

MCA SET TECHNICAL BUILDINGS

Maynooth Traction Substation

DART Maynooth & City Centre Enhancements. MCA Criteria and parameters

MCA (Multi Criteria Analysis) for Maynooth Traction Substation

Ī	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Maynooth Traction Substation	Option 2 – Maynooth Traction Substation	Option 3 – Maynooth Traction Substation	Option 4 – Maynooth Traction Substation
					Some comparative disadvantage over other options	Some comparative disadvantage over other options	Significant comparative advantage over other options	Some comparative disadvantage over other options
1	Economy	1.1	CAPEX	Capital expenditure (CAPEX) required to implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line cost will depend on ESB studies. No clash with existing utilities. Possible water supply connection. Foul network on the other side of the rail tracks. A septic tank would be installed.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line cost will depend on ESB studies. No clash with existing utilities. Possible water supply connection. Foul network on the other side of the rail tracks. A septic tank could be installed.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line cost will depend on ESB studies. Possible connection to water supply and foul gravity networks.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line cost will depend on ESB studies. Clash with Eircom network. Possible connection to water supply and foul gravity networks. Earthworks would be necessary to modify the access road from R406 to the station and to reroute the footway behind the substation, to keep the access to the existing footbridge.
		1.2	OPEX	Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
					The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.
					Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
2	Integration	2.1	Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	In this option, part of the existing car park will be required to be taken for this purpose and the proximity of the Canal can cause floods problems. There is no space in front of the substation for accessing and neither to the parking at the left side. This area would be blocked.	In this option, part of the existing car park will be required to be taken for this purpose and the proximity of the Canal can cause floods problems. There is space for road access, maintaining the walkways located at both sides of the entrance road to Maynooth station.	In this option, part of the existing car park will be required to be taken for this purpose as well as relocation of the existing exit/entry. There is space for maintaining road access and walkway. The walkway clashes with the station entrance.	In this option the access road from R406 to the station, would have to be completely modified at the substation location, as well as the footway, which would have to be rerouted behind the substation, to keep the access to the existing footbridge. 5 places will be taken from the existing parking area, to locate the substation.
		2.2	2.2 Integration with parallel projects/contracts	Qualitative Assessment of how this	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
				option/solution/technology can be integrated with the existing and current parallel projects/contracts	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.
		2.3	Geographical Integration		Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options



MCA (Multi Criteria Analysis) for Maynooth Traction Substation

Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Maynooth Traction Substation	Option 2 – Maynooth Traction Substation	Option 3 – Maynooth Traction Substation	Option 4 – Maynooth Traction Substation
			Square meters of additional land used, or volume required to implement the solution	The proposed location is within the existing IÉ railway boundaries, therefore not major additional land taking is envisaged with this option.	The proposed location is within the existing IÉ railway boundaries, therefore not major additional land taking is envisaged with this option.	The proposed location is within the existing IÉ railway boundaries, therefore not major additional land taking is envisaged with this option.	The proposed location is within the existing IÉ railway boundaries, therefore not major additional land taking is envisaged with this option.
		Buildability during operation	Qualitative Assessment of the buildability of the solution during	Comparable to other options			
	2.4		operation. Impact in operation and disruptions.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.
	2.5	Obsolescence	Assessment the obsolescence of the solution/technology in a long-term	Comparable to other options			
		Obsolescence	basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.
		Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	Comparable to other options			
	2.6			This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
	3.1	Noise and Vibration	Likelihoods of a noise impact on nearby noise sensitive locations	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
				This option is located in the station grounds. further from residential properties than other options.	This option is located in the station grounds. further from residential properties than other options.	Located close to very residential area. It would also result in loss of some vegetation/screening.	Located very close to a residential area and also the R406 road traffic which could potentially mask any potential noise emissions. This option will also result in some loss of some vegetation and trees along the road verges.
3 Environment			Assessment of local air quality	Comparable to other options			
	3.2	Air Quality and Climate	effects based on potential air emissions during construction and operational phases	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
	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 advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options



MCA (Multi Criteria Analysis) for Maynooth Traction Substation

Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Maynooth Traction Substation	Option 2 – Maynooth Traction Substation	Option 3 – Maynooth Traction Substation	Option 4 – Maynooth Traction Substation
				All options are broadly comparable located in close proximity to each other in an urbanised environment. Direct impacts to landscape character of Royal Canal including view to and from Royal Canal (RC6 Mullen Bridge Railpark/Maynooth) also an RPS Maynooth Station and signal box (B05–60).	All options are broadly comparable located in close proximity to each other in an urbanised environment. Located in urbanised location. Direct impacts to landscape character of Royal Canal including view to and from Royal Canal (RC6 Mullen Bridge Railpark/Maynooth) also an RPS (B05–60). The 'entrance/wayfinding' to station for passengers would also be compromised by this option.	All options are broadly comparable located in close proximity to each other in an urbanised environment. Located in urbanised location. Direct impacts to landscape character of RPS Station House (B05–62) and Royal Canal. Visual impacts to adjacent residential receptors. Indirect impacts to RPS (Station House) which will result in further deterioration of landscape setting of this RPS.	All options are broadly comparable located in close proximity to each other in an urbanised environment. It proximity of Mullen Bridge but set back slightly. Visual impacts to adjacent residential receptors. Indirect impacts to RPS (Station House) which will result in further deterioration of landscape setting of this RPS. Greater potential for screening negative visual impacts at this location than other locations.
		Biodiversity (flora and fauna)	Potential compliance/conflict with	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options
	3.4		biodiversity objectives; Indirect impacts on protected species, designated sites; Overall effect on nature conservation resource.	This option requires works close to the Royal Canal pNHA and the construction of a septic tank. During operation there may be water quality and noise impacts.	This option requires works close to Royal Canal pNHA and the construction of a septic tank. During operation there may be water quality and noise impacts.	This option will be connected to mains foul water and will be set back from the canal, limiting noise impacts. This option will result in loss of some vegetation and trees.	This option will be connected to mains foul water and will be set back from the canal, limiting noise impacts. This option will result in loss of some vegetation and trees in road verge treeline landscaping from the rail line and Straffan Road.
		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
	3.5			Indirect impact to Royal Canal and Maynooth Station and signal box (B05–60)	Indirect impact to Royal Canal and Maynooth Station and signal box (B05–60)	Indirect impact to Royal Canal, context and setting of RPS (Station House) which will result in further deterioration of the setting of this RPS.	Indirect impact to Royal Canal, context and setting of RPS (Station House) which will result in further deterioration of the setting of this RPS.
			Overall potential significant effects	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options
	3.6	Water Resources	on water resource attribute likely to be affected during construction and operation.	OPW CFRAMS flood mapping indicates option location as liable to flood in extreme events from fluvial sources.	OPW CFRAMS flood mapping indicates option location as liable to flood in extreme events from fluvial sources.	OPW CFRAMS flood mapping indicates option location as liable to flood in extreme events from fluvial sources.	Option location on edge of CFRAMS flood extents. Further assessment would be required to confirm flood risk.
		7 Agriculture and Non-Agricultural	Overall impact on land take & property. Number of properties to be	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
	3.7		impacted/acquired. Likely temporary or permanent severance effects.	Options located in the Station grounds.	Options located in the Station grounds.	Options located in the Station grounds.	Land acquisition required.
	3.8	Geology and Soils (including Waste)	Soils and Geology and likely impact on geological resources and soil resources to be developed/removed.	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options



MCA (Multi Criteria Analysis) for Maynooth Traction Substation

Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Maynooth Traction Substation	Option 2 – Maynooth Traction Substation	Option 3 – Maynooth Traction Substation	Option 4 – Maynooth Traction Substation
			Existing information relating to potential to encounter contaminated land.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.
		Radiation and Stray Current	Overall likely impact on nearby receptors.	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
	3.9			Location is more than 10 m from residential area	Location is more than 10 m from residential area	While no significant EMI or EMR impacts are likely this option is located closer to a residential area than the other options.	Location is more than 10 m from residential area
Accessibility &	4.1	Vulnerable groups and deprived	Benefits that accrue to those suffering from social deprivation,	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
Social inclusion		geographic areas	geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
	E 4	Rail's Safety	Assessment of safety from an operational point of view	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
	5.1			Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.
5 Safety		User's / People's Safety	Assessment of safety from User's / People's Safety point of view	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
5 Safety	5.2			User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.
	F 2	DAM	Assessment of Reliability,	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
	5.3	RAM	Availability and Maintainability of the solution	Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.
6 Physical Activity	6.4	Llogith honofite	Health benefits derived from using a	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
6 Physical Activity	6.1	Health benefits	specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 1. Summary of the MCA for Maynooth Traction Substation

	Option 1 – Maynooth Traction Substation	Option 2 – Maynooth Traction Substation	Option 3 – Maynooth Traction Substation	Option 4 – Maynooth Traction Substation
Economy	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Significant comparative advantage over other options	Some comparative disadvantage over other options
Integration	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
Environment	Significant comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Significant comparative advantage over other options
Accessibility & Social inclusion	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation of Maynooth Traction Substation option locations is **Option 4.**

All options are broadly comparable under the environment criteria. Option 4 has an advantage over other options because it is located on edge of the CFRAMS flood extents. The OPW CFRAMS flood mapping indicates that Option 1, 2 and 3 are liable to flood in extreme events from fluvial sources. If one of these options is chosen further analysis will be required to inform the next stage of the assessment.

As a result of the MCA, the MDC concludes that Option 3 will not be taken into account, because part of the existing car park will be required for this purpose as well as relocate the existing exit/entry. The walkway clashes with the station entrance.

As a result of the MCA, the MDC concludes that Option 2 will not be taken into account, because part of the existing car park will be required for this purpose and also because the proximity of the Canal.

MCA technical buildings for SET



As a result of the MCA, the MDC concludes that Option 1 will not be taken into account, because part of the existing car park will be required for this purpose, because the proximity of the Canal and also because there is no space in front of the substation for accessing and neither to the parking at the left side. This area would be blocked.



Blakestown Traction Substation

DART Maynooth & City Centre Enhancements. MCA Criteria and parameters

MCA (Multi Criteria Analysis) for Blakestown Traction Substation

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Blakestown Traction Substation	Option 2 – Blakestown Traction Substation	Option 3 – Blakestown Traction Substation
					Significant comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
1	Economy	1.1	CAPEX	Capital expenditure (CAPEX) required to implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line cost will depend on ESB studies. No clashes with utilities. Possible connection to water supply network. Connection to foul gravity would be through the R449 road bridge, probably through a lifting station.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line cost will depend on ESB studies. No clashes with utilities. Possible connection to water supply. Foul gravity network through the level crossing.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line cost will depend on ESB studies. No clashes with utilities. Possible connection to water supply. Foul gravity network through the level crossing.
				Operating expenditure (OPEX) of the day-	Comparable to other options	Comparable to other options	Comparable to other options
		1.2	OPEX	to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.
		2.1	Qualitative Assessment of how this		Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
			Integration with existing equipment	option/solution/technology can be integrated with the existing equipment.	In this option, it would be necessary create a road access (about 170m) from the overpass of R449.	With this option, the necessity to create an access, can be part of the suppression of the existing railroad crossing works.	With this option, the necessity to create an access, can be part of the suppression of the existing railroad crossing works. However, there is an existing technical building.
		0.0	Integration with parallel projects/contracts	Qualitative Assessment of how this option/solution/technology can be	Comparable to other options	Comparable to other options	Comparable to other options
	Integration	2.2		integrated with the existing and current parallel projects/contracts	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.
2	·			Square meters of additional land used, or	Comparable to other options	Comparable to other options	Comparable to other options
		2.3	Geographical Integration	volume required to implement the solution	The proposed location is not within the existing IÉ railway boundaries; therefore, it will be necessary additional land taking with this option.	The proposed location is not within the existing IÉ railway boundaries; therefore, it will be necessary additional land taking with this option.	The proposed location is not within the existing IÉ railway boundaries; therefore, it will be necessary additional land taking with this option.
		2.4	Puildohility during appretion	Qualitative Assessment of the buildability of	Comparable to other options	Comparable to other options	Comparable to other options
		2.4	Buildability during operation the solution	the solution during operation. Impact in operation and disruptions.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.



MCA (Multi Criteria Analysis) for Blakestown Traction Substation

Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Blakestown Traction Substation	Option 2 – Blakestown Traction Substation	Option 3 – Blakestown Traction Substation
				Comparable to other options	Comparable to other options	Comparable to other options
	2.5	Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.
	2.6		Considerations of whether the solution is a	Comparable to other options	Comparable to other options	Comparable to other options
		Ownership or open technology	registered product/technology, range of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
	3.1	Noise and Vibration	Likelihood of a noise impact on nearby	Comparable to other options	Comparable to other options	Comparable to other options
			noise sensitive locations	Located further from residential properties.	Located next to a residential property.	Located next to a residential property.
	3.2		Assessment of local air quality effects based on potential air emissions during construction and operational phases	Comparable to other options	Comparable to other options	Comparable to other options
		Air Quality and Climate		No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	There is no difference in Air Quality or Climate during the operational phase in comparison with others.
3 Environment				Comparable to other options	Comparable to other options	Comparable to other options
	3.3	Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	All options are in a rural landscape character with no sensitive receptors in proximity to any of the locations. Located in proximity to Deey Bridge a listed view to and Royal Canal. All options are comparable.	All options are in a rural landscape character with no sensitive receptors in proximity to any of the locations. Located in proximity to Deey Bridge a listed view to and Royal Canal. All options are comparable.	All options are in a rural landscape character with no sensitive receptors in proximity to any of the locations. Located in proximity to the Royal Canal. All options are comparable.
	3.4	Biodiversity (flora and fauna)	Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected species, designated sites; Overall	Comparable to other options	Comparable to other options	Comparable to other options
			effect on nature conservation resource.	There is no advantage or disadvantage over other options.	There is no advantage or disadvantage over other options.	There is no advantage or disadvantage over other options.



MCA (Multi Criteria Analysis) for Blakestown Traction Substation

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Blakestown Traction Substation	Option 2 – Blakestown Traction Substation	Option 3 – Blakestown Traction Substation
				Overall effect on cultural, archaeological and architecture heritage resource. Likely	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
		3.5	Cultural, Archaeological and Architectural Heritage	effects on RPS, National Monuments, SMRs, Conservation areas, etc. Number of designated sites/structures (by level of designation) directly impacted by scheme (land take)	Recorded Monument Fulacht Fia (KD011- 053) NIHA. Potential direct impacts on known and unknown archaeological deposits that may survive in greenfield site. Additional survey work required should this option be selected as the preferred.	In proximity to Deey Bridge (and Lock) - Reg. No. 11900602. Potential direct impacts on unknown archaeological deposits that may survive in greenfield areas.	In proximity to Deey Bridge (and Lock) - Reg. No. 11900602. Potential direct impacts on unknown archaeological deposits that may survive in greenfield areas.
		2.0	Water Becourses	Overall potential significant effects on water	Comparable to other options	Comparable to other options	Comparable to other options
		3.6	Water Resources	resource attribute likely to be affected during construction and operation.	There is no advantage or disadvantage over other options.	There is no advantage or disadvantage over other options.	There is no advantage or disadvantage over other options.
			Agriculture and New Agriculture	Overall impact on land take & property. Number of properties to be	Comparable to other options	Comparable to other options	Comparable to other options
			Agriculture and Non-Agricultural	impacted/acquired. Likely temporary or permanent severance effects.	There is no advantage or disadvantage over other options.	There is no advantage or disadvantage over other options.	There is no advantage or disadvantage over other options
		3.8	Geology and Soils (including Waste)	Soils and Geology and likely impact on geological resources and soil resources to be developed/removed. Existing information relating to potential to encounter contaminated land.	Comparable to other options	Comparable to other options	Comparable to other options
		3.3	coolegy and cone (moreaning masses)		There is no advantage or disadvantage over other options.	There is no advantage or disadvantage over other options.	There is no advantage or disadvantage over other options.
			Radiation and Stray Current	Overall likely impact on pearby receptors	Comparable to other options	Comparable to other options	Comparable to other options
		3.9		Overall likely impact on nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
	Accessibility & Social		Vulnerable groups and deprived	Benefits that accrue to those suffering from	Comparable to other options	Comparable to other options	Comparable to other options
4	inclusion	4.1	Vulnerable groups and deprived geographic areas	social deprivation, geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
	Safety	5.1	Raji's Safety	Assessment of safety from an operational	Comparable to other options	Comparable to other options	Comparable to other options
5	Safety	5.1	5.1 Rail's Safety	point of view	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.



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	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Blakestown Traction Substation	Option 2 – Blakestown Traction Substation	Option 3 – Blakestown Traction Substation
				Assessment of safety from User's /	Comparable to other options	Comparable to other options	Comparable to other options
			People's Safety point of view	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	
		5.3	RAM	Assessment of Reliability, Availability and Maintainability of the solution	Comparable to other options	Comparable to other options	Comparable to other options
					Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.
	Physical Activity		Health benefits	Health benefits derived from using a specific option	Comparable to other options	Comparable to other options	Comparable to other options
6		6.1			This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 2. Summary of the MCA for Blakestown Traction Substation

	Option 1 – Blakestown Traction Substation	Option 2 – Blakestown Traction Substation	Option 3 – Blakestown Traction Substation
Economy	Significant comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Integration	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Environment	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Accessibility & Social inclusion	Comparable to other options	Comparable to other options	Comparable to other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation of Blakestown Traction Substation option locations is **Option 2.**

All options are broadly comparable under the environment criteria however Option 2 and 3 have some advantages over Option 1 due to potential known heritage constraints contained within option 1.

Option 3 is very similar to Option 2. However, in the Option 3, there is an existing technical building in its area. Both have the necessity to create an access, which can be part of the suppression of the existing railroad crossing works.

As a result of the MCA, the MDC concludes that Option 1 will not be taken into account, because in this option, it would be necessary create a road access (about 170m) from the overpass of R449 and also the connection to foul gravity would be through a lifting station.



Leixlip Confey Traction Substation

DART Maynooth & City Centre Enhancements. MCA Criteria and parameters

MCA (Multi Criteria Analysis) for Leixlip Confey Traction Substation

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Leixlip Confey Traction Substation	Option 2 – Leixlip Confey Traction Substation		
				Conital expanditure (CAREV) required to implement	Comparable to other options	Comparable to other options		
1	Economy	1.1	CAPEX	Capital expenditure (CAPEX) required to implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line cost will depend on ESB studies. There is no utilities clash. Possible connection to foul drainage and water supply networks.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line cost will depend on ESB studies. There is no utilities clash. Possible connection to foul drainage and water supply networks.		
	,				Comparable to other options	Comparable to other options		
		1.2	OPEX	Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.		
					Some comparative advantage over other options	Some comparative disadvantage over other options		
		2.1	Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	In this option, the entire existing parking (west of the existing station) area would be required and also would require undertaking works to accommodate road access from R149.	In this option, it would be necessary create an access from the existing R149.		
				Ovelitative Assessment of how this	Comparable to other options	Comparable to other options		
2	Integration	2.2	Integration with parallel projects/contracts	Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.		
					Significant comparative advantage over other options	Significant comparative disadvantage over other options		
		2.3	Geographical Integration	Square meters of additional land used, or volume required to implement the solution	The proposed location is within the existing IÉ railway boundaries, therefore not major additional land taking it is envisaged with this option.	The proposed location is partially within the existing IÉ railway boundaries, therefore some additional land taking is envisaged with this option.		



MCA (Multi Criteria Analysis) for Leixlip Confey Traction Substation

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Leixlip Confey Traction Substation	Option 2 – Leixlip Confey Traction Substation
				Qualitative Assessment of the buildability of the	Comparable to other options	Comparable to other options
		2.4	Buildability during operation	solution during operation. Impact in operation and disruptions.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.
				Accessored the charles are of the	Comparable to other options	Comparable to other options
		2.5	Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.
				Considerations of whether the colution is a registered	Comparable to other options	Comparable to other options
		2.6	Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
		3.1	Noise and Vibration	Likelihood of a noise impact on nearby noise	Some comparative disadvantage over other options	Some comparative advantage over other options
				sensitive locations	Broadly comparable however located closer to a residential property than option 2.	Broadly comparable however located slight further from residential properties than the other option.
				Accomment of local air quality offects based on	Comparable to other options	Comparable to other options
3	Environment	3.2	Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
					Some comparative advantage over other options	Some comparative disadvantage over other options
		3.3	Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	This option is located on existing made ground in the carpark of the train station, It is likely to have landscape and visual impact to the neighbouring residential receptors.	Located in open space area which will have a direct impact on landscape character and amenity lands that area also located adjacent to sensitive residential receptors.



