Application Name: **Eastern Northants Management Facility Western Extension**

Application Ref: **WS010005**

The below documents are attached and submitted further to the action points set out in ISH3:

1. **Written summary of oral contributions at hearings; and**

2. **Supporting information for Anglian Water's suggested diversion of the pipelines**

Suggested diversion routes

Anglian Water have initially considered three potential diversions of the twin 800mm water mains:

Route 1: the longest and most environmentally damaging option – this completely avoids the proposed land take for the extended operations.

Route 2: a shorter version of the above, introducing more 90-degree bends in the system which would need further consideration/assessment.

Route 3: the least environmental impact option but does mean that the land take for the Application would be less.

Please note that:

- To prepare potential diversion routes of an asset is an involved, lengthy and often costly process. Environmental and conservation issues together with financial implications (extending to compensation claims and, potentially, compulsory purchase issues as well as the cost of building the asset) need to be considered and often cannot be accurately calculated until formal surveys or investigations have been carried out which may involve access to third party land. The three routes proposed in this document have not been subject to this process/due diligence and, as such, please be aware that the attached proposals could be subject to change.
- These are not CAD layout quality drawings and should not be relied upon as such, for example the plans should not be used for measurements.
- Whilst Anglian Water's preliminary assessment indicates that the mains are in the location as mapped, further GPS investigations would need to be undertaken to confirm this.

Copies of these documents have also been sent directly to the Applicant.

East Northants Resource Management Facility Western Extension

Anglian Water – written summary of oral contribution on 8 June 2022 (ISH3)

Agenda item 4c. Anglian Water (Meyric Lewis of Counsel) confirmed that they had concerns about the recently proposed amended protective provisions proposed by the applicant (ie to the effect that "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…"). The issue was not just stand-off distances – although that it of course relevant to the stability and integrity of their infrastructure – the fundamental issue is that the infrastructure should be relocated off site, as occurred previously. Anglian Water do not wish to be constrained as to the amount of manoeuvring space they have to access their equipment.

There are also questions as to the accommodation of the Western Power apparatus.

So far as Anglian Water are concerned, relocation could be achieved by some form of Grampian provision to secure relocation (but the examining authority indicated that he would not regard that as a non-material amendment and/or covered by the Rochdale envelope).

Agenda item 6 – Anglian Water pipelines and other infrastructure crossing the site. This matter falls to be addressed at this stage in the application process because of the inadequacies on the scoping of the ES identified previously. AW are agnostic as to the visual effects of wider standoffs. But Anglian Water does not wish to be constrained in accessing their apparatus even with 20m stand-offs either side. A main burst with a massive plume of water causing considerable damage would have knock on consequences for the integrity of the soil and foundations of the pipes and the ultimate potential for affecting the stability of the landfill itself. So AW contends for the zero risk option of relocation.

AW emphasised the implications of there being two parallel pipes within the landfill and a landfill containing low level, hazardous waste with potential for contamination.

Mark Frogatt, AW's Chief Engineer, stated AW's fundamental position of wanting to protect both the public's drinking water and AW's assets. The fact is the main was diverted last time and AW sees no reason why the same should not apply this time. AW had engaged with the applicant (although it seems MF's latest email had not been received).

Mr Frogatt confirmed that, since 2010, AW had had 31 major bursts on 343 kilometres of trunk mains and so AW is concerned that there is a real risk of bursts and leaks/failures. As AW's evidence would suggest from their analysis of 31 bursts within 343 kilometres effectively, one burst per 11 kilometres.

With a burst the problem comes with how much disturbed stabilisation there would be in the area that they have before they finally let go. The existing steel mains seem to be genuinely in good condition. But the there is a risk within the next 10 to 20, even 50 years of potential failure.

AW would wish to see the applicant's calculations (not seen before) that have been made to assess the potential for long term exposure of ground conditions with extreme weather conditions or even swell, which will possibly lead to stress in that pipe work, along with vehicle movements, excavation, vibration, etc. All these things can actually impact upon our pipeline, whether it's in a fragile or a semi fragile state, or whether it's in a robust state. NB though we have to consider the fact that the moment this pipeline sits within an agricultural land and the only loadings it generally has from its stable condition is occasional traffic in from agricultural vehicles. But then we are looking at taking that main into a position where we are having significant excavations local to it, with significant traffic movements around and over it which is a great concern. AW have yet to see proof of how that is to be managed (ie not seen before).

