

The Planning Inspectorate  
Temple Quay House  
Bristol  
BS1 6PN

**Project ref:** Southampton to London Pipeline  
Project – EN070005

**Your ref:** 20022740

**Date:** 2 April 2020

Dear Sir/Madam,

**Application by Esso Petroleum Company Limited for an Order Granting Development Consent for the Southampton to London Pipeline Project**

Please find enclosed our comments for 'deadline 7' submissions for the Southampton to London Pipeline Project Development Consent Order application. Along with this response, we have also provided a briefing note (and associated documents) for our outstanding issue in relation to the scheme's interaction with the Environment Agency's proposed River Thames Scheme.

**The Role of the Environment Agency**

The Environment Agency has a responsibility for protecting and improving the Environment as well as contributing to sustainable development.

Our work helps to support a greener economy through protecting and improving the natural environment for beneficial uses, working with business to reduce waste and save money, and helping to ensure that the UK economy is ready to cope with climate change. We will facilitate, as appropriate, the development of low carbon sources of energy ensuring people and the environment are properly protected.

**We have three main roles:**

We are an **environmental regulator** – we take a risk-based approach and target our effort to maintain and improve Environmental standards and to minimize unnecessary burdens on business. We issue a range of permits and consents.

We are an **environmental operator** – we are a national organization that operates locally. We work with people and communities across England to protect and improve the environment in an integrated way. We provide a vital incident response capability.

We are an **environmental advisor** – we compile and assess the best available evidence and use this to report on the state of the environment. We use our own monitoring information and that of others to inform this activity. We provide technical information and advice to national and local governments to support their roles in policy and decision-making.

One of specific functions is as a Flood Risk Management Authority. We have a general supervisory duty relating to specific flood risk management matters in respect of flood risk arising from Main Rivers or the sea.

Please do not hesitate to contact me if you require any further information. We look forward to continuing to work with the applicant to resolve any ongoing matters contained within our written representation, and to ensure the best environmental outcome for this project.

Cont/d..

Yours faithfully,

**Clark Gordon**  
**Strategic Planning Specialist**  
**Environment Agency, Thames area**

Att Appendix A – Written Representations on behalf of the Environment Agency

River Thames Scheme Briefing Note (attached separately)

Environment Agency and Esso Petroleum Approval in Principle (attached separately)

122368-BVL-Z0-C3-DR-C-01001.P02-S4-A001 Channel Section 3 Plan at Channel Inlet  
(attached separately)

122368-BVL-Z0-C3-DR-C-01002.P03-S4-A001 Channel Section 3 Sections at Channel  
Inlet (attached separately)

122368-BVL-Z0-C1-DR-C-00062.P01-S4-A001 Channel Section 3 Services Diversion  
(attached separately)

## Appendix A

### Written Representations on behalf of the Environment Agency

#### 1.0 Summary of further engagement with applicant

1.1 Since we sent our previous written representation (REP6-080) for this application on 5 March 2020, we have undertaken further engagement with the applicant (or their agents) as set out below:

- 6 March: E-mail received from applicant outlining stockpiling commitments to overcome outstanding flood risk concerns.

- 25 March: E-mail received from applicant updating us on awaited costs for River Thames Scheme area. We were advised that costs will not be provided before the end of the examination.

- 26 March: E-mail received from applicant with proposed deadline 7 submission draft DCO including EA protective provision.

- 2 April: Call between EA and Esso to discuss outstanding matters concerning EA's River Thames Scheme (RTS).

1.2 We are disappointed that we have not been able to come to a firmer conclusion for the RTS matters. We were of the understanding throughout the examination process that a conclusion could be reached. We now understand that final costings may not be provided to us until closer to the end of the year.

#### 2.0 Summary of outstanding issues

2.1 At deadline 6 we had two outstanding issues: flood risk (topsoil management in particular) and the RTS interaction. The flood risk issue has been agreed, whilst RTS remains unresolved.

2.2 We also have two further points that we would like raise as part of this response. One concerns an outstanding matter following our review of documents submitted by the applicant at deadline 6, and the other relates to a request from the applicant for us to confirm our acceptance of Article 36 of the draft DCO.

2.3 We will address each of these matters below:

#### 3.0 Flood risk (topsoil management) - agreed

3.1 Following our review of the documents and technical notes previously submitted by the applicant, as well as updated application documents submitted at deadline 6 (including the REAC signposting document (REP6-050), Code of Construction Practice (REP6-010), Outline CEMP (REP6-031), Outline Emergency Action Plan (REP6-033) and Outline Water Management Plan (REP6-035)), we are satisfied with the mitigation measures and commitments proposed by the applicant for the management of topsoil in terms of fluvial flood risk.

3.2 We now consider all flood risk matters within our remit to be agreed.

#### **4.0 River Thames Scheme (RTS)**

- 4.1 To fully explain our position in relation to the RTS scheme, we have separately to this letter provided the Examining Authority with a briefing note produced by the EA's RTS team. This is supplemented by an Agreement in Principle between the EA and Esso in relation to the design of the RTS structures to take account of *existing* Esso pipelines (and other services).
- 4.2 We have approached our pre-application engagement and subsequent engagement through the DCO examination with Esso on the understanding that sufficient information would be available by the end of the examination to satisfy both parties that an appropriate, affordable solution could be found that was acceptable to the demands of both parties.
- 4.3 However, we have now been advised by the applicant that there is still insufficient data to make an informed decision on costs and designs for SLP through the area of concern with RTS before the end of the examination period. We understand that this is partially due to a lack of ground investigation data. We also understand that costs and designs may not be made available to us for review until towards the end of the year.
- 4.4 We are somewhat disappointed that this was not made clearer to us earlier in the process, albeit we acknowledge that the applicant has been seeking to carry out the required work. We are now left at the point where there are no provisions made whatsoever within the draft DCO. Had we been made aware earlier, we may have formulated and requested additional articles to be included within the DCO, although we have had limited time to consider our options.
- 4.5 We acknowledge from a call we had with the applicant today that they will continue to engage with us on a voluntary basis on this matter and will work with us to achieve a mutually beneficial outcome, including through the provision of updated costs and designs. We appreciate this offer and will continue our engagement on this matter beyond the end of the examination.

