

Submission No.			218	
Organisation Name or Name of Submitter			Office of Public Works (OPW)	
Item No.	Section Ref.	Page No.	Observation Statement	TII Response
OPW 44/45 O'Connell Street - Re: Railway (Metrolink–Estuary to Charlemont via Dublin Airport) Order 2022 – Submissions by the Commissioners of Public Works in Ireland				
1	Report Executive Summary	23	<p>With respect to the proportion of the State's property portfolio managed by the OPW, we will endeavour to share knowledge and information with Transport Infrastructure Ireland (TII) to facilitate the successful delivery of the project through a collaborative approach.</p> <p>This submission has been prepared by DOWNEY in conjunction with Gall Zeidler Consultants, on behalf of The Commissioners of Public Works in Ireland (hereinafter the Office of Public Works (OPW)) and on foot of extensive consultation(s) with the OPW and its clients, which relates to the MetroLink route, and its relationship with Nos. 44-45 O'Connell Street Upper, Dublin 1.</p> <p>With respect to this property, the OPW is seeking:</p> <p>1) To note the subject property is owned by the OPW. Agreement with the OPW will be required prior to any works being carried out to 44/45 O'Connell Street. The façade to 44/45 O'Connell Street is a Protected Structure to be retained and incorporated into the O'Connell Street Station Entrance.</p> <p>2) To ensure no interference with or damage to the façade of the building and its architectural detailing, pre-construction and post-construction surveys, trials, and monitoring is required. This is mainly concerned with demolition, noise, vibration, and dust which can damage the buildings, which is of historical significance.</p> <p>3) To ensure the appropriate conservation and structural appraisals are conducted as part of the Detailed Design Assessment.</p> <p>4) Precedents to be applied to the risk assessments to ensure utilising best industry practice within implementation of the Project.</p>	<p>TII thank you for your comments. Further to TII's response to the OPW Covering letter, the matters raised by OPW specific to these buildings are addressed in responses (2) through to (33) below.</p>
2	Report 3.0 Overview of the Draft Railway Order	8	<p>While extensive pre-planning consultations also took place between TII and the OPW, a detailed assessment of the individual properties affected has not yet taken place. The draft Railway Order application 2022 is a Draft Order, and should the route be approved by An Bord Pleanála, further detailed design will be submitted which will require further consideration and approval. Factors such as the internal uses of the properties, their construction methods, age and historical importance and the effect of construction on these sensitivities has not been assessed as part of the Project thus far. Additional consideration needs to be given to the potential effects on the built environment before a route and construction method can be confirmed. The OPW reserves the right to make further commentary, pending more detailed design proposals.</p>	<p>TII have undertaken a Phased Ground Movement Impact Assessment and the results of the assessments are included in the RO documentation within Appendix 5.17 of the EIAR. Appendix B2 of that document indicates the list of special buildings that would be subject to a subsequent Phase 3 assessment irrespective of the engineering need to do so. Many OPW buildings are in this category. It should be noted that the further assessments that will be done by the contractor if the RO is granted will likely reduce the impacts on the buildings as the Phase 2 assessment is a conservative assessment whose results are generally more significant than the results of a Phase 3 assessment. This point was discussed with OPW and their consultants in January 2023. TII will consult with OPW in relation to the results of any Phase 3 assessments and any requirements for monitoring and / or other mitigations that eventuate will be discussed with OPW.</p> <p>TII are satisfied that the approach adopted to date follows an industry standard approach undertaken on tunnelling and underground projects around the world including on the Channel Tunnel Rail Link and Crossrail in London, the Dublin Port Tunnel and currently on High Speed 2 in England, and therefore that further assessment is not required and should not be delivered prior to the route being consented.</p> <p>Please note that these buildings are due to be demolished with the facades retained. As such the phased ground movement assessment is not applicable.</p>
3	Cover Letter Appendix D - Ground Movement Assessment	12	<p>The following sets out the requirements for assessing the impact of ground movement resulting from underground construction, such as tunnelling, embedded wall installation, and excavation for station boxes, together with requirements for monitoring and the close out.</p>	<p>Further to the OPW covering letter, TII observations in relation to the specific requirements of Appendix D and the report provided by OPW for 44 and 45 O'Connell Street are set out in responses (4) to (xx) below</p>