MCA (Multi Criteria Analysis) for Leixlip Confey Traction Substation

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Leixlip Confey Traction Substation	Option 2 – Leixlip Confey Traction Substation
		2.4	Diadinarity (flare and favor)	Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected species,	Some comparative advantage over other options	Some comparative disadvantage over other options
		3.4	Biodiversity (flora and fauna)	designated sites; Overall effect on nature conservation resource.	This option is on built ground and will not require vegetation removal or the loss of habitat.	This option is on the vegetated railway embankment and will lead to some habitat loss.
			Cultural, Archaeological and Architectural Heritage	Overall effect on cultural, archaeological and architecture heritage resource. Likely effects on	Comparable to other options	Comparable to other options
		3.5		RPS, National Monuments, SMRs, Conservation areas, etc. Number of designated sites/structures (by level of designation) directly impacted by scheme (land take)	No known heritage resources recorded. The option does not present any advantage or disadvantages over other options.	No known heritage resources recorded. Potential of unknown archaeological resources on greenfield sites. However, this option does not present any significant advantage or disadvantages over other options.
		3.6		Overall potential significant effects on water resource	Comparable to other options	Comparable to other options
			Water Resources	attribute likely to be affected during construction and operation.	Location may be liable to flood from fluvial sources. Flood Risk is comparable to other options. Risk to surface water quality is comparable to other options	Location may be liable to flood from fluvial sources. Flood Risk is comparable to other options. Risk to surface water quality is comparable to other options
		3.7	Agriculture and Non-Agricultural	Overall impact on land take & property. Number of properties to be impacted/acquired. Likely temporary	Some comparative advantage over other options	Some comparative disadvantage over other options
				or permanent severance effects.	Located in car park of station grounds. Severance of carpark likely.	Located in an open green area
				Soils and Geology and likely impact on geological resources and soil resources to be	Comparable to other options	Comparable to other options
		3.8	Geology and Soils (including Waste)	developed/removed. Existing information relating to potential to encounter contaminated land.	Developing on paved area Soils and geology not considered to be a differentiator.	Developing on existing amenity group will result in loss of soil resources.
					Comparable to other options	Comparable to other options
		3.9	Radiation and Stray Current	Overall likely impact on nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
	Accessibility & Social		Vulnerable groups and deprived geographic	Benefits that accrue to those suffering from	Comparable to other options	Comparable to other options
4	inclusion	4.1	areas	social deprivation, geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas



MCA (Multi Criteria Analysis) for Leixlip Confey Traction Substation

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Leixlip Confey Traction Substation	Option 2 – Leixlip Confey Traction Substation
		5.1	Rail's Safety	Assessment of safety from an operational point	Comparable to other options	Comparable to other options
		5.1		of view	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.
	Cofety		Haar'a / Daapla'a Cafaty	Assessment of safety from User's / People's	Comparable to other options	Comparable to other options
5	Safety	5.2	User's / People's Safety	Safety point of view	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.
		5.3		Assessment of Reliability, Availability and	Comparable to other options	Comparable to other options
			RAM	Maintainability of the solution	Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.
	Dhysical Activity	6.4		Health benefits derived from using a specific	Comparable to other options	Comparable to other options
6	Physical Activity	6.1	Health benefits	option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 3. Summary of the MCA for Leixlip Confey Traction Substation

	Option 1 – Leixlip Confey Traction Substation	Option 2 – Leixlip Confey Traction Substation
Economy	Comparable to other options	Comparable to other options
Integration	Significant comparative advantage over other options	Significant comparative disadvantage over other options
Environment	Some comparative advantage over other options	Some comparative disadvantage over other options
Accessibility & Social inclusion	Comparable to other options	Comparable to other options
Safety	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation of Leixlip Confey Traction Substation option locations is **Option 1.**

As a result of the MCA, the MDC concludes that Option 2 is not the preferred option, because it would be necessary create an access from the existing R149 and the proposed location is not within the existing IÉ railway boundaries; therefore, it will be necessary additional land taking with this option.



Coolmine Traction Substation

			DART Maynooth &					
			MCA (Multi	Criteria Analysis) for Coolmine Tractic	on Substation			
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Coolmine Traction Substation	Option 2 – Coolmine Traction Substation	Option 3 – Coolmine Traction Substation	Option 4 – Coolmine Traction Substation
			CAPEX	Capital expenditure (CAPEX) required to implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options	Significant comparative disadvantage over other options
1	Economy	1.1			The capital expenditure required for the traction substation is the same for both options. The ESB's MV line will depend on ESB studies. Clash with an ESB underground network. Possible connection to foul drainage and water supply networks.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line will depend on ESB studies. There is no utilities clash. Possible connection to foul drainage and water supply networks.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line will depend on ESB studies. There is no utilities clash. Possible connection to foul drainage and water supply networks.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line will depend on ESB studies. Clash with two Gas networks and a gravity foul network. Possible connection to foul drainage and water supply networks.
		1.2	OPEX	Operating expenditure (OPEX) of the	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
				day-to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX
		2.1	Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
					In this option, part of the existing car park will be required to be taken for this purpose. It can be part of the suppression of the existing railroad crossing works. However, there is an existing technical building.	In this option, part of the existing car park will be required to be taken for this purpose. It can be part of the suppression of the existing railroad crossing works.	With this option, the Power Study must be updated.	In this option, part of the existing car park will be required to be taken for this purpose.
			Integration with parallal	Qualitative Assessment of how this	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options
2	Integration	2.2	Integration with parallel projects/contracts	option/solution/technology can be integrated with the existing and current parallel projects/contracts	Road access would not be possible due to the clash with the emerging preferred option for Coolmine Level crossing.	Road access would not be possible due to the clash with the emerging preferred option for Coolmine Level crossing.	There is no clash in integration with parallel projects/contracts for this option.	There is no clash in integration with parallel projects/contracts for this option.
				Square meters of additional land	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options
		2.3	Geographical Integration	used, or volume required to implement the solution	The proposed location is within the existing IÉ railway boundaries, therefore not major additional land taking is envisaged with this option.	The proposed location is within the existing IÉ railway boundaries, therefore not major additional land taking is envisaged with this option.	The proposed location is out the existing IÉ railway boundaries, therefore additional land taking is envisaged with this option.	The proposed location is within the existing IÉ railway boundaries, therefore not major additional land taking is envisaged with this option.
		2.4		Qualitative Assessment of the buildability of the solution during	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
		2.4	Buildability during operation	operation. Impact in operation and disruptions.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.



			DART Maynooth &					
			MCA (Multi C	Criteria Analysis) for Coolmine Tractio	on Substation			
	Parameter	Criteria		Sub-Criteria (Quantitative Qualitative)	Option 1 – Coolmine Traction Substation	Option 2 – Coolmine Traction Substation	Option 3 – Coolmine Traction Substation	Option 4 – Coolmine Traction Substation
			Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
		2.5			There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.
				Considerations of whether the	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
		2.6	Ownership or open technology	solution is a registered product/technology, range of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
		0.4	Noise and Vibration	Likelihood of a noise impact on nearby noise sensitive locations	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
		3.1			All options are located a similar distance from residential dwellings and therefore have the same potential for noise impacts.	All options are located a similar distance from residential dwellings and therefore have the same potential for noise impacts.	All options are located a similar distance from residential dwellings and therefore have the same potential for noise impacts.	All options are located a similar distance from residential dwellings and therefore have the same potential for noise impacts.
		3.2	Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
					No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
3	Environment				Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
		3.3	Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	All options are broadly comparable and will have potential to impact on the landscape character of the area. Landscape and amenity impact due to loss of trees and walkway associated with this option and visual impacts on neighbouring residential receptors.	All options are broadly comparable and will have potential to impact on the landscape character of the area. Landscape and amenity impact due to loss of trees and walkway associated with this option and visual impacts on neighbouring residential receptors.	All options are broadly comparable and will have potential to impact on the landscape character of the area. Option 3 is located on the edge of Sycamore Green a local park which will result in direct landscape and visual impacts on park and neighbouring residential receptors.	Option 4 is located within the confines of the Coolmine parking lot directly adjacent to residential properties therefore likely to cause visual impacts on neighbouring residential receptors. However, landscape and amenity impact comparable with other options.
				Potential compliance/conflict with	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
		3.4	Biodiversity (flora and fauna)	biodiversity objectives; Indirect impacts on protected species, designated sites; Overall effect on nature conservation resource.	This option is located on a mixture of built ground and will also have direct impacts on existing tree lines which will result in loss of habitat and fragmentation of the ecological corridor.	This option is on a mixture of built ground and will also have direct impacts on existing tree lines which will result in loss of habitat and fragmentation of the ecological corridor.	This option is located on a vegetated area. It will result in loss of some mature trees resulting in some habitat loss.	Option located on paved area within Coolmine parking lot. No direct impacts to biodiversity envisaged.



			DART Maynooth &					
			MCA (Multi (Criteria Analysis) for Coolmine Tractio	on Substation			
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Coolmine Traction Substation Option 2 – Coolmine Traction Substation		Option 3 – Coolmine Traction Substation	Option 4 – Coolmine Traction Substation
				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
		3.5	Cultural, Archaeological and Architectural Heritage		This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options. Potential for direct impacts on unknown archaeological deposits that may survive in greenfield area.	This option does not present any advantage or disadvantages over other options.
		3.6	Water Resources	Overall potential significant effects on water resource attribute likely to be affected during construction and operation.	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
		3.0	water Resources		This option does not present any disadvantage or advantage in regard to water resources.	This option does not present any disadvantage or advantage in regard to water resources.	This option does not present any disadvantage or advantage in regard to water resources.	This option does not present any disadvantage or advantage in regard to water resources.
		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.	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options
		3.1	Agriculture and Norr-Agricultural		Located in the carpark and entrance to Coolmine Station. P	Located in the carpark and entrance to Coolmine Station.	Located outside of CIE boundary. Land take required.	Located in CIE property. No land take required.
		3.8	Geology and Soils (including Waste)	Soils and Geology and likely impact on geological resources and soil resources to be developed/removed. Existing information relating to potential to encounter contaminated land.	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
					This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	This option will result in loss of some soil resources and soil sealing. However, it does not represent a significant advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.
				Overall likely impact on nearby	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
		3.9	Radiation and Stray Current	receptors.	This option does not present any disadvantage or advantage regarding in relation to nearby receptors.	This option does not present any disadvantage or advantage regarding in relation to nearby receptors.	This option does not present any disadvantage or advantage regarding in relation to nearby receptors.	This option does not present any disadvantage or advantage regarding in relation to nearby receptors.
	Accessibility &		Vulnerable groups and deprived	Benefits that accrue to those suffering from social deprivation,	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
4	Social inclusion		geographic areas	geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
5	Safety	5.1	Rail's Safety	Assessment of safety from an operational point of view	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options



			DART Maynooth &					
			MCA (Multi	Criteria Analysis) for Coolmine Tractio	on Substation			
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Coolmine Traction Substation	Option 2 – Coolmine Traction Substation	Option 3 – Coolmine Traction Substation	Option 4 – Coolmine Traction Substation
					Rail's safety is fulfilled in both options.			
		5.2	User's / People's Safety	Assessment of safety from User's / People's Safety point of view	Comparable to other options			
		3.2			User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.
		5 2		Assessment of Reliability, Availability	Comparable to other options			
		5.3	RAM	and Maintainability of the solution	Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.
6	Physical Activity	6.1	Health hangfite	Health benefits derived from using a specific option	Comparable to other options			
0	Physical Activity	6.1	Health benefits		This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 4. Summary of the MCA for Coolmine Traction Substation

	Option 1 – Coolmine Substation	Option 2 – Coolmine Traction Substation	Option 3 – Coolmine Traction Substation	Option 4 – Coolmine Traction Substation
Economy	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options	Significant comparative disadvantage over other options
Integration	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Environment	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
Accessibility & Social inclusion	Comparable to other options			
Safety	Comparable to other options			
Physical Activity	Comparable to other options			

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation of Coolmine Traction Substation option locations is Option 3.

Option 1 is very similar to Option 2. Both have the necessity to create a road access, that would not be possible due to the clash with the emerging preferred option for Coolmine Level crossing. However, in the Option 1, there is an existing technical building in its area.

MCA technical buildings for SET



As a result of the MCA, the MDC concludes that Option 1 and Option 2 will not be taken into account, because that would not be possible due to the clash with the emerging preferred option for Coolmine Level crossing.

Option 4 will not be taken into account, because it has clashes with two Gas networks and a Gravity foul network.



Castleknock Traction Substation

DART Maynooth & City Centre Enhancements. MCA Criteria and parameters

MCA (Multi Criteria Analysis) for Castleknock Traction Substation

Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Castleknock Traction Substation	Option 2 – Castleknock Traction Substation	Option 3 – Castleknock Traction Substation
			Capital expenditure (CAPEX) required to implement the option.	Comparable to other options	Comparable to other options	Comparable to other options
	1.1	CAPEX	Assessment of cost of installation and investment to construct/install/use the solution.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line will depend on ESB studies. There is no utilities clash.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line will depend on ESB studies.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line will depend on ESB studies.
1 Economy			Operating expenditure (OPEX) of the day-	Comparable to other options	Comparable to other options	Comparable to other options
	1.2	OPEX	to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.
	2.1			Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options
		Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	In this option, part of the existing bicycle park will be required to be taken for this purpose. The proximity of the Canal may cause floods problems. It would not require undertaking major works to accommodate road access from R806 as well as relocate the existing exit/entry. However, there is no space for continuing the road in front of the substation due to the Royal Canal.	In this option, it would not be required undertaking major works to accommodate road access from R806 as well as relocate the existing exit/entry. However, there is no space for continuing the road in front of the substation due to the Royal Canal. The proximity of the Canal may cause floods problems.	In this option, it would be necessary create an access from the existing road R806.
		Integration with parallel projects/contracts	Qualitative Assessment of how this option/solution/technology can be	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options
2 Integration	2.2		integrated with the existing and current parallel projects/contracts	Local accessibility would be constrained because of the substation, as there is lack of space in this area.	Local accessibility would be constrained because of the substation, as there is lack of space in this area.	It would not affect local accessibility. The pedestrian walkway connecting to the station in the south side has been respected.
			Square meters of additional land used, or	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant comparative disadvantage over other options
	2.3	Geographical Integration	volume required to implement the solution	The proposed location is partially within the existing IÉ railway boundaries, therefore some additional land taking is envisaged with this option.	The proposed location is partially within the existing IÉ railway boundaries, therefore some additional land taking is envisaged with this option.	The proposed location is not within the existing IÉ railway boundaries; therefore, it will be necessary additional land taking with this option.
	2.4	Buildability during operation	Qualitative Assessment of the buildability of	Comparable to other options	Comparable to other options	Comparable to other options
	Z. 4		the solution during operation. Impact in operation and disruptions.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.



MCA (Multi Criteria Analysis) for Castleknock Traction Substation

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Castleknock Traction Substation	Option 2 – Castleknock Traction Substation	Option 3 – Castleknock Traction Substation
		2.5	Obsoloscopco	Assessment the obsolescence of the	Comparable to other options	Comparable to other options	Comparable to other options
		2.5	Obsolescence	solution/technology in a long-term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.
		2.6		Considerations of whether the solution is a	Comparable to other options	Comparable to other options	Comparable to other options
			Ownership or open technology	registered product/technology, range of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
		3.1		Likelihood of a noise impact on nearby	Comparable to other options	Comparable to other options	Comparable to other options
			Noise and Vibration	noise sensitive locations	All options are located a similar distance from residential dwellings and therefore have the same potential for noise impacts.	All options are located a similar distance from residential dwellings and therefore have the same potential for noise impacts.	All options are located a similar distance from residential dwellings and therefore have the same potential for noise impacts.
		3.2	Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	Comparable to other options	Comparable to other options	Comparable to other options
					No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
	Fundament.		Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options
3	Environment	3.3			Significant impact on landscape character of the Royal Canal Way.	Significant impact on landscape character of the Royal Canal Way.	This option will result direct impacts to Laurel Lodge Park an established local parkland area. It is recognised that this option will impact on the local landscape character of the park also zoned as open space in the Fingal County Development Plan. However, in comparison with the other options this location has a greater capacity to absorb and screen potential negative impacts over the other options.
		3.4	Biodiversity (flora and fauna)	Potential compliance/conflict with biodiversity objectives; Indirect impacts on	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options
				protected species, designated sites; Overall effect on nature conservation resource.	This option requires works close to the canal. During operation there may be noise impacts.	This option requires works close to the canal. During operation there may be noise impacts.	This option is set back from the canal, limiting potential noise impacts.



MCA (Multi Criteria Analysis) for Castleknock Traction Substation

Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Castleknock Traction	Option 2 – Castleknock Traction	Option 3 – Castleknock Traction
			,	Substation	Substation	Substation
		Cultural, Archaeological and	Overall effect on cultural, archaeological and architecture heritage resource. Likely effects on RPS, National Monuments,	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options
	3.5	Architectural Heritage	SMRs, Conservation areas, etc. Number of designated sites/structures (by level of designation) directly impacted by scheme (land take)	This option is located closest to Granard Bridge (RPS 696) and Royal Canal (RPS) Potential indirect impacts on setting of RPSs.	This option is located closest to Granard Bridge (RPS 696) and Royal Canal (RPS) Potential indirect impacts on setting of RPSs.	This option is located Laural Lodge park. Potential direct impacts on unknown archaeological deposits that may survive in greenfield areas.
		Water Resources	Overall potential significant effects on water resource attribute likely to be affected during construction and operation.	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
	3.6			Low Risk of flooding comparable across all options. Increased risk to water quality of Royal Canal during construction due to very close proximity.	Low Risk of flooding comparable across all options. Increased risk to water quality of Royal Canal during construction due to very close proximity.	Low Risk of flooding comparable across all options. Comparatively low risk to water quality of Royal canal.
	3.7	Agriculture and Non-Agricultural	Overall impact on land take & property. Number of properties to be	Comparable to other options	Comparable to other options	Comparable to other options
		Agriculture una Non Agricultural	impacted/acquired. Likely temporary or permanent severance effects.	Property likely to be required to be acquired.	Property likely to be required to be acquired.	Property likely to be required to be acquired.
	3.8	Geology and Soils (including Waste)	Soils and Geology and likely impact on geological resources and soil resources to be developed/removed. Existing	Comparable to other options	Comparable to other options	Comparable to other options
			information relating to potential to encounter contaminated land.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.
		Radiation and Stray Current		Comparable to other options	Comparable to other options	Comparable to other options
	3.9		Overall likely impact on nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
, Accessibility & Social		Vulnerable groups and deprived	Benefits that accrue to those suffering from	Comparable to other options	Comparable to other options	Comparable to other options
4 inclusion	4.1	geographic areas	social deprivation, geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
5 Safety	5.1	Rail's Safety As	Assessment of safety from an operational	Comparable to other options	Comparable to other options	Comparable to other options
Salety	5.1		point of view	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.



MCA (Multi Criteria Analysis) for Castleknock Traction Substation

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Castleknock Traction Substation	Option 2 – Castleknock Traction Substation	Option 3 – Castleknock Traction Substation
		5.2	User's / People's Safety	Assessment of safety from User's / People's Safety point of view	Comparable to other options	Comparable to other options	Comparable to other options
					User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.
		5.3	RAM	Assessment of Reliability, Availability and Maintainability of the solution	Comparable to other options	Comparable to other options	Comparable to other options
					Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.
6	Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	Comparable to other options	Comparable to other options	Comparable to other options
0	Physical Activity				This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 5. Summary of the MCA for Castleknock Traction Substation

	Option 1 – Castleknock Traction Substation	Option 2 – Castleknock Traction Substation	Option 3 – Castleknock Traction Substation
Economy	Comparable to other options	Comparable to other options	Comparable to other options
Integration	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options
Environment	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options
Accessibility & Social inclusion	Comparable to other options	Comparable to other options	Comparable to other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation of Castleknock Traction Substation option locations is **Option 3.**

As a result of the MCA, the MDC concludes that Option 1 and Option 2 are very similar and they will not be taken into account, because part of the existing car park will be required for this purpose as well as relocate the existing exit/entry and the proximity of the Canal. Also, there is no space for continuing the road in front of the substation due to the Royal Canal.



Ashtown Traction Substation

DART Maynooth & City Centre Enhancements. MCA Criteria and parameters

MCA (Multi Criteria Analysis) for Ashtown Traction Substation

П	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Ashtown Traction Substation	Option 2 – Ashtown Traction Substation
			CAPEX	Capital expenditure (CAPEX) required to implement	Some comparative advantage over other options	Some comparative disadvantage over other options
1	Economy	1.1		the option. Assessment of cost of installation and investment to construct/install/use the solution.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line will depend on ESB studies. No clashes with utilities. Possible connections to water supply and foul gravity network.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line will depend on ESB studies. Slight clash with ESB underground network. Possible connections to water supply and foul gravity network.
				Operating expenditure (OPEX) of the day-to-day	Comparable to other options	Comparable to other options
		1.2	OPEX	expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.
		2.1	Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	Some comparative disadvantage over other options	Some comparative advantage over other options
	2 Integration				In this option, it would be necessary create a road access through the existing one for the industrial area.	It would not require undertaking major works to accommodate the road access.
		2.2 Integration 2.3	Integration with parallel projects/contracts	Qualitative Assessment of how this	Comparable to other options	Comparable to other options
			Integration with parallel projects/contracts	tion with parallel projects/contracts option/solution/technology can be integrated with the existing and current parallel projects/contracts		There is no difference in integration with parallel projects/contracts for this option in comparison with others.
2			2.3 Geographical Integration	Square meters of additional land used, or volume required to implement the solution	Significant comparative disadvantage over other options	Significant comparative advantage over other options
					The proposed location is not within the existing IÉ railway boundaries; therefore, it will be necessary additional land taking with this option.	The proposed location is almost within the existing IÉ railway boundaries, therefore not major additional land taking is envisaged with this option.
		24		Qualitative Assessment of the buildability of the solution during operation. Impact in operation and	Comparable to other options	Comparable to other options
		2.4	Buildability during operation	disruptions.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.



MCA (Multi Criteria Analysis) for Ashtown Traction Substation

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Ashtown Traction Substation	Option 2 – Ashtown Traction Substation
			Obsolescence	Assessment the obsolescence of the	Comparable to other options	Comparable to other options
		2.5	Obsolescence	solution/technology in a long-term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.
		2.6	Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open	Comparable to other options	Comparable to other options
		2.0	Ownership of open technology	technology T	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
		3.1	Noise and Vibration	Likelihood of a noise impact on nearby noise	Significant comparative advantage over other options	Significant comparative disadvantage over other options
		sensitive locations	Located away from residential areas.	Located next to a residential property.		
		3.2	Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	Comparable to other options	Comparable to other options
					No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
				Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	Significant comparative advantage over other options	Significant comparative disadvantage over other options
3	Environment	3.3	Landscape and Visual (including light)		Located on made ground in an industrial area with no sensitive residential receptors. In proximity to Mill building but screened by existing vegetation.	Option located adjacent to residential area in amenity walkway area. Likely visual impacts and change in landscape character significant disadvantage over the other option.
		3.4	3.4 Biodiversity (flora and fauna)	Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected species, designated sites; Overall effect on nature	Some comparative advantage over other options	Some comparative disadvantage over other options
				conservation resource.	This option is on built ground and will not require vegetation removal or the loss of habitat.	This option is on the vegetated railway embankment and will lead to some habitat loss.
				Overall effect on cultural, archaeological and architecture heritage resource. Likely effects on	Some comparative disadvantage over other options	Some comparative advantage over other options
		3.5 Cultural, Archaeological and Architectural Heritage	RPS, National Monuments, SMRs, Conservation areas, etc. Number of designated sites/structures (by level of designation) directly impacted by scheme (land take)	Option located on made ground in an industrial area. In proximity to Mill building (NIAH: 11362067). While the site is screened by existing vegetation there is potential for indirect impacts on mill and outbuildings (RPS 691).	No recorded cultural, archaeological and architecture heritage resources present on site. Potential direct impacts on unknown archaeological deposits that may survive in greenfield areas.	



