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Lead Member of the Panel of Examining Directors
The Planning Inspectorate
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Dear Dr Harrison

RE: Application by Port of Tilbury London Limited for an Order Granting Development Consent for a Proposed Port Terminal at the Former Tilbury Power Station ('Tilbury2')

Buglife would like to make the following representations concerning the above application.

### **Summary**

The Tilbury 2 application site, including the Tilbury Power Station, supports nationally significant invertebrate populations and habitats that would be permanently lost should the application be granted permission. The diverse invertebrate assemblage, which includes records for 15 Priority Species of invertebrate in the last ten years, has been identified as significant in a national context and sufficient for the site to qualify as a Site of Special Scientific Interest. The site itself supports unique and irreplaceable brownfield habitats which cannot be re-created with any confidence, including the Lytag Brownfield Local Wildlife Site.

In our view, the Environmental Statement fails to accurately assess the value of the complex mosaic of habitats on site. The ES underestimates the extent of Open Mosaic Habitat on Previously Developed Land and fails to adequately assess impacts on species or habitats of conservation concern. No detailed off-site compensation plans have been submitted, preventing a meaningful Environmental Impact Assessment from being undertaken, while initial outlined proposals are extremely unlikely to succeed. Buglife, the national experts in brownfield management and ecology, consider the application to be wholly unfit for purpose and lacking key information, and that the development would deliver unacceptable net losses of biodiversity at a nationally significant level.

#### The presence of an outstanding invertebrate assemblage of SSSI quality

The application site supports a nationally important assemblage of invertebrates, with 1,397 species recorded in the 2016/17 surveys, including 159 species of conservation concern or 11.4% of the total species list. Importantly a very high proportion of species, 2.2%, have been identified as rare or threatened. Since 2007, 15 species listed in Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 have been recorded, including: Sea aster mining bee (*Colletes halophilus*); Shrill carder bee (*Bombus sylvarum*); Brown-banded carder bee (*Bombus humilis*); Five-banded weevil wasp (*Cerceris quinquefasciata*); Wall butterfly (*Lasiommata megera*); Saltmarsh shortspur beetle (*Anisodactylus poeciloides*); Hornet robberfly (*Asilus crabroniformis*); Red-shanked carder bee (*Bombus ruderarius*); Blackheaded mason wasp (*Odynerus melanocephalus*); and Four-banded weevil wasp (*Cerceris quadricincta*).

This outstanding assemblage is one of the most important in the Thames Estuary area. The Thames Estuary itself has been acknowledged as a national hotspot for invertebrate species diversity for a number of years and the survey data available suggests that the application site is one of the most valuable sites yet surveyed. This is supported by Natural England's opinion dated 8<sup>th</sup> January 2018, is that "the overall assemblage could be considered to be of sufficient quality to meet the designation requirements of a Site of Special Scientific Interest (SSSI)" and "the overall invertebrate assemblage to be significant in a national context."

#### **Loss of Local Wildlife Sites and potential SSSI habitat**

The proposed development would lead to the complete loss of two Local Wildlife Sites (LoWS), namely the Th39 Lytag Brownfield LoWS and Th40 Tilbury Centre LoWS, while also potentially damaging and crossing the Th37 Tilbury Marshes LoWS. These sites support a range of high quality habitats that contribute to the site-wide mosaic of features supporting nationally rare and scarce species, including diverse brownfield habitats (as detailed below), grazing marsh, brackish ditches, reedbeds, complex grassland mosaics, flower-rich early successional vegetation. These habitats in combination and in their own right support a diverse assemblage of invertebrates. Indeed, the application site area crossing the Tilbury Marshes LoWS alone, identified as 'The Infrastructure Corridor' in the 2017 invertebrate report by Mark Telfer is referred to as "probably of national importance in its own right", however, Buglife considers its contribution to the wider site as more important than its value in isolation.

Of particular note is the Lytag Brownfield LoWS, which Natural England have noted as "regarded as almost unique in England and, whilst a brownfield habitat is man-made, would be very difficult to re-create with confidence on a compensation site should it be lost to development." The unique site history and diversity of habitats makes the Lytag brownfield site one of the most important wildlife sites in Essex. Combined with its nationally important invertebrate assemblage, Buglife is of the view that the site should be designated as a SSSI to safeguard its long known brownfield interest. As a unique site of brownfield natural heritage, it should be considered a key asset in conserving the UK's biodiversity and therefore protected from any future developments.

