Southampton to London Pipeline Project

Deadline 2

Signed SoCG with Environment Agency

Application Document: 8.4.01

Planning Inspectorate Reference Number: EN070005

Revision No. 1.0

November 2019

Southampton to London Pipeline Project

Statement of Common Ground
Between:
Esso Petroleum Company, Limited
and the Environment Agency

Date: November 2019

Application Document Reference:

Signed	[redacted]
Printed Name	**Tim Sunderland**
Position	**Project Executive**
On behalf of	**Esso Petroleum Company, Limited**
Date	13/11/19

Signed	[redacted]
Printed Name	CLARK GORDON
Position	STRATEGIC PLANNING SPECIALIST (THAMES AREA)
On behalf of	**Environment Agency**
Date	13 NOVEMBER 2019

Contents

1. Introduction

1.1 Purpose of Document

1.1.1 A Statement of Common Ground (SoCG) is a written statement prepared jointly by the applicant for a Development Consent Order (DCO) and another party. It sets out matters of agreement between both parties, as well as matters where there is not an agreement and matters which are under discussion.

1.1.2 The aim of SoCGs is to provide a clear record of the issues discussed and the stage each issue is at during the discussion. The SoCG can be used as evidence of these discussions in representations to the Planning Inspectorate as part of their examination of the DCO application.

1.2 Description of the Project

1.2.1 Esso Petroleum Company, Limited launched the Southampton to London Pipeline Project late in 2017. The project proposes to replace 90km of the 105km aviation fuel pipeline that runs from the Fawley Refinery near Southampton, to the West London Terminal storage facility in Hounslow. Esso recently completed the public consultation on their preferred route for the replacement pipeline. This was the project's second public consultation.

1.2.2 More information can be found on our website [www.slpproject.co.uk].

1.3 This Statement of Common Ground

1.3.1 This SoCG has been prepared in respect of the scheme by Esso Petroleum Company Limited (Esso) as the Applicant, and the Environment Agency as a prescribed consultee.

1.3.2 Esso is a brand of ExxonMobil, which has operated in the UK for over 120 years. In the early days ExxonMobil imported high quality lamp oil to the UK market. Today their focus on quality fuels remains, but operations are far more extensive. Esso owns and operates the UK's largest refinery at Fawley, which provides fuel for more than 800,000 retail customers every day at Esso-branded service stations. An underground distribution pipeline network transports fuel from Fawley to Esso's fuel terminals at Avonmouth, Birmingham, Hythe, Purfleet, West London and also for use at the UK's busiest airports.

1.3.3 The Environment Agency is an executive non-departmental public body, sponsored by the Department for Environment, Food and Rural Affairs with the stated purpose "to protect or enhance the environment, taken as a whole". Within England it is responsible for:

- Regulating major industry and waste;

- Treatment of contaminated land;
- Water quality and resources;
- Fisheries;
- Conservation and ecology; and
- Managing the risk of flooding from Main Rivers, reservoirs, estuaries and the sea.

1.3.4 Throughout this SoCG:

- Where a section begins ‘matters agreed’, this sets out matters that have been specifically agreed between the Environment Agency and Esso.
- Where a section begins ‘matters not agreed’, this sets out matters that are not agreed between the Environment Agency and Esso.
- Where a section begins ‘matters subject to ongoing discussion’, this sets out matters that are subject to further negotiation between the Environment Agency and Esso.

1.4 Structure of the Statement of Common Ground

1.4.1 This SoCG has been structured to reflect matters and topics of relevance to the Environment Agency in respect of the Southampton to London Pipeline Project.

- Section 2 provides an overview of the engagement to date between the Environment Agency and Esso.
- Section 3 provides a summary of areas that have been agreed.
- Section 4 provides a record of areas that have not yet been agreed.
- Section 5 provides a note of matters which are subject to ongoing discussion.
- Section 6 provides a record of relevant documents and drawings.

2. Record of Engagement Undertaken to Date

2.1 Pre-application Engagement and Consultation

2.1.1 The table below sets out the consultation that has been undertaken between Esso and the Environment Agency prior to the submission of the DCO application.

Date	Format	Topic	Discussion Points
04/12/2017	Letter	Project launch	Esso's Project Executive wrote to the Environment Agency to launch the project.
11/12/2017	Letter	Project launch	Esso's Project Executive wrote to the Environment Agency to introduce the project's Land Agents, Fisher German.
07/02/2018	Workshop	Project overview	Attended by Environment Agency Principal Planning Officer, Solent and South Downs Area, with others in attendance: • Scheme overview • Environmental constraints • Timescales and future engagement
19/03/2018	Letter	Corridor Consultation launch	Esso's Project Executive wrote to the Environment Agency to launch the corridor consultation.
27/03/2018	Information Sharing	Person with Interest in Land	Environment Agency's Estates Officer, completed a Person with Interest in Land questionnaire on behalf of the Environment Agency.
09/04/2018	Meeting	Groundwater/ Land quality/ Water quality	Environment Agency's Strategic Planning Specialist (Thames), Principal Planning Officer (Solent and South Downs Area), and three other EA officers: • Route optioneering • Pipeline construction and integrity • Scoping and survey strategy • Data requests • EIA approach • Environment Agency role going forward
25/04/2018	Letter	Environmental Survey Strategy	The Environment Agency wrote to Esso to provide detailed advice on the project's survey strategy. In addition, the EA stated that they were satisfied with the approach being taken to avoid sensitive groundwater

Date	Format	Topic	Discussion Points
			receptors whilst acknowledging that this would not be possible in all areas.
02/05/2018	Email	Ground investigation locations	The project sent the EA's Strategic Planning Specialist (Thames) and Principal Planning Officer (Solent and South Downs Area) draft proposed Ground Investigation locations covering all proposed corridors, by email for comment.
09/05/2018	Email	Ground investigation locations	EA replied to the email dated 02/05/2019 with a series of queries.
17/05/2018	Meeting	Surface water/ Flood risk/ Water Framework Directive	Attended by the EA's Strategic Planning Specialist (Thames), Principal Planning Officer (Solent and South Downs Area) and five other EA officers: • Project update • Data request • Survey strategy • Scoping • River Thames Scheme • Flood risk and surface water quality • Geomorphology, Water Framework Directive and Aquatic Ecology • Watercourse crossings
25/05/2018	Letter	Response to Route Corridor Consultation	EA wrote to respond to the Corridor Consultation: • Corridor preference • Key issues
30/05/2018	Letter	Preferred corridor announcement	Esso's Land and Pipeline Technical Lead wrote to the Environment Agency to announce the preferred corridor.
14/06/2018	Workshop	Initial Working Route Announcement	Attended by EA's Principal Planning Officer (Solent and South Downs Area) with other organisations in attendance: • Consultation feedback • Scoping • Initial Working Route • Cumulative effects with Heathrow Expansion • Survey methodology • Watercourse crossings • Ground investigation works

Date	Format	Topic	Discussion Points
			• Water Framework Directive Assessment
27/06/2018	Letter	Initial Working Route	Esso's Land and Pipeline Technical Lead wrote to the Environment Agency to announce the Initial Working Route.
02/07/2018	Email	Ground investigation locations	The project sent EA responses to the queries received 09/05/2019.
09/07/2018	Meeting	Land quality and groundwater	Attended by the EA's Strategic Planning Specialist (Thames)), Principal Planning Officer (Solent and South Downs Area) and Groundwater, Hydrology & Contaminated Land Technical Specialist (Thames): • Project update • Data request • Pipeline design, integrity and monitoring • Land quality • Groundwater – presentation of assessment approaches for water supplies and Groundwater Dependent Terrestrial Ecosystems (GWDTE)
23/07/2018	Email	Ground investigation locations	The EA provided detailed comments on the draft GI locations to reply to the project emails dated 02/05/2018 and 02/07/2018.
26/07/2018	Email	Scoping	The project emailed the EA's Strategic Planning Specialist (Thames) and Principal Planning Officer (Solent and South Downs Area) the submitted EIA Scoping Report, requested comment, and invited the EA to Scoping Workshops in August 2018.
24/08/2018	Consultation response	Response to Planning Inspectorate Scoping Consultation	Environment Agency's consultation response to the Scoping consultation, provided via the Planning Inspectorate: • Route • Construction techniques • Ecology • Flood risk • Groundwater • Habitat Regulations Assessment
24/08/2018	Email	Ground investigation locations	Project responded to the EA response dated 23/07/2018.

Date	Format	Topic	Discussion Points
31/08/2018	Teleconference	Land quality	Phone call between the project and Rob Devonshire, EA Thames Region permitting team, to discuss: • Thames region permitting • Authorised and historic landfills • Mineral waste permitting
06/09/2018	Letter	Preferred route consultation launch	Esso's Land and Pipeline Technical Lead wrote to the Environment Agency to launch the Preferred Route Statutory Consultation.
06/09/2018	Meeting	Water Framework Directive/ Geomorphology/ Aquatic ecology	Attended by the EA's Strategic Planning Specialist (Thames), Principal Planning Officer (Solent and South Downs Area), the Fisheries & Biodiversity Officer (Thames), and Planning Advisor (Solent & South Downs): • Project update • Data request • Scoping Opinion • Surface water • Construction methodology • Aquatic ecology • Geomorphology
12/09/2018	Meeting	Flood Risk Assessment	Attended by EA's Strategic Planning Specialist (Thames) and Technical Specialist – Flood Risk Assessment (Thames): • Project update • Scoping Opinion • Flood Risk Assessment (FRA) methodology
18/09/2018	Email	Ground investigation locations	EA provided advice to respond to project email dated 24/08/2019.
16/10/2018	Consultation response	Response to preferred route consultation	• Crossing techniques • Biodiversity • Flood risk
11/10/2018	Meeting	River Thames Scheme	Meeting attended by SLP project with two EA staff and two EA-appointed consultants, to discuss routeing of and interactions between the SLP and RTS projects.
19/11/2018	Meeting	Herts & North London area	Attended by EA's Strategic Planning Specialist (Thames) and five other EA officers:

Date	Format	Topic	Discussion Points
			• Land quality and groundwater - presentation of dewatering assessment methodology at river crossing points • Aquatic ecology and geomorphology • FRA
24/01/2019	Meeting	Flood Risk Assessment	Attended by Strategic Planning Specialist (Thames) and two other EA officers: Draft FRA Report contents and conclusions: • Programme for Environment Agency pre-application review of Draft FRA Report • FRA approach and assessment criteria • Potential effects and proposed mitigation • Floodplain storage • Design refinements • Role of Lead Local Flood Authorities Also discussed: • Protected provisions • Biodiversity enhancement
11/02/2019	Meeting	Thames FAS	Meeting with Brett Aggregates and the EA re. any interaction with Thames Flood Alleviation Scheme (FAS).
14/02/2019	Consultation response	Response to design refinement consultation	• Construction methodology • Permitted landfills and regulated facilities • Temporary logistics hubs
Feb – May 2019	Correspondence	Land interests, Draft DCO and Protective provisions	Various correspondence between SLP and the EA in relation to land interests, the Draft Development Consent Order and Protective provisions.
20/03/2019	E-mail	Two areas of EA land interest	E-mail from SLP project to EA with two areas of EA land interest.
28/03/2019	Correspondence	Final route release	The project issued a letter to the EA announcing the final route and offering a meeting if required.

