



**CORRESPONDENCE WITH ANGLIAN WATER
SINCE 5 APRIL 2022**

**FOR THE DEVELOPMENT CONSENT ORDER
APPLICATION FOR THE ALTERATION AND
CONSTRUCTION OF HAZARDOUS WASTE AND LOW
LEVEL RADIOACTIVE WASTE FACILITIES AT THE EAST
NORTHANTS RESOURCE MANAGEMENT FACILITY,
STAMFORD ROAD, NORTHAMPTONSHIRE**

PINS project reference: WS010005

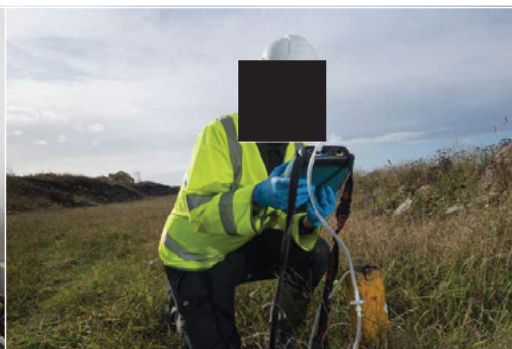
PINS document reference: 12.2.8.5

May 2022



Baddesley Colliery Offices, Main Road, Baxterley, Atherstone,
Warwickshire, CV9 2LE.

Telephone : [REDACTED] Fax : [REDACTED]



Summary table of the correspondence with Anglian Water from 5 April 2022 to 10 May 2022

Item number in bundle	Date	Type of correspondence	Comments
	5 April 2022	Meeting between Gene Wilson (Augean) and Mark Frogatt (Anglian Water) at ENRMF	To discuss the Anglian Water position and understand what their objections are.
1	14 April 2022	Email from Gene Wilson (Augean) to Mark Frogatt (Anglian Water)	Summarising the discussions at the meeting on 5 April 2022.
2	20 April 2022	Email from Gene Wilson (Augean) to Mark Frogatt (Anglian Water)	Requesting an online meeting in the week commencing 2 May 2022 to discuss the initial documents which will be provided by 29 April 2022.
3	20 April 2022	Email from Claire Trolove (Anglian Water) to Gene Wilson (Augean)	Requesting Claire is copied in instead of Mr Sweetland on all future correspondence.
4	21 April 2022	Email from Mark Frogatt (Anglian Water) to Gene Wilson (Augean)	Has a meeting with the Anglian Water team on 21 April and will update later.
4	21 April 2022	Email from Gene Wilson (Augean) to Mark Frogatt (Anglian Water)	Confirming an update on 21 April 2022 is acceptable.
5	21 April 2022	Email from Gene Wilson (Augean) to Claire Trolove (Anglian Water)	Querying whether Claire can arrange the requested meeting.
5	21 April 2022	Email from Claire Trolove (Anglian Water) to Gene Wilson (Augean)	Confirmation to organise the meeting with Mark Frogatt and copy Claire in.
6	26 April 2022	Email from Gene Wilson (Augean) to Mark Frogatt (Anglian Water)	Will Anglian Water be able to meet next week?
6	28 April 2022	Email from Claire Trolove (Anglian Water) to Gene Wilson (Augean) and Mark Frogatt (Anglian Water)	Requesting output scoping information prior to organising a meeting.
7	29 April 2022	Email from Gene Wilson (Augean) to Mark Frogatt (Anglian Water)	Attached documents for consideration by Anglian Water. <ul style="list-style-type: none"> • Table 1 Scoping Table of Scenarios for Risk Assessment • Table 2 Proposals to Address the Key Risk Scenarios • Draft new Requirement

Item number in bundle	Date	Type of correspondence	Comments
8	3 May 2022	Email from Gene Wilson (Augean) to Mark Frogatt (Anglian Water)	Attached a copy of the schematic cross sections plan (drawing reference AU/KCW/04-22/23114)
9	5 May 2022	Email from Gene Wilson (Augean) to Mark Frogatt (Anglian Water)	Requesting an update on the email sent to Mark Frogatt on 29 April 2022.
10	9 May 2022	Email from Mark Frogatt (Anglian Water) to Gene Wilson (Augean)	Confirming that Anglian Water are happy to meet and discuss the project.
10	9 May 2022	Email from Gene Wilson (Augean) to Mark Frogatt (Anglian Water)	Confirming online meeting on 9 May 2022 at 5:00pm.
11	10 May 2022	Email from Gene Wilson (Augean) to Mark Frogatt (Anglian Water)	Attached a copy of the draft cross section plan (drawing reference AU/KCW/05-22/23129).

Robyn Northall

Subject: FW: ENRMF extension - Anglian Water Pipeline crossing

From: Gene Wilson

Sent: 14 April 2022 08:22

To: 'mFroggatt <[REDACTED]>' <[REDACTED]>

Cc: Peter Oldfield <[REDACTED]>; 'dSweetland <[REDACTED]>' <[REDACTED]>

Subject: ENRMF extension - Anglian Water Pipeline crossing

Dear Mark

Thank you for the helpful and constructive discussion last week. I have discussed the issues raised with my colleagues and confirm below how we propose to proceed in order to ensure that Anglian Water's (Anglian's) concerns are properly addressed while facilitating progress of the DCO application.

We understand that the following potential issues are of concern to Anglian:

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As you are aware we are part way through the DCO Examination which is due to close on 2nd of August 2022 leaving less than 4 months to run. While we may agree the scoping and possibly some of the risk assessments within this time period, it is unlikely that the more detailed aspects of the risk assessments, especially if they necessitate site investigation, can be completed and agreed in this timescale. It is unfortunate that these issues were not raised at the early stages of our consultation when we could have addressed them in the application. However as discussed at our meeting, the development of the landfill does not approach the pipeline corridor for at least 10 years. Operational vehicle crossing of the pipelines will not be necessary for at least 5 years. There is more than adequate time to address Anglian's concerns in advance of the encroachment of the landfill development.

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I hope that you find this a satisfactory approach. Could we perhaps put a date in our diaries in May to discuss the documents?

Please do not hesitate to contact me should you have any questions.

Best regards

Gene

Robyn Northall

Subject: FW: ENRMF extension - Anglian Water Pipeline crossing

From: Gene Wilson

Sent: 20 April 2022 13:04

To: 'mFroggatt <[REDACTED]>' <[REDACTED]>

Cc: Peter Oldfield <[REDACTED]>; 'dSweetland <[REDACTED]>' <[REDACTED]>

Subject: RE: ENRMF extension - Anglian Water Pipeline crossing

Dear Mark

We shall be providing the initial documents referred to below by the end of next week.

Would it be possible to have an online meeting to discuss the documents in the week of the 2nd of May, so that we can update the examiner on progress on the 11th May which is the next Examination deadline? We would be happy to have the meeting on a without prejudice basis if this is your preference.

Best regards

Gene

From: Gene Wilson

Sent: 14 April 2022 08:22

To: 'mFroggatt <[REDACTED]>' <[REDACTED]>

Cc: Peter Oldfield <[REDACTED]>; [REDACTED] <[REDACTED]>

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unfortunate that these issues were not raised at the early stages of our consultation when we could have addressed them in the application. However as discussed at our meeting, the development of the landfill does not approach the pipeline corridor for at least 10 years. Operational vehicle crossing of the pipelines will not be necessary for at least 5 years. There is more than adequate time to address Anglian's concerns in advance of the encroachment of the landfill development.

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Best regards

Gene

Robyn Northall

Subject: FW: ENRMF extension - Anglian Water Pipeline crossing

From: Claire Trolove <[REDACTED]>
Date: 20 April 2022 at 15:33:04 BST
To: Gene Wilson <[REDACTED]>
Cc: Mark Froggatt <[REDACTED]>, Steve Leader <[REDACTED]>
Subject: FW: ENRMF extension - Anglian Water Pipeline crossing

Dear Gene

Thank you for your email below. Please can all future correspondence on this matter sent to Mark be copied to myself instead of Mr Sweetland.

Any other general correspondence in relation to the matter, please can this be sent to me directly copying in my colleague, Steve Leader (cc'd to this email).

Thank you and kind regards



Anglian Water Services Limited

Lancaster House, Lancaster Way, Ermine Business Park, Huntingdon, Cambridgeshire, PE29 6XU

From: Gene Wilson <[REDACTED]>
Sent: 20 April 2022 13:04
To: Mark Froggatt <[REDACTED]>
Cc: Peter Oldfield <[REDACTED]>; Darl Sweetland <[REDACTED]>
Subject: RE: ENRMF extension - Anglian Water Pipeline crossing

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Best regards

Gene

Gene Wilson
Director of Environmental Planning

Augean
East Northants Resource Management Facility
Stamford Road
Kings Cliffe
PE8 6XX

Tel: [REDACTED]

Mobile: [REDACTED]

Web: [REDACTED]



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From: Gene Wilson

Sent: 14 April 2022 08:22

To: 'mFroggatt [REDACTED]' <[REDACTED]>

Cc: Peter Oldfield <[REDACTED]>; 'dSweetland [REDACTED]'

<[REDACTED]>

Subject: ENRMF extension - Anglian Water Pipeline crossing

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I hope that you find this a satisfactory approach. Could we perhaps put a date in our diaries in May to discuss the documents?

Please do not hesitate to contact me should you have any questions.

Best regards

Gene

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Robyn Northall

Subject: FW: ENRMF extension - Anglian Water Pipeline crossing

From: Gene Wilson
Sent: 21 April 2022 13:59
To: Mark Froggatt <[REDACTED]>
Cc: Claire Trolove <[REDACTED]>; Steve Leader <[REDACTED]>
Subject: RE: ENRMF extension - Anglian Water Pipeline crossing

Hi Mark

That will be fine thanks

Gene

From: Mark Froggatt <[REDACTED]>
Sent: 21 April 2022 12:42
To: Gene Wilson <[REDACTED]>
Cc: Darl Sweetland <[REDACTED]>
Subject: RE: ENRMF extension - Anglian Water Pipeline crossing

Gene,

I've a meeting today with the team – I'll get back to you later today if that's ok

Best Regards

Mark



Mark Froggatt

Chief Engineer AWS
Head of Solutions @one Alliance
Mobile – [REDACTED]
PA – Karen Charman [REDACTED]
Mobile – [REDACTED]



From: Gene Wilson <[REDACTED]>
Sent: 20 April 2022 13:04
To: Mark Froggatt <[REDACTED]>

Cc: Peter Oldfield <[REDACTED]>; Darl Sweetland <[REDACTED]>
Subject: RE: ENRMF extension - Anglian Water Pipeline crossing

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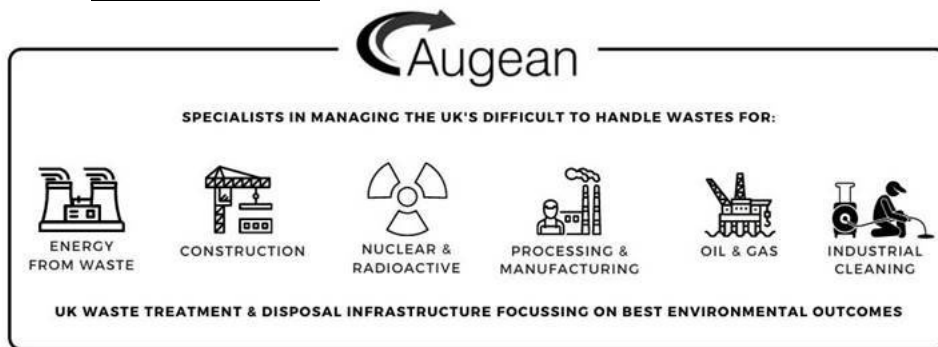
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Gene Wilson
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East Northants Resource Management Facility
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Tel: [REDACTED]
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Web: [REDACTED]



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Sent: 14 April 2022 08:22
To: 'mFroggatt' <[REDACTED]>
Cc: Peter Oldfield <[REDACTED]>; [REDACTED]
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Best regards

Gene

Robyn Northall

Subject: FW: ENRMF extension - Anglian Water Pipeline crossing

From: Claire Trolove <[REDACTED]>

Sent: 21 April 2022 09:36

To: Gene Wilson <[REDACTED]>

Cc: Mark Froggatt <[REDACTED]>; Steve Leader <[REDACTED]>

Subject: RE: ENRMF extension - Anglian Water Pipeline crossing

Dear Gene

Thank you for your email.

Please continue to make arrangements with Mark in relation to the meeting direct and just copy me in.