AW's principal concerns are the behaviour of clays when they're "unloaded" from their current position. When you move the load away, the clay wants to actually then expand and rise and AW wants to understand how that differential loading could occur. What if there was another "beast from the east", where we had a really cold spell across the region across the country. A lot of water companies lost provision to provide water to customers because of the effects of that on their ground conditions with heave and swell. Also there is the corrosivity of ground conditions to address resulting from the mixing of the groundwater with the clays.

A key fundamental concern is the period of construction and fill. Landfill changes the properties in and around that pipeline which are exposed to long term deposition from the first initial excavation to the final capping with the potential for more extremes of rain and other weather conditions over time. No evidence to suggest that has been catered for. Remains a risk until quantified.

There is an assumption that the ground is "virgin class", and the reinstatement and the area that trench with initially was as we assume, so again, this information that needs to be confirmed. AW more than happy to share what information that they can from our GIS model. Last point, there is always groundwater permeating through to our pipeline.

Vehicle movements and crossings are also a great concern since AW's own investigations into main failures often highlight the risk of external loading factors – proximity to roadways and major traffic areas has been a contributory if not a leading cause of failure. The concern is both with loading and vibration. So again we would like to see the calculations for these assessments. But AW's overriding position remains that they would wish for the mains to be moved.

Impact of failure of the pipeline eg flooding, mobilisation, contamination, access and effect on other infrastructure. AW's concerns are based on eg bank stability and main burst impact The assumed size of crater is very theoretical. Plenty of evidence to suggest that there is a real risk of breaching the sidewall in the event of a failure – and that would lead to a risk of a burst actually filling up the adjacent cell areas. Provision to stop water flowing is not one which happens automatically. It's a phased time period in which AW try to maintain the

pressure within the pipeline to avoid any reflux into the pipeline and contamination so that during that time period, we have a real risk, we believe that we could actually fill up the excavation area – a risk that we never had before and that was not assessed.

AW still has issues when we are talking about theoretical crater edge. With plant and equipment, you do not put a 20 tonne excavator next to a crater you have a back distance away from there. Also, access would only be from the two "ends" of the "channel". Reference was made to SPA and the easement for the strategic pipeline. What we have learned from that is that we've found that easement a little bit too tight for us (and that's in an ideal construction environment). Also access would be reduced by sloped banks and only meaning that we can get access from both ends for our plants and equipment means that we would require a maximum potential to actually try and dissipate that water not the minimum.

