GREATER**LONDON**AUTHORITY

Deadline 3 - GLA Sheet 1: Applicant's Response to GLA Relevant Representations

Issue	Applicant's comment	GLA/TFL Comment / action
SoCG	2.5.3 Throughout the development and post submission of the Application, the Applicant has made continued efforts to engage with the GLA and to develop a SOCG. The Applicant has been unable to reach agreement on a SOCG with the GLA for submission to Deadline 2.	The GLA has engaged with the Applicant and last provided comments on a draft SOCG submitted in an email to Peter Brett Associates (working on behalf of the Applicant) on the 17th of May 2019. The GLA acknowledges that the SOCG is an iterative process and will continue to engage with the Applicant. TfL has engaged with the applicant regarding the SoCG during meeting and via email and is currently waiting for an amended draft SoCG to be sent by the applicant.
Waste capacity, need and the Proposed Development's consistency with national policy	GLA presents no evidence. The Applicant restates its case regarding the need for London, as set out in its London Waste Strategy Assessment (the 'LWSA'), Annex A of The Project and its Benefits Report (the 'PBR') (7.2, APP-103). 2.5.6 The Applicant's LWSA is undertaken using data and policy priorities from the adopted London Plan, the draft London Plan and from the London Environment Strategy. The LWSA concludes that even in the most conservative assessment, using the lowest waste arisings and the aspirational policy expectations regarding waste management, at least one third of the nominal throughput of the capacity of REP (principally the Energy Recovery Facility, the 'ERF') is required to sustainably manage London's	The GLA in its Local Impact Report and Written Representation. has made its case and evidence that London, UK, and authorities in the South East needs no further EFW (energy from waste) capacity. The topic is further addressed in the Written Summary of Oral Case, submitted by the GLA for Deadline 3. Further information and clarification on the waste tonnage and EFW capacity projections applied by the GLA compared with those projections provided by the Applicant is set out in the GLA's Written Submission of Oral Case document and Sheet 4: 'GLA Comments on other documents submitted by the Applicant' submitted at Deadline 3.

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	residual waste. A more realistic level of need, calculated through using actual waste arisings and applying recycling objectives of the London Environment Strategy, demonstrates that all, if not more of that nominal throughput will be required if London is going to achieve self-sufficiency and diversion from landfill targets. 2.5.7 In addition, the LWSA identifies c.2 million tonnes of residual wastes in from authorities in the South East that should also be diverted from landfill.	
	2.5.9 The GLA's RR then asserts that the ERF would not be in compliance with national policy and will fail to effectively implement the waste hierarchy. Again, the GLA's assertions are not demonstrated, they are simply a position statement. The LWSA has been undertaken using the data and policy aspirations from the development plan documents prepared by the GLA, and has incorporated the London Environment Strategy. Even relying upon those documents, which the Applicant considers to underestimate future waste arisings and overestimate recycling capacity, the LWSA demonstrates that there remains a need for the ERF. In policy terms, the Applicant demonstrates that the ERF will not disadvantage recycling and therefore it is in compliance with Part 3.4 of NPS EN-1.	The GLA disputes the statement that the Applicant has demonstrated that the ERF will not disadvantage recycling. As set out in the Written Representations, submitted at Deadline 2, the GLA case is that overcapacity of EfW and the absence of any proposals to pre-treat the feedstock will inevitably have a detrimental effect on recycling and therefore effective implementation of the waste hierarchy. The GLA is concerned that the Applicant is placing reliance on the environmental permit (EP) issued by the Environment Agency (EA) to ensure that waste going to the proposes ERF facility will not be recyclable. The extent to which residual municipal waste contains material that could be recycled is not considered a matter for the EP. The Applicant should demonstrate more steps to ensure material managed at the ERF is not recyclable. This issue is discussed in more detail in the GLA's Written Submission of Oral Case document and Sheet 4 'GLA Comments on other documents submitted by the Applicant' submitted at Deadline 3.