Kind regards

Claire Trolove

Solicitor

Mobile: [REDACTED]

Anglian Water Services Limited
[REDACTED]



From: Gene Wilson <[REDACTED]>

Sent: 21 April 2022 09:07

To: Claire Trolove <[REDACTED]>

Cc: Mark Froggatt <[REDACTED]>; Steve Leader <[REDACTED]>

Subject: RE: ENRMF extension - Anglian Water Pipeline crossing

EXTERNAL MAIL - Please be aware this mail is from an external sender - THINK BEFORE YOU CLICK

Dear Claire

Thank you for the clarification. Are you in a position to help arrange the requested meeting? I anticipate that the meeting will primarily be technical in nature.

Best regards

Gene

Gene Wilson

Director of Environmental Planning

Augean

East Northants Resource Management Facility
Stamford Road
Kings Cliffe
PE8 6XX

Tel: [REDACTED]
Mobile: [REDACTED]
Web: [REDACTED]



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From: Claire Trolove <[REDACTED]>
Sent: 20 April 2022 15:32
To: Gene Wilson <[REDACTED]>
Cc: Mark Froggatt <[REDACTED]>; Steve Leader <[REDACTED]>
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anglianwater

Claire Trolove

Solicitor

Mobile: [REDACTED]

From: Gene Wilson <[REDACTED]>
Sent: 20 April 2022 13:04
To: Mark Froggatt <[REDACTED]>
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Best regards

Gene

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[Redacted] Registered in England No 2366656

Please consider the environment before printing this email.-----

Robyn Northall

Sent: 10 May 2022 20:44
Subject: FW: ENRMF extension - Anglian Water Pipeline crossing

From: Claire Trolove <[REDACTED]>
Sent: 28 April 2022 16:02
To: Gene Wilson <[REDACTED]>; Mark Froggatt <[REDACTED]>
Cc: Steve Leader <[REDACTED]>
Subject: RE: ENRMF extension - Anglian Water Pipeline crossing

Dear Gene

Thank you for your emails, our apologies for not responding sooner.

I have spoken to Mark about the benefit of a meeting however without first seeing the documents you refer to in your email (output scoping information) it is difficult to assess. Please can this information be provided as soon as possible (I note you had said it should be with us this week) so that it may be considered and the merit of any meeting determined.

Kind regards

Claire Trolove

Solicitor

Mobile: [REDACTED]

Anglian Water Services Limited
[REDACTED]



From: Gene Wilson <[REDACTED]>
Sent: 26 April 2022 09:57
To: Mark Froggatt <[REDACTED]>
Cc: Claire Trolove <[REDACTED]>; Steve Leader <[REDACTED]>
Subject: RE: ENRMF extension - Anglian Water Pipeline crossing

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Hi Mark

Have you had a chance to discuss with your team. Will you be able to offer a meeting next week?

Thanks

Gene

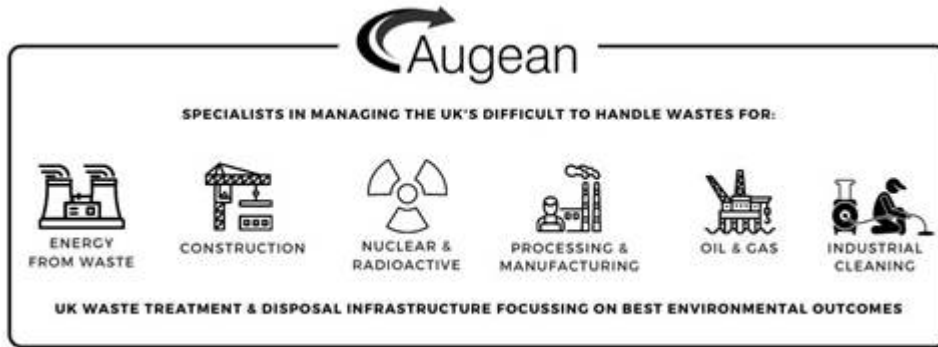
Gene Wilson

Director of Environmental Planning

Augean

East Northants Resource Management Facility
Stamford Road
Kings Cliffe
PE8 6XX

Tel: [REDACTED]
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From: Gene Wilson
Sent: 21 April 2022 13:59
To: Mark Froggatt <[REDACTED]>
Cc: Claire Trolove <[REDACTED]>; Steve Leader <[REDACTED]>
Subject: RE: ENRMF extension - Anglian Water Pipeline crossing

Hi Mark

That will be fine thanks

Gene

From: Mark Froggatt <[REDACTED]>
Sent: 21 April 2022 12:42
To: Gene Wilson <[REDACTED]>
Cc: Darl Sweetland <[REDACTED]>
Subject: RE: ENRMF extension - Anglian Water Pipeline crossing

Gene,

I've a meeting today with the team – I'll get back to you later today if that's ok

Best Regards

Mark



Mark Froggatt

Chief Engineer AWS

Head of Solutions @one Alliance

Mobile – [REDACTED]

PA – Karen Charman [REDACTED]

Mobile – [REDACTED]

Anglian Water Services Limited

Lancaster House, Ermine Business Park, Huntingdon, Cambridgeshire, PE29 6XU

From: Gene Wilson <[REDACTED]>
Sent: 20 April 2022 13:04
To: Mark Froggatt <[REDACTED]>
Cc: Peter Oldfield <[REDACTED]>; Darl Sweetland <[REDACTED]>
Subject: RE: ENRMF extension - Anglian Water Pipeline crossing

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Dear Mark

We shall be providing the initial documents referred to below by the end of next week.

Would it be possible to have an online meeting to discuss the documents in the week of the 2nd of May, so that we can update the examiner on progress on the 11th May which is the next Examination deadline? We would be happy to have the meeting on a without prejudice basis if this is your preference.

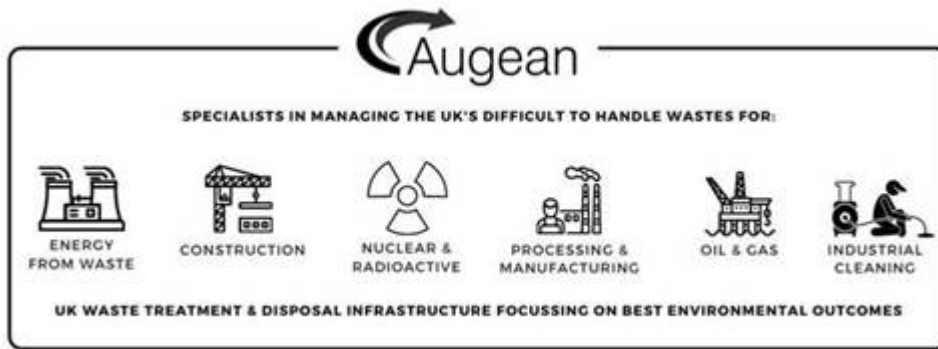
Best regards

Gene

Gene Wilson
Director of Environmental Planning

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From: Gene Wilson

Sent: 14 April 2022 08:22

To: 'mFroggatt' <[redacted]>

Cc: Peter Oldfield <[redacted]>; 'dSweetland' <[redacted]>
<dSweetland@[redacted]>

Subject: ENRMF extension - Anglian Water Pipeline crossing

Dear Mark

Thank you for the helpful and constructive discussion last week. I have discussed the issues raised with my colleagues and confirm below how we propose to proceed in order to ensure that Anglian Water's (Anglian's) concerns are properly addressed while facilitating progress of the DCO application.

We understand that the following potential issues are of concern to Anglian:

- Disturbance/stability of the pipelines,
- Increased risk of inundation around the pipeline as a result of changes to the adjacent land profile,
- Impact of catastrophic failure of the pipes,
- Contamination from the landfill,
- Need for 20m stand off from the pipelines for operational access to facilitate repairs.

As discussed during our meeting, we propose to undertake a risk assessment scoping exercise in which the potential risks are identified for each phase of the development (baseline, excavation, operational and restoration). The output of the scoping exercise, primarily in the form of a table, will seek to provide the basis for discussion and agreement between us of the risks that need to be assessed and the methods that will be used. We shall also identify information requirements. We propose to send you the initial scoping output by 29th April 2022. Following the provision of the output from the initial scoping exercise we shall seek to agree with you the risk assessments which need to be addressed and the timescales for these.

As you are aware we are part way through the DCO Examination which is due to close on 2nd of August 2022 leaving less than 4 months to run. While we may agree the scoping and possibly some of the risk assessments within this time period, it is unlikely that the more detailed aspects of the risk assessments, especially if they necessitate site investigation, can be completed and agreed in this timescale. It is unfortunate that these issues were not raised at the early stages of our consultation when we could have addressed them in the application. However as discussed at our meeting, the development of the landfill does not approach the pipeline corridor for at least 10 years. Operational vehicle crossing of the pipelines will not be necessary for at least 5 years. There is more than adequate time to address Anglian's concerns in advance of the encroachment of the landfill development.

We are therefore proposing an interim position that protects Anglian's interests while facilitating progress of the DCO application without any delay to the programme. We propose that a specific Requirement is included in the DCO which introduces flexibility for the distance of the stand-off. We intend to provide a draft of the requirement with proposals if necessary for additional provisions to be included in the protective provisions before the end of April.

We acknowledge Anglian's preference for a pipeline diversion around the development, however at this stage we wish to pursue the proposal in the DCO application. Diversion around the development would result in a material change to the proposals which is unlikely to be accepted by the Examining Authority meaning that the application would be rejected. We are obviously reluctant to explore this possibility at this time until we have properly considered the potential to determine an agreeable stand-off to the existing pipelines.

I hope that you find this a satisfactory approach. Could we perhaps put a date in our diaries in May to discuss the documents?

Please do not hesitate to contact me should you have any questions.

Best regards

Gene

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Robyn Northall

Subject: ENRMF extension - Anglian Water Pipeline crossing
Attachments: Draft new Requirement for the DCO.DOCX; Table 1. Scoping Table of Scenarios for Risk Assessment.docx; Table 2. Proposals to Address the Key Risk Scenarios.docx

From: Gene Wilson <[REDACTED]>
Sent: Friday, 29 April 2022 10:54
To: [mFroggatt](#) [REDACTED]
Cc: [cTrolove](#) [REDACTED]; [sLeader](#) [REDACTED]
Subject: ENRMF extension - Anglian Water Pipeline crossing

Dear Mark

Further to my e-mail of the 14th April 2022 I attach for your consideration the following documents:

- Table 1 Scoping Table of Scenarios for Risk Assessment. The purpose of this table is to set out methodically and comprehensively the technical and operational issues which we understand may be of concern to Anglian Water.
- Table 2 Proposals to Address the Key Risk Scenarios. The purpose of this table drawing from Table 1, is to focus on how the risks will be addressed and identify the information that will be necessary to undertake the risk assessments.
- Draft new Requirement. The purpose of this Requirement is to allow the agreement with Anglian Water of the standoffs following the submission of the additional risk assessments outside and beyond the DCO process but before the works start in the landfill phases adjacent to the route of the water pipelines. As discussed at our meeting on 5th of April 2022 it will be at least 10 years before the phases in the vicinity of the pipelines are developed providing substantial time to ensure that all risk and access matters are addressed, and agreement reached.

For your information to ensure that we have fully understood and properly addressed the risks to the pipelines we have engaged a specialist pipeline engineer to assist with the risk assessments.

As previously requested, we should be grateful if we could have a meeting to walk through the above documents and discuss any queries you may have. Ideally this would be prior to the next Examination Document Submission Deadline which is on the 11th May 2022 so that we can update the Examining Authority on our engagement. You will have seen from the Examining Authority's second list of questions published on 27th April 2022 that he has asked a number of questions of us and Anglian Water regarding progress on these matters.

Finally, I would like to emphasise that Augean has not dismissed Anglian Water's suggestion of diverting the pipelines. Our initial consideration of the option would suggest that it potentially has a more adverse risk profile than identifying suitable standoffs around the in-situ pipelines. We should therefore be grateful to discuss this proposal understand Anglian Water's rationale at the requested meeting.

I hope that you find the information provided helpful and that we are able to find a way forward on this matter.

I look forward to discussing the information with you.

Best regards


Gene

Attachments: Table 1. Scoping Table of Scenarios for Risk Assessment
Table 2. Proposals to Address the Key Risk Scenarios
Draft new Requirement for the DCO




Gene Wilson
Director of Environmental Planning

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ENRMF DCO Application Anglian Water Pipelines. Table 1 Scoping Table of Scenarios for Risk Assessment.