Date	Format	Topic	Discussion Points
29/03/2019	Letter	FRA update meeting, Cove Brook FSA	Letter from EA's Strategic Planning Specialist (Thames): • Agreed the minutes of FRA meeting 24/01/2019; • Comments on proposal to cross Cove Brook Flood Storage Area (FSA), including crossing method and storage of materials.
03/04/2019	Consultation response	Response to Draft FRA	Email from EA's Strategic Planning Specialist (Thames) with comments on the Draft FRA, including: • Specific flood risk comments; • Fisheries and biodiversity.
02/05/2019	Site visit	Cove Brook FSA	Site visit to Cove Brook FSA for project team with two EA officers to discuss issues arising from the proposed crossing of the FSA and embankment dam.
13/05/2019	E-mail	EA land interest issues	E-mail from EA to SLP project responding to EA land interest issues.

2.2 Engagement Following Submission of Application

2.2.1 The table below sets out the consultation that has been undertaken between Esso and the Environment Agency since the submission of the DCO application.

Date	Format	Topic	Discussion Points
19/06/2019	E-mail	Borehole drilling query for Littleton Lane	E-mail from SLP project to EA with borehole drilling query for Littleton Lane, Shepperton, Brett Aggregates (landfill) site.
12/07/2019	Letter	Permit variation	Letter (ref: WA/2019/126850/01-L01) from EA to SLP Project. Permit variation yet to be agreed between EA and operator (CQA Plan not agreed).
29/07/2019	Meeting	Relevant Representations, Statement of Common Ground	Meeting to discuss EA comments on the Application and SOCG.
16/08/2019	Meeting	River Thames Scheme interaction meeting	Representatives for EA, Esso and Bretts Aggregates regarding River Thames Scheme interaction.

Date	Format	Topic	Discussion Points
19/09/2019	Meeting	Relevant Representations, Statement of Common Ground	Meeting to discuss EA comments on the Application and progress a SOCG, including: • Cove Brook Flood Storage Area • River Thames Scheme • Legal matters • Flood risk • Groundwater and land contamination, including active landfill permitting • Biodiversity and fisheries
11/10/2019	Email	Minutes of Meeting and SoCG	Email – SLP project to EA: Minutes of 19 September 2019 meeting, six Technical Notes and the draft SoCG.

2.2.2 Although not considered to be an examination issue, the Parties will continue to engage on the voluntary Environmental Investment Programme and intend for the broad scope of this programme to be agreed shortly.

3. Matters Agreed

3.1.1 The table below sets out the matters agreed in relation to different topics:

Examining Authority's suggested theme	Ref	Topic	Matter agreed
Development Consent Order	EA-DCO-01	Route	That, when considering all factors, the selection of the final pipeline Order Limits are appropriate.
Water environment effects, including flood risk and effects on flood alleviation and storage schemes, watercourses and waterbodies, and drainage matters	EA-WEE-01	Watercourse crossings	That the Environment Agency has had the opportunity to influence decisions regarding watercourse crossing techniques.
Water environment effects	EA-WEE-02	Watercourse crossings	That the Environment Agency agrees with the Project's proposals to use trenchless crossing techniques at the Ford Lake Stream, River Wey, Basingstoke Canal SSSI, River Blackwater, Cove Brook, Halebourne, River Thames, Queen Mary Reservoir Intake Canal, Staines Reservoir Aqueduct, and also at the Chertsey Bourne and River Ash.
Water environment effects	EA-WEE-03	Watercourse crossings	That the commitment to only utilise a 10m width when crossing through boundaries between fields where these include hedgerows, trees or watercourses (O1) is appropriate.
Flood Risk Assessment	EA-FRA-01	Cove Brook Flood Storage Area	That the Environment Agency agrees with the Project's decision to use trenchless crossing techniques to cross the dam at the Cove Brook Flood Storage Area, and that agreement will be required on the detailed proposals prior to construction.

Flood Risk Assessment	EA-FRA-03	Flood Risks – impacts	That the operational phase of the development will have no impact on fluvial flood risk.
Flood Risk Assessment	EA-FRA-04	Flood Risks – impacts	That the storage of excavated material and the location of launch and reception pits for trenchless crossings have been located outside of Flood Zone 3 where possible.
Land contamination and groundwater	EA-LCG-01	Groundwater assessment - GWDTEs, Source Protection Zones, Working at depth	That the methodologies used for the prediction and assessment of effects of the project on Groundwater Dependent Terrestrial Ecosystems (GWDTEs), Source Protection Zones and in relation to working at depth, are appropriate.
Enhancement measures	EA-EMS-01	Environmental Investment Programme	That although not considered to be an Examination issue, the Parties will continue to engage on the voluntary Environmental Investment Programme and intend for the broad scope of this programme to be agreed shortly.

4. Matters Not Agreed

4.1.1 The table below sets out the matters not agreed in relation to different topics.

Topic	Matter not agreed

5. Matters Subject to On-going Discussion

5.1.1 The table below sets out the matters subject to ongoing discussion.

Examining Authority's suggested theme	Ref	Topic	Matter subject to ongoing discussion
Water environment effects, including effects on flood alleviation schemes	EA-WEE-02	River Thames Scheme	The interaction between the SLP project and the Environment Agency's River Thames Scheme is subject to ongoing detailed discussions between the Environment Agency and the project.
Water environment effects	EA-WEE-03	Watercourse crossings, aquatic ecology and geomorphology	EA are still finalising comments and cannot confirm agreement with this at this stage.
Flood Risk Assessment	EA-FRA-02	Flood Risk Assessment – climate change	The treatment of climate change in the assessment for fluvial and pluvial flood risk during construction remains under discussion.
Flood Risk Assessment	EA-FRA-05	Flood Risk Assessment	EA are still finalising their flood risk comments and cannot confirm agreement with this at this stage.
Water Framework Directive compliance	EA-WFD-01	Water Framework Directive Compliance Assessment	EA are still finalising their WFD comments and cannot confirm agreement with this at this stage.
Biodiversity and fisheries	EA-BIO-01	Aquatic ecology	This matter remains under discussion in relation to watercourse crossings and ecological constraints.
Land contamination and groundwater including source protection zones,	EA-LCG-01	Groundwater assessment, EIA and Ground Investigations	EA are still finalising their comments on groundwater and contaminated land and cannot confirm agreement with this at this stage.

groundwater dependent ecosystems, and existing landfill			
Environmental permits, consents and licences	EA-EPC-01	Permits, consents and protective provisions	Permitting and protective provisions are still under discussion.
Mitigation, risk management measures including Construction Environmental Management Plan / Code of Construction Practice / Register of Environmental Actions and Commitments	EA-MTG-01	Mitigation measures	The EA are still finalising their comments and cannot confirm agreement with this at this stage.

6. Relevant documents and drawings

6.1 List of relevant documents and drawings

The following is a list of documents and drawings upon which this Statement of Common Ground is based.

Application Reference	Title	Content	Date
APP-048	Environmental Statement (ES) Chapter 8 Water	Report of the Environmental Statement	14 May 2019
APP-062	Environmental Statement Chapter 8 Figures	Illustrative material to support the Environmental Statement	14 May 2019
APP-102	ES Appendix 8.1 Groundwater Baseline	Additional data and evidence to support the Environmental Statement	14 May 2019
APP-103	ES Appendix 8.2 Detailed Trenchless and Targeted Trench Assessments	Additional data and evidence to support the Environmental Statement	14 May 2019
APP-104	ES Appendix 8.3 Groundwater Dependent Terrestrial Ecosystems	Additional data and evidence to support the Environmental Statement	14 May 2019
APP-105	ES Appendix 8.4 Groundwater Abstraction Assessment	Additional data and evidence to support the Environmental Statement	14 May 2019
APP-106	ES Appendix 8.5 Potential Effects on Groundwater	Additional data and evidence to support the Environmental Statement	14 May 2019
APP-107	ES Appendix 8.6 Water Framework Directive Compliance Assessment	Additional data and evidence to support the Environmental Statement	14 May 2019
APP-134	Flood Risk Assessment	Flood Risk Assessment	14 May 2019
N/A	Technical Note: Environment Agency – Works within Flood Zone 3	Additional information submitted to the Environment Agency to support the SoCG.	October 2019
N/A	Technical Note: Environment Agency – Crossing Assessments	Additional information submitted to the Environment Agency to support the SoCG.	October 2019
N/A	Technical Note: Environment Agency – Source Protection Zone Assessment	Additional information submitted to the Environment Agency to support the SoCG.	October 2019
N/A	Technical Note: Environment Agency – Groundwater Dependent Terrestrial Ecosystems Assessment and Private Supplies	Additional information submitted to the Environment Agency to support the SoCG.	October 2019

Application Reference	Title	Content	Date
N/A	Technical Note: Environment Agency - Fish	Additional information submitted to the Environment Agency to support the SoCG.	October 2019
N/A	Technical Note: Environment Agency – Working at Depth	Additional information submitted to the Environment Agency to support the SoCG.	October 2019
Document Reference 6.4 Appendix 16.1 (2)	ES Appendix 16.1 Code of Construction Practice	Additional data and evidence to support the Environmental Statement – updated at Deadline 2, including to secure the trenchless crossing of Cove Brook Flood Storage Area	November 2019

1 Technical Note: Environment Agency – Works within Flood Zone 3

1.1 Introduction

1.1.1 The Southampton to London Pipeline Project ('the project') submitted an application for Development Consent, including a supporting Environmental Statement (ES) and Flood Risk Assessment in May 2019. The Environment Agency submitted the following Relevant Representation (**RR-239**) to the Planning Inspectorate on 26 July 2019, which queried features of the works within Flood Zone 3 (FZ3):

1.1.2 '*We have some concerns with the adequacy of the assessments provided for haul roads, access roads, logistics hubs and construction compounds in areas of fluvial flood risk (particularly those in Flood Zones 3 and 3b). It is not clear that a robust assessment has been made of these sites in high risk flood areas, and the potential for them to increase flood risk. We would expect to see a site-specific assessment of those sites within the 1 in 100 year flood extent (Flood Zone 3) with an appropriate allowance for climate change extent where appropriate*'.

1.1.3 *'It has also not been demonstrated in the FRA that the proposed haul roads, access roads, logistics hubs and construction compounds will not impact on floodplain flow paths and floodplain storage'*.

1.1.4 The Environment Agency also raised specific queries about construction compound number 55 (Frimley) and M3 Junction 3 New Road Logistics Hub being located in FZ3, along with Construction Compound 33 (CO-5A) (Frimley Green Road), which in turn appeared to conflict with project Commitment G125, which states that '*all construction compounds will be located outside of Flood Zone 3, except in the River Thames floodplain*'.

