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Lidl Ballymun MetroLink Site

ABP-314724

Attachment 4a: PUNCH Civil/Structural Engineering Report - Module 1

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Table of Contents

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2 Introduction

This report has been prepared as part of a submission by Lidl Ireland GmbH for the An Bord Pleanala Oral hearing relating to the Dublin MetroLink project - Ref ABP-314724-22 Submission Number 169. The report covers Civil Engineering matters specific to the site.

Lidl's site in Ballymun has been identified as a key site for the MetroLink project and in the permanent case will contain part of the proposed Northwood station, as well as connecting sections of tunnel. During the construction stage of the project, the site is proposed to be used as a key launch site for MetroLink tunnelling and associated construction activities. Hence, the site is of fundamental importance to the successful delivery of the MetroLink project.

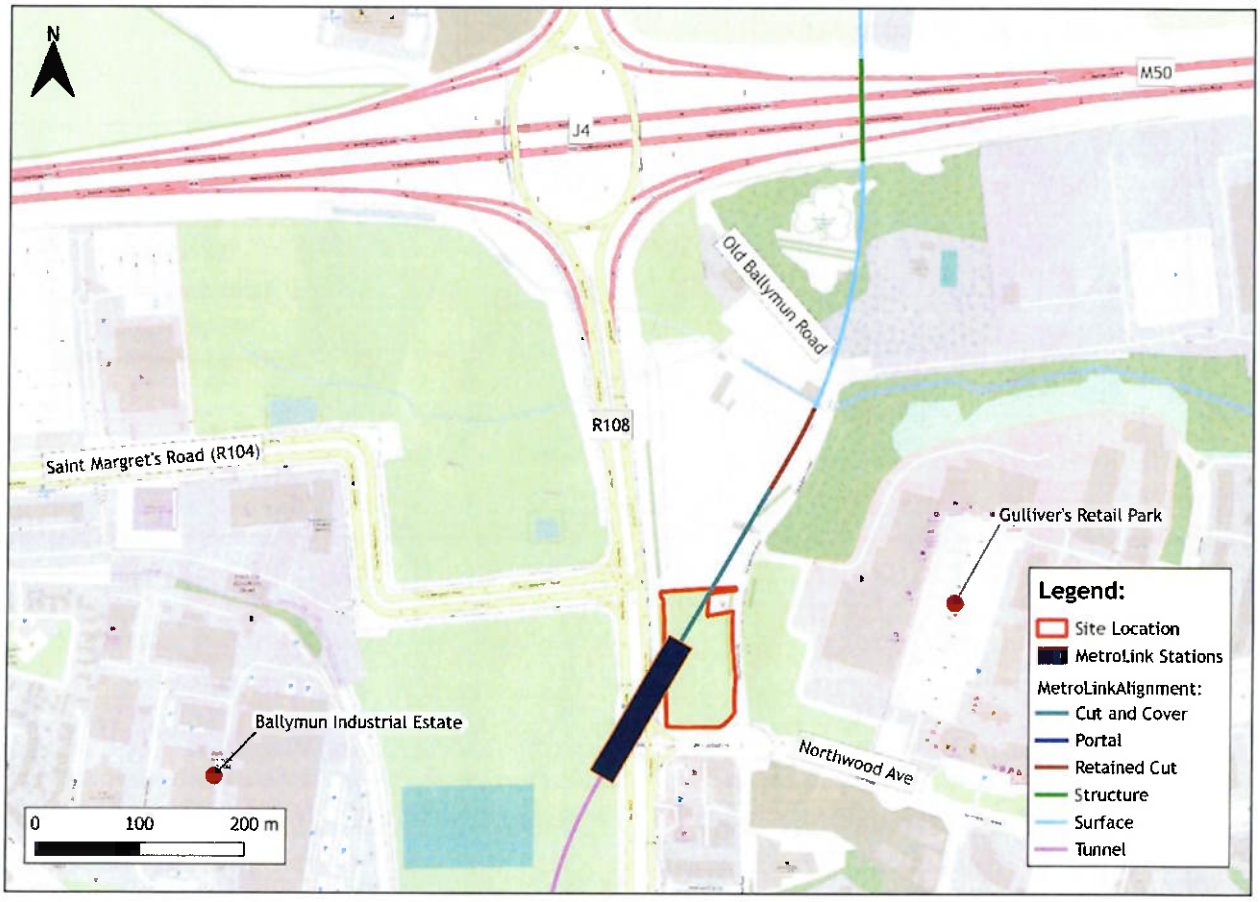

Figure 1: Site Location Map, with MetroLink Infrastructure included. The proposed Northwood Station encroaches on the Lidl site in Ballymun.

