MCA 1 DOCKLANDS STATION

Docklands Station Multi Criteria Assessment MCA1										
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option A1	Option A2	Option A3	Option B1	Option B2
1	Economy	1,1	Construction and Land Cost	Assessment of cost of construction of option, land costs, acquisition costs and temporary works	**Significant comparative advantage over other options**	**Some comparative advantage over other options**	**Some comparative advantage over other options**	**Significant comparative disadvantage over other options**	**Significant comparative disadvantage over other options**
					Enlargement of the current station to accommodate four new platforms. It also needs to be extended northwards. Two facades and part of the roof need to be demolished. Construction of four new platforms. No Diamond Crossing Associated with this option No land acquisition required for this option	Construction of a new station. Construction of five new platforms. Fixed Diamond Crossing Associated with this option No land acquisition required for this option	Construction of a new station. Construction of five new platforms. Fixed Diamond Crossing Associated with this option No land acquisition required for this option Includes additional cost associated with enhancement of local access	The construction of the station tries to minimize the excavation needed to construct the tracks and platforms. Construction of five new platforms. No Diamond Crossing Associated with this option Land acquisition costs for options B1 and B2 are equivalent increased drainage and earthworks costs associated with Options B1 and B2	The platforms of the station are constructed underground to allow a better alignment. The construction cost estimation of Option B2 will be around 30% higher than for B1 due to the excavation works. This increase does not consider the phasing DART Underground cost estimation Construction of five new platforms. No Diamond Crossing Associated with this option Land acquisition costs for options B1 and B2 are equivalent increased drainage and earthworks costs associated with Options B1 and B2
		1,2	Long Term Maintenance costs	Maintenance and reinvestments,	**Some comparative advantage over other options**	**Some comparative advantage over other options**	**Some comparative advantage over other options**	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**
					Constructed at grade, consequently maintenance more straightforward than for Options on Site B	Constructed at grade, consequently maintenance more straightforward than for Options on Site B	Constructed at grade, consequently maintenance more straightforward than for Options on Site B	Sealed drainage system, below ground; Maintenance of pumped drainage system required	Sealed drainage system, below ground; Maintenance of pumped drainage system required
		1,3	Train Operation Functionality /economic benefit	Benefits to train operation through operation flexibility.	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**	**Some comparative advantage over other options**	**Some comparative advantage over other options**
					Interconnect the MGWR, GSWR and Northern Lines, fully complying with operational requirements. There is less space between station and Newcomen Junction to hold trains than there is for Options B1 and B2	Interconnect the MGWR, GSWR and Northern Lines, fully complying with operational requirements. There is less space between station and Newcomen Junction to hold trains than there is for Options B1 and B2	Interconnect the MGWR, GSWR and Northern Lines, fully complying with operational requirements. There is less space between station and Newcomen Junction to hold trains than there is for Options B1 and B2	Interconnect the MGWR, GSWR and Northern Lines, fully complying with operational requirements. There is more space between station and Newcomen Junction to hold trains than there is for Options A1, A2 and A3 The partially embedded configuration of option B2 results in constraints on use of diesel trains due to the associated controls needed in respect of fumes, leakage and noise.	Interconnect the MGWR, GSWR and Northern Lines, fully complying with operational requirements. There is more space between station and Newcomen Junction to hold trains than there is for Options A1, A2 and A3. The partially embedded configuration of option B2 results in constraints on use of diesel trains due to the associated controls needed in respect of fumes, leakage and noise.
		1,4	Passenger Demand	Comparative Demand Profiles associated with the options	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**
					Options B1 and B2 are located within the Docklands development area and in immediate proximity to Luas. They will consequently perform slightly better than other options	Options B1 and B2 are located within the Docklands development area and in immediate proximity to Luas. They will consequently perform slightly better than other options	Options B1 and B2 are located within the Docklands development area and in immediate proximity to Luas. They will consequently perform slightly better than other options	Options B1 and B2 are located within the Docklands development area and in immediate proximity to Luas. They will consequently perform slightly better than other options	Options B1 and B2 are located within the Docklands development area and in immediate proximity to Luas. They will consequently perform slightly better than other options
		1,5			**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**

Docklands Station Multi Criteria Assessment MCA1									
	Parameter		**Criteria**	**Sub-Criteria (Quantitative Qualitative)**	**Option A1**	**Option A2**	**Option A3**	**Option B1**	**Option B2**
			Journey time reduction /economic benefit	Benefits to passengers through journey time reduction	Station location offers comparable journey time between the options.	Station location offers comparable journey time between the options.	Station location offers comparable journey time between the options.	Station location offers comparable journey time between the options.	Station location offers comparable journey time between the options.
