Southampton to London Pipeline Project

Deadline 3

Response to Action Points from the Issue Specific Hearing on Environmental Matters on 4 December 2019 (ISH3)

Application Document: 8.22

Planning Inspectorate Reference Number: EN070005

Revision No. 1.0

December 2019

Contents

1 Response to the Action Points from the Issue Specific Hearing on Environmental Matters on 4 December 2019 (ISH3)

Table 1.1: Applicant response to Action Points

Action No.	Action:	Applicant response to Action:
1	Applicant to provide statistics on the number of repairs undertaken to the existing pipeline in recent years	The existing pipeline is inspected by running an internal Pipeline Inspection Gauge (PIG) on a periodic basis. These inspection tools analyse the metal wall of the pipeline and assess locations of potential concern including corrosion or dents. The results of the inspection analysis determine locations for excavations to the pipeline so that the features indicated by inspection data can be verified and any appropriate maintenance (repairs), including recoating of the pipeline, can be carried out. This program forms part of the Applicant's preventative maintenance strategy and enables the Applicant to continue managing the pipeline in a safe and responsible manner. The intention of this process it to undertake maintenance on a preventative basis, rather than reactive repairs, and the information is used to develop the maintenance strategy for long term operation. Typically, pipelines are internally inspected every five to seven years, although this has increased to annual inspections in recent years for the existing pipeline. Maintenance is completed based on this assessment with typically 10 excavation locations per year. However, this has increased to an average of 30 annually over the last three years for this pipeline. This increase in inspection frequency and maintenance work has contributed to the decision to replace the pipeline.
2	When the change request to reduce the number of logistics hubs from six to two is submitted it should be accompanied by an amended Transport Assessment to reflect the change in	The Applicant has formally requested a change request with the Examining Authority, and the Proposed Logistic Strategy Traffic Technical Note (**Annex A of Document Reference 8.29**) should be read as an addendum to the Transport Assessment (**Application Document APP-135**) submitted with the application for Development Consent. This document has been submitted to the Examining Authority at Deadline 3 as part of the pack of information supporting the formal request for the change.

Action No.	Action:	Applicant response to Action:
	transport movements that would occur from reducing the number of hubs	
4	Submission of the public consultation document on the proposed reduction in the number of logistics hubs	The Consultation Brochure is provided at Annex B of the Change Request – Temporary Logistics Hubs (**Document Reference 8.29**).
5	Response to be provided to the effect of pipeline construction on the stands at Abbey Rangers' ground	The project has confirmed to Abbey Rangers Football Club that it will reinstate the perimeter fence, stands and railings at the end of construction and provide suitable, temporary fencing/stands and railings if required in the interim. The Applicant intends this commitment to be secured as part of the land agreement. If the land agreement were not concluded by close of examination then these commitments can be included in the CoCP (**REP2-010**)
6	Response to be provided to the Written Representation submitted by St James School with particular reference to further detail on the alternative route suggested by the school and confirmation that the	The Applicant has responded to the Written Representation about the alternative route suggested and has attached the letter the Applicant sent in respect of this proposal on 8 October 2019 (Appendix 1 of this document). The Applicant has confirmed in their response to the Written Representation from the Independent School Association, that the "school Assembly Hall and associated teaching accommodation" as approved in planning application reference 10/00460/FUL would not be adversely affected by the installation of the pipeline. There is space within the Order Limits and limits of deviation to install the pipeline and associated easement without compromising the school's ability to implement their extant planning consent. The Applicant has agreed to provide a method statement for construction activities at schools for Deadline 4 and this will contain further detail of its specific proposals for working in the grounds of St. James' School.

Action No.	Action:	Applicant response to Action:
	science labs could be constructed given the proximity of the proposed pipeline	The Applicant will work with St. James' School on the specific proposals and the method statement will be included in a certified document.
8	Details of works proposed to be undertaken during school holidays to be provided	The Applicant will produce a series of method statements for deadline 4 which will be secured in the Code of Construction Practice (CoCP). These method statements will explain in greater detail how the Applicant intends to undertake the works within school grounds and sports pitches. However, in response to the questions asked by the ExA a brief outline of the content of those method statements is shown below for each of the schools through which the pipeline is planned to be routed. The Applicant would undertake the following works within the school holidays: <u>Farnborough Hill School</u> Construction of a trenchless drive pit (approximately 10m long, 3m wide, 5m deep) for the trenchless crossing which runs beneath the A325 and into Queen Elizabeth Park as shown indicatively in sketch (Figure 1.1), and the installation of the trenchless crossing TC019. The majority of the remaining works within the school would be undertaken using an open trench method but within a reduced working corridor (NW18) – 15m through the school grounds. In order to protect the playing surfaces, the Applicant would use extensive ground protection track matting to reduce the amount of turf stripping to a minimum (only the open trench area would require turf and topsoil removal). (see Figure 1.1). The Applicant would use methods, when working adjacent to the boundary trees, which take cognisance of the root protection areas (commitments G65 and G95).

Figure 1.1 – TC019 Layout - Farnborough Road

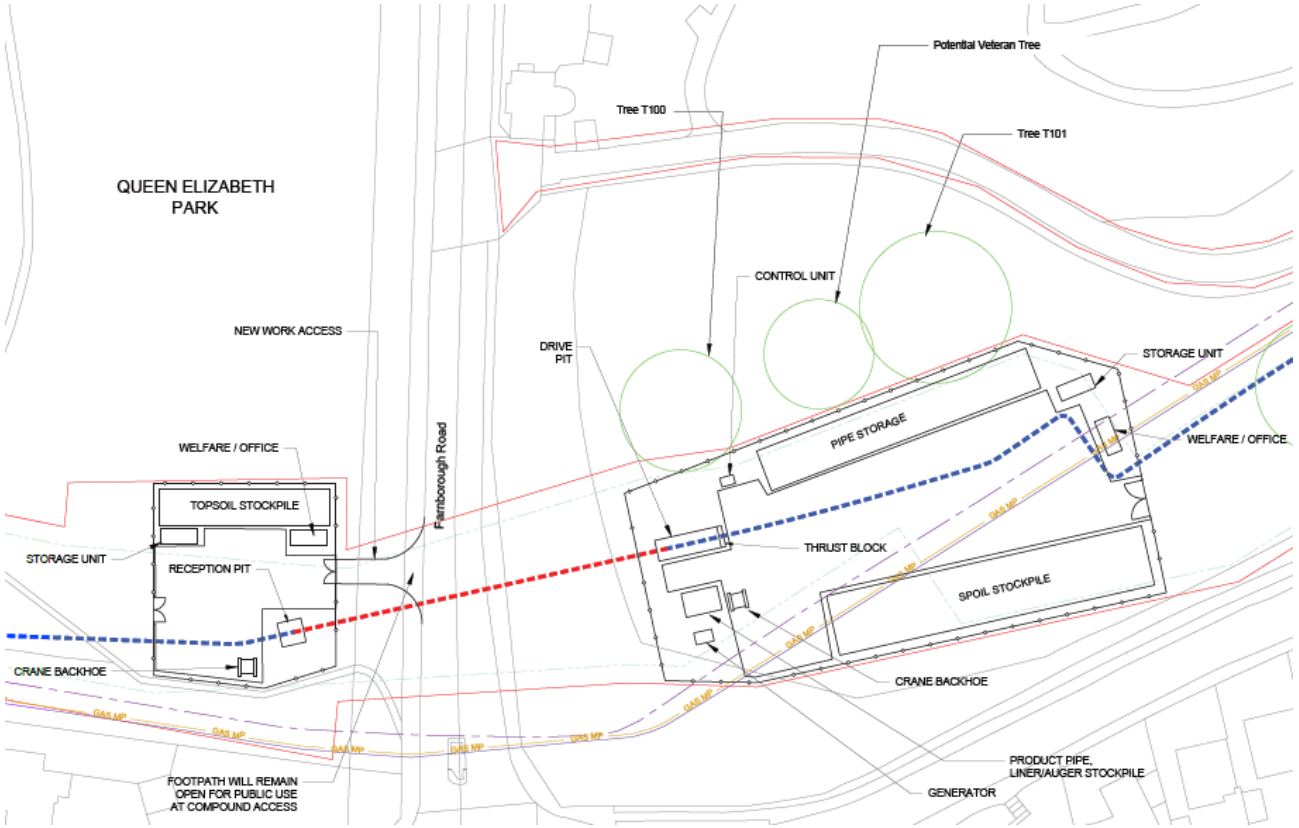
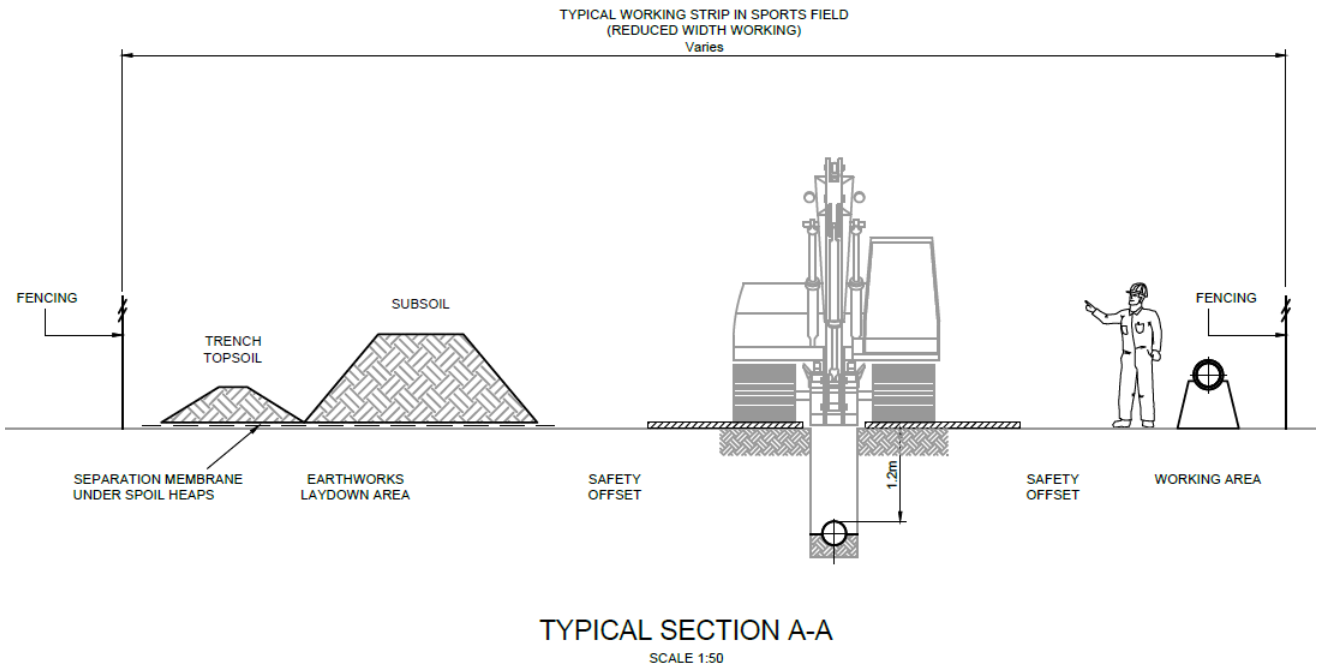


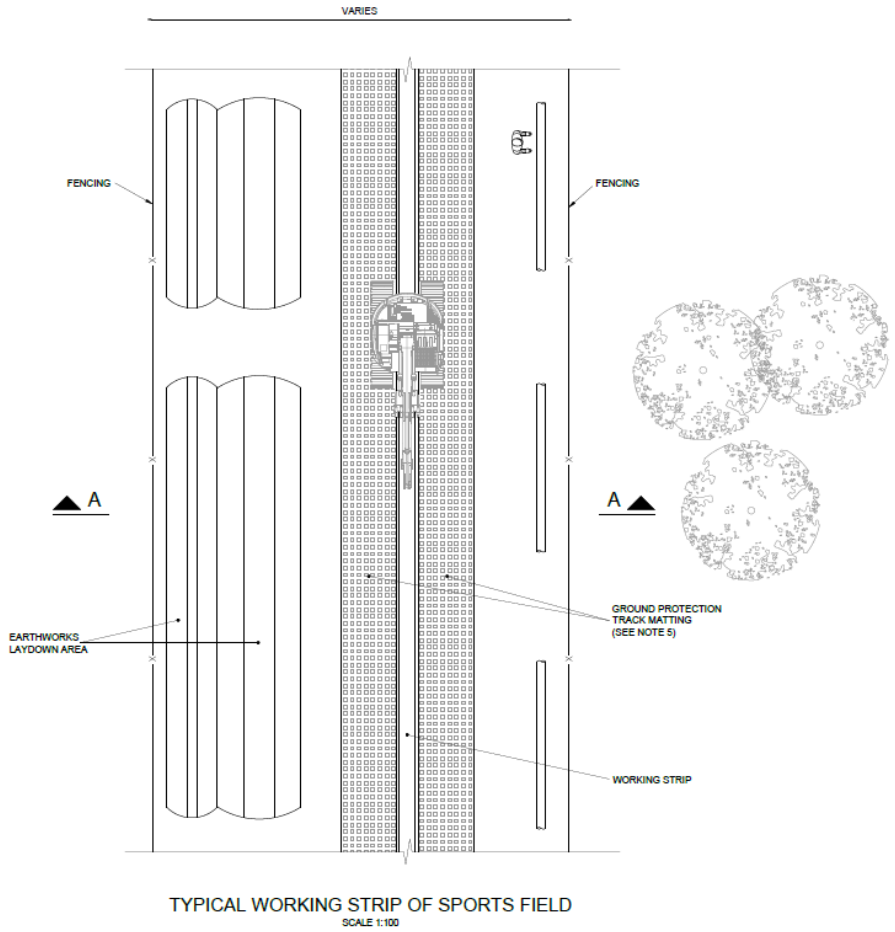
Figure 1.2 – Provisional Typical Crossing of Sports Field (Cross Section)