3 Site Development - Civil Engineering - Land Contamination

Figure 2 below shows the extent to which Lidl's site in Ballymun is to be impacted by the installation of the Northwood station, and also the area that is proposed to be taken as a temporary site to facilitate a contractor's compound during the construction of the MetroLink project. Historical mapping indicates the site has not been developed on, and therefore, the risk of pre-existing contamination on the existing site is low.

The long-term impact of the construction activities that will be carried out on site will change the existing use of the site from greenfield to non-greenfield. As set out in the EPA's "Guidance on waste acceptance criteria at authorised soil recovery facilities" there is significantly higher requirements for soil testing and classification in the removal of non-greenfield soil and stone waste than there is for removal of greenfield soil and stone.

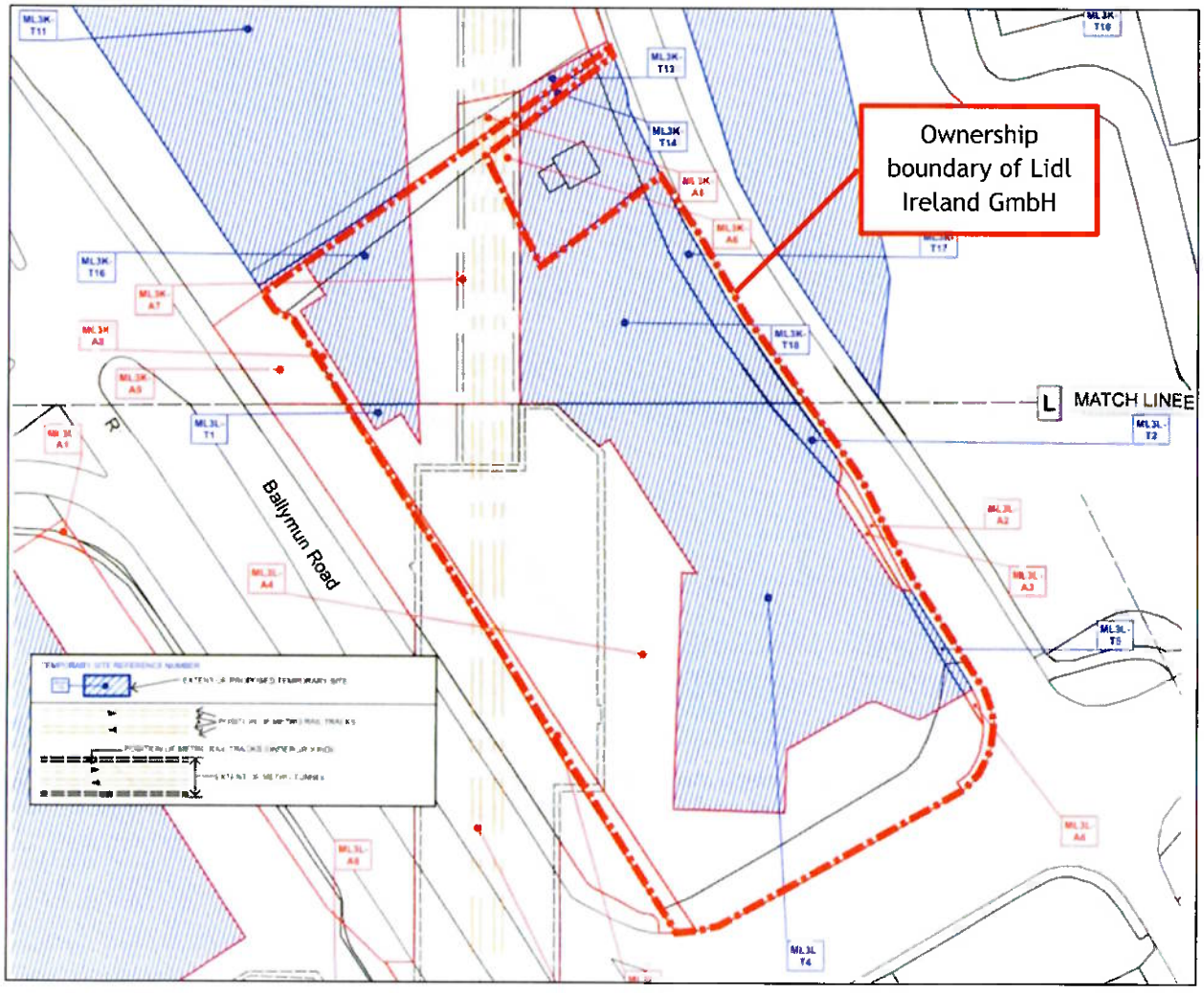

Figure 2: Image taken from TII/JACOBS Railway Works Metrolink - Property Details Gulliver's Retail Park (Plan Number ML-P 303 K-L) and Railway Works Metrolink - Property Details Northwood (Sheet 1 Of 2) (Plan Number ML-P 303 L-M)