1.1.5 The Environment Agency also queried the existing commitment (W3) regarding raising temporary buildings within FZ3 above the 1 in 10 (10%) AEP event peak water level rather than above the 1 in 100 (1%) AEP flood level:

1.1.6 '*Also in relation to compounds and logistics hubs, paragraph 13.2.5 of the FRA notes that there is a REAC commitment (reference W3) to raise temporary (which is not clearly defined) buildings within Flood Zone 3 above the 1 in 10 (10%) AEP event peak water level, or a minimum of 300 millimetres if this is not practicable. We are unclear about why this flood level has been chosen and it is not made clear within the FRA; we cannot recall that we have agreed to this figure during our pre-application engagement. A 1 in 10 AEP event level is not often modelled, so may not be readily available for sites. We would usually expect buildings to be raised above a 1 in 100 (1%) AEP flood level, with an appropriate allowance for climate change where necessary'*.

1.1.7 The Environment Agency also raised a query about climate change allowances and notes that:

'The FRA notes that for this project we have agreed that climate change allowances do not need to be considered for short-term, temporary works. However, at our September 2018 pre-application meeting where this was agreed, we stated that we only agreed to this on two conditions:

- *1. There would be no permanent structures or land raising.*
- *2. Sites would not be in place for longer than 18 months.*

We are concerned that the FRA as submitted does not provide sufficient surety of these conditions, in particular for land raising or length of time of operation.

The applicant must provide confirmation that there will be no land raising on these sites (which would include any material stockpiles) and that any sites will not be in place for more than 18 months – the FRA currently implies that logistics hubs will be in place for the full construction period of 2+ years and that (conservatively) construction compounds could be in place for the same length of time. For any sites that cannot meet these conditions, they will have to be re-assessed taking into account the appropriate climate change allowance figures'.

1.1.8 This technical note outlines the response from the project to the Environment Agency Relevant Representation following a meeting between both parties on 19 September 2019, as part of agreeing the Statement of Common Ground.

1.2 Applicant Response

1.2.1 The FRA (**Application Document APP-134**) was submitted as part of the application for Development Consent. This assessed the impacts of the proposed project including temporary logistics hubs, compounds, haul roads and access roads on flood risk. The following sections outline where temporary works lie within FZ3. No land raising is required on the project for any part of the temporary (during installation) or permanent (during operation) works including FZ3.

Haul Roads and Access Roads within FZ3

1.2.2 As stated in paragraph 3.2.13 of the FRA (**Application Document APP-134)**, '*where soils are suitable, the haul roads would be formed from exposed subsoil*'. The project design therefore does not anticipate any additional material would be used to form the haul roads and therefore no land raising is required.

1.2.3 As stated in paragraph 3.2.10 of the FRA '*Temporary access tracks, of approximately 3.5m in width, would be provided to link the pipeline installation areas and haul roads to the local road network. Conservatively it has been assumed for this FRA that the access tracks would be retained throughout the construction duration. Where these temporary access tracks are across open ground, the topsoil would be stripped and the access track constructed by laying imported crushed stone on a geotextile membrane or some form of ground protection.'*

1.2.4 Topsoil removed to form haul and access roads would be stockpiled within the Order Limits. The locations where the project could store material in FZ3, as a result of the haul and access road construction and topsoil stockpiling are set out in Table 7.4 of the FRA (**Application Document APP-134)**. This has assessed the severity of

impact of any increase in flood risk as a result of stockpiling based on the nature of receptors upstream of the pipeline route and proposed haul/access road. The likelihood of flooding in all cases is Medium as these locations are within FZ3. Based on the severity of impact and likelihood of flooding the unmitigated risk of increasing flood risk to receptors has been determined.

1.2.5 Table 7.5 of the FRA (**Application Document APP-134)** provides further assessment of the impact of material stored from haul roads and the trench arisings where the unmitigated risk of increasing flood risk to receptors has been assessed as either Medium or High (i.e. the Ively Brook, Cove Brook, River Ash and River Thames as High risk and the Windle Brook as Medium risk).

1.2.6 In all cases Commitment W5 '*Topsoil and subsoil would be stockpiled for as short a duration as practicable within FZ3 and areas of High and Medium RoFSW*' and W6 (both secured by DCO Requirement 6 - CEMP) applies which states that '*Stockpiles in FZ3 or areas of High or Medium RoFSW would not exceed 25m between breaks. Breaks in between stockpiles would be at least 5m. Breaks would be located opposite each other on either side of the excavation where practicable*'.

1.2.7 In addition to the text above, the following information is pertinent to the assessment of impact for these four watercourses:

- Ively Brook: Commitment W7 (as secured by DCO Requirement 6 - CEMP) states '*Stockpiles would not be stored within Ively Brook Flood Zone 3, east of A327*'.
- Cove Brook: A trenchless crossing is now proposed at Cove Brook Flood Storage Area (FSA) to cross the reservoir dam. The total excavated material stockpile (which includes haul road and pipeline trench) within the FSA is 2,600m^3 out of a total storage volume of 95,000m^3 which represents 3%.
- Windle Brook: any increase in flood risk would be to a minor road and the excavated soil stockpile is assessed to represent around 2% of the total floodplain volume.
- River Thames/Ash floodplain: the volume of soil stored is likely to be insignificant when compared to the extensive floodplain volume and is unlikely to significantly increase flood levels. The topsoil stockpile has been assessed to be at most 0.1% of the total floodplain volume.

Logistics Hubs and Compounds within FZ3

1.2.8 The assessment of construction compounds is set out in Appendix D of the FRA (**Application Document APP-134)** and is summarised in Section 7 and Section 13 in relation to fluvial flood risk.

1.2.9 For all compounds there is no land raising anticipated as part of the formation of any of the construction compounds. As stated in Section 3.2.8 of the FRA (**Application Document APP-134)**, the project design is that existing permeable areas within the temporary compounds would remain permeable and would not include a positive drainage system. Topsoil would be stripped where necessary at compounds and stockpiled. The location of topsoil stockpiles has yet to be determined and will be developed as part of the detailed design phase that will develop layouts for the construction compounds.

1.2.10 As stated in Section 13.2.3 of the FRA (**Application Document APP-134)**, three construction compounds were identified to be located within FZ3 within Appendix D of the FRA, these Mead Lane 47 (CO-5N), Shepperton Road North 49 (CO-5P) and Frimley Green Road 33 (CO-5A). In addition, as noted in the Environment Agency response, Construction Compound 55 (Frimley Green) and the M3 Junction 3 New Road Logistics Hub were incorrectly identified as lying wholly outside of FZ3. Therefore, there are four construction compounds and one logistics hub identified as being located within Flood Zone 3, which are discussed below.

1.2.11 Two of the four construction compounds are located within River Thames Flood Zone 3 (Exceptions identified in Commitment G125). These are Construction Compound 47 Mead Lane (CO-5N) and Construction Compound 49 Shepperton Road North (CO-5P). The stockpiling of topsoil in these two compounds is an insignificant volume compared to the size of the River Thames floodplain and would not be expected to cause a noticeable loss of floodplain volume.

1.2.12 There are two further construction compounds and one logistics hub located in FZ3:

- Construction Compound 33 (CO-5A) – Frimley Green Road: This compound is partially within FZ3 along its northern boundary (17.5m^2 which is 1% of the total compound area). The project recognises that the works plans submitted with the draft DCO would allow for temporary construction compound 33 (DCO Works No CO5A) at Frimley Green to be partly located over FZ3. The project can confirm that Construction Compound 33 (DCO Works No CO5A) would be sized and located so that it does not sit within FZ3 or within 8m of the top of bank of the watercourse. This will be added to the updated Code of Construction Practice (CoCP).
- Construction Compound 55 – Frimley Green: This location would not be used as a construction works compound but is identified in the draft Development Consent Order as an area of land that may be used as alternative temporary car parking for staff at the SC Johnson Factory, as part of their existing car park is being used by the project to facilitate trenchless crossing of the River Blackwater valley to the west.
- Logistics Hub - M3 Junction 3 New Road: This logistics hub has very small areas of FZ3 within its boundary. This site has already been used as a compound by Highways England as part of its Smart Motorway Programme. The watercourses are culverted at the centre of the site beneath existing access roads. The remaining areas of FZ3 are at the very outer margins of the logistics hub and will not be used during the works. Therefore, there would not be any loss of floodplain storage or interruption of flows in the floodplain at this site.

1.2.13 In addition, Commitment W5 states '*Topsoil and subsoil would be stockpiled for as short a duration as practicable within FZ3 and areas of High and Medium RoFSW'*. In addition, Commitment W6 states that '*Stockpiles in FZ3 or areas of High or Medium RoFSW would not exceed 25m between breaks. Breaks in between stockpiles would be at least 5m. Breaks would be located opposite each other on either side of the excavation where practicable'*.

Temporary Buildings within FZ3

1.2.14 There are only two locations where temporary buildings would be situated within FZ3. These are the two compounds located within the River Thames floodplain. The compounds are both located towards the edge of this large floodplain. Following discussions with the Environment Agency, the project has looked at the 1D hydraulic modelling results for the River Thames for the 1% (1:100) AEP event for each compound.

- Mead Lane: The supplied River Thames 1% AEP level is 12.25m AOD. The minimum elevation from LiDAR is 11.28m AOD. Therefore, to raise the temporary buildings above the 1% AEP peak water level would require buildings to be raised up to a maximum of 1.0m above ground level (based on Lidar data). The project will commit at Mead Lane Construction Compound to raise temporary buildings above the 1%AEP (1:100 year) event, this will be reflected in a revised CoCP.
- Shepperton Road North: The supplied 1% AEP level is 12.48m AOD. The minimum elevation from Lidar is 10.70m AOD. However, the site lies on a slope, with parts of the compound lying outside of the 1% AEP level. The project will commit to locate temporary buildings outside of FZ3 at Shepperton Road North, this will be reflected in a revised CoCP.

Climate Change Allowances

1.2.15 The project can confirm that there is no land raising proposed on the project, either in the construction phase or in the operational phase.

1.2.16 As stated in paragraph 3.4.2 of ES Chapter 3 (**Application Document – APP-043**) '*Works to install and commission the pipeline are expected to start from grant of DCO and be completed early 2023'*. Therefore, the whole 97km pipeline is due to be installed within the two-year period. The ES and FRA have assumed that the installation works in any given location would be short term, which is defined in paragraph 3.4.3 of ES Chapter 3 '*For the purposes of assessment, a short-term duration is assumed to be less than six months... and includes mobilisation and reinstatement'*.

1.2.17 As stated in paragraph 3.4.29 of ES Chapter 3 (**Application Document APP-134)** 'Approximately 52 temporary compounds would be established along the route of the new pipeline for the storage of pipe, materials, plant and equipment'. The compounds are at frequent locations along the Order Limits and each compound would serve a small part of the working length. Each compound is assumed to be active (including setup, operation and reinstatement) for the full construction of its related pipeline section.

1.2.18 The logistics hubs could be in place for the full two-year construction programme. However, as outlined above and as discussed in meetings with the Environment Agency, only M3 New Road Logistics Hub lies within FZ3 and is discussed above.

1.3 Conclusion

1.3.1 The FRA (**Application Document APP-134**) submitted as part of the application for Development Consent assesses the impacts of the project on flood risk. Further

details have been provided within this Technical Note to clarify the assumptions regarding FZ3, in particular the compounds and logistic hub located within FZ3.