TYPICAL SECTION A-A

SCALE 1:50

Figure 1.3 - Provisional Typical Crossing of Sports Field (Plan)



<u>Salesian School</u>

The Applicant does not anticipate undertaking any physical works in the school grounds. The Applicant would install a trenchless crossing TC030 beneath the grounds of the school and therefore the access would allow the Applicant to undertake non-intrusive surveys and tracking, associated with the HDD installation. The Applicant would use open trench methodology within the sports pitches to the west side of A320

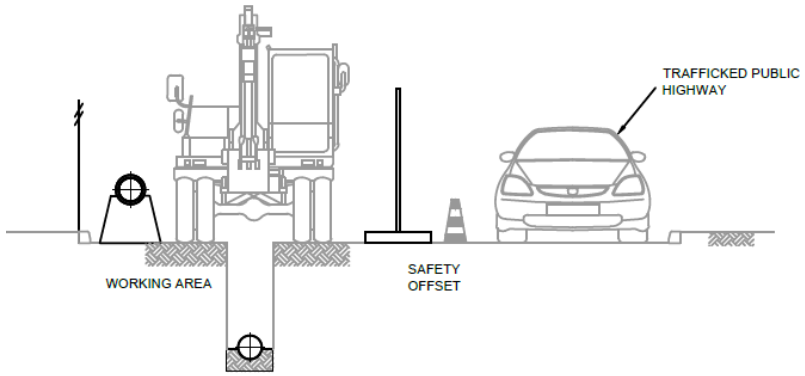
Action No.	Action:	Applicant response to Action:
		Guildford Road. In order to protect the playing surfaces the Applicant would use extensive ground protection track matting to reduce the amount of turf stripping to a minimum (only the open trench area would require turf and topsoil removal). (refer to Figure 1.2). Chertsey High School The Applicant does not anticipate undertaking any physical works in the school grounds. The Applicant would use the area within the Order limits for vehicles and operatives to access the area used by Abbey Rangers FC. Phillip Southcote The works within the school would be undertaken using an open trench method but within a reduced working corridor – 15m through the school grounds (NW28). In order to protect the playing surfaces the Applicant would utilise extensive ground protection track matting to reduce the amount of turf stripping to a minimum (only the open trench area would require turf and topsoil removal). (refer to Figure 1.2). Clarendon Primary School Construction of a trenchless reception pit (approximately 6m long, 5m wide, and 8m deep) for the two trenchless crossings which run beneath the railway to St James School TC041 and beneath the highway at Church Road adjacent to Ashford train station TC040. The reception pit would be used to join the two sections of pipeline together. St James School Construction of a trenchless drive pit (approximately 10m long, 3m wide, 8m deep) for the trenchless crossing which runs beneath the railway and into Clarendon School.. The majority of the remaining works within the school would be undertaken using an open trench method but within a reduced working corridor (NW31) – 15m through the school grounds and a small section of 5m in the vicinity of the school chapel. In this 5m area the Applicant would use a method similar to that used while working in the highway. Typically, to afford a safe working area there would be no spoil storage in this short section. The route through this short section does pass close to a number of trees and the Applicant would use methods when working in this area which take cognisance of the root protection areas (commitments G65 and G95). In order to protect the playing surfaces the Applicant would use extensive ground protection track matting to reduce the amount

Action No.	Action:	Applicant response to Action:
		of turf stripping to a minimum (only the open trench area would require turf and topsoil removal). (refer to Figure 1.1). Thomas Knyvett School The works within the school would be undertaken using an open trench method but within a reduced working corridor – 15m through the school grounds (NW31 to be extended by commitment). In order to protect the playing surfaces the Applicant would use extensive ground protection track matting, to reduce the amount of turf stripping to a minimum (only the open trench area would require turf and topsoil removal). (refer to Figure 1.1).
9	In relation to narrow working areas and streets, details to be provided on General Arrangement Plans of: • street working (colour coded); • confirmation of whether trenchless working would be auger bore or HDD; • the location of drill or receptor pits; • the location of pipe stringing and explanation of whether this is part of HDD or alongside open-cut; and	The Applicant has revised the General Arrangement Plans (**Document Reference 2.6 (3)**) as follows: • Street works – these are the same as shown on the Public Right of Way plans (**Application Documents APP-019, APP-020, APP 021**) • Trenchless crossings are identified as HDD or Auger – in line with the trenchless crossings assessed in the ES • Pipe stringing locations identified for HDD have been shown • Notable trees as taken from Figure LV.1.9.1 (**REP2-045**) The location of of drill or receptor pits are shown on the crossing drawings provided at Deadline 3 (**Document Reference 8.31**).

Action No.	Action:	Applicant response to Action:
	• the location of notable trees taken from Figure LV.1.9.1.	
10	Greater detail on how the various working widths in Annex A of the Code of Construction Practice (CoCP) [REP2 -010] have been selected and how the pipe laying will take place in these widths. Additionally, explain how the narrowest of the working widths of 5.0m along a distance of 470m could not be used more widely in other sensitive areas	As its base case the Applicant will adopt a standard working width of 36m to allow for safe and efficient construction. This would apply in areas such as open areas which afford wider working widths and good installation progress would be made through such areas. The Applicant has, following its Environmental Impact Assessment and to reflect the nature of street works, also adopted various restricted working widths to reduce impacts at locations throughout the project as a result of factors such as environmental, ecological and physical site constraints. Such areas include ecologically sensitive sites and specific locations such as streets, sports areas and school grounds. While narrow working will deliver some reduction in impacts, it is clear that the progress will be reduced and installation will take longer, which can result in additional impacts such as disturbance for local residents and wildlife. It's generally accepted that progress through an area is proportional to the available working width. The Applicant will produce a series of method statements for Deadline 4 which will be secured via the Code of Construction Practice (CoCP). These method statements will explain in greater detail how the Applicant intends to undertake the works within narrow working areas. However, in response to the questions asked by the ExA a brief outline of the content of those method statements is shown below for each of the narrow working techniques. *Narrow Working in highways – circa 90m @ week installation rate:* • Works carried out within a closed carriageway with traffic management as protection. • Highway barriers and fencing erected to encapsulate the whole works on one side of the carriageway (which could include the footpath and verge), allowing the traffic to pass on the other side of carriageway to include a 500mm safety zone. This running carriageway width will vary depending on the category of carriageway, and whether it is a bus route. The width should be between 3.25m and 3.5m with an absolute minimum of 3.0m in agreement with the local highway authority. • No on-site storage of excavated material – all material will need to taken off-site to a nearby storage area using grab lorries or similar and if necessary returned for reinstatement, increasing traffic movements.

Action No.	Action:	Applicant response to Action:
		• To reduce the length of the working area under traffic management along the length of the highway, and to enable easier handling of pipe within the work area shorter pipe lengths, 3m, 6m and 9m will be required. This will result in a greater number of welds and delivery lorries. • In certain locations hand digging and other techniques may be required to reduce impacts in root protection areas which could have been avoided by moving the pipe alignment within a wider working area. • No backfill material can be stored in the work area requiring more frequent deliveries to site. • Use of early site intrusive investigation to identify utility services locations, to reduce the need for 'last minute' diversions of utilities. • Utilities encountered may need to be diverted to allow sufficient offset ahead of the pipe installation works (in line with agreed Protective Provisions) which may have been avoided by moving the pipe alignment within a wider working area. • Lack of on site storage will result in just-in-time deliveries of materials and remote construction compounds will be used as staging areas to validate materials before they arrive at the work front. • Use of metal road plates to bridge open trenches and exposed utilities. These plates will also be used to afford residents and businesses access. • Use of shelters, tents or similar to undertake fabrication works such as pipe preparation, welding, coating and non-destructive testing.

Figure 1.4 – Typical Working Width Streetworks

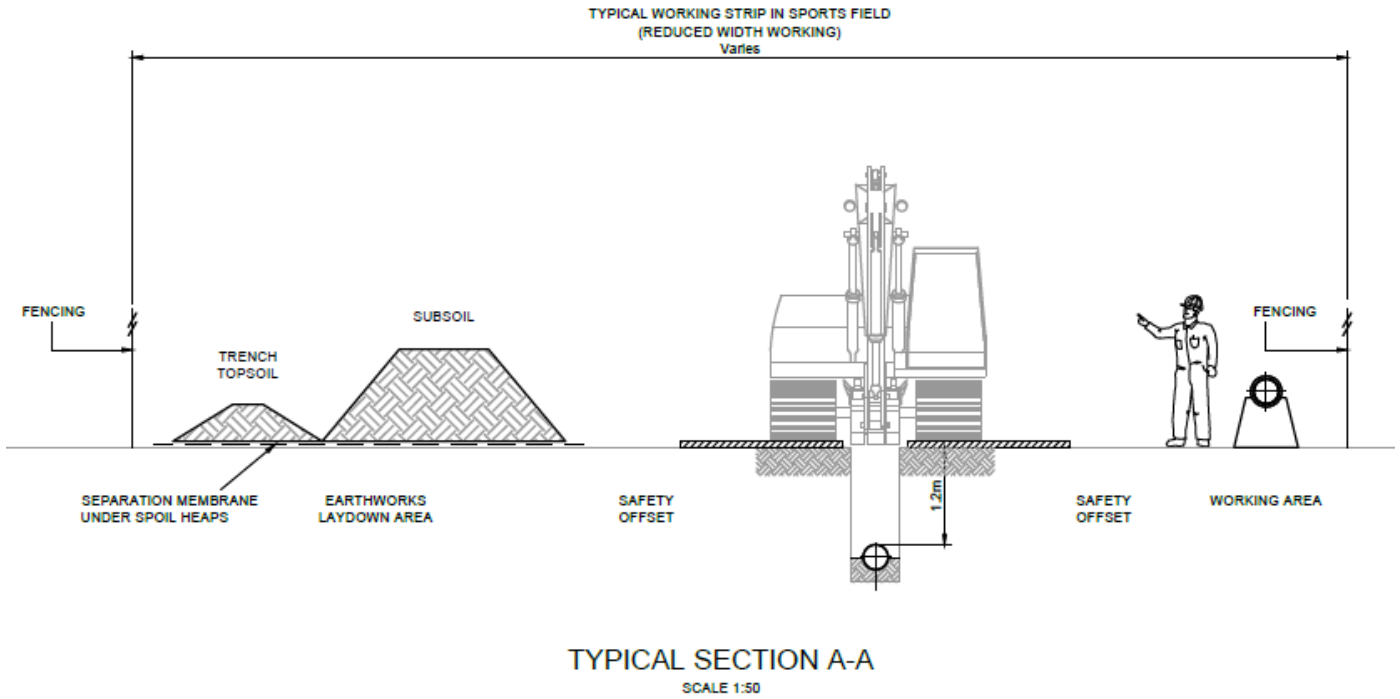


Narrow Working through sports areas, golf courses, & schools – circa 90m per week installation rate:

- Limit turf removal and topsoil strip to the minimum width to allow the pipe to be installed.
- Turf storage and protection areas are required in the Order Limits where turf needs to be maintained and returned to position as soon as practicable.
- In certain locations hand digging and other techniques will be required to reduce impacts in root protection areas which could have been avoided by moving the pipe alignment within a wider working area.
- Topsoil and subsoil storage would need to be accommodated within the narrow working outside of the immediate working area (resulting in increased handling of material and reducing the safe working area).
- No backfill material can be stored in the work area requiring more frequent deliveries to site.
- Any field drainage within the work area would be diverted ahead of the pipe installation works.
- Any utilities encountered would potentially need to be diverted to allow sufficient safe offset ahead of the pipe installation works.

