

Working Draft Additional Environmental Commitments

| P01

25/03/24



Document history and status

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1. Introduction

This document collates the additional environmental commitments that were presented by TII to the MetroLink Oral Hearing.

The additional environmental commitments are presented on a thematic basis and have been cross referenced to the EIAR Chapters where applicable. The commitments are also cross referenced to the following:

- Location where they are to be applied;
- Relevant RO drawings, documents, errata or updates;
- Agreements from which the proposed additional environmental commitments arise.

These commitments are in addition to those already recorded in agreements with Dublin City Council (DCC), Fingal County Council (FCC), the Office of Public Works (OPW) and Dublin Airport Authority (daa). Those agreements are proposed to be included in the Thirteenth Schedule of the Railway Order.

2. Additional Commitments for the Project Design (Chapter 4 of the EIAR)

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
2.1	A minimum overburden cover of 1.2m will be provided above the roof slab of the Mater Station box structure, which is sufficient to accommodate the proposed planting and landscaping at this location.	Mater Station	N/A
2.2	R132 boundary walls at Seatown Villas will be reinstated.	Seatown Villas, Swords	Day 1 (19/02/24) Ronan Hallissey Witness Statement
2.3	R132 boundary walls at Estuary Court will be reinstated.	Estuary Court, Swords	Day 1 (19/02/24) Ronan Hallissey Witness Statement
2.4	R132 boundary walls at Ashley Avenue will be reinstated.	Ashley Avenue, Swords	Day 1 (19/02/24) Ronan Hallissey Witness Statement
2.5	TII will engage with the owners of the Brian Boru Pub to integrate or reference an element of the pub into the design of the proposed Glasnevin Station.	Glasnevin	N/A
2.6	An additional 30m of cut and cover tunnel replacing retained open cut at Seatown Villas.	Seatown Villas, Swords	ML1-JAI-ARD-ROUT_XX-DR-Y-01001 ML1-JAI-ARD-ROUT_XX-DR-Y-03011 ML1-JAI-ARD-ROUT_XX-DR-Y-03012

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
			ML1-JAI-ARL-SC01_XX-DR-Y-00002 "ML1-JAI-ARL-SC01_XX-DR-Y-00003 ML1-JAI-URD-ROUT_XX-DR-Y-02011 ML1-JAI-URD-ROUT_XX-DR-Y-02012 ML1-JAI-URD-ROUT_XX-DR-Y-01011 ML1-JAI-URD-ROUT_XX-DR-Y-01012 ML1-JAI-BOR-ROUT_XX-DR-Y-01012
2.7	Replacement of approximately 50m retained open cut south of Pinnockhill roundabout with cut and cover tunnel and revisions to property access.	Pinnock Hill	ML1-JAI-ARD-ROUT_XX-DR-Y-03022 ML1-JAI-ARL-SC03_XX-DR-Y-00006 ML1-JAI-URD-ROUT_XX-DR-Y-01022

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
			ML1-JAI-URD-ROUT_XX-DR-Y-02022 ML1-JAI-ARD-ROUT_XX-DR-Y-01003 ML1-JAI-BOR-ROUT_XX-DR-Y-01022
2.8	The alignment between St. Stephen's Green and Charlemont stations will be lowered by 5m and an additional pumping station provided.	St. Stephen's Green and Charlemont	ML1-JAI-ARD-ROUT_XX-DR-Y-01018 ML1-JAI-ARD-ROUT_XX-DR-Y-01019 ML1-JAI-ARD-ROUT_XX-DR-Y-03094 ML1-JAI-ARD-ROUT_XX-DR-Y-03095 ML1-JAI-URD-ROUT_XX-DR-Y-01094 ML1-JAI-URD-ROUT_XX-DR-Y-01095
2.9	Balheary Park - Revised pitch layout providing a full-size all-weather pitch with Flood Lighting.	Balheary Park	ML1-JAI-ARD-ROUT_XX-DR-Y-03009 ML1-JAI-ARD-ROUT_XX-DR-Y-03010