### **Loss of Open Mosaic Habitat on Previously Developed Land**

The site supports an outstanding resource of Open Mosaic Habitat on Previously Developed Land (OMHPDL), a habitat of conservation priority listed under Section 41 of the NERC Act. Buglife considers the Environmental Statement (ES) to have significantly underestimated the OMHPDL resource, although

acknowledges that the national importance of the habitat is reported. The whole Lytag Brownfield LoWS site itself is 12 hectares, in excess of the applicant's supposed figure of 9.3ha of OMHPDL across the entire application site and requiring compensation.

It is essential that the ES accurately assesses the extent and value of the OMHPDL found on site as it is key to supporting the site's significant biological interest. Buglife considers that the ES's assessment fails to appropriately consider the wider mosaic of early successional habitats such as: Pulverised Fuel Ash (PFA), Lytag and other substrates, drought stressed grasslands and lichen heath, herb and lichen-rich grasslands as well as the scrub resource. The spirit of the OMHPDL criteria is that the wider site mosaic includes a diverse range of habitats in complex mosaics, but the ES appears to overlook habitat parcels and types which should be part of the calculation. The OMHPDL criteria provides significant scope for the variation of habitats which should be considered to be part of the site-wide mosaic, with the UK Biodiversity Action Plan Priority Habitat Descriptions (2008) going as far as stating that in addition to the detailed criteria for a site to qualify as OMHPDL based on early successional habitats, size, bare ground, a history of disturb and a mosaic of habitats, that "Other communities or habitats might also be present (e.g. reed swamp, open water), but early successional communities should comprise the majority of the area." In stark contrast the submitted map of Section 41 habitats, used to calculate the area of OMHPDL to be compensated, appears to exclude extensive areas of neutral grassland which have developed over PFA that are identified in the 2017 invertebrate survey report by Mark Telfer. The apparent reason for this was the species-poor nature of the grassland flora, which completely overlooks their potential ecological value for invertebrates and their role within the site's habitat mosaics. Such extensive and unmanaged grasslands on low nutrient substrates can be a key feature within diverse mosaics and their oversight is a demonstration of inaccuracies in the ES.

In addition, although individual components of the wider site such as relict grazing marsh, diverse grasslands, ditches, scrub and ruderal resources may not individually qualify as Section 41 habitats, the intricate mosaic of these habitats and their complimentary nature prevent them from being considered in isolation. The individual assessment of compartments falls short in recognising their contribution to the site's brownfield biodiversity and the diversity of the supported invertebrate community.

## Incorrect assessment of current site status and quality

The high value of the overall application site is confirmed by the ES and the invertebrate survey reports which contributed to it. However, Buglife strongly disagrees with the assertion of the ES that the Lytag Brownfield LoWS is declining in quality and at risk of being lost to successional processes.

The entire site mosaic, which includes the Lytag Brownfield LoWS, remains of the highest quality, as confirmed by both invertebrate reports. The 2016 report by Colin Plant Associates explicitly states that "the Lytag Brownfield retains the same high level of importance as an invertebrate site that was demonstrated in 2008" and "with very little difference and perhaps none of ecological consequence". As with any site, it is expected that there will have been some habitat changes on site, with some later successional species gaining prominence, but as noted in the ES itself, "the general character of skeletal and early-successional vegetation remains intact". Indeed, in specific reference to the Lytag Brownfield site, the 2017 invertebrate report by Mark Telfer states that it supports "a large number and percentage of Rare Key Species" which does not suggest a site/compartment in decline. The ES highlights that the 2017 survey compartment termed 'The Rest' supported the greater number of species during the 2017 surveys, however, it is important to note that this was the largest compartment, running nearly the length of the application area, contains possibly the highest diversity of habitat types and is adjacent to all of the other survey

compartments so will be capturing the interest and species from all of these. This higher number of species in 'The Rest' is an effect of sampling across a large and diverse site of overall enormous value, rather than indicating that the Lytag Brownfield areas is of decreased importance