2	**Integration**	**2,1**	**Transport Integration**	Impact on scope for and ease of interchange between modes. Impact on the operation of other transport services both during construction and in operation. New interchange nodes and facilities; Reduced walking and wait times associated with interchanges. Modal shift figures during construction and operations. Changes to journey times to transport nodes.	**Some comparative disadvantage over other options** Intermodality between the DART station and Spencer Dock LUAS station is not provided. The passengers would need to walk 400 metres (8 mins) to change the means of transport.	**Some comparative disadvantage over other options** Intermodality between the DART station and Spencer Dock LUAS station is not provided. The passengers would need to walk 300 metres (6mins) to change the means of transport.	**Some comparative disadvantage over other options** Intermodality between the DART station and Spencer Dock LUAS station is not provided. The passengers would need to walk 300 metres (6mins) to change the means of transport.	**Some comparative advantage over other options** Options on Site B offer significantly enhanced interchangeability between modes of transport than Options on Site A. Passengers need to walk 125m to access Luas.	**Some comparative advantage over other options** Options on Site B offer significantly enhanced interchangeability between modes of transport than Options on Site A
		2,2	**Land Use Integration**	Impact on land-use strategies and regional and local plans. Assessment of support for land use factors local land use and planning. Inclusion of project in relevant local and regional planning documents.	**Some comparative disadvantage over other options** The location falls within a site zoned as Z1 (residential zoning) and is located outside of both the Strategic Development Zones (SDZ) and the Strategic Development and Regeneration Areas (SDRA). Fronts the Royal Canal, at a location within the site which would be well disposed to residential development. Location results in splitting the railway along the periphery of site A curtailing the potential for future development on the site and integration of the station within the urban environment.	**Some comparative disadvantage over other options** The location falls within a site zoned as Z1 (residential zoning) and is located outside of both the Strategic Development Zones (SDZ) and the Strategic Development and Regeneration Areas (SDRA).	**Some comparative advantage over other options** The location falls within a site zoned as Z1 (residential zoning) and is located outside of the Strategic Development Zones (SDZ) and the Strategic Development and Regeneration Areas (SDRA). It gives the possibility for future removal of the existing barrier between the East Wall neighbourhood and the city centre. Also, it follows the spirit of the Dublin Docklands Area Master Plan 2008.	**Some comparative disadvantage over other options** The station would be part of the five city hubs proposed in the North Lotts and Grand Canal Dock planning scheme, thus creating commercial opportunities in a high-quality public space in the centre of Docklands and, therefore, attracting more passengers. The Skew of Option B1 relative to the block alignment renders it more difficult to construct an appropriate commercial development overhead relative to Option B2 It gives the possibility for future removal of the existing barrier between the East Wall neighbourhood and the city centre. Also, it follows the spirit of the Dublin Docklands Area Master Plan 2008.	**Some comparative disadvantage over other options** The station would be part of the five city hubs proposed in the North Lotts and Grand Canal Dock planning scheme, thus creating commercial opportunities in a high-quality public space in the centre of Docklands and, therefore, attracting more passengers. The Skew of Option B1 relative to the block alignment renders it more difficult to construct an appropriate commercial development overhead relative to Option B2 This option is located within both the North Lotts and Grand Canal Dock SDZ and SDRA 6. The site is predominantly zoned as Z14 (regeneration areas). The Z14 zoning objective is “to seek the social, economic and physical development and/or rejuvenation of an area with mixed us of which residential and “Z6” would be predominant uses”. It is a key objective of the Dublin City Development Plan 2016 –2022 for development proposals on Z14 lands within SDRA 6 to: Support sustainable transport initiatives which facilitate pleasant, accessible and easy movement to, from and within the Docklands area, and Develop an integrated transport strategy for the entire Docklands area and to pro-actively promote sustainable smarter travel.
		2,3			**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**

Docklands Station Multi Criteria Assessment MCA1									
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option A1	Option A2	Option A3	Option B1	Option B2
			Geographical Integration	Impact on improvement of external links. Desire to link various geographical. Link to Public Transportation Modes	Not a differentiator.	Not a differentiator.	Not a differentiator.	Not a differentiator.	Not a differentiator.
		2,4	**Other Government Policy**	Integration with Government Policy, Smarter Travel, Investment Programmes, rail safety, electrification, etc.	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**	**Some comparative advantage over other options**	**Some comparative advantage over other options**
					On the northern periphery of the Dublin Docklands Development Area	On the northern periphery of the Dublin Docklands Development Area	On the northern periphery of the Dublin Docklands Development Area	In the heart of the Dublin Docklands Development Area	In the heart of the Dublin Docklands Development Area
3	**Environment**	**3,1**	**Noise and Vibration**	Estimated number of people likely to be affected by transport-related noise with the scheme within 50m.	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**
					>76 sensitive receptors within 50m of station entrance	>76 sensitive receptors within 50m of station entrance	>76 sensitive receptors within 50m of station entrance	>100 sensitive receptors within 50m of the station entrance. Surrounded by existing and potential future residential and mixed-use properties.	>100 sensitive receptors within 50m of the station entrance. Surrounded by existing and potential future residential and mixed-use properties.
