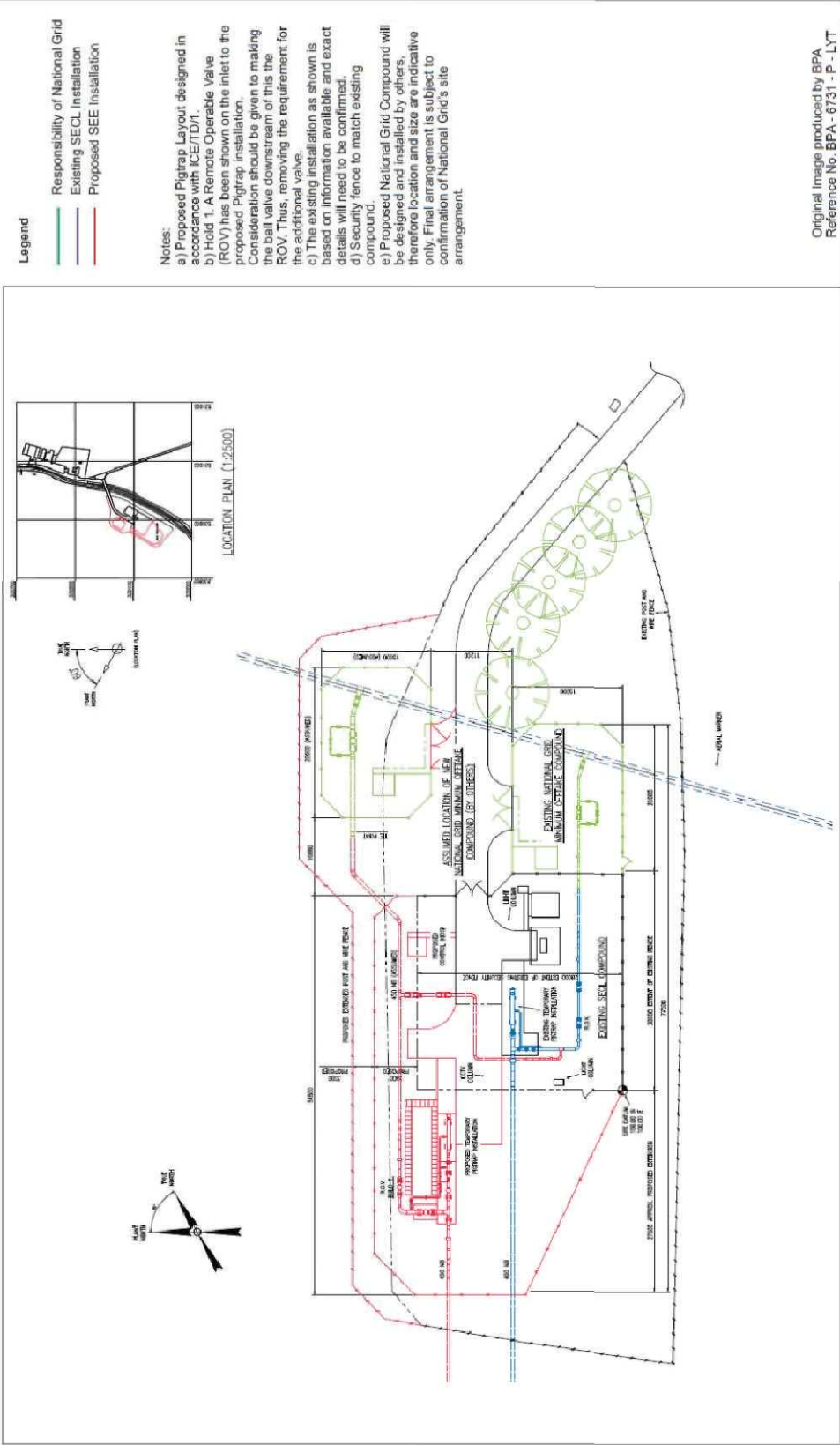
land occupier negotiations; accuracy of existing pipeline / services / utilities information; and, further ground investigations.