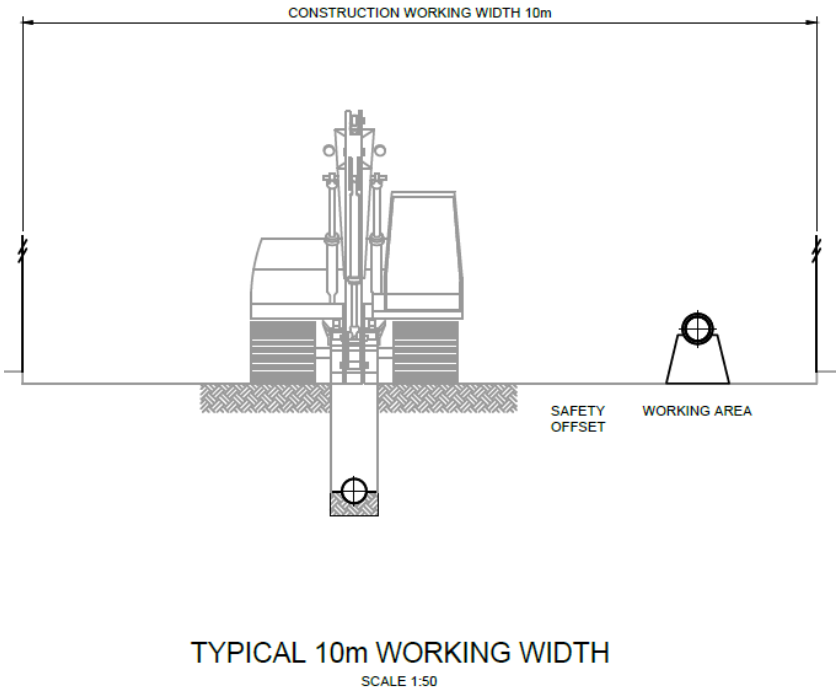
Action No.	Action:	Applicant response to Action:
		• Extensive use of ground protection track matting or similar, to minimise turf damage in heavy trafficked areas. • Use of appropriately sized machinery for the given working width using non-metal tracked machines, and smaller excavators etc to reduce impacts. • Utilisation as a haul route is limited, with minimal passing areas. Staging areas will potentially be away from the worksite at the construction compound to feed material to the work areas when needed. • No road-going trailers to be used in these areas, to limit potential loading on the playing surface. Transfer area required to change road-going vehicle deliveries onto lighter weight pipe handling trailers. • No space to safely use as a through-route haul track; only the pipe/material used within the area will be transported in the narrow working area. • Potential use of shelters, tents or similar, to undertake fabrication works such as pipe preparation, welding, coating and non-destructive testing. • Site fencing to use non-intrusive (water-filled or weighted) base fixings so as not to impact on the surface below but reducing available working area. • Trenching boxes or timber trench supports will be used to reduce the width of the trench (not battered back/sloped) to maximise working area.

Figure 1.5 – Typical Working Width in Sports Field

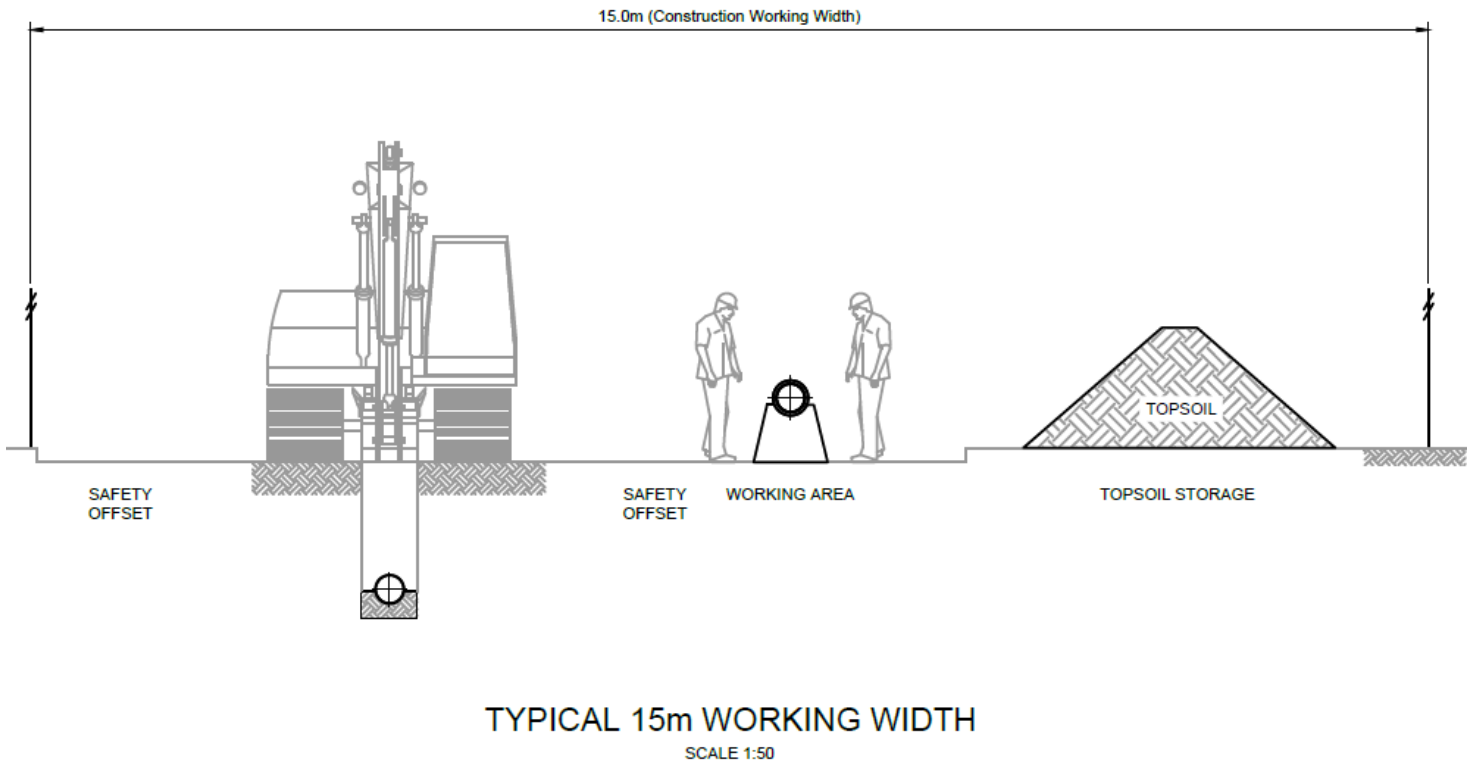


Narrow Working through hedgerows @ 10m:

- Use of ground protection track matting or similar, to minimise damage. The haul road needs to be able to take large trailers full of pipe for delivery further along the 'spread'. Limited width and loading over the hedge line may restrict the access to single vehicles at a time to pass.
- No topsoil or subsoil storage in the work area (potential biosecurity risk of moving soil).
- No backfill material can be stored in the work area.
- Any field drainage within the work area would be diverted ahead of the pipe installation works.
- Any utilities encountered would potentially need to be diverted to allow sufficient safe offset ahead of the pipe installation works.

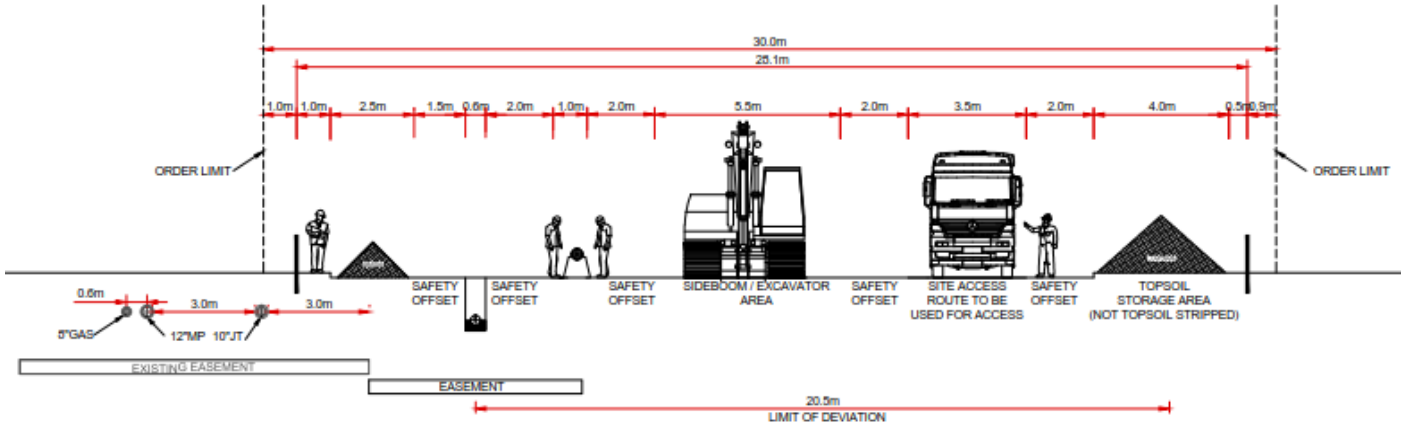
Action No.	Action:	Applicant response to Action:
		• In certain locations hand digging and other techniques will be required to reduce impacts in root protection areas. • Use of appropriately sized machinery for the given working width; non-metal tracked machines, and smaller excavators etc, to limit hedgerow damage. • Trenching boxes and temporary sidewall support to be used rather than battering back (sloping) of trenches, to reduce width of trench to a minimum. **Figure 1.6 – Typical 10m Working Width** 

Action No.	Action:	Applicant response to Action:
		Narrow Working (up to 15m) in open areas, predominantly sensitive environmental locations • Use of appropriately sized machinery for the given working width – medium sized machines (no large earth-moving plant). • Utilisation as a haul route is limited and passing/staging areas will be required to allow the road-going trailers used to deliver the pipe lengths, to be driven along the working area direct to the area that requires the pipe. • Dependent on available working width and ground conditions, the trench can be battered back instead of having vertical sides, reducing the risk of trench collapse in varying/poor ground conditions and not having to use trench support boxes or temporary works, whilst affording sufficient safe working area to allow plant/machinery to pass along the working area. • Sufficient width to allow all soils for the area to be retained adjacent to the excavation point, topsoil and subsoil. • Backfill materials cannot be stockpiled resulting in more frequent vehicle movements. • Fencing, dependent on risk assessment, will generally be post and rail – with embedded posts, and stock-proof if required. • Some room to adjust the pipe alignment to avoid unknown hidden obstructions, archaeology, geology, root protection areas for trees, buried tanks, septic tanks, manholes etc. • Ability to cross utilities (including the existing fuel lines) at 90 degrees requires additional working areas either side of the existing lines. • Field drainage diversions and drain header routes incorporated.

Action No.	Action:	Applicant response to Action:
		Figure 1.7 – Typical 15m Working Width  *Standard Working in rural areas - circa 450m @ week installation rate:* The LoD provides flexibility to install whilst taking into account local features. • Ample room to adjust the pipe alignment to avoid unknown hidden obstructions, archaeology, geology, root protection areas for trees, buried tanks, septic tanks, manholes etc.

Action No.	Action:	Applicant response to Action:
		• Contaminated land may be encountered and the pipe alignment to be able to deviate within the LoD. • Ability to cross utilities (including the existing fuel lines) at 90 degrees requires working areas either side of the existing fuel lines. • Safety offset for installing close to existing fuel lines, when running parallel to the existing lines. • Field drainage diversions and drain header routes are incorporated within the OL. • Dependent on ground conditions, the installation trench can be battered back instead of having vertical sides. This allows for varying/poor ground conditions and not having to use trench support boxes or temporary works, whilst affording sufficient safe working area to allow heavy plant/machinery to traverse the 'spread'. • Use of appropriately sized machinery for the given working width, with a wide area there is the ability for large pieces of plant to travel up and down the 'spread'. • Minimal handling of the pipe. Road-going trailers are able to directly access the haul road and working area to deliver the pipe, so reducing the need for double handling at construction compounds. This could be in excess of 3km over rural fields from the nearest paved road access point. • Sufficient width to allow all soils for the area to be retained local to the excavation point, separating topsoil and subsoil. • Backfill materials can be stockpiled which allows them to be delivered to the spread in large vehicles. • Fencing, dependent on risk assessment, will generally be post and rail with embedded posts, and stock-proof if required.

Figure 1.8 – Typical Cross Section for 30m Order Limits



In response to the question of why narrow working of 5m over a length of 470m could not be used more widely in other sensitive areas, the area referred to along the Old Ively Road is a section of the route that runs in a former highway and the Applicant intends to treat this section as a street work section and therefore would adopt the street work methodology as noted above.