		3,2	**Air Quality and Climate**	Local air quality effects. Number of receptors within 50m.	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**
					>76 sensitive receptors within 50m of station entrance Construction phase air quality impacts temporary and mitigatable. Comparable during operational phase with respect to air quality (provided no significant road traffic impacts).	>76 sensitive receptors within 50m of station entrance. Construction phase air quality impacts temporary and mitigatable. Comparable during operational phase with respect to air quality (provided no significant road traffic impacts)	>76 sensitive receptors within 50m of station entrance. Construction phase air quality impacts temporary and mitigatable. Comparable during operational phase with respect to air quality (provided no significant road traffic impacts)	>100 sensitive receptors within 50m of the station entrance. Surrounded by existing and potential future residential and mixed-use properties.	>100 sensitive receptors within 50m of the station entrance. Surrounded by existing and potential future residential and mixed-use properties.
		3,3	**Landscape and Visual (including light)**	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**	**Some comparative advantage over other options**
					Above ground - some negative visual impact on royal canal and adjacent housing	Above ground - some negative visual impact on royal canal and adjacent housing	Above ground - some negative visual impact on royal canal and adjacent housing	Above ground - some negative visual impact on royal canal and adjacent housing	Largely below ground - modest surface footprint
		3,4	**Biodiversity (flora and fauna)**	Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected species, designated sites; Overall effect on nature conservation resource.	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**
					There is no foreseen advantage or disadvantage of this option with regard to Biodiversity.	There is no foreseen advantage or disadvantage of this option with regard to Biodiversity.	There is no foreseen advantage or disadvantage of this option with regard to Biodiversity.	There is no foreseen advantage or disadvantage of this option with regard to Biodiversity.	There is no foreseen advantage or disadvantage of this option with regard to Biodiversity.
		3,5	**Cultural, Archaeological and Architectural Heritage**	Overall effect on cultural, archaeological and architecture heritage resource. Likely effects on RPS, National Monuments, SMRs, Conservation areas, etc. Number of designated sites/structures (by level of designation) directly impacted by scheme (land take)	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**
					None of the Options has a direct impact on a listed structure. All interface with the heritage Sheriff St Viaduct	None of the Options has a direct impact on a listed structure. All interface with the heritage Sheriff St Viaduct	None of the Options has a direct impact on a listed structure. All interface with the heritage Sheriff St Viaduct	None of the Options has a direct impact on a listed structure. All interface with the heritage Sheriff St Viaduct	None of the Options has a direct impact on a listed structure. All interface with the heritage Sheriff St Viaduct
		3,6	**Water Resources**	Overall potential significant effects on water resource attribute likely to	**Some comparative advantage over other options**	**Some comparative advantage over other options**	**Some comparative advantage over other options**	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**

Docklands Station Multi Criteria Assessment MCA1									
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option A1	Option A2	Option A3	Option B1	Option B2
				be affected during construction and operation.	Proposed site identified as liable to flood in the 1 in 100 year areas (Source: DCC County Development Plan Strategic Flood Risk Assessment)	Proposed site identified as liable to flood in the 1 in 100 year areas (Source: DCC County Development Plan Strategic Flood Risk Assessment)	Proposed site identified as liable to flood in the 1 in 100 year areas (Source: DCC County Development Plan Strategic Flood Risk Assessment)	Proposed site identified as liable to flood in the 1 in 100 year areas (Source: DCC County Development Plan Strategic Flood Risk Assessment). Major excavations will be required, therefore a potential direct impact on water resource. Due to the major civil works required compared to Option B1, it has a comparative disadvantage.	Proposed site identified as liable to flood in the 1 in 100 year areas (Source: DCC County Development Plan Strategic Flood Risk Assessment). Major excavations will be required, therefore a potential direct impact on water resource. Due to the major civil works required compared to Option B1, it has a comparative disadvantage.
		3,7	**Agriculture and Non-Agricultural**	Overall impact on land take & property. Number of properties to be impacted/acquired. Likely temporary or permanent severance effects, etc.	**Some comparative advantage over other options**	**Some comparative advantage over other options**	**Some comparative advantage over other options**	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**
					Site is owned by CIÉ	Site is owned by CIÉ	Site is owned by CIÉ	Site is mainly owned by CIÉ. The unhatched area to the north-east of the Docklands Option B plot is a land parcel still in the ownership of Spencer Dock Development Company Limited, previously acquired from Green Sunrise Waste management.	Site is mainly owned by CIÉ. The unhatched area to the north-east of the Docklands Option B plot is a land parcel still in the ownership of Spencer Dock Development Company Limited, previously acquired from Green Sunrise Waste management.