- 2.1.24 However, any such minor route refinements would be limited and would take place within limits of deviation of any Planning Permission and the survey area covered by the February 2010 ES and the Replacement Application ES FID, and would give rise to no significant impacts other than those described and assessed in the February 2010 ES and the Replacement Application ES FID. Further information on the survey area is provided in the Impact Assessment Sections of the February 2010 ES and the Replacement Application ES FID.

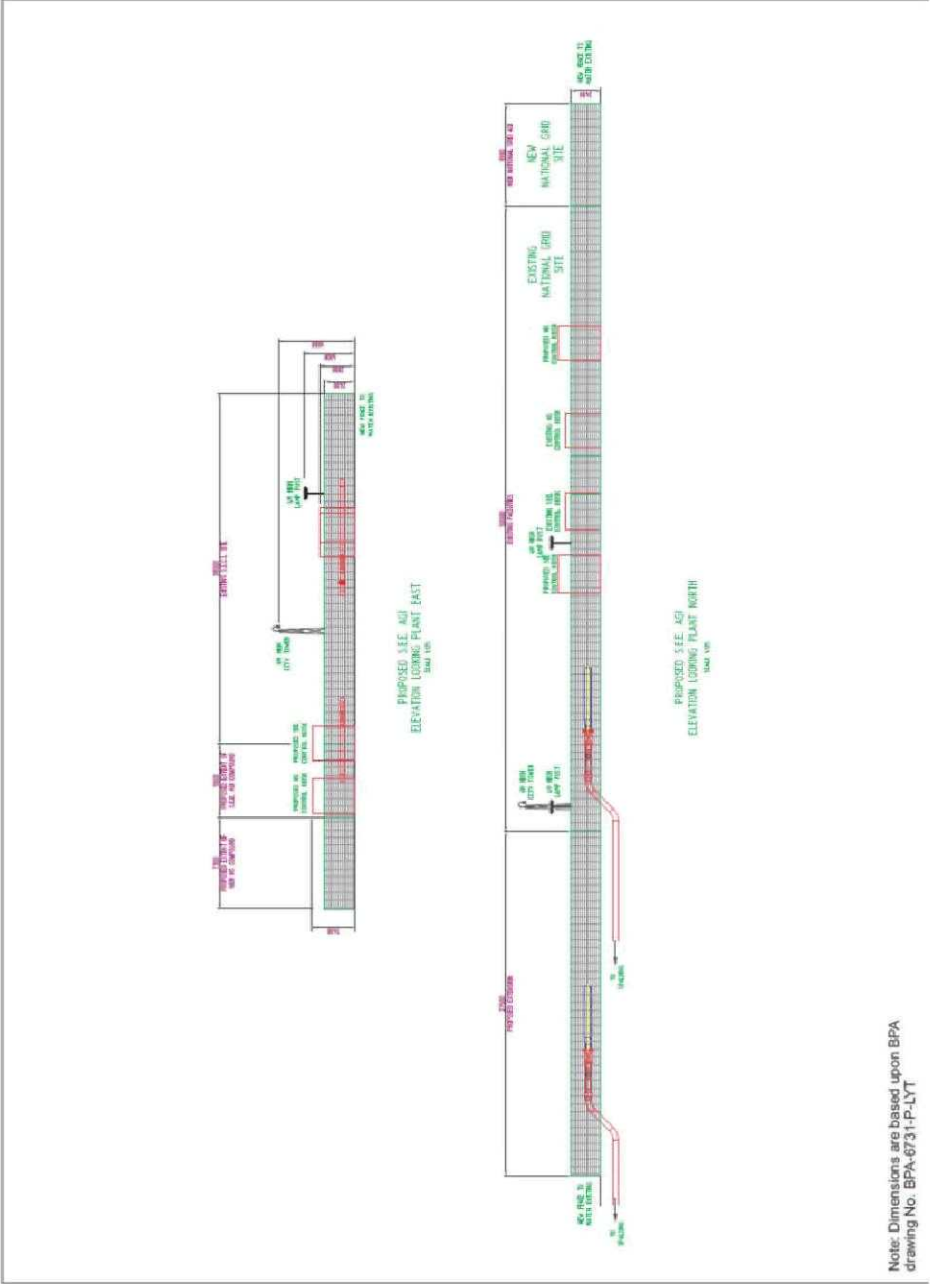
The Associated Above Ground Installation