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
			ML1-JAI-ARD-ROUT_XX-DR-Y-03011
2.10	St. Stephen's Green Station – Revised layout of Hostile Vehicle Mitigation (HVM) bollards, with full details of the Famine Memorial layout and paving extended to link the MetroLink plaza and the famine memorial.	St. Stephen's Green	ML1-JAI-ARD-ROUT_XX-DR-Y-03093 ML1-JAI-SRD-ROUT_XX-DR-Y-02084 ML1-JAI-SRD-ROUT_XX-DR-Y-02085 ML1-JAI-URD-ROUT_XX-DR-Y-02093
2.11	Tow path access onto Prospect Road modified to provide a widened entrance, an amended Prospect Road junction layout, a changed surface treatment to clearly delineate between towpath and Prospect Road footway, and relocation of two lighting columns to edge of tow path. Change of use within Glasnevin Station entrance building from previous proposed retail unit to "Retail/Cafe/Community Use" including addition of mezzanine level with associated access (lift and stairs).	Glasnevin	ML1-JAI-ARD-ROUT_XX-DR-Y-03076 ML1-JAI-SRD-ROUT_XX-DR-Y-02057 ML1-JAI-SRD-ROUT_XX-DR-Y-02063 ML1-JAI-SRD-MS11_XX-DR-Y-01001
2.12	Tara Station – Design changed from 3 No. to 5 No. skylights with updated landscape layout.	Tara	ML1-JAI-ARD-ROUT_XX-DR-Y-03090

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
			ML1-JAI-SRD-ROUT_XX-DR-Y-02078 ML1-JAI-SRD-ROUT_XX-DR-Y-02082 ML1-JAI-URD-ROUT_XX-DR-Y-01090 ML1-JAI-URD-ROUT_XX-DR-Y-02090
2.13	Mater Station - Skylight height reduced to between 1.1m and 0.8m above ground level.	Mater	ML1-JAI-SRD-ROUT_XX-DR-Y-02066 ML1-JAI-SRD-ROUT_XX-DR-Y-02069 ML1-JAI-SRD-ROUT_XX-DR-Y-02070
2.14	O'Connell Street Station – Update to the station entrance in accordance with drawings which includes the retention of all street trees on O'Connell Street.	O'Connell St	ML1-JAI-SRD-ROUT_XX-DR-Y-02071 ML1-JAI-SRD-ROUT_XX-DR-Y-02072 ML1-JAI-SRD-ROUT_XX-DR-Y-09017

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
			ML1-JAI-ARD-ROUT_XX-DR-Y-03088
2.15	<p>Charlemont Station - parking layout on internal access road revised to 14 spaces (including 2 PRM), drop-off and footway on Grand Parade widened, and property maps updated to reflect agreement with landowners as per the following maps:</p> <p>ML1-JAI-ARD-ROUT_XX-DR-Y-03095</p> <p>ML1-JAI-ARD-ROUT_XX-DR-Y-03096</p> <p>ML1-JAI-SRD-ROUT_XX-DR-Z-02090</p> <p>ML1-JAI-URD-ROUT_XX-DR-Y-02096</p> <p>ML1-JAI-BOR-ROUT_XX-DR-Y-01098</p>	Charlemont	<p>ML1-JAI-ARD-ROUT_XX-DR-Y-03095</p> <p>ML1-JAI-ARD-ROUT_XX-DR-Y-03096</p> <p>ML1-JAI-SRD-ROUT_XX-DR-Z-02090</p> <p>ML1-JAI-URD-ROUT_XX-DR-Y-02096</p> <p>ML1-JAI-BOR-ROUT_XX-DR-Y-01098</p>
2.16	TII will engage with the Royal Canal Clean-up Group in relation to finding an alternative location for their storage container.	Glasnevin	N/A
2.17	TII will establish a Working Group to consult with disability groups, through the User Group forum and through bi-lateral meetings with Disabled Persons Organisations (DPOs) to ensure that the construction and operational phases of the scheme are disability-proofed and that a universal design approach continues to be incorporated into the design of the scheme.	Route Wide	N/A
2.18	Hostile Vehicle Mitigation (HVM) Bollards will be designed in consultation with the relevant local authority and with An Garda Siochana in order to ensure that	Stations Route Wide	Day 18 (20/03/24) Hostile Vehicle Mitigation Presentation.