		3,8	**Geology and Soils (including Waste)**	Soils and Geology and likely impact on geological resources based on preliminary/likely construction details. % of soil resources to be developed/removed. Existing information relating to potential to encounter contaminated land. High-level assessment based on the likely structures/ works required and the potential for ground contamination due to historic landfills, pits and quarries.	**Some comparative advantage over other options**	**Some comparative advantage over other options**	**Some comparative advantage over other options**	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**
					The proposed works would be largely at grade	The proposed works would be largely at grade	The proposed works would be largely at grade	Excavation is reduced in comparison to Option B2.	Major civil works and excavations will be required, therefore has a comparative disadvantage.
		3,9	**Radiation and Stray Current**	Overall likely impact on existing sources of electromagnetic radiation.	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**
					Not a differentiator.	Not a differentiator.	Not a differentiator.	Not a differentiator.	Not a differentiator.
4	**Accessibility & Social inclusion**	4,1	**Impact on Vulnerable Groups**	Impacts on low-income groups, non-car owners, people with a disability. Quantification of increased service levels to these groups; Quantification of infrastructure and rolling stock improvements aimed at these groups; distribution of consumers surplus	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**	**Some comparative advantage over other options**	**Some comparative advantage over other options**
					The passengers would need to walk 400 metres to change the means of transport, which has an impact on the accessibility of the station.	The passengers would need to walk 300 metres to change the means of transport, which has an impact on the accessibility of the station.	The passengers would need to walk 300 metres to change the means of transport, which has an impact on the accessibility of the station. However, this solution provides the possibility of the future construction of a pedestrian and cycling route that would connect with the East Wall neighbourhood, which would improve the mobility of non-car owners.	The passengers would need to walk 125 metres to change the means of transport. Options B1 is close to the Luas Station, they are superior to Options A1 and A2, marginally superior to Option A3	Option B2 is immediately adjacent to the Luas Station, It is superior to Option A1 and marginally superior to Option A2, A3 and B1
		4,2	**Stations Accessibility**	Quantification of increased service levels to the vulnerable groups.	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**
					All solutions will be designed to ensure accessibility for vulnerable groups	All solutions will be designed to ensure accessibility for vulnerable groups	All solutions will be designed to ensure accessibility for vulnerable groups	All solutions will be designed to ensure accessibility for vulnerable groups	All solutions will be designed to ensure accessibility for vulnerable groups
		4,3	**Social Inclusion**		**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**	**Some comparative advantage over other options**	**Some comparative advantage over other options**	**Some comparative advantage over other options**

Docklands Station Multi Criteria Assessment MCA1									
	Parameter		**Criteria**	**Sub-Criteria (Quantitative Qualitative)**	**Option A1**	**Option A2**	**Option A3**	**Option B1**	**Option B2**
				Quantification of service levels impacts including severance to all groups	The passengers would need to walk 400 metres to change the means of transport, which has an impact on the accessibility of the station.	In this solution, the passengers would need to walk 300 metres to change the means of transport, which has an impact on the accessibility of the station.	Options B1 and B2 are adjacent to the Luas Station, they are superior to Options A1 and A2, marginally superior to Option A3. The possibility of providing a new pedestrian bridge which allows the connection of East Wall neighbourhood would be a great benefit for this area	The passengers would need to walk 125 metres to change the means of transport. Options B1 is close to the Luas Station, they are superior to Options A1 and A2, marginally superior to Option A3	Option B2 is immediately adjacent to the Luas Station, It is superior to Option A1 and marginally superior to Option A2, A3 and B1
5	**Safety**	**5,1**	**Rail Safety**	Safety for Rail users	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**
					Station options are equally safe for users	Station options are equally safe for users	Station options are equally safe for users	Station options are equally safe for users.	Station options are equally safe for users.
		5,2	**Vehicular Traffic Safety**	Quality of Access for these road users, lengths of diversions, removal of interface with rail and other modes of transport	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**
					Adjacent roads are not affected by the station works construction	Adjacent roads are not affected by the station works construction	Adjacent roads are not affected by the station works construction	Sheriff Street Upper will be affected by the station works construction.	Sheriff Street Upper will be affected by the station works construction.
		5,3	**Pedestrian, Cyclist and Vulnerable Road user Safety**	Quality of Access for these road users. removal of interfaces	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**	**Some comparative advantage over other options**	**Some comparative advantage over other options**	**Some comparative advantage over other options**
					A1 solution does not offer any enhancement to the current station in terms of safety.	This option offers the opportunity of creating a porched commercial boulevard between the station and Spencer Dock LUAS station, increasing the quality of the pedestrian experience in the area, including the regeneration of the Sheriff Street Upper underpass.	This option offers the opportunity of creating a porched commercial boulevard between the station and Spencer Dock LUAS station, increasing the quality of the pedestrian experience in the area, including the regeneration of the Sheriff Street Upper underpass. Besides, the possibility of the future construction of a pedestrian and cyclist route would provide a connection between East Wall and the City Centre.	Options B1 and B2 offer better quality of access as the deposit customers central to the development zone	Options B1 and B2 offer better quality of access as the deposit customers central to the development zone
6	**Physical Activity**	**6,1**	**Connectivity to adjoining cycling facilities**	Analysis of the extent that the scheme connects with cycle tracks.	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**
					This option benefits from the adjacent dedicated cycle routes and the presence of attractive walking routes along the canal.	This option does not have adjoining cycle routes.	This option offers the opportunity of creating a new pedestrian and cyclist route to connect East Wall neighbourhood.	This option benefits from the adjacent dedicated cycle routes and the presence of attractive walking routes in the DDDA.	This option benefits from the adjacent dedicated cycle routes and the presence of attractive walking routes in the DDDA.