1. Introduction

The scoping table is prepared and provided for discussion in order to agree the risks which might arise and which need to be assessed. It is helpful to the risk assessment process to agree the scenarios (and their reasonable likelihood) at the outset so that the risk assessment process is methodical and as comprehensive as possible.

It is anticipated that once the scenarios are agreed, the first stage of the risk assessment will commence and as part of that stage further discussions may be appropriate to agree the parameters and values assigned where numerical analysis is carried out.

As part of the risk assessment process, avoidance and/or mitigation measures which may reduce the risk of an occurrence or the magnitude or effect of the consequences of an occurrence will be identified for consideration.

For the purposes of this risk assessment process the presence of the proposed diverted electricity cable in the same area as the water pipes is ignored as it is considered that the presence of any diverted cable can be assessed following the conclusion of this risk assessment process for the water pipes only. Similarly it is considered that a suitable crossing over the pipelines can be constructed that will protect the integrity of the pipelines. This may take the form of placement of additional thickness of material over the pipeline and/or the use of steel road plates or other structures to spread the load. A specification for design of the crossing is needed and we understand that it is for Anglian Water to provide the specification. This risk is therefore not included in the assessments below.

2. Factual information that needs to be confirmed and/or provided to assist in the assessments.

A schematic diagram showing the cross section in the area under consideration is attached for reference (Drawing reference AU/KCW/04-22/23114).

The two water pipes are each understood to be formed of steel 800mm in diameter with approximately 4.5m between the two pipe centres. The tops are approximately 1.2m below the ground level. The pipe bedding is likely to be Type S aggregate to half or two thirds the diameter of the pipe covered with backfill. *Anglian Water are seeking as built drawings of the installed pipes.*

The pipes are gravity fed water mains with flow (un-boosted) driven by the reservoir pressure up stream. Flow is likely to be 1m³/s at 8bar. There is no pressure monitoring in the pipes, the system is designed to compensate for any loss in pressure.

The nearest isolation valves are 1km [*where?*] for the southern pipe and 5km [*where?*] for the northern pipe. It has been suggested that it could take up to 4 hours [*Anglian to confirm/update*] for isolation following a failure of the pipe.

Anglian have been requested to provide any internal (or other) references or guidance used for the prediction of pipe blow outs.

For repair purposes room is needed to provide:

- excavation to the pipe and safe batters

- room for access and operation by 20t to 40t crawlers
- space for vehicles to pass the crawler
- room is needed either side so that each pipe can be accessed.

Agreement is needed on what activities by Augean are acceptable in the standoff area.

Anglian are requested to confirm whether the pipes deliver treated water directly to supply or whether the water is directed to a blending/treatment facility before entering supply.

3. Scoping table of scenarios for risk assessment

The scenarios for which the risks need to be assessed are set out in the table below. The scenarios are divided into the following categories:

- physical/structural safety concerns under normal circumstances,
- physical/structural safety concerns under abnormal circumstances (ie following pipe failure rather than as a result of a small leak),
- access needs under normal circumstances,
- access needs under abnormal circumstances (ie following pipe failure rather than as a result of a small leak),
- contamination concerns/access under normal circumstances, and what potential exposure pathway is of concern
- contamination concerns/access under abnormal circumstances (ie following pipe failure), and what potential exposure pathway is of concern.

Each scenario is considered for each of the following development stages:

- A.** Pre-development;
- B.** Operational excavation and construction stage;
- C.** Operational waste placement (below ground) stage;
- D.** Operational waste placement (above ground) stage; and
- E.** Post restoration period.

Development stage	Status of the water pipe(s)*	Scenario to be assessed	Potential consequences to be assessed
<i>*The risks and consequences will be considered with respect to one pipe and to both pipes at the same time where this affects the consequences.</i>			
A. Pre-development. Current situation – agricultural field, 15m to 20m from the excavation boundary of the current landfill site, passing beneath nearby road. <i>These scenarios represent the pre-development, baseline situation.</i>	Pipe intact	<i>Physical/structural safety concerns:</i> Presence of water in the bedding surrounding the pipeline causing corrosion	Reduced life of the pipeline
		<i>Access needs:</i> Ease of access to carry out repair.	Flooding of the area with water prior to cutting off the flow.
		<i>Contamination concerns:</i> None envisaged.	No assessment needed.
	Failed pipe – assume catastrophic failure.	<i>Physical/structural safety concerns:</i> Crater formed.	What would the crater size be? Erosion of adjacent land by the water from the pipe.
		<i>Access needs:</i> Ease of access to carry out repair.	Flooding of the area with water prior to cutting off the flow.
		<i>Contamination concerns:</i> Effect on water quality at the point of supply.	Potential for silt and/or contaminants (fertiliser, pesticides, waste in existing landfill) to enter the pipe (this would be during repair works as there would be no flow following pipe failure)
B. Operational excavation and construction stage. Excavation of the adjacent phases and construction of the engineered containment liner	Pipe intact	<i>Physical/structural safety concerns:</i> Instability/movement/reduction in strength of the supporting ground Slip in the excavated slope. Presence of water in the bedding surrounding the pipeline causing corrosion	Potential to destabilise/damage the pipes. Increased risk of pipe failure. Consider the effects if excavations take place concurrently on both sides of the pipe corridor. Reduced life of the pipeline.
		<i>Access needs:</i> Ease of access to carry out repair.	The excavation might affect the topographical falls around the pipeline therefore resulting in a decrease in surface water runoff across the pipeline and flooding restricting access to the area to carry out repair.
		<i>Contamination concerns:</i> No additional sources envisaged as no sources as a result of the development.	No assessment needed.

Development stage	Status of the water pipe(s)*	Scenario to be assessed	Potential consequences to be assessed
<i>*The risks and consequences will be considered with respect to one pipe and to both pipes at the same time where this affects the consequences.</i>			
	Failed pipe – assume catastrophic failure.	<i>Physical/structural safety concerns:</i> Crater formed.	What would the crater size be? Potential for damage to the excavated slope as a result of the crater. Potential for damage to the excavated slope as a result of the water runoff from the pipe. Potential for water from the pipe to enter the excavation.
		<i>Access needs:</i> Ease of access to carry out repair.	Restriction on physical space (as a result of the presence of the excavations) to carry out the pipe repair in a timely manner. The excavation might affect the topographical falls around the pipeline therefore resulting in a decrease in surface water runoff across the pipeline and flooding restricting access to the area to carry out repair
		<i>Contamination concerns:</i> No additional sources envisaged as no sources as a result of the development	Potential for silt and/or agricultural contaminants (fertiliser, pesticides, waste in existing landfill) to enter the pipe (this would be during repair works as there would be no flow following pipe failure)
C. Operational waste placement (below ground) stage Placement of waste in the adjacent phases to levels below the ground	Pipe intact	<i>Physical/structural safety concerns:</i> Instability/reduction in strength of the supporting ground. Slip in the excavated slope and/or supporting waste slope. Presence of water in the bedding surrounding the pipeline causing corrosion	Potential to destabilise/damage the pipes. Increased risk of pipe failure. Consider the effects if excavations and waste placement take place concurrently on both sides of the pipe corridor. Reduced life of the pipeline.
		<i>Access needs:</i> Ease of access to carry out repair.	Restriction on physical space (as a result of the presence of the landfill) to carry out the pipe repair in a timely manner. The landfill might affect the topographical falls around the pipeline therefore resulting in a decrease in surface water runoff across the pipeline and

Development stage	Status of the water pipe(s)*	Scenario to be assessed	Potential consequences to be assessed
<i>*The risks and consequences will be considered with respect to one pipe and to both pipes at the same time where this affects the consequences.</i>			
			flooding restricting access to the area to carry out repair.
		<i>Contamination concerns:</i> Migration of contaminants from the waste into the water in the pipe. Migration of contaminants from the waste into the pipe bedding and onward migration to groundwater or surface water.	Assess the risks from contaminants to include gas/vapour, waste particles washed off the deposited waste mass, chemical and radioactive contaminants in leachate, LLW potential to irradiate the water in the pipes.
	Failed pipe – assume catastrophic failure.	<i>Physical/structural safety concerns:</i> Crater formed.	What would the crater size be? Potential for damage to the excavated and lined slope as a result of the crater. Potential for damage to the excavated and lined slope as a result of the water runoff from the pipe. Potential for water from the pipe to enter the waste and generate excess leachate.
		<i>Access needs:</i> Ease of access to carry out repair.	Restriction on physical space (as a result of the presence of the landfill) to carry out the pipe repair in a timely manner. The landfill might affect the topographical falls around the pipeline therefore resulting in a decrease in surface water runoff across the pipeline and flooding restricting access to the area to carry out repair.

Development stage	Status of the water pipe(s)*	Scenario to be assessed	Potential consequences to be assessed
<i>*The risks and consequences will be considered with respect to one pipe and to both pipes at the same time where this affects the consequences.</i>			
		<p><i>Contamination concerns:</i> Effect on water quality at the point of supply. Potential for contaminants in the waste to escape as a result of the damaged containment and migrate.</p>	<p>Potential for contaminants from the waste or leachate to enter the pipe (this would be during repair works as there would be no flow following pipe failure). Potential for contaminants from the waste or leachate to escape as a result of the damaged containment and migrate to the air, surface water or groundwater. Assessment of the risks from contaminants to include gas/vapour, waste particles washed off the deposited waste mass, chemical and radioactive contaminants in leachate.</p>
<p>D. Operational waste placement (above ground) stage</p> <p>Placement of waste in the adjacent phases to levels above the ground</p>	Pipe intact	<p><i>Physical/structural safety concerns:</i> Instability/reduction in strength of the supporting ground. Slip in the above ground waste slope. Presence of water in the bedding surrounding the pipeline causing corrosion. Erosion as a result of water runoff from the filled waste areas.</p>	<p>Potential to destabilise/damage the pipes. Increased risk of pipe failure. Consider the effects if waste placement take place concurrently on both sides of the pipe corridor. Reduced life of the pipeline.</p>
		<p><i>Access needs:</i> Ease of access to carry out repair.</p>	<p>Restriction on physical space (as a result of the presence of the landfill) to carry out the pipe repair in a timely manner. The landfill might affect the topographical falls around the pipeline therefore resulting in a decrease in surface water runoff across the pipeline and flooding restricting access to the area to carry out repair.</p>
		<p><i>Contamination concerns:</i> Migration of contaminants from the waste into the water in the pipe.</p>	<p>Assess the risks from contaminants to include gas/vapour, waste particles washed off the deposited waste mass, chemical and radioactive contaminants in leachate, LLW potential to irradiate the water in the pipes.</p>

Development stage	Status of the water pipe(s)*	Scenario to be assessed	Potential consequences to be assessed
<i>*The risks and consequences will be considered with respect to one pipe and to both pipes at the same time where this affects the consequences.</i>			
		Migration of contaminants from the waste into the pipe bedding and onward migration to groundwater or surface water.	
	Failed pipe – assume catastrophic failure.	<i>Physical/structural safety concerns:</i> Crater formed.	What would the crater size be? Potential for damage to the lined slope and placed waste as a result of the crater. Potential for damage to the lined slope and placed waste as a result of the water runoff from the pipe. Potential for water from the pipe to enter the waste and generate excess leachate.
		<i>Access needs:</i> Ease of access to carry out repair.	Flooding restricting access to the area to carry out repair. Restriction on physical space (as a result of the presence of the landfill areas) to carry out the pipe repair in a timely manner.
		<i>Contamination concerns:</i> Effect on water quality at the point of supply. Potential for contaminants in the waste to escape as a result of the damaged containment and migrate.	Potential for contaminants from the waste or leachate to enter the pipe (this would be during repair works as there would be no flow following pipe failure). Potential for contaminants from the waste or leachate to escape as a result of the damaged containment and migrate to the air, surface water or groundwater. Assessment of the risks from contaminants to include gas/vapour, waste particles washed off the deposited waste mass, chemical and radioactive contaminants in leachate.
E. Post restoration period After capping and restoration of the site	Pipe intact	<i>Physical/structural safety concerns:</i> Instability/reduction in strength of the supporting ground. Slip in the above ground restored site slope.	Potential to destabilise/damage the pipes. Increased risk of pipe failure. Reduced life of the pipeline.