The ES's focus on the relative value of different compartments, notably appearing to pick out the Lytag brownfield LoWS as being of reduced value and significance, again suggests a lack of understanding of invertebrate ecology, for example, many species will utlise different habitats or parts of the site at different stages in their life-cycles, and more mobile species will utilise habitats across multiple compartments. The ES is highly selective in detail in criticism, for example the Lytag brownfield component alone contains 2.2% rare key species, a very high proportion. As noted in the 2017 invertebrate report, when discussing the 2.2% figure for the entire site's fauna, it is noted by the author that "This very high percentage of Rare Key Species... supports the assessment as a site of high conservation importance for invertebrates in a national context." It is not explained why a value of 2.2% is viewed differently when describing only the Lytag Brownfield site in isolation rather than the entire site.

Buglife's view is that the combined invertebrate survey reports of 2008, 2016 and 2017, with data collections and assessment from three respected entomologists, clearly describe a site that in its entirety is of outstanding value for invertebrates. And that the unique combination of conditions and habitats is the reason for the exceptional diversity of invertebrate wildlife. Invertebrates, particularly those associated with brownfields, often require diverse habitat features in an intricate mosaic to complete their lifecycle including features such as unmanaged extensive grasslands (often species poor), seasonally wet features, bare ground and scrub.

It has also been suggested during discussions with the applicant that the site is declining due to the invasion of bramble, and through nitrogen deposition resulting from the adjacent treatment works. However, although publicly available aerial imagery shows and a sit visit have confirmed that there has been some development of scrub in localised areas of the site, but this is not indicative of the wider site deteriorating and could be easily addressed if it became a significant concern. An absence of management activity will inevitably lead to a degree of succession on all sites. In fact it is quite likely that the current limited resource of developing scrub is beneficial to the site, providing a greater diversity of habitats which complement the extensive open habitats and provide structural variation. The OMHPDL criteria document includes the statement that "scattered scrub (up to 10–15% cover) may be present and adds to the conservation value of the site".

Current invasion by scrub is largely dominated by immature scattered scrub only and is in no way irreversible. Paragraph 10.308 of the ES suggests that the biodiversity interest associated with the open habitats will be significantly lost within a 5-10 year period. Buglife strongly dispute this claim. As discussed, there is no evidence of any negative impact on the site's invertebrate assemblage. In addition, it is important to note that should scrub become a greater issue in future, simple and easily undertaken management can be undertaken which would maintain the extent of open habitats. An absence of current management cannot be used to justify the wholesale loss to a nationally important site- were the same rule applied to nationally important grassland or heathland sites, which require considerably higher levels of intervention, their loss to development would not be considered acceptable in lieu of introducing management.

The suggestion of underlying changes in soil chemistry and pH in the application site is also not supported by sufficient evidence, but observations from a single part of the site, that was created for research a number of years ago. Paragraph 10.307 of the ES suggests that outputs from the adjacent treatment works may be leading to increased nitrogen deposition and changes in substrate chemistry that may lead to

losses of open habitats across the site. However, this assumption appeared to be based on samples taken very close to the source, from the TEEC areas of the site, and is a very broad assessment which is not supported by significant analysis, nor has any attempt been made to correlate soil chemistry with overlying habitat types. Considering the size of the application site, much of the interest lies at a considerably greater distance, up to 700m away from the source, and it is simply not possible for any assessment of the potential input of the treatment works to the site to be made without dedicated analysis. Crucially, should there be evidence of changes in soil chemistry, the extensive habitat resource and likely depth of aggregates on site (including Lytag and PFA), means that simple inversion of some areas of aggregate could mitigate this impact. Inversion of aggregates exposes fresh underlying low nutrient substrates for colonisation by pioneer species and specialists associated with early successional habitats. Again, a 'do nothing scenario' or absence of management has been incorrectly applied to a nationally important site.

It is also Buglife's view that the site should be designated a SSSI, supported by the invertebrate assemblage assessments undertaken by Natural England. Should the site be designated as a SSSI, a statutory responsibility to maintain the site in a favourable condition would then require that the management actions described above around scrub and substrate inversions be considered, removing any suggested risk of the loss of species associated with the site's open habitats.