		6,2	**Permeability and local connectivity opportunity**	Journey Time and lengths of diversions for active modes and numbers affected. Analysis of the connectivity with green areas/key attractions related to active mode	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**
					Current station location is closer to Royal Canal amenities.	This location is further to Royal Canal amenities. An improvement in the local connection is not offered.	This option offers the opportunity of creating a new pedestrian and cyclist route to connect East Wall neighbourhood.	Current station location offers good connection to Royal Canal and Liffey amenities.	Current station location offers good connection to Royal Canal and Liffey amenities.

MCA 1 SUMMARY DOCKLANDS STATION							
	Parameter		Option A1	Option A2	Option A3	Option B1	Option B2
1	Economy	Option A1 is the most desirable in terms of initial budget needed for the station. The construction cost estimation of options A2 and A3 will be around 25% higher than for A1. (See Appendix 2). Options on Site A have a better maintenance profile due to pumped drainage systems associated with Options on Site B	Significant comparative advantage over other options	Some comparative advantage over other options	Significant comparative advantage over other options	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options
2	Integration	Option A1 performs poorly in terms of integration as it is 400 metres away from the LUAS station. The other options on Site A are marginally closer. Option A3 enhances Option A2 in terms of integration, providing the possibility of linking the station with East Wall neighbourhood with a pedestrian and cycle route. This option provides the Dublin City Council with a solution to remove the existing barrier as per the spirit of the Dublin Docklands Area Master Plan 2008.	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
3	Environment	The three options are comparable in terms of the environmental parameter.	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
4	Accessibility & Social inclusion	In terms of Accessibility, Options A1 is the less favourable due to its 400 metres distance to Spencer Dock LUAS station, affecting the interconnectivity with the City Centre. Option A3 has a significative advantage over other options in terms of Social inclusion due to the possibility of the future construction of a pedestrian and cycle bridge that would remove the barrier between East Wall neighbourhood and the City Centre.	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
5	Safety	Options A2 and A3 improve passenger safety by including the possibility of a pedestrian boulevard and regenerating the underpass of Sheriff Street Upper. Option A3 enhances the Option A2, including the possibility of a future cyclist and pedestrian route between East Wall and the City Centre, providing quality and safe access for these users.	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
6	Physical Activity	Option A1 benefits from the adjacent dedicated cycle routes and the presence of attractive walking routes along the canal. Nevertheless, Option A3 offers the opportunity of improving the cycle route network and local connection by creating the possibility of providing a new pedestrian and cyclist route linking East Wall neighbourhood, which means a significative advantage over the others.	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
		Progress Option to MCA2 ?	Yes	No	Yes	No	Yes

MCA 2 DOCKLANDS STATION

Docklands Station Multi Criteria Assessment MCA2							
	Parameter		**Criteria**	**Sub-Criteria (Quantitative Qualitative)**	**Option A1**	**Option A3**	**Option B2**
1	**Economy**	**1,1**	**Construction and Land Cost**	Assessment of cost of construction of option, land costs, acquisition costs and temporary works	**Significant comparative advantage over other options** Enlargement of the current station to accommodate four new platforms. It also needs to be extended northwards. Two facades and part of the roof need to be demolished. Construction of four new platforms. No Diamond Crossing Associated with this option No land acquisition required for this option ``	**Some comparative advantage over other options** Construction of a new station. Construction of five new platforms. No Diamond Crossing Associated with this option No land acquisition required for this option	**Significant comparative disadvantage over other options** The platforms of the station are constructed underground to allow a better alignment. The construction cost estimation of Option B2 i.e. approximately the double (100% higher) than for A3 due to the excavation and structures works. Construction of four new platforms. Fixed Diamond Crossing Associated with this option Relocation of ESB Substation and Signalling Equipment Building Required for this Option Retaining Walls needed to 4m height of approximately 400m Land acquisition costs are high increased drainage and earthworks costs associated with Option B2
		1,2	**Long Term Maintenance costs**	Maintenance and reinvestments,	**Some comparative advantage over other options** Constructed at grade, consequently maintenance more straightforward than for Options on Site B	**Some comparative advantage over other options** Constructed at grade, consequently maintenance more straightforward than for Option B2	**Some comparative disadvantage over other options** Maintenance of pumped drainage system; more structural elements requiring inspection and maintenance
		1,3	**Train Operation Functionality /economic benefit**	Benefits to train operation through operation flexibility.	**Some comparative disadvantage over other options** Interconnect the MGWR, GSWR and Northern Lines, fully complying with operational requirements. There is less space between station and Newcomen Junction to hold trains than there is for Options B1 and B2	**Some comparative disadvantage over other options** Interconnect the MGWR, GSWR and Northern Lines, fully complying with operational requirements. There is less space between station and Newcomen Junction to hold trains than there is for Option B2	**Some comparative advantage over other options** Interconnect the MGWR, GSWR and Northern Lines, fully complying with operational requirements. There is more space between station and Newcomen Junction to hold trains than there is for Option A3
		1,4	**Passenger Demand**	Comparative Demand Profiles associated with the options	**Comparable to other options** Options B1 and B2 are located within the Docklands development area and in immediate proximity to Luas. They will consequently perform slightly better than other options	**Comparable to other options** Option B2 is located within the Docklands development area and in immediate proximity to Luas. It will consequently perform slightly better than site A3.	**Comparable to other options** Option B2 is located within the Docklands development area and in immediate proximity to Luas. It will consequently perform slightly better than site A3.