1.3.2 The new commitments will be secured within the CoCP and added to the next version of the document submitted to the Examining Authority:

- The project can confirm that Construction Compound 33 (DCO Works No CO5A) would be sized and located so that it does not sit within FZ3 or within 8m of the top of bank of the watercourse.
- The project can confirm it would raise temporary buildings to a maximum of 1m above ground level which is above the 1%AEP (1:100 year) event at Mead Lane (Construction Compound 47 - DCO Works No CO-5N).
- The project can confirm it would locate any temporary buildings outside of FZ3 at the Shepperton Road North (Construction Compound 49 - DCO Works No CO-5P).

1 Technical Note: Environment Agency – Crossing Assessments

1.1 Introduction

1.1.1 The Southampton to London Pipeline Project ('the project') submitted an application for Development Consent, including a supporting Environmental Statement (ES) and Flood Risk Assessment in May 2019. The Environment Agency submitted the following Relevant Representation (**RR-239**) to the Planning Inspectorate on 26 July 2019, which queried the number of watercourse crossing reports:

1.1.2 '*We believe that there are watercourse crossing reports (Appendix C of the FRA) missing. The 'Watercourse crossing summary' in Appendix B shows that there are a total of 98 watercourse crossings. However, Appendix C only reports 17 medium/high risk crossings and 55 low risk crossings, for a total of 72 crossings. We would like the applicant to clarify this discrepancy*'.

1.1.3 This technical note outlines the response from the project to the Environment Agency Relevant Representation following a meeting between both parties on 19 September 2019, as part of agreeing the Statement of Common Ground.

1.2 Applicant Response

1.2.1 The FRA (**Application Document APP-134**) was submitted as part of the application for Development Consent. This assessed the impacts on watercourses potentially affected by the project. This assessed the impacts on 98 watercourses along the Order Limits in Appendix B and Appendix C contained 72 crossing assessments.

1.2.2 The difference between the number of watercourse crossings stated in Appendix B of the FRA and the number of crossing reports in Appendix C is that no reports have been produced where a trenchless crossing is proposed and there will be no haul road crossing the watercourse. Therefore, in these locations the construction phase would not affect flood risk or the watercourse.

1.2.3 However, when undertaking the work to respond to the Environment Agency Relevant Representation, the project has noted that there is one location where a trenchless crossing is proposed but where a haul road crossing would still be required. This is at the watercourse crossing of the Windle Brook (WCX066).

1.2.4 The project has completed a watercourse crossing report for the Windle Brook to assess the risk posed by this haul road crossing. This is included in Appendix A of this Technical Note and is provided to the Environment Agency for reference.

1.3 Conclusion

1.3.1 The project has reviewed the number of watercourses assessed within the FRA (**Application Document APP-134**). The difference in numbers between Appendix B and C is in relation to locations where trenchless crossings are proposed. One

additional watercourse (Windle Brook) has been identified that required assessment due to the proposed haul road crossing. This has been assessed in Appendix A.

Appendix A: Windle Brook WCX066 Crossing Review

Watercourse name	Windle Brook
Crossing ID	WCX 066
Grid reference	494429, 162042
Pipeline section	F
Type	Main river
Watercourse crossed by haul road?	Yes
Proposed crossing type	Trenchless with launch/receptor site inside floodplain, however with haul road crossing.
Likelihood of flooding at crossing	Medium
Potential severity of impact on receptors without mitigation	Low
Risk of proposed crossing increasing flood risk without mitigation	Medium
Risk of proposed crossing increasing flood risk with mitigation	Low

2 W066 Crossing Review

2.1 Site Details

2.1.1 Crossing WCX 066 is a proposed trenchless crossing with a launch/receptor site inside the floodplain which requires a haul road across the Windle Brook. The watercourse flows west to east and is culverted approximately 200m upstream to flow beneath Burnt Pollard Lane.

2.1.2 The surrounding land is characterised by woodland to the north and west of the crossing. To the east and south is largely agricultural land. The closest residential property is approximately 200m to the south of the proposed order limits of the scheme, adjacent Hookstone Lane.

2.1.3 Figure C57 defines the location of the crossing. All available flood related information can be found below.

2.2 Flood Risk

2.2.1 The fluvial floodplain is defined by Flood Zone 3a and 3b which extend along the watercourse, covering the road, to the west (upstream) of the crossing point. Flood Zone 3a and 3b, supplied by Surrey Heath Borough Council, is more extensive to the north of the watercourse than the south.

2.2.2 The Risk of Flooding from Surface Water Map (RoFSW) for the 3.3% annual exceedance probability (AEP) identifies surface water flooding at the crossing reaching up to 300mm in depth, and up to 600mm in the surrounding area. The 1% AEP identifies a large surface water flood route in the vicinity of the crossing. This originates at the road upstream in which the watercourse is culverted beneath and flows east towards the crossing.

2.3 Flood History

2.3.1 A historic flood outline spans the floodplain of Windle Brook in the vicinity of the crossing and therefore encompasses the crossing location. The information provided for this flood event identifies that the flood occurred in September 1968 and was as a result of the river exceeding its channel capacity.

2.3.2 There is also information provided by Surrey County Council of recorded highway flooding approximately 200m west (upstream) of the crossing location on Burnt Pollard Road. The road was closed due to flooding during 2014 and is recorded to have experienced minor flooding on five occasions.

2.4 Features Local to the Crossing That Could Influence Flooding

2.4.1 The watercourse is culverted beneath the road upstream which has the potential to restrict flows and back up flows upstream of the crossing location. This is reflected in the Surrey Health Flood Zone 3b extent which is more extensive upstream of this culvert.

2.5 Crossing Impact on Flood Risk

2.5.1 After reviewing the data provided and assessing the vulnerability of the area surrounding the watercourse and proposed crossing, it appears that the temporary

crossing has the potential to have an impact on flood risk to receptors in the area. Any increase in flood extents could affect the Burnt Pollard Lane.

2.5.2 The likelihood of flooding is assessed as being **medium** given the crossing is located within Flood Zone 3b.

2.5.3 Any increased flooding would occur both upstream and immediately downstream of the crossing, flooding agricultural land and impacting minor roads. Therefore, severity of any increase in flood risk as a result of the proposed crossing is **low**.

2.5.4 Therefore, this crossing is identified to be have a **medium** risk of increasing flood risk to receptors.

2.6 Data Sources

Data Source	Details at this crossing
Aerial imagery	Yes
Surrey Lead Local Flood Authority Data	Yes - recorded highway flooding approximately 200m west (upstream) of the crossing location
Hampshire Lead Local Flood Authority Data	No
Flood Zone 2	Defined at the crossing point
Flood Zone 3	Defined at the crossing point
RoFSW Extent 3.3% Annual Chance	Yes - Flood extent in vicinity of order limits upstream. Continuous Flooding
RoFSW Extent 1% Annual Chance	Yes - Flood extent in vicinity of order limits upstream. Continuous Flooding
RoFSW Extent 0.1% Annual Chance	Yes - Flood extent in vicinity of order limits upstream. Continuous Flooding
RoFSW Depth 3.3% Annual Chance	Yes - showing surface water flooding depth 3.3% annual chance at the crossing. Depths up to 0.6m within extent of order limits.
RoFSW Depth 1% Annual Chance	Yes - showing surface water flooding depth 1% annual chance at the crossing. Depths up to 0.6m within extent of order limits.
RoFSW Depth 0.1% Annual Chance	Yes - showing surface water flooding depth 0.1% annual chance at the crossing. Depths up to 0.9m within extent of order limits.
Risk of Flooding from Reservoirs - Maximum Flood Depth	Risk from upstream of the crossing.
Risk of Flooding from Reservoirs - Maximum Flood Extent	Risk from upstream of the crossing.
Risk of Flooding from Reservoirs -Maximum Flood Speed	Risk from upstream of the crossing.
Recorded Flood Outlines	At the crossing, a recorded flood outline from September 1968 and was as a result of the river exceeding its channel capacity.
Surrey Heath BC – Flood Zone – 3a	Defined at the crossing point
Surrey Heath BC – Flood Zone – 3b	Defined at the crossing point
Rushmoor BC – Flood Zone – 3a	Not Applicable
Rushmoor BC – Flood Zone – 3b	Not Applicable
Areas benefitting from Flood Defences	None defined
Flood Storage Areas	None defined
Spatial Flood Defences	None defined

1 Technical Note: Environment Agency – Source Protection Zone Assessment

1.1 Introduction

1.1.1 The Southampton to London Pipeline Project ('the project') submitted an application for Development Consent, including a supporting Environmental Statement (ES) and Flood Risk Assessment in May 2019. The Environment Agency submitted the following Relevant Representation (**RR-239**) to the Planning Inspectorate on 26 July 2019, which queried the methodology used within the ES for assessing Source Protection Zones (SPZ):

1.1.2 '*SPZs 1, 2 and 3 are scored as high, medium and low value sensitivities respectively. SPZs are a tool to highlight particularly sensitive areas of an aquifer (typically a Principal Aquifer). This means that all areas within SPZs are likely to have relatively high sensitivity. Areas within a SPZ1 and particularly in the immediate vicinity of the abstraction would be regarded as having a very high sensitivity. Areas of SPZ2, particularly in the close vicinity of SPZ1 are also likely to be highly sensitive. It is certainly misleading to suggest that SPZ3 is of low sensitivity. We feel that all SPZs should appear in the highest sensitivity category, being more sensitive than Principal Aquifers alone*'.

1.1.3 This technical note outlines the response from the project to the Environment Agency Relevant Representation following a meeting between both parties on 19 September 2019, as part of agreeing the Statement of Common Ground.

1.2 Applicant Response

1.2.1 SPZs are designations around groundwater sources such as wells, boreholes and springs used for drinking water and are mapped for public drinking water supplies. Groundwater source catchments are divided into three main zones (inner (zone 1), outer (zone 2) and total catchment (zone 3)). The zones are used to identify the level of risk to the source from contamination from activities that may cause pollution in the area. The closer the activity, the greater the risk.

1.2.2 Environmental Impact Assessment (EIA) involves assigning a sensitivity or value to the baseline environment (independent of the project) and then looking at the magnitude of impact from a proposed project. The combination of sensitivity and magnitude results in the likely significance of effects resulting from a project as set out in ES Chapter 6 (**Application Document APP-046**).

1.2.3 It is standard EIA practice to ascribe differing sensitivities (values) to the different SPZs, in order to distinguish between the different zones. This is because a change to the groundwater regime within SPZ1 close to the abstraction, is more likely to affect the integrity of the source than a change experienced in SPZ3. Distinguishing between the different zones on the project during the route selection stage, made it possible for the commitment to O6 (see the Register of Environmental Actions and Commitments – **APP-056**) to avoid laying the pipeline within the higher sensitivity SPZ1 to be made.

