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Integrated Transport. Integrated Life.

Hostile Vehicle Mitigation

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Bonneagar Iompair Éireann
Transport Infrastructure Ireland

NTA
Údarás Náisiúnta Iompair
National Transport Authority

Rialtas na hÉireann
Government of Ireland

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Hostile Vehicle Mitigation

Hostile Vehicle Mitigation

Hostile Vehicle Mitigation (HVM) *refers to the measures and techniques used to prevent or mitigate the damage potentially caused by vehicles that are used as weapons in hostile or criminal acts*

The design of HVM requires a balance between the **technical requirements** of any measures and the **aesthetics and functionality of the urban realm**.

From TII's engagement with An Garda Síochána, the key areas to be protected from hostile vehicles are the station entrances

- A **secure perimeter** has been created around the entrance to each station
- **Physical obstructions** in the form of structural elements are used to form the secure perimeter
- **Spacing between structural elements is 1.2m measured at 600mm above ground**
- All **structural elements** proposed should conform with PAS 68
- Secure perimeter forms part of an **overall urban realm plan**
- Design based on **international best practice** including NPSA Integrated Security Guide and PAS 69
- Treatment of bollards and how they **integrate with the environment** will be agreed with the local authorities (FCC/DCC) and other relevant stakeholders.

Hostile Vehicle Mitigation

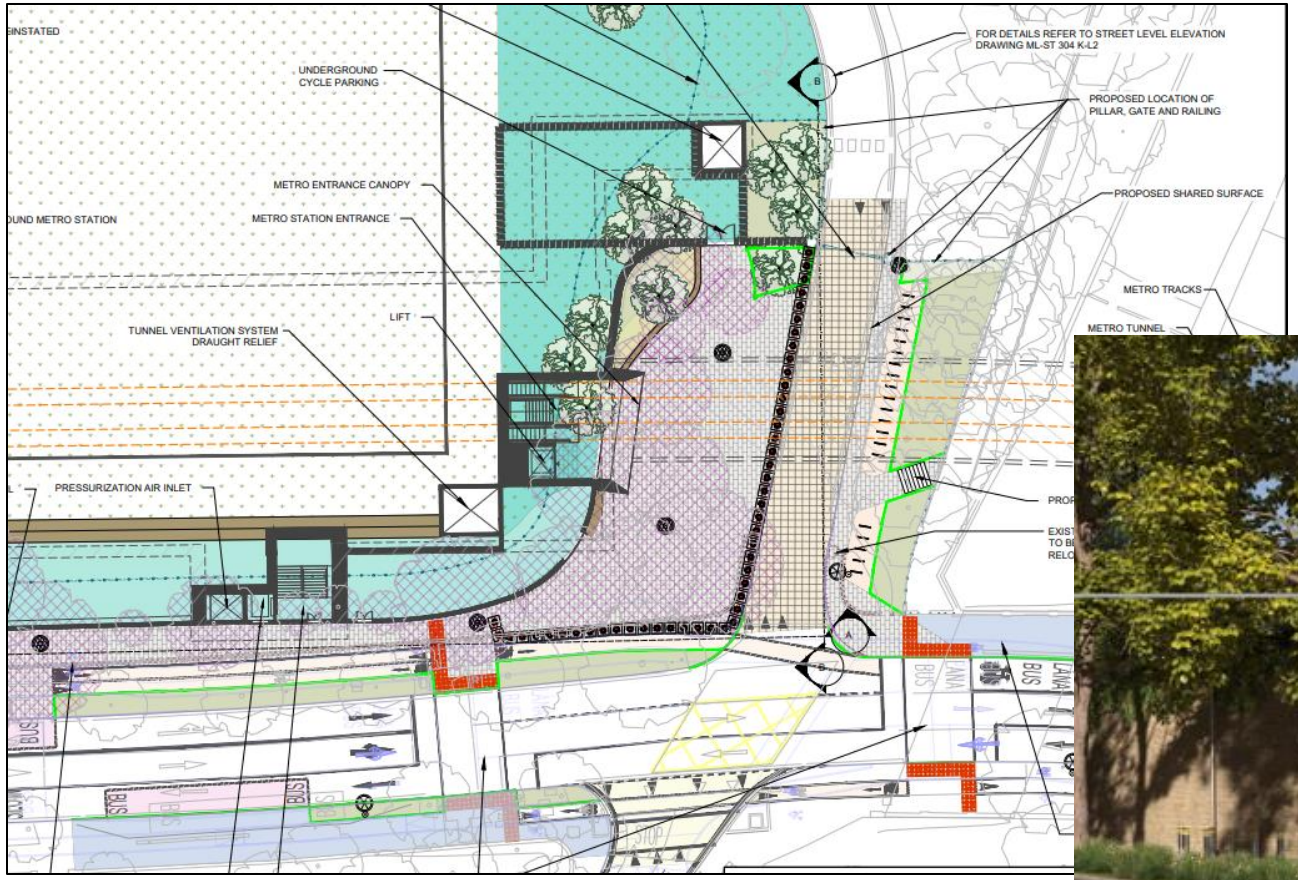
Holistic Design Principle

Holistic urban realm design will be used to make use of street furniture to integrate within HVM line, such as:

- Benches
- Planters
- Existing trees of appropriate size

This approach will break up the visual impact of stand-alone bollard lines within the public realm and compliance with accessibility guidance