Development stage	Status of the water pipe(s)*	Scenario to be assessed	Potential consequences to be assessed
<i>*The risks and consequences will be considered with respect to one pipe and to both pipes at the same time where this affects the consequences.</i>			
		Presence of water in the bedding surrounding the pipeline causing corrosion. Erosion as a result of water runoff from the restored landfill areas.	
		<i>Access needs:</i> Ease of access to carry out repair.	Restriction on physical space (as a result of the presence of the landfill) to carry out the pipe repair in a timely manner. The landfill might affect the topographical falls around the pipeline therefore resulting in a decrease in surface water runoff across the pipeline and flooding restricting access to the area to carry out repair.
		<i>Contamination concerns:</i> Migration of contaminants from the waste into the water in the pipe. Migration of contaminants from the waste into the pipe bedding and onward migration to groundwater or surface water.	Assess the risks from contaminants to include gas/vapour, chemical and radioactive contaminants in leachate, LLW potential to irradiate the water in the pipes.
	Failed pipe – assume catastrophic failure.	<i>Physical/structural safety concerns:</i> Crater formed.	What would the crater size be? Potential for damage to the capped and restored slope or lined perimeter as a result of the crater. Potential for damage to the capped and restored slope or lined perimeter as a result of the water runoff from the pipe. Potential for water from the pipe to enter the waste and generate excess leachate. Flooding restricting access to the area to carry out repair. Restriction on physical space (as a result of the presence of the landfill areas) to carry out the pipe repair in a timely manner.
		<i>Access needs:</i> Ease of access to carry out repair.	Flooding restricting access to the area to carry out repair.

Development stage	Status of the water pipe(s)*	Scenario to be assessed	Potential consequences to be assessed
<i>*The risks and consequences will be considered with respect to one pipe and to both pipes at the same time where this affects the consequences.</i>			
			Restriction on physical space (as a result of the presence of the landfill areas) to carry out the pipe repair in a timely manner.
		<p><i>Contamination concerns:</i> Effect on water quality at the point of supply. Potential for contaminants in the waste to escape as a result of the damaged containment and migrate.</p>	<p>Potential for contaminants from the waste or leachate to enter the pipe (this would be during repair works as there would be no flow following pipe failure). Potential for contaminants from the waste or leachate to escape as a result of the damaged containment and migrate to the air, surface water or groundwater. Assessment of the risks from contaminants to include gas/vapour, waste particles washed off the deposited waste mass, chemical and radioactive contaminants in leachate.</p>

ENRMF DCO Application Anglian Water Pipelines. Table 2 Proposals to address the key risk scenarios

Introduction

The purpose of this table is to identify the main work areas and information needed to progress assessment of the key risk scenarios identified in Table 1.

Relevant stage of development (See Table 1)	Management controls	Proposed assessments	Information required Each item is only identified once
1. Pipe Intact: Access for maintenance and repairs			
All stages	<p>Distance of standoff of landfill operations and any ground structures such as hedges and fences.</p> <p>Limitations of any restoration soil depth and/or gradient placement in the standoff area.</p> <p>It is considered that the provision of laydown areas does not need to be accommodated within the standoff area as an agricultural field with an access track is available at the eastern end of the area.</p>	<p>Review of operational requirements for Anglian.</p> <p>Obtain advice from a specialist pipeline engineer in relation to the likely access requirement needed to facility a pipeline repair or replacement.</p>	<p>Confirmation of Anglian requirements.</p> <p>As built information regarding the pipelines.</p>
2. Pipe Intact: Impact on structural integrity of the pipes as a result of excavation and filling			
Stages B, C, D	<p><u>Proposed:</u> Distance of standoff of the excavation that does not result in significant movement of the pipeline due to changes in the stresses on the ground surrounding the pipeline during to excavation and filling of the landfill phases.</p> <p>Excavated slopes are designed to a factor of safety of 1.4. The slopes do not stand open for long as they are lined with clay and geosynthetic materials before being backfilled soon after construction. The</p>	<p>Geotechnical risk assessments have been undertaken to verify the stability of the excavated and lined slopes prior to, during and following landfill cell construction and filling.</p> <p>Further assessment will be undertaken, in consultation with a specialist pipeline engineer, to</p>	<p>Tolerances for movements and strains of the pipeline including in particular at the location of the pipeline bends and the ground stresses that need to be maintained at the bends.</p> <p>Augean has extensive information and experience of the geotechnical properties of</p>

	<p>excavated slopes have factors of safety of 1.4 while they are open and increase rapidly as they are lined and then filled, becoming fully supported and therefore unable to fail once waste reaches ground level.</p> <p>During the slope excavation and lining there is full time supervision on site of the works by independent quality assurance engineers.</p> <p>During the filling and restoring of the slopes the stability and integrity of the slopes and lining system are monitored by Augean in accordance with the site operational procedures and environmental permit requirements.</p> <p><u>Additional:</u> No additional controls are considered necessary.</p>	<p>verify that standoffs from the pipeline and pipeline joints and bends will be sufficient to prevent changes to the current stress conditions of the ground surrounding the pipeline during to excavation and filling of the landfill phases</p> <p>Assessment of swelling and shrinkage potential of the in situ clays surrounding the pipeline and whether this potential is likely to change due the proximity of the landfill site.</p>	<p>the clay material around and under the pipelines so it is not anticipated that further site investigation will be needed. Depending on the sensitivity of the outcome based on the short and long tern (total and effective stress) shear strength data that is available already for the in situ geology at the site and the possible need for additional parameter information, it may be necessary to obtain more data close to the pipelines</p>
3. Pipe Intact: Contaminant migration from the landfill below ground to the pipeline surrounds			
Stages C, D, E	<p><u>Proposed:</u> Landfill engineering prevents the migration of contaminants beyond the site (1m clay at $1 \times 10^{-9} \text{m/s}$ permeability and 2mm HDPE $1 \times 10^{-14} \text{m/s}$). The landfill and the pipeline are situated within in-situ clay with a vertical permeability of $1.9 \times 10^{-10} \text{m/s}$ to $8.4 \times 10^{-12} \text{m/s}$ with a geometric mean of $2.6 \times 10^{-11} \text{m/s}$ (based on 5 samples of glacial till from the site).</p> <p>Leachate levels are maintained no greater than 1m above the base of the site which is at least 7m below the pipelines. Groundwater is at least 8m below the base of the site in the vicinity of the pipelines. As the wastes deposited in the landfill will have limited gas generating potential the generation of gases or vapours under pressure at the site is not</p>	<p>There is no identified below ground pathway for the contaminants to migrate to the pipelines as solid, soluble or gaseous contaminants.</p> <p>Gamma radiation from LLW is attenuated through the landfill cell walls and the clay and soil. Accordingly gamma radiation from the LLW will not affect the properties of the water in the pipelines. This specific assessment will be presented in the ESC which is under preparation. The relevant</p>	<p>It is considered that no additional information is necessary</p>

	<p>anticipated. Gas concentrations and pressures are monitored under the Environmental Permit. If active extraction and management becomes necessary it will be implemented in accordance with the Environmental Permit.</p> <p><u>Additional:</u> No additional controls are considered necessary.</p>	<p>sections of the ESC will be provided to Anglian Water for confirmation.</p>	
4. Pipe Intact: Contaminant run-off to the pipeline surrounds			
<p>Stages C, D</p>	<p><u>Proposed:</u> During stage C the waste is below ground level. During Stage D the edge of the waste is maintained at 1m below the top of the landfill liner. Run-off from the landfilled waste drains back into the landfill.</p> <p>A geocomposite drainage layer (geotextile with a drainage core) will be installed to provide a leachate drainage blanket up the inner side slopes of the engineered liner.</p> <p><u>Additional:</u> No additional controls are considered necessary.</p>	<p>There is no identified pathway for the contaminants to migrate to the pipelines</p>	<p>It is considered that no additional information is necessary</p>
5. Pipe Intact: Surface water run off causing increased inundation around pipelines			
<p>Stage E</p>	<p><u>Proposed:</u> Interception ditches will be installed along the edge of the landfills diverting water away from the pipelines.</p> <p>Storm attenuation areas are for short term storage after storm events and should not result in additional water inundation around the pipelines</p> <p><u>Additional:</u> Water levels in the bedding around the pipelines could be monitored routinely before and after operations to determine if there is a significant change.</p>	<p>Assess the drainage efficacy to manage the potential run off and compare with pre-development drainage characteristics</p>	<p>It is considered that no additional information is necessary</p>

	Storm attenuation areas could be lined with clay if monitoring indicates water is draining towards the pipelines		
6. Pipe Failed: Catastrophic failure resulting in a crater affecting the integrity of the landfill			
Stages C, D, E	<p><u>Proposed:</u> The landfill will be constructed beyond the predicted crater</p> <p><u>Additional:</u> No additional controls are considered necessary.</p>	Determine, in consultation with a specialist pipeline engineer, the potential size of the crater or erosion zone due to high pressure release	<p>Identify methodology for prediction of the crater and calculate the size.</p> <p>Confirm the nature of potential failures.</p> <p>Confirm the pipeline pressure of 8bar.</p>
7. Pipe Failed: Failure resulting in water discharge to the landfilled waste			
Stages C, D	<p><u>Proposed:</u> The landfill would accommodate the water and would have to be removed as leachate.</p> <p><u>Additional:</u> Construct bunds along the edge of the void during the operational period to divert water away from the waste.</p> <p>Consider the installation of leak detection systems to provide early warning of leaks so that repairs can be carried out well before any approach to catastrophic failure.</p>	<p>Calculation of the volume of water that would be discharged to the landfill.</p> <p>If bunds are constructed it will be necessary to assess where the water will discharge to.</p>	Confirm the rate of flow from the pipeline and the length of time until the pipeline is isolated.
8. Pipe Failed: Failure resulting in water inundation along the pipeline area preventing access			
Stages C, D, E	Falls are generally along the line of the pipeline and fall to the north west for the majority of the pipeline area, with the south eastern third falling to the south east. Water is unlikely to pond in the area of the pipeline.	Review and confirm drainage patterns around the pipeline for the current site, during the site works and following site restoration.	No additional information needed
9. Pipe Failed: Risk of contamination of surrounding ground will enter the water supply			
Stages C, D, E	As a result of the measures that will be implemented to minimise the risks addressed above, there is no	A non-technical summary risk assessment will be prepared	No additional information needed.

	<p>risk that contaminants will enter the pipeline during pipeline repairs as the ground around the pipeline will not contain contaminants from the landfill.</p> <p>Notwithstanding this, there is the potential for public perception that this remains as a risk. In order to gain and maintain public trust and confidence it is important that information and risk assessment is based on factual and evidenced information and scenarios.</p>	<p>identifying and summarising why there is no risk of contamination of water supplies under all of the scenarios considered.</p>	
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Proposed New draft Requirement:

[]. (1) Subject to sub-paragraph (2) and (3), no part of phases [18], [19] and [20] of the authorised development, as shown on Figure ES5.1 'current and proposed landfill phases', can commence until the stand offs from the water pipes have been agreed in writing by the relevant planning authority in consultation with Anglian Water acting reasonably.

(2) the stand offs as approved in sub-paragraph (1) must remain between 7 and [X] metres either side of the water pipes.

(3) in default of agreement regarding the stand offs from water pipes in sub-paragraph (1) between the undertaker, relevant local planning authority and Anglian Water, such stand offs shall be settled by arbitration in accordance with article 20 (arbitration).

New definitions:

"water pipes" means apparatus within the Order limits owned and operated by Anglian Water as identified by a blue dashed line on Figure ES5.1 'current and proposed landfill phases';

"Anglian Water" means AWG Group Limited (company number 02366618), whose registered office is at Lancaster House Lancaster Way, Ermine Business Park, Huntingdon, Cambridgeshire, PE29 6XU [AW to confirm]

Robyn Northall

From: Gene Wilson
Sent: 03 May 2022 13:35
To: mFroggatt [REDACTED]
Cc: cTrolove [REDACTED]; sLeader [REDACTED]
Subject: RE: ENRMF extension - Anglian Water Pipeline crossing
Attachments: Schematic Cross Sections.pdf

Mark

Apologies, but drawing reference AU/KCW/04-22/23114 which is reference in Table 1 was excluded from my email on Friday which is now attached.


Sorry for the inconvenience.