4	Report: Section 4.6 Potential Development of the Property	18	<p>As per the drawing ML1_JAJ_EIA_ROUT_XX_DR_Y_05056 enclosed with the EIAR, 44/45 O'Connell Street are denoted with green star, which demonstrates properties to be "partially demolished, maintained and supported" (See Figure 4). This is submitted to conflict the text within the EIAR, which needs further clarification.</p>	<p>TII confirm that number 44 and 45 O'Connell Street are to be demolished for the construction of the MetroLink Station at O'Connell Street with only the façades retained.</p>

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5	Cover Letter Appendix D - Ground Movement Assessment	16	The detailed assessments should include a number of iterations to determine how the risk of damage to a building may be reduced. Asset-specific empirical models shall be prepared successively using moderately conservative and best estimate parameters. If after these iterations the use of empirical methods do not reduce the risk of building damage to acceptable levels (i.e. Damage Category 2 'slight' damage category and below or below the agreed tolerable limits), the damage assessment shall be refined by increasing the sophistication of the analysis with the aim of reducing the risk of asset damage to acceptable levels and to eliminate the asset from further assessment. If the risk of damage cannot be shown to be reduced by detailed assessment to acceptable levels, then mitigation measures shall be designed. The primary means of settlement mitigation shall be practical measures to control ground movement by good design and construction practice. This could include staged excavation sequences within sprayed concrete lining (SCL) works, ground treatment, face stabilisation, spiling /face dowels, increasing face pressure when using a tunnel boring machine (TBM), adopting stiffer walls/propping for rectangular shafts etc. In the event that physical mitigation measures are still required (i.e. to control building damage to Damage Category 2 'slight' and below or below the agreed tolerable limits), the Designer shall seek to obtain the Asset Owners approval. The Designer shall also undertake a comparative risk assessment to demonstrate that the risks associated with installation/implementation of any intrusive mitigation measures (such as compensation grouting) are no worse than the risks associated with the base case.	Further to response number (4) above, the buildings referenced are to be demolished, with only the façades retained. The retained façades will be supported to minimise damage. The current landowner is seeking permission for the development of this site and the MetroLink works will facilitate that being done if that permission is granted.
6	Cover Letter Appendix D - Ground Movement Assessment	17	The relevant Local Authority and the OPW shall be consulted on the results of the Protected Building assessment reports and the proposals for protective measures, if any are required. The OPW shall also be consulted in relation to Listed or Protected Buildings where they would normally be notified or consulted on planning applications or listed building consent applications	TII will consult with OPW and Dublin City Council with regard to the façade retention proposals.
7	Cover Letter Appendix D - Ground Movement Assessment	17	The form of monitoring of Listed Buildings should be determined based on the results of the assessment process.	TII advise that the proposed process for undertaking the assessments on any buildings impacted by MetroLink is set out within EIAR Appendix A5.17.
8	Cover Letter Appendix D - Ground Movement Assessment	17	Where repair works are necessary they will require the consent of those with relevant interest(s) in the building.	This is understood and while the façade of these building are retained to allow MetroLink to be progressed, the subsequent developer under their own application will be responsible for the repair of any damage as these façades are incorporated into the final development. This is outside of the scope of the RO.
9	Cover Letter Appendix D - Ground Movement Assessment	17	For railway track and track support structures the designer shall: a) review the track surveys (including specifying additional surveys if required) and establish that ground movement can be accommodated without exceeding track standard operational tolerance in conjunction with the relevant Infrastructure Manager; b) identify locations where fettling of the track is required pre construction and /or during construction to ensure the track geometry and clearances are acceptable. The designer shall prepare plans and sections showing the zone of influence of the works that is defined by ground movements exceeding 1 mm.	This comment appears to be erroneous, and not relevant to the Railway Order.