#### **5.0 Review of Outline Emergency Action Plan (REP6-033)**

- 5.1 In our deadline 4 response (REP4-059), and in particular in our response to ExA's Further Written Question FR.2.5 (Appendix B, paragraph 1.3.2), we suggested that the applicant should take water samples from affected wells/boreholes (following a spill) "within 2-3 working days", rather than "as soon as practicable".
- 5.2 In the applicant's response to this comment (REP5-021; page 8, paragraph 1.3) they stated that the Outline Emergency Action Plan (EAP) would include reference to "2-3 working days" in the version to be submitted at deadline 6.
- 5.3 However, following our review of the Outline EAP, there does not seem to be any reference to how quickly samples will be taken. Paragraph 4.3.3 of the Outline EAP states that owners within 250m of a spill would be "contacted within 24 hours", and later that "monitoring... would be undertaken", but there is no statement of how quickly samples will be taken.
- 5.4 Whilst this is an error that could be corrected in the final version, we feel it would be prudent to also include it in the final outline version of the EAP.

#### **6.0 Draft DCO – Article 36**

- 6.1 We can confirm that we agree with the legislation to be disapplied listed in Article 36 of the draft DCO that is within our remit.

**Briefing note re. Esso Southampton to London Pipeline (SLP) Development Consent Order (DCO) and Environment Agency River Thames Scheme**

The proposed new Southampton to London Pipeline conflicts with the Environment Agency's (EA) River Thames Scheme (RTS). The elements affected include an intake control structure, associated infrastructure and channel.

RTS is a project that has been running for almost 10 years with a reasonably defined route and which has made provision for Esso's new pipeline within its design, through consultation with Esso and its consultants. Therefore the EA believes that the SLP route, design and construction methodology should incorporate provision for RTS within the DCO.

The EA has engaged and consulted with Esso about RTS prior to and within the DCO timeframes to try and secure provision for RTS, but as agreement and resolution of Esso's facilitation of RTS has not been reached within DCO timescales, the EA requests that the Examining Authority consider how such a provision could be secured as part of the DCO.

Description of River Thames Scheme:

The River Thames Scheme is a £500m flood alleviation scheme that involves the construction of a flood channel, in three sections between Datchet and Desborough Cut. The River Thames Scheme will reduce flood risk to communities in the lower Thames area, including Datchet, Wraysbury, Egham, Staines, Chertsey, Shepperton, Weybridge, Sunbury, Molesey, Thames Ditton, Kingston and Teddington. The project will reduce flood risk to 15,000 properties and 2,400 businesses and is supported by the seven local authorities who, as partners, are part-funding this major project.

The intake for Channel Section 3 of the River Thames Scheme is connected to the left bank of the River Thames at Thames Side in Chertsey. The Channel is aligned east from the intake through Littleton North lake (a former gravel pit) owned and quarried by Brett Aggregates Limited. The channel then continues through Brett Aggregates Limited land where it is proposed that there will be an intake control structure with associated infrastructure. The channel then crosses Littleton Lane, Shepperton. The area of conflict is within the DCO Plans – Volume 2 Land Plan Sheet 118 (see also Figure 1 below).



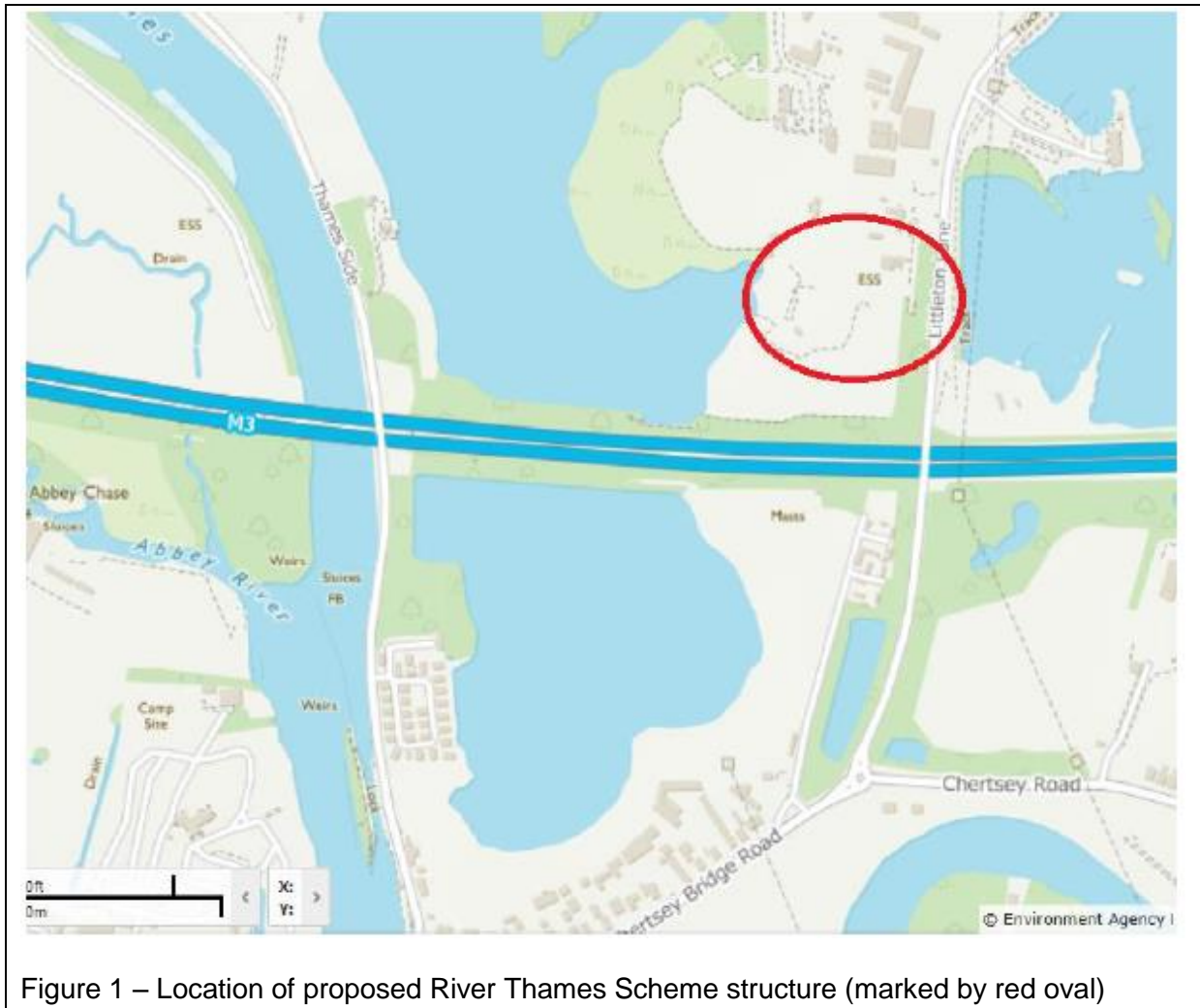


Figure 1 – Location of proposed River Thames Scheme structure (marked by red oval)