Regards





Gene Wilson
Director of Environmental Planning

Augean
East Northants Resource Management Facility
Stamford Road
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PE8 6XX

Tel: [REDACTED]
Mobile: [REDACTED]
Web: [REDACTED]



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From: Gene Wilson
Sent: 29 April 2022 10:54
To: mFroggatt [REDACTED]
Cc: cTrolove [REDACTED]; sLeader [REDACTED]
Subject: ENRMF extension - Anglian Water Pipeline crossing

Dear Mark

Further to my e-mail of the 14th April 2022 I attach for your consideration the following documents:

- Table 1 Scoping Table of Scenarios for Risk Assessment. The purpose of this table is to set out methodically and comprehensively the technical and operational issues which we understand may be of concern to Anglian Water.
- Table 2 Proposals to Address the Key Risk Scenarios. The purpose of this table drawing from Table 1, is to focus on how the risks will be addressed and identify the information that will be necessary to undertake the risk assessments.
- Draft new Requirement. The purpose of this Requirement is to allow the agreement with Anglian Water of the standoffs following the submission of the additional risk assessments outside and beyond the DCO process but before the works start in the landfill phases adjacent to the route of the water pipelines. As discussed at our meeting on 5th of April 2022 it will be at least 10 years before the phases in the vicinity of the pipelines are developed providing substantial time to ensure that all risk and access matters are addressed, and agreement reached.

For your information to ensure that we have fully understood and properly addressed the risks to the pipelines we have engaged a specialist pipeline engineer to assist with the risk assessments.

As previously requested, we should be grateful if we could have a meeting to walk through the above documents and discuss any queries you may have. Ideally this would be prior to the next Examination Document Submission Deadline which is on the 11th May 2022 so that we can update the Examining Authority on our engagement. You will have seen from the Examining Authority's second list of questions published on 27th April 2022 that he has asked a number of questions of us and Anglian Water regarding progress on these matters.

Finally, I would like to emphasise that Augean has not dismissed Anglian Water's suggestion of diverting the pipelines. Our initial consideration of the option would suggest that it potentially has a more adverse risk profile than identifying suitable standoffs around the in-situ pipelines. We should therefore be grateful to discuss this proposal understand Anglian Water's rationale at the requested meeting.

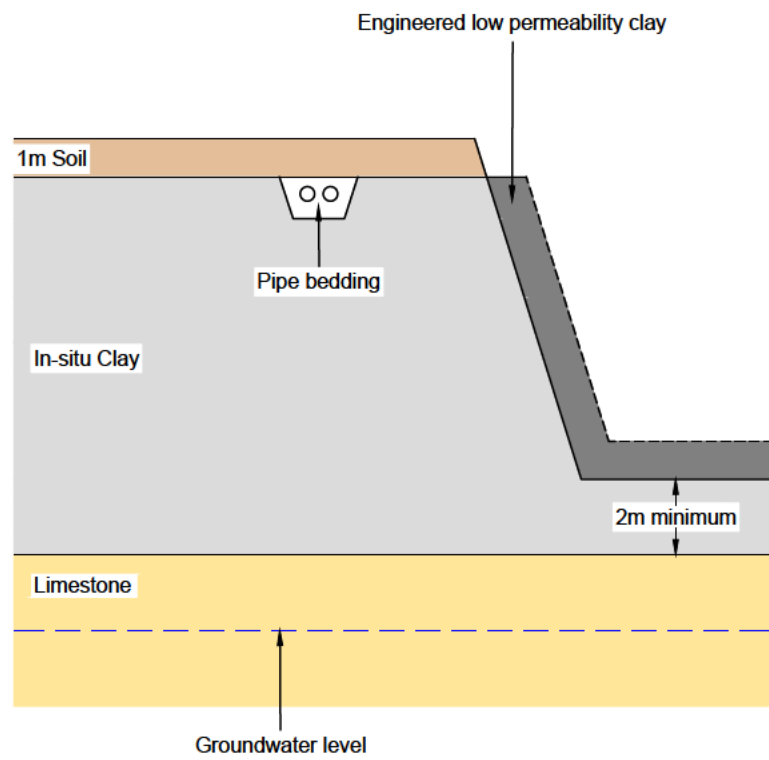
I hope that you find the information provided helpful and that we are able to find a way forward on this matter.

I look forward to discussing the information with you.

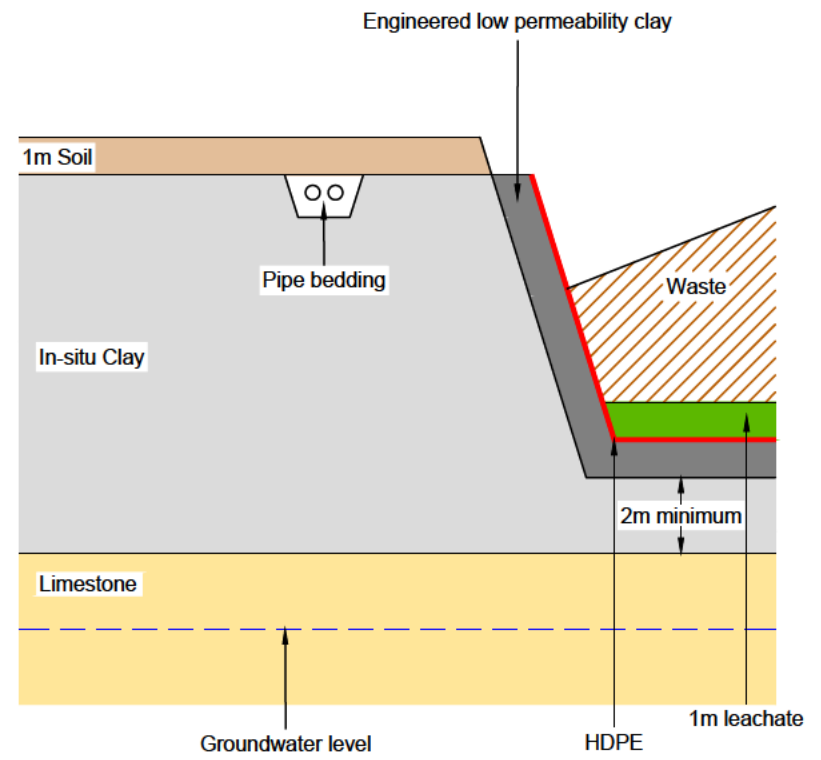
Best regards

Gene

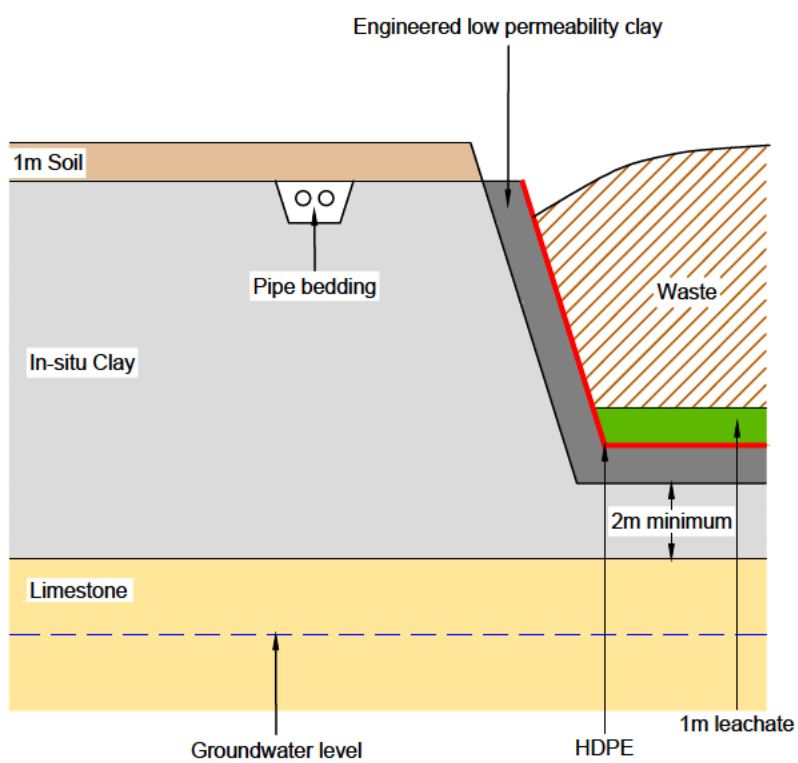
Attachments: Table 1. Scoping Table of Scenarios for Risk Assessment
Table 2. Proposals to Address the Key Risk Scenarios
Draft new Requirement for the DCO



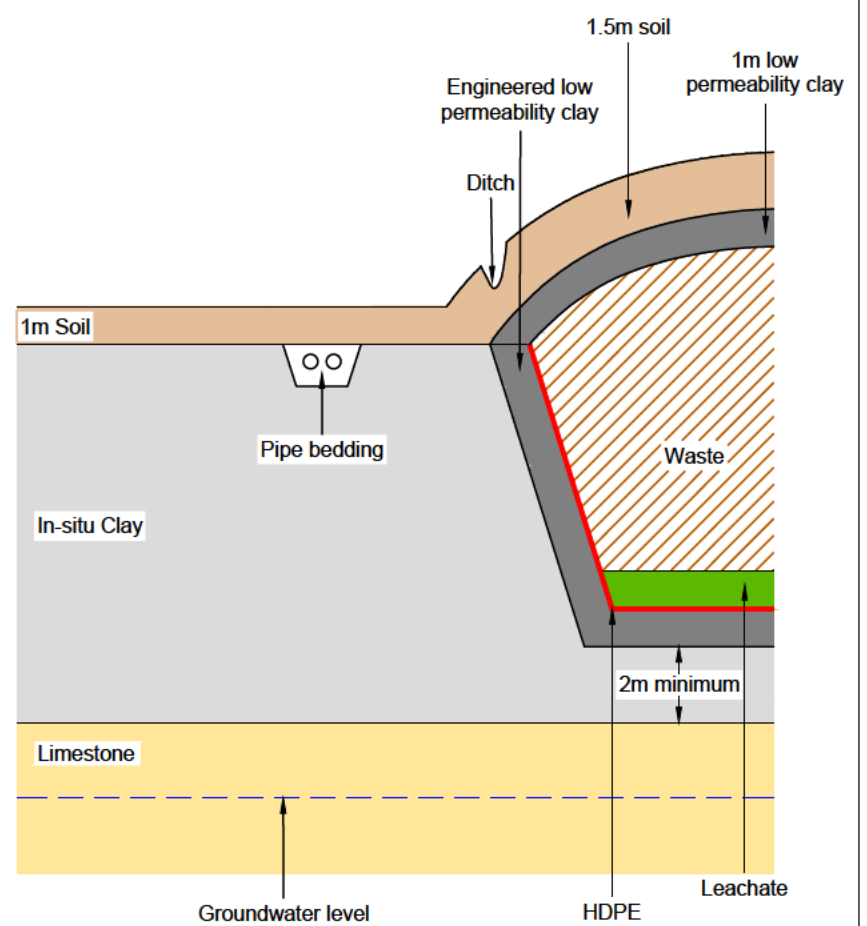
B. Operational, excavation and construction stage



C. Operational waste placement (below ground) stage



D. Operational waste placement (above ground) stage



E. Post restoration period

Key / Notes

Rev	Final	KR	LH	LH	29/04/22
Rev	Status	Dm	App	Chk	Date
Site EAST NORTHANTS RESOURCE MANAGEMENT FACILITY					
Client 					
Title Schematic cross sections					
Figure 1				Scale NTS	
Drawing Ref AU/KCW/04-22/23114					
Baddesley Colliery Offices, Main Road, Baxterley, Atherstone, Warwickshire, CV9 2LE. Telephone : 01827 717891 Technical advisers on environmental issues Fax : 01827 718507					

Robyn Northall

Subject: FW: ENRMF extension - Anglian Water Pipeline crossing
Attachments: Draft new Requirement for the DCO.DOCX; Table 1. Scoping Table of Scenarios for Risk Assessment.docx; Table 2. Proposals to Address the Key Risk Scenarios.docx

From: Gene Wilson <[REDACTED]>
Date: 5 May 2022 at 08:52:31 BST
To: [mFroggatt](#) [REDACTED]
Cc: [cTrolove](#) [REDACTED], [sLeader](#) [REDACTED]
Subject: Re: ENRMF extension - Anglian Water Pipeline crossing

Dear Mark

I wondered if you had had an opportunity to consider the documents sent to you last week?

As previously offered, we should be pleased to meet with you and your team to walk through the documents to ensure that we have fully understood the issues raised by Anglian, and to agree the approach to the assessments. We believe that this will be the most efficient means of addressing your concerns.

It would clearly assist the examination if we are able to submit a progress update by the 11th May which is the next submission deadline. If we are able to meet before then that would be helpful.

I look forward to hearing from you.