As outlined in the methodology summaries above, the use of narrow working can be used to reduce impacts in specific circumstances but results in other constraints such as:

- The additional traffic movements of lorries and plant required when working in a narrow site could increase disturbance to local residents and other ecological receptors. Pipelaying in a suitable width working area is largely a process which operates in a linear directional alignment, however restricting the working width requires additional steps to allow the safe movement of construction traffic, limiting the size of vehicles, provision for safe passing places and areas to turn. Restricted working areas also require more frequent traffic movements for the removal and delivery of material.
- A lack of space for material storage requiring all material to be taken to an alternative location and returned. A number of authorities such as the SDNPA and wildlife trusts have raised concerns about biosecurity if soils have to be moved away from their excavated location
- Narrower working areas result in slower progress rates for pipe laying. Assumptions for the purposes of environmental assessment were a weekly installation rate of 450m in open areas in a non-restricted

Action No.	Action:	Applicant response to Action:
		working width versus only 90m in a streetworks location. Slower installation rates could lead to additional concerns around managing seasonal ecological constraints, for example, working in the SPAs must be completed within a short period between November and February. If narrower working width were applied throughout the proposed route, other factors would also need to be considered for example the lack of space to safely cross the existing oil and gas pipelines which need to be crossed in a perpendicular alignment. The existing pipelines are crossed over 30 times along the pipeline route.
11	Paragraph 1.4.6 of the CoCP [REP2-010] refers to narrow working commitments being secured in Annex A to the CoCP. There is no mention of narrow working in streets in Annex A. Consideration of how Annex A can secure narrow working in streets as a binding project commitment	In certain areas, a commitment has been identified as part of the Applicant's Environmental Impact Assessment for a narrow working width. These commitments cannot be expressed with certitude on the Works Plans (**AS-046**, **AS-047** **and** **AS-048**) as flexibility is required within the Order Limits to determine where the narrow working width would be located, to account for unexpected ground conditions and other factors that determine the final location of the pipeline. As these narrow working commitments are not clearly expressed in the Works Plans, they are also included as binding project commitments set out in Annex A to the Code of Construction Practice (CoCP) (**REP2-010**). Further to these site-specific commitments, the project will use narrow working techniques for working along streets. This is to reduce impacts by enabling the works to be completed in a single carriageway, allowing traffic flow to be maintained within the other carriageway (utilising traffic management techniques) and maintaining access to properties. Areas of street works can be identified on the Access and Public Right of Way Plans (**AS-053**, **AS-054** **and** **AS-055**) and have been added to the General Arrangement Drawings (**AS-056**, **AS-057** **and** **AS-058**). The Applicant recognises that Annex A of the CoCP only refers to and secures areas of narrow working which are not street works. To rectify this, the Applicant will redraft what is currently paragraph 1.4.6 in the CoCP to set out the approach that will be taken to narrow working in streets and to provide a secured commitment on the adoption of narrow working. This drafting will be incorporated at Deadline 4.

Action No.	Action:	Applicant response to Action:
13	Confirm how the effects of radiography and/or ultrasonic inspections on human health during installation of new pipeline have been addressed	Prior to commissioning the pipeline, every weld will be tested using Non-Destructive Techniques to ensure that the quality standard meets design and project specification minimum quality requirements. These techniques include Automated Ultrasonic Testing and Radiography. If radiography is utilised, strict safety rules are imposed and constant monitoring is carried out to ensure that no members of the public or workforce are subjected to radiation exposure in accordance with the Ionising Radiation Regulations 2017. This is a legal requirement enforced by the HSE. Records are maintained and the process would be regularly audited by an independent party to ensure that the safety processes are being strictly applied.
14	Review whether it would be necessary to shut the whole section of Balmoral Drive between Frimley Green Road and Sandringham Way and not just a short section whilst undertaking a road crossing at Frimley Green Road	The Applicant is not intending to close Balmoral Drive at the current time, as it considers the road to be wide enough to construct the project under traffic management. The Applicant also does not believe it is necessary to close the road crossing at Frimley Green Road. Nonetheless, a potential road closure has been discussed with the relevant Highways Authorities – Balmoral Drive falls within Surrey. During discussions, Surrey Highways indicated a preference for Balmoral Drive to be closed, to avoid the need for four-way traffic lights. Therefore, as a precautionary approach, Balmoral Drive was included within the schedule of potential road closures in the draft DCO. The Transport Assessment and Environmental Assessment also took a precautionary approach to consider the impacts of the road being closed, even if this was ultimately not required.
15	Review the application documents relating to the potential closure of Balmoral Drive and amend to ensure consistency	The draft Development Consent Order contains a list of streets that could be temporarily stopped up, diverted, altered or restricted during construction in Part 2 of Schedule 5 (**Document Reference 3.1 (4)**). This list includes Balmoral Drive. As set out in paragraph 3.4.51 of Chapter 3 of the Environmental Statement (**Application Document APP-043**) *"Roads being crossed using open cut trenching would need to be partially or completely closed, with appropriate traffic management measures and temporary diversions being put in place for the duration of the works. Partial and complete road closures would be kept as short as practicable, typically a maximum of three working days for complete road closures, to reduce effects on local traffic and communities".*

Action No.	Action:	Applicant response to Action:
		It is the Applicant's intention that, except at St Catherines Road, no street or road would be stopped up for other than a very short duration, and that in many cases a single lane of traffic would remain throughout the construction period with a temporary traffic light system in place. However, the Limits of Deviation (LoD) approach adopted by the Applicant means that the pipeline could in principle be located anywhere within the carriageway in each case. The effect of this is that the Applicant may need the ability to temporarily stop up the streets listed in Part 2 of Schedule 5, depending upon the final location of the replacement pipeline within the LoD. The Transport Assessment (TA) (**Application Document APP-135**) and the traffic assessment set out in Environmental Statement (ES) Appendix 13.1 (**Application Document APP-119**) considered potential effects from street works, road diversions and closures where these would be in place for more than four weeks (see paragraph 6.1.1 of the TA). Both St Catherines Road and Balmoral Drive were included within these assessments because, if the works require road closures, then it is likely that these would be in place for more than four weeks. However, the Applicant confirms it is not intending to close Balmoral Drive at the current time, as it considers the road to be wide enough to construct the pipeline within the street without stopping up the whole of this street. The proposed road closures have been discussed with the relevant Highways Authority. Both St Catherines Road and Balmoral Drive are within Surrey. During discussions, Surrey Highways indicated a preference for Balmoral Drive to be closed, to avoid the need for four-way traffic lights at the junction of Frimley Green Road and Balmoral Drive. Therefore, the TA and ES took a precautionary approach of assessing the road being closed, even if this was ultimately not required. The potential closure of Balmoral Drive is still under discussion with the Highway Authority and the Applicant, to design the construction of the pipeline to avoid the need for four-way traffic lights and therefore a road closure. The Applicant does not propose to amend any documentation in relation to Balmoral Drive.
17	Provide details of the locations where 24-hour boring is expected to take place. Explain why this would be necessary and	The Applicant would like to clarify that it does not intend to undertake 24-hour boring. It is only in exceptional or emergency circumstances that the works would continue outside of the standard working hours. The Applicant is amending Requirement 14 of the draft DCO to clarify this. The Applicant considers this would normally only be necessary when undertaking the pull back of the pipe string as part of the horizontal directional drilling operation. The boring and reaming of the pilot hole would be undertaken during normal working hours. Extended hours are only therefore required when the pipe string

Action No.	Action:	Applicant response to Action:
	provide an indication of the potential number of days that 24-hour boring would be required in those locations	is pulled into the hole. This is due to a number of factors, primarily that once the pipe string is being pulled in, should it be necessary to stop the pull for a length of time, the ground pressure could close in around the pipe string and prevent the pipe being pulled any further. It is for this reason that, once the pull back has commenced, the works would continue until completed. This does not apply to auger boring or micro tunnelling, which use differing methods.
19	Provide a statement on where noise mitigation would be provided including the use of Echo fencing	Commitment G107 has been amended and will be added to the Code of Construction Practice (CoCP) submitted at Deadline 4. The commitment is reproduced here. Temporary noise screening would be put in place to screen receptors at the following locations from installation activity, unless a detailed assessment is undertaken which demonstrates that no significant noise impacts would occur without screening. The screening would comprise acoustic barrier material (such as Echo Barrier™ or similar) fitted to site fencing at the following locations. • Ashford: Stanwell Road, Woodthorpe Road, The Wickets, Station Road, Knapp Road, Station Approach, Kingston Road; • Lightwater: Blackthorn Drive, Burdock Close; • Frimley: Balmoral Drive, Berkeley Crescent, Braemar Close, Buckingham Way, Carisbrooke, Danebury Walk, Oldbury Close, Penshurst Rise, Pevensey Way, Sandringham Way, Beaumaris Parade; • Farnborough: Ship Lane, Ringwood Road, Cove Road, Nash Close, Ship Alley; • Addlestone: Addlestone Moor, Roakes Avenue, Canford Drive, Chertsey Road; • Staines: Ashford Road, Greenway Drive; and • Quetta Park, Church Crookham

Action No.	Action:	Applicant response to Action:
20	Provide justification for the approach adopted to noise mitigation in respect of BS 5228	The noise assessment is presented in Environment Statement Appendix 13.3 (**Application Document APP-121**) and in Appendix 13.3 Noise and Vibration Technical Note Addendum (**REP2-060**). In this assessment, a significance threshold of 70dB(A) for rural areas and 75dB(A) for urban areas has been adopted. Urban and rural areas have been classified using the Office for National Statistics' 2011 Rural/Urban Classification (Office for National Statistics, 2011). The adopted criteria are informed by the guidance provided in the Department of Environment advisory leaflet AL72 "Noise control on building sites" (Department of Environment, 1976). The categories described in AL72 are as follows: • 70dB(A) in rural, suburban and urban areas away from main road traffic and industrial noise; and • 75dB(A) in urban areas near main roads and heavy industrial areas. These categories and thresholds have their origins in the Wilson Committee Report (Wilson Committee on the Problem of Noise, 1963), and were based on achieving a level of 55dB(A) indoors, which was considered to avoid interference with speech. The external level of 70dB(A) was derived from the 55dB(A) internal level plus a 15dB difference between indoor and outdoor levels for closed but ill-fitting windows. The level of 75dB(A) was recommended near main roads and heavy industrial areas, as existing noise levels in these areas was considered likely to exceed 70dB(A). Window design and specification is very different now compared to 1963, with the majority of properties now having well-fitting thermal double glazing as a minimum. The World Health Organization's Environmental Noise Guidelines for the European Region (WHO, 2018), as well as former Planning Policy Guidance PPG24 (Department of the Environment,1994), suggest that a difference between indoor and outdoor levels of 25dB should be assumed for rooms with closed windows. In this context, the adoption of a significance threshold of 75dB(A) for urban locations is considered to achieve the intent of the Wilson Committee, regardless of the proximity to main roads and heavy industrial areas. Notwithstanding the above, in response to representations made at the Issue Specific Hearing on Environmental Matters, the Applicant has revised the classification of receptors to provide a precautionary approach to the assessment. The threshold of significance for noise during installation of 70dB(A) has now

Action No.	Action:	Applicant response to Action:
		been adopted for all residential receptors. This has resulted in a greater extent of receptors where barriers are proposed in order to avoid significant effects. The Applicant will update Commitment G107 in the revised Code of Construction Practice at Deadline 4, to include the additional properties that could experience significant noise effects if the precautionary thresholds were applied. The commitment will be reworded to state: Temporary noise screening would be put in place to screen receptors at the following locations from installation activity, unless a detailed assessment is undertaken which demonstrates that no significant noise impacts would occur without screening. The screening would comprise acoustic barrier material (such as Echo Barrier™ or similar) fitted to site fencing at the following locations. • Ashford: Stanwell Road, Woodthorpe Road, The Wickets, Station Road, Knapp Road, Station Approach, Kingston Road; • Lightwater: Blackthorn Drive, Burdock Close; • Frimley: Balmoral Drive, Berkeley Crescent, Braemar Close, Buckingham Way, Carisbrooke, Danebury Walk, Oldbury Close, Penshurst Rise, Pevensey Way, Sandringham Way, Beaumaris Parade; • Farnborough: Ship Lane, Ringwood Road, Cove Road, Nash Close, Ship Alley; • Addlestone: Addlestone Moor, Roakes Avenue, Canford Drive, Chertsey Road; • Staines: Ashford Road, Greenway Drive; and • Quetta Park, Church Crookham.

<table>
<tr><th>Action No.</th><th>Action:</th><th>Applicant response to Action:</th></tr>
<tr><td>22</td><td>Provision of or, if already submitted, signposting to the advice from Natural England that outlines that they do not consider that the temporary loss of SANGs during construction would adversely affect the Thames Basin Heath Special Protection Area</td><td>The temporary loss of Suitable Alternative Natural Greenspaces (SANGs) during construction and how this could potentially affect the Thames Basin Heaths Special Protection Area (SPA) was assessed in paragraphs 5.8.8 to 5.8.29 of the Habitats Regulations Assessment Report (Application Documents APP-130 and APP-131). Paragraph 5.8.29 concludes that, 'It is therefore considered that the displacement of recreational activities associated with the construction phase of the project would not lead to adverse effects on the integrity of the SPA or its ecological functions as defined by the Conservation Objectives'.

The Statement of Common Ground (SoCG) with Natural England (REP1-005) states that, 'Natural England support the conclusion of the Habitats Regulations Assessment that there would be no adverse effects on the integrity of either the Thames Basin Heaths Special Protection Area or the Thursley, Ash, Pirbright and Chobham Special Area of Conservation after implementation of appropriate mitigation and good practice measures'.</td></tr>
<tr><td>23</td><td>Plan to be provided to show the location of construction compounds and the areas of the pipeline to which they relate</td><td>The Applicant has considered the request and will produce a stand-alone set of plans to identify the relationship between each of the construction compounds and the area which they serve for Deadline 4. In the interim, the schedule below tabulates the information that will be contained on the plans.