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
	they meet functional specifications and are finished to be in keeping with the surrounding location.		
2.19	Appropriate welfare facilities, including appropriate facilities for PRM users, will be incorporated into the stations at accessible locations to serve both the public and MetroLink staff at the following stations: Estuary; Dublin Airport; Glasnevin; Tara; and Charlemont	Various Locations	Day 19 (21/03/24) Technical Note – Toilet Facilities at Stations
2.20	<p>Skylight Design Intent</p> <p>Skylights will be low lying structures that will not create visual segregation within the public realm.</p> <p>The skylights will slope in two directions and will be made from robust hardwearing materials.</p> <p>The pavement surface treatment in the vicinity of the skylights will be designed in such a way as to deter anti-social behaviour.</p> <p>Where skylights are present within a park setting, they will be sensitively integrated within planting.</p>	Route Wide	N/A
2.21	Signage will not be affixed to the glass façade on the canopy at Mater Station	Mater	N/A
2.22	<p>Gullivers Retail Park (Northwood) - revised roundabout design to reduce permanent landtake.in accordance with the maps appended below:</p> <p>ML1-JAI-ARD-ROUT_XX-DR-Y-03057</p> <p>ML1-JAI-ARL-SC07_GF-DR-Y-00114</p> <p>ML1-JAI-URD-ROUT_XX-DR-Y-01056</p>	Northwood	<p>ML1-JAI-ARD-ROUT_XX-DR-Y-03057</p> <p>ML1-JAI-ARL-SC07_GF-DR-Y-00114</p> <p>ML1-JAI-URD-ROUT_XX-DR-Y-01056</p>

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
	ML1-JAI-URD-ROUT_XX-DR-Y-01057 ML1-JAI-URD-ROUT_XX-DR-Y-02057		ML1-JAI-URD-ROUT_XX-DR-Y-01057 ML1-JAI-URD-ROUT_XX-DR-Y-02057

3. Additional Commitments for the Construction Phase (Chapter 5 of the EIAR)

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
3.1	TII will put in place the Property Owners' Protection Scheme to provide a simple and prompt way of rectifying any damage caused under the MetroLink Project up to the revised ceiling of €75,000 as updated 6 March 2024	Route Wide	Day 1 (19/02/24) – Property Owners Scheme (POPS)
3.2	Blasting will not be used in the Charlemont Intervention tunnel.	Charlemont	N/A
3.3	Construction compounds, including any areas used for access, will be returned to the most appropriate use after completion of the works (apart from areas used for permanent land-take).	Route Wide	N/A
3.4	Mains electricity will be provided at the construction compounds during the site setup stage, in preference to the extended usage of electricity generated by diesel power in the early stages of construction. To avoid any unnecessary wastage, permanent power supplies will be brought on-site to supply the construction works at the level of supply required for permanent operations.	Route Wide	N/A
3.5	Methods of collecting (harvesting) rainwater, recycling and treatment of wastewater for general site use will be used at construction compounds.	Route Wide	N/A
3.6	Controlled blasting will only be used to excavate rock where it can be demonstrated through extensive trials that the groundborne vibration and air overpressure limits set to control disturbance and avoid any building damage, will be comfortably met.	Route Wide	N/A

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
3.7	Concrete batching at Ballymun construction compound will operate during standard hours only.	Ballymun	N/A
3.8	Measures to minimise the use of water will be considered during the planning for each stage of the works and incorporated into relevant procedures and method statements, with steps to eliminate or minimise water usage incorporated and utilised. Mains water connections will be fitted with meters such that potable water usage is monitored and managed. Water will be reused on-site. Construction activities on the proposed Project identified as having the potential for high water use will be specifically targeted for opportunities to reduce water use.	Route Wide	N/A
3.9	Wheel wash facilities will be provided at each of the main construction compounds.	Route Wide	N/A
3.10	Vermin control contractors will be engaged in advance and during the construction works in order to develop and implement a plan to control vermin during the proposed works.	Route Wide	N/A
3.11	An independent engineer will be engaged throughout the contracting and construction phase of the project in order to provide technical advice to residents and resident groups.	Route Wide	N/A
3.12	The haul routes to the O'Connell St site via Moore Lane will not progress to the rear of 14 – 17 Moore St.	O'Connell St	N/A
3.13	Access around the Hertz Building to plant and equipment and emergency access will be maintained during the construction phase.	Seatown	N/A