Background:

The Environment Agency River Thames Scheme started consultation and engagement with Esso over 5 years ago with the aim of agreeing diversion of Esso’s existing services required as part of the construction of RTS, and to ensure that any plans that Esso were making for changes to their infrastructure would take RTS into account and avoid or make provision for the scheme.

The EA has previously supported Esso in coming up with an appropriate solution for both parties by paying for design development to be incorporated in the RTS project, before the SLP DCO process started.

It was mutually agreed by both parties that one part of this engagement was for EA RTS to fund Esso’s design team to develop the design of the intake structure to include spare capacity for the SLP Project. This design solution was intended to mitigate increased cost to EA RTS. This was agreed in an Approval In Principle document signed 12<sup>th</sup> April 2018 (ref. 122368-BVL-Z0-SW-RP-C-00018.P03-S4-A001) and associated drawings:

- 122368-BVL-Z0-C3-DR-C-01001.P02-S4-A001 Channel Section 3 Plan at Channel Inlet
- 122368-BVL-Z0-C3-DR-C-01002.P03-S4-A001 Channel Section 3 Sections at Channel Inlet.

- 122368-BVL-Z0-C1-DR-C-00062.P01-S4-A001 Channel Section 3 Services Diversion

The above documents have been submitted with this briefing note.

Conclusion:

To reduce the potential impact on both projects during both construction and future maintenance, our preferred solution is for the pipeline to be routed under the flood channel to the west of the intake structure and associated sheet piling, similar to the proposed crossing of the River Thames a short distance away.

In order for the concerns and issues to be resolved the EA consider that there should be a provision within the Esso SLP DCO to allow further consultation. This consultation between the EA, the applicant and the landowner is required so that agreement can be reached regarding the location, alignment and/or depth of the pipeline to avoid any issues during the construction and future use of the channel.

To summarise:

- EA RTS has initiated and maintained consultation and engagement with Esso for over 5 years.
- EA RTS has funded Esso's (or their consultants) design of the Intake Structure 3 in Channel Section 3 to incorporate spare capacity to carry the SLP Project.
- Esso have signed an Approval in Principle document which includes this provision.
- The implications of the Esso SLP proposals as they stand to RTS design, construction and maintenance, and the associated costs and programme increases to the EA and its Partners including Surrey County Council are unacceptable.

River Thames Scheme

Keep up to date with the scheme.

Email [rts@environment-agency.gov.uk](mailto:rts@environment-agency.gov.uk)

Twitter [@ThamesScheme](https://twitter.com/ThamesScheme)

Facebook [RiverThamesScheme](https://www.facebook.com/RiverThamesScheme)

Website [www.gov.uk/riverthamesscheme](http://www.gov.uk/riverthamesscheme)

# Technical Memorandum



Total number of sheets: 8

Project name:	River Thames Scheme Capacity Improvements and Flood Channel	Project no.	122368		
Memo title:	Esso Petroleum – Approval in Principle	Package no.	122368-BVL-Z0-SW-RP-C-00018		
		Memorandum serial no.		Rev.	P03

Scope of memorandum, references, etc.:

This Memorandum sets out the impacts on Esso Petroleum pipelines affected by the River Thames Scheme (RTS) flood channel between Datchet and the Desborough Island (Shepperton) and seeks Approval in Principle for the works.

Prepared by:	Ben Studham	Signed:	Ben Studham	Date:	10/04/2018
Checked by:	Shane McMonagle	Signed:	Shane McMonagle	Date:	12/04/2018
Reviewed by:	John Hopkins	Signed:	[REDACTED]	Date:	12/04/2018

Distribution of memorandum:

	Name	Position	Attachments	Issue date	Remarks
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# 1. INTRODUCTION

## 1.1 Purpose of the Memorandum

This Memorandum summarises the Approval in Principle (AIP) for the diversion of Esso Petroleum (Esso) pipelines to accommodate the River Thames Scheme (RTS) flood channel. The AIP for construction of new structures over existing National Grid Gas pipelines is also included.

## 1.2 Background

The River Thames Scheme (RTS) covers the reach of the River Thames from Datchet to Teddington. This reach covers one of the largest, most at risk, and currently undefended flood plains in England. At present 37,000 properties within the reach lie between the high and low risk bands as defined by the Flood Risk Regulations 2009. Major flooding within the reach would affect national infrastructure including local and regional road networks, several major drinking water abstractions, and up to 20 local electricity sub-stations.

The RTS approved strategy involves the construction of a 14.5km (previously 17km) flood channel in three sections from Datchet to the Desborough Island (in Shepperton), along with compensation works at each of the downstream River Thames Weirs. The flood channel will convey up to 150cumecs of flow during flood events. The compensation works will facilitate the conveyance of this additional flow along the River Thames, downstream of the flood channel. This will mitigate the minimal increase in water levels that may result from the scheme.

The extents and main features of RTS can be seen in Figure 1 below.