MCA (Multi Criteria Analysis) for Ashtown Traction Substation

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Ashtown Traction Substation	Option 2 – Ashtown Traction Substation
			Water Resources	Overall potential significant effects on water resource attribute likely to be affected during construction and	Comparable to other options	Comparable to other options
		3.6	Water Resources	operation.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.
	3.7 Agriculture		Agriculture and Non-Agricultural	Overall impact on land take & property. Number of properties to be impacted/acquired. Likely temporary	Comparable to other options	Comparable to other options
				or permanent severance effects.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.
		2.0	Coolers and Coile (including Weste)	Soils and Geology and likely impact on geological resources and soil resources to be	Comparable to other options	Comparable to other options
		3.8	Geology and Soils (including Waste)	developed/removed. Existing information relating to potential to encounter contaminated land.	Located on made ground. This option does not present any advantage or disadvantages over other options.	Will result in paving a vegetation area (removal of soil resources). But does not present any significant advantage or disadvantages over other options.
		3.9	Radiation and Stray Current	Overall likely impact on nearby receptors.	Comparable to other options	Comparable to other options
		0.0	radiation and citaly Carroni	Gvordii iikoiy iinpact on nodiby receptore.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
	Accessibility & Social	sibility & Social	Vulnerable groups and deprived geographic	Benefits that accrue to those suffering from social	Comparable to other options	Comparable to other options
4	inclusion	4.1	areas	deprivation, geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
		5.1	Rail's Safety	Assessment of safety from an operational point of	Comparable to other options	Comparable to other options
			view	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	
5	Safety	5.2	User's / People's Safety	Assessment of safety from User's / People's Safety	Comparable to other options	Comparable to other options
	•	<u> </u>		point of view	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.
		5.3	5.3 RAM	Assessment of Reliability, Availability and	Comparable to other options	Comparable to other options
		3.3		Maintainability of the solution	Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.



MCA (Multi Criteria Analysis) for Ashtown Traction Substation

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Ashtown Traction Substation	Option 2 – Ashtown Traction Substation
6	Dhygiaal Astivity	6.4	Health benefits	Licelth handite derived from using a specific ention	Comparable to other options	Comparable to other options
0	Physical Activity	6.1	nealth benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 6. Summary of the MCA for Ashtown Traction Substation

	Option 1 – Ashtown Traction Substation	Option 2 – Ashtown Traction Substation
Economy	Some comparative advantage over other options	Some comparative disadvantage over other options
Integration	Significant comparative disadvantage over other options	Significant comparative advantage over other options
Environment	Significant comparative advantage over other options	Significant comparative disadvantage over other options
Accessibility & Social inclusion	Comparable to other options	Comparable to other options
Safety	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation of Ashtown Traction Substation option locations is **Option 2**.

As a result of the MCA, the MDC concludes that Option 1 will not be taken into account because it is not within the existing IÉ railway boundaries and it would be necessary create a road access through the existing one for the industrial area.



M3 Parkway Traction Substation

NOTE: An IÉ's CWSET compound, limits the Substation location options. Only one option is presented, in this case. No other option cannot be taken into account, because there is a clash with an IÉ's CWSET compound.

NOTE:	NOTE: An IE's CWSET compound, limits the Substation location options. Only one option is presented, in this case. No other option cannot be taken into account, because there is a clash with an IE's CWSET compound.						
	DART Maynooth & City Centre Enhancements. MCA Criteria and parameters						
			MCA (Multi Criteria Analysis) fo	r M3 Parkway Traction Substation			
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – M3 Parkway Traction Substation		
			CAPEX	Capital expenditure (CAPEX) required to implement the option.	Comparable to other options		
1	Economy	1.1		Assessment of cost of installation and investment to construct/install/use the solution.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line will depend on ESB studies. No clash with existing utilities. No foul drainage and water supply networks near.		
		1.2	OPEX	Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to keep maintain the system/solution/option	Comparable to other options		
		1.2		operational.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.		
		2.2 Integration with para Integration 2.3 Geographic	Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	Some comparative advantage over other options		
					It would not require undertaking major works to accommodate road access from R157; however, part of existing bicycle park will be required to be taken for this purpose.		
			Integration with parallel projects/contracts	Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	Significant comparative advantage over other options		
					There is no difference in integration with parallel projects/contracts for this option in comparison with others.		
2	Integration		Coographical Integration	Square meters of additional land used, or volume required to implement the solution	Comparable to other options		
2	integration		Geographical integration		The proposed location is within the existing IÉ railway boundaries, therefore not major additional land taking is envisaged with this option.		
			Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	Comparable to other options		
			Danadamity during operation		It will not require the blockade of the tracks to undertake the works.		
		25	Ohsolescence	Assessment the obsolescence of the solution/technology in a long-	Comparable to other options		
		2.5 Obsolescence	term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.			



MCA (Multi Criteria Analysis) for M3 Parkway Traction Substation

MICA (Multi Criteria Alialysis) for MIS Farkway Traction Substation				
Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – M3 Parkway Traction Substation
		Ownership or open technology		Comparable to other options
	2.6		Considerations of whether the solution is a registered product/technology, range of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
	3.1	Noise and Vibration	Likelihood of a noise impact on nearby noise sensitive locations	Some comparative advantage over other options
				Located away from residential areas.
	3.2	Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	Comparable to other options
				No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
		Landscape and Visual (including light) Biodiversity (flora and fauna)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character. Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected species, designated sites; Overall effect on nature conservation resource. 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)	Some comparative advantage over other options
3 Environment				Located away from residential receptors.
				Comparable to other options
				This option does not present any advantage or disadvantages over other options.
	3.5	Cultural, Archaeological and Architectural Heritage		Comparable to other options
	3.6	Cultural, Archaeological and Architectural Heritage		Located on made ground in M3 Parkway Station site. This option does not present any advantage or disadvantages over other options.
		Water Resources	Overall potential significant effects on water resource attribute likely to be affected during construction and operation.	Some comparative disadvantage over other options
		Water Resources		Option 1 is closest to floodplain of Tolka. May be liable to flood in extreme events.



MCA (Multi Criteria Analysis) for M3 Parkway Traction Substation

	mod (matt official dialysis) for mor artifaction outstation					
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – M3 Parkway Traction Substation	
		3.7	Agriculture and Non-Agricultural	Overall impact on land take & property. Number of properties to be impacted/acquired. Likely temporary or permanent severance	Comparable to other options	
		3. 7	Agriculture and Non-Agricultural	effects.	Located on made ground in M3 Parkway Station site. This option does not present any advantage or disadvantages over other options.	
		3.8	Geology and Soils (including Waste)	Soils and Geology and likely impact on geological resources and soil resources to be developed/removed. Existing information	Comparable to other options	
				relating to potential to encounter contaminated land.	Located on made ground in M3 Parkway Station site. This option does not present any advantage or disadvantages over other options.	
		3.9	Radiation and Stray Current	Overall likely impact on nearby receptors.	Comparable to other options	
					This option does not present any disadvantage or advantage in relation to nearby receptors.	
4	Accessibility & Social inclusion	4.1	Vulnerable groups and deprived geographic areas	Benefits that accrue to those suffering from social deprivation,	Comparable to other options	
7	Accessibility & doctal moldsion	7-1	vuinerable groups and deprived geographic areas	geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	
		5.1	5.1 Rail's Safety	Assessment of safety from an operational point of view	Comparable to other options	
		-			Rail's safety is fulfilled in both options.	
		5.2	User's / People's Safety	Assessment of safety from User's / People's Safety point of view	Comparable to other options	
5	Safety	5.2	osci s / i copic s calcty	Assessment of safety from oser 371 copie's carety point of view	User's / People's safety is fulfilled in both options.	
		5.3	RAM	Assessment of Reliability, Availability and Maintainability of the	Comparable to other options	
		3.3	IVAIVI	solution	Reliability, Availability and Maintainability fulfilled in both options.	
6	Physical Activity	6.1		Health benefits derived from using a specific option	Comparable to other options	
O	Filysical Activity	0.1	Health benefits	r realith behelits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 7. Summary of the MCA for M3 Parkway Traction Substation

	Option 1 – M3 Parkway Traction Substation
Economy	Comparable to other options
Integration	Significant comparative advantage over other options
Environment	Some comparative disadvantage over other options
Accessibility & Social inclusion	Comparable to other options
Safety	Comparable to other options
Physical Activity	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation of M3 Parkway Traction Substation option locations is **Option 1**.

<u>NOTE</u>: An IÉ's CWSET compound, limits the Substation location options. Only one option is presented, in this case. No other option cannot be taken into account, because there is a clash with an IÉ's CWSET compound.



Dunboyne Traction Substation

DART Maynooth & City Centre Enhancements. MCA Criteria and parameters

MCA (Multi Criteria Analysis) for Dunboyne Traction Substation

Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Dunboyne Traction Substation	Option 2 – Dunboyne Traction Substation	Option 3 – Dunboyne Traction Substation
			Capital expenditure (CAPEX) required to	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
1 Economy	1.1	CAPEX	implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line cost will depend on ESB studies. No clashes with existing utilities. Possible connection to foul drainage and water supply networks.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line cost will depend on ESB studies. Clash with ESB underground network. Possible connection to foul drainage and water supply networks.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line cost will depend on ESB studies. Clash with ESB underground network. Possible connection to foul drainage and water supply networks.
	1.2		Operating expenditure (OPEX) of the day-	Comparable to other options	Comparable to other options	Comparable to other options
		OPEX	to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.
		Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	Significant comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
	2.1			In this option, it would not require undertaking major works to accommodate road access from L228.	In this option, it would not require undertaking major works to accommodate road access from L228; however, part of the existing bicycle park will be required to be taken for this purpose as well as relocate the existing overpass exit/entry.	In this option, It would not require undertaking major works to accommodate road access from L228; however, part of the existing bus stop will be required to be taken for this purpose.
	2.2	Integration with parallel projects/contracts	Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	Comparable to other options	Comparable to other options	Comparable to other options
2 Integration				There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.
			Square meters of additional land used, or	Comparable to other options	Comparable to other options	Comparable to other options
	2.3	Geographical Integration	volume required to implement the solution	The proposed location is within the existing IÉ railway boundaries, therefore not major additional land taking is envisaged with this option.	The proposed location is within the existing IÉ railway boundaries, therefore not major additional land taking is envisaged with this option.	The proposed location is within the existing IÉ railway boundaries, therefore not major additional land taking is envisaged with this option.
	2.4	Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in	Comparable to other options	Comparable to other options	Comparable to other options
			operation and disruptions.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.



MCA (Multi Criteria Analysis) for Dunboyne Traction Substation

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	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Dunboyne Traction Substation	Option 2 – Dunboyne Traction Substation	Option 3 – Dunboyne Traction Substation
		2.5	Obsolescence	Assessment the obsolescence of the	Comparable to other options	Comparable to other options	Comparable to other options
		2.3	Obsolescence	solution/technology in a long-term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.
				Considerations of whether the solution is a registered product/technology, range of providers or open technology	Comparable to other options	Comparable to other options	Comparable to other options
		2.6	Ownership or open technology		This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
		3.1	Noise and Vibration	Likelihood of a noise impact on nearby	Comparable to other options	Comparable to other options	Comparable to other options
		3.1		noise sensitive locations	All options are located a similar distance from residential dwellings and therefore have the same potential for noise impacts.	All options are located a similar distance from residential dwellings and therefore have the same potential for noise impacts.	All options are located a similar distance from residential dwellings and therefore have the same potential for noise impacts.
				Assessment of local air quality effects based on potential air emissions during construction and operational phases	Comparable to other options	Comparable to other options	Comparable to other options
		3.2	Air Quality and Climate		No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
		3.3			Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
3	Environment			Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	All options in urbanised location in proximity to residential receptors – potential for visual impact.	All options in urbanised location in proximity to residential receptors – potential for visual impacts. This option is closer to cultural heritage feature RPS bridge Dunboyne bridge likely to affect is setting/landscape character.	All options in urbanised location in proximity to residential receptors – potential for visual impacts. This option is closer to cultural heritage feature RPS bridge Dunboyne bridge likely to affect is setting/landscape character.
		3.4	Biodiversity (flora and fauna)	Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected species, designated sites; Overall	Comparable to other options	Comparable to other options	Comparable to other options
				effect on nature conservation resource.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.
			Cultural, Archaeological and Architectural Heritage and arch effects SMRs, C designs	Overall effect on cultural, archaeological and architecture heritage resource. Likely	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
		3.5		effects on RPS, National Monuments, SMRs, Conservation areas, etc. Number of designated sites/structures (by level of designation) directly impacted by scheme (land take)	Some greenfield area likely to be affected, potential to uncover previously unrecorded heritage features. The Option is located further away from RPS Dunboyne Bridge therefore has an advantage over other options.	Potential indirect impacts to setting of RPS Dunboyne Bridge.	Potential indirect impacts to setting of RPS Dunboyne Bridge.



MCA (Multi Criteria Analysis) for Dunboyne Traction Substation

Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Dunboyne Traction Substation	Option 2 – Dunboyne Traction Substation	Option 3 – Dunboyne Traction Substation
	3.6	Water Resources	Overall potential significant effects on water resource attribute likely to be affected	Comparable to other options	Comparable to other options	Comparable to other options
	3.0	water Resources	during construction and operation.	This option does not present any disadvantage or advantage in regard to water resources.	This option does not present any disadvantage or advantage in regard to water resources.	This option does not present any disadvantage or advantage in regard to water resources.
	3.7	Agriculture and Non-Agricultural	Overall impact on land take & property. Number of properties to be	Comparable to other options	Comparable to other options	Comparable to other options
	3.1		impacted/acquired. Likely temporary or permanent severance effects.	Located in Car park of Station	Located in Car park of Station	Located in Car park of Station
	3.8	Geology and Soils (including Waste)	Soils and Geology and likely impact on geological resources and soil resources to be developed/removed. Existing	Comparable to other options	Comparable to other options	Comparable to other options
	3.0			This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.
	3.9	Radiation and Stray Current	Overall likely impact on nearby receptors.	Comparable to other options	Comparable to other options	Comparable to other options
				Located in an urbanised location with residential receptors in proximity to all options. This option does not present any disadvantage or advantage in relation to nearby receptors.	Located in an urbanised location with residential receptors in proximity to all options. This option does not present any disadvantage or advantage in relation to nearby receptors.	Located in an urbanised location with residential receptors in proximity to all options. This option does not present any disadvantage or advantage in relation to nearby receptors.
Accessibility & Social		Vulnerable groups and deprived geographic areas	Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	Comparable to other options	Comparable to other options	Comparable to other options
4 inclusion	4.1			This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
	5.1	Rail's Safety	Assessment of safety from an operational	Comparable to other options	Comparable to other options	Comparable to other options
5 Safety	5.1	Rail's Salety	point of view	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.
5 Safety	5.2	Llear's / Poenla's Safety	Assessment of safety from User's / People's Safety point of view	Comparable to other options	Comparable to other options	Comparable to other options
	5.2	User's / People's Safety		User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.



MCA (Multi Criteria Analysis) for Dunboyne Traction Substation

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Dunboyne Traction Substation	Option 2 – Dunboyne Traction Substation	Option 3 – Dunboyne Traction Substation
		5.3	RAM	Assessment of Reliability, Availability and Maintainability of the solution	Comparable to other options	Comparable to other options	Comparable to other options
					Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.
6	Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	Comparable to other options	Comparable to other options	Comparable to other options
6					This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 8. Summary of the MCA for Dunboyne Traction Substation

	Option 1 – Dunboyne Traction Substation	Option 2 – Dunboyne Traction Substation	Option 3 – Dunboyne Traction Substation
Economy	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
Integration	Significant comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
Environment	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
Accessibility & Social inclusion	Comparable to other options	Comparable to other options	Comparable to other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation of Dunboyne Traction Substation option locations is **Option 1**.

As a result of the MCA, the MDC concludes that Option 2 will not be taken into account, because part of the existing bicycle park will be required to be taken for this purpose as well as relocate the existing overpass exit/entry.

As a result of the MCA, the MDC concludes that Option 3 will not be taken into account, because part of the existing bus stop will be required to be taken for this purpose.



Hansfield Traction Substation

DART Maynooth & City Centre Enhancements. MCA Criteria and parameters

MCA (Multi Criteria Analysis) for Hansfield Traction Substation

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Hansfield Traction Substation	Option 2 – Hansfield Traction Substation	Option 3 – Hansfield Traction Substation
		1.1	CAPEX	Capital expenditure (CAPEX) required to implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	Comparable to other options The capital expenditure required for the traction substation is the same for both options. The ESB's MV line will depend on ESB studies. No clash with existing utilities. No water main and foul drainage networks	Comparable to other options The capital expenditure required for the traction substation is the same for both options. The ESB's MV line will depend on ESB studies. No clash with existing utilities. No water main and foul drainage networks	Comparable to other options The capital expenditure required for the traction substation is the same for both options. The ESB's MV line will depend on ESB studies. No clash with existing utilities. No water main and foul drainage networks
1	Economy				near.	near.	near.
				Operating expenditure (OPEX) of the day-	Comparable to other options	Comparable to other options	Comparable to other options
		1.2	OPEX	to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.
		2.1	Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
					In this option, it would not require undertaking major works to accommodate road access from Station Rd; however, part of the existing car park will be required to be taken for this purpose.	In this option, it would not require undertaking major works to accommodate road access from Station Rd; however, part of the existing car park will be required to be taken for this purpose.	In this option, it would be necessary create an access from the existing road Barberstown Lane North.
		2.2	Integration with parallel projects/contracts	Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	Comparable to other options	Comparable to other options	Comparable to other options
2	Integration				There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.
				Square meters of additional land used, or	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options
		2.3	Geographical Integration	volume required to implement the solution	The proposed location is not within the existing IÉ railway boundaries; therefore, it will be necessary additional land taking with this option.	The proposed location is not within the existing IÉ railway boundaries; therefore, it will be necessary additional land taking with this option.	The proposed location is within the existing IÉ railway boundaries, therefore not major additional land taking is envisaged with this option.
		24	Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in	Comparable to other options	Comparable to other options	Comparable to other options
		2.4		the solution during operation. Impact in operation and disruptions.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.



MCA (Multi Criteria Analysis) for Hansfield Traction Substation

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Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Hansfield Traction Substation	Option 2 – Hansfield Traction Substation	Option 3 – Hansfield Traction Substation				
	2.5	Ohaalaaaanaa	Assessment the obsolescence of the	Comparable to other options	Comparable to other options	Comparable to other options				
	2.5	Obsolescence	solution/technology in a long-term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.				
		Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	Comparable to other options	Comparable to other options	Comparable to other options				
	2.6			This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.				
	3.1	Noise and Vibration	Likelihood of a noise impact on nearby	Comparable to other options	Comparable to other options	Comparable to other options				
			noise sensitive locations	All options are located a similar distance from residential dwellings and therefore have the same potential for noise impacts.	All options are located a similar distance from residential dwellings and therefore have the same potential for noise impacts.	All options are located a similar distance from residential dwellings and therefore have the same potential for noise impacts.				
	3.2	Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	Comparable to other options	Comparable to other options	Comparable to other options				
				No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.				
	3.3	Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	Comparable to other options	Comparable to other options	Comparable to other options				
3 Environment				Developing area that will be subject to change. This option does not present any advantages or disadvantages over other options.	Developing area that will be subject to change. This option does not present any advantages or disadvantages over other options.	Developing area that will be subject to change. This option does not present any advantages or disadvantages over other options.				
	3.4	Biodiversity (flora and fauna)	Potential compliance/conflict with biodiversity objectives; Indirect impacts on	Comparable to other options	Comparable to other options	Comparable to other options				
	3.4	Biodiversity (nora and rauna)	protected species, designated sites; Overall effect on nature conservation resource.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.				
		Cultural, Archaeological and	Overall effect on cultural, archaeological and architecture heritage resource. Likely effects on RPS, National Monuments,	Comparable to other options	Comparable to other options	Comparable to other options				
	3.5	Architectural Heritage	SMRs, Conservation areas, etc. Number of designated sites/structures (by level of designation) directly impacted by scheme (land take)	No known heritage resources recorded. The option does not present any advantage or disadvantages over other options.	No known heritage resources recorded. The option does not present any advantage or disadvantages over other options.	No known heritage resources recorded. Site on greenfield site. The option does not present any advantage or disadvantages over other options.				