1.2.4 In the UK, guidance on EIA assessment for groundwater and assigning values to receptors is limited. The standard used on many projects, including this project, is Table A4.3 in the Design Manual for Roads and Bridges - DMRB (Highways Agency, 2009), which is extracted in Table 1 below for reference. Although DMRB is designed for road schemes, it is a comprehensive guide for assessing environmental impacts on long linear projects and has been considered appropriate guidance for use on this project. The approach to the assessment was set out within the project's Scoping Report (**Document Reference – AS-019**)

1.2.5 The DMRB importance criteria has four categories ranging from very high to low, whereas the equivalent four value categories used throughout the project ES is from high to negligible to make the terminology consistent across the ES Chapters. Further details on the overall approach to the EIA and general criteria for assigning value (sensitivity) to receptors for the project ES are provided in Table 6.1 of Chapter 6: Overview of Assessment Process (**Application Document APP-046**). The sensitivity criteria are independent of the type of development being proposed. The type of development and associated risks are captured in the magnitude of effect.

1.2.6 The approach for ascribing SPZ values has been adopted on other pipeline projects including the West Cumbria Water Supplies Project – Thirlmere Transfer and in other Nationally Significant Infrastructure Projects, including the Western Rail Link to Heathrow Project.

Table 1: Extract of Importance of Groundwater taken from Table A4.3 in DMRB (Highways Agency, 2009)

Importance	Criteria	Aquifer Description	SPZ
Very High	Attribute has a high quality and rarity on regional or national scale	Principal aquifer providing a regionally important resource or supporting site protected under EC and UK habitat legislation	SPZ1
High	Attribute has a high quality and rarity on local scale	Principal aquifer providing locally important resource or supporting river ecosystem	SPZ2
Medium	Attribute has a medium quality and rarity on local scale	Aquifer providing water for agricultural or industrial use with limited connection to surface water	SPZ3
Low	Attribute has a low quality and rarity on local scale	Unproductive strata	-

1.3 Conclusion

1.3.1 The methodology for ascribing sensitivity to Source Protection Zones was taken from recognised DMRB guidance for EIA (Highways England, 2009). This approach has been taken on many other major infrastructure projects and still is considered appropriate for the project.

1.4 References

Highways Agency (2009) Design Manual for Roads and Bridges Volume 11 Environmental Assessment, Section 3 Environmental assessment techniques. Part 10, HD 45/09. Road Drainage and the Water Environment. November 2009.

1 Technical Note: Environment Agency – Groundwater Dependent Terrestrial Ecosystems Assessment and Private Supplies

1.1 Introduction

1.1.1 The Southampton to London Pipeline Project ('the project') submitted an application for Development Consent, including a supporting Environmental Statement (ES) and Flood Risk Assessment in May 2019. The Environment Agency submitted the following Relevant Representation (**RR-239**) to the Planning Inspectorate on 26 July 2019, which queried the methodology used within the ES for assessing groundwater dependent terrestrial ecosystems (GWDTE) and private water supplies:

1.1.2 '*We would also question the comparability of some of the categorisation of groundwater dependent terrestrial ecosystems (GWDTEs) and private supplies. We note, for instance, that smaller private supplies (i.e. fewer than 10 properties) are regarded as low sensitivity/value. Smaller private supplies are often very infrequently monitored. As such any supply issues may not be noticed for a considerable period of time. Whilst these supplies are not relied on by large numbers of individuals, any impacts could have a major effect on those concerned. If there is the potential to impact on a private supply or GWDTE, it is likely that the value/sensitivity assessments be would be automatically regarded as having a high (or at least medium) value/sensitivity'*.

1.1.3 This technical note outlines the response from the project to the Environment Agency Relevant Representation following a meeting between both parties on 19 September 2019, as part of agreeing the Statement of Common Ground.

1.2 Applicant Response

1.2.1 Environmental Impact Assessment (EIA) involves assigning a sensitivity or value to the baseline environment (independent of the project) and then looking at the magnitude of impact from a proposed project. The combination of sensitivity and magnitude results in the likely significance of effects resulting from a project as set out in ES Chapter 6 (**Application Document APP-046**).

1.2.2 It is standard EIA practice to ascribe differing sensitivities (values) to a receptor to allow significance to be determined. Large water supplies used by many people (whether they be public or private supplies), which have limited potential for substitution, were considered to be of greater value than a supply used by just one household, where alternative substitution may be possible.

1.2.3 The 'scoring' of the aquifer designations only applies to the sensitivity (value) of the aquifer and it is the potential magnitude of change which determines the 'risk' to the groundwater in the aquifer. Therefore, in ES Appendix 8.5 (**Application Document APP-106**), it is the 'Potential Magnitude of Change' column which considers factors such as depth to groundwater, using actual ground investigation evidence or the groundwater flooding susceptibility dataset. The shallowness of groundwater and potential dewatering effects are captured throughout the ES and in particular,

Appendix 8.2 (**Application Document APP-103**), Appendix 8.3 (**Application Document APP-104**) and Table 8.5.1 in Appendix 8.5 (**Application Document APP-106**) assessing the potential significance of effects for interception of shallow groundwater in the pipeline trench.

1.2.4 From the value of the potential receptor and magnitude of change, the significance of effect is obtained. This assessment encompasses both superficial and bedrock aquifers and the conditions associated with the superficial Principal aquifer in the northern part of the proposed development.

1.2.5 A similar approach was adopted for GWDTE, with internationally designated sites (such as SACs/SPAs) being of greater rarity and hence conservation value than local or undesignated sites such as SINCs. The definitions used within the ES are based on UK Technical Advisory Group (UKTAG) guidance to identify, prioritise and assess the impacts on GWDTEs (UKTAG, 2004). The guidance defines the significance of damage as '*a function of the (a) degree of damage occurring to a GWDTE (caused by groundwater pressure) and (b) the "significance" of the ecosystem itself as a nature conservation resource'*. The guidance further expands by saying '*Ideally, a prioritisation process would focus on criteria such as level of groundwater dependence and risk of damage to the ecosystem'*. Annex 1 of the guidance includes a list of NVC plant communities and their likely degree of groundwater dependency (UKTAG 2009). This guidance was used to inform the value of the GWDTE based on rarity and groundwater dependence. The value is then combined with the magnitude of change to determine the significance of effect. Further details can be found in ES Chapter 6 (**Application Document APP-046**).

1.2.6 The approach outlined above has been adopted on other pipeline projects including the West Cumbria Water Supplies Project – Thirlmere Transfer.

1.3 Conclusion

1.3.1 The methodology for ascribing sensitivity to private water supplies and GWDTE has been taken from recognised guidance (UKTAG 2004 and 2009). This approach has been taken on many other major infrastructure projects and is still considered appropriate for the project.

1.4 References

UKTAG (2004). Guidance on the identification and risk assessment of groundwater dependent terrestrial ecosystems. Version 5, January 2004.

UKTAG (2009). Guidance on the identification and risk assessment of groundwater dependent terrestrial ecosystems, Annex 1 NVC plant communities and dependency on groundwater. Updated table October 2009.

1 Technical Note: Environment Agency - Fish

1.1 Introduction

1.1.1 The Southampton to London Pipeline Project ('the project') submitted an application for Development Consent, including a supporting Environmental Statement (ES) in May 2019. The Environment Agency submitted the following Relevant Representation (**RR-239**) to the Planning Inspectorate on 26 July 2019, where extended timings were suggested for Commitment G171:

1.1.2 '*For open-cut methods, timing restrictions will need to apply. These have been identified in Chapter 7 of the Environmental Statement (paragraph 7.5.747) for the tributary of the River Hamble (WCX007), ditch leading to the tributary of the River Hamble (WCX006), Caker Stream (WCX012) and Ryebridge Stream (WCX021) as October to December and March to May. However, we propose that timing restrictions should apply on these watercourses for October to May inclusive to also protect the egg and fry life stages of fish in the river. We also disagree with the proposed restricted timings for the tributary of Cove Brook (WCX047), which are stated in paragraph 7.5.747 as March to May, but we propose that the restricted timings should apply between March and July inclusive'*.

1.1.3 Table 1 outlines the comparison with what is currently proposed in Commitment G171 and what has been suggested by the Environment Agency.

Table 1.1: Comparison of existing Commitment and Proposal by the Environment Agency

Watercourse	G171 current restricted timing	Environment Agency proposed restricted timing
Tributary of the River Hamble (WCX007)	October to December and March to May	October to May
Ditch leading to the tributary of the River Hamble (WCX006)	October to December and March to May	October to May
Caker Stream (WCX012)	October to December and March to May	October to May
Ryebridge Stream (WCX021)	October to December and March to May	October to May
Cove Brook (WCX047)	March to May	March to July

1.1.4 This technical note outlines the response from the project to the Environment Agency Relevant Representation following a meeting between both parties on 19 September 2019, as part of agreeing the Statement of Common Ground.

1.2 Applicant Response

1.2.1 Commitment G171 is included within the Register of Environmental Actions and Commitments within ES Chapter 16 (Application Document APP-056). This would be secured through DCO Requirement 12 (Landscape and Ecological Management Plan). G171 states '*Open cut crossings on five watercourses would be subject to constraints. The tributary of Cove Brook (WCX047) would be subject to constraints between March and May. The tributary of the River Hamble (WCX007), ditch leading to the tributary of the River Hamble (WCX006), Caker Stream (WCX012) and*

Ryebridge Stream (WCX021) would be subject to constraints between October to December and March to May. At all five locations, works undertaken in the channel or close to bank tops would be reduced/restricted during these sensitive periods'

1.2.2 The commitment wording was specifically designed to protect the most sensitive period of fish spawning, in a proportionate manner to the habitats observed during the 2018 field surveys.

1.2.3 The timings were designed around standard seasonal restrictions in relation to fish:

- Migratory fish period: October to December;
- Migratory fish spawning: January to March; and
- Coarse fish spawning: March to Jun.

1.2.4 The disturbance from in-channel works is predicted to impact a very small proportion of the total watercourse resource and, in the presence of the project's commitments outlined within the Register of Environmental Actions and Commitments, regarding pollution and sediment control, are unlikely to result in significant effects on water quality, quantity or habitat degradation. As discussed at the meetings with the Environment Agency regarding the project, the in-channel works from the open cut method are likely to be limited to a small number of days per crossing, and whilst the associated haul road may be in place for longer periods, channel connectivity will be maintained throughout.

1.2.5 Timing restrictions on the tributary of the River Hamble (WCX007), ditch leading to the tributary of the River Hamble (WCX006), Caker Stream (WCX012) and Ryebridge Stream (WCX021) are considered appropriate for these watercourses. All four crossing points are either ephemeral or hold little water during normal summer flow. As such these watercourses will provide limited adult fish habitat, opportunity for spawning or juvenile fish habitat of quality. Therefore, the project team considers that only protection of spawning periods is required in these locations, given the limited disturbance to in-channel habitats and poor habitat present.

1.2.6 The crossing of the tributary of the Cove Brook (WCX047) lies within Southwood Golf Course and was completely choked with emergent vegetation at the time of survey (summer 2018). It is unlikely that this location would be used by fish for spawning or juvenile life stages. Therefore, the existing commitment wording is considered to be sufficient with regards to this watercourse, given the value of the habitat present and short duration of the open cut crossing.