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
3.14	Access for emergency vehicles to Dalcassian Downs will be maintained during the construction works. The main works contractor will be required to establish a new fire and emergency evacuation plan and assemble point with the residents of Dalcassian Downs prior to the installation of the site hoarding.	Glasnevin	N/A
3.15	Access for emergency vehicles at Dartmouth Road will be maintained during the construction works. The main works contractor will be required to establish a fire and emergency plan with the residents of Dartmouth Road prior to the full closure of Dartmouth Road and the installation of the site hoarding.	Charlemont	N/A
3.16	<p>The following additional constraints will apply to the Limits of Deviation (LODs)</p> <ul style="list-style-type: none"> • At the Cut and Cover adjacent to Estuary Court, there will be no lateral deviation. • At the retained cut alignment section adjacent to Woodie's Seatown, there will be no lateral deviation. • At Seatown Station adjacent to Hertz Europe Head Office, there will be no lateral deviation. • At the retained cut alignment adjacent to Ashley Avenue, there will be no lateral deviation. • At the retained cut alignment section adjacent to Fujitsu Ireland Limited, there will be no lateral deviation. • At the retained cut alignment section adjacent to Swords Veterinary Hospital, there will be no lateral deviation. 	Various Locations	N/A

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
	<ul style="list-style-type: none">At the underground tunnel section under Trinity College Dublin, there will be no vertical deviation upwards beyond construction tolerances and no lateral deviation to the east.At the underground tunnel section at Grand Canal/Charlemont Station, there will be no vertical deviation upwards.In the section of the alignment between 18+640 and 19+035, there will be no deviation upwards.		

4. Additional Commitments for Airborne Noise (Chapter 13 of the EIAR)

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
4.1	Additional baseline monitoring will be undertaken at Hampstead in advance of the construction phase.	Hampstead	N/A

5. Additional Commitments for Groundborne Noise and Vibration (Chapter 14 of the EIAR)

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
5.1	TII has commits to floating slab track or equivalent at locations referenced in the “Location summary where track support measures are proposed for the mitigation of groundborne” note submitted to the Oral Hearing on 28 February 2024.	Various	Day 7 (28/02/24) – Floating Track locations
5.2	<p>Charlemont turnback facility, St Stephens Green Station, O’Connell Street Station, Glasnevin Station, Ballymun Station: TII will ensure that special track work, which includes switches and crossings, required for the Metrolink railway will comply with the following minimum requirements to prevent significant operational ground-borne noise and vibration effects:</p> <ul style="list-style-type: none"> Only ‘swing-nose’ switches, which remove significant discontinuities in the tangential running lines of the railway, will be installed at the following locations: <ul style="list-style-type: none"> Charlemont turnback facility St Stephens Green Station O’Connell Street Station Glasnevin Station Ballymun Station <p>The performance specification for the final design of each section of special trackwork, will require that groundborne noise and vibration levels in overlying properties during the use of the special trackwork at the maximum operational speeds (both for the normal revenue service, and for the re-arrangement of trainsets)</p>	<p>Charlemont, St. Stephen’s Green. O’Connell St, Glasnevin and Ballymun.</p>	<p>Oral Hearing Day 8 (29/02/24)</p> <p>Additional Groundborne Noise & Vibration Commitments</p>

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
	outside of revenue service) will be no worse than those levels presented in the EIAR at each respective location.		
5.3	Combined rail / wheel roughness limit: TII will put in place measures that will ensure that at no point during the operational life of the Metrolink passenger service will the combined power spectral density of the wheel and rail roughness amplitudes be worse than 30 dB re 1 micron in the 1/3 octave centred on a wavelength of 2m, decreasing by 15 dB per tenfold reduction in wavelength.	Route Wide	Oral Hearing Day 8 (29/02/24) Additional Groundborne Noise & Vibration Commitments
5.4	Prior to the opening of the railway, TII will ensure that the rails of the underground sections of Metrolink are conditioned by grinding, or other suitable means. TII will ensure that both the rails and wheels are appropriately maintained thereafter to achieve the above roughness specification.	Route Wide	Oral Hearing Day 8 (29/02/24) Additional Groundborne Noise & Vibration Commitments
5.5	Route Wide: TII will ensure that during the operation of the Metrolink passenger service, the operational groundborne noise levels in any lawfully occupied residential dwellings, measured near the centre of any noise-sensitive room, will be below 35 dB LAmax,S.	Route Wide	
5.6	TII commits to prepare a Trigger Action Plan for the Our Lady of Victories Infant School, Our Lady of Victories Boys' National School and Our Lady of Victories Girls' National School in relation to the monitoring and control of airborne noise, dust, ground borne noise and vibration during the construction of the Collins Avenue Station and the operation of the MetroLink Project.	Collins Ave	