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	2.5.10 Section 4.2 of the PBR (7.2, APP-103) references data gathered by WRAP in its annual Gate Fee Report, which consistently shows that gate fees at recycling facilities and organic waste treatment facilities, which are preferred in the waste hierarchy, are significantly lower than gate fees at energy from waste and landfill facilities. It is fundamental commercial logic that waste producers will seek out the most cost-effective method of waste treatment, consequently preferring recycling over recovery. In practical terms, the Applicant demonstrates that the ERF will not disadvantage recycling.	As stated in the GLA's comments on the Applicant's response to ExA questions, the GLA's view is that recycling is only likely to be the cheaper option for waste producers if source segregation is relatively easy. For certain types of waste, including for some households, source segregation incurs practical difficulties and the need for segregation therefore deters producers from recycling. In the GLA's opinion, recycling is not always the easier option for waste producers and therefore the market (gate fees) cannot be said to govern the behaviour of all waste producers. In determining EfW gate fees, WRAP focuses primarily on average rates paid under local authority contracts. WRAP findings can therefore not be relied upon as an indication of charges for commercial waste, and may exceed levels ultimately charged by the Applicant's ERF facility. Moreover, gate fees quoted by WRAP are limited to the cost of disposal (onward management) of waste which has already been collected. WRAP gate fees are thus not 'whole system' costs in that they exclude the cost of collection from residents and commercial premises. Ultimately the costs of both collection and disposal are levied by waste management companies on customers, and this combined cost must be quantified in comparing financial impacts of waste management options. Furthermore, above and beyond collection and disposal charges, the practical issues associated with segregation of recyclables at source also have a cost (actual or time-based) for waste producers, and this additional cost will be taken into account in determining producers' behaviour and waste management option selection. Research by WRAP (Barriers to recycling: A review of evidence since 2008, WRAP 2014) demonstrates four factors which limit recycling behaviour: situational

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		(e.g. lack of space, inconvenient collections), behavioural (e.g. where waste producers are busy with other tasks), knowledge (i.e. knowing which container to use) and attitude (e.g. not believing in the environmental benefit or taking responsibility). All four of these factors identified by WRAP place recycling at a disadvantage against relative to disposal of residual waste to energy from waste. Even assuming that recycling results in an apparent reduced collection and disposal cost, these factors can implicitly favour EfW. The Applicant's simplistic comparison of waste disposal gate fees is therefore an invalid basis for conclusions on the relative economics of recycling and energy from waste.
	2.5.12 The Supplementary Report to the Project and its Benefits Report (7.2.1) has considered the newly published Resources and Waste Strategy, December 2018, and the GLA's RR on this point is not considered further here, except to correct an inconsistency with that RR. The second quote set out in the GLA's RR "significant additional residual waste energy recovery capacity…would not necessarily be needed" is not in the Resources and Waste Strategy, but in the evidence Annex. Further, it is anyway not a complete quote, which reads: *"…significant additional residual waste energy recovery capacity such as incineration or advanced conversion technologies – above that already operating or planned to 2020 – would not necessarily be needed to meet an ambition of no more than 10%,*	The GLA has reviewed the Applicant's Supplementary Report to the Project and its Benefits Report (7.2.1), including Tolvik Appendix A. the Applicant is predicating need for additional EFW capacity on the Government not achieving targets set in national policy committed to by Ministers. The GLA's response to this document is set out in detail in GLA Sheet 4: 'GLA Comments on other documents submitted by the Applicant' submitted at Deadline 3.

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	Municipal Solid Waste (MSW) to landfill by 2035, if a 65% MSW recycling rate is achieved by that same year. The analysis assumes refuse derived fuel (RDF) exports remain at current levels. However, if energy recovery continues to provide a better environmental alternative to landfill, more investment to reduce tonnages of MSW to landfill further would deliver environmental benefits". 2.5.13 The full quote shows the full context of the Government's thinking and that it recognises the environmental benefits of energy from waste. In any event, the policy set out in the Resources and Waste Strategy, is to encourage greater private investment in new, modern, efficient energy recovery plant. As demonstrated in the Supplementary Report to the Project and its Benefits Report (7.2.1), that is exactly what REP is delivering. The final quote set out in the GLA's RR, that "no new EFW capacity would be needed", does not exist. A clear rebuttal from Tolvik Consulting Ltd, the consultancy that prepared that industry report, is provided at Appendix A to the Supplementary Report to the Project and its Benefits Report (7.2.1).	The "no new EFW capacity is needed' line referenced in the GLA's Relevant Representation relates to the following paragraph from page 78 of the RWS Evidence Annex: *''Tolvik Consulting Ltd. carried out a similar assessment, bringing together existing reports around Energy from Waste, and concluded that there would not be a gap in incineration capacity in 2030, provided the 65% MSW recycling rate ambition was met (Figure 9 below).''*
CHP / Heat	2.5.15 Based on the results of the National Heat Map, a total demand of approximately 8,300 GWh/annum exists across a registered 534,734 addresses within 10 km of the Proposed Development. Owing to the high heat density around the REP site, heat networks are deemed by the Mayor of London to provide a competitive solution for	The National Heat Map is a desk-top estimating tool that gives an indication as to whether there is likely to be sufficient heat demand in an area to warrant a more detailed 'on the ground' feasibility study. Important decisions such as a DCO should be informed by a more detailed techno-economic feasibility study that more closely reflects local conditions and constraints and dialogue with the key stakeholders.