- 2.1.25 During operation, the largest land take will be associated with the new AGI compound, and is expected to be approximately 0.12 ha. The overall land take associated with the existing AGI compound, the new AGI compound and the associated landscaping is expected to be approximately 0.56 ha.
- 2.1.26 The layout of the overall AGI compound is shown in Insert 2.2, and the elevations of the overall AGI compound are shown in Insert 2.3.

INSERT 2.2: PROPOSED LAYOUT OF THE OVERALL AGI COMPOUND



INSERT 2.3: PROPOSED ELEVATIONS OF THE OVERALL AGI COMPOUND



Note: Dimensions are based upon BPA drawing No. BPA-6731-P-LYT

Based on InterGen drawing 08157-05

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- 2.1.27 As with the existing AGI compound, the new AGI compound will be an un-manned facility. The new AGI compound will comprise two separate facilities: one facility owned and operated by National Grid Gas; and, one facility owned and operated by SEEL.
- 2.1.28 Similar to the existing AGI compound, the overall AGI compound will be protected by a steel palisade security fence approximately 2.4 m high. Two floodlights are already provided on 4 m high columns to provide adequate illumination should maintenance works be necessary in hours of darkness. In addition, one security camera is already provided on a 6 m high column.
- 2.1.29 The new AGI compound will be covered in a layer of suppressing membrane (e.g. Terram or similar) and stone chippings spread over it. There is no requirement for mains drainage. Run-off surface water will flow off the concrete / tarmac roads onto the terram and stone chippings and / or soak away trenches. Through the use of this design, the surface water run off rates post-development will be no greater than the existing surface water run off rates. No washing / toilet facilities are required. Therefore, no waste water treatment / disposal is required.
- 2.1.30 Landscaping will be planted in order to screen the overall AGI compound.

3 RELATIONSHIP BETWEEN THE FEBRUARY 2010 ES AND THE REPLACEMENT APPLICATION ES FID

3.1 Overview

- 3.1.1 Table 3.1 identifies the information provided in the Replacement Application ES FID and its relationship with the information provided in the February 2010 ES.

TABLE 3.1: RELATIONSHIP BETWEEN THE FEBRUARY 2010 ES AND THE REPLACEMENT APPLICATION ES FID

<i>The Replacement Application ES FID</i>	<i>The February 2010 ES</i>	<i>Comments</i>
Section 1 – Introduction	Supplements Section 1 (Introduction) of the February 2010 ES.	This Section provides a consenting history of Spalding Energy Expansion (SEE), and the underground gas pipeline and associated Above Ground Installation (AGI). The relevant environmental information is also described.
Section 2 – Rationale for Development	Supplements Section 3 (Project Need, Alternatives and Route Selection) of the February 2010 ES.	This Section has been updated to reflect current national policy on the need for new energy infrastructure included in the National Policy Statements approved by Parliament in July 2011.
Section 3 – Policy Context	No corresponding Section.	This Section has been provided to note the changes in energy and planning policy between February 2010 and the Replacement Application.
Section 4 – EIA Methodology and ES Content	Supplements Section 2 (EIA Process and Methodology) of the February 2010 ES.	This Section has been updated to provide details on the EIA methodology and ES content for the Replacement Application ES FID based on the requirements of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (the EIA Regulations).
Section 5 – Stakeholder Consultation	Supplements Section 2 (EIA Process and Methodology) of the February 2010 ES.	This Section has been provided to note the stakeholder consultation which has been undertaken for the Replacement Application.
Section 6 – Proposed Development and Alternatives	Supplements Section 3 (Project Need, Alternatives and Route Selection) and Section 4 (Project Description) of the February 2010 ES.	Other than a small increase in the proposed underground gas pipeline diameter, the Proposed Development is considered to be as described in the February 2010 ES. This Section provides a summary description.
Section 7 – Construction / Operation / Decommissioning	Supplements Section 5 (Construction and Operation) of the February 2010 ES.	The construction, operation and decommissioning methods for the Proposed Development are considered to be as described in the February 2010 ES. This Section provides a summary description.
Section 8 – Air Quality	Supplements Section 12 (Emissions) of the February 2010 ES.	This Section considered the potential effects of the underground gas pipeline and associated AGI on air quality. As the baseline conditions are considered to be the same as those reported in the February 2010 ES and the Proposed Development will not release any additional pollutants or substances to air to those reported in the February 2010 ES, the impact assessment / associated recommended mitigation and monitoring contained within the February 2010 ES remains valid and appropriate.