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
5.7	<p>Trigger Action Plans will be prepared as a mitigation measure for Noise and Vibration. Each TAP is 'live' document that will be maintained and implemented by the Contractor and will include the following:</p> <ul style="list-style-type: none"> • The noise and vibration sensitivities of the premises, the activities that occur, the noise and vibration sensitive spaces (with reference to a site layout and floor plans), and the respective operating hours. • The project's site-specific commitments in relation to the management of temporary construction noise and vibration effects associated with the construction of Metrolink. • The Trigger Action Levels (TALs) for each of the identified noise and vibration sensitive spaces. • The agreed actions/mitigation measures to be undertaken if the Trigger Action Levels are exceeded. • The noise and vibration monitoring to be undertaken throughout the duration of the construction works. <p>TAPs will apply to the following sensitive locations :</p> <ul style="list-style-type: none"> • O'Scannails Veterinary Clinic; • The Mater Misericordiae Hospital; • The Rotunda Hospital; • The Gate Theatre; 	Various	<p>Oral Hearing Day 10 (5/3/24) Trigger Action Plan Presentation.</p> <p>Oral Hearing Day 11 (6/3/24) Trigger Action Plan Note 2.</p>

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
	<ul style="list-style-type: none"> • The Ambassador Theatre; • The Abbey Theatre; • Trinity College Dublin; • Leinster House; • National Library; • National Museum of Archaeology; • Natural History Museum; • Government Buildings complex; • Leinster House; • Department of Agriculture, Food and Marine; and • National Concert Hall; • Arthur Cox 		
5.8	Blasting is to be used for station box excavation with limits on areas closest to sensitive receptors. Exclusion zones for blasting will be identified where blasting would exceed limits for structural damage to a property.	Route Wide	N/A

6. Additional Commitments for Traffic and Transport (Chapter 9 of the EIAR)

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
6.1	During the construction phase, workers will be transported to site via min-buses from designated collection points (such as Luas and DART stations or other appropriate locations) in line with the mobility management plan.	Route Wide	Mobility Management Plan
6.2	Monitoring will be undertaken to determine if footway width needs to be increased in future years. If so, placement of street furniture will be undertaken to maximise available width. (By agreement with Local Authority).	At Station Locations, Route Wide	N/A
6.3	The pedestrian crossing at Prospect Road will be widened to 4m. The crossing will then operate with sufficient comfort levels for the anticipated demand.	Glasnevin	N/A
6.4	A Drop Off Facility for people with reduced mobility only will be provided at Charlemont.	Charlemont	N/A
6.5	TII will mandate its contractors to appoint, in consultation with Our Lady of Victories Infant School, Our Lady of Victories Boys' National School and Our Lady of Victories Girls' National School, a traffic management team for the duration of the construction works in respect of the Collins Avenue Station. The traffic management team will consult with the Schools in relation to measures to facilitate safe access to the Schools. The traffic management team will include persons who will be available during 8.30am – 3.00pm each school day to assist persons traversing the roads adjacent to the Schools.	Collins Ave	
6.6	Road condition surveys in the vicinity of construction sites and on haul routes will be carried out prior to the commencement of construction.	Route Wide	N/A

7. Additional Commitments for Biodiversity (Chapter 15 of the EIAR)

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
7.1	<p>Provision of an otter pass on the Royal Canal During the construction of Glasnevin.</p> <p>During the two three-month periods when the canal basin will be drained, the gates at the 5th lock will be left open and otter fencing will be installed along the bottom of the dry canal basin from the western end of the 5th lock to the western extent of the works. The otter fencing will be offset from the southern canal basin wall by the same width as the otter ledges (i.e. a minimum of 500mm) and at its eastern end will be designed so as to funnel otter into the protected otter passage corridor.</p> <p>Otter fencing will installed as per Guidelines for the Treatment of Otters prior to the Construction of the National Road Schemes (NRA, 2008) and TII's mammal resistant fencing specification but:</p> <ul style="list-style-type: none"> • will comprise a solid barrier rather than wire mesh so as to provide additional visual screening from construction works in the basin, and • does not need to be buried, as this may not be desirable nor feasible in the canal basin, and is not necessary in this case, as the purpose of the fencing is not to contain otter but to provide a screened and protected corridor to facilitate otter movements along the canal basin during construction. <p>Otter ledges will be installed along the southern edge of the canal at the 6th lock to provide otter access up and over each of the lock gates to access the corridor created between the southern canal basin wall and the otter fencing, and the canal and towpaths beyond the works area to the east and west. Otter ledges will be at least 500mm in width and allow at least 600mm headroom.</p>	Glasnevin	<p>Drawing ML1-JAI-EIA-ROUT_XX-DR-Y-40100.</p> <p>Drawing ML1-JAI-EIA-ROUT_XX-DR-Y-310002</p>