## Unclear and untested mitigation plans and unacceptable net losses of biodiversity and habitats

At the time of Buglife's comments, there remain three significant issues around mitigation which remain unaddressed, including (i) a disregard for the mitigation hierarchy, (ii) absence of a meaningful off-site mitigation plan to inform an Environmental Impact Assessment (EIA) and (iii) inappropriate proposed mitigation plans.

Firstly, despite the site including three Local Wildlife Sites of known interest and the presence of detailed invertebrate surveys prior to the application, it appears that no effort was made to follow the mitigation hierarchy. No effort has been demonstrated by the applicant to retain the key areas of Section 41 habitats on site, with wholesale losses of the areas identified as being of national importance for invertebrates. By the time that Buglife were engaged to consult on the application and the results of the 2016-17 invertebrate surveys which were commissioned, the design and layout had been determined by the applicant. Best practice for ecological issues should always be to undertake surveys first, and use these findings to inform the design of a scheme which avoids or minimises the potential net losses of biodiversity. In this case, the key planning principle that developments should seek to avoid or minimise impacts on biodiversity appears to have been overlooked. It would appear that the mitigation hierarchy, a key planning principle of sustainable development, has been entirely overlooked, with no attempt to 'Avoid' or 'Mitigate' but only consider a 'Compensate' approach once a design had already been agreed.

Secondly, it is notable that due to a Non-Disclosure Agreement (NDA) with the landowner, no detailed information whatsoever has been provided on what the off-site mitigation scheme includes. Port of Tilbury London Limited has only provided vague information around location and a commitment to recreating certain habitats. However, without any detailed mitigation plan it is simply impossible to state whether the off-site compensation is capable of delivering 'no net loss' of biodiversity as is claimed. A complete absence of habitat creation detail, location, size, scale, of habitat or proposed creation or management methods at such a late stage is naive and prevents any meaningful EIA from being produced. This position has been noted by Natural England in their representations dated 8<sup>th</sup> January 2018, where it confirms that without such information, "The ES should be regarded as incomplete". The applicant proposes that "Details of the construction of created habitats will be set out in the Ecological Mitigation and Compensation Plan (EMCP)"

and made an enforceable part of a Development Consent Order. It is entirely unacceptable to permit the loss of a nationally important wildlife site without a fit-for-purpose EIA being submitted and available for scrutiny by stakeholders and experts. Of additional concern is the attempt of the ES to undertake a Residual Effect Summary (Paragraph 10.386 and Table 10.52) without any information on off-site compensation to inform the assessment. This approach renders the EIA process completely inappropriate and raises the risk of significant long-term negative impacts.

At present the only mitigation measures in the public domain are a very limited amount of on-site habitat retention, largely ditches and boundary features, while the vast majority of the brownfield invertebrate interest will be lost. The applicant's primary off-site compensation proposal is to recreate brownfield habitats on a former arable field. Such an approach is entirely unacceptable as there is no evidence of the successful creation of brownfield habitats for invertebrates, representing a significant risk of long-term biodiversity losses linked to the application. Paragraph 10.326 of the ES states that "proposals centre on translocation of substrate from the most important areas of these LoWS to an ecologically appropriate location, to attempt to rescue at least a proportion of the plant, lichen and invertebrate interests and to kick-start their recreation elsewhere." This statement acknowledges that the poorly planned strategy is an "attempt to rescue" at least "a portion" of the current biodiversity interest, an acknowledgement that biodiversity losses are expected. The re-use of materials from the application site is clearly preferable to the use of virgin aggregates, but the methodologies remain untested on any large scale and should not be used as the main mitigation or compensatory measure for a nationally important site with a SSSI-quality assemblage. Crucially the habitats at Tilbury Power Station have developed over a number of decades and over a site featuring a fine-scale mosaic of substrates, including Lytag and Pulverised Fuel Ash (PFA), but also hardcore and hardstanding, with a diverse range of activities over time leading to spatial variation in hydrology, aspect and drainage. Brownfield sites such as the Tilbury 2 application site take many years to reach their peak value for biodiversity, often due to the need for repeated processes and activities rather than a single creation period, which do not create successional mosaics. There remains a complete knowledge gap around the ability to recreate brownfield and to mimic the complicated processed which have creates the highest quality brownfield sites in terms of their substrate diversity, topography, hydrology and structural vegetation mosaics. The Port of Tilbury London Limited has suggested that "successful brownfield habitat creation/re-creation is achievable in principle on the basis that brownfield sites are themselves habitats of anthropogenic origin, developed over comparatively short timescales (decades) as opposed to irreplaceable habitats such as ancient woodlands which have developed over centuries". Buglife strongly disputes this statement. Comparison to ancient woodlands is inappropriate and irrelevant in this instance and demonstrates a lack of ecological understanding. Natural England's representations mirror Buglife's position, stating that "whilst as a brownfield habitat it is man-made, [it] would be very difficult to re-create with confidence on a compensation site should it be lost to development."