		1,5	**Journey time reduction /economic benefit**	Benefits to passengers through journey time reduction	**Some comparative disadvantage over other options** Set down location is better for Option B2	**Some comparative disadvantage over other options** Set down location is better for Option B2	**Some comparative advantage over other options** Set down location is better for Option B2
2	**Integration**	**2,1**	**Transport Integration**	Impact on scope for and ease of interchange between modes. Impact on the operation of other transport	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**	**Some comparative advantage over other options**

Docklands Station Multi Criteria Assessment MCA2							
	Parameter		**Criteria**	**Sub-Criteria (Quantitative Qualitative)**	**Option A1**	**Option A3**	**Option B2**
				services both during construction and in operation. New interchange nodes and facilities; Reduced walking and wait times associated with interchanges. Modal shift figures during construction and operations. Changes to journey times to transport nodes.	Intermodality between the DART station and Spencer Dock LUAS station is not provided. The passengers would need to walk 400 metres to change the means of transport.	Intermodality between the DART station and Spencer Dock LUAS station is not provided. The passengers would need to walk 250 metres to change the means of transport.	Option B2 offer significantly enhanced interchangeability between modes of transport than Option A3
		2,2	**Land Use Integration**	Impact on land-use strategies and regional and local plans. Assessment of support for land use factors local land use and planning. Inclusion of project in relevant local and regional planning documents.	**Comparable to other options** The location falls within a site zoned as Z1 (residential zoning) and is located outside of both the Strategic Development Zones (SDZ) and the Strategic Development and Regeneration Areas (SDRA).	**Comparable to other options** The location falls within a site zoned as Z1 (residential zoning) and is located outside of both the Strategic Development Zones (SDZ) and the Strategic Development and Regeneration Areas (SDRA). It offers the possibility for future removal of the existing barrier between the East Wall neighbourhood and the city centre. Also, it follows the spirit of the Dublin Docklands Area Master Plan 2008.	**Comparable to other options** The station would be part of the five city hubs proposed in the North Lotts and Grand Canal Dock planning scheme, thus creating commercial opportunities in a high-quality public space in the centre of Docklands and, therefore, attracting more passengers. The proposal is consistent with the existing planning permission in place for the site. This option is located within both the North Lotts and Grand Canal Dock SDZ and SDRA 6. The site is predominantly zoned as Z14 (regeneration areas). The Z14 zoning objective is “to seek the social, economic and physical development and/or rejuvenation of an area with mixed us of which residential and “Z6” would be predominant uses”. It is a key objective of the Dublin City Development Plan 2016 –2022 for development proposals on Z14 lands within SDRA 6 to: Support sustainable transport initiatives which facilitate pleasant, accessible and easy movement to, from and within the Docklands area, and Develop an integrated transport strategy for the entire Docklands area and to pro-actively promote sustainable smarter travel.
		2,3	**Geographical Integration**	Impact on improvement of external links. Desire to link various geographical.	**Comparable to other options** Not a differentiator.	**Comparable to other options** Not a differentiator.	**Comparable to other options** Not a differentiator.
		2,4	**Other Government Policy**	Integration with Government Policy, Smarter Travel, Investment Programmes, rail safety, electrification, etc.	**Some comparative disadvantage over other options** On the northern periphery of the Dublin Docklands Development Area	**Some comparative disadvantage over other options** On the northern periphery of the Dublin Docklands Development Area	**Some comparative advantage over other options** In the heart of the Dublin Docklands Development Area
3	**Environment**	**3,1**	**Noise and Vibration**	Estimated number of people likely to be affected by transport-related noise with the scheme within 50m.	**Comparable to other options** >76 sensitive receptors within 50m of station entrance	**Comparable to other options** >76 sensitive receptors within 50m of station entrance	**Comparable to other options** >100 sensitive receptors within 50m of the station entrance. Surrounded by existing and potential future residential and mixed-use properties.