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
	<p>The indicative location and extent of otter fencing, and the indicative location of otter ledges at the lock gates are shown on shows a cross section of the works area with the otter fencing and protected otter passage corridor.</p> <p>Use of the mammal passage facilities will be monitored by the Project Ecologist (employed by the Employer) and/or the Ecological Clerk of Works (employed by the Contractor), for each of the 3-month periods when the canal will be drained and the mitigation measures will be in-situ, using infrared camera traps. The otter fencing and ledges will be regularly inspected by an ecologist over each of the 3-month periods to ensure its effectiveness and if necessary, adjustments will be made to maintain functioning.</p> <p>During the in-between c.24 month period, when the canal will be operational, a narrow ledge at least 500mm wide will be maintained between the top of the northern canal basin wall and the fencing separating the canal from the construction site to the north (see panel 3 of Figure 6.7 of EIAR Appendix A5.5). This ledge will not be accessible by the public and will provide otter with bankside access subject to lower human disturbance levels that the southern towpath.</p>		
7.2	Glasnevin Station: The hedgerow along the boundary between the northern towpath of the Royal Canal and the Irish Rail lands to the north will be replaced along the canal side at a suitable location along the proposed new boundary wall.	Glasnevin	N/A

8. Additional Commitments for Air Quality (Chapter 16 of the EIAR)

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
8.1	HGV traffic leaving the all construction compounds will pass through a wheel wash.	Route Wide	N/A

9. Additional Commitments for Climate (Chapter 17 of the EIAR)

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
9.1	Corporate Power Purchase Agreement (CPPA) to use electricity generated from renewables for 100% of construction stage power which includes the energy to power the tunnel boring machine.	Route Wide	Day 1 of Oral Hearing (19/02/24) Avril Challoner Witness Statement
9.2	CPPA to use electricity generated from renewables for 100% of operational power (the EIAR committed to 90%).	Route Wide	Day 1 of Oral Hearing (19/02/24) Avril Challoner Witness Statement
9.3	The use, where practicable, during construction of low carbon concrete with an embodied carbon equivalent to a 50% GGBS replacement.	Route Wide	Day 1 of Oral Hearing (19/02/24) Avril Challoner Witness Statement
9.4	The use in construction plant and equipment of sustainably sourced Hydrotreated Vegetable Oil (HVO) as a 100% replacement of fossil fuels.	Route Wide	Day 1 of Oral Hearing (19/02/24) Avril Challoner Witness Statement
9.5	Procurement only from suppliers that meet the industry reduction requirements within the CAP for 10% reduction in embodied carbon by 2025.	Route Wide	Day 1 of Oral Hearing (19/02/24) Avril Challoner Witness Statement
9.6	Wind speeds are to be taken into account when setting the maximum distance between posts and foundations. In addition, the OHLE system will be subject to regular maintenance and replacement cycles in accordance with European Design standards (Design Life for new civil engineering structures (IE Standard CCE-TMS-410 (2019)). Wind loads on bridge structures will be determined as defined in I.S. EN 1991: Eurocode 1, Action on structures, Part 1-4 General actions – Wind actions, and	Route Wide	Day 1 of Oral Hearing (19/02/24) Avril Challoner Witness Statement