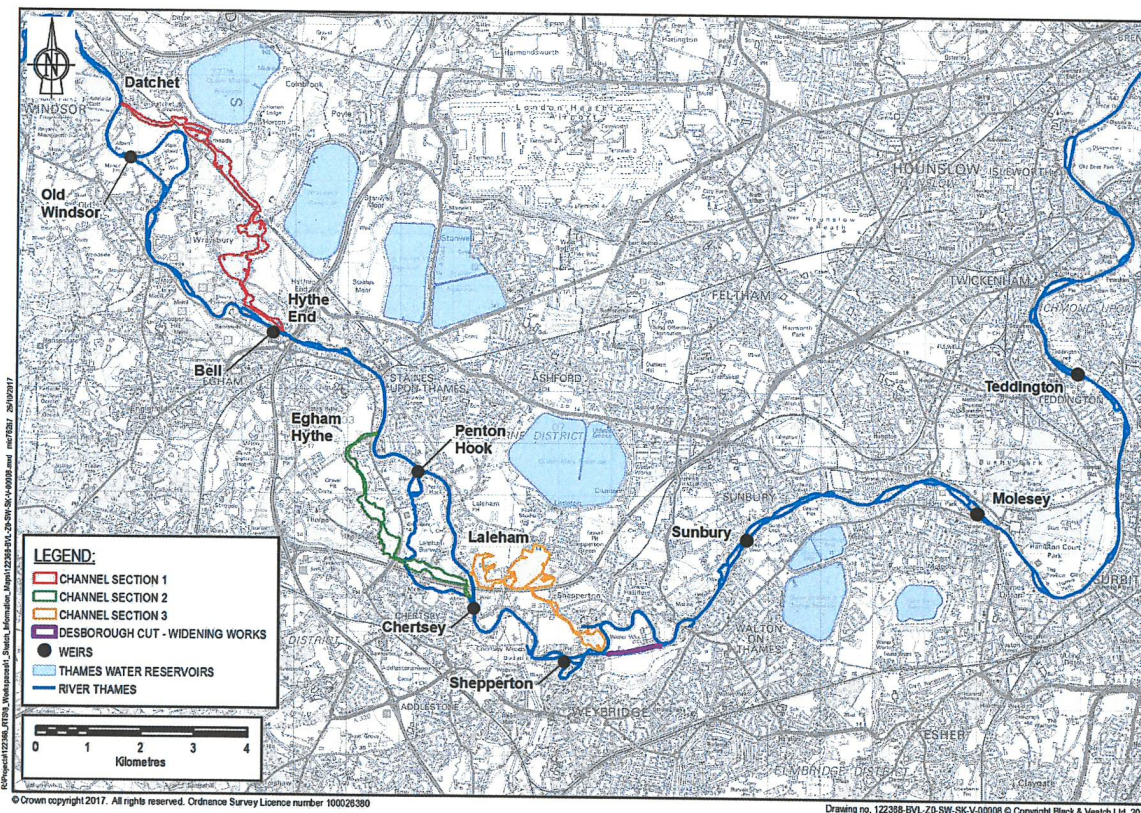


Figure 1: The River Thames Scheme Flood Channel and Compensation Works

### 1.3 Structures affected

This Memorandum relates to the Esso pipelines detailed below:

Pipeline Diversions

- 10" Jetline and 12" WOL Oil Mains intersected adjacent to Littleton Lane (IS3)

### 1.4 Programme and procurement

The outline programme for RTS is as follows:

- Outline Business Case approval - early 2018 – mid 2018
- Planning permission – mid 2018 – late 2019
- Detailed design mid 2020 – mid 2021
- Construction 2020 – 2024

The procurement strategy for construction of RTS has yet to be confirmed. It is possible that one main contractor could be allocated the entire scheme. However, given the scale of the works, it is more likely a number of main contractors will be allocated discrete packages of works. In the case of the latter for example, three separate main contractors might be appointed, each one delivering one of the three channel sections shown in Figure 1.

Based on above, at present it is assumed that enabling works are carried out by the main contractor and connections are carried out by an Esso framework contractor working in coordination with the main contractor.

## 2. PIPELINE DIVERSIONS

### 2.1 10" Jetline and 12" WOL Oil Mains intersected adjacent to Littleton Lane (IS3)

#### 2.1.1 Existing details

##### 2.1.1.1 Location

Two oil mains roughly follow the alignment of Littleton Lane, OS coordinates TQ059673. The pipelines run north to south and are laid along the western foot of the embankment used to carry Littleton Lane over the M3. The pipelines are laid in the same corridor as a gas main operated by National Grid. The existing route of the two pipelines can be seen in Figure 2 below.



Figure 2: 10" Jetline and 12" WOL Oil Mains at LA9

##### 2.1.1.2 Asset details

The pipelines are critical pieces of infrastructure and feed fuel (petrol or diesel) to Heathrow Airport. The pipeline to the west is made up of 12" diameter pipe, the pipeline to the east is made up of 10" diameter pipe. The pipeline is constructed with steel. The pipelines are laid with around 2m cover; the minimum cover required is 1.2m. The pipelines are directionally drilled through the existing M3 embankment to the south; a valve chamber is located further south adjacent to the southern verge of Chertsey Bridge Road. The ground level in the area is approximately 12.0m AOD.

## 2.1.2 Proposed arrangement

### 2.1.2.1 Interface

It is proposed that the existing pipelines are intersected by the proposed RTS Channel Section 3 flood channel between Littleton North Lake to the west, and Littleton East Lake to the east. The pipelines will be diverted and carried across the flood channel via a service bridge constructed as part of the new Intake Structure (IS3).

The new structure is located to the west of the existing alignments of the pipelines. It is proposed that the pipelines are diverted on the approach to the flood channel. The pipelines will be laid below ground level in new open-cut trenches which redirect them west of their existing alignment. The pipelines will then be carried across the channel via troughs in the services bridge. The running surface of the service bridge will be located at the ground level, allowing the troughs to carry the pipeline below ground level. An additional 'spare' trough will be provided.

The proposed structural arrangements for this service bridge are detailed in the 'Channel Section 3 Intake Structure IS3' (GBV, 2017) drawing. The drawing also gives details of the proposed route of the pipelines.

### 2.1.2.2 Details of materials

The diverted sections of pipeline will be heavy wall specification pipeline to reflect the fact that they will not be at nominal depth through the bridge deck. The specification of the pipelines will be;

- Pipe: API 5L PSL2 Grade X52 Seamless 9.3mm w.t for both 10 & 12"
- Bends: B12 X52, 3D
- External Coating: 3 layer Polyethylene – 3.3mm thick coating
- Field coating: Serviwrap 55% double wrapped

### 2.1.2.3 Construction methodology

To keep service outage to a minimum, it is anticipated that the new sections of pipeline will be laid offline prior to decommissioning the existing route. It is envisaged this accommodation work will be carried out by the main contractor with pipeline and connection works completed by an Esso framework contractor.