Regardless of the difficulty in re-creating brownfield habitat features, it is also important to note that the proposed site (s), despite the NDA, have been confirmed as arable. Such a site would be a wholly inappropriate starting point for brownfield habitat creation. High quality brownfield habitats tend to develop on low-nutrient soils and substrates, whilst arable fields will have been subject to fertilisers, manures, pesticides, fungicides, etc over a great many years, and would support a seed bank of competitive arable weeds. Many brownfield species plants require a low nutrient substrate to compete and would be potentially swamped by agricultural weeds and plant species more suited to high input environments. Buglife are national experts in brownfield ecology and management, and consider this approach to be unproven and extremely unlikely to produce habitat of any comparative value to the potential losses of the application site. As such, the reliance on off-site compensation represents a very

high risk of permanent, significant net losses of biodiversity, with national impacts that remain unaddressed by the application.

# Cumulative impacts of the proposals on invertebrate metapopulations and habitat connectivity

As discussed, the application site represents one of the finest invertebrate habitat resources in the Thames Gateway, and was originally identified as being of high potential (for rare and scarce invertebrates) in Buglife's 'All of a Buzz in the Thames Gateway' project (2005-7). Following the initial 'The State of Brownfields in the Thames Gateway' report of 2013, Buglife went on to revisit the identified sites and found that over 50% of these sites had been lost in the six years since mapping. The development at Tilbury would add to the progressive loss of wildlife-rich brownfields and threaten the integrity and long-term future of the nationally important invertebrate assemblages in the region.

The application fails to undertake a suitable Cumulative Impact Assessment, looking at the impact of the development alongside the impacts of expected major developments nearby, such as the Lower Thames Crossing and the Tilbury Energy Centre. Many invertebrate species exist in metapopulations, notably the Brown-banded carder bee and the Shrill carder bee - which has arguably its most important metapopulation along the Thames Estuary, including the application site. To maintain the nationally important populations of rare and scarce invertebrates in the Thames Estuary, it is essential that a wider assessment of the impacts of developments is undertaken and a more coordinated approach taken to mitigation and compensation schemes. This view is shared by Natural England. It is acknowledged that publicly available information on the proposals for both the Lower Thames Crossing and Tilbury Energy Centre are currently limited, however, some consideration of their potential impact is considered necessary due to the considerable scale of landscape change likely to result from a series of such large Nationally Significant Infrastructure Projects (NSIPs). The potential of the scale of loss is only briefly touched on within the assessment of cumulative impacts. In Table 20.1 showing the assessment of cumulative impacts on terrestrial invertebrates, it is stated that "Regionally or even nationally significant cumulative effects are possible, but are not likely to modify the assessment of significant adverse, regional level impacts applying to the Tilbury2 project alone." It is more appropriate for the impacts to be set as national for both the development itself and the cumulative impacts in the region of the progressive loss of OMHPDL sites along the coastal areas of Thurrock that run east from Tilbury.

The Thurrock area once featured extensive areas of Thames Terrace Grassland, where flower-rich and drought-stressed grasslands developed over free-draining sands, supporting a distinctive invertebrate fauna. However, only a tiny resource of unimproved Thames Terrace Grasslands now remain as a result of agriculture, industry and urban expansion, with the region's important brownfield sites providing surrogate habitat features for those lost in the wider landscape. Recent development policies have led to this resource of brownfield sites being progressively lost to development, with many further valuable sites due to be lost and with active planning applications. Remnant sites such as the Tilbury Power Station and West Thurrock Marshes (SSSI/LoWS) to the West and Canvey Wick SSSI to the East are essential to the conservation of the invertebrate metapopulations that make the region a national hotspot for invertebrates. A number of species are either found solely in the Thames Estuary or have their strongholds here, and the loss of further sites threatens their long-term future.