Table 1.1 – Sections Served by each Construction Compound
<table>
<tr><th colspan="3">"Section" served by Construction Compounds</th></tr>
<tr><th>Construction Compounds</th><th>From</th><th>To</th></tr>
<tr><td>4A</td><td>START</td><td>TC001</td></tr>
<tr><td>4B</td><td>TC001</td><td>RDX004</td></tr>
<tr><td>4C</td><td>RDX004</td><td>RDX006</td></tr>
<tr><td>4D</td><td>RDX006</td><td>RDX007</td></tr>
</table></td></tr>
</table>

Action No.	Action:	Applicant response to Action:			
		4E	RDX007	RDX009	
		4F	RDX009	BETTY MUNDY'S BOTTOM	
		4G	BETTY MUNDY'S BOTTOM	RDX015	
		4H	RDX015	TRX011	
		4I	TRX011	RDX016	
		4J	RDX016	TRX015	
		4L	TRX015	TRX017	
		4M	TRX017	RDX018	
		4N	RDX028	THREE ACRE COPSE	
		4O	THREE ACRE COPSE	WCX012	
		4P	WCX012	HCX147	
		4Q	HCX147	TC008	
		4R	TC008	RDX036	
		4S	RDX036	RDX038	
		4T	RDX038	HCX189	
		4U	HCX189	RDX044	
		4V	RDX044	TC010	
		4W	TC010	RDX047	
		4X	RDX047	WCX033	

Action No.	Action:	Applicant response to Action:			
			4Y	WCX033	RDX051
			4Z	RDX051	TCO11
			4AA	TC011	RDX055
			4AB	RDX055	TC014
			4AC	TC014	RDX059
			4AD	RDX059	TC020
			4AE	TC018	TC019
			5A	TC020	RDX06/a
			5B	RDX06/a	RDX06/b
			5C	RDX06/b	FRITH HILL ROAD
			CO7A	FRITH HILL ROAD	RDX071
			5D	RDX071	RDX071a
			5E	RDX071a	TC022
			5F	TC022	TC023
			5G	TC023	NW23
			5H	NW23	TC024
			5I	TC024	NW25
			5J	NW25	TC027
			5K	TC027	TC028

<table>
<tr><th>Action No.</th><th>Action:</th><th>Applicant response to Action:</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>5L</td><td>TC028</td><td>TC030</td></tr>
<tr><td>5M</td><td>TC030</td><td>TC033</td></tr>
<tr><td>5N</td><td>TC033</td><td>TC035</td></tr>
<tr><td>5O</td><td>TC035</td><td>TC036</td></tr>
<tr><td>5P</td><td>TC036</td><td>TC037</td></tr>
<tr><td>5Q</td><td>TC037</td><td>HCX268</td></tr>
<tr><td>5R</td><td>HCX268</td><td>TC042</td></tr>
<tr><td>5S</td><td>TC042</td><td>RDX068</td></tr>
<tr><td>5T</td><td>RDX068</td><td>END</td></tr>
</table>
</td></tr>
<tr><td>24</td><td>Update to be provided in relation to the impact on discussions as to the removal /provision of alternative and re-provision of the play space on Woodthorpe Road adjacent to Buxton Road</td><td>The Applicant met with Spelthorne Borough Council on 4 November 2019 and 4 December 2019 and requested a dialogue with the council regarding the impact of the project on the Local Equipped Area for Play (LEAP) on Woodthorpe Road. The Applicant will continue to engage with the council to discuss this issue and seek agreement regarding the management of the impact of the project on this play facility. This will be reported through the Statement of Common Ground.

The Applicant has committed to reinstatement of the playground through commitment OP07 in the CoCP (REP2-010) under Requirement 5 of the draft DCO (Document Reference 3.1 (4)). “In recognition that the existing LEAP at Woodthorpe Road would be impacted by the pipeline construction, the project would reinstate the existing LEAP as soon as practicable after construction. The project would seek to provide an alternative LEAP for use while the existing LEAP is out of commission. The alternative LEAP would either be provided by the project within the Order Limits in the vicinity of the existing LEAP on land belonging to Spelthorne Borough Council or would be provided in collaboration with Spelthorne Borough Council in accordance with the details agreed.”</td></tr>
</table>

Action No.	Action:	Applicant response to Action:
25	Update in relation to ongoing discussions about the Water Framework Directive	The Applicant held a meeting with the Environment Agency on 12 December 2019, including the technical specialist for the Water Framework Directive (WFD). At this meeting, the Applicant responded to the points raised by the Environment Agency within their Written Representation and referred back to the meeting held in September 2018, with the Environment Agency, where the scope and approach to the assessment was agreed. During the meeting, the Applicant signposted to where the points raised were included within Environmental Statement Appendix 8.6 (**Application Document APP-107**). This signposting is provided in the Applicant's response to the Environment Agency's Written Representation at Deadline 3 (**Document Reference 8.24**). The Applicant will provide a further update on agreement on WFD matters in the next iteration of the Statement of Common Ground, which is expected to be provided at Deadline 4.

2 References

Department of Environment (1976). Advisory Leaflet AL72 “Noise control on building sites”. London: Her Majesty’s Stationery Office.

Department for Communities and Local Government (1994). Planning Policy Guidance 24: Planning and Noise. London: Department for Communities and Local Government.

Office for National Statistics (2011). Rural/Urban Classification. Accessed December 2019. https://www.ons.gov.uk/methodology/geography/geographicalproducts/ruralurbanclassifications/2011ruralurbanclassification.

Wilson Committee on the Problem of Noise (1963). Noise: Final Report. London: HMSO.

World Health Organization Regional Office for Europe (2018). Environmental Noise Guidelines for the European Region. Accessed December 2019. http://www.euro.who.int/en/publications/abstracts/environmental-noise-guidelines-for-the-european-region-2018.

Appendix 1: Letter to St James School

SLP Project
The Estates Office Norman Court,
Ashby-de-la-Zouch
LE65 2UZ
[redacted]
SLPproject@fishergerman.co.uk

Southampton to London Pipeline Project

Mr M Warnett MRICS FAAV
Carter Jonas
One Chapel Place
London
W1G 0BG

8th October 2019

Dear Mr Warnett,

Esso's Southampton to London Pipeline Project

Thank you for meeting with the project team on 30 July 2019. Please find attached a summary note covering the application route mitigation proposals and analysis of the school's proposed alternatives.

I would like to summarise the key points:

1) The installation methodology for the application route can address many of the school's concerns by:
    a. Completing the main works (open-cut installation) in the school's summer holiday period.
    b. Restricting the working area to 10m, except in the vicinity of the chapel and the water tower where the route could be reduced to a 5m working width. This will reduce the impact on the sports pitches, established trees and setting of the chapel.
    c. Using a bespoke installation methodology to reduce impact on the school's playing fields.
    d. Ensuring that a project representative is available to speak with any visitors.
    e. Providing screening of the works, although depending on the specification this may need to be installed during the summer term immediately prior.

2) All options require a trenchless crossing under the railway line, from the grounds of Clarendon Primary School. This trenchless crossing would be completed outside of term time, and separately from the main works within St James School grounds.

3) As this is an educational site we are happy to discuss any items, including a separate agreement regarding specific construction methodologies, that would give the school reassurance that they would not be worse off as a result of the installation or easement.

4) The Deed of Grant contains a 'lift and shift' clause, which covers the need to move the pipeline should development be approved in the future.

5) The project would not be able to adopt a new route through the school without undertaking a consultation with adjacent landowners, bodies such as Historic England and with the local community. The project would legally be required to present the options and give due consideration to all responses before taking a decision.

6) While there is a feasible route that runs along the school's western boundary, it does not perform well for the following reasons:
    a. Unlike the holiday working commitment that we can offer with our proposed route, this alternative route has increased engineering complexity that makes it likely our work would extend into term time and we cannot give any assurance that we could complete construction within the school's summer holiday.
    b. The route conflicts with existing planning permission for the sports hall and boarding house.
    c. It would require the demolition of a residential property, which lies within the curtilage of a listed building and which is in direct conflict with an existing project commitment.

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Southampton to London Pipeline Project

d. The route and installation would be closer to the core operating area of the school.
e. The route is closer to the listed building and buildings in its curtilage.
f. The route poses significantly higher construction risks because of the ground conditions and existing utilities in this corridor.

It is our view that the alternative route through the school has several significant disadvantages when compared against the application route and performs less favourably when considered against the project's guiding principles (which would be considered by other stakeholders). It would be inconsistent for the project to promote a route that has higher risk and potential impact. For this reason, it is not appropriate for the project to progress the alternative.

We wish to work with the Board of Governors to deliver the best result for both parties and would encourage you to think about how we can best mitigate impacts and address your concerns regarding the application route.

The Project Executive Tim Sunderland is happy to meet with yourself or the Board of Governors to discuss the way forward at any point.

If you have any questions about this letter, please contact our land agent, Fisher German LLP, on the details below.

Yours sincerely,

Philippa Garden
Head of Stakeholder Engagement and Communications

SLP Project Team – Fisher German
Tel: [redacted]
Email: SLPproject@fishergerman.co.uk
Website: www.slpproject.co.uk

1 St James School – The Application Route Mitigation Proposals and Analysis of the School's Proposed Alternative Routes

1.1 Introduction

1.1.1 During statutory consultation the Project consulted on three routes around St James School. Two of which routed through the school's grounds.

1.1.2 The selected sub-option, and, as such, the final route taken into application (the "application route") requires installation through the school grounds.

1.1.3 Following the submission of our application, St James School have raised several concerns/issues and presented an alternative route through the school's grounds.

1.1.4 Please note high-resolution pdf versions of all sketches within this document have been sent separately.

1.2 Reasons for preparing note

1.2.1 The Project attended a meeting with several representatives from the school on 30 July 2019 to discuss how the Project could mitigate the application route to address the school's concerns and present an assessment of alternative routes which the school had proposed at a meeting on 26 June 2019.

1.2.2 This document captures the key points presented by the discipline leads at the meeting on 30 July 2019 and formalises the mitigation that the Project can offer in respect of the application route. In addition, an assessment is made of the proposed alternative route (Option 1).

1.3 Issues raised by the school regarding the application route.

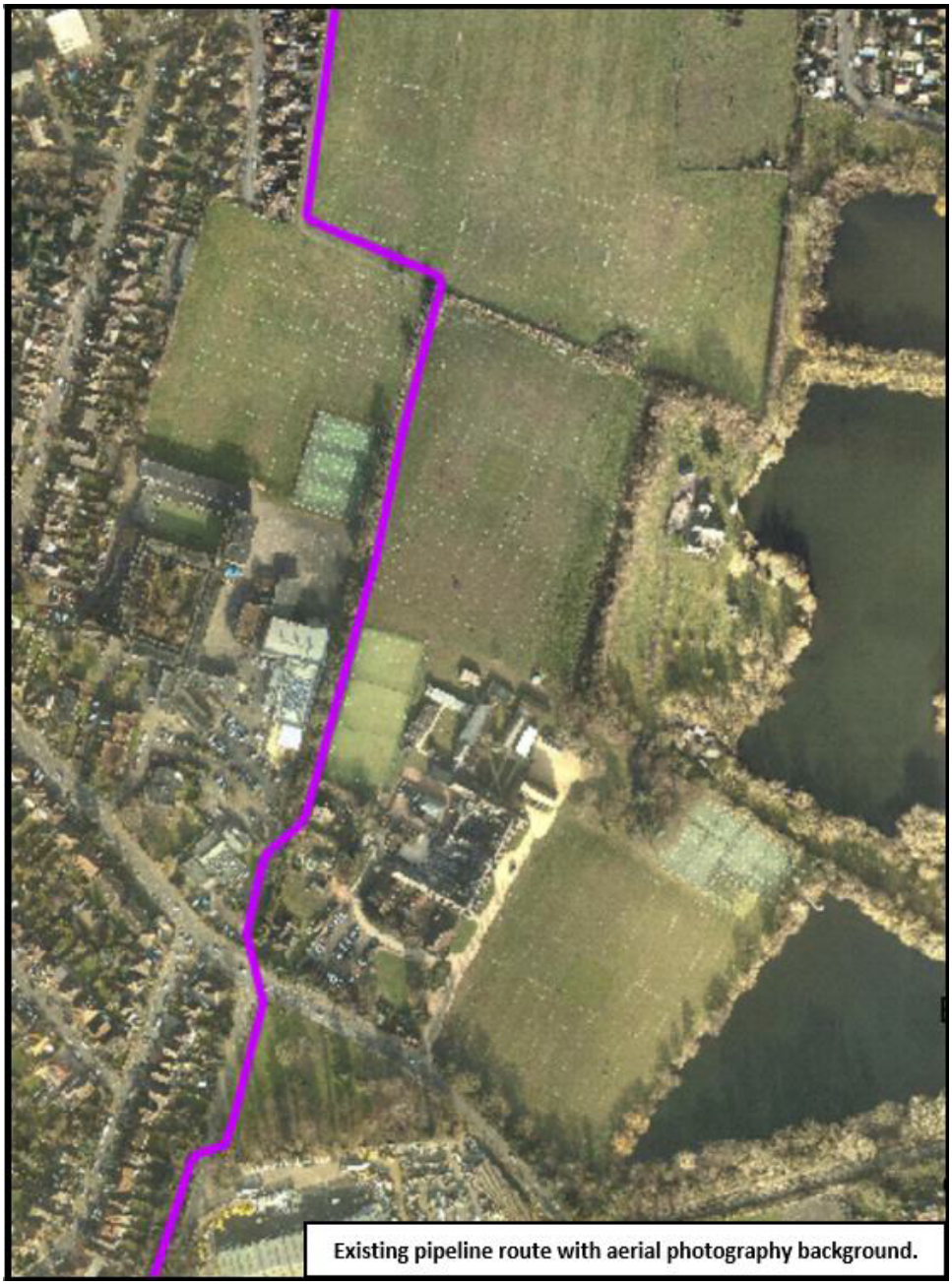
1.3.1 Below is a summary of the key issues raised by the school at the meeting on the 30 July:

- The disruption installation could cause to school activity/use.
- Specifically, the impact of installation on the playing fields.
- The impact of a separate pipeline easement within the school grounds (in addition to the existing pipelines easement) that would prevent future development or use.
- Risk of installing through the capped landfill in the northern playing fields.
- Impact on the setting of the school buildings, in particular in front of the main façade and chapel.