Prior to diversion works the services bridge will be constructed. The bridge will be constructed with a composite bridge deck formed with U-Beams and a reinforced concrete deck. Five U-Beams which will double as service troughs will be utilised, the U-Beams will effectively form open trenches which the pipeline can be lifted into. Once lifted into position the U-Beams can be back filled with sand.

The new sections of pipeline can be housed in two of the U-Beams; a third will act as a spare. One of the other troughs can be used to house the National Grid pipeline which is currently laid parallel to the fuel mains in the existing corridor. The other can be used to house UKPN HV Cables that are required to cross the structure.

The new pipeline either side of the service bridge will be laid in open cut trenches with nominal cover of 1.2m back to the tie ins with the existing alignment. It is assumed that the permanent diversion of the services will be carried out by an Esso framework contractor. Upon completion of the diversion works, the abandoned sections of pipeline will be excavated and removed as required to accommodate the flood channel.

### 2.1.2.4 Operation, maintenance and redundancy

Operation and maintenance requirements will be unchanged by the proposed works. Where appropriate the pipelines will be spaced away from adjacent services in accordance with Figure 1 of the National Joint Utilities Group (NJUG) Guidelines on the positioning and colour coding of underground utilities' apparatus. Additional sections forming the diversion between both tie in points will be heavy wall specification pipeline.

### 2.1.2.5 Inspection requirements

The pipeline will be inaccessible across the crossing; no manholes will be provided.

#### 2.1.2.1 Traffic management

Section not used.

### 2.1.3 Geotechnical conditions

As part of the River Thames Scheme a detailed site investigation was carried out in 2015. During the investigation the following succession of strata was encountered:

- Made Ground
- Alluvium
- Shepperton Gravel Member
- Bagshot Formation (including Swinley Clay Member)
- London Clay Formation (including Claygate Member)

A detailed analysis of the site investigation and an analysis of the ground conditions (including design parameters) are given in 'River Thames Geotechnical and Geoenvironmental Interpretative Report – Zone 16'.

#### 2.1.4 Meeting

Following the issue of the draft version of the AIP document in July a meeting was arranged with Fisher German (agents acting on behalf of Esso) and WB Civils (Esso framework contractor) on 3<sup>rd</sup> October 2017. At this meeting the proposed diversion was discussed in detail and further design requirements were outlined. The AIP document was amended to reflect these requirements.

Details of the meeting are outlined in 'RTS Esso Pipeline Diversion – Outline Design' meeting minutes (document no.: 122368-BVL-Z0-C3-MI-C-00001).

#### 2.1.5 Drawings and documents

##### 2.1.5.1 Drawings

- Channel Section 3 services diversions (122368-BVL-Z0-C1-DR-C-00062)
- M3 North Crossing Esso Pipelines Diversion (WB Civil and Mechanical, 2016) [our ref. 122368-WBC-Z0-C3-C-00004, [Relate to an earlier proposal]]
- Channel section 3 Structure IS3 Plan (122368-BVL-Z0-C3-DR-C-01001) and Sections (122368-BVL-Z0-C3-DR-C-01002) – *At the time of writing the drawings show the spare sleeve to the east of the existing pipelines, the drawings are to be updated to show the spare sleeve to the west of the existing pipelines at the next stage of design as per Esso comments (9<sup>th</sup> April 2018)*

##### 2.1.5.2 Documents

- River Thames Scheme Pipeline Diversion Calculation (WB Civil and Mechanical, 2016) [Relate to an earlier proposal]]
- River Thames Geotechnical and Geoenvironmental Interpretative Report – Zone 16 (122368-BVL-Z0-C3-RP-G-00116)
- RTS Esso Pipeline Diversion – Outline Design, 3<sup>rd</sup> October 2017, meeting minutes (122368-BVL-Z0-C3-MI-C-00001)
- RTS – AIP – Esso, Esso comments (Guy Hemsley, Fisher German), 9<sup>th</sup> April 2018 (122368-BVL-Z0-SW-CO-C-00018)

### 3. THE ABOVE IS SUBMITTED FOR ACCEPTANCE

Signed:



Name: John Hopkins

Design Team Leader: John Hopkins

Engineering Qualifications: BSc, CEng, CWEM, FICE, FCIWEM

Name of Organisation: Black & Veatch

Date: 12 April 2018

4. THE ABOVE IS AGREED SUBJECT TO THE AMENDMENTS AND CONDITIONS SHOWN BELOW

Signed:



Name:



Position Held: RIGHT OF WAY SUPERVISOR

Name of Organisation: ESSO PETROLEUM CO LTD

Date: 25-5-18



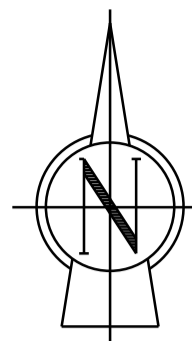
## 5. APPENDICES

### 5.1 Drawings

- Channel Section 3 services diversions (122368-BVL-Z0-C1-DR-C-00062)
- M3 North Crossing Esso Pipelines Diversion (WB Civil and Mechanical, 2016) [our ref. 122368-WBC-Z0-C3-C-00004, [Relate to an earlier proposal]
- Channel section 3 Structure IS3 Plan (122368-BVL-Z0-C3-DR-C-01001) and Sections (122368-BVL-Z0-C3-DR-C-01002)

### 5.2 Documents

- River Thames Scheme Pipeline Diversion Calculation (WB Civil and Mechanical, 2016) [Relate to an earlier proposal]
- River Thames Geotechnical and Geoenvironmental Interpretative Report – Zone 16 (122368-BVL-Z0-C3-RP-G-00116)
- RTS Esso Pipeline Diversion – Outline Design, 3<sup>rd</sup> October 2017, meeting minutes (122368-BVL-Z0-C3-MI-C-00001)
- RTS – AIP – Esso, Esso comments, 9<sup>th</sup> April 2018 (122368-BVL-Z0-SW-CO-C-00018)



505 600,000 E

167 400,000 N

INTAKE STRUCTURE (IS3) AND 7.5m WIDE SERVICES BRIDGE SEE DRG. NOS. 122368-BVL-Z0-C3-DR-C-01001 & 01002.

WB

OPENREACH OVERHEAD CABLE TERMINATED AT EXISTING DISTRIBUTION POINT

UKPN SUBSTATION

El Sub Sta

LITTLETON LANE CROSSING (LA9) SEE TONY GEE AND PARTNERS LLP DRG. NO. C114103-TG-LA9-C3-DR-C-1001.