1.3 Conclusion

1.3.1 The project has reviewed the surveyed results for each watercourse as part of the review of the timings and considers the existing commitment wording for G171 to be sufficient for each watercourse, given the value of the habitat present.

1 Technical Note: Environment Agency – Working at Depth

1.1 Introduction

1.1.1 The Southampton to London Pipeline Project ('the project') submitted an application for Development Consent, including a supporting Environmental Statement (ES) and Flood Risk Assessment in May 2019. The Environment Agency submitted the following Relevant Representation (**RR-239**) to the Planning Inspectorate on 26 July 2019, which raised a question around the locations where working at depth would be required:

1.1.2 '*We note that working at depth will be required in trenchless crossings. We welcome the map confirming the location of the proposed trenchless crossings. We would also request confirmation of any other areas or locations where deep excavations (i.e. greater than 3m) or pipeline instillation may be required. If these are currently known we would ask for map showing these locations.*'

1.1.3 This technical note outlines the response from the project to the Environment Agency Relevant Representation following a meeting between both parties on 19 September 2019, as part of agreeing the Statement of Common Ground.

1.2 Applicant Response

1.2.1 The application for Development Consent, including the Environmental Statement (ES) and supporting Appendices, considered up to 4m below ground level for trenched crossings. As requested, Figure 1 shows the location of the trenchless crossing locations and other areas where the Applicant is currently aware that the proposed pipeline could be deeper than 4m below ground level. This is primarily where the replacement pipeline would be installed using trenchless methods, and where the replacement pipeline would need to cross existing services.

1.2.2 The Applicant has undertaken a qualitative assessment for all of these locations using the methodology set out within ES Appendix 8.2 (**Application Document APP-103**). There are ten Trenchless Crossing locations and four other locations where there could be a significant effect in the absence of mitigation.

1.2.3 The Applicant has an existing commitment (W13) to reduce the significance of these effects for the trenchless crossings. The Applicant is proposing to make a further commitment to provide mitigation at the four other locations. This new commitment will be implemented through the Construction Environmental Management Plan (CEMP) and will say:

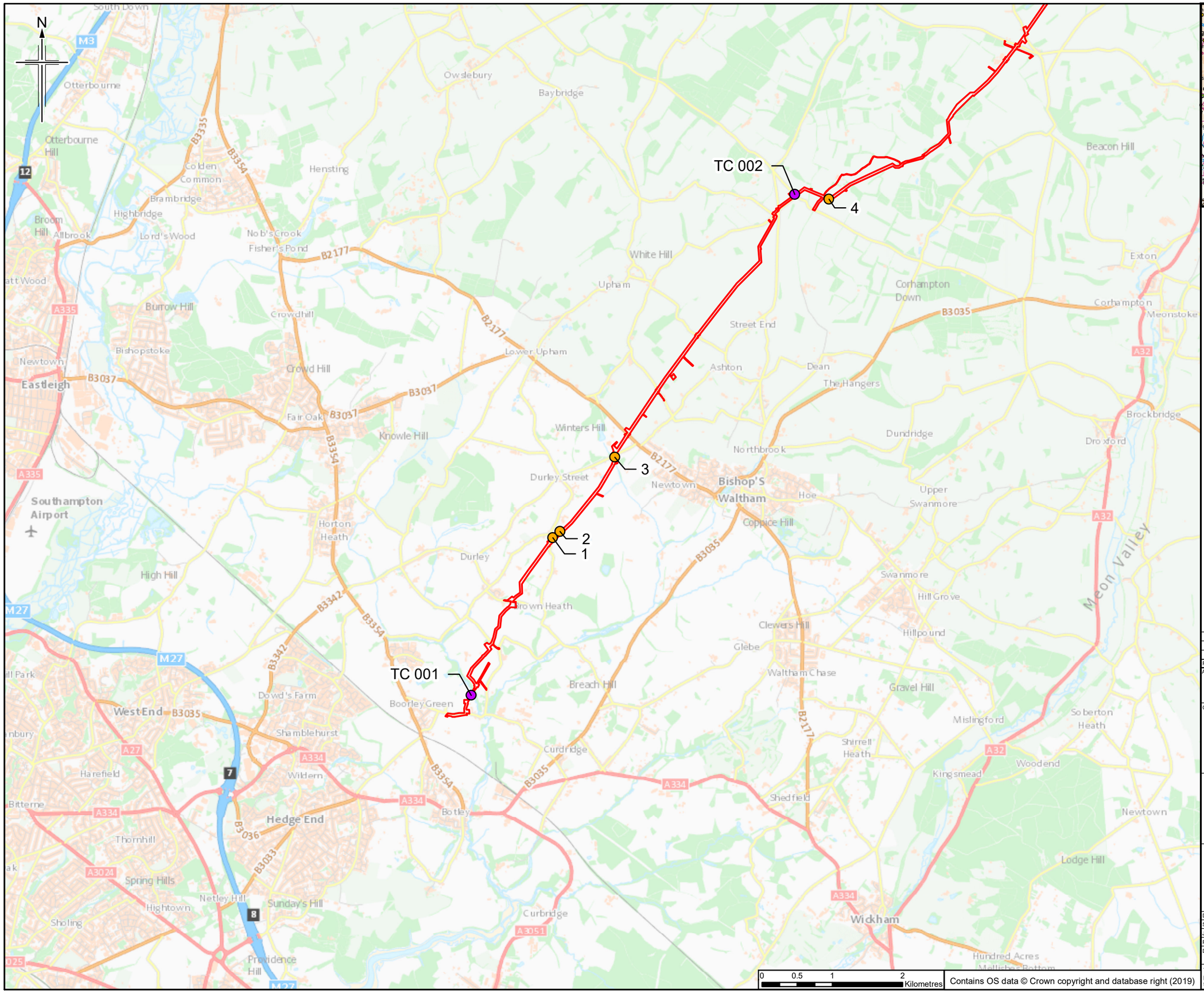
Temporary sheet piling or similar for control of groundwater would be put in place at the following locations unless a detailed assessment is undertaken which demonstrates that no building or infrastructure is at risk of differential settlement:

- Near the junction of Roakes Avenue and Canford Drive, Chertsey TQ048657 (point 32 on Figure 1)

- Southeast of Jubilee Church, Chertsey (TQ049658) (point 33 on Figure 1)
- Junction of Chesterfield Road and Woodthorpe Road, Ashford TQ059716 (point 37 on Figure 1)
- To the southwest of the Esso West London Terminal storage facility, West Bedfont TQ068733 (point 39 on Figure 1)

1.2.4 With both the existing commitment (W13), covering the trenchless crossing locations and the new commitment, covering the additional four locations, any potential effects would be reduced to minor and not significant. The new commitment will be implemented through the CEMP.

Figure 1: Locations Where the Pipeline Depth is Greater than 3m



Legend

- Order Limits
- <all other values>
- Known Locations where the Pipeline Trench greater than 3m
- Trenchless Crossing Locations (see ES Appendix 3.1 for details)

Rev.	Rev. Date	Purpose of revision	Orig/Dwn	Checkd	Rev'd	Apprv'd
0	02/10/2019	For Issue	HM	NS	AJ	SH

Author

JACOBS
1180 Eskdale Road, Winnersh, Wokingham, RG41 5TU, UK.
Tel: +44(0)118 946 7000 Fax:+44(0)118 946 7001
www.jacobs.com

Client

Esso Petroleum Company, Limited
Ermyn House,
Ermyn Way,
Leatherhead,
Surrey,
KT22 8UX

Project

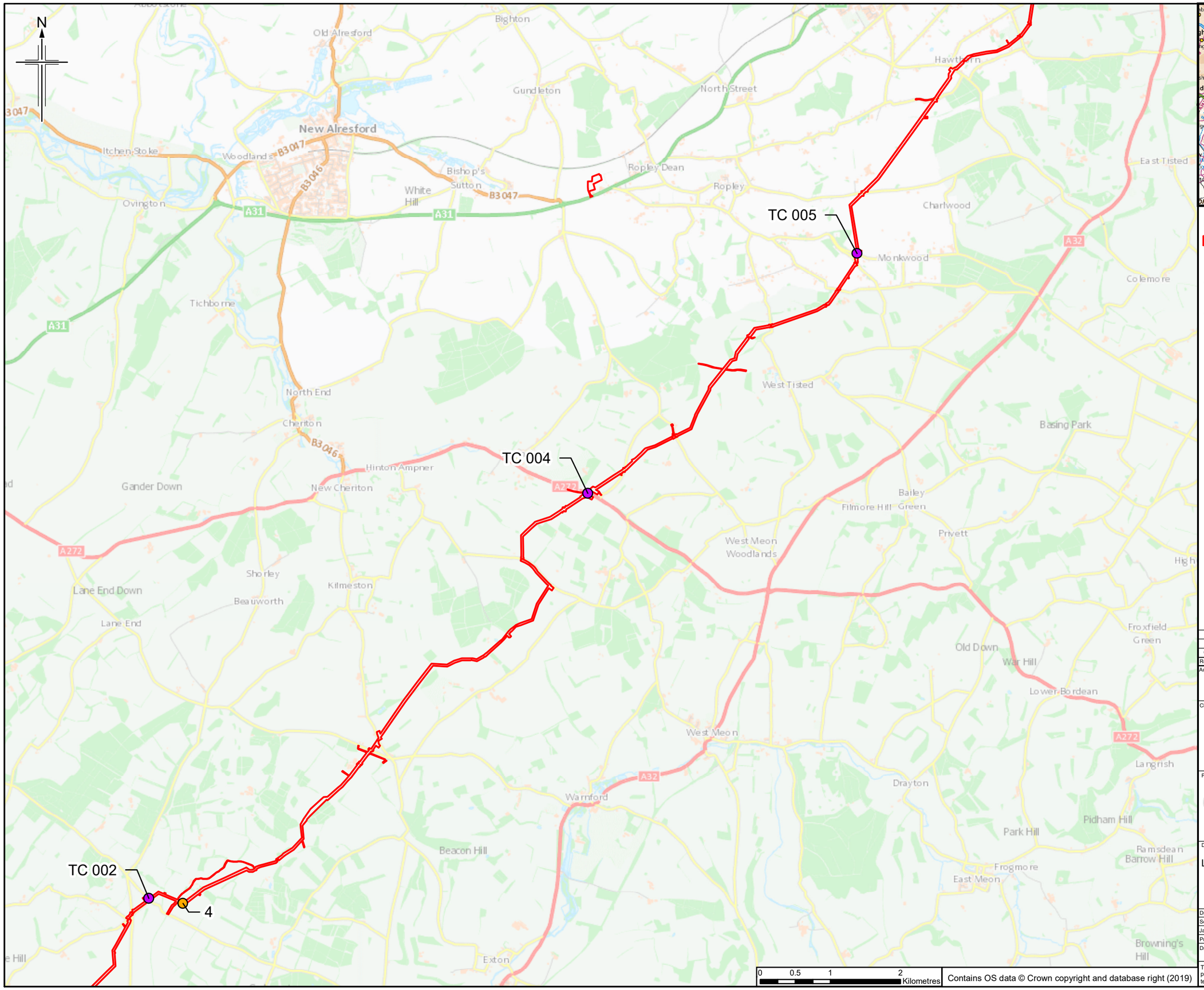
Esso | Southampton to London Pipeline Project