The Replacement Application ES FID	The February 2010 ES	Comments
Section 9 – Noise and Vibration	Supplements Section 12 (Emissions) of the February 2010 ES.	This Section considered the potential noise and vibration effects of the underground gas pipeline and associated AGI. As the baseline conditions are considered to be the same as those reported in the February 2010 ES and the Proposed Development will not cause any additional noise and vibration to that reported in the February 2010 ES, the impact assessment / associated recommended mitigation and monitoring contained within the February 2010 ES remains valid and appropriate.
Section 10 – Landscape and Visual	Supplements Section 13 (Landscape and Visual) of the February 2010 ES.	This Section considered the potential landscape and visual effects of the underground gas pipeline and associated AGI. As the baseline conditions are considered to be the same as those reported in the February 2010 ES and the structures / processes associated with the Proposed Development do not differ from those reported in the February 2010 ES, the impact assessment / associated recommended mitigation and monitoring contained within the February 2010 ES remains valid and appropriate.
Section 11 - Ecology	Supplements Section 10 (Ecology) of the February 2010 ES.	This Section considered the potential effects of the underground gas pipeline and associated AGI on ecology. With the exception of water voles, the baseline conditions are considered to be the same as those reported in the February 2010 ES and the structures / processes associated with the Proposed Development do not differ from those reported in the February 2010 ES. Therefore, the impact assessment / associated recommended mitigation and monitoring contained within the February 2010 ES remains valid and appropriate. In terms of water voles, an updated impact assessment has been provided.
Section 12 – Ground Conditions (Geology and Land Contamination)	Supplements Section 7 (Agriculture and Soils), Section 8 (Geology and Ground Conditions) and Section 12 (Emissions) of the February 2010 ES.	This Section considered the potential effects of the underground gas pipeline and associated AGI on ground conditions. As the baseline conditions are considered to be the same as those reported in the February 2010 ES and the Proposed Development will not release any additional pollutants or substances to land to those reported in the February 2010 ES, the impact assessment / associated recommended mitigation and monitoring contained within the February 2010 ES remains valid and appropriate.
Section 13 – Water Resources and Flood Risk	Supplements Section 9 (Water Resources and Flood Risk) of the February 2010 ES.	This Section considered the potential effects of the underground gas pipeline and associated AGI on water resources. As the baseline conditions are considered to be the same as those reported in the February 2010 ES and the Proposed Development will not release any additional pollutants or substances to water to those reported in the February 2010 ES, the impact assessment / associated recommended mitigation and monitoring contained within the February 2010 ES remains valid and appropriate.