ACCESS BRIDGE (T6) SEE DRG. NOS. 122368-BVL-Z0-C3-DR-C-01001, 01002 & 01003.

DIVERTED UKPN HV CABLE

DIVERTED OPENREACH UNDERGROUND COMMUNICATIONS CABLE

DIVERTED OPENREACH UNDERGROUND COMMUNICATIONS CABLE

DIVERTED VERGIN MEDIA COMMUNICATIONS CABLE

EXISTING 275KV OVERHEAD HV LINE NOT AFFECTED BY CHANNEL

DIVERTED UKPN LV CABLE

Hopper

DIVERTED NATIONAL GRID UK GAS MAIN

2 NO. DIVERTED ESSO JETLINE OIL MAINS

3 NO. DIVERTED UKPN HV CABLES

DIVERTED UKPN LV CABLE

OPENREACH OVERHEAD CABLE BELIEVED TO BE REDUNDANT

Gravel Workings

LITTLETON LANE

Pontoons

Note: The limits, including the height and depths of the Works, shown in this drawing are not to be taken as limiting the obligations of the contractor under Contract.

REPRODUCED BY PERMISSION OF ORDNANCE SURVEY ON BEHALF OF HMSO. © CROWN COPYRIGHT AND DATABASE RIGHTS 2015. ORDNANCE SURVEY LICENCE NUMBER 100026380.

- NOTES
- THIS DRAWING READ IN CONJUNCTION WITH EXISTING SERVICES DRG. NOS. 122368-BVL-Z0-C3-DR-C-00051 TO 00059.
  - WHERE SERVICE IS DIVERTED, THE ABANDONED SECTION IS NOT SHOWN ON THIS DRAWING.

LEGEND

	FLOOD CHANNEL CENTRELINE
	EXISTING COMMUNICATIONS CABLE
	EXISTING ELECTRICITY CABLE
	EXISTING GAS MAIN
	EXISTING WATER MAIN
	EXISTING FOUL WATER DRAINAGE
	EXISTING SURFACE WATER DRAINAGE
	EXISTING OIL PIPE
	DELETED SERVICE
	DIVERTED COMMUNICATIONS CABLE
	DIVERTED ELECTRICITY CABLE
	DIVERTED GAS MAIN
	DIVERTED WATER MAIN
	DIVERTED FOUL WATER DRAINAGE
	DIVERTED OIL MAIN

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS OR RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, THE FOLLOWING SIGNIFICANT RESIDUAL RISKS SHOULD BE NOTED. FURTHER DETAILS ARE INCLUDED IN THE CDM DESIGN RISK MANAGEMENT REGISTER

CONSTRUCTION :

MAINTENANCE, CLEANING AND OPERATION :

DECOMMISSIONING OR DEMOLITION :

P01	TJM	BS	JH	JH	01/12/17	Suitable for client review, comment and/or approval
Rev	Drawn	Chkd	Rvwd	Apprd	Date	Description

Designed by: B.S. Date: 19.04.17



Client Drawing No. Revision



Registered office: Cowley Business Park, Cowley, Uxbridge, Middlesex, UB8 2AL, UK Registered in England and Wales: Company no. 08584398

Project RIVER THAMES SCHEME (DATCHET TO TEDDINGTON) (RTS) CAPACITY IMPROVEMENTS AND FLOOD CHANNEL (CI&FC)

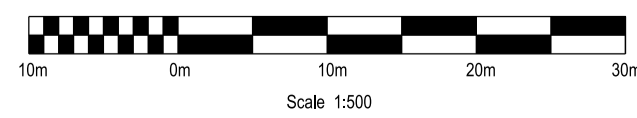
Drawing title CH 3 - SERVICES DIVERSIONS INTAKE IS3, SERV. BRIDGE, LITTLETON LANE LA9 & ACCESS BRIDGE T6

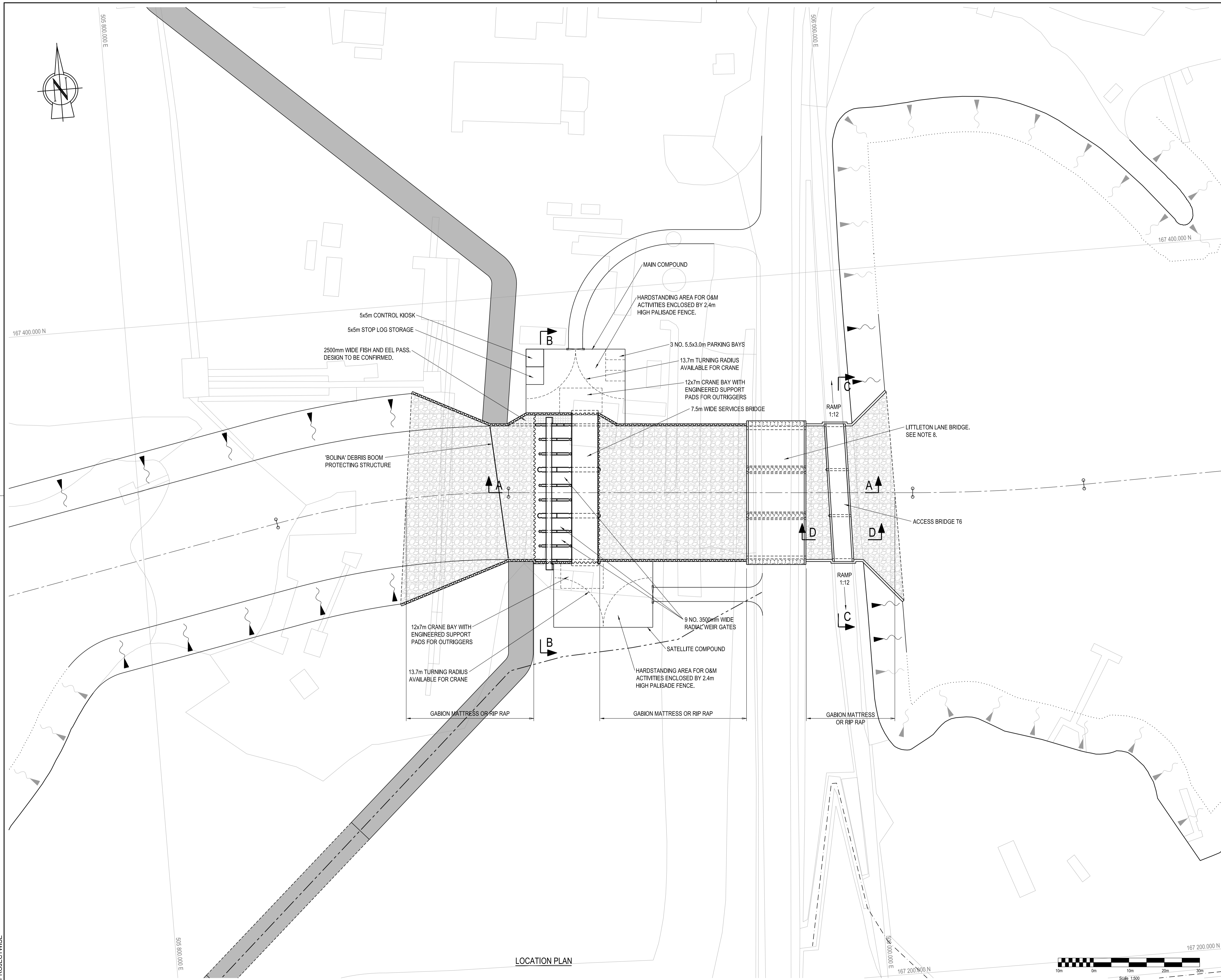
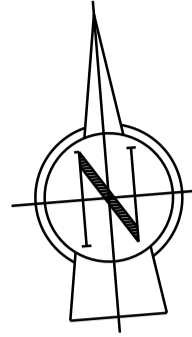
Drawing scale: 1:500 Sheet size: A1