MCA (Multi Criteria Analysis) for Hansfield Traction Substation

Parameter	_	Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Hansfield Traction Substation	Option 2 – Hansfield Traction Substation	Option 3 – Hansfield Traction Substation
Parameter		Cinteria	Sub-Criteria (Quantitative Quantative)	Option 1 - nansheid Traction Substation	Option 2 - nansheid Traction Substation	Option 3 – nanshelu Traction Substation
	3.6	Water Resources	Overall potential significant effects on water resource attribute likely to be affected	Comparable to other options	Comparable to other options	Comparable to other options
	3.0	water Resources	during construction and operation.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.
	3.7	Agriculture and Non-Agricultural	Overall impact on land take & property. Number of properties to be	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
	5 7	impacted/acquired. Likely tempor permanent severance effects		No additional lands required.	No additional lands required.	Private property will be required.
	3.8	Geology and Soils (including Waste)	Soils and Geology and likely impact on geological resources and soil resources to be developed/removed. Existing	Comparable to other options	Comparable to other options	Comparable to other options
			information relating to potential to encounter contaminated land.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.
	3.9	Radiation and Stray Current	Overall likely impact on nearby receptors.	Comparable to other options	Comparable to other options	Comparable to other options
				This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
Accessibility & Social	4.1	Vulnerable groups and deprived geographic areas	Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	Comparable to other options	Comparable to other options	Comparable to other options
4 inclusion				This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
	5.1	Rail's Safety	Assessment of safety from an operational	Comparable to other options	Comparable to other options	Comparable to other options
	-	,	point of view	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.
5 Safety	5.2	User's / People's Safety	Assessment of safety from User's / People's Safety point of view	Comparable to other options	Comparable to other options	Comparable to other options
			reopie's Salety point of view	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.
	5.3	RAM	Assessment of Reliability, Availability and Maintainability of the solution	Comparable to other options	Comparable to other options	Comparable to other options
	5.3			Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.



MCA (Multi Criteria Analysis) for Hansfield Traction Substation

Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Hansfield Traction Substation	Option 2 – Hansfield Traction Substation	Option 3 – Hansfield Traction Substation
Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	Comparable to other options	Comparable to other options	Comparable to other options
5 Filysical Activity				This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 9. Summary of the MCA for Hansfield Traction Substation

	Option 1 – Hansfield Traction Substation	Option 2 – Hansfield Traction Substation	Option 3 – Hansfield Traction Substation
Economy	Comparable to other options	Comparable to other options	Comparable to other options
Integration	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
Environment	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
Accessibility & Social inclusion	Comparable to other options	Comparable to other options	Comparable to other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation of Hansfield Traction Substation option locations is **Option 3.**

As a result of the MCA, the MDC concludes that Option 1 will not be taken into account, because part of the existing car park will be required to be taken for this purpose and also the proposed location is not within the existing IÉ railway boundaries; it will be necessary additional land taking with this option.

As a result of the MCA, the MDC concludes that Option 2 will not be taken into account, because part of the existing car park will be required to be taken for this purpose and also the proposed location is not within the existing IÉ railway boundaries; it will be necessary additional land taking with this option.



Glasnevin Traction Substation

		DART M	aynooth & City Centre Enhan	cements. MCA Criteria and pa	arameters					
		М	CA (Multi Criteria Analysis) fo	or Glasnevin Traction Substat	ion					
Paramete	r	Criteria	Sub-Criteria (Quantitative Qualitative)	Option 2 – Glasnevin Traction Substation	Option 3 – Glasnevin Traction Substation	Option 4 – Glasnevin Traction Substation	Option 5 – Glasnevin Traction Substation	Option 6 – Glasnevin Traction Substation		
				Some comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options		
1 Economy	1.1	CAPEX	Capital expenditure (CAPEX) required to implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	The capital expenditure required for the traction substation is lower as the substation is above ground; the Royal Canal way needs to be widening in a small stretch. Preventive measures will have to be undertaking in order to avoid potential water damage due to its proximity to the canal. The ESB's MV line will depend on ESB studies.	The capital expenditure required for the traction substation is lower as the substation is above ground; the Royal Canal way needs to be widening in a long stretch. Preventive measures will have to be undertaking in order to avoid potential water damage due to its proximity to the canal. The ESB's MV line will depend on ESB studies.	The capital expenditure required for the traction substation is significant lower as the substation is above ground. Retaining wall needed. The ESB's MV line will depend on ESB studies.	The capital expenditure required for the traction substation is significant lower as the substation is far from the Royal Canal and the access is easy to provide. The ESB's MV line will depend on ESB studies.	The capital expenditure required for the traction substation is significant lower as the substation is far from the Royal Canal and the access is easy to provide. The ESB's MV line will depend on ESB studies.		
			Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	Comparable to other options The traction substation	Comparable to other options The traction substation	Comparable to other options The traction substation	Comparable to other options The traction substation	Comparable to other options The traction substation		
	1.2	OPEX		operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.		
		Integration with existing equipment				Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Significant comparative advantage over other options
2 Integratio	n 2.1		Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	In this option, it would be necessary to widen the Royal Canal Way to allow road access from R108.	In this option, it would be necessary to widen the Royal Canal Way to allow road access from R108, which is 530m approximately distant from R108, on its east side.	In this option, the Gaelic football pitch limits (layout) would have to be adjusted to allow the substation construction. It would be necessary accommodate the road access provided from Clareville Court to the existing Gaelic football pitch area A retaining wall is required	In this option, the Gaelic football pitch limits (layout) would have to be adjusted to allow the substation construction. It would be necessary accommodate the road access provided from Clareville Court to the existing Gaelic football pitch area.	In this option, the Gaelic football pitch limits (layout) would have to be adjusted to allow the substation construction. Compared to options (4 and 5) also located in the existing Gaelic football pitch, this one has less land take from the Gaelic football pitch, than the others.		
								It would be necessary accommodate the road access provided from Clareville Court to the		



		DART Ma						
		M	CA (Multi Criteria Analysis) fo	r Glasnevin Traction Substat	ion			
Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 2 – Glasnevin Traction Substation	Option 3 – Glasnevin Traction Substation	Option 4 – Glasnevin Traction Substation	Option 5 – Glasnevin Traction Substation	Option 6 – Glasnevin Traction Substation
								existing Gaelic football pitch area.
		Integration with parallel projects/contracts		Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options
			Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	Due to its location next to the Royal Canal, it can interfere in the future development of this area.	Due to its location next to the Royal Canal, it can interfere in the future development of this area.	This option is not integrated in parallel projects/contracts.	This option is not integrated in parallel projects/contracts.	This option is not integrated in parallel projects/contracts.
	2.2				The MDC are aware that DCC are proposing to expand the Royal Canal greenway. The location of the substation at this location may impact the options available to DC however there is no approved planning application details provided at this stage. Consultation required with DCC if identified as the preferred option.			
		Geographical Integration	Square meters of additional land used, or volume required to implement the solution	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
	2.3			The proposed location is not within the existing IÉ railway boundaries; therefore, land take will be required.	The proposed location is not within the existing IÉ railway boundaries; therefore, land take will be required.	The proposed location is not within the existing IÉ railway boundaries; therefore, land take will be required.	The proposed location is not within the existing IÉ railway boundaries; therefore, land take will be required.	The proposed location is not within the existing IÉ railway boundaries; therefore, land take will be required.
	2.4	Buildability during	Qualitative Assessment of the buildability of the	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
	2.4	operation	solution during operation. Impact in operation and disruptions.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.
		Obsolescence	Assessment the obsolescence of the	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
	2.5		solution/technology in a long-term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.
	2.6	Ownership or open technology	Considerations of whether the solution is a registered product/technology, range	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options



			DART Ma	aynooth & City Centre Enhand	cements. MCA Criteria and pa	arameters			
			м	CA (Multi Criteria Analysis) fo	r Glasnevin Traction Substat	ion			
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 2 – Glasnevin Traction Substation	Option 3 – Glasnevin Traction Substation	Option 4 – Glasnevin Traction Substation	Option 5 – Glasnevin Traction Substation	Option 6 – Glasnevin Traction Substation
				of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
				Likelihood of a noise impact on nearby noise sensitive locations	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
		3.1	Noise and Vibration		Partly located on Cabra Kayak Club and on a brownfield sites. Located in proximity to residential dwellings on other side of Canal. Located a similar distance from residential dwellings than some of the other options.	Located at a greater distance from sensitive receptors than some of the other options.	Located in a recreational area. Located at a greater distance from residential uses than other options.	Located in a recreational area and close to residential land uses. Located a similar distance from sensitive receptors as some of the other options.	Located in a recreational area and close to residential land uses. Located a similar distance from sensitive receptors as some of the other options.
			Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
		3.2			No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable
3	Environment	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 disadvantage over other options
					Located on site of Lock House (derelict) Cabra Kayak Club, in proximity to the Royal Canal 6th Lock (RPS), the Royal Canal (RPS) and Royal Canal Way, a sensitive landscape and amenity area. This option is likely to have an impact to the landscape character and the views to and from the Royal Canal.	Located adjacent to the Royal Canal RPS and Royal Canal way, a sensitive landscape and amenity area. Potential impacts to the landscape character and setting of the area. Replacement screening would help reduce impact.	Located adjacent to the railway line on the edge of the active playing pitch. Direct landscape impacts to the recreational and education amenities. Local landscape impacts and visual impacts.	Located on the edge of the active playing pitch. Direct landscape impacts to the recreational and education amenities. Local landscape impacts and visual impacts to dwelling houses on Clareville Court. Replacement screening could reduce impact.	Located away from the Royal Canal sensitive landscape area. Direct landscape impacts to the recreational and education amenities. Local landscape impacts and visual impacts to dwelling houses on Clareville Court. Replacement screening could reduce impact.
				Potential compliance/conflict with hindiversity objectives:	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
		3.4	Biodiversity (flora and fauna)	biodiversity objectives; Indirect impacts on protected species, designated sites; Overall effect on nature conservation resource.	This option is located on made ground and parts include areas of dry grassland and scrub between the canal and railway. This option requires	This option is located in an area of dry grassland and trees between the canal towpath and railway. This option requires works directly adjacent to the	The option is located adjacent to the railway corridor on the sports field. This option will result in loss of amenity grassland and tree loss.	Located on playing pitches, this option will result in loss of amenity grassland and trees. The pitch has been identified as an important (Major) feeding ground for	Located on playing pitches, this option will result in loss of amenity grassland and possibly trees. The pitch has been identified as



		DART M						
		M	CA (Multi Criteria Analysis) fo	or Glasnevin Traction Substati	ion			
Parameter	Parameter Criteria Sub-Criteria (Quantitative Qualitative) Option 2 – Glasnevin Traction Substation Traction Substation Option 3 – Glasnevin Traction Substation Traction Substation							Option 6 – Glasnevin Traction Substation
				works adjacent to the Royal Canal pNHA and will likely result in the loss of grassland and scrub habitat. Japanese Knotweed has been recorded within the rail corridor approx. 100m northeast of the site. During operation there may be water quality and noise impacts which requires further assessment.	Royal Canal pNHA and will likely result in the loss of grassland and trees. Japanese Knotweed has been recorded within the rail corridor approx. 120m northwest of the site. During operation there may be water quality and noise impacts which requires further assessment.	The pitch has been identified as an important (Major) feeding ground for Brent Geese, a qualifying interest of a number of Special Areas of Conservation in the Dublin area. Construction stage impacts are likely as the site is located on the edge of the pitch however this could be mitigated by avoiding works during winter periods. No significant impacts are expected to the feeding grounds during the operational stage.	Brent Geese, a qualifying interest of a number of Special Areas of Conservation in the Dublin area. Construction stage impacts are likely as the site is located on the edge of the pitch however this could be mitigated by avoiding works during winter periods. No significant impacts are expected to the feeding grounds during the operational stage.	an important (Major) feeding ground for Brent Geese, a qualifying interest of a number of Special Areas of Conservation in the Dublin area. Construction stage impacts are likely as the site is located on the edge of the pitch however this could be mitigated by avoiding works during winter periods. No significant impacts are expected to the feeding grounds during the operational stage.
		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)	Significant comparative disadvantage over other options	Some comparative disadvantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options
	3.5			Option 2 is likely to have a direct impact on Former Lock House (derelict). Indirect impacts on the Royal Canal (RPS), Royal Canal 6th Lock (RPS) context and setting. There is potential for unknown archaeological resources to be encountered.	Option 3 is located in proximity of the Royal Canal RPS, works are likely to have an indirect impact on its setting. There is potential for unknown archaeological resources to be encountered.	There are no RPS, National Monuments, SMRs and Conservation areas located within Option 4. No known heritage resources recorded. There is potential for unknown archaeological resources to be encountered.	There are no RPS, National Monuments, SMRs and Conservation areas located within Option 4. No known heritage resources recorded. There is potential unknown archaeological resources to be encountered.	There are no RPS, National Monuments, SMRs and Conservation areas located within Option 4. No known heritage resources recorded. There is potential unknown archaeological resources to be encountered.
			Overall potential significant	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
	3.6	Water Resources	Overall potential significant effects on water resource attribute likely to be affected during construction and operation.	No record of historical or predicted flooding within the vicinity of the site. This option does not present any disadvantage or advantage with regards to water resources.	No record of historical or predicted flooding within the vicinity of the site. This option does not present any disadvantage or advantage with regards to water resources.	No record of historical or predicted flooding within the vicinity of the site. This option does not present any disadvantage or advantage with regards to water resources.	No record of historical or predicted flooding within the vicinity of the site. This option does not present any disadvantage or advantage with regards to water resources	No record of historical or predicted flooding within the vicinity of the site. This option does not present any disadvantage or advantage with regards to water resources
	3.7		Overall impact on land take	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
		Agriculture and Non- Agricultural	& property. Number of properties to be impacted/acquired. Likely temporary or permanent severance effects.	Partly located on Cabra Kayak Club impacts to the club. All land-take is in private ownership. Temporary Construction impact to the Royal Canal Way	Located on IE lands and also private lands. Temporary Construction impact to the Royal Canal Way.	All land- take is in private ownership. Impacts to educational and recreational facilities.	All land- take is in private ownership. Likely impacts to educational and recreational facilities.	All land- take is in private ownership. Likely impacts to educational and recreational facilities.



			М	CA (Multi Criteria Analysis) fo	r Glasnevin Traction Substati	on			
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 2 – Glasnevin Traction Substation	Option 3 – Glasnevin Traction Substation	Option 4 – Glasnevin Traction Substation	Option 5 – Glasnevin Traction Substation	Option 6 – Glasnevin Traction Substation
				Soils and Geology and likely impact on geological resources and soil	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
		3.8	Geology and Soils (including Waste)	resources to be developed/removed. Existing information relating to potential to encounter contaminated land.	This option does not present any disadvantage or advantage over other options. Contaminated land unknown.	This option does not present any disadvantage or advantage over other options. Contaminated land unknown.	This option does not present any disadvantage or advantage over other options. Contaminated land unknown.	This option does not present any disadvantage or advantage over other options. Contaminated land unknown.	This option does not present any disadvantage or advantage over other options. Contaminated land unknown.
			Radiation and Stray Current	Overall likely impact on	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
		3.9		nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
		4.1	Local accessibility	In case the location of the buildings could cause any	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
	Accessibility &		Local docodolomity	impact on the access to adjacent dwellings	The works of the Metrolink project in the area may disrupt the whole area	The works of the Metrolink project in the area may disrupt the whole area	No accessibility issues are foreseen	No accessibility issues are foreseen	No accessibility issues are foreseen
4	Social inclusion	4.2	Vulnerable groups	Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
					This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
		5.1	Rail's Safety	Assessment of safety from an operational point of view	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
				an operational point of view	Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.
					Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
5	Safety	5.2	User's / People's Safety	Assessment of safety from User's / People's Safety point of view	User's / People's safety is fulfilled in this option, as the area is not linked to any particular safety sensitive environment	User's / People's safety is fulfilled in this option, as the area is not linked to any particular safety sensitive environment	User's / People's safety is fulfilled in this option, as the substation is designed to be safe and not allow public to enter the site. Netting will be put up to stop balls from entering the property	User's / People's safety is fulfilled in this option, as the substation is designed to be safe and not allow public to enter the site. Netting will be put up to stop balls from entering the property	User's / People's safety is fulfilled in this option, as the substation is designed to be safe and not allow public to enter the site. Netting will be put up to stop balls from entering the property
		5.3	RAM	Assessment of Reliability, Availability and	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



	DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) for Glasnevin Traction Substation								
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 2 – Glasnevin Traction Substation	Option 3 – Glasnevin Traction Substation	Option 4 – Glasnevin Traction Substation	Option 5 – Glasnevin Traction Substation	Option 6 – Glasnevin Traction Substation
				Maintainability of the solution	Potential unavailability due to inherent risks due to the location next to the Royal Canal	Potential unavailability due to inherent risks due to the location next to the Royal Canal	Reliability, Availability and Maintainability fulfilled in this option.	Reliability, Availability and Maintainability fulfilled in this option.	Reliability, Availability and Maintainability fulfilled in this option.
					Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
6	6 Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option does not impact physical activity and therefore has some advantage over other options.	This option does not impact physical activity and therefore has some advantage over other options.	This option presents some disadvantage over other options as it is located on a sports area.	This option presents some disadvantage over other options as it is located on a sports area.	This option presents some disadvantage over other options as it is located on a sports area.



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 10. Summary of the MCA for Glasnevin Traction Substation

	Option 2 – Glasnevin Traction Substation	Option 3 – Glasnevin Traction Substation	Option 4 – Glasnevin Traction Substation	Option 5 – Glasnevin Traction Substation	Option 6 – Glasnevin Traction Substation
Economy	Some comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options
Integration	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options	Significant comparative advantage over other options
Environment	Some comparative disadvantage over other options	Significant comparative advantage over other options	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options
Accessibility & 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
Safety	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
Physical Activity	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation of Glasnevin Traction Substation option locations is Option 6.



Spencer Dock Traction Substation

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Spencer Dock Traction Substation	Option 2 – Spencer Dock Traction Substation	Option 3 – Spencer Dock Traction Substation
				Capital expenditure (CAPEX) required to implement the option.	Comparable to other options	Comparable to other options	Comparable to other options
		1.1	CAPEX	Assessment of cost of installation and investment to construct/install/use the solution.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line cost will depend on ESB studies.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line cost will depend on ESB studies.	The capital expenditure required for the traction substation is the same for both options. The ESB's MV line cost will depend on ESB studies.
1	Economy			Operating expenditure (OPEX) of the day-	Comparable to other options	Comparable to other options	Comparable to other options
		1.2	OPEX	to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.	The traction substation operating expenditure is the same for both options. The connection to ESB is maintained by ESB. It does not incur in an increment of OPEX.
		2.1			Significant comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
			Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	In this option, it would not require undertaking major works to accommodate road access from Park Lane; however, part of existing car park will be required to be taken for this purpose.	In this option, it would not require undertaking major works to accommodate road access from Park Lane.	In this option, it would be necessary accommodate the road access from Abercorn Rd or from Park Lane.
		2.2	Integration with parallel	Qualitative Assessment of how this option/solution/technology can be integrated	Comparable to other options	Comparable to other options	Comparable to other options
			projects/contracts	with the existing and current parallel projects/contracts	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.
				Square meters of additional land used, or	Comparable to other options	Comparable to other options	Comparable to other options
2	Integration	2.3	Geographical Integration	volume required to implement the solution	The proposed location is within the existing IÉ railway boundaries, therefore not major additional land taking is envisaged with this option.	The proposed location is within the existing IÉ railway boundaries, therefore not major additional land taking is envisaged with this option.	The proposed location is within the existing IÉ railway boundaries, therefore not major additional land taking is envisaged with this option.
		2.4	Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in	Comparable to other options	Comparable to other options	Comparable to other options
		2.4	Buildability duffing operation	operation and disruptions.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.	It will not require the blockade of the tracks to undertake the works.
		2.5	Obsolescence	Assessment the obsolescence of the	Comparable to other options	Comparable to other options	Comparable to other options
		2.0	Obsolescence	solution/technology in a long-term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.
		2.6	Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	Comparable to other options	Comparable to other options	Comparable to other options



	_				Option 1 – Spencer Dock Traction	Option 2 – Spencer Dock Traction	Option 3 – Spencer Dock Traction
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Substation	Substation	Substation
					This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
		3.1	Noise and Vibration	Likelihood of a noise impact on nearby	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
		3.1	Noise and Vibration	noise sensitive locations	Nearest sensitive receptor located approx. 20m away.	Nearest sensitive receptors located approx. 30m.	Located on/ at the rear of low-density residential properties 0m distance.
				Assessment of local air quality effects based on potential air emissions during construction and operational phases	Comparable to other options	Comparable to other options	Comparable to other options
		3.2	Air Quality and Climate		No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
		3.3		Key landscape characteristics affected;	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
			Landscape and Visual (including light)	Effects on listed/ key views; Impact on landscape character.	Located beside existing Docklands Station. Indirect effects to NIAH Sheriff Street lifting bridge. Users of Royal Canal Greenway are likely to experience landscape change.	Located beside existing Docklands Station building in traffic area. Landscape has the capacity to absorb changes.	Located along existing railway line. Landscape and visual impacts to the rear of residential properties.
				Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected species, designated sites; Overall effect on nature conservation resource.	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
3	Environment	3.4	Biodiversity (flora and fauna)		This option requires works adjoining the Royal Canal pNHA. During operation there may be water quality and noise impacts.	This option is located on made ground adjoining the Docklands station. No likely significant effects on biodiversity resources.	This option is located on made ground No likely significant effects on biodiversity resources.
			Cultural Archaeological and	Overall effect on cultural, archaeological and architecture heritage resource. Likely effects on RPS, National Monuments,	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
		3.5	Cultural, Archaeological and Architectural Heritage SMRs, Conservation areas, etc. Number of designated sites/structures (by level of designation) directly impacted by scheme (land take)		Option 1 located in proximity to Sheriff Street Lifting Bridge a NIAH (Reg. No. 50010016). Potential for indirect impacts to heritage features setting.	Located beside existing Docklands Station on made ground. No recorded structures or monuments on site.	Located along existing railway line. No recorded structures or monuments on site.
		3.6	Water Resources	Overall potential significant effects on water resource attribute likely to be affected during construction and operation.	Comparable to other options	Comparable to other options	Comparable to other options
					This option is identified as being within Flood Zone A. The area is defended against flooding, nonetheless, there is a residual risk of flooding where extreme events exceed the design standard of protection of the flood defences. The residual risk is comparable across all options. Options are comparable with regards to flood risk and water quality.	This option is identified as being within Flood Zone A. The area is defended against flooding, nonetheless, there is a residual risk of flooding where extreme events exceed the design standard of protection of the flood defences. The residual risk is comparable across all options. Options are comparable with regards to flood risk and water quality.	This option is identified as being within Flood Zone A. The area is defended against flooding, nonetheless, there is a residual risk of flooding where extreme events exceed the design standard of protection of the flood defences. The residual risk is comparable across all options. Options are comparable with regards to flood risk and water quality.
		3.7	Agriculture and Non-Agricultural	Overall impact on land take & property. Number of properties to be	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options



Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Spencer Dock Traction Substation	Option 2 – Spencer Dock Traction Substation	Option 3 – Spencer Dock Traction Substation
			impacted/acquired. Likely temporary or permanent severance effects.	No land-take required	No land-take required	Land-take required
	3.8	Geology and Soils (including Waste)	Soils and Geology and likely impact on geological resources and soil resources to be developed/removed. Existing	Comparable to other options	Comparable to other options	Comparable to other options
	3.0	Ceology and Solis (including waste)	information relating to potential to encounter contaminated land.	This option does not present any advantage or disadvantages over other options. Contaminated land unknown.	This option does not present any advantage or disadvantages over other options. Contaminated land unknown.	This option does not present any advantage or disadvantages over other options. Contaminated land unknown.
	3.9	Radiation and Stray Current	Overall likely impact on nearby receptors.	Comparable to other options	Comparable to other options	Comparable to other options
	5.5		Overall likely impact of flearby fedephors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
Accessibility & Cosial	4.1	Vivia arabia arawa and dansiwa d	Benefits that accrue to those suffering from	Comparable to other options	Comparable to other options	Comparable to other options
4 Accessibility & Social inclusion		Vulnerable groups and deprived geographic areas	social deprivation, geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
	5.1	Rail's Safety	Assessment of safety from an operational point of view	Comparable to other options	Comparable to other options	Comparable to other options
	3.1	Itali 5 Jaiety		Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.
5 Safety	5.2	User's / People's Safety	Assessment of safety from User's / People's	Comparable to other options	Comparable to other options	Comparable to other options
5 Safety	5.2	Oser's / People's Salety	Safety point of view	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.
	5.3	RAM	Assessment of Reliability, Availability and	Comparable to other options	Comparable to other options	Comparable to other options
	5.5	IVAIVI	Maintainability of the solution	Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.	Reliability, Availability and Maintainability fulfilled in both options.
6 Physical Activity	6.1	Health benefits	Health benefits derived from using a	Comparable to other options	Comparable to other options	Comparable to other options
o Filysical Activity	U. 1	rieann benefits	specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 11. Summary of the MCA for Spencer Dock Traction Substation

	Option 1 – Spencer Dock Traction Substation	Option 2 – Spencer Dock Traction Substation	Option 3 – Spencer Dock traction Substation
Economy	Comparable to other options	Comparable to other options	Comparable to other options
Integration	Significant comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
Environment	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Accessibility & Social inclusion	Comparable to other options	Comparable to other options	Comparable to other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation of Spencer Dock Traction Substation option locations is **Option 3**.