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	supplying heat to buildings and consumers. REP therefore falls within an identified Heat Network Priority Area.	The level of work carried out in the supplementary CHP report 5.4.1 falls short of that provided for the similar North London Waste Authority (NLWA) DCO that was granted for their new EfW plant at Edmonton.
	2.5.16 Following screening of consumers which cannot be viably be connected due to local infrastructure, topology and technical incompatibility, two key heat network options have been identified. 2.5.17 Based on a *comparatively* conservative assumption of proposed residential dwellings substantially located to the west of the REP site (those for which proposals were in the public domain at the time of drafting the CHP Assessment (5.4, APP-035), Option 1 would comprise supply of heat to these developments via a low temperature heat network. Based on indicative build out profiles, the total demand was estimated at 114 GWh/annum. Accounting for the anticipated heat demand profile and allowing for some level of thermal storage, peak loads align with the level of heat available from REP. Development ambitions for the region are significantly greater than the conservative numbers proposed in the original assessment. Up to 20,000 dwellings and commercial properties are proposed as part of a Thamesmead regeneration programme. When accounting for the entirety of the proposed development volume, there is a surplus of heat demand which could not be satisfied by REP exclusively.	With regard to paragraph 2.5.16, the supplementary CHP report reference 5.4.1 did not undertake any viability assessment as the Applicant claim. The report did not set out any detailed methodology or process regarding the screening of local infrastructure, topology or technical incompatibility. The report appeared to make judgements in coming to the conclusions it did. This is not to the standard of the study reports submitted by the NLWA DCO and is not adequate to make informed decisions without further analysis involving stakeholder engagement and more detailed assessment. With regard to paragraph 2.5.17, the Applicant are referring to the data contained in the December 2018 Ramboll draft report Thamesmead and Belvedere Heat Network Feasibility Study: Work Package 1. Since the issue of that report, Peabody provided Ramboll with their revised housing figures and reported the district heating feasibility in their May 2019, Thamesmead and Belvedere Heat Network Feasibility Study: Work Package 2. Work Package 1 estimated an annual heat demand of 139 GWh per year. Work Package 2 revised this to 141 GWh per year based on the revised housing numbers provided by Peabody. Both demand figures are within the RRRF annual heat supply capability of 200 GWh per year. There would be no surplus heat demand for the REP to supply.

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	2.5.18 Option 2 would comprise connection of businesses located to the south and east of the REP site along Burt's Wharf. An estimated total heat demand of 291 GWh/annum has been identified following screening of buildings which would be unviable to connect. The heat demand requirements of individual businesses, and whether the REP ERF could supply the heat grade required, would need to be explored further. However, there appears to be an abundance of heat demand in relatively close proximity to the REP site, which could be supplied by hot water or steam from REP and offset carbon emissions. 2.5.20 The surplus heat demand captured under Option 2 should not be overlooked. Should heat export to consumers identified within Option 1 not materialise, the Applicant intends to engage further with key businesses identified within the CHP Assessment (5.4, APP-035). Of interest would be Archer Daniels Midland, a rapeseed oil refinery, which is suitably located on the south bank of the River Thames, approximately 1.8 km from the Proposed Development. This site alone has an estimated heat demand of 213 GWh/annum, as specified by BEIS UK CHP Development Map tool.	With regard to paragraph 2.5.18/2.5.19, the GLA comments in 2.5.16 above apply regarding the high-level nature of the analysis carried out in coming to the conclusions it has.
	2.5.21 The availability and thermal export capacity of RRRF is broadly equivalent to that of the proposed REP ERF. As discussed in the preceding sections, there is a significant volume of existing and proposed	The GLA comments in relation to the Applicant's paragraph 2.5.16, set out above, apply regarding the high-level nature of the analysis carried out in coming to the conclusions it has.