10	Cover Letter Appendix D - Ground Movement Assessment	17	The designer shall develop an instrumentation and monitoring plan to validate that ground movements within the zone of influence are in accordance with design assumptions and that the infrastructure remains within acceptable limits. The designer shall ensure that there is a clear distinction between parameters measured to confirm the change in any parameter is in accordance with the design and parameters measured to limit damage to the assets. This plan shall identify the minimum period of time required to obtain base line data for each monitoring point.	TII will procure its contractors to develop Instrumentation and Monitoring Plans in tandem with Monitoring Action Plans. These plans will help assure that the risks associated with tunnelling and station excavations impacting any OPW property are appropriately managed and controlled. TII will provide details of any monitoring proposed by the contractor at detailed design stage and discuss the methodology of installation to the OPW property. TII will provide advance notice of any attendance that the monitoring contractor may require. With regard to the timing of monitoring specific to ground movement TII will ensure that it is commenced 3 months prior to the construction activities that would give rise to the settlement. However, as these construction activities may complete years prior to the MetroLink operational phase the termination of monitoring will be linked to a determination that settlement has effectively ceased, allowing a removal of the instrumentation.
11	Cover Letter Appendix D - Ground Movement Assessment	18	The designer shall demonstrate that the monitoring system complies with the British Tunnelling Society Monitoring Underground Construction best practice guide.	The intent is clear and TII will develop the Instrumentation and Monitoring Specifications with due regard to industry best practice.

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12	Cover Letter Appendix D - Ground Movement Assessment	18	A review of the monitoring system against the checklists provided in Appendix B of the BTS Monitoring Underground Construction best practice guide may be used as a tool to demonstrate compliance.	Please refer to response number (11) above.
13	Cover Letter Appendix D - Ground Movement Assessment	18	The detailed assessments shall define the control limits that need to be imposed on the TBM/SCL excavation in the zone of influence. The designer shall state these control measures on drawings and specifications.	While no SCL excavation is proposed at this location, all tunnelling management processes and controls will be detailed within the Contractors "Tunnelling Management Plan" for approval prior to works commencing. More information on the tunnelling processes and supporting systems is provided in Chapter 5, Appendix A5.13 Tunnelling.
14	Cover Letter Appendix D - Ground Movement Assessment	18	The designer shall identify the critical parameters to be monitored and define the Asset Control Limits based on: a) the ability of the asset or structure to withstand ground movement investigated a) during the assessments carried out in Stage 2 and 3. b) the risk to third party operations	Agreed, this is part of the process outlined within the Railway Order. Please refer to Chapter 5, Appendix A5.17.
15	Cover Letter Appendix D - Ground Movement Assessment	18	The designer shall link the Asset Control Limits to actions within an Emergency Preparedness Plan.	This comment is erroneous but the intent is clear. Please refer to response number (11), (13), and (14) above and (15) to (19) below.
16	Cover Letter Appendix D - Ground Movement Assessment	18	The Instrumentation and Monitoring Plan and Emergency preparedness Plan shall be agreed with the relevant Asset Owner.	The Instrumentation and Monitoring proposals developed by the contractor will be discussed with relevant parties.
16	Cover Letter Appendix D - Ground Movement Assessment	18	Contingency plans shall be developed and agreed with the OPW to cover the risks posed to the OPW before commencement of the construction activity. Contingency plans shall be implemented where the results of monitoring or inspection so indicate.	TII will consult with OPW and Dublin City Council with regard to the façade retention proposals.
18	Cover Letter Appendix D - Ground Movement Assessment	18	Ground movement and construction progress records shall be maintained and reported in regular reviews when construction processes are taking place within the zone of influence.	Agreed as this is standard practice.
19	Cover Letter Appendix D - Ground Movement Assessment	18	Predictions and assumptions made during design in respect of both ground movement and the effects which such ground movement will have on adjacent assets shall be verified by measurement during construction.	Agreed.
20	Cover Letter Appendix D - Ground Movement Assessment	18	Completion and Close-out After ground movement has stopped, as confirmed by instrumentation and monitoring, the designer shall prepare a "Completion Report". This shall include the following: a) details of any modifications/mitigation measures to the existing structure; b) graphs that show the ground movement and construction progress over time a) with at least 3 months duration of readings which show no change; b) a schedule showing actual movement compared to predicted movement; c) a schedule of defects recording only the exceptions (changes) identified during the post construction defects survey; d) details of any remedial works undertaken; e) as-built records (including any temporary works remaining in situ on completion of the works)	TII will share the closeout monitoring report that will demonstrate that construction ground movements have ceased, which will also require historical movement information to be presented. In the event of repairs, these will be scheduled.