1.4 The existing pipelines

1.4.1 There are three existing pipelines which were all installed 40 to 50 years ago and are buried approximately 1m below ground level. It is understood that the method used to install these existing pipelines was by an open-cut trench method. The SLP project is seeking to replace one of these pipelines.

1.4.2 The existing buried pipelines run along the western boundary of St James school and adjacent to the boundary of Thomas Knyvett College as shown below. The two other pipelines follow a similar route in this area, these pipelines being an Esso owned White Oil Line (WOL) and a Cadent Gas owned intermediate-pressure gas pipeline.



Existing pipeline route with aerial photography background.

2 Addressing the School's Concerns in Relation to the Application Route (as Submitted in the Application for Development Consent).

2.1.1 Along the 97km replacement pipeline route there are many protected areas, public spaces and sports facilities.

2.1.2 The replacement pipeline route runs through a number of golf courses, polo fields, sports fields and schools. As a result, the project has developed a range of installation techniques and methodologies to reduce the impact on such facilities.

2.2 Reducing impact to sports pitches and school grounds.

2.2.1 The Project is prepared to reduce the working width within the application Order Limits (which are typically 30m within the school grounds) when working within St James' school grounds. The Project would typically utilise a 10m working width through the school except for the short section in the vicinity of the chapel and the water tower where the route could be reduced to 5m working width. A 15m wide section would only apply to the southern corner of the playing fields to accommodate the trenchless crossing of the railway (sketch 1 below where the narrow working areas are highlighted in pink).

2.2.2 The Project would implement a methodology to reduce impacts on the sports pitches, represented in sketch 7 (appendix A). This method limits the impact on the existing pitches by using ground protection to evenly distribute the load from vehicles and machinery and, therefore, negates the need to strip topsoil. The only area that would have topsoil removed is above the trench (typically less than 1m wide). It would also be possible to remove the turf from the trench and store for re-laying to aid a quicker reinstatement of the existing surface.

2.2.3 Another method that could be adopted to reduce impact to the pitch is for the demarcation and safety fencing to be surface mounted, utilising free standing barriers. This would further reduce impacts to the sports pitches.

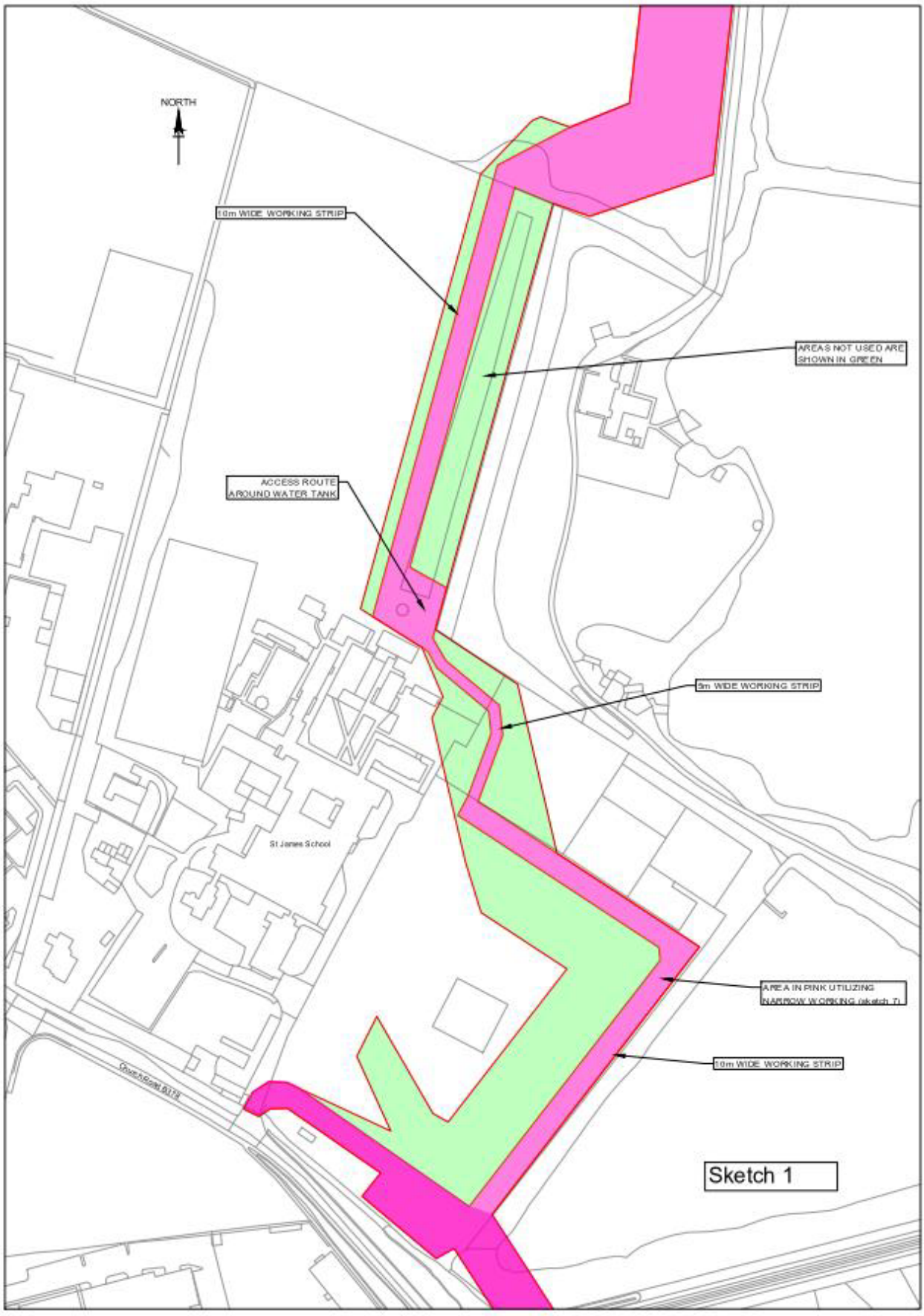
2.2.4 The methodology would enable a more precise route to be taken through the tree area adjacent to the chapel and thus limit the impact on the trees, than if HDD were used. When digging the open-cut trench close to established trees, the project would protect roots by using methods such as hand digging or excavation vacuum units to excavate the trench to further limit any impact. Overall, this would significantly reduce the number of trees the project would need to remove.

2.3 Reducing impact on school operations.

2.3.1 Whilst the reduced working width does require additional operatives and planning, the project is prepared to commit that the works would be completed within the school's summer holiday period. This is possible as open-cut installation can be done by a number of crews working in the school grounds concurrently.

2.4 Reducing visual impacts.

There are further options to reduce visual impacts of views from the school such as living screening or planting around the working area. Alternatively, a solid hoarding with photographic or art-worked wrap could be used to screen the open-cut area. We would be happy to agree the solid screening design with the school. However, additional screening would take time to install and may need to take place at the end of the preceding summer term to make sure that the open-cut installation would be completed within the summer holiday period.


NORTH
10m WIDE WORKING STRIP
AREAS NOT USED ARE SHOWN IN GREEN
ACCESS ROUTE AROUND WATER TANK
9m WIDE WORKING STRIP
St James School
AREA IN PINK UTILIZING NARROW WORKING (sketch 7)
10m WIDE WORKING STRIP
Church Road B178
Sketch 1

3 Proposed Alternative Routes

3.1.1 In order to fully understand the school's proposals and their potential impact, the project investigated the following methods as possible scenarios to install the replacement pipeline.

School's Proposed Alternatives	Description	Image
Scenario 1a	Routing near to the existing pipeline, with a combination of Open-Cut Trench and Horizontal Directional Drilling (HDD)	Sketch 2
Scenario 1b	Routing near to the existing pipeline, with only Open-Cut Trench method	Sketch 3
Note: All options require a trenchless crossing under the railway line, from the grounds of Clarendon Primary School. This would be installed outside of term time, and separately from the main works within St James School grounds.		

3.2 Scenario 1a

3.2.1 **Route description**.

3.2.2 In compliance with Network Rail requirements, the replacement pipeline would be routed beneath the existing Network Rail railway tracks using an auger bore method emerging into a reception pit located at the corner of the sports field at the south east corner of the school site.

3.2.3 From the auger bore reception pit, the pipeline route would follow the school's boundary, avoiding mature trees which are subject to a Tree Preservation Order, to the school's entrance, using open cut method.

3.2.4 Crossing the school entrance would involve utilising a 50/50 open-cut process. This would involve closing one part of the entrance (using traffic management) and installing a section of pipe under one carriageway, backfilling that section and then opening the adjoining part of the carriageway to install the next section of pipe. This would allow the entrance to remain operational. If it was agreed with the school, it may be possible to undertake the installation, directly across the school entrance, during evenings or weekends, to limit the potential impact on school activities.

3.2.5 From the school entrance, open cut installation would continue to be used as close as possible to the school boundary (with Stanwell Road) but would pass through three areas of Tree Preservation Order.

3.2.6 The installation would be located relatively close to the listed gate house (Building 'A' in sketch 2). Therefore, the order limits and installation activity would need to be a suitable distance from the building to prevent damage.

3.2.7 The southern boundary is lined with mature trees subject to a Tree Preservation Order. In order to retain the screening these trees provide between the road and the

school grounds, installation would need to avoid, where possible, the root protection areas. To achieve this the limits of deviation, and ultimately the final placement of the trench for the replacement pipeline, may be pushed away from the boundary and into the car park.

3.2.8 This route option then approaches an existing bungalow (Building 'B'), located in the southwest corner of the school grounds.

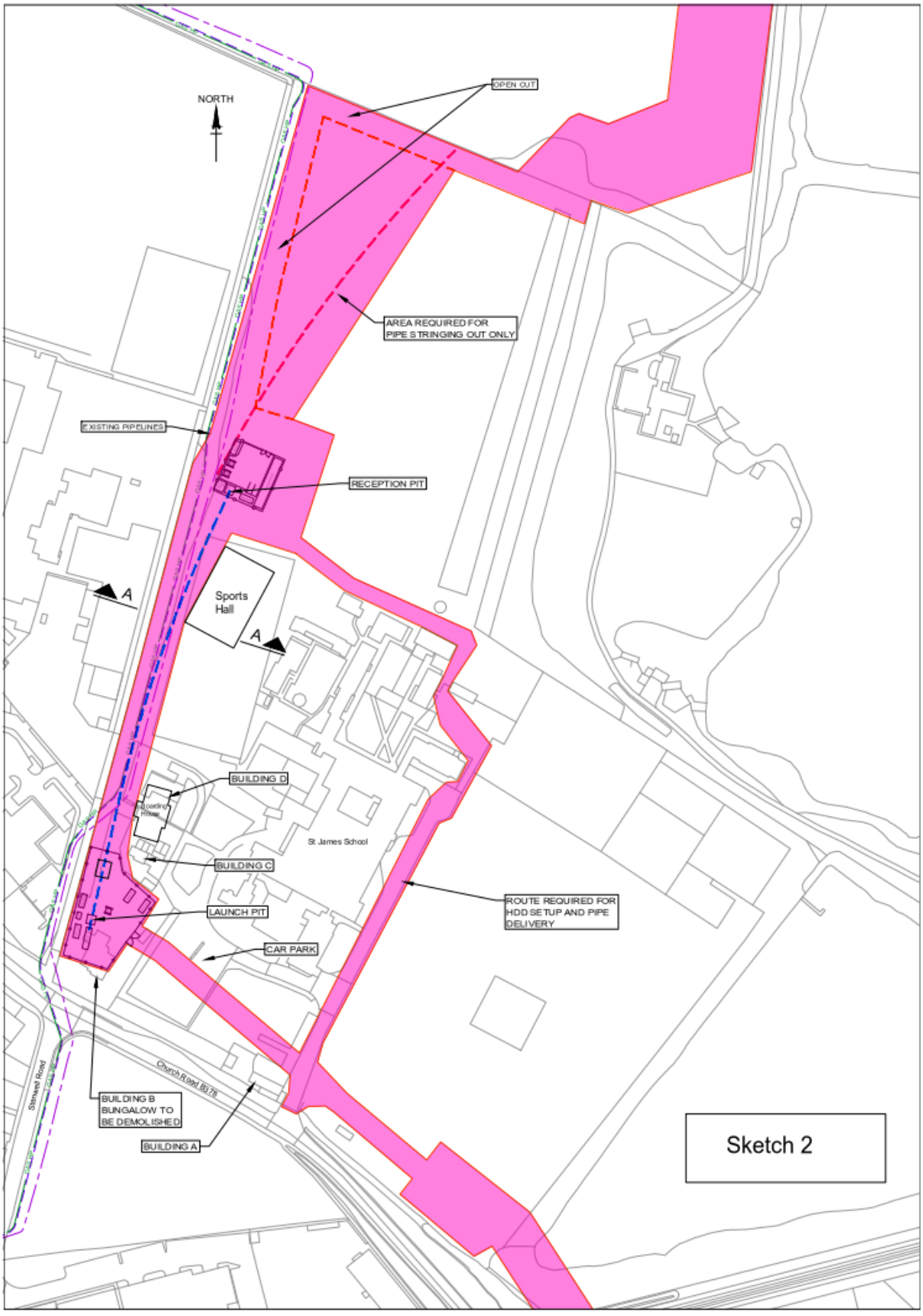
3.2.9 This is where option 1a and 1b diverge.