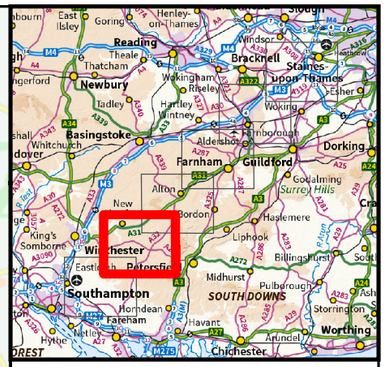
Drawing title

LOCATIONS WHERE THE PIPELINE DEPTH IS GREATER THAN 3M

Drawing Status	For Issue		
Scale	1:50,000 @ A3	DO NOT SCALE	
Jacobs No.	B2325300		
ProjectWise No.			
Drawing number	Figure 1 Sheet 1 of 6	Rev	0

0 0.5 1 2 Kilometres





Legend

- Order Limits
- <all other values>
- Known Locations where the Pipeline Trench greater than 3m
- Trenchless Crossing Locations (see ES Appendix 3.1 for details)

Rev.	Rev. Date	Purpose of revision	Orig/Dwn	Checkd	Rev'd	Apprv'd
0	02/10/2019	For Issue	HM	NS	AJ	SH

Author

JACOBS
1180 Eskdale Road, Winnersh, Wokingham, RG41 5TU, UK.
Tel: +44(0)118 946 7000 Fax:+44(0)118 946 7001
www.jacobs.com

Client

Esso Petroleum Company, Limited
Ermyn House,
Ermyn Way,
Leatherhead,
Surrey,
KT22 8UX

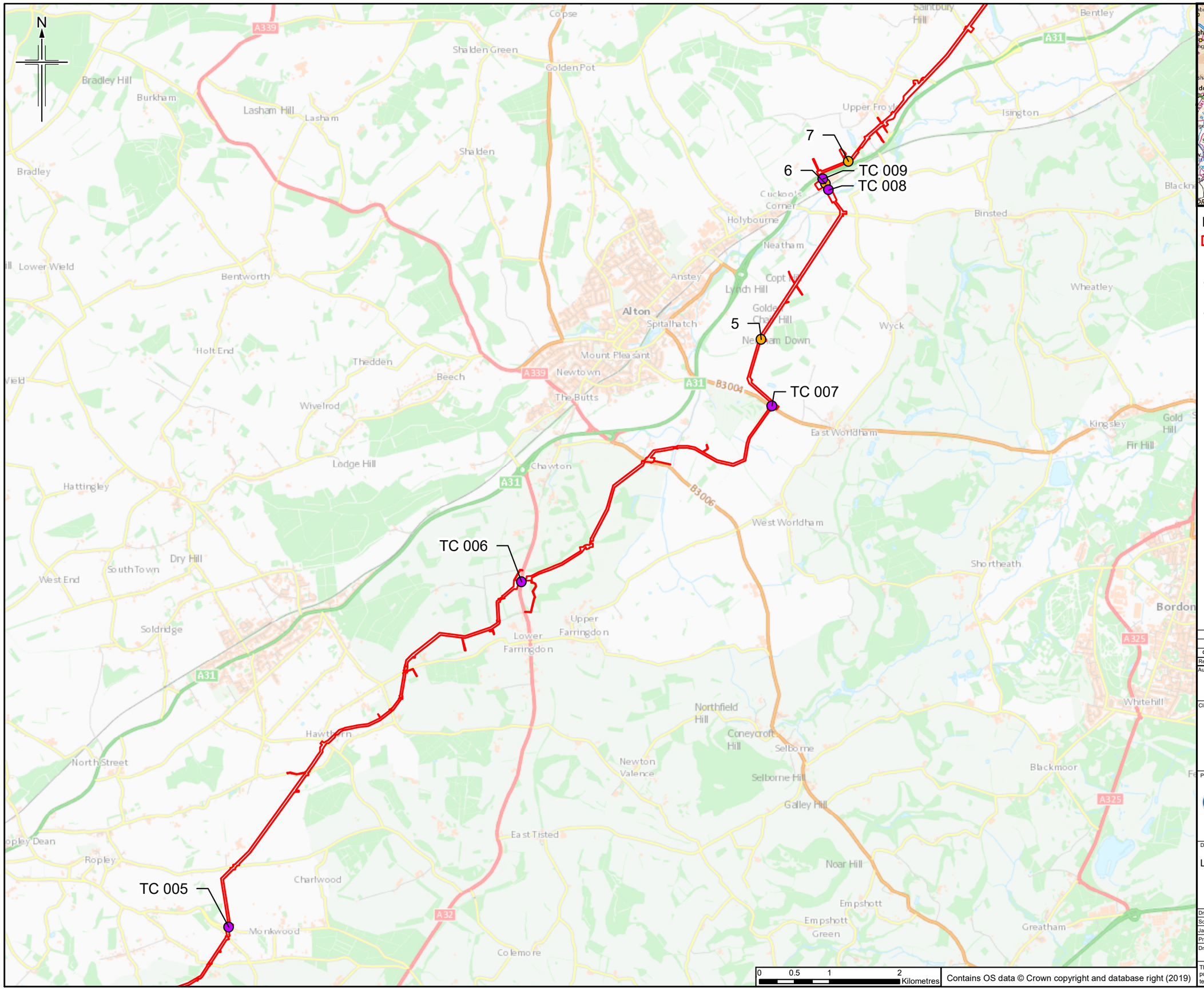
Project

Esso | Southampton to London Pipeline Project

Drawing title

LOCATIONS WHERE THE PIPELINE DEPTH IS GREATER THAN 3M

Drawing Status	For Issue		
Scale	1:50,000 @ A3	DO NOT SCALE	
Jacobs No.	B2325300		
ProjectWise No.			
Drawing number	Figure 1 Sheet 2 of 6	Rev	0



Legend

- Order Limits
- <all other values>
- Known Locations where the Pipeline Trench greater than 3m
- Trenchless Crossing Locations (see ES Appendix 3.1 for details)

Rev.	Rev. Date	Purpose of revision	Orig/Dwn	Checkd	Rev'd	Apprv'd
0	02/10/2019	For Issue	HM	NS	AJ	SH

Author

JACOBS
1180 Eskdale Road, Winnersh, Wokingham, RG41 5TU, UK.
Tel: +44(0)118 946 7000 Fax:+44(0)118 946 7001
www.jacobs.com

Client

Esso Petroleum Company, Limited
Ermyn House,
Ermyn Way,
Leatherhead,
Surrey,
KT22 8UX

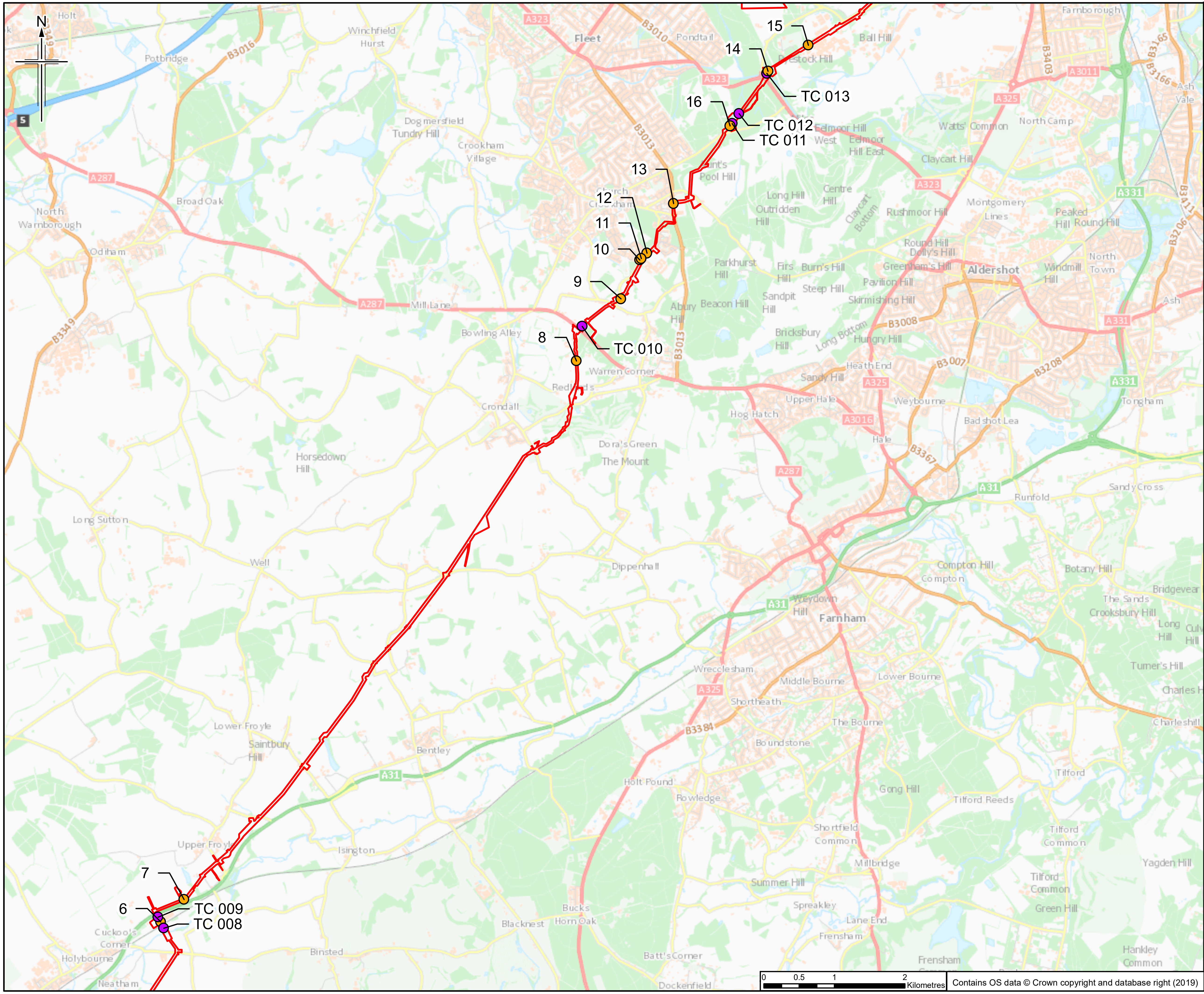
Project

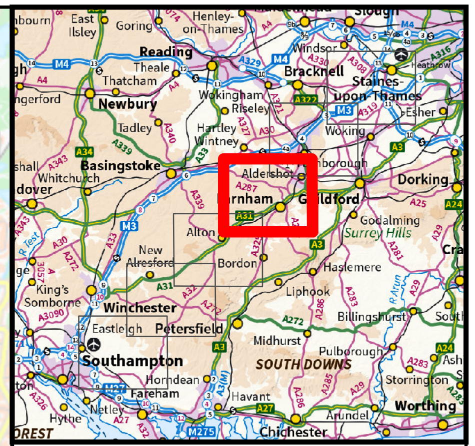
Esso | Southampton to London Pipeline Project