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The Replacement Application ES FID	The February 2010 ES	Comments
Section 14 – Transport and Access	Supplements Section 14 (Traffic and Transportation) of the February 2010 ES.	This Section considered the potential effects of the underground gas pipeline and associated AGI on transport and access. As the baseline conditions are considered to be the same as those reported in the February 2010 ES and the Proposed Development will not generate any additional traffic movements to those reported in the February 2010 ES, the impact assessment / associated recommended mitigation and monitoring contained within the February 2010 ES remains valid and appropriate.
Section 15 – Archaeology and Cultural Heritage	Supplements Section 11 (Archaeology and Cultural Heritage) of the February 2010 ES.	This Section considered the potential effects of the underground gas pipeline and associated AGI on archaeology and cultural heritage. Since the preparation of the February 2010 ES, additional features of archaeological / cultural heritage importance (eight historic farmsteads) have been recorded in the study area. In particular, the site of Marsh Farm is recorded as lying on the proposed underground gas pipeline route. With the exception of Marsh Farm, the baseline conditions are considered to be the same as those reported in the February 2010 ES and the structures / processes associated with the Proposed Development do not differ from those reported in the February 2010 ES. Therefore, the impact assessment / associated recommended mitigation and monitoring contained within the February 2010 ES remains valid and appropriate. In terms of Marsh Farm, an updated impact assessment has been provided.
Section 16 – Socio-Economics	Supplements Section 15 (Socio-Economics) of the February 2010 ES.	This Section considered the potential socio-economic effects of the underground gas pipeline and associated AGI. As the baseline conditions are considered to be the same as those reported in the February 2010 ES and the Proposed Development will not result in social changes to those reported in the February 2010 ES, the impact assessment / associated recommended mitigation and monitoring contained within the February 2010 ES remains valid and appropriate.
Section 17 –Cumulative Impacts	Supplements Section 16 (Indirect, Secondary and Cumulative Impacts) of the February 2010 ES.	This Section considered the potential cumulative effects of the underground gas pipeline and associated AGI with other ancillary development / other planned developments and project.
Section 18 – Environmental Management	Supplements Section 6 (Safety and Environmental Management) of the February 2010 ES.	This Section provided a Consolidated Summary of Mitigation and Monitoring, including reference (wherever relevant) to the Conditions associated within the Original Permission.

4 SUMMARY OF POTENTIAL IMPACTS AND ENVIRONMENTAL MANAGEMENT

4.1 Overview

- 4.1.1 This Section summarises the potential impacts of the underground gas pipeline and associated AGI, and the environmental management measures (i.e. mitigation and monitoring measures) which have been proposed as part of the way in which the underground gas pipeline and associated AGI is constructed / operated / decommissioned.

4.2 Construction

- 4.2.1 The summary of the potential impacts and environmental management measures for construction are provided in Table 4.1.

Environmental Management during Construction

Construction Environmental Management Plan

- 4.2.2 The Construction Contractor will be required to prepare and implement a Construction Environmental Management Plan (CEMP). The purpose of the CEMP is to:

- Ensure that best practices are adopted, where appropriate, and maintained throughout construction;
- Provide a mechanism for ensuring that measures to prevent, reduce and, where possible, offset potentially adverse environmental impacts are implemented;
- Provide a framework for mitigating unexpected impacts during construction;
- Provide assurance to third parties that their requirements with respect to environmental conditions and performance will be met;
- Provide a mechanism for ensuring compliance with environmental legislation and statutory consents; and,
- Provide a framework against which to monitor and audit environmental performance.

- 4.2.3 Accordingly, the CEMP to be prepared and implemented for the proposed underground gas pipeline and associated AGI will ensure construction work is completed in accordance with:

- The Conditions of the Planning Permission;
- SEEL's contractual requirements;
- Any environmental or other codes of conduct required by InterGen / SEEL;
- Relevant specific mitigation measures; and,
- Current best practice.

- 4.2.4 The requirement to prepare, agree and implement a CEMP is provided by Condition 3 of the Original Permission.

Construction Hours

- 4.2.5 The normal site working hours will be: 0700 to 1900 hrs Monday to Friday; and, 0700 to 1700 hrs Saturday. No work on any Sunday or Bank Holidays is proposed to be undertaken, unless such work is associated with an emergency.

- 4.2.6 Should a need arise, due to technical constraints or similar, with regard to carrying out certain construction work outside the above construction hours, prior written approval from South Holland District Council will be sought.

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4.2.7 The requirement to adhere to these working hours is provided by Condition 8 of the Original Permission.