		3,2	**Air Quality and Climate**	Local air quality effects. Number of receptors within 50m.	**Comparable to other options** >76 sensitive receptors within 50m of station entrance	**Comparable to other options**	**Comparable to other options**

Docklands Station Multi Criteria Assessment MCA2							
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option A1	Option A3	Option B2
					Construction phase air quality impacts temporary and mitigatable. Comparable during operational phase with respect to air quality (provided no significant road traffic impacts).	>76 sensitive receptors within 50m of station entrance. Construction phase air quality impacts temporary and mitigatable. Comparable during operational phase with respect to air quality (provided no significant road traffic impacts)	>100 sensitive receptors within 50m of the station entrance. Surrounded by existing and potential future residential and mixed-use properties.
		3,3	**Landscape and Visual (including light)**	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	**Some comparative disadvantage over other options** Above ground - some negative visual impact on royal canal and adjacent housing	**Some comparative disadvantage over other options** Above ground - some negative visual impact on royal canal and adjacent housing	**Some comparative advantage over other options** Largely below ground - modest surface footprint
		3,4	**Biodiversity (flora and fauna)**	Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected species, designated sites; Overall effect on nature conservation resource.	**Comparable to other options** There is no foreseen advantage or disadvantage of this option with regard to Biodiversity.	**Comparable to other options** There is no foreseen advantage or disadvantage of this option with regard to Biodiversity.	**Comparable to other options** There is no foreseen advantage or disadvantage of this option with regard to Biodiversity.
		3,5	**Cultural, Archaeological and Architectural Heritage**	Overall effect on cultural, archaeological and architecture heritage resource. Likely effects on RPS, National Monuments, SMRs, Conservation areas, etc. Number of designated sites/structures (by level of designation) directly impacted by scheme (land take)	**Comparable to other options** None of the Options has a direct impact on a listed structure. All interface with the heritage Sheriff St Viaduct	**Comparable to other options** None of the Options has a direct impact on a listed structure. Both interface with the heritage Sheriff St Viaduct	**Comparable to other options** None of the Options has a direct impact on a listed structure. Both interface with the heritage Sheriff St Viaduct
		3,6	**Water Resources**	Overall potential significant effects on water resource attribute likely to be affected during construction and operation.	**Some comparative advantage over other options** Proposed site identified as liable to flood in the 1 in 100 year areas (Source: DCC County Development Plan Strategic Flood Risk Assessment)	**Some comparative advantage over other options** Proposed site identified as liable to flood in the 1 in 100 year areas (Source: DCC County Development Plan Strategic Flood Risk Assessment)	**Some comparative disadvantage over other options** Proposed site identified as liable to flood in the 1 in 100 year areas (Source: DCC County Development Plan Strategic Flood Risk Assessment). Major excavations will be required, therefore a potential direct impact on water resource. Pumped drainage system required.
		3,7	**Agriculture and Non-Agricultural**	Overall impact on land take & property. Number of properties to be impacted/acquired. Likely temporary or permanent severance effects, etc.	**Some comparative advantage over other options** Site is owned by CIÉ	**Some comparative advantage over other options** Site is owned by CIÉ	**Some comparative disadvantage over other options** Site is mainly owned by CIÉ. The unhatched area to the north-east of the Docklands Option B plot is a land parcel still in the ownership of Spencer Dock Development Company Limited, previously acquired from Green Sunrise Waste management.
		3,8	**Geology and Soils (including Waste)**	Soils and Geology and likely impact on geological resources based on preliminary/likely construction details. % of soil resources to be developed/removed. Existing information relating to potential to encounter contaminated land. High-level assessment based on the likely structures/ works required and the potential for ground contamination due to historic landfills, pits and quarries.	**Some comparative advantage over other options** The proposed works would be largely at grade	**Some comparative advantage over other options** The proposed works would be largely at grade	**Some comparative disadvantage over other options** Major civil works and excavations will be required, therefore has a comparative disadvantage.
		3,9	**Radiation and Stray Current**	Overall likely impact on existing sources of electromagnetic radiation.	**Comparable to other options** Not a differentiator.	**Comparable to other options** Not a differentiator.	**Comparable to other options** Not a differentiator.
4		4,1	**Impact on Vulnerable Groups**	Impacts on low-income groups, non-car owners, people with a disability. Quantification of increased service levels	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**	**Some comparative advantage over other options**

Docklands Station Multi Criteria Assessment MCA2							
	Parameter		**Criteria**	**Sub-Criteria (Quantitative Qualitative)**	**Option A1**	**Option A3**	**Option B2**
				to these groups; Quantification of infrastructure and rolling stock improvements aimed at these groups; distribution of consumers surplus	The passengers would need to walk 400 metres to change the means of transport, which has an impact on the accessibility of the station.	The passengers would need to walk 250 metres to change the means of transport, which has an impact on the accessibility of the station. However, this solution provides the possibility of the future construction of a pedestrian and cycling route that would connect with the East Wall neighbourhood, which would improve the mobility of non-car owners.	Option B2 is adjacent to the Luas Station, it is superior to Option A3.