## Additional support for Buglife's stance

The value of the Tilbury Power Station site has been known for a number of years and the lack of value put on the ecological value of the site has been noted by both the wider community and key strategic partners.

Confirmed supporters of Buglife's submissions to the Planning Inspectorate include the **Bumblebee**Conservation Trust, Essex Wildlife Trust and Essex Field Club. Concern has been expressed over the impact on invertebrates as well as other species groups, notably reptiles with the site identified as one of the best in Essex in the Lytag Brownfield LoWS citation.

This support is in addition to a **74,300** strong petition with our partners 38 Degrees, with comments in support such as: "We need our wildlife more than we need piecemeal development", "Save special places and wildlife for future generations", "This is such an important site and must be saved from destruction", "Brownfield sites are sometimes more important than the greenbelt by its side. Protect this site" and "Protecting high biodiversity sites with nationally important populations of rare species is one the most basic and elementary actions for nature conservation and protecting the environment". These 74,300 signatures have been included as Annexes A-H for consideration and demonstrate the strength of feeling that such a valuable and high quality invertebrate site be safeguarded from inappropriate development.

#### **Planning policy position**

Buglife acknowledges that the National Policy Strategy (NPS) over rides the National Planning Policy Framework (NPPF) where NSIP applications are concerned. However, Buglife consider the application to fail to meet the guidance laid out in both the NPS and the NPPF.

Buglife have outlined the inaccuracies in both assessing the value and impacts of the application on Priority habitats and species. This goes against Paragraph 5.1.4 of the NPS for Ports (2012) that states that "the applicant should ensure that the ES clearly sets out any effects on internationally, nationally and locally designated sites of ecological or geological conservation importance, on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity". At present the significant gaps in knowledge and available information prevent a suitable assessment of long-term effects from being undertaken. In addition, Paragraph 5.1.5 states that "The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests." The current proposals would lead to significant net losses of biodiversity and the loss of irreplaceable habitats, which clearly goes against the recommendations of the NPS.

Notably, Paragraph 5.1.12 states that "Where a proposed development on land within or outside a SSSI is likely to have an adverse effect on an SSSI (either individually or in combination with other developments), development consent should not normally be granted". Buglife notes that the application site does not contain a current designated SSSI nor is it afforded any other statutory protection, however, Natural England have identified the site as being of SSSI quality, raising the question of whether it should be treated as such.

Although the NPPF is subordinate to the NPS, it may still be considered as a material consideration. Buglife consider the application to fail to meet the biodiversity requirements of the NPPF. Paragraph 109 of the National Planning Policy Framework (NPPF) states that "the planning system should contribute to and enhance the natural and local environment by...minimising impacts on biodiversity and providing net gains in biodiversity where possible". The proposed development does little to attempt to minimise its significant impacts and biodiversity losses, while clearly having negative impacts on a nationally important invertebrate assemblage and a unique and irreplaceable series of habitats. The current proposals would lead to significant permanent net losses in biodiversity.

In addition, Paragraph 118 of the NPPF states that when considering conserving and enhancing biodiversity, that if "significant harm resulting from a development cannot be avoided, mitigated, or, as a last resort, compensated for, then planning permission should be refused". At present this application does not meet the requirements of the NPPF due to a significant loss of nationally important OMHPDL and its associated invertebrate assemblage, including 15 Section 41 species, with an off-site compensation package that is both lacking detail but also fundamentally flawed in its approach and unlikely to offer sufficient opportunities for the site's biodiversity.

Buglife urges The Planning Inspectorate to refuse the granting of consent for Tilbury 2 due to the irreversible impacts on a site and invertebrate assemblage of national importance and of SSSI quality.

Please do not hesitate to contact me if you would like further information on any of the points raised.

Yours sincerely

Jamie Robins

**Projects Manager**