Drawing no. 122368-BVL-Z0-C3-DR-C-00062 Revision P01

ON PROJECTWISE

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Note: The limits, including the height and depths of the Works, shown in this drawing are not to be taken as limiting the obligations of the contractor under Contract.

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**NOTES**

1. ALL DIMENSIONS IN MILLIMETRES UNLESS STATED OTHERWISE.
2. ALL LEVELS IN METRES ABOVE ORDNANCE DATUM (NEWLYN).
3. ALL STRUCTURAL CONCRETE GRADE C35A (TBC).
4. ALL BLINDING CONCRETE GRADE C20 (TBC).
5. ONLY PRINCIPAL UTILITIES AND FEATURES HAVE BEEN INDICATED WITH APPROXIMATE LOCATIONS. ACTUAL POSITIONS MUST BE ESTABLISHED AND VERIFIED ON SITE.
6. ALL EXPOSED CONCRETE EDGES HAVE 25x25mm CHAMFERS.
7. THIS DRAWING READ IN CONJUNCTION WITH DRG. NO. 122368-BVL-Z0-C3-DR-C-01002 & 01003.
8. FOR GENERAL ARRANGEMENT OF LITTLETON LANE CROSSING (LA9) SEE TONY GEE AND PARTNERS LLP DRG. NO. C114103-TG-LA9-C3-DR-C-1001.

**SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION**

IN ADDITION TO THE HAZARDS OR RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, THE FOLLOWING SIGNIFICANT RESIDUAL RISKS SHOULD BE NOTED. FURTHER DETAILS ARE INCLUDED IN THE CDM DESIGN RISK MANAGEMENT REGISTER

**CONSTRUCTION :**

- S.1 RISK OF FLOODING FROM THE RIVER THAMES.
- S.2 RISK OF DROWNING AND WATERBORNE DISEASES FROM WORKING IN PROXIMITY TO WATERBODIES.
- S.3 EXCAVATION OF CHANNEL TO SIGNIFICANT DEPTHS AND WORKS IN COFFERDAMS
- S.4 EXPOSURE TO HARMFUL SUBSTANCES DURING EXCAVATION OF CHANNEL THROUGH LANDFILL.
- S.5 WORKING BELOW CONTROL GATE IN OPEN POSITION.
- S.6 UTILITIES CONFIRMED AT SITE LOCATION.
- S.9 INTERFACE WITH THIRD PARTY LAKE USERS.
- S.15 WORKS ADJACENT TO M3 MOTORWAY.

**MAINTENANCE, CLEANING AND OPERATION :**

- S.1 FLOODING OF THE RIVER THAMES.
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**DECOMMISSIONING OR DEMOLITION :**

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P01	TJM	NS	JH	JH	13/02/17	Suitable for client review, comment and/or approval
P02	JJ	NS	JH	JH	25/08/17	Suitable for client review, comment and/or approval
Rev	Drawn	Chkd	Rvwd	Apprd	Date	Description

Designed by: J.B. Date: 10.02.16



Client Drawing No.	Revision
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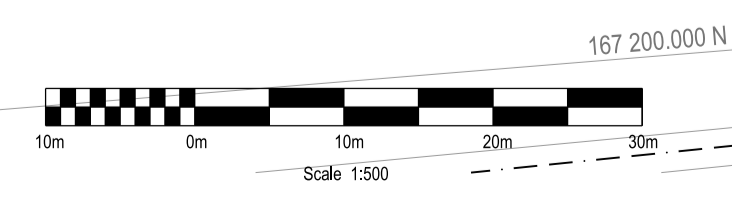
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 Registered in England and Wales: Company no. 08584398

Project: RIVER THAMES SCHEME (DATCHET TO TEDDINGTON) (RTS) CAPACITY IMPROVEMENTS AND FLOOD CHANNEL (CI&FC)