As a result of the MCA, the MDC concludes that Option 1 will not be taken into account, because part of the existing car park will be required for this purpose.

As a result of the MCA, the MDC concludes that Option 2 will not be taken into account, because it would be necessary accommodate the road access from Park Lane.



9.5.6 Signalling buildings (SEB) Location MCA



MCA (Multi Criteria Analysis) for Millerstown SEB

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Millerstown SEB	Option 2 – Millerstown SEB	Option 3 – Millerstown SEB
		1.1	CAPEX	Capital expenditure (CAPEX) required to implement the option.	Comparable to other options	Comparable to other options	Comparable to other options
	Faanamy	1.1	OALEX	Assessment of cost of installation and investment to construct/install/use the solution.	There is no difference in the cost of installing and building the SEB, the three locations would be very similar	There is no difference in the cost of installing and building the SEB, the three locations would be very similar	There is no difference in the cost of installing and building the SEB, the three locations would be very similar
'	Economy	1.2	ODEY	Operating expenditure (OPEX) of the day-to-day	Comparable to other options	Comparable to other options	Comparable to other options
			OPEX	expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.
					Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
		2.1	Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	It would not require undertaking major works to accommodate road access. The terrain would have to be prepared as nowadays is a grassed area.	It would require undertaking works to accommodate road access. The terrain would have to be prepared as nowadays is a grass area.	It would not require undertaking major works to accommodate road access, as it would be through the existing road and then through rail tracks crossing. The terrain would have to be prepared as nowadays is a grassed area.
		2.2	Integration with parallel	Qualitative Assessment of how this	Significant comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
		2.2	projects/contracts	option/solution/technology can be integrated with the existing and current parallel projects/contracts	The proposed location is in a New Residential area	The solution is integrated with the construction project of the new Depot.	There is no parallel project under construction near this option
					Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
2	Integration	2.3	Geographical Integration	Square meters of additional land used, or volume required to implement the solution	The building will have the same dimensions regardless of the area where it is located.	The building will have the same dimensions regardless of the area where it is located.	The building will have the same dimensions regardless of the area where it is located. However, in this option the risk of flooding would have to be assessed due to the proximity to the Royal Canal
				Qualitative Assessment of the buildability of the solution	Comparable to other options	Comparable to other options	Comparable to other options
		2.4	Buildability during operation	during operation. Impact in operation and disruptions.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.
		2.5	Obsologopo	Assessment the obsolescence of the solution/technology	Comparable to other options	Comparable to other options	Comparable to other options
		2.3	Obsolescence	in a long-term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.



MCA (Multi Criteria Analysis) for Millerstown SEB

				MCA (Muiti Criteria Analysis) i	or Miller Stown SEB		
				Considerations of whether the solution is a registered	Comparable to other options	Comparable to other options	Comparable to other options
		2.6	Ownership or open technology	product/technology, range of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
					Comparable to other options	Comparable to other options	Comparable to other options
		3.1	Noise and Vibration	Likelihood of a noise impact on nearby noise sensitive locations	The SEB building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The SEB building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The SEB building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.
		3.2		Assessment of local air quality effects based on potential	Comparable to other options	Comparable to other options	Comparable to other options
			Air Quality and Climate	air emissions during construction and operational phases	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
					Comparable to other options	Comparable to other options	Comparable to other options
3	Environment	3.3	Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	Option 1 is located within greenfield lands adjacent to the existing Dublin to Maynooth rail line. Indirect impact to Royal Canal a sensitive landscape. Visual impacts may be likely to the rear of dwellings located	Option 2 is located within greenfield lands Indirect impact to Royal Canal. Visual impact may be likely to rear of one dwelling	Option 3 is a sensitive landscape area. Direct impacts to the views to and from the Royal Canal are likely.
				Potential compliance/conflict with biodiversity objectives;	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
		3.4	Biodiversity (flora and fauna)	Indirect impacts on protected species, designated sites; Overall effect on nature conservation resource.	This option will require the removal of some vegetation along the Connaught road.	This option will require the removal of some scrub along the railway embankment.	This option requires works close to the canal and will require the removal of riparian vegetation. During operation there may be water quality and lighting impacts
				Overall effect on cultural, archaeological and architecture	Comparable to other options	Comparable to other options	Comparable to other options
		3.5	Cultural, Archaeological and Architectural Heritage	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)	Option 1 is located in proximity of the Royal Canal and is likely to have an indirect impact on its setting. There is potential to encounter unknown archaeological resources on undeveloped land.	Potential for indirect impacts on two recorded monuments (ring ditch and barrow) along with previously unrecorded archaeological sites.	Option 3 is located in proximity of the Royal Canal and is likely to have an indirect impact on its setting. There is potential to encounter unknown archaeological resources on undeveloped land.
		3.6	Water Resources	Overall potential significant effects on water resource attribute likely to be affected during construction and operation.	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant comparative disadvantage over other options



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) for Millerstown SEB OPW CFRAMS flood mapping indicates option location as liable to OPW CFRAMS flood mapping indicates OPW CFRAMS flood mapping indicates flood in extreme events from fluvial low risk of flooding. Comparably lower risk low risk of flooding. Comparably lower risk sources. Comparable flood risk across to water quality than Option 3 to water quality than Option 3 all options Increased risk to water quality of Royal Canal during construction due to proximity. Some comparative disadvantage over Significant comparative advantage Significant comparative disadvantage other options over other options over other options Overall impact on land take & property. Likely temporary 3.7 Agriculture and Non-Agricultural or permanent severance effects, etc. Option located outside of CIE land Option located outside of CIE land Option located within the CIE land boundary, acquisition of land is required. boundary, acquisition of land is required. boundary. No landtake required Future residential development Direct impact on agricultural property Comparable to other options Comparable to other options Comparable to other options Soils and Geology and likely impact on geological Geology and Soils (including resources and soil resources to be developed/removed. 3.8 Waste) Existing information relating to potential to encounter No significant advantages or No significant advantages or No significant advantages or contaminated land. disadvantages over other options. disadvantages over other options. disadvantages over other options. Comparable to other options Comparable to other options Comparable to other options Overall likely impact on existing sources of 3.9 Radiation and Stray Current electromagnetic radiation. This option does not present any This option does not present any This option does not present any disadvantage or advantage in relation to disadvantage or advantage in relation to disadvantage or advantage in relation nearby receptors. nearby receptors. to nearby receptors. Some comparative disadvantage over Some comparative advantage over Significant comparative other options other options disadvantage over other options This option does not present any This option does not present any Accessibility Benefits that accrue to those suffering from social Vulnerable groups and deprived disadvantage or advantage regarding This option does not present any disadvantage or advantage regarding 4 & Social 4.1 deprivation, geographic isolation and mobility and geographic areas vulnerable groups and deprived disadvantage or advantage regarding vulnerable groups and deprived inclusion sensory deprivation geographic areas. Although the quality of vulnerable groups and deprived geographic areas. But, the quality of access in the area would remain the same geographic areas, but the quality of access access would be worse comparing to today, as a residential development is in the area would be maintained the same. other options, as it would be necessary envisaged, it would have an impact. to cross the rail tracks Comparable to other options Comparable to other options Comparable to other options Rail's Safety 5.1 Assessment of safety from an operational point of view Rail's safety is fulfilled in both options. Rail's safety is fulfilled in both options. Rail's safety is fulfilled in both options. 5 Safety Comparable to other options Comparable to other options Comparable to other options Assessment of safety from User's / People's Safety point User's / People's Safety 5.2 of view User's / People's safety is fulfilled in both User's / People's safety is fulfilled in both User's / People's safety is fulfilled in options. options. both options. Assessment of Reliability, Availability and Maintainability 5.3 RAMComparable to other options Comparable to other options Comparable to other options of the solution



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) for Millerstown SEB This option does not present any This option does not present any This option does not present any disadvantage or advantage regarding RAM disadvantage or advantage regarding RAM disadvantage or advantage regarding RAM Comparable to other options Comparable to other options Comparable to other options **Physical** 6 6.1 Health benefits Health benefits derived from using a specific option Activity This option does not present any disadvantage or advantage regarding This option does not present any This option does not present any disadvantage or advantage regarding health benefits disadvantage or advantage regarding health benefits health benefits

Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 12. Summary of the MCA Assessment Parameters

	Option 1 – Millerstown SEB	Option 2 – Millerstown SEB	Option 3 – Millerstown SEB
Economy	Comparable to other options	Comparable to other options	Comparable to other options
Integration	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Environment	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
Accessibility & Social inclusion	Some comparative disadvantage over other options	Some comparative advantage over other options	Significant comparative disadvantage over other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new SEB in Millerstown is **Option 2**



MCA (Multi Criteria Analysis) for Maynooth SEB

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Maynooth SEB	Option 2 – Maynooth SEB	Option 3 – Maynooth SEB	
			CAPEX	Capital expenditure (CAPEX) required to implement the option.	Comparable to other options There is no difference in the	Comparable to other options There is no difference in the	Comparable to other options There is no difference in the	
1	Economy	1.1	OAI EX	Assessment of cost of installation and investment to construct/install/use the solution.	cost of installing and building the SEB, the three locations would be very similar	cost of installing and building the SEB, the three locations would be very similar	cost of installing and building the SEB, the three locations would be very similar	
		1.2	OPEX	Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to	Comparable to other options	Comparable to other options	Comparable to other options	
		1.2	keep maintain the system/solution/option operational.	keep maintain the system/solution/option operational.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	
					Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	
		2.1	Integration with existing equipment Qualitativ	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	The new SEB would be further away from the current technical building than option 3 to carry out the migration.	The new SEB would be further away from the current technical building than option 3 to carry out the migration.	The new SEB would be right next to the current technical building, so the migration would be very advantageous.	
		2.2		Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	Comparable to other options	Comparable to other options	Comparable to other options	
			Integration with parallel projects/contract		There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	
2	Integration					Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
2		2.3	Geographical Integration	Square meters of additional land used, or volume required to implement the solution	The building will have the same dimensions regardless of the area where it is located. However, this option means taking space away from the current station car park.	The building will have the same dimensions regardless of the area where it is located. However, this option involves constructing a new building in an area that is currently unbuilt.	The building will have the same dimensions regardless of the area where it is located. However, this option is more advantageous because there will be no need to take up space in the station car park, access will be able to be used in the same way as it is today to access the current technical building and the land adjacent to it will be available for use. The neighbours would not have to be inconvenienced by a new low building next to the existing one.	



MCA (Multi Criteria Analysis) for Maynooth SEB

Ī	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Maynooth SEB	Option 2 – Maynooth SEB	Option 3 – Maynooth SEB			
					Comparable to other options	Comparable to other options	Comparable to other options			
		2.4	Buildability during operation Qualitative Assessment of the buildability of the solution during operation. Impact operation and disruptions.	Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.			
					Comparable to other options	Comparable to other options	Comparable to other options			
		2.5	Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.			
		2.6	Ownership or open technology Considerations of whe		Comparable to other options	Comparable to other options	Comparable to other options			
				Considerations of whether the solution is a registered product/technology, range of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.			
		3.1			Comparable to other options	Comparable to other options	Comparable to other options			
3	Environment		3.1	3.1	3.1	3.1	Noise and Vibration	Likelihood of a noise impact on nearby noise sensitive locations	The SEB building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The SEB building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.
					Comparable to other options	Comparable to other options	Comparable to other options			
		3.2	Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.			



MCA (Multi Criteria Analysis) for Maynooth SEB

Parameto	Parameter Criteria		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Maynooth SEB	Option 2 – Maynooth SEB	Option 3 – Maynooth SEB
					Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
		3.3	Landscape and Visual (including light) Key landscape of	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	Option 1 is located on an existing car park area at the Maynooth Train Station, adjacent to the Royal Canal Corridor, a sensitive landscape area. Direct impacts to the views to and from the Royal Canal are likely.	Option 2 is located in a vegetated area between the train tracks and entrance road to the station. Indirect impact to Royal Canal, context and setting of RPS (Station House) which will result in further deterioration of the setting of this RPS. Visual impacts may be likely to the rear of dwellings located along Silken Vale.	Option 3 is located within a vegetated area a site. There could be visual impacts to the rear of residential properties located along Silken Vale.
					Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
		3.4		Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected species, designated sites; Overall effect on nature conservation resource.	This option requires works close to the canal. During operation there may be water quality, lighting and noise impacts.	This option is set back from the canal, limiting any potential noise, lighting and visual impacts.	This option is set back from the canal, limiting any potential noise, lighting and visual impacts.
		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)		Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
				There are no RPS, National Monuments, SMRs and Conservation areas located within Option 1. Indirect impacts to Royal Canal are likely.	Indirect impact to Royal Canal, context and setting of RPS (Station House) which will result in further deterioration of the setting of this RPS. Potential of unknown archaeological resources on greenfield sites.	Indirect impacts to Royal Canal. There is potential to encounter unknown archaeological resources on undeveloped land.	
					Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
		3.6	Water Resources	Water Resources Overall potential significant effects on water resource attribute likely to be affected during construction and operation.	OPW CFRAMS flood mapping indicates option location as liable to flood in extreme events from fluvial sources. Comparable flood risk across all options Increased risk to water quality of Royal Canal during construction due to proximity.	OPW CFRAMS flood mapping indicates option location as liable to flood in extreme events from fluvial sources. Comparable flood risk across all options Comparatively low risk to water quality of Royal canal.	OPW CFRAMS flood mapping indicates option location as liable to flood in extreme events from fluvial sources Comparable flood risk across all options Comparatively low risk to water quality of Royal canal.



MCA (Multi Criteria Analysis) for Maynooth SEB

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Maynooth SEB	Option 2 – Maynooth SEB	Option 3 – Maynooth SEB				
					Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options				
		3.7	Agriculture and Non-Agricultural	Overall impact on land take & property. Likely temporary or permanent severance effects, etc.	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.				
					Option located outside of CIE land boundary, acquisition of land is required.	Option located on Maynooth Train Station grounds, within the CIE land boundary.	Option located on Maynooth Train Station grounds, within the CIE land boundary.				
		2.0	Coology and Saila (including Waste)	Soils and Geology and likely impact on geological resources and soil resources to be developed/removed. Existing information relating to potential to encounter contaminated land.	Comparable to other options	Comparable to other options	Comparable to other options				
		3.8	Geology and Soils (including Waste)		No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.				
				tray Current Overall likely impact on existing sources of electromagnetic radiation.	Comparable to other options	Comparable to other options	Comparable to other options				
		3.9	Radiation and Stray Current		This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.				
		4.1	4.1					Comparable to other options	Comparable to other options	Comparable to other options	
4	Accessibility & Social inclusion			Vulnerable groups and deprived geographic areas	Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas			
		5.1	5.1			5.4	E 4	Assessment of safety from an operational point of view	Comparable to other options	Comparable to other options	Comparable to other options
				Rail's Salety	Assessment of safety from an operational point of view	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.			
5	Safety	5.2	User's / People's Safety	Assessment of safety from User's / People's Safety point of view	Comparable to other options	Comparable to other options	Comparable to other options				
		0.2		,	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.				
		5.3	RAM	Assessment of Reliability, Availability and Maintainability of the solution	Comparable to other options	Comparable to other options	Comparable to other options				



MCA (Multi Criteria Analysis) for Maynooth SEB

Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Maynooth SEB	Option 2 – Maynooth SEB	Option 3 – Maynooth SEB
				This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM
				Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 13. Summary of the MCA Assessment Parameters

	Option 1 – Maynooth SEB	Option 2 – Maynooth SEB	Option 3 – Maynooth SEB
Economy	Comparable to other options	Comparable to other options	Comparable to other options
Integration	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
Environment	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
Accessibility & Social inclusion	Comparable to other options	Comparable to other options	Comparable to other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new SEB in Maynooth is **Option 3**



MCA (Multi Criteria Analysis) for M3 Parkway SEB

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – M3 Parkway SEB	Option 2 – M3 Parkway SEB	Option 3 – M3 Parkway SEB	Option 4 – M3 Parkway SEB
			0.00	Capital expenditure (CAPEX) required to implement the option.	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
1	Economy	1.1	CAPEX	Assessment of cost of installation and investment to construct/install/use the solution.	There is no difference in the cost of installing and building the SEB, the three locations would be very similar	There is no difference in the cost of installing and building the SEB, the three locations would be very similar	There is no difference in the cost of installing and building the SEB, the three locations would be very similar	There is no difference in the cost of installing and building the SEB, the three locations would be very similar
		1.2	OPEX	Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to keep	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
		1.2	OPEX	maintain the system/solution/option operational.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.
					Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
		2.1	Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	The new SEB would be close to the current technical building, so the migration would be very advantageous	The new SEB would be very close to the current technical building, so the migration would be very advantageous, but would coincide with the space reserved for the Proposed workshop structure, so this option is ruled out	The new SEB would be further away from the current technical building than option 1 to carry out the migration.	The new SEB would be further away from the current technical building than option 1 to carry out the migration. This option is incompatible with the possible location of the substation (Option 3)
		2.2		Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
			Integration with parallel projects/contracts		There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.
2	Integration				Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
		2.3	Geographical Integration	Square meters of additional land used, or volume required to implement the solution	The building will have the same dimensions regardless of the area where it is located. However, this option means taking space away from the current station car par (8 parking places)	The building will have the same dimensions regardless of the area where it is located. However, this option is ruled out because its location would coincide with the space reserved for the Proposed workshop structure.	The building will have the same dimensions regardless of the area where it is located. However, this option means taking space away from the current station car park (16 parking places).	The building will have the same dimensions regardless of the area where it is located. However, this option is more advantageous because there will be no need to take up space in the station car park, access will be able to be used in the same way as it is today to access the current technical building. This option is incompatible with the possible location of the substation (Option 3)
		2.4	Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options



MCA (Multi Criteria Analysis) for M3 Parkway SEB

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – M3 Parkway SEB	Option 2 – M3 Parkway SEB	Option 3 – M3 Parkway SEB	Option 4 – M3 Parkway SEB			
					There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.			
					Comparable to other options						
		2.5	Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.			
					Comparable to other options						
		2.6	Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.			
								Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
		3.1	Noise and Vibration	Likelihood of a noise impact on nearby noise sensitive locations	The SEB building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The SEB building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The SEB building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The SEB building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.			
3	Environment				Comparable to other options						
		3.2	Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.			
		3.3	Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options			