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
	the associated Irish National Annex, or otherwise as detailed in the TII Standards. Buildings are designed to be robustly assembled, using building techniques designed to withstand wind loading, with reduced vulnerability to building elements becoming detached from facades in extreme wind events.		
9.7	The design of the tracks / OHLE / asphalt / bitumen elements will include an allowance for expansion/thermal movements to prevent track buckling during extreme heat events.	Route Wide	Day 1 of Oral Hearing (19/02/24) Avril Challoner Witness Statement
9.8	The overhead line equipment will be designed to take into account a range of minimum and maximum temperatures (-20oC to +40oC) and loads under current and future climate conditions. The contact and messenger overhead wires will be automatically tensioned which will adjust for additional loading from ice, snow or wind. The mechanical tension in the contact and messenger wires will be maintained within the system design parameters.	Route Wide	Day 1 of Oral Hearing (19/02/24) Avril Challoner Witness Statement
9.9	Consumables that require replacement for the MetroLink rail stock parts such as steel tyres, windows, seats, bogie parts will be sourced based on the IEMA GHG Management Hierarchy principles (IEMA 2020b) and old parts will be reused or recycled, in as far as practicable reducing the amount of waste which will be disposed of to landfill.	Route Wide	Day 1 of Oral Hearing (19/02/24) Avril Challoner Witness Statement

10. Additional Commitments for Hydrogeology (Chapter 19 of the EIAR)

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
10.1	Where a barrier effect has been identified, TII will install drainage wells on each side of the cut section and station box locations with a by-pass system. For example, within AZ1 Northern Section, modelling of the potential interaction between natural groundwater flow patterns and the proposed piled-walls within the Seatown - Fosterstown area (i.e. between chainage: 2+800 and chainage: 4+800) indicates there is a possibility of the barrier effect occurring which will require mitigation with drainage wells spaced 100 m apart. The pipe will rest on the intermediate slab or be set into the bottom slab. Assuming the placement of a by-pass through a 200mm diameter pipe placed every 100m, then a pipe flow equal to 1.13×10^{-3} m ³ /s will be considered for the section calculation.	Seatown to Fosterstown	N/A
10.2	All identified operational wells within 150m of the proposed Project boundary will be monitored for water level on a monthly basis for 12 months before construction, during construction and for a nominal period of 12 months after construction is completed. If the level of monitoring indicates that the proposed Project has impacted on a supply or geothermal well (refer Section 19.4.7 of the EIAR) then appropriate mitigation will be applied which will entail a new water supply or replacement well installation or deepening of wells as appropriate.	Route Wide	N/A
10.3	With regard to known groundwater well locations, where these are intercepted by the proposed Project they will be duly recorded by an experienced Hydrogeologist in advance of being decommissioned which will follow good practice IGI guidelines. Where operational, yield testing will be undertaken and, a replacement supply well will be sited accordingly, designed, drilled, installed and tested prior to follow-on commissioning or the supply replaced by a connection to public supply.	Route Wide	N/A
10.4	Fissure grouting will be carried out to ensure that the water table is not lowered outside of the proposed additional pump station during the construction phase.	All pump station locations	N/A

11. Additional Commitments for Utilities and Infrastructure (Chapter 22 of the EIAR)

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
11.1	There shall be no pumping or discharge of groundwater or any other trade effluent to Dublin City Council sewers or waters except under and in accordance with a licence granted by Dublin City Council as required by the Local Government (Water Pollution) Acts, 1977 and 1990.		N/A
11.2	TII will ensure there is no reduction in conveyance capacity, or increase in flood risk, at any location, during or after the works.		N/A

12. Additional Commitments for Material and Waste Management (Chapter 24 of the EIAR)

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
12.1	Applications for the reuse of clean, suitable soil and stone material as by-products in accordance with Regulation 27 of the Waste Directive Regulations 2011 - 2020 will be made. Any compliant material that cannot be recovered in accordance with a permit granted under Regulation 27 will be sent to Soil Recovery Facilities (SRF). Material which cannot be reused in accordance with a Regulation 27 permit and which is not suitable for SRF will be disposed of as waste.	Route Wide	Day 1 of Oral Hearing (19/02/24) Errata Appendix 13 Addendum to EIAR Chapter 24
12.2	Waste arising from the demolition of buildings and structures will be sorted and segregated on site in so far as is practical. Where practicable, demolition waste such as concrete, steel and bricks will be recovered for reuse.	Route Wide	N/A