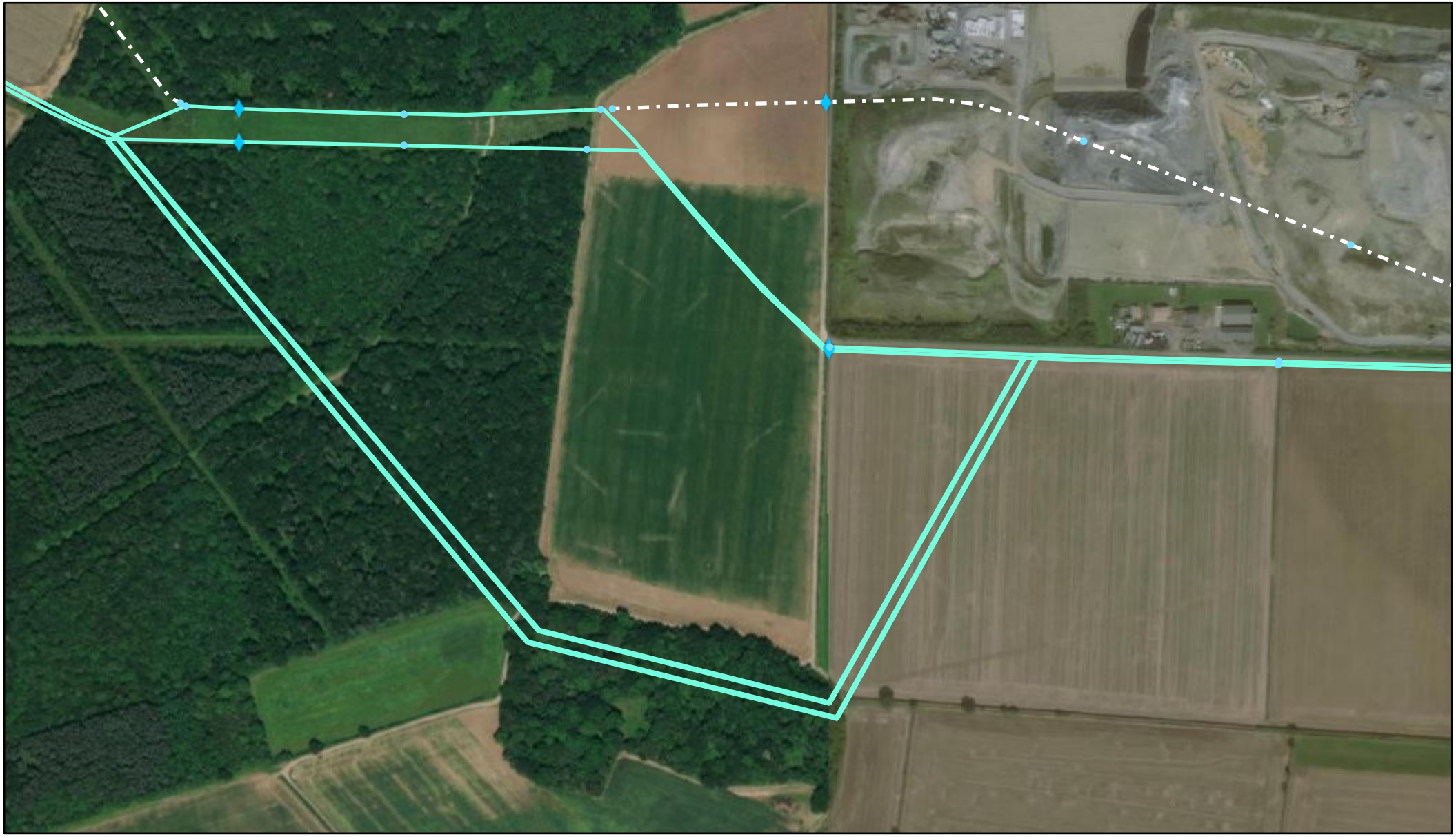
Social and economic implications. NB this is a trunk, critical main not a minor water supply. It provides wholesome water to the north and east sides of Peterborough and then feeds into the main city area – ie approximately 80,000 people relying on this particular supply. NB also the public perception of running AW's pipeline through a waste facility. Empirical evidence of public perception is a trickier issue. But we do know AW customers are very keen that we have sustainable solutions, and especially low impact solutions. But we don't want to ask people directly because that would be effectively poking a hornet's nest.

The question is about the possibility and probability – whether it remains slight or otherwise – but in the event of a burst we are dealing with a "food" product here so that we will have procedures and processes in place to actually ensure that we're operating the most utmost cleanliness that we can in a situation like that. The issue is always at the point where you isolate and you depressurize your main to actually get your final repair. That is the point where we could risk contamination, however slight that may be. The question I still have to understand is that we would have to flush any contamination out. AW's yet to see the evidence to support the applicant's assessment that there would not be any additional contamination as a result of the proximity of the landfill, beyond which that which might exist in any other circumstance like this.

AW's preferred outcome is for diversion of the pipeline around the landfill extension. The existing standoff distance may not be very much greater than the standoff distance which the applicant is currently proposing, but it the landfill would be to just to one side of that so you would have better, unfettered access, as it is now, ie not hemmed in by a corridor effect between graded land that we can only access from ends. AW does not think that would cause any significant environmental impact.

AW committed to continue to engage constructively with the application over exchanges of information and their progression of their non-material amendment application. The applicant in turn committed to consulting Public Health England and the Drinking Water Inspectorate as part of that process.

Route 1



21/06/2022, 08:29:48

Water Joint

Water Air Valve - WaterAirValve

Mains pipe - Mainspipe

Abandoned

In Service

AMP7 Design Solutions - Pipeline

Water

1:9,028

0 0.04 0.09 0.18 mi

0 0.07 0.15 0.3 km

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Web AppBuilder for ArcGIS

Maxar, Microsoft | Esri Community Maps Contributors, Esri UK, Esri, HERE, Garmin, GeoTechnologies, Inc, METI/NASA, USGS |