MCA (Multi Criteria Analysis) for M3 Parkway SEB

				-	-			
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – M3 Parkway SEB	Option 2 – M3 Parkway SEB	Option 3 – M3 Parkway SEB	Option 4 – M3 Parkway SEB
					Option 1 is located within the confines of an existing car parking area. There are no sensitive landscape and visual characteristics in vicinity of this option and as such, no impacts are likely.	Option 2 is located within the confines of an existing car parking area. There are no sensitive landscape and visual characteristics in vicinity of this option and as such, no impacts are likely.	Option 3 is located within the confines of an existing car parking area. There are no sensitive landscape and visual characteristics in vicinity of this option and as such, no impacts are likely.	Option 4 would be built in an area with a similar sort of building that is already screened to some extent from a residential dwelling that is located in close proximity. It is likely to have a direct visual impact to the rear of this property.
				Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected species,	Comparable to other options			
		3.4	Biodiversity (flora and fauna)	designated sites; Overall effect on nature conservation resource.	This option does not present any disadvantage or advantage regarding biodiversity.	This option does not present any disadvantage or advantage regarding biodiversity.	This option does not present any disadvantage or advantage regarding biodiversity.	This option does not present any disadvantage or advantage regarding biodiversity.
			Cultural, Archaeological and	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			
		3.5			Located on made ground in M3 Parkway Station site. This option does not present any advantage or disadvantages over other options.	Located on made ground in M3 Parkway Station site. This option does not present any advantage or disadvantages over other options.	Located on made ground in M3 Parkway Station site. This option does not present any advantage or disadvantages over other options.	Located on made ground in M3 Parkway Station site. This option does not present any advantage or disadvantages over other options.
				Overall potential significant effects on water	Comparable to other options			
		3.6	Water Resources	resource attribute likely to be affected during construction and operation.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.
					Comparable to other options			
		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.	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.	
				, , , , , , , , , , , , , , , , , , , ,	Option located on the grounds of M3 Parkway., within CIE land boundary.	Option located on the grounds of M3 Parkway., within CIE land boundary.	Option located on the grounds of M3 Parkway., within CIE land boundary.	Option located on the grounds of M3 Parkway., within CIE land boundary.
		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	Comparable to other options			



MCA (Multi Criteria Analysis) for M3 Parkway SEB

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – M3 Parkway SEB	Option 2 – M3 Parkway SEB	Option 3 – M3 Parkway SEB	Option 4 – M3 Parkway SEB
				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.	Developing on paved area in M3 Parkway. This option does not present any advantage or disadvantages over other options.	Developing on paved area in M3 Parkway. This option does not present any advantage or disadvantages over other options.	Developing on paved area in M3 Parkway. This option does not present any advantage or disadvantages over other options.	Developing on paved area in M3 Parkway. This option does not present any advantage or disadvantages over other options.
					Comparable to other options			
		3.9	Radiation and Stray Current Overall likely impact on existing sources of electromagnetic radiation.		This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
					Comparable to other options			
4	Accessibility & Social inclusion	4.1	Vulnerable groups and deprived geographic areas Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	
				Assessment of safety from an operational point of	Comparable to other options			
		5.1	Rail's Safety	view	Rail's safety is fulfilled in both options.			
				Accessment of cafety from Licer's / Poople's	Comparable to other options			
5	Safety	5.2	User's / People's Safety Assessment of safety from User's / People's Safety point of view	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	
					Comparable to other options			
		5.3	RAM Assessment of Reliability, Availability and Maintainability of the solution		This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM
				Health benefits derived from using a specific	Comparable to other options			
6	Physical Activity	6.1	Health benefits Health benefits derived from using a specific option		This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 14. Summary of the MCA Assessment Parameters

	Option 1 – M3 Parkway SEB	Option 2 – M3 Parkway SEB	Option 3 – M3 Parkway SEB	Option 4 – M3 Parkway SEB
Economy	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
Integration	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
Environment	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
Accessibility & Social inclusion	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new SEB in M3 Parkway is **Option 1**



MCA (Multi Criteria Analysis) for Clonsilla SEB

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Clonsilla SEB	Option 2 – Clonsilla SEB	Option 3 – Clonsilla SEB
		1.1	CAPEX	Capital expenditure (CAPEX) required to implement the option.	Comparable to other options	Comparable to other options	Comparable to other options
			O/II EX	Assessment of cost of installation and investment to construct/install/use the solution.	There is no difference in the cost of installing and building the SEB, the three locations would be very similar	There is no difference in the cost of installing and building the SEB, the three locations would be very similar	There is no difference in the cost of installing and building the SEB, the three locations would be very similar
1	Economy		2224	Operating expenditure (OPEX) of the day-to-day	Comparable to other options	Comparable to other options	Comparable to other options
		1.2	OPEX	expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.
			Integration with existing	Qualitative Assessment of how this	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
		2.1	equipment	option/solution/technology can be integrated with the existing equipment.	The new SEB would be further away from the current technical building than option 3 to carry out the migration.	The new SEB would be further away from the current technical building than option 3 to carry out the migration.	The new SEB would be right next to the current technical building, so the migration would be very advantageous.
		2.2	Integration with parallel	Qualitative Assessment of how this option/solution/technology can be integrated with	Comparable to other options	Comparable to other options	Comparable to other options
			projects/contracts	the existing and current parallel projects/contracts	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.
			Geographical Integration		Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
2	Integration	2.3		Square meters of additional land used, or volume required to implement the solution	The building will have the same dimensions regardless of the area where it is located. However, this option means taking space away from the current station car park.	The building will have the same dimensions regardless of the area where it is located. However, this option involves constructing a new building in an area that is currently unbuilt.	The building will have the same dimensions regardless of the area where it is located. However, this option is more advantageous because there will be no need to take up space in the station car park, access will be able to be used in the same way as it is today to access the current technical building and the land adjacent to it will be available for use. The neighbours would not have to be inconvenienced by a new low building next to the existing one.
				Qualitative Assessment of the buildability of the	Comparable to other options	Comparable to other options	Comparable to other options
		2.4	Buildability during operation	solution during operation. Impact in operation and disruptions.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.



MCA (Multi Criteria Analysis) for Clonsilla SEB Comparable to other options Comparable to other options Comparable to other options Assessment the obsolescence of the 2.5 Obsolescence solution/technology in a long-term basis There is no difference in obsolesce in a There is no difference in obsolesce in a long-There is no difference in obsolesce in a long-term long-term basis for this option in term basis for this option in comparison with basis for this option in comparison with others. comparison with others. others. Comparable to other options Comparable to other options Comparable to other options Considerations of whether the solution is a Ownership or open 2.6 registered product/technology, range of providers or This option does not present any technology This option does not present any disadvantage This option does not present any disadvantage or open technology disadvantage or advantage in regards the advantage in regards the use of registered or advantage in regards the use of registered use of registered product/technology and product/technology and range of providers. product/technology and range of providers. range of providers. Comparable to other options Comparable to other options Comparable to other options Likelihood of a noise impact on nearby noise The SEB building does not emit noise or The SEB building does not emit noise or vibration The SEB building does not emit noise or 3.1 Noise and Vibration sensitive locations vibration while in operation. Therefore while in operation. Therefore there is no difference vibration while in operation. Therefore there is there is no difference in the noise or in the noise or vibration impacts on a long-term no difference in the noise or vibration impacts on vibration impacts on a long-term basis for basis for this option in comparison with others. a long-term basis for this option in comparison this option in comparison with others. with others. Comparable to other options Comparable to other options Comparable to other options Assessment of local air quality effects based on 3.2 Air Quality and Climate potential air emissions during construction and No likely significant air quality or climate No likely significant air quality or climate emission No likely significant air quality or climate **Environment** operational phases emission sources during the construction sources during the construction and/or operational emission sources during the construction and/or and/or operational phases therefore all phases therefore all options are comparable. operational phases therefore all options are options are comparable. comparable. Some comparative advantage over Some comparative disadvantage over other Some comparative advantage over other other options options options Option 3 is located adjacent to the existing Option 2 is located the adjacent to the existing Landscape and Visual Key landscape characteristics affected; Effects on Option 1 is located within greenfield lands Dublin to Maynooth rail line in proximity to the 3.3 Dublin to Maynooth rail line, adjacent to the Royal listed/ key views; Impact on landscape character. (including light) adjacent to the existing Dublin to Royal Canal. Due to the existing natural 3 Canal Corridor, a sensitive landscape area. It is Maynooth rail line. No sensitive receptors screening along the Royal Canal, no impacts to likely that some vegetation will be removed as part are likely to be visually impacted by its landscape setting are likely. No sensitive of Option 2, and will likely have a direct impact on receptors are likely to be visually impacted by Option 1. the landscape character of the Royal Canal. Option 3. Some comparative advantage over Some comparative disadvantage over other Some comparative advantage over other other options options options Potential compliance/conflict with biodiversity Biodiversity (flora and objectives; Indirect impacts on protected species, This option will require the removal of mature 3.4 designated sites; Overall effect on nature This option will require the removal of trees and riparian vegetation along the Royal fauna) This option will require the removal of a treeline some scrub along the railway Canal. This will lead to operational impacts conservation resource along the railway corridor. embankment. associated with light spill onto the canal, potential noise and visual disturbance to species. Some comparative advantage over Some comparative disadvantage over other Some comparative advantage over other Overall effect on cultural, archaeological and other options options options architecture heritage resource. Likely effects on There are no RPS, National Monuments Cultural, Archaeological RPS, National Monuments, SMRs, Conservation There are no RPS, National Monuments, SMRs 3.5 SMRs and Conservation areas located and Architectural Heritage areas, etc. Number of designated sites/structures and Conservation areas located within Option 2. within Option 1. No known heritage There are no RPS, National Monuments, SMRs (by level of designation) directly impacted by Option 2 is likely to have an indirect impact on resources recorded. Potential of unknown and Conservation areas located within Option 1. scheme (land take) Clonsilla Railway Station (NIAH No. 11353004) archaeological resources on greenfield and the Royal Canal.

MAY-MDC-GEN-OTHE-RP-Y-0002

sites.



MCA (Multi Criteria Analysis) for Clonsilla SEB

			mon (mutu orteria Alialysis) for Giorisilia deb							
				Overall potential significant effects on water	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options			
		3.6	Water Resources	resource attribute likely to be affected during construction and operation.	Low risk of flooding comparable across all options. Comparably lower risk to water quality than option 2.	Low risk of flooding comparable across all options. Increased risk to water quality of Royal Canal during construction due to very close proximity.	Low risk of flooding comparable across all options. Comparably lower risk to water quality than option 2.			
					Comparable to other options	Comparable to other options	Comparable to other options			
		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.	There are no direct impacts on non - agricultural property. Option is located within the confines of the existing railway corridor.	There are no direct impacts on non - agricultural property. Option is located within the confines of the existing railway corridor.	There are no direct impacts on non - agricultural property. Option is located within the confines of the existing railway corridor.			
				Soils and Geology and likely impact on geological resources based on preliminary/likely construction details. % of soil resources to be	Comparable to other options	Comparable to other options	Comparable to other options			
		3.8	Geology and Soils (including Waste)	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.	This option will result in loss of some soil resources and soil sealing. However, it does not represent a significant advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.			
		2.0	Radiation and Stray	Overall likely impact on existing sources of electromagnetic radiation.	Comparable to other options	Comparable to other options	Comparable to other options			
		3.9	Current		This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.			
			Vulnerable groups and deprived geographic areas	Benefits that accrue to those suffering from social	Comparable to other options	Comparable to other options	Comparable to other options			
4	Accessibility & Social inclusion	4.1		deprivation, geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas			
		5.1	Rail's Safety	Assessment of safety from an operational point of	Comparable to other options	Comparable to other options	Comparable to other options			
	Safety	J.1	Trail 3 Galety	view	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.			
5	Salety	5.2	User's / People's Safety	Assessment of safety from User's / People's Safety	Comparable to other options	Comparable to other options	Comparable to other options			
		5.2	Osers / Feople's Salety	point of view	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.			



MCA (Multi Criteria Analysis) for Clonsilla SEB

				MOA (Multi Crit	eria Arialysis) for Glorisilia SEB				
		5.3	RAM	Assessment of Reliability, Availability and	Comparable to other options	Comparable to other options	Comparable to other options		
			KAIVI	Maintainability of the solution	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM		
	Dhysical Astivity	6.4	Health benefits	Ligath handita dariyad from yaing a anasifia antian	Comparable to other options	Comparable to other options	Comparable to other options		
6	Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits		



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 15. Summary of the MCA Assessment Parameters

	Option 1 – Clonsilla SEB	Option 2 – Clonsilla SEB	Option 3 – Clonsilla SEB
Economy	Comparable to other options	Comparable to other options	Comparable to other options
Integration	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
Environment	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
Accessibility & Social inclusion	Comparable to other options	Comparable to other options	Comparable to other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new SEB in Clonsilla is **Option 3**



MCA (Multi Criteria Analysis) for Glasnevin SEB

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 2 – Glasnevin SEB	Option 3 – Glasnevin SEB	Option 4 – Glasnevin SEB	Option 6 – Glasnevin SEB
			CAPEX	Capital expenditure (CAPEX) required to implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	Some comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options
		1.1			The capital expenditure required for the SEB is lower as the SEB is above ground; the Royal Canal way needs to be widening in a small stretch.	The capital expenditure required for the SEB is lower as the SEB is above ground; the Royal Canal way needs to be widening in a long stretch.	The capital expenditure required for the traction substation is significant lower as the substation is far from the Royal Canal and the access is easy to provide.	The capital expenditure required for the traction substation is significant lower as the substation is far from the Royal Canal and the access is easy to provide.
1	Economy				Preventive measures will have to be undertaking in order to avoid potential water damage due to its proximity to the canal.	Preventive measures will have to be undertaking in order to avoid potential water damage due to its proximity to the canal.		
				Occasion was a literal (ODEV) of the day to day	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
		1.2	OPEX	Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.
		2.1	Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options	Significant comparative advantage over other options
					In this option, it would be necessary to widen the Royal Canal Way to allow road access from R108.	In this option, it would be necessary to widen the Royal Canal Way to allow road access from R108, which is 530m approximately distant from R108, on its east side.	In this option, the Gaelic football pitch limits (layout) would have to be adjusted to allow the SEB construction. It would be necessary accommodate the road access	In this option, the Gaelic football pitch limits (layout) would have to be adjusted to allow the SEB construction. Compared to option 4 also located in the existing Gaelic football pitch, this one has less land take from the Gaelic football pitch, than the others. It would be necessary accommodate the
							provided from Clareville Court to the existing Gaelic football pitch area.	road access provided from Clareville Court to the existing Gaelic football pitch area.
2	Integration				Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options
			Integration with	Qualitative Assessment of how this	Due to its location next to the Royal Canal, it can interfere in the future development of this area.	Due to its location next to the Royal Canal, it can interfere in the future development of this area.	This option is not integrated in parallel projects/contracts.	This option is not integrated in parallel projects/contracts.
		2.2	Integration with parallel projects/contracts	option/solution/technology can be integrated with the existing and current parallel projects/contracts		The MDC are aware that DCC are proposing to expand the Royal Canal greenway. The location of the SEB at this location may impact the options available to DC however there is no approved planning application details provided at this stage. Consultation required with DCC if identified as the preferred option.		



MCA (Multi Criteria Analysis) for Glasnevin SEB

Paramet	er	Criteria	Sub-Criteria (Quantitative Qualitative)	Option 2 – Glasnevin SEB	Option 3 – Glasnevin SEB	Option 4 – Glasnevin SEB	Option 6 – Glasnevin SEB
			Square meters of additional land used, or volume required to implement the solution	Comparable to other options			
	2.	Geographical Integration		The building will have the same dimensions regardless of the area where it is located. The proposed location is not within the existing IÉ railway boundaries; therefore, land take will be required	The building will have the same dimensions regardless of the area where it is located. The proposed location is not within the existing IÉ railway boundaries; therefore, land take will be required	The building will have the same dimensions regardless of the area where it is located. The proposed location is not within the existing IÉ railway boundaries; therefore, land take will be required	The building will have the same dimensions regardless of the area where it is located. The proposed location is not within the existing IÉ railway boundaries; therefore, land take will be required
				Comparable to other options			
	2.	Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.
				Comparable to other options			
	2.	Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.
				Comparable to other options			
	2.	Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
3 Environm	ent 3.	Noise and Vibration		Comparable to other options			



MCA (Multi Criteria Analysis) for Glasnevin SEB

Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 2 – Glasnevin SEB	Option 3 – Glasnevin SEB	Option 4 – Glasnevin SEB	Option 6 – Glasnevin SEB
			Likelihood of a noise impact on nearby noise sensitive locations	The SEB building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The SEB building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The SEB building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The SEB building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.
				Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
	3.2	Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
				Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
	3.3	Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	Option 2 is located on a vegetated area, adjacent to the Royal Canal Way and the Royal Canal on NHA, a sensitive landscape area. This option is likely to have an impact to the landscape character and amenity of the area. The views to and from the Royal Canal are also likely to be impacted. This option is also located in proximity to the Royal Canal 6th Lock, a RPS cultural heritage feature and is likely to have an indirect impact on its setting/landscape character.	Option 3 is located on a vegetated area, adjacent to the Royal Canal Way and the Royal Canal, a sensitive landscape area. This option is likely to have an impact to the landscape character and amenity of the area. The views to and from the Royal Canal are also likely to be impacted.	Option 4 is located on the boundary of Saint Vincent's school sports field. Vegetation will be removed and therefore screening to the residential properties will be impacted. Local landscape impacts and visual impacts to dwelling houses on Clareville Court. Replacement screening could reduce impacts.	Option 6 is located on the boundary of Saint Vincent's school sports field. Vegetation will be removed and therefore screening to the residential properties will be impacted. Local landscape impacts and visual impacts to dwelling houses on Clareville Court. Replacement screening could reduce impacts.
	3.4	Biodiversity (flora and fauna)	Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected species,	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options



MCA (Multi Criteria Analysis) for Glasnevin SEB

Parameter	Criteria	Sub-Criteria (Quantitative Qualitative)	Option 2 - Glasnevin SEB	Option 3 – Glasnevin SEB	Option 4 - Glasnevin SEB	Option 6 – Glasnevin SEB
		designated sites; Overall effect on nature conservation resource.	This option is located on dry grassland and scrub between the canal and railway. This option requires works adjacent to the Royal Canal pNHA and will likely result in the loss of grassland and scrub habitat. Japanese Knotweed has been recorded within the rail corridor approx. 100m northeast of the site. During operation there may be water quality which requires further assessment.	This option is located in an area of dry grassland and trees between the canal towpath and railway. This option requires works directly adjacent to the Royal Canal pNHA and will likely result in the loss of grassland and trees. Japanese Knotweed has been recorded within the rail corridor approx. 120m northwest of the site. During operation there may be water quality which requires further assessment.	The option is located adjacent to the railway corridor on the sports field. This option will result in loss of amenity grassland and tree loss. The pitch has been identified as an important (Major) feeding ground for Brent Geese. Construction stage impacts are likely as the site is located on the edge of the pitch however this could be mitigated by avoiding works during winter periods. No significant impacts are expected to the feeding grounds during the operational stage.	Located on playing pitches, this option will result in loss of amenity grassland and possibly some trees. The pitch has been identified as an important (Major) feeding ground for Brent Geese. Construction stage impacts are likely as the site is located on the edge of the pitch however this could be mitigated by avoiding works during winter periods. No significant impacts are expected to the feeding grounds during the operational stage.
3.5			Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
	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)	Indirect impacts on the Royal Canal (RPS), Royal Canal 6th Lock (RPS) context and setting. There is potential for unknown archaeological resources to be encountered. There is potential unknown archaeological resources to be encountered	Option 3 is located in proximity of the Royal Canal and is likely to have an indirect impact on its setting. Potential to encounter unknown archaeological resources	There are no RPS, National Monuments, SMRs and Conservation areas located within Option 4. There is potential unknown archaeological resources to be encountered.	There are no RPS, National Monuments, SMRs and Conservation areas located within Option 5. There is potential unknown archaeological resources to be encountered.
			Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
3.6	Water Resources	Overall potential significant effects on water resource attribute likely to be affected during construction and operation.	No record of historical or predicted flooding within the vicinity of the site. This option does not present any disadvantage or advantage with regards to water resources.	No record of historical or predicted flooding within the vicinity of the site. This option does not present any disadvantage or advantage with regards to water resources.	No record of historical or predicted flooding within the vicinity of the site. This option does not present any disadvantage or advantage with regards to water resources.	No record of historical or predicted flooding within the vicinity of the site. This option does not present any disadvantage or advantage with regards to water resources.



MCA (Multi Criteria Analysis) for Glasnevin SEB

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 2 – Glasnevin SEB	Option 3 – Glasnevin SEB	Option 4 – Glasnevin SEB	Option 6 – Glasnevin SEB
					Comparable to other options			
		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.	Option is not located within CIE land boundary, acquisition of land	Option is not located within CIE land boundary, acquisition of land	Option is not located within CIE land boundary, acquisition of land	Option is not located within CIE land boundary, acquisition of land
				Soils and Geology and likely impact on geological	Comparable to other options			
		3.8	Geology and Soils (including Waste)	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.	This option does not present any significant advantage or disadvantages over other options.	This option does not present any significant advantage or disadvantages over other options.	This option does not present any significant advantage or disadvantages over other options	This option does not present any significant advantage or disadvantages over other options
		3.9	Radiation and Stray Current		Comparable to other options			
				Overall likely impact on existing sources of electromagnetic radiation.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors	This option does not present any disadvantage or advantage in relation to nearby receptors
					Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
	Accessibility	4.1	Local accessibility	In case the location of the buildings could cause any impact on the access to adjacent dwellings	The works of the Metrolink project in the area may disrupt the whole area	The works of the Metrolink project in the area may disrupt the whole area	No accessibility issues are foreseen	No accessibility issues are foreseen
4	and Social inclusion				Comparable to other options			
		4.2	Vulnerable groups	Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
				Assessment of safety from an operational point of	Comparable to other options			
5	Safety	5.1	Rail's Safety	view	Rail's safety is fulfilled in all options.			