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	local heat demand which would require heat supply from both REP and RRRF to be satisfied more comprehensively and for the benefits of renewable/low carbon heat provision to be maximised.	
	2.5.22 The results of Phase 1 of the Thamesmead and Belvedere study feasibility study, referred to in the GLA's RR, indicate that opportunities exist to connect 15,200 new homes over the next 20 years, assuming a "realistic" scenario, although it has become evident that this level of growth is overly conservative. Attention is drawn to a recent announcement4 that Landlease has been selected as preferred bidder for the 11,500 home Thamesmead Waterfront development, which is being progressed by LBB's development partner for the Thamesmead and Abbey Wood area of the Borough, Peabody. This scheme is not fully accounted for in the Phase 1 feasibility study. Industrial heat demand in the Burt's Wharf area also appears to be under represented, and the study's authors intend to obtain energy consumption data for the largest industrial sites as part of its Phase 2 study. A finalised version of the Phase 2 study is due to be issued imminently.	The GLA comment in relation to the Applicant's paragraph 2.5.17, as set out above, addresses the Thamesmead revised figures. Ramboll have been asked to clarify whether Burt's Wharf has been included in the Belvedere Industrial area, the later having an insignificant demand compared with the former.
	2.5.23 Regarding the GLA's dispute of the projected performance of the proposed Facility against the Mayor's Carbon Intensity Floor (CIF) policy, the Applicant maintains that the Proposed Development would be compliant with the target outlined in the Adopted and Draft London Plans and the London	The Applicant has yet to provide adequate evidence that the efficiency performance of the ERF will be achieved in order to meet the claimed performances of the three scenarios modelled meeting the CIF. The GLA disputes that the CIF could be met in power-only mode (Scenario 1) because the Applicant's claimed electricity generating efficiency has never been achieved by similar operating plant. This is explained within

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	Environment Strategy across all operational scenarios. The Applicant has provided a detailed explanation of the progression of discussions and calculations in respect of CIF performance in the Combined Heat and Power Supplementary Report (5.4.1) and these are repeated below for reference.	the GLA's Written Representation, submitted at Deadline 2 (in section WR4). To reinforce the concern's regarding the REP's inability to reduce carbon emissions in power-only mode, the GLA commissioned Eunomia to carry out further work on carbon emissions based on government (BEIS) data. This approach was to ensure that the ExA would consider the report conclusions within the scope of the application process. The Eunomia report, dated 10 June 19, compares the carbon emissions of the REP in power-only mode against government forecasts for grid carbon intensity. The report determines the carbon impact of the REP electricity displacing grid electricity, based on the Applicant's claimed electricity generating efficiency. The report is appended at Appendix 3 of the Written Submission of Oral Case, submitted for Deadline 3. It concludes that, compared with the marginal generating plant comprising gas-fired combined cycle gas turbine plant, the REP carbon dioxide emissions are higher. Compared with the forecast grid carbon factor in 2021, the assumed operational start date of the REP, the emissions are considerably higher (see graph below). The REP, therefore, does not at any time contribute towards the transition to the low carbon economy in power-only mode.

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		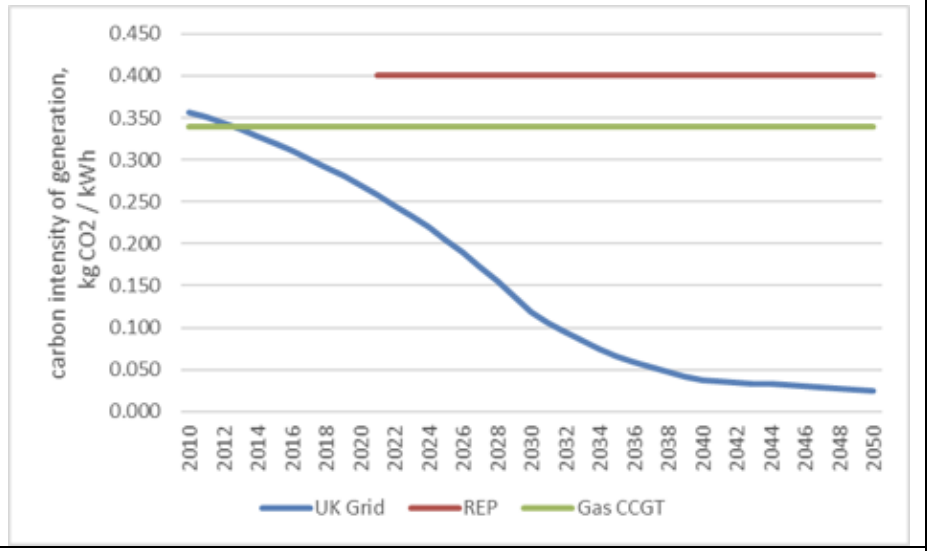
	2.5.28 Irrespective of the positive results under even the power only (non-CHP) scenario, the Applicant has put in place a number of demonstrable steps in order to realise heat export from REP.	This attempts to show adequate 'demonstrable steps' which is helpful in that it indicates acceptance by The Applicant that the policy is relevant.
	2.5.29 The Applicant is making significant steps, at its own cost, in establishing and maintaining momentum in the heat network development process via the Bexley District Heating Partnership Board. The Partnership Board is attended by representatives from the London Borough of Bexley (LBB), the London Borough of Greenwich (LBG), the Greater London Authority (GLA), housing developers Peabody and Orbit Homes, and the Applicant, and was established	The steps are however considered inadequate in that they only refer to discussions and an intention to supply; they do not go far enough in demonstrating that the waste is truly residual, a commitment via a Section 106 agreement or similar to deliver the necessary infrastructure or an agreed timeframe (as per Part D of Policy SI8).