	Accessibility & Social inclusion	**4,2**	**Stations Accessibility**	Quantification of increased service levels to the vulnerable groups.	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**
					All solutions will be designed to ensure accessibility for vulnerable groups	All solutions will be designed to ensure accessibility for vulnerable groups	All solutions will be designed to ensure accessibility for vulnerable groups
		4,3	**Social Inclusion**	Quantification of service levels impacts including severance to all groups	**Some comparative disadvantage over other options**	**Some comparative advantage over other options**	**Some comparative advantage over other options**
					The passengers would need to walk 400 metres to change the means of transport, which has an impact on the accessibility of the station.	Options B2 is adjacent to the Luas Station; it is superior to Options A1 and A3. The possibility of providing a new pedestrian bridge which allows the connection of East Wall neighbourhood would be a benefit for this area	Option B2 is adjacent to the Luas Station, it is superior to Option A3.
5	**Safety**	**5,1**	**Rail Safety**	Safety for Rail users	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**
					Station options are equally safe for users	Station options are equally safe for users	Station options are equally safe for users.
		5,2	**Vehicular Traffic Safety**	Quality of Access for these road users, lengths of diversions, removal of interface with rail and other modes of transport	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**
					Adjacent roads are not affected by the station works construction	Adjacent roads are not affected by the station works construction. The difference between options is not significant.	Sheriff Street Upper will be affected by the station works construction. The difference between options is not significant.
		5,3	**Pedestrian, Cyclist and Vulnerable Road user Safety**	Quality of Access for these road users. removal of interfaces	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**	**Some comparative advantage over other options**
					A1 solution does not offer any enhancement to the current station in terms of safety.	This option offers the opportunity of creating a porched commercial boulevard between the station and Spencer Dock LUAS station, increasing the quality of the pedestrian and cycle experience in the area, including the regeneration of the Sheriff Street Upper underpass. Besides, the possibility of the future construction of a pedestrian and cyclist route would provide a connection between East Wall and the City Centre.	Option B2 offers enhanced access as it deposits customers central to the development zone
6	**Physical Activity**	**6,1**	**Connectivity to adjoining cycling facilities**	Analysis of the extent that the scheme connects with cycle tracks.	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**
					This option benefits from the adjacent dedicated cycle routes and the presence of attractive walking routes along the canal.	This option offers the opportunity of creating a new pedestrian and cyclist route to connect East Wall neighbourhood.	This option benefits from the adjacent dedicated cycle routes and the presence of attractive walking routes in the DDDA.
		6,2	**Permeability and local connectivity opportunity**	Journey Time and lengths of diversions for active modes and numbers affected. Analysis of the connectivity with green areas/key attractions related to active mode	**Comparable to other options**	**Comparable to other options**	**Comparable to other options**
					Current station location is closer to Royal Canal amenities.	This option offers the opportunity of creating a new pedestrian and cyclist route to connect East Wall neighbourhood.	Current station location offers good connection to Royal Canal and Liffey amenities.

MCA 2 SUMMARY DOCKLANDS STATION					
	Parameter			Option A1	Option A3	Option B2
1	Economy		Option B2 is Significantly more Expensive that Options A1 and A3	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant comparative disadvantage over other options
2	Integration		Options A1 and A3 are between 300 and 400m remote from the centre of the Docklands Development Area and from other public transport facilities. They are also located in lands zoned for development and will constrain the potential for such development to varying degrees. Both Options can facilitate enhancement of access to East Wall.	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
3	Environment		Options A1 and A2 are constructed largely at grade and incorporate significantly curtailed construction activity in comparison to Option B2. The proposed configurations mitigate drainage and earthworks activities and manifest reduced concrete works.	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
4	Accessibility & Social inclusion		Option A1 is rated some disadvantage as it is as non motorised users must walk over 400m to access other public transport in the area. It does not support enhanced access to local deprived areas. Option A3 is more central and consequently performs better in this regard. Both options are, however inferior to Option B2 in regard to accessibility and social inclusion.	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
5	Safety		In respect of vulnerable road users, cyclists and pedestrians, Options A1 and A3 are rates Some Disadvantage as they are located more remotely from the centre of the Docklands Development Area than is Option B2.	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
6	Physical Activity		The options are considered comparable in respect of Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options
			Preferred Option - not clear	Option A1 is rated Significant Advantage under one criterion, Some Advantage in respect of one criterion and Some Disadvantage under three criteria.	Option A3 is rated Significant Advantage under one criterion, Some Advantage in respect of one criterion and Some Disadvantage under three criteria.	Option B2 is rated Significant Disadvantage under one criterion, Some Disadvantage in respect of one criterion and Some Advantage under three criteria.