MCA (Multi Criteria Analysis) for Glasnevin SEB

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 2 – Glasnevin SEB	Option 3 - Glasnevin SEB	Option 4 – Glasnevin SEB	Option 6 – Glasnevin SEB
				Assessment of safety from User's / People's Safety point of view	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
		5.2	User's / People's Safety		User's / People's safety is fulfilled in this option, as the area is not linked to any particular safety sensitive environment	User's / People's safety is fulfilled in this option, as the area is not linked to any particular safety sensitive environment	User's / People's safety is fulfilled in this option, as the SEB is designed to be safe and not allow public to enter the site. Netting will be put up to stop balls from entering the property	User's / People's safety is fulfilled in this option, as the SEB is designed to be safe and not allow public to enter the site. Netting will be put up to stop balls from entering the property
			RAM	Assessment of Reliability, Availability and Maintainability of the solution	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
		5.3			Potential unavailability due to inherent risks due to the location next to the Royal Canal	Potential unavailability due to inherent risks due to the location next to the Royal Canal	Reliability, Availability and Maintainability fulfilled in this option.	Reliability, Availability and Maintainability fulfilled in this option.
					Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
6	Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option provides health benefits, as it does not affect sport areas	This option provides health benefits, as it does not affect sport areas	This option presents a disadvantage regarding health benefits, as it affects sports areas	This option presents a disadvantage regarding health benefits, as it affects sports areas



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 16. Summary of the MCA Assessment Parameters for SEB

	Option 2 Glasnevin SEB	Option 3	Option 4	Option 6 Glasnevin SEB
Economy	Some comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options
Integration	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options	Significant comparative advantage over other options
Environment	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
Accessibility & 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
Safety	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options
Physical Activity	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new SEB in Glasnevin is **Option 6.**



Spencer Dock SEB

DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) for Spencer Dock SEB **Options Sub-Criteria (Quantitative Parameter** Criteria Qualitative) Option 1 - Spencer Dock SEB Option 2 - Spencer Dock SEB Option 3 - Spencer Dock SEB Comparable to other options Comparable to other options Comparable to other options Capital expenditure (CAPEX) required to implement the option. Assessment of cost of installation There is no difference in the cost of installing and building the There is no difference in the cost of installing and building the There is no difference in the cost of installing and building the and investment to SEB, the three locations would be very similar SEB, the three locations would be very similar SEB, the three locations would be very similar construct/install/use the solution. CAPEX 1.1 Some comparative advantage over other options Some comparative advantage over other options Some comparative disadvantage over other options Road access, utilities clash and earthworks, depending on the It would not require undertaking major works to accommodate It would not require undertaking major works to accommodate For this option, it would be necessary accommodate the road unevenness road access from Park Lane; however, part of existing car park road access from Park Lane; however, part of existing car park access from Abercorn Rd or from Park Lane. will be required to be taken for this purpose. will be required to be taken for this purpose. **Economy** Operating expenditure (OPEX) of Comparable to other options Comparable to other options Comparable to other options the day-to-day expenses that Irish Rail would incur to keep There is no difference in the operating costs in comparison with There is no difference in the operating costs in comparison with There is no difference in the operating costs in comparison maintain the others. others. with others. system/solution/option operational. **OPEX** 1.2 Comparable to other options Comparable to other options Comparable to other options Long term maintenance cost depending on maintenance and There is no difference in long maintenance cost in comparison There is no difference in long maintenance cost in comparison There is no difference in long maintenance cost in comparison inspection of the new roads with other options with other options with other options Comparable to other options Comparable to other options Comparable to other options Qualitative Assessment of how Integration with this option/solution/technology The new SEB would be right next to the current technical 2.1 existing equipment can be integrated with the The new SEB would be right next to the current technical The new SEB would be right next to the current technical building, so the migration would be very advantageous. existing equipment. building, so the migration would be very advantageous. building, so the migration would be very advantageous. Comparable to other options Comparable to other options Qualitative Assessment of how Comparable to other options Integration Integration with this option/solution/technology There is no difference in integration with parallel There is no difference in integration with parallel 2.2 parallel can be integrated with the There is no difference in integration with parallel projects/contracts for this option in comparison with others projects/contracts for this option in comparison with others projects/contracts existing and current parallel projects/contracts for this option in comparison with others projects/contracts Square meters of additional land Geographical 2.3 used, or volume required to Some comparative disadvantage over other options Some comparative disadvantage over other options Some comparative advantage over other options Integration implement the solution



MCA (Multi Criteria Analysis) for Spencer Dock SEB

	Parameter		Criteria	Sub-Criteria (Quantitative		Options	
	i arameter		Officeria	Qualitative)	Option 1 – Spencer Dock SEB	Option 2 – Spencer Dock SEB	Option 3 – Spencer Dock SEB
					The building will have the same dimensions regardless of the area where it is located and its location would not coincide with any other, but location is out of the existing IÉ railway boundaries. This location could affect the future urban development of the area	The building will have the same dimensions regardless of the area where it is located. However, this option means taking space away from the current station car park. Also the proposed location is outside the existing IÉ railway boundaries. This location could affect the future urban development of the area	The building will have the same dimensions regardless of the area where it is located.
				Space for road access and walkways	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
					There is space for using the current road access to the station.	There is space for using the current road access to the station.	There is space for road access, but removing some existing buildings and facilities.
				Qualitative Assessment of the	Comparable to other options	Comparable to other options	Comparable to other options
		2.4	Buildability during operation	buildability of the solution during operation. Impact in operation and disruptions.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.
				Assessment the obsolescence of	Comparable to other options	Comparable to other options	Comparable to other options
		2.5	Obsolescence	the solution/technology in a long- term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.
				Considerations of whether the solution is a registered product/technology, range of providers or open technology	Comparable to other options	Comparable to other options	Comparable to other options
		2.6	Ownership or open technology		This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
					Comparable to other options	Comparable to other options	Comparable to other options
	Environment	3.1	Noise and Vibration	Likelihood of a noise impact on nearby noise sensitive locations	The SEB does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The SEB does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The SEB does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.
			Air Quality and	Assessment of local air quality	Comparable to other options	Comparable to other options	Comparable to other options
		3.2	AIF CHAIRV AND	effects based on potential air emissions during construction and operational phases	No likely significant air quality or climate emission sources during	No likely significant air quality or climate emission sources	No likely significant air quality or climate emission sources
3		3.2	Climate	emissions during construction	the construction and/or operational phases therefore all options are comparable.	during the construction and/or operational phases therefore all options are comparable.	during the construction and/or operational phases therefore all options are comparable.
3		3.2	Climate	emissions during construction and operational phases	the construction and/or operational phases therefore all options	during the construction and/or operational phases therefore all options are comparable. Comparable to other options	during the construction and/or operational phases therefore all options are comparable. Comparable to other options
3	_	3.3		emissions during construction	the construction and/or operational phases therefore all options are comparable.	during the construction and/or operational phases therefore all options are comparable.	during the construction and/or operational phases therefore all options are comparable.



MCA (Multi Criteria Analysis) for Spencer Dock SEB

Parameter		Criteria	Sub-Criteria (Quantitative		Options	
T diamotor		Ontoria	Qualitative)	Option 1 – Spencer Dock SEB	Option 2 – Spencer Dock SEB	Option 3 – Spencer Dock SEB
		Biodiversity (flora and fauna)	Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected species, designated sites; Overall effect on nature conservation resource.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.
			Overall effect on cultural,	Comparable to other options	Comparable to other options	Comparable to other options
	3.5	Cultural, Archaeological and Architectural Heritage	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)	There are no RPS, National Monuments, SMRs and Conservation areas located within this Option.	There are no RPS, National Monuments, SMRs and Conservation areas located within this Option.	There are no RPS, National Monuments, SMRs and Conservation areas located within this Option.
			Overall potential significant effects on water resource	Comparable to other options	Comparable to other options	Comparable to other options
	3.6	Water Resources	attribute likely to be affected during construction and operation.	There is low risk flooding this Option due to a greater distance from a floodplain.	There is low risk flooding this Option due to a greater distance from a floodplain.	There is low risk flooding this Option due to a greater distance from a floodplain.
			temporary or permanent severance effects, etc.	Comparable to other options	Comparable to other options	Comparable to other options
	3.7	Agriculture and Non-Agricultural		There are no direct impacts on non - agricultural property. Option is not located within CIE land boundary, acquisition of land is required.	There are no direct impacts on non - agricultural property. Option is not located within CIE land boundary, acquisition of land is required.	There are no direct impacts on non - agricultural property. Option is not located within CIE land boundary, acquisition of land is required.
			Soils and Geology and likely impact on geological resources	Comparable to other options	Comparable to other options	Comparable to other options
	3.8	Geology and Soils (including Waste)	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.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.
		Radiation and	Overall likely impact on existing	Comparable to other options	Comparable to other options	Comparable to other options
	3.9	Stray Current	sources of electromagnetic radiation.	This option does not present any disadvantage or advantage regarding in relation to nearby receptors.	This option does not present any disadvantage or advantage regarding in relation to nearby receptors.	This option does not present any disadvantage or advantage regarding in relation to nearby receptors.
			Benefits that accrue to those	Comparable to other options	Comparable to other options	Comparable to other options
Accessibility & Social inclusion	4.1	Vulnerable groups and deprived geographic areas	suffering from social deprivation, geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
		Local accessibility	Quality of access in the area	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options



MCA (Multi Criteria Analysis) for Spencer Dock SEB

	Parameter		Criteria	Sub-Criteria (Quantitative	Options			
	Farameter		Criteria	Qualitative)	Option 1 – Spencer Dock SEB	Option 2 – Spencer Dock SEB	Option 3 – Spencer Dock SEB	
					The quality of access would be impacted as some walkway would have to be removed	The quality of access would be impacted as some walkway would have to be removed	The quality of access in the area will be maintained the same	
		5.1	Rail's Safety	Assessment of safety from an	Comparable to other options	Comparable to other options	Comparable to other options	
		3.1	Rail S Salety	operational point of view	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	
			User's / People's	Assessment of safety from User's / People's Safety point of view	Comparable to other options	Comparable to other options	Comparable to other options	
5	Safety	5.2	Safety		User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	
				A (5 P.139)	Comparable to other options	Comparable to other options	Comparable to other options	
		5.3	RAM	Assessment of Reliability, Availability and Maintainability of the solution	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	
					Comparable to other options	Comparable to other options	Comparable to other options	
6	Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

	Option 1 – Spencer Dock SEB	Option 2 – Spencer Dock SEB	Option 3 – Spencer Dock SEB
Economy	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
Integration	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantages over other options
Environment	Comparable to other options	Comparable to other options	Comparable to other options
Accessibility & Social inclusion	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Table 17. Summary of the MCA Assessment Parameters

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new SEB in Spencer Dock is **Option 3**

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MCA (Multi Criteria Analysis) for Connolly SEB

	MCA (Multi Criteria Analysis) for Connolly SEB							
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Connolly SEB	Option 2 – Connolly SEB	Option 3 – Connolly SEB	Option 4 – Connolly SEB
				Capital expenditure (CAPEX) required to implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
					The cost of installing and building the SEB is lower.	This solution is more expensive since you have to prepare the installation of the SEB next to it in the vias area.	The cost of installing and building the SEB is lower.	The cost of installing and building the SEB is lower.
		1.1	CAPEX		Some comparative advantage over other options	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options
1	Economy			Road access, utilities clash and earthworks, depending on the unevenness	No new road is required for accessing from R105. No utilities clash. The terrain at this location is plain.	There is no road access because SEB is in the viaduct next to the railways. No utilities clash. The terrain at this location is plain.	No new road is required for accessing from R105. Clash with existing utilities that would need diversion. The terrain at this location is plain. Access to be provided by Failte Ireland	No new road is required for accessing from Oriel Street Lower. No utilities clash. The terrain at this location is plain. Paving for parking area is required
				Operating expenditure (OPEX) of the day- to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
					There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.
		1.2	OPEX	Long term maintenance cost depending on maintenance and inspection of the new roads	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
					There is no difference in long maintenance cost in comparison with other options	It is more difficult because all maintenance operations have to be made at night after finishing railway service.	There is no difference in long maintenance cost in comparison with other options	There is no difference in long maintenance cost in comparison with other options
			Integration with existing equipment	Qualitative Assessment of how this	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
2	Integration	2.1		option/solution/technology can be integrated with the existing equipment.	There is no difference in integration of any option.	There is no difference in integration of any option.	There is no difference in integration of any option.	There is no difference in integration of any option.
		2.2			Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options



MCA (Multi Criteria Analysis) for Connolly SEB

Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 - Connolly SEB	Option 2 - Connolly SEB	Option 3 - Connolly SEB	Option 4 – Connolly SEB
		Integration with parallel projects/contracts	Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with other
		Geographical Integration		Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over
	2.3		Square meters of additional land used, or volume required to implement the solution	The building will have the same dimensions regardless of the area where it is located. However, this option means taking space away from the current station car park. The SEB is in front of an existing building. Finally, the proposed location is outside the existing IÉ railway boundaries.	The building will have the same dimensions regardless of the area where it is located. However, this option is more advantageous because there will be no need to take up space in the station car park and SPS is next to the railway.	The building will have the same dimensions regardless of the area where it is located. However, this option means taking space away from the current station car park. Also the proposed location is outside the existing IÉ railway boundaries	The building will have the same dimensions regardless of the area where it is located. However, this option is more advantageous because there will be no need to take up space in the station car par and SPS is next to the railway.
			Space for road access and walkways	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over
				There is space for using the current road access to the station.	The road access nowadays is through tracks crossing. There is not enough space for a new access road due to private properties next to the viaduct.	There is space for using the current road access to the station.	There is space for using the curren road access to the station
		Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
	2.4			There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the SEB will not disturb in the normal operation of th line.
	2.5	Obsolescence		Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
			Assessment the obsolescence of the solution/technology in a long-term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option i comparison with others.
	2.6			Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options



MCA (Multi Criteria Analysis) for Connolly SEB

	MCA (Multi Criteria Analysis) for Connolly SEB							
Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Connolly SEB	Option 2 – Connolly SEB	Option 3 – Connolly SEB	Option 4 – Connolly SEB	
		Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	
				Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options	
	3.1	Noise and Vibration	Likelihood of a noise impact on nearby noise sensitive locations	The SEB building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The SEB building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The SEB building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The SEB building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	
	3.2	Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options	
				No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	
3 Environment	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 advantage over other options	Some comparative advantage over other options	
				Option 1 is located on made ground in vicinity of the Connolly Station. The existing building structures are similar in character within the area to the proposed SEB building. No impacts to the landscape character are likely. This option is likely to have an indirect impact on the setting Irish Rail Head Office, Connolly Station, a RPS cultural heritage feature (ref no. 130).	Option 2 is located on made ground in vicinity of the Connolly Station. The existing building structures are similar in character within the area to the proposed SEB building. No impacts to the landscape character are likely. This option is likely to have an indirect impact on the setting of the Water Tower, (NIAH Reg. No. 50010041) a cultural heritage feature.	Option 3 is located on made ground in vicinity of the Connolly Station and is not likely to have an impact on the landscape character of the area.	Option 4 is located on made ground in vicinity of the Connolly Station and is not likely to have an impact on the landscape character of the area.	
	3.4		Potential compliance/conflict with	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options	
		Biodiversity (flora and fauna)	biodiversity objectives; Indirect impacts on protected species, designated sites; Overall effect on nature conservation resource.	This option does not present any disadvantage or advantage in regards to biodiversity.	This option does not present any disadvantage or advantage in regards to biodiversity.	This option does not present any disadvantage or advantage in regards to biodiversity.	This option does not present any disadvantage or advantage in regards to biodiversity.	



MCA (Multi Criteria Analysis) for Connolly SEB

				MCA (Multi Criteria Analysis)			
Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Connolly SEB	Option 2 – Connolly SEB	Option 3 - Connolly SEB	Option 4 – Connolly SEB
			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)	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage ove other options
	3.5	Cultural, Archaeological and Architectural Heritage		Option 1 is located on made ground in vicinity of Irish Rail Head Office, Connolly Station, a RPS cultural heritage feature (ref no. 130). This option is likely to have an indirect impact on the setting of this cultural heritage site.	Option 2 is located on made ground in vicinity of Water Tower at Connolly Station, a RPS cultural heritage feature (NIAH Reg. No. 50010041) . This option is likely to have an indirect impact on the setting of the Water Tower.	There are no RPS, National Monuments, SMRs and Conservation areas located within Option 3	There are no RPS, National Monuments, SMRs and Conservation areas located within Option 4
			Overall potential significant effects on water resource attribute likely to be affected during construction and operation.	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
	3.6	Water Resources		This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources
			Overall impact on land take & property. Number of properties to be impacted/acquired. Likely temporary or permanent severance effects, etc.	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage ove other options
	3.7	Agriculture and Non-Agricultural		There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.	There are no direct impacts on non agricultural property.
				Option is not located within CIE land boundary, acquisition of land is required	Option is located within CIE land boundary, acquisition of land is not required.	Option is not located within CIE land boundary, acquisition of land is required.	Option is located within CIE land boundary, acquisition of land is not required.
	3.8		Soils and Geology and likely impact on	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
		Geology and Soils (including Waste)	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.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.



MCA (Multi Criteria Analysis) for Connolly SEB

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Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Connolly SEB	Option 2 – Connolly SEB	Option 3 – Connolly SEB	Option 4 – Connolly SEB
				Comparable to other options			
	3.9	Radiation and Stray Current	Overall likely impact on existing sources of electromagnetic radiation.	This option does not present any disadvantage or advantage regarding in relation to nearby receptors.	This option does not present any disadvantage or advantage regarding in relation to nearby receptors.	This option does not present any disadvantage or advantage regarding in relation to nearby receptors.	This option does not present any disadvantage or advantage regarding in relation to nearby receptors.
				Comparable to other options			
Accessibility		Vulnerable groups and deprived geographic areas	Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
4 & Social inclusion	4.1	Local accessibility	y Quality of access in the area	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
		2550. 055555		The quality of access in the area will be affected to access into the parking	The quality of access in the area will be maintained the same	The quality of access in the area will be affected to access into the parking	The quality of access in the area will be maintained the same
	5.1	Rail's Safety	Assessment of safety from an operational point of view	Comparable to other options			
				Rail's safety is fulfilled in both options.			
		Handa / Danisla		Comparable to other options			
5 Safety	5.2	User's / People's Safety	Assessment of safety from User's / People's Safety point of view	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options
				Comparable to other options			
	5.3	RAM	Assessment of Reliability, Availability and Maintainability of the solution	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM



MCA (Multi Criteria Analysis) for Connolly SEB

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Connolly SEB	Option 2 – Connolly SEB	Option 3 – Connolly SEB	Option 4 – Connolly SEB
					Comparable to other options			
6	Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 18. Summary of the MCA Assessment Parameters

	Option	Option 2	Option 3	Option 4
	Connolly SEB	Connolly SEB	Connolly SEB	Connolly SEB
	Connoily SEB	Connony SEB	Connony SEB	Connony SEB
Economy	Some comparative advantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Integration	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Environment	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Accessibility & Social inclusion	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new SEB in Connolly is **Option 4**



9.5.7 Low-voltage PSP&ASP Location MCA



Millerstown PSP

DART Maynooth & City Centre Enhancements. MCA Criteria and parameters

MCA (Multi Criteria Analysis) for Millerstown PSP

	MCA (Multi Criteria Analysis) for Millerstown PSP							
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option1 Millerstown PSP	Option 2- Millerstown PSP	Option 3 – Millerstown PSP	
				Capital expenditure (CAPEX) required to implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	Comparable to other options	Comparable to other options	Comparable to other options	
					There is no difference in the cost of installing and building the PSP, the three locations would be very similar	There is no difference in the cost of installing and building the PSP, the three locations would be very similar	There is no difference in the cost of installing and building the PSP, the three locations would be very similar	
		1.1	CAPEX	Road access, utilities clash and earthworks, depending on the unevenness	Significant comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	
1	Economy				It would not require undertaking major works to accommodate road access. The terrain would have to be prepared as nowadays is a grassed area. The proposed location is in a New Residential area	It would require undertaking works to accommodate road access. The terrain would have to be prepared as nowadays is a grass area.	It would not require undertaking major works to accommodate road access, as it would be through the existing road and then through rail tracks crossing. The terrain would have to be prepared as nowadays is a grassed area.	
				Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	Comparable to other options	Comparable to other options	Comparable to other options	
					There is no difference in the operating cost in comparison with the others.	There is no difference in the operating cost in comparison with the others.	There is no difference in the operating cost in comparison with the others.	
		1.2	OPEX	Long term maintenance cost depending on maintenance and inspection of the new roads	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	
					There is no difference in the long term maintenance costs in comparison with other options.	The maintenance of the new road access involves more long term maintenance cost.	There is no difference in the long term maintenance costs in comparison with other options.	



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	MCA (Multi Criteria Analysis) for Millerstown PSP						
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option1 Millerstown PSP	Option 2- Millerstown PSP	Option 3 – Millerstown PSP
				Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
		2.1	Integration with existing equipment		It would not require undertaking major works to accommodate road access. The terrain would have to be prepared as nowadays is a grassed area. The proposed location is in a New Residential area	It would not require undertaking major works to accommodate road access. The terrain would have to be prepared as nowadays is a grassed area.	It would not require undertaking major works to accommodate road access, as it would be through the existing road and then through rail tracks crossing. The terrain would have to be prepared as nowadays is a grassed area.
		2.2 n	Integration with	Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	Significant comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
2	Integration		parallel projects/contracts		The proposed location is in a New Residential area	The solution is integrated with the construction project of the new Depot	There is not parallel project under construction near this option
				Square meters of additional land used, or volume required to implement the solution	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
			Geographical Integration		The building will have the same dimensions regardless of the area where is located	The building will have the same dimensions regardless of the area where is located	The building will have the same dimensions regardless of the area where is located . However, in this option the risk of the flooding would have to be assessed due to the proximity to the Royal Canal.
			integration	Space for road access and walkways	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
					There is space for road access to the PSP.	There is space for a new road access to the PSP.	There is no space for a new road access for avoiding the rail tracks crossing.