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	in 2018 with the ambition of establishing a collective approach to the development of a heat network in the locality. The Applicant has expressed its intention to supply renewable/low carbon heat for residents and commercial developments through the provision of a low temperature heat network.	
Air Quality	2.5.32 The GLA states that the geographical scope and magnitude of the impacts on air quality is not in accordance with the London Plan or the draft London Plan air quality policies. The Applicant is uncertain what is meant by this.	This is further explained within the GLA's LIR and WR, submitted for Deadline 2.
	2.5.36 As detailed in the Environmental Permit and Air Quality Note (8.02.06), submitted for Deadline 2, the Applicant is proposing the installation of the NOx abatement technology of Selective Catalytic Reduction (SCR). The proposed SCR will result in significantly lower NOx emissions than were applied in the air quality assessment reported in Chapter 7 Air Quality of the ES (6.1, Rev 1).	The Industrial Emissions Directive does not allow for permits to specify the technology that is used to achieve specific emission limits, so the use of SCR cannot be directly secured through the permit. The SCR is shown on the indicative process diagram for the permit application but there are no plans showing how it will be accommodated within the proposed building envelope. Both the current and draft BREF notes state that the space needed to install and maintain SCR are significant constraints on their use as BAT. Without assurance that the unit can be accommodated on site it would therefore be open to the Applicant to argue at a later stage that it is not BAT, particularly if DCO requirements impose restrictions on the size and shape of the building. The Applicant should provide more detail on this point. As the provision of SCR has now formally been offered by the Applicant through its document 8.02.06 Environmental Permit and Air Quality, the Applicant should be asked to demonstrate how the SCR technology would be provided within its Works Plans.

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		The use of SCR usually imposes a parasitic load on the plant as the catalyst requires a relatively high temperature to operate and the flue gas may require re-heating to attain this temperature after it has passed through other treatment equipment. The GLA has noted in the Written Submission of Oral Case document that the emissions limits requested by the Applicant in their permit application are not guaranteed to be imposed by the Environment Agency.
	2.5.37 The Applicant understands the general sensitivity of air quality impacts within Greater London. Taking this into consideration, within the Environmental Permit (EP) application, the Applicant has proposed to commit and invest in the 'lowest' emission limit within the EP application for any conventional ERF within London or the UK. This will be secured in the EP.	The BAT-ELV range for NOx *with* SCR is 50 – 120 mg/m^3 so 75 mg/m3 does not in fact represent the lowest potentially available. In any event assessments are usually predicated on a worst-case emission limit rather than a best case. In this instance a true worst-case would be to model to the current emission limits in the Industrial Emissions Directive (for instance the IED limit for NO_x is 200 mg/m^3 as opposed to 120 mg/m^3 in the draft BREF). However, the GLA accepts that the draft BREF is likely to be adopted in time for the new emission limits to apply to this development. It should be noted that this point applies only to NO_x emissions. Emissions of other substances, including metals, would not be further reduced by the use of SCR and appear to have been modelled at the upper bound of expected emissions limits or measured performance of similar plant.
Transport	3.11.11 Operational controls on waste by road are now proposed (max of 90 HGV movements each way) - see proposed new DCO requirement	TfL and GLA have reviewed new draft Requirement 14 provided by the Applicant at Deadline 2. Commentary is provided within Sheet 4 'GLA commentary on other documents prepared by the Applicant for Deadline 2'.