3.1 Land Contamination Risks

Construction works have the potential to impact soil and groundwater through various contamination sources. The following list notes ways soil and groundwater can be contaminated during construction works, including creation of a long-term compound which will be in place during the MetroLink works:

1. **Storage and Handling Practices**: Improper storage and handling of construction materials, such as fuels, paints, and chemicals, can lead to spills and leaks, contributing to soil and groundwater contamination.
2. **Accidental spills and leaks**: Accidental spills or leaks of construction materials, such as fuels, lubricants, solvents, and chemicals, can infiltrate the soil and contaminate both the soil and groundwater.
3. **Improper waste stockpiling**: Incorrect stockpiling of construction waste, including hazardous materials into open areas can lead to soil and groundwater contamination.
4. **Stormwater Runoff**: Rainwater can wash away construction-related pollutants, including sediment, concrete washout, and chemicals, which may ultimately reach and contaminate groundwater.
5. **Excavation and Grading**: Disturbing the soil through excavation and grading activities can expose disturb contaminants, allowing them to enter the groundwater.
6. **Boring and Drilling Operations**: Soil boring or drilling activities can introduce contaminants into the ground, especially if drilling fluids or chemicals are used.
7. **Inadequate Erosion Control**: Insufficient erosion control measures can result in sediment runoff, carrying pollutants into nearby water bodies and potentially infiltrating the soil.
8. **Vehicular Traffic**: Leaks from construction equipment and vehicles can carry hydrocarbons, ultimately polluting the soil and groundwater.

Given the extent of the works taking place at the site, and the potential duration for which the site will be used (which currently has not been clearly set out by TII), of up to or in excess of 10 years, and given the risks set out above, it is clear that it would be impracticable for the land to be handed back "in the same condition in which it was received" as noted by TII in their response to submission number 169 as part of the Metrolink Oral Hearing ABP-314724-22. In order for an equivalent standard to the existing to be achieved, well defined mitigation measures are required to be put in place and enforced. Additionally, the pre-development condition would be required to be determined in order to have a standard to measure the post-development condition against. This is outlined further in Section 2.2 of this report.

3.2 Mitigation of Land Contamination Risk to Lidl

To mitigate risk of soil contamination to the Lidl site in Ballymun, it is imperative that TII ensures that robust environmental management plans are implemented and all regulatory requirements and guidelines are adhered to in order to prevent soil and groundwater contamination.

Additionally, in the event that the MetroLink proposals are granted, An Bord Pleanála should ensure conditions are imposed that require TII to carry out a detailed series of soil and groundwater sampling and testing to determine the pre-construction and pre-commencement conditions at the Lidl site to determine a baseline status.

Soil and groundwater sampling should be conducted at different depths to identify potential contaminants. The number and depth of samples should comply with industry standards, such as those set by the Environmental Protection Agency (EPA) or other relevant regulatory bodies and supervised by a suitably qualified Environmental Consultant. A groundwater monitoring well should be put in place at the site to determine long-term groundwater quality status covering the full duration of the Lidl site being in use by TII.

To enforce this condition, TII should be required to submit a detailed soil contamination testing plan as part of their planning compliance.

On completion of the works, TII should then again be required to conduct another series of soil and groundwater sampling at different depths to identify potential contaminants. The site should only be handed back to Lidl when TII can demonstrate the post-construction soil and groundwater status is at the same standard or a higher standard than it was when TII took over the site for the MetroLink works.

4 Conclusions/Recommendations

We make the following recommendations to the Board:

3.1 In the event that the MetroLink proposals are granted, An Bord Pleanála should ensure conditions are imposed that require TII to carry out a detailed series of soil and groundwater sampling and testing to determine the pre-construction and post-commencement condition at the Lidl site. Soil and groundwater sampling should be conducted at different depths to identify potential contaminants. The number and depth of samples should comply with industry standards, such as those set by the Environmental Protection Agency (EPA) or other relevant regulatory bodies and supervised by a suitably qualified Environmental Consultant. A groundwater monitoring well should be put in place at the site to determine long-term groundwater quality status covering the full duration of the Lidl site being in use by TII. The site should only be handed back to Lidl when TII can demonstrate the post-construction soil and groundwater status is at the same standard or a higher standard than it was when TII took over the site for the MetroLink works.

3.2 To enforce this condition, TII should be required to submit a detailed soil contamination testing plan as part of their planning compliance.

5 Conditions of Engagement

This survey and report was undertaken under the conditions of engagement Agreement RA9101 for the Appointment of Consulting Engineers for Report and Advisory Work Published in agreement with The Association of Consulting Engineers of Ireland.