Best regards

Gene

On 29 Apr 2022, at 10:53, Gene Wilson <[REDACTED]> wrote:

Dear Mark

Further to my e-mail of the 14th April 2022 I attach for your consideration the following documents:

- Table 1 Scoping Table of Scenarios for Risk Assessment. The purpose of this table is to set out methodically and comprehensively the technical and operational issues which we understand may be of concern to Anglian Water.
- Table 2 Proposals to Address the Key Risk Scenarios. The purpose of this table drawing from Table 1, is to focus on how the risks will be addressed and identify the information that will be necessary to undertake the risk assessments.

- Draft new Requirement. The purpose of this Requirement is to allow the agreement with Anglian Water of the standoffs following the submission of the additional risk assessments outside and beyond the DCO process but before the works start in the landfill phases adjacent to the route of the water pipelines. As discussed at our meeting on 5th of April 2022 it will be at least 10 years before the phases in the vicinity of the pipelines are developed providing substantial time to ensure that all risk and access matters are addressed, and agreement reached.

For your information to ensure that we have fully understood and properly addressed the risks to the pipelines we have engaged a specialist pipeline engineer to assist with the risk assessments.

As previously requested, we should be grateful if we could have a meeting to walk through the above documents and discuss any queries you may have. Ideally this would be prior to the next Examination Document Submission Deadline which is on the 11th May 2022 so that we can update the Examining Authority on our engagement. You will have seen from the Examining Authority's second list of questions published on 27th April 2022 that he has asked a number of questions of us and Anglian Water regarding progress on these matters.

Finally, I would like to emphasise that Augean has not dismissed Anglian Water's suggestion of diverting the pipelines. Our initial consideration of the option would suggest that it potentially has a more adverse risk profile than identifying suitable standoffs around the in-situ pipelines. We should therefore be grateful to discuss this proposal understand Anglian Water's rationale at the requested meeting.

I hope that you find the information provided helpful and that we are able to find a way forward on this matter.

I look forward to discussing the information with you.

Best regards

Gene

Attachments: Table 1. Scoping Table of Scenarios for Risk Assessment

Table 2. Proposals to Address the Key Risk Scenarios

Draft new Requirement for the DCO

Gene Wilson
Director of Environmental Planning

Augean
East Northants Resource Management Facility
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Tel: [REDACTED]

Mobile: [REDACTED]

Web: [REDACTED]

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ENRMF DCO Application Anglian Water Pipelines. Table 1 Scoping Table of Scenarios for Risk Assessment.

1. Introduction

The scoping table is prepared and provided for discussion in order to agree the risks which might arise and which need to be assessed. It is helpful to the risk assessment process to agree the scenarios (and their reasonable likelihood) at the outset so that the risk assessment process is methodical and as comprehensive as possible.

It is anticipated that once the scenarios are agreed, the first stage of the risk assessment will commence and as part of that stage further discussions may be appropriate to agree the parameters and values assigned where numerical analysis is carried out.

As part of the risk assessment process, avoidance and/or mitigation measures which may reduce the risk of an occurrence or the magnitude or effect of the consequences of an occurrence will be identified for consideration.

For the purposes of this risk assessment process the presence of the proposed diverted electricity cable in the same area as the water pipes is ignored as it is considered that the presence of any diverted cable can be assessed following the conclusion of this risk assessment process for the water pipes only. Similarly it is considered that a suitable crossing over the pipelines can be constructed that will protect the integrity of the pipelines. This may take the form of placement of additional thickness of material over the pipeline and/or the use of steel road plates or other structures to spread the load. A specification for design of the crossing is needed and we understand that it is for Anglian Water to provide the specification. This risk is therefore not included in the assessments below.

2. Factual information that needs to be confirmed and/or provided to assist in the assessments.

A schematic diagram showing the cross section in the area under consideration is attached for reference (Drawing reference AU/KCW/04-22/23114).

The two water pipes are each understood to be formed of steel 800mm in diameter with approximately 4.5m between the two pipe centres. The tops are approximately 1.2m below the ground level. The pipe bedding is likely to be Type S aggregate to half or two thirds the diameter of the pipe covered with backfill. *Anglian Water are seeking as built drawings of the installed pipes.*

The pipes are gravity fed water mains with flow (un-boosted) driven by the reservoir pressure up stream. Flow is likely to be 1m³/s at 8bar. There is no pressure monitoring in the pipes, the system is designed to compensate for any loss in pressure.

The nearest isolation valves are 1km [*where?*] for the southern pipe and 5km [*where?*] for the northern pipe. It has been suggested that it could take up to 4 hours [*Anglian to confirm/update*] for isolation following a failure of the pipe.

Anglian have been requested to provide any internal (or other) references or guidance used for the prediction of pipe blow outs.

For repair purposes room is needed to provide:

- excavation to the pipe and safe batters

- room for access and operation by 20t to 40t crawlers
- space for vehicles to pass the crawler
- room is needed either side so that each pipe can be accessed.

Agreement is needed on what activities by Augean are acceptable in the standoff area.

Anglian are requested to confirm whether the pipes deliver treated water directly to supply or whether the water is directed to a blending/treatment facility before entering supply.

3. Scoping table of scenarios for risk assessment

The scenarios for which the risks need to be assessed are set out in the table below. The scenarios are divided into the following categories:

- physical/structural safety concerns under normal circumstances,
- physical/structural safety concerns under abnormal circumstances (ie following pipe failure rather than as a result of a small leak),
- access needs under normal circumstances,
- access needs under abnormal circumstances (ie following pipe failure rather than as a result of a small leak),
- contamination concerns/access under normal circumstances, and what potential exposure pathway is of concern
- contamination concerns/access under abnormal circumstances (ie following pipe failure), and what potential exposure pathway is of concern.

Each scenario is considered for each of the following development stages:

- A.** Pre-development;
- B.** Operational excavation and construction stage;
- C.** Operational waste placement (below ground) stage;
- D.** Operational waste placement (above ground) stage; and
- E.** Post restoration period.

Development stage	Status of the water pipe(s)*	Scenario to be assessed	Potential consequences to be assessed
<i>*The risks and consequences will be considered with respect to one pipe and to both pipes at the same time where this affects the consequences.</i>			
A. Pre-development. Current situation – agricultural field, 15m to 20m from the excavation boundary of the current landfill site, passing beneath nearby road. <i>These scenarios represent the pre-development, baseline situation.</i>	Pipe intact	<i>Physical/structural safety concerns:</i> Presence of water in the bedding surrounding the pipeline causing corrosion	Reduced life of the pipeline
		<i>Access needs:</i> Ease of access to carry out repair.	Flooding of the area with water prior to cutting off the flow.
		<i>Contamination concerns:</i> None envisaged.	No assessment needed.
	Failed pipe – assume catastrophic failure.	<i>Physical/structural safety concerns:</i> Crater formed.	What would the crater size be? Erosion of adjacent land by the water from the pipe.
		<i>Access needs:</i> Ease of access to carry out repair.	Flooding of the area with water prior to cutting off the flow.
		<i>Contamination concerns:</i> Effect on water quality at the point of supply.	Potential for silt and/or contaminants (fertiliser, pesticides, waste in existing landfill) to enter the pipe (this would be during repair works as there would be no flow following pipe failure)
B. Operational excavation and construction stage. Excavation of the adjacent phases and construction of the engineered containment liner	Pipe intact	<i>Physical/structural safety concerns:</i> Instability/movement/reduction in strength of the supporting ground Slip in the excavated slope. Presence of water in the bedding surrounding the pipeline causing corrosion	Potential to destabilise/damage the pipes. Increased risk of pipe failure. Consider the effects if excavations take place concurrently on both sides of the pipe corridor. Reduced life of the pipeline.
		<i>Access needs:</i> Ease of access to carry out repair.	The excavation might affect the topographical falls around the pipeline therefore resulting in a decrease in surface water runoff across the pipeline and flooding restricting access to the area to carry out repair.
		<i>Contamination concerns:</i> No additional sources envisaged as no sources as a result of the development.	No assessment needed.

Development stage	Status of the water pipe(s)*	Scenario to be assessed	Potential consequences to be assessed
<i>*The risks and consequences will be considered with respect to one pipe and to both pipes at the same time where this affects the consequences.</i>			
	Failed pipe – assume catastrophic failure.	<i>Physical/structural safety concerns:</i> Crater formed.	What would the crater size be? Potential for damage to the excavated slope as a result of the crater. Potential for damage to the excavated slope as a result of the water runoff from the pipe. Potential for water from the pipe to enter the excavation.
		<i>Access needs:</i> Ease of access to carry out repair.	Restriction on physical space (as a result of the presence of the excavations) to carry out the pipe repair in a timely manner. The excavation might affect the topographical falls around the pipeline therefore resulting in a decrease in surface water runoff across the pipeline and flooding restricting access to the area to carry out repair
		<i>Contamination concerns:</i> No additional sources envisaged as no sources as a result of the development	Potential for silt and/or agricultural contaminants (fertiliser, pesticides, waste in existing landfill) to enter the pipe (this would be during repair works as there would be no flow following pipe failure)
C. Operational waste placement (below ground) stage Placement of waste in the adjacent phases to levels below the ground	Pipe intact	<i>Physical/structural safety concerns:</i> Instability/reduction in strength of the supporting ground. Slip in the excavated slope and/or supporting waste slope. Presence of water in the bedding surrounding the pipeline causing corrosion	Potential to destabilise/damage the pipes. Increased risk of pipe failure. Consider the effects if excavations and waste placement take place concurrently on both sides of the pipe corridor. Reduced life of the pipeline.
		<i>Access needs:</i> Ease of access to carry out repair.	Restriction on physical space (as a result of the presence of the landfill) to carry out the pipe repair in a timely manner. The landfill might affect the topographical falls around the pipeline therefore resulting in a decrease in surface water runoff across the pipeline and

Development stage	Status of the water pipe(s)*	Scenario to be assessed	Potential consequences to be assessed
<i>*The risks and consequences will be considered with respect to one pipe and to both pipes at the same time where this affects the consequences.</i>			
			flooding restricting access to the area to carry out repair.
		<i>Contamination concerns:</i> Migration of contaminants from the waste into the water in the pipe. Migration of contaminants from the waste into the pipe bedding and onward migration to groundwater or surface water.	Assess the risks from contaminants to include gas/vapour, waste particles washed off the deposited waste mass, chemical and radioactive contaminants in leachate, LLW potential to irradiate the water in the pipes.
	Failed pipe – assume catastrophic failure.	<i>Physical/structural safety concerns:</i> Crater formed.	What would the crater size be? Potential for damage to the excavated and lined slope as a result of the crater. Potential for damage to the excavated and lined slope as a result of the water runoff from the pipe. Potential for water from the pipe to enter the waste and generate excess leachate.
		<i>Access needs:</i> Ease of access to carry out repair.	Restriction on physical space (as a result of the presence of the landfill) to carry out the pipe repair in a timely manner. The landfill might affect the topographical falls around the pipeline therefore resulting in a decrease in surface water runoff across the pipeline and flooding restricting access to the area to carry out repair.