Route 2

21/06/2022, 08:27:56

- Water Joint
- Water Air Valve - WaterAirValve

Mains pipe - Mainspipe

- Abandoned
- In Service

AMP7 Design Solutions - Pipeline

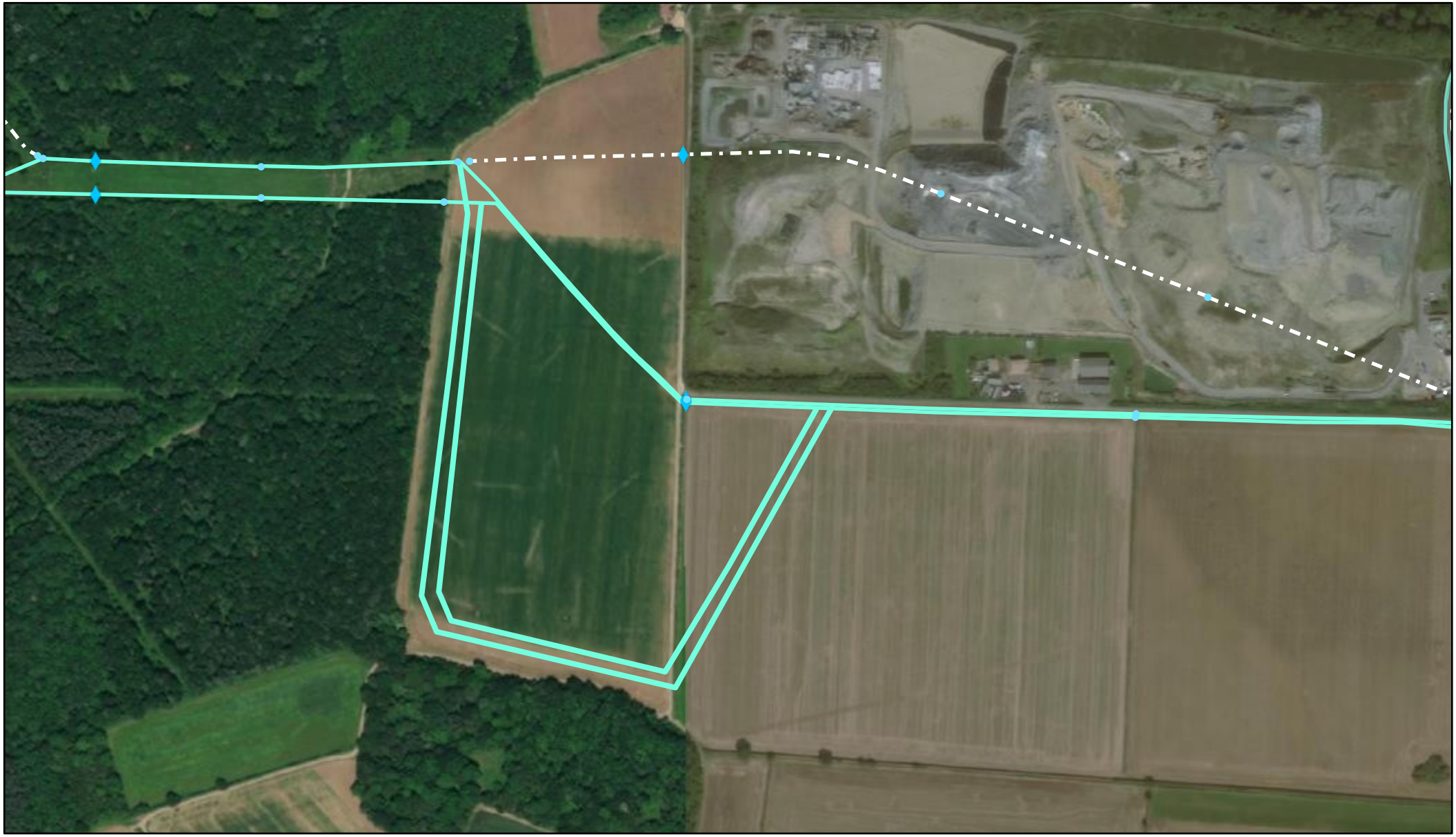
- Water

1:9,028

0 0.04 0.09 0.18 mi

0 0.07 0.15 0.3 km

Route 3



21/06/2022, 08:26:49

- Water Joint
- Water Air Valve - WaterAirValve

Mains pipe - Mainspipe

- Abandoned
- In Service

AMP7 Design Solutions - Pipeline

- Water

1:9,028

0 0.04 0.09 0.18 mi

0 0.07 0.15 0.3 km

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