13. Additional Commitments for Architectural Heritage (Chapter 26 of the EIAR)

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
13.1	<p>TII commits to agreeing the following with Fingal County Council in respect of Santry Lodge:</p> <ul style="list-style-type: none"> Enhanced planting between Santry Lodge and the alignment including both native tree species planting and some screening trees. Re-establishment of elements of the existing gates and supporting piers at the entrance to the property. Use of black colour mesh fencing surrounding ponds. 	Santry Lodge, Northwood.	<p>ML1-JAI-ARD-ROUT_XX-DR-Y-03056</p> <p>ML1-JAI-ARL-SC07_GF-DR-X-00113</p> <p>ML1-JAI-URD-ROUT_XX-DR-Y-02056</p>
13.2	Where buildings have been identified in the EIAR as being of architectural heritage value, any pre and post construction building surveys will be advised/supervised or undertaken by the project Conservation Architect.	Route Wide	N/A

14. Additional Commitments for Landscape (Chapter 27 of the EIAR)

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
14.1	All trees on O'Connell Street to be retained and protected from any damage due to the construction works.	O'Connell St	Day 19 of the Oral Hearing (21/3/24) EIAR Addendum_O'Connell St
14.2	In the scenario where there is no oversite development, all protected facades to be retained and facades at 45 O'Connell St and 46 – 49 and 55 - 56 O'Connell St to be temporarily retained until such time as there is an oversite development.	O'Connell St	Day 19 of the Oral Hearing (21/3/24) EIAR Addendum_O'Connell St
14.3	Mature trees to be established in combination with smaller specimens at St. Stephen's Green to replace trees felled in order to ensure the immediate re-establishment of the vegetation in the area to a mature level.	St. Stephen's Green	N/A

15. Additional Commitments for Settlement (Various EIAR Chapters)

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
15.1	The contract will set out the damage categories assessed to date and will specify that current impacts (i.e. the damage classification from the Phase 2) cannot be exceeded. If any assessment predicts worse impacts, then at source mitigation must be applied.	Route Wide	
15.2	The contract will identify the buildings that will be subject to a Phase 3 Assessment and will require the contractor to verify any other new buildings that will require a Phase 3 assessment.	Route Wide	
15.3	The contract will require the Phase 2B Assessment verification of the Phase 2A Assessment to be undertaken.	Route Wide	
15.4	The contract will specify the Phase 3 Assessment requirements.	Route Wide	
15.5	The contract will specify the expertise to be demonstrated in this field, and responsible key persons who will need to be named by the contractor in the contract.	Route Wide	
15.6	<p>Main works tender submissions will:</p> <ul style="list-style-type: none"> a. Specify the requirement for two (one traditional building construction and one modern building construction) Phase 3 Assessments to be undertaken (TII will provide all information necessary to complete such assessments at tender stage). b. These assessments and expert persons (key persons named under the contract) will be evaluated by TII at tender stage and will be given a pass/fail weighting in the tender documents. The IME, will be required to have expertise in this field, and will undertake the evaluation of the tender submissions. 	Route Wide	

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
	c. The Expert Advisory Panel will review the IME's tender evaluation and provide advice, as appropriate, arising from its review. This will provide a further level of governance and assurance.		
15.7	<p>In the Contract:</p> <ul style="list-style-type: none"> The Independent Monitoring Engineer (IME) will be required to review the Contractor's Phase 2B Assessment and direct whether any further additional buildings (above those identified by the contract) are required to progress to Phase 3. As noted above, the requirement to carry out any further Stage 3 assessments will be determined by the contractor and verified by the IME. Phase 3 Assessments completed by the Contractor will be independently checked by the IME. In carrying out its review, the IME may seek advice from the Expert Advisory Panel, as required, in respect of any element of the Phase 3 Assessments. No excavation that has the potential to impact buildings will commence until the Phase 3 Assessment and the associated instrumentation and monitoring and mitigation proposals are approved by the IME. 	Route Wide	

16. Additional Commitments for Monitoring (Various EIAR Chapters)

Reference	Additional Environmental Commitment	Location	RO Drawings, Errata or Update Documents
16.1	An Independent Monitoring Engineer will be contracted by TII to manage and oversee all monitoring in advance of and during the construction phase of the project.	Route Wide	Day 10 of OH (5/3/24) MetroLink Monitoring During Construction Paper.
16.2	During the construction phase environmental monitoring will be shared with the public in real time, where possible. Where this is not possible, data will be shared publicly as soon as the data is available.	Route Wide	