Development stage	Status of the water pipe(s)*	Scenario to be assessed	Potential consequences to be assessed
<i>*The risks and consequences will be considered with respect to one pipe and to both pipes at the same time where this affects the consequences.</i>			
		<p><i>Contamination concerns:</i> Effect on water quality at the point of supply. Potential for contaminants in the waste to escape as a result of the damaged containment and migrate.</p>	<p>Potential for contaminants from the waste or leachate to enter the pipe (this would be during repair works as there would be no flow following pipe failure). Potential for contaminants from the waste or leachate to escape as a result of the damaged containment and migrate to the air, surface water or groundwater. Assessment of the risks from contaminants to include gas/vapour, waste particles washed off the deposited waste mass, chemical and radioactive contaminants in leachate.</p>
<p>D. Operational waste placement (above ground) stage</p> <p>Placement of waste in the adjacent phases to levels above the ground</p>	Pipe intact	<p><i>Physical/structural safety concerns:</i> Instability/reduction in strength of the supporting ground. Slip in the above ground waste slope. Presence of water in the bedding surrounding the pipeline causing corrosion. Erosion as a result of water runoff from the filled waste areas.</p>	<p>Potential to destabilise/damage the pipes. Increased risk of pipe failure. Consider the effects if waste placement take place concurrently on both sides of the pipe corridor. Reduced life of the pipeline.</p>
		<p><i>Access needs:</i> Ease of access to carry out repair.</p>	<p>Restriction on physical space (as a result of the presence of the landfill) to carry out the pipe repair in a timely manner. The landfill might affect the topographical falls around the pipeline therefore resulting in a decrease in surface water runoff across the pipeline and flooding restricting access to the area to carry out repair.</p>
		<p><i>Contamination concerns:</i> Migration of contaminants from the waste into the water in the pipe.</p>	<p>Assess the risks from contaminants to include gas/vapour, waste particles washed off the deposited waste mass, chemical and radioactive contaminants in leachate, LLW potential to irradiate the water in the pipes.</p>

Development stage	Status of the water pipe(s)*	Scenario to be assessed	Potential consequences to be assessed
<i>*The risks and consequences will be considered with respect to one pipe and to both pipes at the same time where this affects the consequences.</i>			
		Migration of contaminants from the waste into the pipe bedding and onward migration to groundwater or surface water.	
	Failed pipe – assume catastrophic failure.	<i>Physical/structural safety concerns:</i> Crater formed.	What would the crater size be? Potential for damage to the lined slope and placed waste as a result of the crater. Potential for damage to the lined slope and placed waste as a result of the water runoff from the pipe. Potential for water from the pipe to enter the waste and generate excess leachate.
		<i>Access needs:</i> Ease of access to carry out repair.	Flooding restricting access to the area to carry out repair. Restriction on physical space (as a result of the presence of the landfill areas) to carry out the pipe repair in a timely manner.
		<i>Contamination concerns:</i> Effect on water quality at the point of supply. Potential for contaminants in the waste to escape as a result of the damaged containment and migrate.	Potential for contaminants from the waste or leachate to enter the pipe (this would be during repair works as there would be no flow following pipe failure). Potential for contaminants from the waste or leachate to escape as a result of the damaged containment and migrate to the air, surface water or groundwater. Assessment of the risks from contaminants to include gas/vapour, waste particles washed off the deposited waste mass, chemical and radioactive contaminants in leachate.
E. Post restoration period After capping and restoration of the site	Pipe intact	<i>Physical/structural safety concerns:</i> Instability/reduction in strength of the supporting ground. Slip in the above ground restored site slope.	Potential to destabilise/damage the pipes. Increased risk of pipe failure. Reduced life of the pipeline.

Development stage	Status of the water pipe(s)*	Scenario to be assessed	Potential consequences to be assessed
<i>*The risks and consequences will be considered with respect to one pipe and to both pipes at the same time where this affects the consequences.</i>			
		Presence of water in the bedding surrounding the pipeline causing corrosion. Erosion as a result of water runoff from the restored landfill areas.	
		<i>Access needs:</i> Ease of access to carry out repair.	Restriction on physical space (as a result of the presence of the landfill) to carry out the pipe repair in a timely manner. The landfill might affect the topographical falls around the pipeline therefore resulting in a decrease in surface water runoff across the pipeline and flooding restricting access to the area to carry out repair.
		<i>Contamination concerns:</i> Migration of contaminants from the waste into the water in the pipe. Migration of contaminants from the waste into the pipe bedding and onward migration to groundwater or surface water.	Assess the risks from contaminants to include gas/vapour, chemical and radioactive contaminants in leachate, LLW potential to irradiate the water in the pipes.
	Failed pipe – assume catastrophic failure.	<i>Physical/structural safety concerns:</i> Crater formed.	What would the crater size be? Potential for damage to the capped and restored slope or lined perimeter as a result of the crater. Potential for damage to the capped and restored slope or lined perimeter as a result of the water runoff from the pipe. Potential for water from the pipe to enter the waste and generate excess leachate. Flooding restricting access to the area to carry out repair. Restriction on physical space (as a result of the presence of the landfill areas) to carry out the pipe repair in a timely manner.
		<i>Access needs:</i> Ease of access to carry out repair.	Flooding restricting access to the area to carry out repair.

Development stage	Status of the water pipe(s)*	Scenario to be assessed	Potential consequences to be assessed
<i>*The risks and consequences will be considered with respect to one pipe and to both pipes at the same time where this affects the consequences.</i>			
			Restriction on physical space (as a result of the presence of the landfill areas) to carry out the pipe repair in a timely manner.
		<p><i>Contamination concerns:</i> Effect on water quality at the point of supply. Potential for contaminants in the waste to escape as a result of the damaged containment and migrate.</p>	<p>Potential for contaminants from the waste or leachate to enter the pipe (this would be during repair works as there would be no flow following pipe failure). Potential for contaminants from the waste or leachate to escape as a result of the damaged containment and migrate to the air, surface water or groundwater. Assessment of the risks from contaminants to include gas/vapour, waste particles washed off the deposited waste mass, chemical and radioactive contaminants in leachate.</p>

ENRMF DCO Application Anglian Water Pipelines. Table 2 Proposals to address the key risk scenarios

Introduction

The purpose of this table is to identify the main work areas and information needed to progress assessment of the key risk scenarios identified in Table 1.

Relevant stage of development (See Table 1)	Management controls	Proposed assessments	Information required Each item is only identified once
1. Pipe Intact: Access for maintenance and repairs			
All stages	<p>Distance of standoff of landfill operations and any ground structures such as hedges and fences.</p> <p>Limitations of any restoration soil depth and/or gradient placement in the standoff area.</p> <p>It is considered that the provision of laydown areas does not need to be accommodated within the standoff area as an agricultural field with an access track is available at the eastern end of the area.</p>	<p>Review of operational requirements for Anglian.</p> <p>Obtain advice from a specialist pipeline engineer in relation to the likely access requirement needed to facility a pipeline repair or replacement.</p>	<p>Confirmation of Anglian requirements.</p> <p>As built information regarding the pipelines.</p>
2. Pipe Intact: Impact on structural integrity of the pipes as a result of excavation and filling			
Stages B, C, D	<p><u>Proposed:</u> Distance of standoff of the excavation that does not result in significant movement of the pipeline due to changes in the stresses on the ground surrounding the pipeline during to excavation and filling of the landfill phases.</p> <p>Excavated slopes are designed to a factor of safety of 1.4. The slopes do not stand open for long as they are lined with clay and geosynthetic materials before being backfilled soon after construction. The</p>	<p>Geotechnical risk assessments have been undertaken to verify the stability of the excavated and lined slopes prior to, during and following landfill cell construction and filling.</p> <p>Further assessment will be undertaken, in consultation with a specialist pipeline engineer, to</p>	<p>Tolerances for movements and strains of the pipeline including in particular at the location of the pipeline bends and the ground stresses that need to be maintained at the bends.</p> <p>Augean has extensive information and experience of the geotechnical properties of</p>

	<p>excavated slopes have factors of safety of 1.4 while they are open and increase rapidly as they are lined and then filled, becoming fully supported and therefore unable to fail once waste reaches ground level.</p> <p>During the slope excavation and lining there is full time supervision on site of the works by independent quality assurance engineers.</p> <p>During the filling and restoring of the slopes the stability and integrity of the slopes and lining system are monitored by Augean in accordance with the site operational procedures and environmental permit requirements.</p> <p><u>Additional:</u> No additional controls are considered necessary.</p>	<p>verify that standoffs from the pipeline and pipeline joints and bends will be sufficient to prevent changes to the current stress conditions of the ground surrounding the pipeline during to excavation and filling of the landfill phases</p> <p>Assessment of swelling and shrinkage potential of the in situ clays surrounding the pipeline and whether this potential is likely to change due the proximity of the landfill site.</p>	<p>the clay material around and under the pipelines so it is not anticipated that further site investigation will be needed. Depending on the sensitivity of the outcome based on the short and long tern (total and effective stress) shear strength data that is available already for the in situ geology at the site and the possible need for additional parameter information, it may be necessary to obtain more data close to the pipelines</p>
3. Pipe Intact: Contaminant migration from the landfill below ground to the pipeline surrounds			
Stages C, D, E	<p><u>Proposed:</u> Landfill engineering prevents the migration of contaminants beyond the site (1m clay at $1 \times 10^{-9} \text{m/s}$ permeability and 2mm HDPE $1 \times 10^{-14} \text{m/s}$). The landfill and the pipeline are situated within in-situ clay with a vertical permeability of $1.9 \times 10^{-10} \text{m/s}$ to $8.4 \times 10^{-12} \text{m/s}$ with a geometric mean of $2.6 \times 10^{-11} \text{m/s}$ (based on 5 samples of glacial till from the site).</p> <p>Leachate levels are maintained no greater than 1m above the base of the site which is at least 7m below the pipelines. Groundwater is at least 8m below the base of the site in the vicinity of the pipelines. As the wastes deposited in the landfill will have limited gas generating potential the generation of gases or vapours under pressure at the site is not</p>	<p>There is no identified below ground pathway for the contaminants to migrate to the pipelines as solid, soluble or gaseous contaminants.</p> <p>Gamma radiation from LLW is attenuated through the landfill cell walls and the clay and soil. Accordingly gamma radiation from the LLW will not affect the properties of the water in the pipelines. This specific assessment will be presented in the ESC which is under preparation. The relevant</p>	<p>It is considered that no additional information is necessary</p>

	<p>anticipated. Gas concentrations and pressures are monitored under the Environmental Permit. If active extraction and management becomes necessary it will be implemented in accordance with the Environmental Permit.</p> <p><u>Additional:</u> No additional controls are considered necessary.</p>	<p>sections of the ESC will be provided to Anglian Water for confirmation.</p>	
4. Pipe Intact: Contaminant run-off to the pipeline surrounds			
<p>Stages C, D</p>	<p><u>Proposed:</u> During stage C the waste is below ground level. During Stage D the edge of the waste is maintained at 1m below the top of the landfill liner. Run-off from the landfilled waste drains back into the landfill.</p> <p>A geocomposite drainage layer (geotextile with a drainage core) will be installed to provide a leachate drainage blanket up the inner side slopes of the engineered liner.</p> <p><u>Additional:</u> No additional controls are considered necessary.</p>	<p>There is no identified pathway for the contaminants to migrate to the pipelines</p>	<p>It is considered that no additional information is necessary</p>
5. Pipe Intact: Surface water run off causing increased inundation around pipelines			
<p>Stage E</p>	<p><u>Proposed:</u> Interception ditches will be installed along the edge of the landfills diverting water away from the pipelines.</p> <p>Storm attenuation areas are for short term storage after storm events and should not result in additional water inundation around the pipelines</p> <p><u>Additional:</u> Water levels in the bedding around the pipelines could be monitored routinely before and after operations to determine if there is a significant change.</p>	<p>Assess the drainage efficacy to manage the potential run off and compare with pre-development drainage characteristics</p>	<p>It is considered that no additional information is necessary</p>

	Storm attenuation areas could be lined with clay if monitoring indicates water is draining towards the pipelines		
6. Pipe Failed: Catastrophic failure resulting in a crater affecting the integrity of the landfill			
Stages C, D, E	<p><u>Proposed:</u> The landfill will be constructed beyond the predicted crater</p> <p><u>Additional:</u> No additional controls are considered necessary.</p>	Determine, in consultation with a specialist pipeline engineer, the potential size of the crater or erosion zone due to high pressure release	<p>Identify methodology for prediction of the crater and calculate the size.</p> <p>Confirm the nature of potential failures.</p> <p>Confirm the pipeline pressure of 8bar.</p>
7. Pipe Failed: Failure resulting in water discharge to the landfilled waste			
Stages C, D	<p><u>Proposed:</u> The landfill would accommodate the water and would have to be removed as leachate.</p> <p><u>Additional:</u> Construct bunds along the edge of the void during the operational period to divert water away from the waste.</p> <p>Consider the installation of leak detection systems to provide early warning of leaks so that repairs can be carried out well before any approach to catastrophic failure.</p>	<p>Calculation of the volume of water that would be discharged to the landfill.</p> <p>If bunds are constructed it will be necessary to assess where the water will discharge to.</p>	Confirm the rate of flow from the pipeline and the length of time until the pipeline is isolated.
8. Pipe Failed: Failure resulting in water inundation along the pipeline area preventing access			
Stages C, D, E	Falls are generally along the line of the pipeline and fall to the north west for the majority of the pipeline area, with the south eastern third falling to the south east. Water is unlikely to pond in the area of the pipeline.	Review and confirm drainage patterns around the pipeline for the current site, during the site works and following site restoration.	No additional information needed
9. Pipe Failed: Risk of contamination of surrounding ground will enter the water supply			
Stages C, D, E	As a result of the measures that will be implemented to minimise the risks addressed above, there is no	A non-technical summary risk assessment will be prepared	No additional information needed.