Drawing title

LOCATIONS WHERE THE PIPELINE DEPTH IS GREATER THAN 3M

Drawing Status	For Issue	
Scale	1:50,000 @ A3	DO NOT SCALE
Jacobs No.	B2325300	
ProjectWise No.		
Drawing number	Figure 1 Sheet 3 of 6	Rev 0





Legend

- Order Limits
- <all other values>
- Known Locations where the Pipeline Trench greater than 3m
- Trenchless Crossing Locations (see ES Appendix 3.1 for details)

Rev.	Rev. Date	Purpose of revision	Orig/Dwn	Checkd	Rev'd	Apprv'd
0	02/10/2019	For Issue	HM	NS	AJ	SH

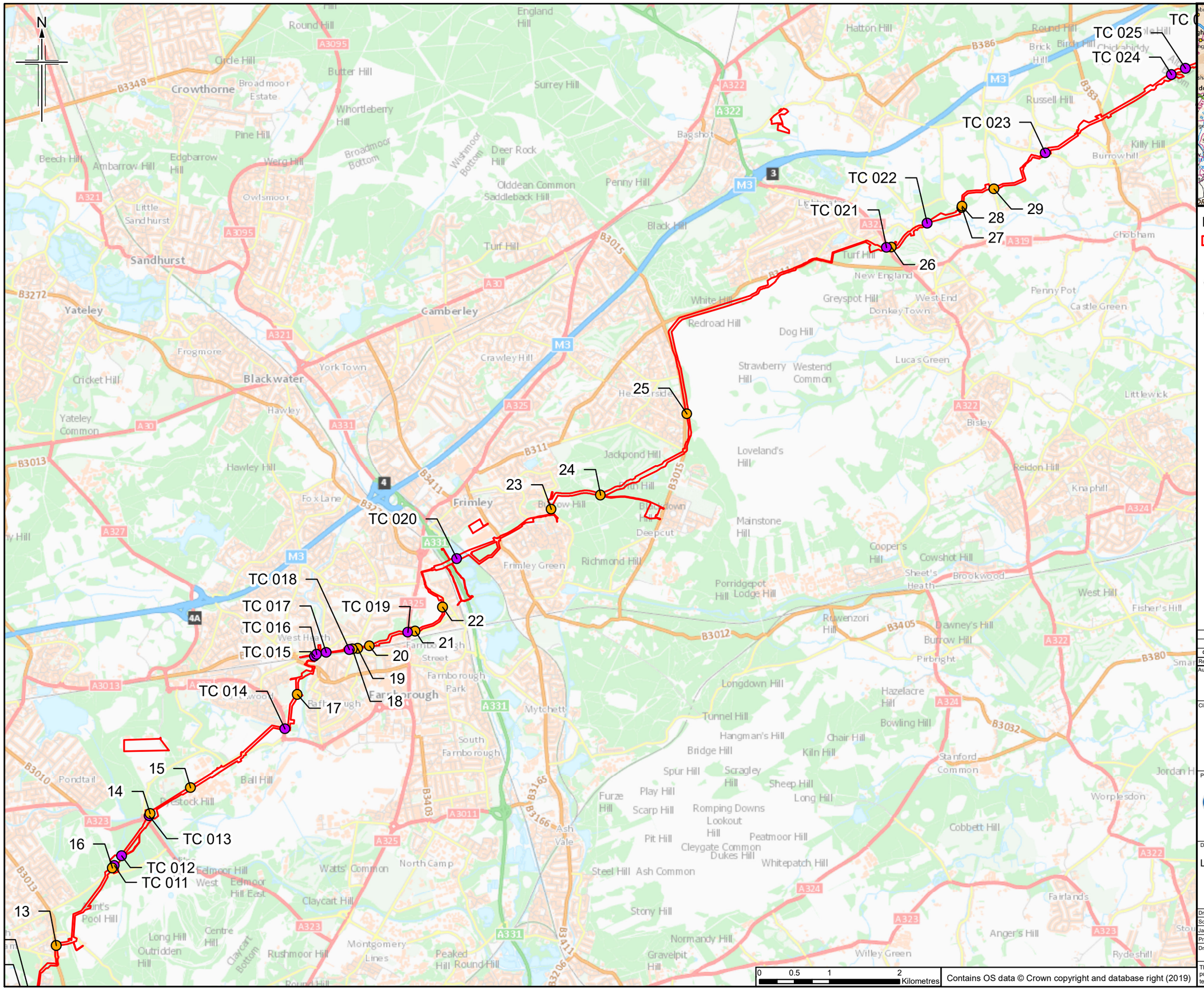
Author
JACOBS
1180 Eskdale Road, Winnersh, Wokingham, RG41 5TU, UK.
Tel: +44(0)118 946 7000 Fax:+44(0)118 946 7001
www.jacobs.com

Client
Esso Petroleum Company, Limited
Ermyn House,
Ermyn Way,
Leatherhead,
Surrey,
KT22 8UX

Project
Southampton to London Pipeline Project

Drawing title
LOCATIONS WHERE THE PIPELINE DEPTH IS GREATER THAN 3M

Drawing Status	For Issue
Scale	1:50,000 @ A3 — DO NOT SCALE
Jacobs No.	B2325300
ProjectWise No.	
Drawing number	Figure 1 Sheet 4 of 6
Rev	0



Rev.	Rev. Date	Purpose of revision	Orig/Dwn	Checkd	Rev'd	Apprv'd
0	02/10/2019	For Issue	HM	NS	AJ	SH

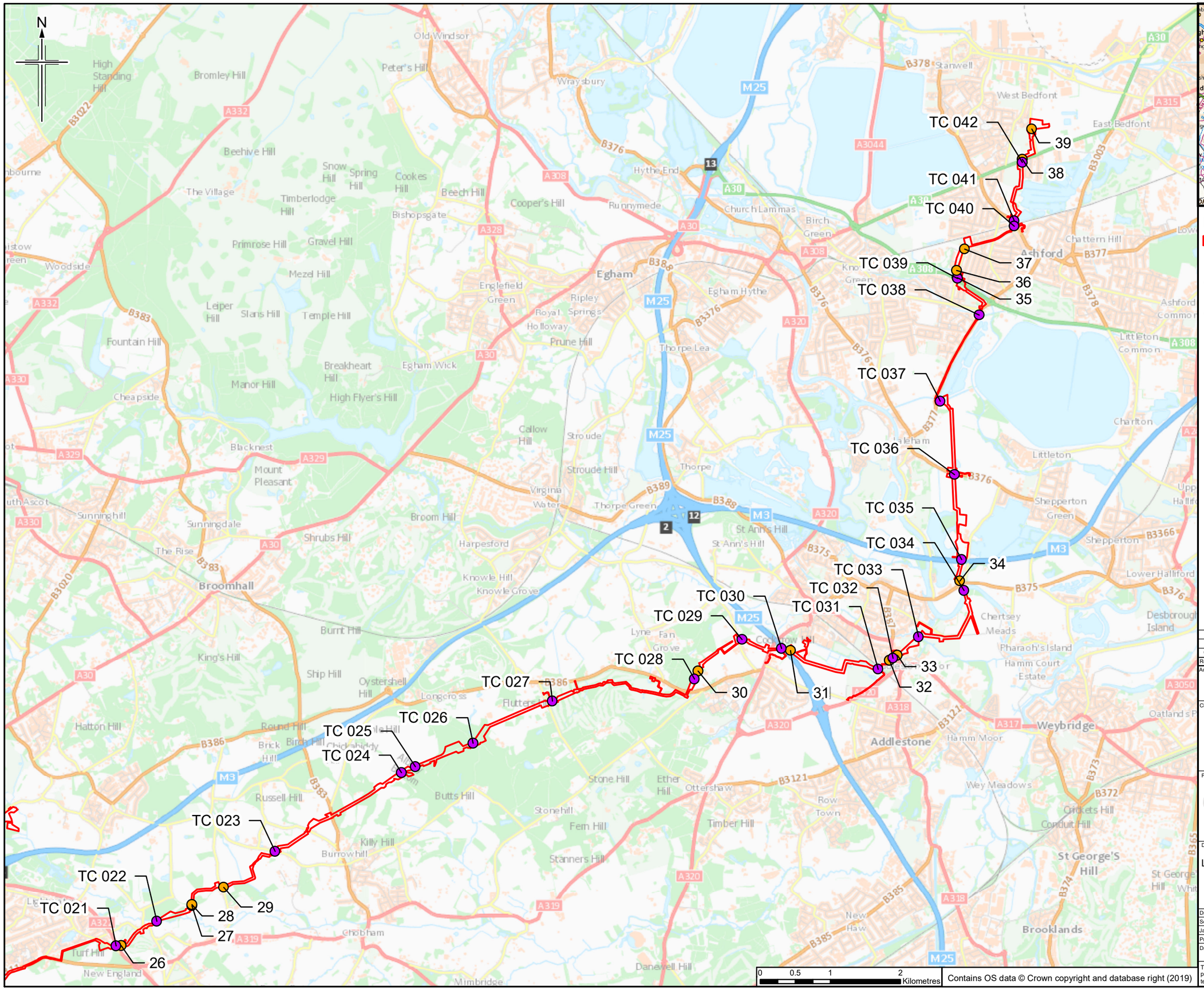
Author
JACOBS
1180 Eskdale Road, Winnersh, Wokingham, RG41 5TU, UK.
Tel: +44(0)118 946 7000 Fax:+44(0)118 946 7001
www.jacobs.com

Client
Esso Petroleum Company, Limited
Ermyn House,
Ermyn Way,
Leatherhead,
Surrey,
KT22 8UX

Project
Southampton to London Pipeline Project

Drawing title
LOCATIONS WHERE THE PIPELINE DEPTH IS GREATER THAN 3M

Drawing Status	For Issue		
Scale	1:50,000 @ A3	DO NOT SCALE	
Jacobs No.	B2325300		
ProjectWise No.			
Drawing number	Figure 1 Sheet 5 of 6	Rev	0



Rev.	Rev. Date	Purpose of revision	Orig/Dwn	Checkd	Rev'd	Apprv'd
0	02/10/2019	For Issue	HM	NS	AJ	SH

Author

JACOBS
1180 Eskdale Road, Winnersh, Wokingham, RG41 5TU, UK.
Tel: +44(0)118 946 7000 Fax:+44(0)118 946 7001
www.jacobs.com

Client

Esso Petroleum Company, Limited
Ermyn House,
Ermyn Way,
Leatherhead,
Surrey,
KT22 8UX

Project

Esso
Southampton to London Pipeline Project

Drawing title

LOCATIONS WHERE THE PIPELINE DEPTH IS GREATER THAN 3M

Drawing Status	For Issue	
Scale	1:50,000 @ A3	DO NOT SCALE
Jacobs No.	B2325300	
ProjectWise No.		
Drawing number	Figure 1 Sheet 6 of 6	Rev 0