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21	Cover Letter Appendix D - Ground Movement Assessment	18	A schedule of defects shall be recorded prior to the start of construction for all buildings, structures, utilities and facilities and Outside Party assets predicted to experience ground movement exceeding 1mm.	These comments cover a broad remit of assets potentially beyond the remit of the OPW at this location. However, the process described is contained within the Railway Order.
22	Report 5.0 Material Considerations	18	The alignment drawing ML1-JA1-EIA-ROUT_XX-DR-Y~04025 and the Contour drawing ML1-JAI-EIA- ROUT_XX-DR-Y-21148 show different alignments. This error has resulted in deficient information within the SID application submitted under Section 2 of the Planning and Development Act 2000 (as amended), to assess the vulnerability of damage due to vibration cause by both tunnelling and operation of underground train on this section of the alignment. This affects several buildings under the management of the OPW particularly with Kildare Street, Merrion Square and St Stephens Green areas	On two drawings (Figures 20.16 Settlement Contours, sheets 27 and 28 of 30) in EIAR Appendix 5.17 Building Damage Report, the tunnel centreline is plainly incorrect as it is deviates from the centre of the settlement contours between Tara and St. Stephen's Green stations. The settlement contours are correct and reflect the proposed Railway Order alignment and as such the drawing serves its core purpose, which is to identify, describe and assess the settlement impact of the railway works. In any event, revised drawings will be submitted to the Board to rectify the error. The correct alignment has been used for all environmental impact assessments including tunnel induced settlement, and construction and operational noise and vibration impact assessments.
23	Report 6.0 Legal Considerations	18	The Commissioners of Public Works would seek to enter into appropriate, property-specific legal agreements with TII, to ensure the protection of key State property and of the State's activities undertaken within those and other properties. Given the importance of such properties and activities, the Commissioners of Public Works consider it appropriate that An Bord Pleanála would make the Railway Order conditional on such legal agreements being in place between Til and the OPW. Creating such legal agreements between TH and the OPW would be possible only after Til make available the more detailed design and risk-mitigation measures for the construction and operational phases of the MetroLink project, and before any development begins.	TII’s preference is carry out all of the permitted railway works with the agreement of affected landowners and prescribed bodies. However, it should not be condition of the railway order that TII reach such agreement with OPW. In the event that agreement cannot be reached with OPW, TII should be entitled to carry out the railway works over their objections provided that it complies with the terms and conditions of the Railway Order. The Board’s function is to satisfy itself that those terms and conditions are adequate to ensure that the construction and operation of the railway works will be consistent with proper planning and sustainable development and have acceptable impacts on the environment. TII believes that the RO application and the EIAR in particular sets out mitigation and monitoring measures that are sufficient for that purpose
23	Potential impacts on the property	21	DOWNEY and Gall Zeidler have carried out a detailed examination of the property subject to this submission. Having regard to the status and current use of the property and identified constraints, the following raises issues regarding potential impacts of the MetroLink on the property. This has been elaborated to include potential impacts during the construction and operation phases of developing MetroLink, as well as any impediments and/or implications for future development of the property	Please note that the buildings are to be demolished, with the façades retained. The future development is by others under a separate planning application to the Railway Order, who are cognisant of the restrictions due to the station. Under the current plan, there is no development opportunity for OPW.
25	Monitoring	21	Given the sensitivity if the façade of this property, we request that An Bord Pleanála attach a condition to the Draft Railway Order that ensures continuous monitoring of the property to prevent any negative impacts. Access to all properties must be agreed in advance with the OPW. It is recommended that this monitoring takes place at least 3 months in advance of the construction of the Project and at least 6 weeks post the operational stage of the MetroLink.	Please refer to response number (10) above.
26	Security Issues	21	All employees contracted to work on behalf of the Til on this Project, and any associated works, must adhere to the properties protocol around access, security, and safety. This applies to all persons entering or working in proximity of the property. The design and operation of the MetroLink should be in line with best international practice, in relation to anti-terrorism and security measures.	Not applicable as the property referred to will be demolished with the façades retained.