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	3.11.13 – 3.11.24 Construction phase impacts on A2016/A206 Corridor - The Applicant has prepared two additional technical notes that reflect the decision to route the Electrical Connection along the A2016/A206 (appended to The Applicant Response to RRs)	TfL consider that it is likely that the construction of the Electrical Connection will result in disruption to road users, including buses run by Transport for London. The applicant has conceded this in their TA as well as Technical Note 13. The route for the Electrical Connection was only recently determined. The Applicant has provided more information in the form of Technical Notes for 'Deadline 2' on 20 May 2019. In these Technical Notes, the applicant indicates that the impact of the Electrical Connection would not be significant on most of the road network based on the theoretical capacity of a dual carriageway road as set out in the DMRB (which would be 3,200 vehicles in each direction and the current number of vehicles on much of the network is closer to 1,300 per vehicles). TfL notes that this is a theoretical maximum capacity and that the road network is constrained mostly by the capacity of the junctions along the route, not by the links themselves. The Applicant states that there are some impacts, most clearly at the Erith Roundabout and James Watt Way junction. TfL think that it is likely that impacts will also occur at other junctions, given that loss of an arm or even a lane on a junction, which is likely to be the case as part of the Electrical Connection construction, would have impacts on this road network which TfL understands is currently already busy, especially during the peak hours. Now that the route has been chosen, TfL has set out a list of likely pinch points, for which additional assessment is expected should the construction of the Electrical Connection require an arm or lane closure at these junctions. These junctions are set out below in this document. The additional assessment will need to focus on impact of construction on bus services: what will the additional delay be at these junctions and will bus diversions or frequency increases be required? Bus routes affected include the 99, 180, 229, 401, and 428

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	3.11.16 Parking - following discussion with TfL, The Applicant has reduced on construction phase site parking by 50% and amended the proposed hours of working	The applicant is now proposing reducing the maximum amount of construction parking from 550 to 275 spaces, which means 25% of their workforce would drive. This would be from month 9 to month 22 (13 months) before and after there would be fewer construction workers required on-site and fewer parking spaces provided Their construction workforce workday will be a single shift 12h workday from 07:00-19:00 with people arriving between 06:00-07:00 and departing after 19:00. This would take their construction workforce trips out of the peak, reducing the impact on the network. This has been secured in the Construction Traffic Management Plan. The CTMP and Construction Worker Travel Plans, secured through DCO, will set out how staff are brought to site and at that stage TfL will determine if the measures are acceptable.
	3.11.23 The Applicant proposes further mitigation in revised Outline CTMP for Erith Roundabout	The Applicant proposes specific routing/construction around Erith roundabout to reduce impact of construction as much as they see possible. For example, the applicant commits to avoiding the use of the northbound arm of the Erith Roundabout for Electrical Connection construction, however they may still need to close the eastern arm. Based on this, the junction should be modelled with this impact to show the likely effect on queueing and time delay. Assessing the time delay would allow TfL to consider the extent of required diversions for buses or increased frequencies to mitigate these delays. Furthermore, TfL consider that the impact of the Electrical Connection construction will not only impact on Erith Roundabout and the James Watt Way junction, but is likely to affect all main junctions along its route if arm/road closures are required, which the Applicant has not ruled out at this time. Therefore, as set out in the Written Submission of Oral Case document, TfL would seek additional assessment of

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		several highlighted junctions once the detailed construction routing (including the location/necessity of lane and road closures) is set. This assessment would need to be included in the CTMPs for each of these sections. • A2016/Eastern way/Yarnton Way/Clydesdale Way • Horse roundabout • Erith Roundabout (or Fish Roundabout) • James Watt Way/A206 junction • A2016/Colyers Lane junction • A206/Bridge Road junction • A206 Northend Road/Parkside Avenue/A2000 Perry Street/Wyatt Road roundabout • A206 Thames Road/Thomas Road/Howbury Lane/A206 roundabout • A206 Thames Road/B2186 Crayford Way roundabout It may be that through choosing a specific routing of the Electrical Connection or timing of the works that the impacts on the junctions listed could be minimised to the point that they are negligible. However, at this stage this cannot be determined as full details regarding the construction of the Electrical Connection are not available.