Drawing title: CHANNEL SECTION 3 PLAN AT CHANNEL INLET

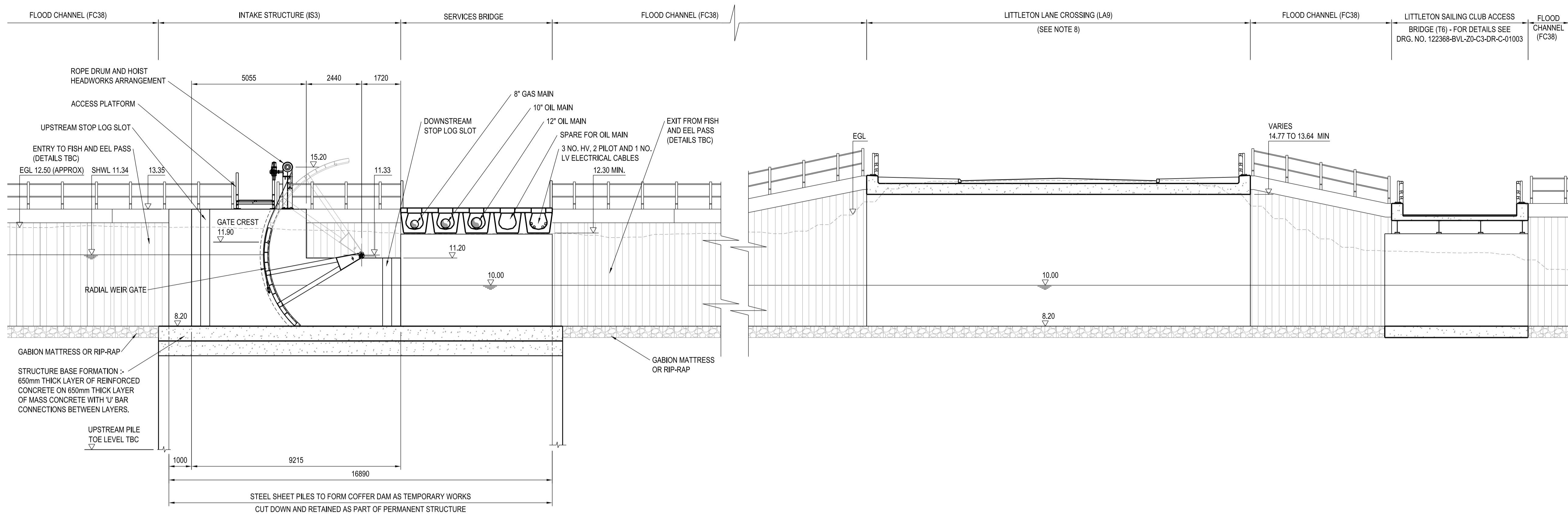
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Drawing no. 122368-BVL-Z0-C3-DR-C-01001 Revision P02

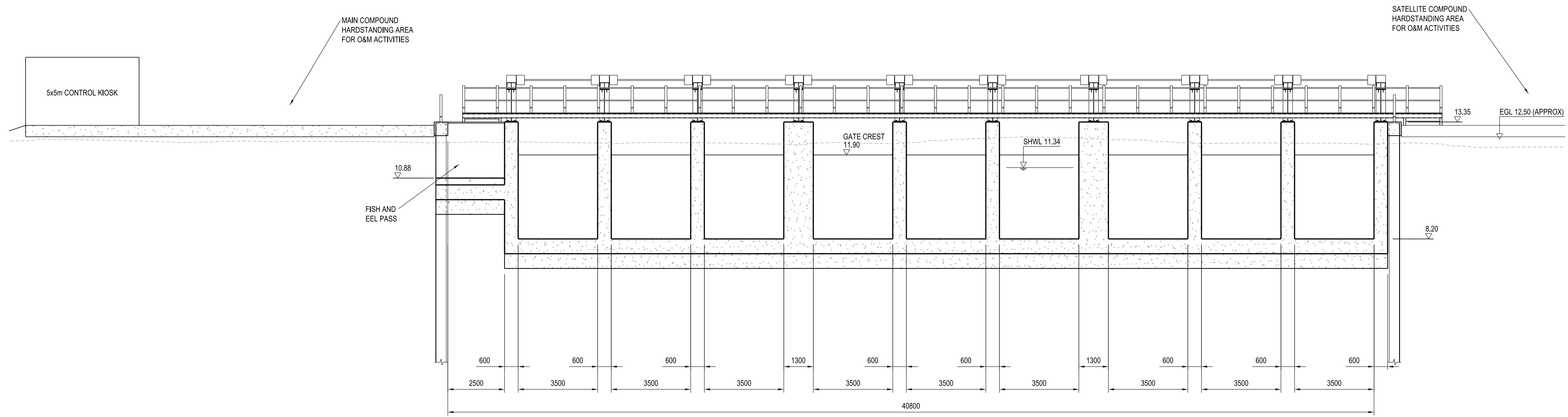


Note: The limits, including the height and depths of the Works, shown in this drawing are not to be taken as limiting the obligations of the contractor under Contract.

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SECTION AA  
SILL LEVEL 8.20m AOD



SECTION BB

- NOTES
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  7. THIS DRAWING READ IN CONJUNCTION WITH DRG. NOS. 122368-BVL-Z0-C3-DR-C-01001 & 01003.
  8. FOR GENERAL ARRANGEMENT OF LITTLETON LANE BRIDGE (LA9) SEE TONY GEE AND PARTNERS LLP DRG. NO. C114103-TG1-A7-C3-DR-C-001.
  9. ALL DIMENSIONS ARE PRELIMINARY AND WILL BE CONFIRMED AT DETAILED DESIGN.
  10. 20 YEAR FLOOD LEVEL PREDICTION (FROM GBV MODEL)  
U/S - 12.02m AOD, D/S - 11.50m AOD.
  11. 100 YEAR FLOOD LEVEL PREDICTION (FROM GBV MODEL)  
U/S - 12.67m AOD, D/S - 12.04m AOD.

**SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION**

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Rev	Drawn	Chkd	Rwrd	Apprd	Date	Description
P01	TJM	NS	JH	JH	13/02/17	Suitable for client review, comment and/or approval
P02	JJ	NS	JH	JH	25/08/17	Suitable for client review, comment and/or approval
P03	TJM	KC	NS	JH	07/02/18	Suitable for client review, comment and/or approval

Designed by: J.B. Date: 10.02.16

Client

PROTECTING our communities  
SECURING our economy  
ENHANCING our Thames

Client Drawing No. \_\_\_\_\_ Revision \_\_\_\_\_

A GALLIFORD TRY, BLACK & VEATCH JOINT VENTURE

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Project: RIVER THAMES SCHEME (DATCHET TO TEDDINGTON) (RTS) CAPACITY IMPROVEMENTS AND FLOOD CHANNEL (CI&FC)

Drawing title

### CHANNEL SECTION 3 SECTIONS AT CHANNEL INLET

Drawing scale: 1:100 Sheet size: A1

Drawing no. 122368-BVL-Z0-C3-DR-C-01002 Revision P03