Hostile Vehicle Mitigation – Griffith Park

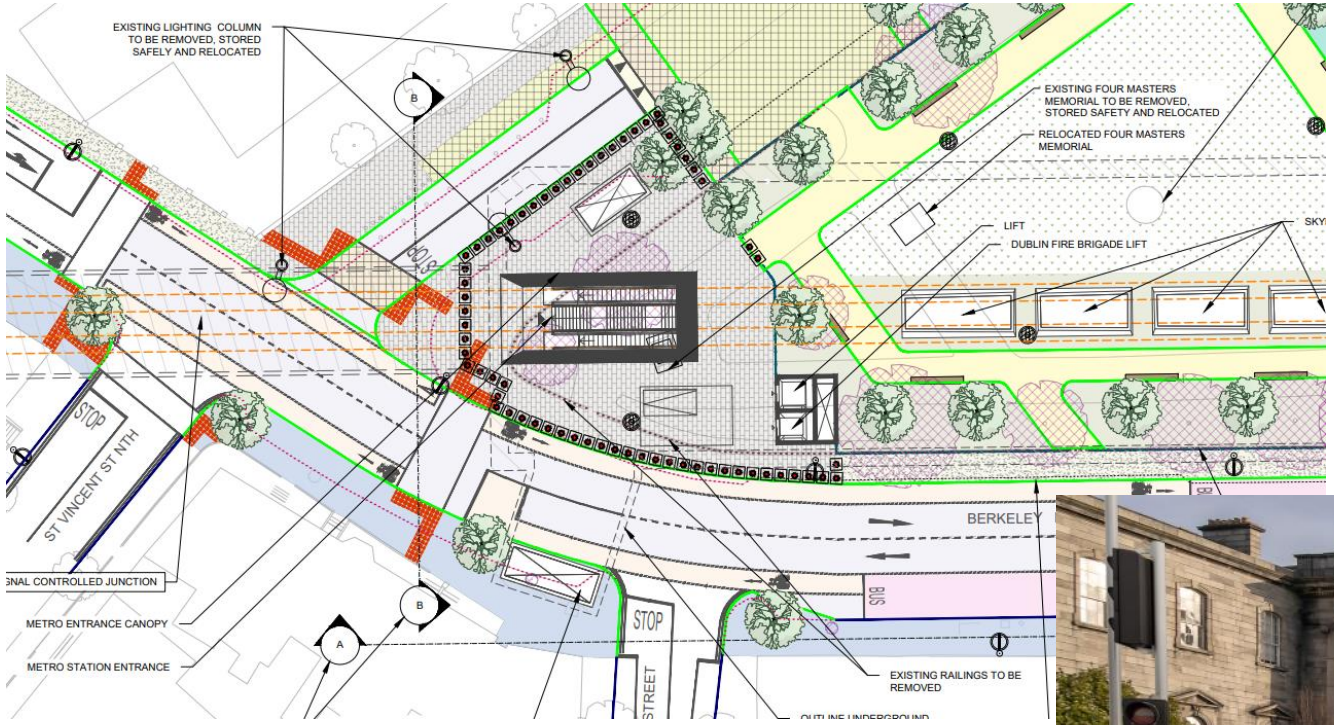


Example of Standard Bollards in line with NPSA Integrated Security Guide and PAS 69

Hostile Vehicle Mitigation – St Stephen's Green

Treatment of Bollards at sensitive station location.
Granite faced to match existing

Hostile Vehicle Mitigation – Mater



The treatment of bollards at Mater station will be agreed in consultation with DCC and will follow holistic design principles and the contextual integration approach as proposed at St Stephen's Green

Hostile Vehicle Mitigation Treatment Approach

Station	Structural Elements Incorporated (RO)	Proposed Bollard Treatment (to be agreed with Local Authorities)
Estuary	Bollards, Planters, Benches, Trees	Holistic Design Principle Applied
Seatown	Bollards, Planters, Benches, Trees	Holistic Design Principle Applied
Swords Central	Bollards, Planters, Benches, Trees	Holistic Design Principle Applied
Fosterstown	Bollards, Planters, Benches, Trees, Station Upstand	Holistic Design Principle Applied
Dublin Airport	Bollards, Benches, Canopy Supports	Holistic Design Principle Applied
Northwood	Bollards, Planters, Benches	Holistic Design Principle Applied

Hostile Vehicle Mitigation Treatment Approach

Station	Structural Elements Incorporated (RO)	Proposed Bollard Treatment (to be agreed with Local Authorities)
Ballymun	Bollards, Planters, Benches	Holistic Design Principle Applied
Collins Avenue	Bollards, Planters, Benches	Holistic Design Principle Applied
Griffith Park	Bollards, Trees	Holistic Design Principle Applied
Glasnevin	Bollards, Planters, Benches, Steps	Holistic Design Principle with Contextual Integration Approach
Mater	Bollards	Holistic Design Principle with Contextual Integration Approach
O'Connell Street	Station Entrance	N/A
Tara	Bollards, Benches	Holistic Design Principle Applied
St Stephen's Green	Granite Faced Bollards to match existing	Holistic Design Principle with Contextual Integration Approach
Charlemont	Bollards, Planters, Trees	Holistic Design Principle with Contextual Integration Approach

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