4.3 Operation

4.3.1 The summary of the potential impacts and environmental management measures for operation are provided in Table 4.2.

4.4 Decommissioning

4.4.1 As the likely impacts of decommissioning are expected to be similar (and of an equal or lower significance) as the likely impacts of construction, the potential impacts and environmental management measures for decommissioning are expected to be similar as those provided in Table 4.1 for construction.

TABLE 4.1: SUMMARY OF POTENTIAL IMPACTS AND ENVIRONMENTAL MANAGEMENT MEASURES DURING CONSTRUCTION³

Section	Potential Effect on the Environment	Mitigation Measures	Implementation
Air Quality	Potential impacts include: - Dust emissions which could arise from: - Earth moving operations / site levelling / construction of access roads / demolition of existing structures / foundations / concreting / back filling / site reinstatement / wind blow; and, - Construction plant / vehicle emissions; and, - Vehicle movements. - Unplanned emissions / releases / spills.	Mitigation measures include: - Inclusion of a Dust Management Plan within the CEMP; - The use of Wheel Washing Facilities; and, - Inclusion of an Emergency Response Plan (ERP) within the CEMP.	The requirement to prepare, agree and implement a CEMP is provided by Condition 3 of the Original Permission. The requirement to use Wheel Washing Facilities is provided by Condition 10 of the Original Permission.

³ As the likely impacts of decommissioning are expected to be similar (and of an equal or lower significance), the environmental management measures for decommissioning are expected to be similar.

Section	Potential Effect on the Environment	Mitigation Measures	Implementation
Noise and Vibration	Potential impacts include: Noise and vibration emissions from construction plant / equipment / vehicles.	Mitigation measures include: - Adherence to agreed working hours (unless otherwise agreed in advance); and, - Inclusion of a Noise Management Plan within the CEMP, including measures relating to: - Undertaking of construction works in accordance with BS 5228:2009; - Use of appropriate construction plant / equipment; - Maintenance of construction plant / equipment; - Use of additional noise attenuation measures, wherever necessary; and, - Liaison with Environmental Health Officer, wherever necessary.	The requirement to adhere to agreed working hours is provided by Condition 8 of the Original Permission. The requirement to prepare, agree and implement a CEMP is provided by Condition 3 of the Original Permission.
Landscape and Visual	Potential impacts include: - Landscape impacts on Landscape Character and landscape features within the 'working width'; and, - Visual impacts due to construction works (e.g. machinery / excavations / temporary structures) within the 'working width'.	Mitigation measures include: - Adherence to agreed working hours (unless otherwise agreed in advance); - Use of appropriate construction techniques (including for crossings); - Appropriate locational / access arrangements; and, - Subject to proximity guidelines, post construction land reinstatement where: - Any hedgerow features are replanted with native species (to reflect the existing species present); - Soil from ditch banks / road verges is reinstated and sown with an appropriate seed mix; and, - Any trees removed are replaced with the same species.	The requirement to adhere to agreed working hours is provided by Condition 8 of the Original Permission. The requirement for appropriate locational and access arrangements is provided by Condition 11 of the Original Permission.
Ecology	Potential impacts include: - Habitat loss, fragmentation, degradation, damage and / or disturbance; and, - Species mortality, injury and / or disturbance.	Mitigation measures (for habitat loss, fragmentation, degradation, damage and / or disturbance) include: - Use of appropriate construction techniques (including for crossings); - Development and implementation of a CEMP, including measures relating to: - Use of established best practice measures to safeguard habitats, wherever possible. - Post-construction land reinstatement (see landscape and visual mitigation measures).	The requirement to prepare, agree and implement a CEMP is provided by Condition 3 of the Original Permission. Also see landscape and visual mitigation measures.

