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Transport Infrastructure Ireland

R132 Seatown Villas Retained Cut Section

P01

2024/02/28

MetroLink

Project No:	32108600
Document Title:	R132 Seatown Villas Retained Cut Section
Document No.:	N/A
Revision:	P01
Date:	2024/02/28
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Client No:	
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File Name:	Jacobs IDOM R132 Seatown Villas Retained Cut Section.docx

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Document history and status

Revision	Date	Description	Author	Checker	Reviewer	Approver
01	28/02/24	Ready for Issue	NC	MOC (ALG)	MOC (ALG)	MOC (ALG)

R132 Seatown Villas Retained Cut Section

We refer to the query raised in the submission by Seatown Villas residents on Wednesday 21st February regarding replacement of the approx. 100m length of retained cut section of route in front of the north end of Seatown Villas with a cut and cover section. The purpose of this note is to provide a written statement of the rationale for maintaining this retained cut section.

To contextualise this rationale we set out, first, the Emerging Preferred Route (EPR) Proposal/Preferred Route Design Proposal, and, secondly, the R132 Vision. With that context stated, we hope the rationale will be clearer.

EPR Proposal/Preferred Route Design Proposal

The EPR proposal for the MetroLink route from the R132 crossing south of Nevinstown lane to north of the Estuary roundabout envisaged an elevated, open section of route.

Feedback from the 2018 consultation on the EPR proposals indicated strong concern regarding the visual impact of the elevated route proposal.

The Preferred Route Design consultation in 2019 provided a new proposal for this section, placing the route in cutting along the eastern side of the R132 from the R132 crossing south of Nevinstown lane, and crossing back to the west of the R132 just south of the Estuary roundabout. This alignment is complementary to the FCC R132 Connectivity Project.

R132 Vision

The intention for MetroLink along this part of the route is to retain it as much as possible as an open section of track as presented in the Preferred Route Design consultation, in particular:

- To provide a better passenger experience (natural light, open air);
- It enables stations to be incorporated in shallow cut sections enhancing passenger access and permeability;
- To enable easier and more frequent access to the track by emergency personnel in the event of an incident on the track;
- To minimise ventilation requirements along the route.

The initial proposal for the Preferred Route consultation included for cut and cover sections only at the following locations:

- Under the R132 where the route passes from one side to the other;
- Under the edge of existing junctions and associated side roads;
- Under existing access roads to buildings/premises.

Cut and cover (i.e. tunnel) lengths were kept as short as possible to minimise the need for incorporation of supporting ventilation (via jet fans) and maximise the open sections.

However, following feedback from the Preferred Route consultation, the route was further modified prior to RO submission to:

- incorporate some additional short cut and cover sections to facilitate access to adjacent development areas at the request of FCC;
- address particular environmental concerns raised - as the extent of current green space adjacent to Ashley Avenue and Estuary Court residential areas would be substantially lost by the open retained cut, an extension of the adjacent cut and cover sections across these areas was agreed to enable reinstatement of these areas following construction; and
- ventilation requirements for these sections of tunnel were adjusted to suit the longer tunnel lengths created.

Based on the resulting combination of tunnel sections and open retained cut, a series of access points has been provided in the open sections of retained cut to facilitate access to the track at reasonably regular intervals to support safety interventions, with access provided typically at intervals between 300-600m.

The maximum continuous tunnel length now provided in this section is the tunnel running from south of Seatown Villas to Seatown station, a length of 455m.

Seatown Villa request for additional tunnel

The proposal put forward by the observers from Seatown Villas is to replace the 100m retained cut section with a cut-and-cover section. We note that this change would:

- increase the tunnel length in this area from 455m to 645m, the longest length of cut and cover along the R132 section, by linking the existing cut and cover tunnel sections from Seatown Station to the north of the Estuary roundabout;
- require the redesign of this section of the route including the access point to reflect the change from an open section to a cut and cover section; and
- remove the current natural ventilation point between the longer tunnel to the south and the shorter tunnel to the north.

However, the removal of the open section of cut at this location is not considered desirable or compatible with the wider vision and development of the route along the R132 section, because:

- it will further impact on the Project's desire for maximising open sections of route along the R132;
- it will create a long single tunnel length with associated increased ventilation requirements;
- it will reduce the ease/speed of access to the tunnel section in the event of an incident occurring in the longer tunnel;
- a reasonable proportion of the current green space is already currently reinstated above the cut and cover tunnel; and
- there are no significant noise impacts predicted for the adjacent properties during the operation of Metrolink that would justify further mitigation by an extended tunnel length.

The alternative suggestion of partial mitigation by a 30m extension of the southern tunnel (extending it from 455m to 485m) may be feasible, although less desirable than the current design. In general, a minimum length of 100m of open cut is preferable for natural ventilation at the end of long tunnels such as this one at 455m length. In this case, a more detailed aerodynamic assessment may confirm that the aerodynamic independence of the adjacent tunnels could be maintained with this shorter gap. This alternative would also maintain the emergency access provision at this location with minimal design changes.