27	During Construction of the MetroLink	22	As stated with the Draft Railway Order, these buildings are "Commercial properties to be partially demolished, maintained and supported", in order to protect the façades, the impact of any proposed works in terms of demolition, noise, vibration, etc. which effects conservation works would need to be carefully considered.	Noted and agreed.
28	Ground movement	22	The most significant impact of the MetroLink project on 44/45 O'Connell Street will be from the construction of the O'Connell Street Station which may require part demolition of this and several surrounding buildings. The façade may be retained and incorporated in a new over station development. In order to create a watertight perimeter to the station box diaphragm walls or secant piles will be required. It would be extremely difficult to install these with demolishing the buildings behind the façades. This is recognised in the submission from Dublin Central.	Noted and agreed. The oversite development will depend on the developer obtaining planning permission for same, as it is not provided for in the draft Railway Order. The plan is to demolish these buildings and retain the facades.

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27	Ground movement	22	The construction of the MetroLink O'Connell Station Box will be carried out by the developer of Dublin Central and referred to as MetroLink Enabling Works (MEW). Therefore, the OPW requires that the developer is a party to any agreements with TII related to the construction of MetroLink O'Connell Street Station providing detail on the impact of the construction of the station box including the impact of any demolition on the fabric of 44/45 O'Connell Street. The detail shall include the detailed drawings, ground movement impact assessment, noise, vibration impact assessment, and foundation arrangements for the retained façade.	The draft Railway Order provides for the construction of the MetroLink Enabling Works and its conditions (and the conditions of the developer's permission) will both apply to its construction. The contractual structure is outside the scope of the Railway Order process and it is part of An Bord Pleanála's statutory function to ensure that the terms and conditions of the Railway Order are such that the construction of these works is consistent with proper planning and sustainable development and has acceptable impacts on the environment regardless of the contractual arrangements.
30	Future development	23	The OPW reserves the right to develop the subject property in the future, including property above and below ground, subject to normal planning criteria. It is important that the development of the MetroLink does not interfere with extant planning permissions pertaining to the subject property and the right of the applicant to develop these, in advance, in tandem or post operation of the MetroLink Project.	The draft Railway Order allows for oversite development at this location. It is understood that Dublin Central GP intends to carry out oversite development following the grant of a Railway Order and relevant planning permission. It is understood that the OPW does not have any further intentions for this site after the grant of Railway Order.
31	Conclusion	23	The most significant impact of the MetroLink Project on 44/45 O'Connell Street will be from the construction of the O'Connell Street Station that will require these buildings and several surrounding buildings to be demolished. The façades may be retained and incorporated in a new over station development.	Agreed and the impact is detailed in the EIAR supporting this Railway Order.
32	Conclusion	23	With respect to this property, the OPW is seeking: 1) To note the subject property is owned by the OPW. Agreement with the OPW will be required prior to any works being carried out to 44/45 O'Connell Street. The façade to 44/45 O'Connell Street is a Protected Structure to be retained and incorporated into the O'Connell Street Station Entrance. 2) To ensure no interference with or damage to the façade of the building and its architectural detailing, pre-construction and post-construction surveys, trials, and monitoring is required. This is mainly concerned with demolition, noise, vibration, and dust which can damage the buildings, which is of historical significance. 3) To ensure the appropriate conservation and structural appraisals are conducted as part of the Detailed Design Assessment. 4) Precedents to be applied to the risk assessments to ensure utilising best industry practice within implementation of the Project. In light of the above, DOWNEY respectfully request that An Bord Pleanála take into consideration the issues raised by the OPW when assessing the Draft Railway Order 2022 (MetroLink - Estuary to Charlemont via Dublin Airport).	TII response to comments: 1) The façades will be retained and incorporated into subsequent development. 2) Pre and Post construction surveys will be undertaken and proposals developed so as to minimise any impacts. 3) Agreed. 4) TII will implement industry best practice risk management techniques.
33	APPENDIX 1: LIST OF PLANNING LEGISLATION & POLICY DOCUMENTS	25	An Bord Pleanála ensure that Til have fully assessed the Project with regard to existing planning policy, as well as adherence to the relevant local policies and guidelines pertaining to each individual property.	TII have undertaken a full assessment of the planning policy and planning guidelines in the Planning Report that was submitted as part of the Railway Order Application.