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Section	Potential Effect on the Environment	Mitigation Measures	Implementation
		Mitigation measures (or species mortality, injury and / or disturbance) include: • Pre-construction activities (e.g. vegetation clearance / hedgerow removal) undertaken early in the season; • Implementation of species specific method statements (in particular for badgers and water vole); and, • Use of lighting that is highly directional (for bats).	The requirement for pre-construction activities to be undertaken early in the season is provided by Condition 4 of the Original Permission. The requirement for the implementation of species specific method statements is provided by Condition 6 of the Original Permission (for badgers) and Condition 5 of the Original Permission (for water vole).

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Section	Potential Effect on the Environment	Mitigation Measures	Implementation
Ground Conditions (Geology and Land Contamination)	Potential impacts include: - Degradation / disturbance of agricultural land within the 'working width'; - Direct impacts to features crossed by the proposed underground gas pipeline route; - Discharges / emissions of pollutants to land; - Unplanned emissions / releases / spills; and, - Temporary loss of agricultural land within the 'working width'.	Mitigation measures include: - Use of appropriate construction techniques (including for crossings); - Development and implementation of a CEMP, including measures relating to: - Use of established best practice techniques to safeguard land and soil quality; - Use of appropriate land / soil handling techniques; - Implementation of appropriate land drainage schemes; - Use of established best practice techniques to prevent spread of animal and plant diseases; and, - Use of appropriate techniques (e.g. controlled application of herbicides) to control weed growth on temporary stockpiles. - Appropriate storage of fuels and hazardous substances; - Appropriate siting of storage facilities for fuels and hazardous substances (e.g. away from residential properties); and, - The testing of imported materials to ensure it does not contain leachable contaminants. - Inclusion of an Emergency Response Plan (ERP) within the CEMP; and, - Inclusion of a Site Waste Management Plan (SWMP) within the CEMP; and, - Use of agreed access / crossing points along the 'working width'; - Post-construction land reinstatement (see landscape and visual mitigation measures); and, - Minimisation of productive agricultural land use.	The requirement to prepare, agree and implement a CEMP is provided by Condition 3 of the Original Permission. Legal agreements with the land owner / land occupier.

Section	Potential Effect on the Environment	Mitigation Measures	Implementation
Water Resources and Flood Risk	Potential impacts include: • Direct impacts to water resource features crossed by the proposed underground gas pipeline route; • Discharges / emissions of sediments or pollutants to watercourses / drains; • Unplanned emissions / releases / spills; and, • Flood Risk.	Mitigation measures include: • Use of appropriate construction techniques (including for crossings); • Development and implementation of a CEMP, including measures relating to: ◦ Use of established best practice techniques to safeguard land and soil quality; ◦ Implementation of method statements for any open-cut watercourse / drain crossings; ◦ Implementation of appropriate land drainage schemes; ◦ Appropriate storage of fuels and hazardous substances; ◦ Appropriate siting of storage facilities for fuels and hazardous substances (e.g. away from residential properties); and, ◦ The testing of imported materials to ensure it does not contain leachable contaminants. • Inclusion of an Emergency Response Plan (ERP) within the CEMP; • Inclusion of a Site Waste Management Plan (SWMP) within the CEMP; and, • Post-construction land reinstatement (see landscape and visual mitigation measures). Mitigation measures (specifically for flood risk) include: • Use of appropriate construction techniques (including for crossings) to ensure existing flood defences are unaffected; • The main construction works to be undertaken during the spring / summer to avoid worst periods of flooding; • Appropriate topsoil storage to ensure floodwater drainage would not be hindered; and, • Post-construction land reinstatement (e.g. backfilling and regarding to ensure there is no loss of floodplain volume).	The requirement to prepare, agree and implement a CEMP is provided by Condition 3 of the Original Permission. Condition 2 of the Original Permission. Flood Defence Consent / Land Drainage Consent.