3.2.10 The south west corner of the school grounds would be needed for the trenchless installation drill unit and launch pit. The space needed is approximately 30m by 50m. To accommodate this space, the bungalow would have to be demolished in its entirety.

3.2.11 From here the pipeline would be installed, using trenchless technology. See attached sketches 4 & 5 for an indicative potential location and depth of the horizontal directional drilling (HDD). The second drilling pit, at the other end of the trenchless installation, would be placed in the northern playing field.

3.2.12 From here, the open cut installation would be used to install around the edge of the playing fields before reconnection with the application route in the grounds of Thomas Knyvett College.

3.2.13 It should be noted that an access road across the frontage of the listed school building would be required to allow heavy goods vehicles to access the northern playing fields.


NORTH
OPEN CUT
AREA REQUIRED FOR PIPE STRINGING OUT ONLY
EXISTING PIPELINES
RECEPTION PIT
A
Sports Hall
A
BUILDING D
Boarding House
St James School
BUILDING C
LAUNCH PIT
ROUTE REQUIRED FOR HDD SETUP AND PIPE DELIVERY
CAR PARK
Church Road B576
Stanwell Road
BUILDING B BUNGALOW TO BE DEMOLISHED
BUILDING A
Sketch 2

3.2.14 Assessment findings

3.2.15 The trenchless construction method (HDD) for this option was developed to reduce the width of the collective easements of the existing pipelines (not connected to this project) and the project's replacement pipeline. This was felt necessary to address the issue of long-term development within the school grounds and to reduce conflict with the existing planning permissions for the sports hall (to be built on the site of the existing all-weather pitch) and the Boarding House (Building 'D').

3.2.16 The route has been assessed as having a significantly higher engineering risk (when compared to the application route), for several reasons.

3.2.17 Firstly, the length of the trenchless installation requires the use of a Horizontal Direction Drill (HDD) installation technique. However, ground conditions (sand and gravel) are not optimal for this installation method. As the drill head is remotely steered, the more mobile sand and gravel ground conditions mean that there is less control of the drill head and it may move laterally and horizontally during the drilling process. This means that there is less control over the final pipeline placement (the route) and consequently the easement. Furthermore, it may need to be drilled several times to achieve a viable 'bore' to install the steel pipe. Therefore, the deliverability and time duration of this technique is very hard to predict.

3.2.18 Secondly, to avoid the existing pipelines and utilities in this area, the northern reception pit, end of the HDD, where it comes closer to ground level, must be offset from the existing pipeline routes. This means the trenchless section would have to be curved (laterally). This increases the engineering complexity of installation.

3.2.19 The route has been assessed as having a greater impact on the school grounds and existing planning permissions for the following reasons.

3.2.20 To accommodate the HDD, a larger section of the northern playing fields would be required. This would be used when the sections of pipe are welded together prior to installation (the stringing of the pipeline). Due to ground conditions, this could result in this area being fenced off for a long period of time, as the welded pipe length for the entire HDD section would need to be ready immediately before the directional drilling work commences to reduce to risk of the bore collapsing. In addition, once welded it would have to stay in place (ready to use) until the HDD bore is complete.

3.2.21 Whilst in theory the HDD installation should be able to be installed within the summer holiday, the project could not commit to installing this option outside of term time because of the complexity due to the difficult ground conditions and proximity of the existing pipelines. HDD is noisier than open-cut installation and is an operation that cannot be stopped (especially in sand and gravel).

3.2.22 Due to the engineering challenges mentioned above, and the need to off-set the position of the northern drill pit, it is likely that the final location of the new replacement pipeline along this route would result in a larger cumulative easement. This would have a greater impact on the school grounds (when compared to the

application route) because it would limit future development options in the area closest to the existing school buildings.

3.2.23 Due to the need to off-set the drill pit, the easement would likely impact the existing planning permission for the sports hall (application reference 19/00428).

3.2.24 This option would impact the existing planning permission for the buildings in the southwestern area of the school (application reference 10/00461).

This route was assessed as likely to have more environmental impacts. Firstly, on Cultural Heritage as it would bring installation activity and the pipeline route closer to listed buildings.

3.2.25 Secondly, the community assessment noted that the route would be nearer Thomas Knyvett College.

3.2.26 It should be noted that there are a number of environmental unknowns due to the lack of surveys and data. For example, surveys would be required to determine the presence or absence of protected species, such as bats, that may inhabit the bungalow.

3.2.27 From the school entrance, this option would pass through three areas of mature trees protected under the Tree Preservation Order.

3.2.28 Since the first public consultation in spring 2018, the project has made a commitment not to install under existing homes. This option requires the partial demolition of the bungalow. While this building has not been in use for some time it is subject to an approved planning permission.

3.2.29 It should be noted that this scenario would require additional consultation before a change could be considered given the route would statutory bodies versus the submitted application.

3.3 Scenario 1b

3.3.1 **Route description.**

3.3.2 This scenario mirrors the 1a route description from paragraph 3.1.2 – 3.1.8.

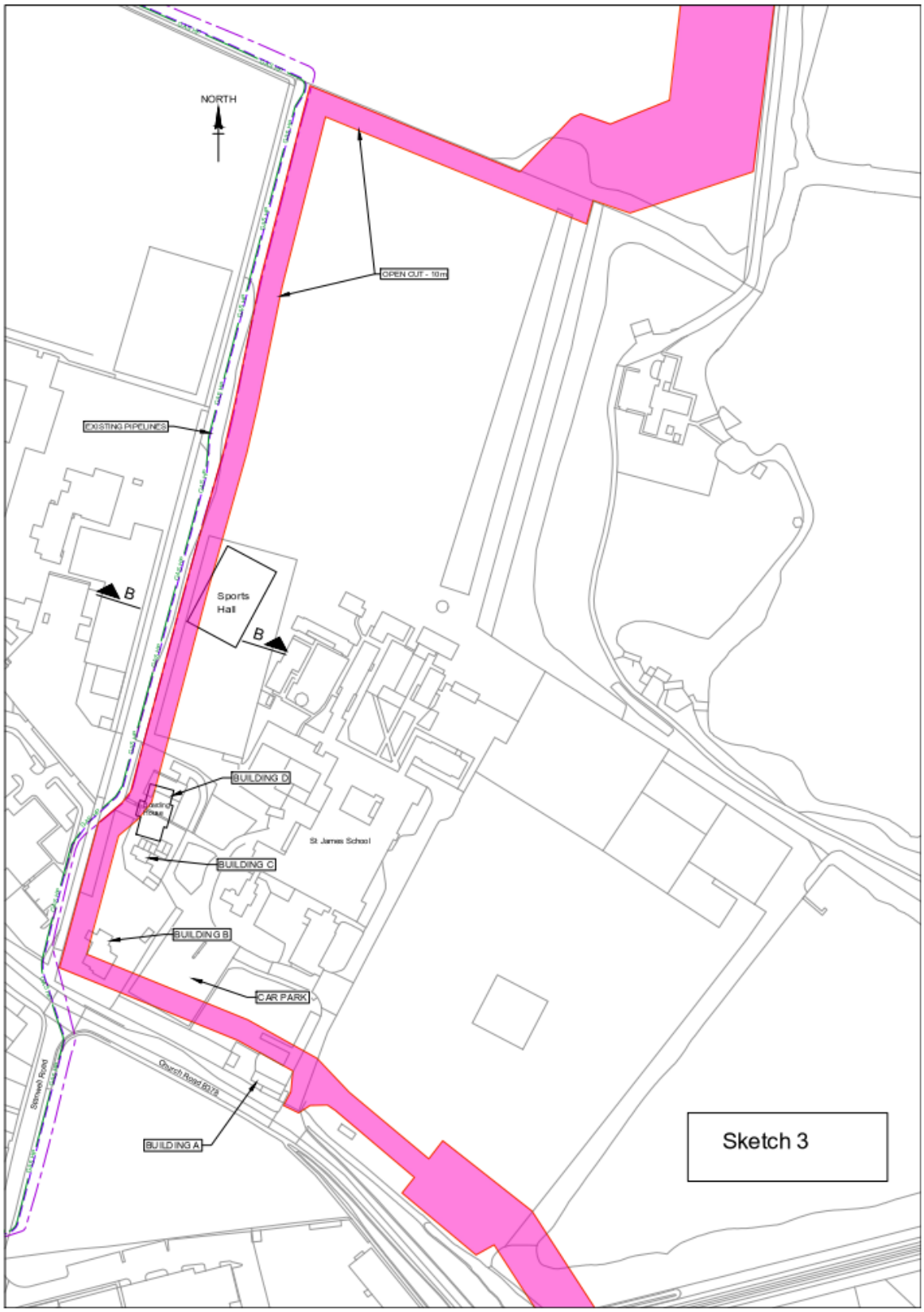
3.3.3 We understand that the school requested that the open cut follow the school's boundary.

3.3.4 This scenario continues to use open cut and follows the boundary line as it approaches an existing bungalow (Building 'B'), located in the southwest corner of the school grounds. The 3m easement cannot conflict with any permanent building and so the replacement pipe must be a minimum of 3m away from any structure. Therefore, there is insufficient space to allow for the new replacement pipeline to be routed to the west without partially demolishing the bungalow. (The existing buried pipelines are not located within the school grounds in this corner).

3.3.5 The route would continue along the school's boundary until it approaches the existing pipelines, which cross into the school grounds from the adjoining Thomas Knyvett College grounds near to another school building (identified as Building 'D').

3.3.6 To avoid the existing pipelines, and maintain the 3m separation, the replacement pipeline route would move by 3m to the east of the existing pipelines.

3.3.7 This option then continues north until the northern school boundary, where it turns to the east, following the sports field boundary, to reconnect with the application route in the grounds of Thomas Knyvett College.


NORTH
OPEN CUT - 10m
EXISTING PIPELINES
B
Sports Hall
B
BUILDING D
St James School
BUILDING C
BUILDING B
CAR PARK
Church Road B072
BUILDING A
Sketch 3

Assessment findings

3.3.8 The route has been assessed as having a higher engineering complexity (when compared to the application route) due to space and physical constraints, specifically in relation to the proximity to the school buildings near the western boundary and the construction requirements at the gate house and bungalow.

3.3.9 The route has been assessed as having a greater impact on the school grounds and existing planning permissions, for the following reasons.

3.3.10 This scenario would result in a wider culminative permanent easement and restrictions within the core operating area of the school grounds, that may impact the school's planned and future development. It would impact the existing planning permission for the sports hall on the site of the current all-weather pitch (application reference 19/00428), which would have to be amended to make the route feasible.

3.3.11 This scenario would also impact the existing planning permission for the buildings in the southwestern area of the school (application reference 10/00461), in addition to the partial demolition of the bungalow mentioned above.

3.3.12 This route was assessed as likely to have more environmental impacts. Firstly, on Cultural Heritage as it would bring installation activity and the pipeline route closer to listed buildings.

3.3.13 Secondly, the community assessment noted that the route would be nearer school buildings, both of St James School and Thomas Knyvett College. This option would pass through three areas of mature trees protected under the Tree Preservation Order.