	<p>risk that contaminants will enter the pipeline during pipeline repairs as the ground around the pipeline will not contain contaminants from the landfill.</p> <p>Notwithstanding this, there is the potential for public perception that this remains as a risk. In order to gain and maintain public trust and confidence it is important that information and risk assessment is based on factual and evidenced information and scenarios.</p>	<p>identifying and summarising why there is no risk of contamination of water supplies under all of the scenarios considered.</p>	
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Proposed New draft Requirement:

[]. (1) Subject to sub-paragraph (2) and (3), no part of phases [18], [19] and [20] of the authorised development, as shown on Figure ES5.1 'current and proposed landfill phases', can commence until the stand offs from the water pipes have been agreed in writing by the relevant planning authority in consultation with Anglian Water acting reasonably.

(2) the stand offs as approved in sub-paragraph (1) must remain between 7 and [X] metres either side of the water pipes.

(3) in default of agreement regarding the stand offs from water pipes in sub-paragraph (1) between the undertaker, relevant local planning authority and Anglian Water, such stand offs shall be settled by arbitration in accordance with article 20 (arbitration).

New definitions:

"water pipes" means apparatus within the Order limits owned and operated by Anglian Water as identified by a blue dashed line on Figure ES5.1 'current and proposed landfill phases';

"Anglian Water" means AWG Group Limited (company number 02366618), whose registered office is at Lancaster House Lancaster Way, Ermine Business Park, Huntingdon, Cambridgeshire, PE29 6XU [AW to confirm]

Robyn Northall

From: Gene Wilson <[REDACTED]>
Sent: 09 May 2022 12:50
To: Mark Froggatt
Cc: Claire Trolove; Leslie Heasman
Subject: RE: Meeting

Hi Mark

Further to our conversation a few minutes ago I confirm an online meeting at 5.00 today to discuss the risk assessment scoping sent to you on 29th of April. I shall send the invite shortly.

I shall be accompanied by Leslie Heasman from MJCA who is managing the EIA work.

I look forward to our discussion later.


Best regards

Gene







Gene Wilson
Director of Environmental Planning

Augean
East Northants Resource Management Facility
Stamford Road
Kings Cliffe
PE8 6XX

Tel: [REDACTED]
Mobile: [REDACTED]
Web: [REDACTED]



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From: Mark Froggatt <[REDACTED]>
Sent: 09 May 2022 12:25
To: Gene Wilson <[REDACTED]>
Cc: Claire Trolove <[REDACTED]>
Subject: Meeting

Gene,
I'm happy to meet and discuss, do you have any particular time and date?
I'm local to some degree so if you need this at end of day etc please let me know given time constraints.
Please feel free to give me a call and we'll agree a time
Best regards
Mark



Mark Froggatt
Chief Engineer AWS
Head of Solutions @one Alliance
Mobile – [REDACTED]
PA – Karen Charman [REDACTED]
Mobile – [REDACTED]
Anglian Water Services Limited
[REDACTED]

*-----

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*-----

Robyn Northall

From: Mailbox Incoming
Subject: FW: ENRMF - Anglian water pipelines - X Section
Attachments: aukcw23129.pdf

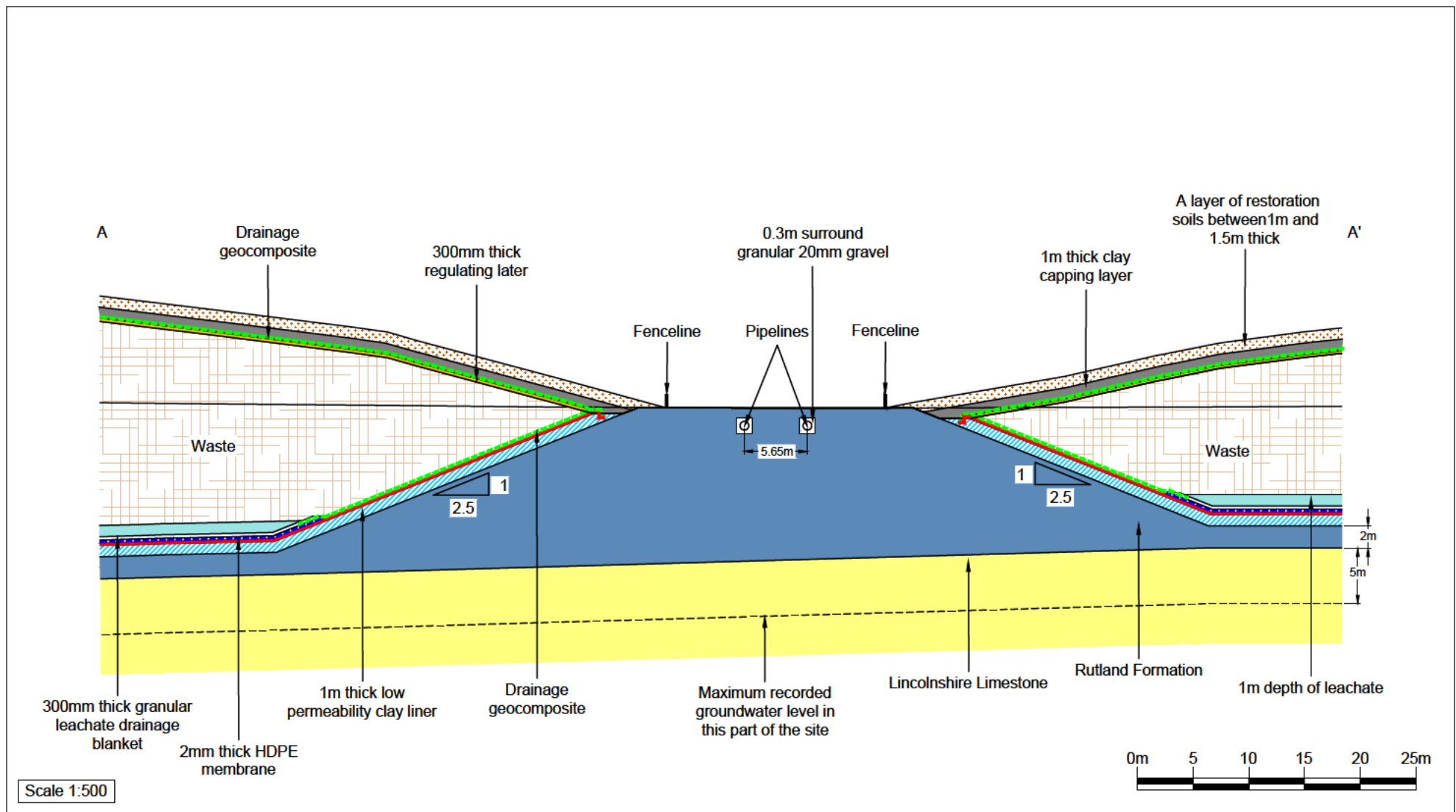
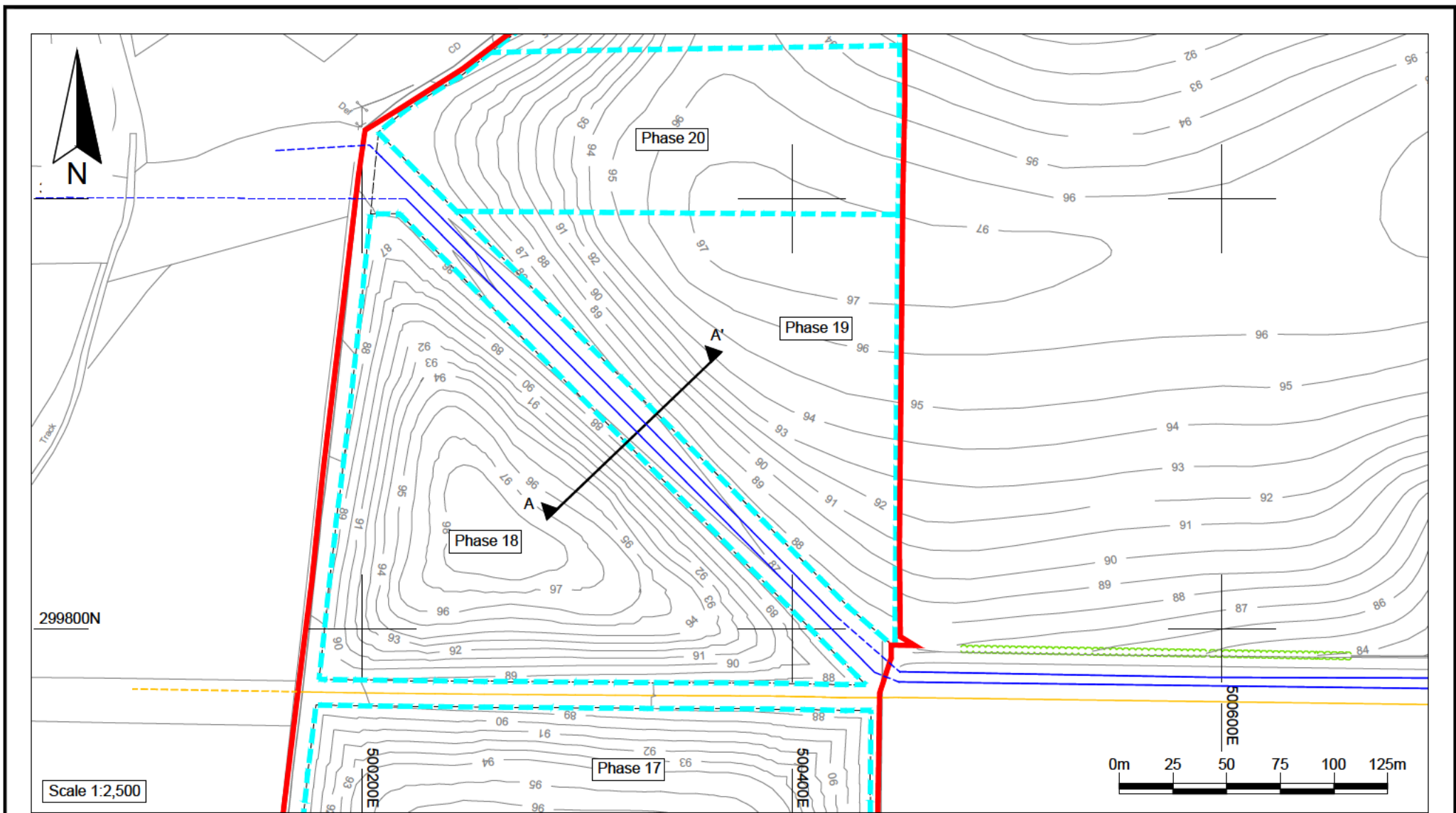
From: Gene Wilson
Sent: 10 May 2022 07:38
To: 'mFroggatt [REDACTED]' <[REDACTED]>
Subject: ENRMF - Anglian water pipelines - X Section

Hi Mark
Thank you for the constructive meeting last night.

As promised, please find attached a copy of the plan and cross section of the landfill development either side of the pipelines.

We look forward to receiving the information requested. Should you have any queries please do not hesitate to contact me.

Best regards
Gene



Key / Notes

- Proposed western extension to the ENRMF hazardous waste landfill Environmental Permit
- Approximate phase boundary in the Western Extension
- Cross section location
- Water main taken from Service information from drawing number 2603.SWM.02C dated 24 September 2007 provided by Egniol Limited
- Approximate location of the gas pipeline extrapolated from the topographical survey information
- Bottom of Bank
- Bottom of Ditch
- Change of Surface
- Gas pipeline
- Top of Bank
- Top of Ditch
- Contours (mAOD)

Notes:
 Drawing based on LSS models references AU-KCW-15872.LSS, MARCH21_ENRMF_FINAL RESTORATION LANDFORM_SCENARIO 1B provided by DB Landscape Consultancy on 1 March 2021, AU-US-16318.LSS, AU-KCW-15984.LSS, AU-KCW-15987.LSS and AU-KCW-15990.LSS.

Rev	Status	Dm	App	Chk	Date
Site EAST NORTHANTS RESOURCE MANAGEMENT FACILITY					
Client 					
Title Cross section showing the proposed workings through the water pipelines in the Western Fields Extension area DRAFT					
Figure 1				Scale As shown@A3	
Drawing Ref AU/KCW/05-22/23129					
Baddesley Colliery Offices, Main Road, Baxterley, Atherstone, Warwickshire, CV9 2LE. Telephone : 01827 717891 Fax : 01827 718507					