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Section	Potential Effect on the Environment	Mitigation Measures	Implementation
Transport and Access	Potential impacts include: • Disruption and delays due to crossing of local transport links; and, • Additional traffic in the form of HGVs / low loaders / construction personnel vehicles.	Mitigation measures include: • Adherence to agreed working hours (unless otherwise agreed in advance); • Use of appropriate construction techniques (including for crossings); and, • Development and implementation of a Transport Management Plan.	The requirement to prepare, agree and implement a Transport Management Plan is provided by Condition 9 of the Original Permission.
Archaeology and Cultural Heritage	Potential impacts include: • Direct impacts to known and unknown archaeological / cultural heritage features crossed by the proposed underground gas pipeline route; and, • Landscape and visual impacts on the setting of archaeological / cultural heritage features within the 'working width'.	Mitigation measures include: • Use of appropriate construction techniques (including for crossings); • Agreement and implementation of an archaeological written scheme of investigation; and, • Post-construction land reinstatement (see landscape and visual mitigation measures).	The requirement to agree and implement an archaeological written scheme of investigation is provided by Condition 7 of the Original Permission.
Socio-Economics	Short term employment opportunities, and increase in the use of local services and businesses.	No mitigation / monitoring is considered necessary.	N / A

TABLE 4.2: SUMMARY OF POTENTIAL IMPACTS AND ENVIRONMENTAL MANGEMENT MEASURES DURING OPERATION

Section	Potential Effect on the Environment	Mitigation Measure	Implementation
Air Quality	Following completion of construction and land reinstatement, no significant impacts are predicted.	No mitigation / monitoring is considered necessary.	N / A
Noise and Vibration	Following completion of construction and land reinstatement, no significant impacts are predicted.	No mitigation / monitoring is considered necessary.	N / A
Landscape and Visual	Potential impacts include: • Temporary impacts due to removal of features within the 'working width'; and, • Permanent impacts due to the new AGI compound at Wragg Marsh.	Mitigation measures (for temporary impacts) include: • Subject to proximity guidelines, post construction land reinstatement where: ◦ Any hedgerow features are replanted with native species (to reflect the existing species present); ◦ Soil from ditch banks / road verges is reinstated and sown with an appropriate seed mix; and, ◦ Any trees removed are replaced with the same species. • Maintenance of features until they are adequately established. Mitigation measures (for permanent impacts) include: • Implementation of landscaping proposals around the new AGI compound in order to reduce its visibility. This will be maintained for the operational lifetime of the new AGI compound, to ensure that it is encouraged to grow to enhance its screening and amenity effects; and, • Use of lighting that is highly directional to avoid spillage. This lighting will be controlled by an infrared movement sensor system such that it is only on when movement within the overall AGI compound is detected / essential maintenance is required. Any lighting columns will be of the minimum height possible.	Condition 2 of the Original Permission. The requirement to implement landscaping around the new AGI compound is provided by Condition 12 of the Original Permission.

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Section	Potential Effect on the Environment	Mitigation Measure	Implementation
Ecology	Potential impacts include: Disturbance to bats from lighting at the new AGI compound.	Mitigation measures include: Use of lighting at the overall AGI compound that is highly directional (for bats).	Condition 2 of the Original Permission.
Ground Conditions (Geology and Land Contamination)	Potential impacts include: Permanent loss of agricultural land by the new AGI compound.	Mitigation measures include: Minimisation of permanent productive agricultural land use.	Legal agreement with the land owner / land occupier.
Water Resources and Flood Risk	Potential impacts include: Flood risk at the new AGI compound.	Mitigation measures include: - Setting the site level for the new AGI compound no lower than that of the existing AGI compound; - Appropriate flood proofing; - Instruments and values to be positioned at approximately 1.2 to 1.5 m above ground level; - Key items of plant / equipment to have a manual override and be able to operate without a power supply; and, - Limiting new impermeable areas associated with the new AGI compound.	Condition 2 of the Original Permission.
Transport and Access	Following completion of construction and land reinstatement, no significant impacts are predicted.	No mitigation / monitoring is considered necessary.	N / A
Archaeology and Cultural Heritage	Following completion of construction and land reinstatement, no significant impacts are predicted.	No mitigation / monitoring is considered necessary.	N / A
Socio-Economics	Following completion of construction and land reinstatement, no significant impacts are predicted.	No mitigation / monitoring is considered necessary.	N / A