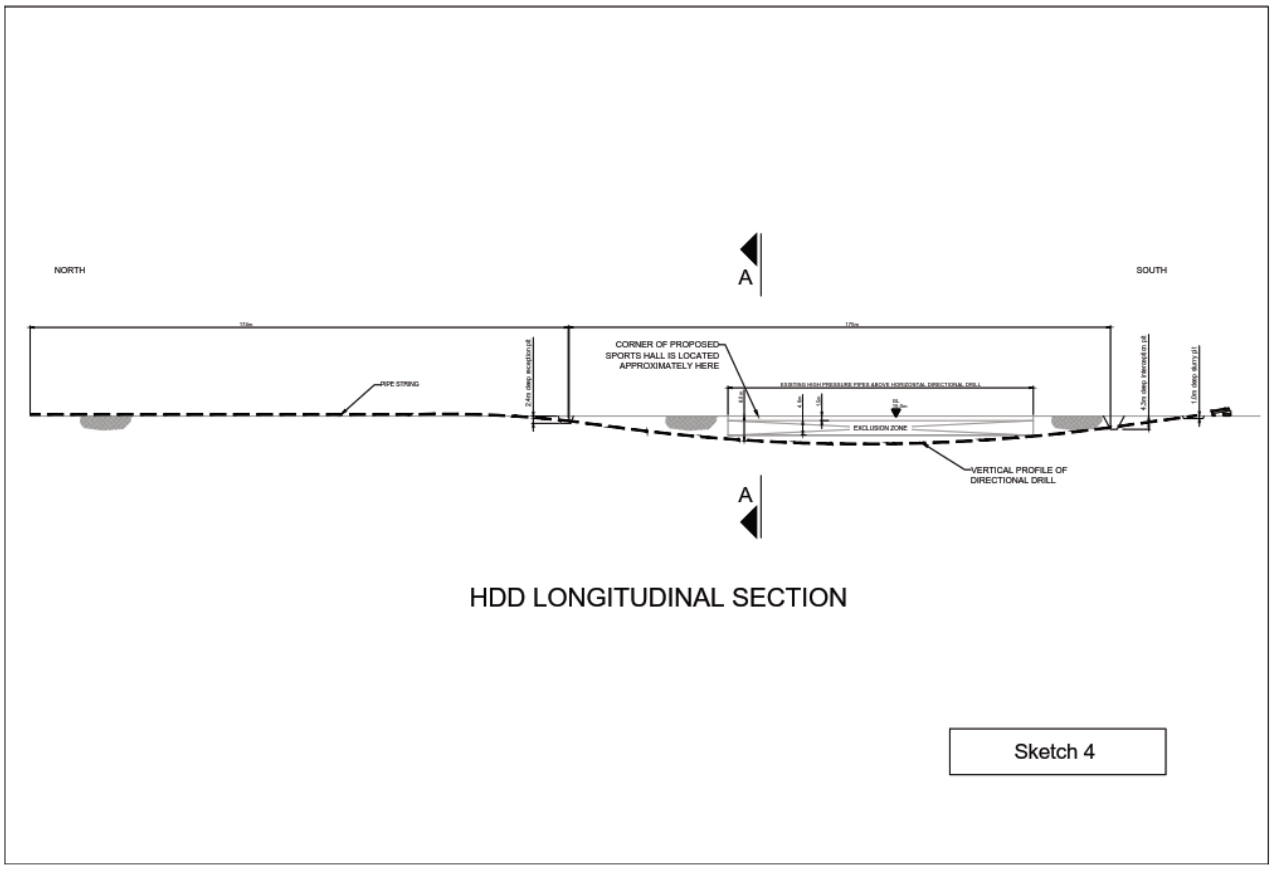
3.3.14 It should be noted that there are a number of environmental unknowns due to the lack of surveys and data. For example, surveys would be required to determine the presence or absence of protected species, such as bats, that may inhabit the bungalow.

3.3.15 Since the first public consultation in spring 2018, the Project has made a commitment not to install under existing homes. This option requires the partial demolition of the bungalow. While this building has not been in use for some time it is subject to an approved planning permission.

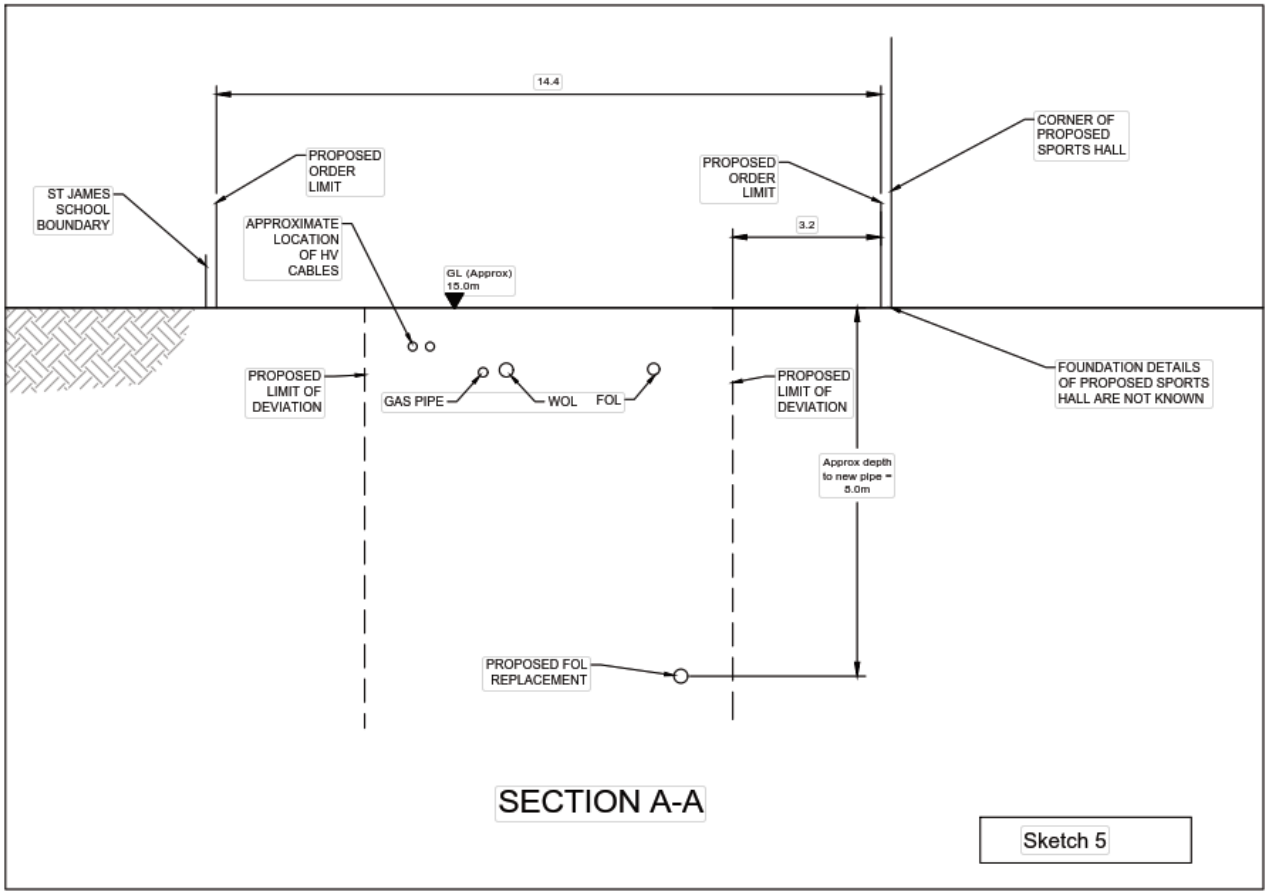
3.3.16 Similarly, as per option 1a, this scenario would require additional consultation before a change could be considered given the route would affect statutory bodies versus the submitted application.

Appendix – A

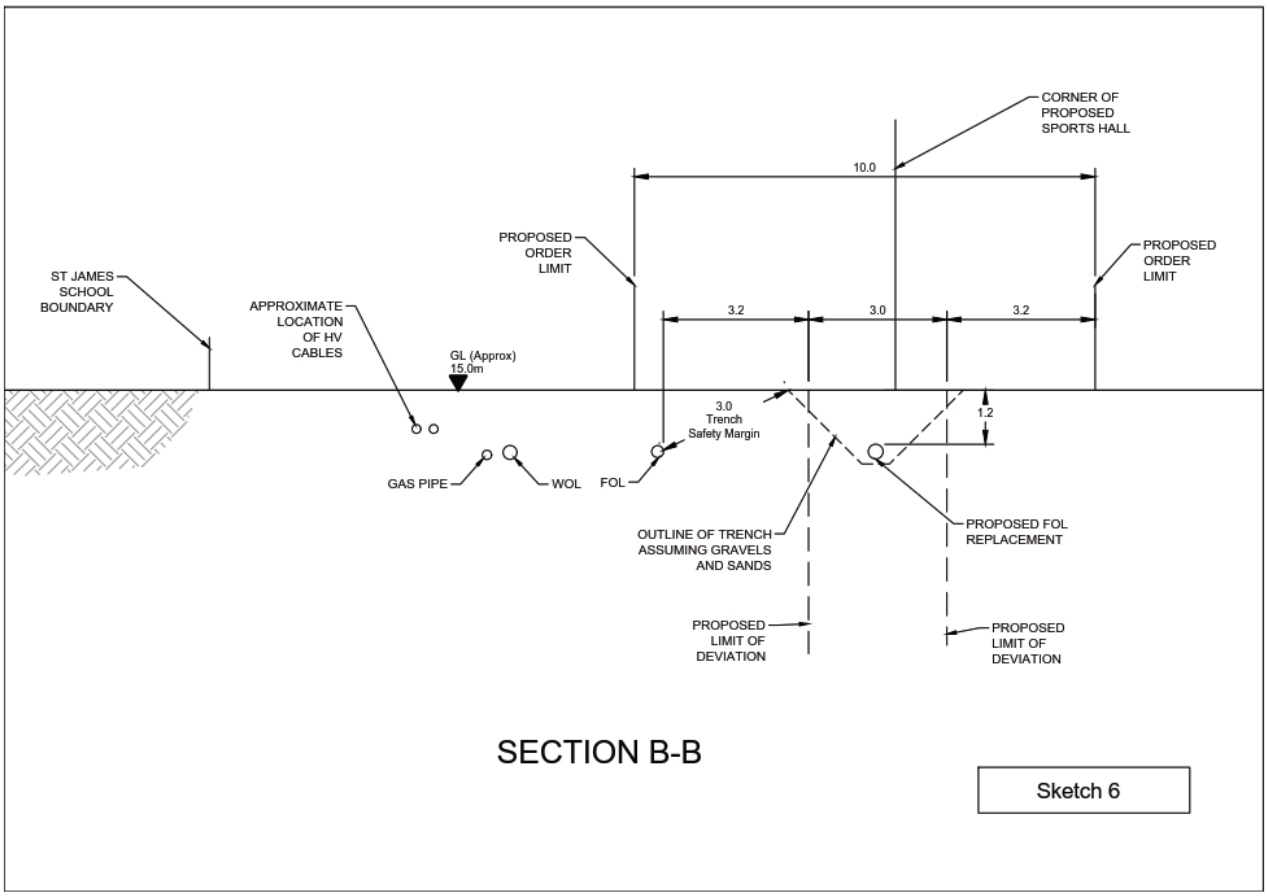
Cross section A-A from sketch 2



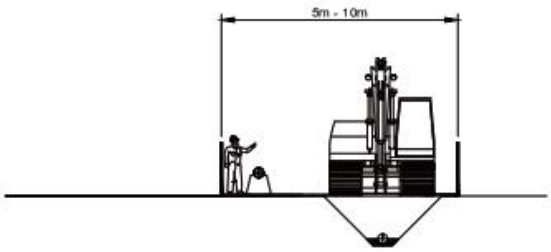
Cross section -A-A from sketch 2



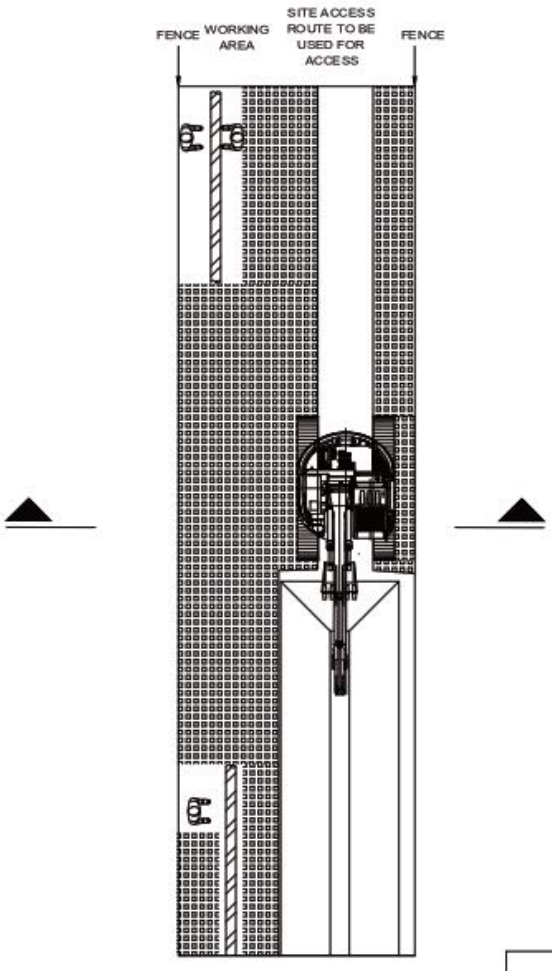
Cross section -B-B from sketch 3



NARROW WORKING TECHNIQUES
WORKING STRIP IN SPORTS FIELDS



WORKING STRIP SECTION



WORKING STRIP PLAN

Sketch 7