MCA (Multi Criteria Analysis) for Millerstown PSP

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option1 Millerstown PSP	Option 2- Millerstown PSP	Option 3 – Millerstown PSP
					Comparable to other options	Comparable to other options	Comparable to other options
		2.4	Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line
					Comparable to other options	Comparable to other options	Comparable to other options
		2.5	Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	There is no difference in obsolescence in a long a term basis for this option in comparison with others	There is no difference in obsolescence in a long a term basis for this option in comparison with others	There is no difference in obsolescence in a long a term basis for this option in comparison with others
					Comparable to other options	Comparable to other options	Comparable to other options
		2.6	Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range and providers	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range and providers	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range and providers
					Comparable to other options	Comparable to other options	Comparable to other options
3	Environment	3.1	Noise and Vibration	Likelihood of a noise impact on nearby noise sensitive locations	The PSP building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The PSP building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The PSP building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.
		3.2	Air Quality and Climate		Comparable to other options	Comparable to other options	Comparable to other options



MCA (Multi Criteria Analysis) for Millerstown PSP

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option1 Millerstown PSP	Option 2- Millerstown PSP	Option 3 – Millerstown PSP
				Assessment of local air quality effects based on potential air emissions during construction and operational phases	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
					Comparable to other options	Comparable to other options	Comparable to other options
		3.3	Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	Option 1 is located within greenfield lands adjacent to the existing Dublin to Maynooth rail line. Indirect impact to Royal Canal a sensitive landscape. Visual impacts may be likely to the rear of dwellings located	Option 2 is located within greenfield lands Indirect impact to Royal Canal. Visual impact may be likely to rear of one dwelling	Option 3 is a sensitive landscape area. Direct impacts to the views to and from the Royal Canal are likely.
				Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected species, designated sites; Overall effect on nature conservation resource.	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
		3.4	Biodiversity (flora and fauna)		This option will require the removal of some vegetation along the Connaught road.	This option will require the removal of some scrub along the railway embankment.	This option requires works close to the canal and will require the removal of riparian vegetation. During operation there may be water quality and lighting impacts
					Comparable to other options	Comparable to other options	Comparable to other options
		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)	Option 1 is located in proximity of the Royal Canal and is likely to have an indirect impact on its setting. There is potential to encounter unknown archaeological resources on undeveloped land.	Potential for indirect impacts on two recorded monuments (ring ditch and barrow) along with previously unrecorded archaeological sites.	Option 3 is located in proximity of the Royal Canal and is likely to have an indirect impact on its setting. There is potential to encounter unknown archaeological resources on undeveloped land.
		3.6	Water Resources	Overall potential significant effects on water resource attribute likely to be affected during construction and operation.	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant comparative disadvantage over other options



MCA (Multi Criteria Analysis) for Millerstown PSP

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option1 Millerstown PSP	Option 2- Millerstown PSP	Option 3 – Millerstown PSP
					OPW CFRAMS flood mapping indicates low risk of flooding. Comparably lower risk to water quality than Option 3	OPW CFRAMS flood mapping indicates low risk of flooding. Comparably lower risk to water quality than Option 3	OPW CFRAMS flood mapping indicates option location as liable to flood in extreme events from fluvial sources. Comparable flood risk across all options Increased risk to water quality of Royal Canal during construction due to proximity.
		3.7	Agriculture and	Overall impact on land take & property. Likely	Significant comparative disadvantage over other options	Some comparative disadvantage over other options	Significant comparative advantage over other options
				temporary or permanent severance effects, etc.	Option located outside of CIE land boundary, acquisition of land is required. Future residential development	Option located outside of CIE land boundary, acquisition of land is required. Direct impact on agricultural property	Option located within the CIE land boundary. No landtake required
			Geology and	Soils and Geology and likely impact on geological resources and soil resources to be developed/removed. Existing information relating to potential to encounter contaminated land.	Comparable to other options	Comparable to other options	Comparable to other options
		3.8	Soils (including Waste)		No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.
					Comparable to other options	Comparable to other options	Comparable to other options
		3.9	Radiation and Stray Current	Overall likely impact on existing sources of electromagnetic radiation.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
					Some comparative disadvantage over other options	Some comparative advantage over other options	Significant comparative disadvantage over other options
4	Accessibility & Social inclusion	4.1	Vulnerable groups and deprived geographic areas	Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas. Although the quality of access in the area would remain the same today, as a residential development is envisaged, it would have an impact.	This option does not present any disadvantage e or advantage regarding vulnerable groups and deprived geographic areas, but the quality of access in the area would be maintained the same	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas, but the quality of access in the area would be worse comparing to other options, as it would be necessary to cross the rail tracks



MCA (Multi Criteria Analysis) for Millerstown PSP

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	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option1 Millerstown PSP	Option 2- Millerstown PSP	Option 3 – Millerstown PSP
					Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
			Local accessibility	Quality of access in the area	The quality of access in the area would be maintained the same nowadays, but as a residential development is foreseen, it would impact.	The quality of access in the area would be maintained the same.	The quality of access would be worse comparing to other options, as it would be necessary to cross the rail tracks
					Comparable to other options	Comparable to other options	Comparable to other options
	5.1	5.1	5.1 Rail's Safety	Assessment of safety from an operational point of view	Rail's safety is fulfilled in three options	Rail's safety is fulfilled in three options	Rail's safety is fulfilled in three options
			Haaria / Baarlaia	Assessment of safety from User's / People's Safety point of view	Comparable to other options	Comparable to other options	Comparable to other options
5	Safety	5.2	User's / People's Safety		Users /People safety is fulfilled in the three options	User's /People safety is fulfilled in the three options	User's /People safety is fulfilled in the three options
		5.3	RAM	Assessment of Reliability, Availability and Maintainability of the solution	Comparable to other options	Comparable to other options	Comparable to other options
					This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM
					Comparable to other options	Comparable to other options	Comparable to other options
6	Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits

Comparison of Options and Recommendation

The following table summarises the averaged results of the MCA assessment per parameter for comparison purposes.

Table 19. Summary of the MCA Assessment Parameters

Millerstown PSP

	Option 1 Millerstown PSP	Option 2 Millerstown PSP	Option 3 Millerstown PSP
Economy	Comparable to other options	Comparable to other options	Comparable to other options
Integration	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
Environment	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
Accessibility & Social inclusion	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new PSP in Millerstown is **Option 2,** because compared with the others, this option could be integrated with the Depot layout.



Maynooth PSP

DART Maynooth & City Centre Enhancements. MCA Criteria and parameters

MCA (Multi Criteria Analysis) for Maynooth PSP

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 - Maynooth PSP	Option 2 – Maynooth PSP Incompatible with substations option 3	Option 3 – Maynooth PSP
				Capital expenditure (CAPEX) required to	Comparable to other options	Comparable to other options	Comparable to other options
				implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	There is no difference in the cost of installing and building the PSP, the three locations would be very similar	There is no difference in the cost of installing and building the PSP, the three locations would be very similar	There is no difference in the cost of installing and building the PSP, the three locations would be very similar
		1.1	CAPEX		Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
1	Economy			Road access, utilities clash and earthworks, depending on the unevenness	No new road is required for accessing from R406. No utilities clash. The terrain at this location is plain.	No new road is required for accessing from R406. No utilities clash. The terrain at this location is plain, but it would have to be prepared as nowadays is a grass area. There is also a private property access to be maintained.	No new road is required for accessing from R406, but the access they have nowadays is via crossing the tracks. No utilities clash. The terrain at this location is plain.
		1.2		0 11 (005)	Comparable to other options	Comparable to other options	Comparable to other options
			OPEX	Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.
			OI ZX		Comparable to other options	Comparable to other options	Comparable to other options
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				Long term maintenance cost depending on maintenance and inspection of the new roads	There is no difference in long maintenance cost in comparison with other options	There is no difference in long maintenance cost in comparison with other options	There is no difference in long maintenance cost in comparison with other options
		2.1	Integration with existing equipment	maintenance and inspection of the new roads	in comparison with other options Some comparative disadvantage over other	comparison with other options	comparison with other options
2	Integration	2.1	equipment	maintenance and inspection of the new roads Qualitative Assessment of how this option/solution/technology can be integrated with	in comparison with other options Some comparative disadvantage over other options The new PSP would be further away from the current technical building than option 3 to carry	Some comparative disadvantage over other options The new PSP would be further away from the current	Comparison with other options Some comparative advantage over other options The new PSP would be right next to the current technical building, so the migration would be very
2	Integration	2.1		Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	in comparison with other options Some comparative disadvantage over other options The new PSP would be further away from the current technical building than option 3 to carry out the migration. Some comparative disadvantage over other	Some comparative disadvantage over other options The new PSP would be further away from the current technical building than option 3 to carry out the migration.	Comparison with other options Some comparative advantage over other options The new PSP would be right next to the current technical building, so the migration would be very advantageous. Some comparative disadvantage over other



MCA (Multi Criteria Analysis) for Maynooth PSP

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	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 - Maynooth PSP	Option 2 – Maynooth PSP Incompatible with substations option 3	Option 3 – Maynooth PSP		
					The building will have the same dimensions regardless of the area where it is located. However, this option means taking space away from the current station car park. Also the proposed location is outside the existing IÉ railway boundaries	The building will have the same dimensions regardless of the area where it is located. However, this option involves constructing a new building in an area that is currently unbuilt.	The building will have the same dimensions regardless of the area where it is located. However, this option is more advantageous because there will be no need to take up space in the station car park, access will be able to be used in the same way as it is today to access the current technical building and the land adjacent to it will be available for use. The neighbours would not have to be inconvenienced by a new low building next to the existing one.		
					Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options		
				Space for road access and walkways	There is space for using the current road access to the station.	There is space for using the current road access to the station.	The road access nowadays is through tracks crossing. There is not enough space for a new access road due to private properties next to the substation location.		
					Comparable to other options	Comparable to other options	Comparable to other options		
		2.4	Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.		
			5 Obsolescence		Comparable to other options	Comparable to other options	Comparable to other options		
				Assessment the obsolescence of the solution/technology in a long-term basis	There is no difference in obsolesce in a long- term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.		
					Comparable to other options	Comparable to other options	Comparable to other options		
		2.6	2.6	2.6	Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
					Comparable to other options	Comparable to other options	Comparable to other options		
		3.1	Noise and vibration	Likelihood of a noise impact on nearby noise sensitive locations	The PSP building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The PSP building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The PSP building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.		
3	Environment				Comparable to other options	Comparable to other options	Comparable to other options		
		3.2	Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.		
		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 advantage over other options		



MCA (Multi Criteria Analysis) for Maynooth PSP

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 - Maynooth PSP	Option 2 – Maynooth PSP Incompatible with substations option 3	Option 3 – Maynooth PSP
					Option 1 is located on an existing car park area at the Maynooth Train Station, adjacent to the Royal Canal Corridor, a sensitive landscape area. Direct impacts to the views to and from the Royal Canal are likely.	Option 2 is located in a vegetated area between the train tracks and entrance road to the station. Indirect impact to Royal Canal, context and setting of RPS (Station House) which will result in further deterioration of the setting of this RPS. Visual impacts may be likely to the rear of dwellings located along Silken Vale.	Option 3 is located within a vegetated area a site. There could be visual impacts to the rear of residential properties located along Silken Vale.
				Potential compliance/conflict with biodiversity	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
		3.4	Biodiversity (flora and fauna)	objectives; Indirect impacts on protected species, designated sites; Overall effect on nature conservation resource.	This option requires works close to the canal. During operation there may be water quality, lighting and noise impacts.	This option is set back from the canal, limiting any potential noise, lighting and visual impacts.	This option is set back from the canal, limiting any potential noise, lighting and visual impacts.
			Cultural, Archaeological	Overall effect on cultural, archaeological and architecture heritage resource. Likely effects on	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
		3.5	and Architectural Heritage	RPS, National Monuments, SMRs, Conservation areas, etc. Number of designated sites/structures (by level of designation) directly impacted by scheme (land take)	There are no RPS, National Monuments, SMRs and Conservation areas located within Option 1. Indirect impacts to Royal Canal are likely.	Indirect impact to Royal Canal, context and setting of RPS (Station House) which will result in further deterioration of the setting of this RPS. Potential of unknown archaeological resources on greenfield sites.	Indirect impacts to Royal Canal. There is potential to encounter unknown archaeological resources on undeveloped land.
					Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
		3.6	Water resources	Overall potential significant effects on water resource attribute likely to be affected during construction and operation.	OPW CFRAMS flood mapping indicates option location as liable to flood in extreme events from fluvial sources. Comparable flood risk across all options Increased risk to water quality of Royal Canal during construction due to proximity.	OPW CFRAMS flood mapping indicates option location as liable to flood in extreme events from fluvial sources. Comparable flood risk across all options Comparatively low risk to water quality of Royal canal.	OPW CFRAMS flood mapping indicates option location as liable to flood in extreme events from fluvial sources Comparable flood risk across all options Comparatively low risk to water quality of Royal canal.
			Agriculture and Non- Agricultural		Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
		3.7		Overall impact on land take & property. Likely temporary or permanent severance effects, etc.	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.
					Option located outside of CIE land boundary, acquisition of land is required.	Option located on Maynooth Train Station grounds, within the CIE land boundary.	Option located on Maynooth Train Station grounds, within the CIE land boundary.
		3.8	Geology and Soils	Soils and Geology and likely impact on geological resources and soil resources to be	Comparable to other options	Comparable to other options	Comparable to other options
		3.0	(including waste)	developed/removed. Existing information relating to potential to encounter contaminated land.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.
			Radiation and Stray	Overall likely impact on existing sources of	Comparable to other options	Comparable to other options	Comparable to other options
		3.9	Current	electromagnetic radiation.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
	Accesibility		Vulnoroblo service seed	Denotite that goom to the second form a second	Comparable to other options	Comparable to other options	Comparable to other options
4	Accessibility & Social inclusion	4.1	Vulnerable groups and deprived geographic areas	Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas



MCA (Multi Criteria Analysis) for Maynooth PSP

	Parameter	Parameter Criteria Sub-C		Sub-Criteria (Quantitative Qualitative)	Option 1 - Maynooth PSP	Option 2 – Maynooth PSP Incompatible with substations option 3	Option 3 – Maynooth PSP
			Local accessibility		Comparable to other options	Comparable to other options	Comparable to other options
				Quality of access in the area	The quality of access in the area will be maintained the same	The quality of access in the area will be maintained the same	The quality of access in the area will be maintained the same
		5.1	Doille Cofety	Assessment of safety from an operational point of	Comparable to other options	Comparable to other options	Comparable to other options
			Rail's Safety	view	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.
5	Safety	5.2	User's / People's Safety	Assessment of safety from User's / People's Safety point of view	Comparable to other options	Comparable to other options	Comparable to other options
5	Salety	5.2	Oser 371 copie 3 Safety		User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.
		5 2	RAM	Assessment of Reliability, Availability and	Comparable to other options	Comparable to other options	Comparable to other options
		5.3	RAIVI	Maintainability of the solution	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM
	DI dist				Comparable to other options	Comparable to other options	Comparable to other options
6	6 Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



Comparison of Options and Recommendation

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

Table 20. Summary of the MCA Assessment Parameters

	Option 1 – Maynooth PSP	Option 2 – Maynooth PSP	Option 3 – Maynooth PSP
Economy	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
Integration	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
Environment	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
Accessibility & Social inclusion	Comparable to other options	Comparable to other options	Comparable to other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, option 2 and 3 are similar and better than option 1, but in order to have technical consistency with the proximity of SEB buildings, the MDC's recommendation for the location of the new PSP in Maynooth is **Option 3**.



Leixlip Confey ASP

				DART Maynoot	h & City Centre Enhancements. MCA Criteria an	nd parameters	
				мс	A (Multi Criteria Analysis) for Leixlip Confey AS	SP	
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Leixlip Confey ASP Incompatible with substations option 1	Option 2 – Leixlip Confey ASP	Option 3 – Leixlip Confey ASP Incompatible with substations option 1
					Comparable to other options	Comparable to other options	Comparable to other options
				Capital expenditure (CAPEX) required to implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	There is no difference in the cost of installing and building the ASP, the three locations would be very similar	There is no difference in the cost of installing and building the ASP, the three locations would be very similar	There is no difference in the cost of installing and building the ASP, the three locations would be very similar
		1.1	CAPEX		Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
1	Economy			Road access, utilities clash and earthworks, depending on the unevenness	It would not require works to accommodate road access from R149. No utilities clash. The terrain at this location is plain.	It would require undertaking works to accommodate road access from R149. No utilities clash. The terrain at this location is plain.	It would require works to accommodate road access from R149. No utilities clash. The terrain at this location is plain.
				Operating expenditure (OPEX) of the day-	Comparable to other options	Comparable to other options	Comparable to other options
		1.2	OPEX	to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.
		1.2			Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
				Long term maintenance cost depending on maintenance and inspection of the new roads	There is no difference in long maintenance cost in comparison with other options	There is no difference in long maintenance cost in comparison with other options	More long term maintenance cost a per the new access road
			Integration with	Qualitative Assessment of how this	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
		2.1	existing equipment	option/solution/technology can be integrated with the existing equipment.	The new ASP would be next to the technical building, so the migration would be very advantageous.	The new ASP would be further away from the current technical building than option 1 to carry out the migration.	The new ASP would be further away from the current technical building than option 1 to carry out the migration.
2	Integration		Integration with	Qualitative Assessment of how this option/solution/technology can be	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
		2.2	parallel projects/contracts	integrated with the existing and current parallel projects/contracts	The new ASP would be closer from some new technical buildings options.	The new ASP would not be close from other buildings but it would be next to the railway track.	The new ASP would be closer from some new technical buildings options, but not next to the railway track.
		2.3	Geographical Integration	Square meters of additional land used, or volume required to implement the solution	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options



MCA (Multi Criteria Analysis) for Leixlip Confey ASP

				MC	CA (Multi Criteria Analysis) for Leixlip Confey ASP			
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Leixlip Confey ASP Incompatible with substations option 1	Option 2 – Leixlip Confey ASP	Option 3 – Leixlip Confey ASP Incompatible with substations option 1	
					The building will have the same dimensions regardless of the area where it is located. However, this option means taking space away from the current station car park.	There is no need to take space to current parking or any other facility.	The building will have the same dimensions regardless of the area where it is located. However, this option means taking space with the new road access.	
					Some comparative advantage over other options	Some comparative disadvantage over other options	Significant comparative disadvantage over the other options	
				Space for road access and walkways	There is space for using the current road access to the station.	An area of bushes has to be prepared and a path is left partially blocked	A grass and trees area would have to be prepared for the road access.	
					Comparable to other options	Comparable to other options	Comparable to other options	
		2.4	Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	There is no difference in terms of buildability during operation. The construction of the ASP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the ASP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the ASP will not disturb in the normal operation of the line.	
					Comparable to other options	Comparable to other options	Comparable to other options	
		2.5	Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	There is no difference in obsolesce in a long- term basis for this option in comparison with others.	There is no difference in obsolesce in a long- term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	
				Considerations of whether the colution is	Comparable to other options	Comparable to other options	Comparable to other options	
		2.6	Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	
					Comparable to other options	Comparable to other options	Comparable to other options	
		3.1	Noise and Vibration	Likelihood of a noise impact on nearby noise sensitive locations	The ASP does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The ASP does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The ASP does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	
3	Environment				Comparable to other options	Comparable to other options	Comparable to other options	
		3.2	Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	
		3.3			Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	



MCA (Multi Criteria Analysis) for Leixlip Confey ASP

				MC	A (Multi Criteria Analysis) for Leixlip Confey AS	P	
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Leixlip Confey ASP Incompatible with substations option 1	Option 2 – Leixlip Confey ASP	Option 3 – Leixlip Confey ASP Incompatible with substations option 1
			Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	This option is located on existing made ground in the carpark of the train station, It is likely to have landscape and visual impact to the neighbouring residential receptors	This option is located on existing made ground in the carpark of the train station, It is likely to have landscape and visual impact to the neighbouring residential receptors	Located in open space area which will have a direct impact on landscape character and amenity lands that area also located adjacent to sensitive residential receptors.
			Biodiversity (flora	Potential compliance/conflict with biodiversity objectives; Indirect impacts	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
		3.4	and fauna)	on protected species, designated sites; Overall effect on nature conservation resource.	This option will require the removal of some vegetation along the boundary of the railway line	This option will require the removal of some vegetation along the boundary of the rail way line	This option is on the vegetated railway embankment and will lead to some habitat loss.
			Cultural,	Overall effect on cultural, archaeological and architecture heritage resource. Likely	Comparable to other options	Comparable to other options	Comparable to other options
		3.5	Archaeological and Architectural Heritage	effects on RPS, National Monuments, SMRs, Conservation areas, etc. Number of designated sites/structures (by level of designation) directly impacted by scheme (land take)	No known heritage resources recorded. The option does not present any advantage or disadvantages over other options.	No known heritage resources recorded. The option does not present any advantage or disadvantages over other options.	No known heritage resources recorded. Potential of unknown archaeological resources on undeveloped lands. However, this option does not present any significant advantage or disadvantages over other options.
				Overall potential significant effects on	Comparable to other options	Comparable to other options	Comparable to other options
		3.6	Water Resources	water resource attribute likely to be affected during construction and operation.	Location may be liable to flood from fluvial sources. Flood Risk is comparable to other options. Risk to surface water quality is comparable to other options.	Location may be liable to flood from fluvial sources. Flood Risk is comparable to other options. Risk to surface water quality is comparable to other options.	Location may be liable to flood from fluvial sources. Flood Risk is comparable to other options. Risk to surface water quality is comparable to other options.
					Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
		3.7	Agriculture and Non-Agricultural	Overall impact on land take & property. Likely temporary or permanent severance effects, etc.	There are no direct impacts on non - agricultural property	There are no direct impacts on non - agricultural property	There are no direct impacts on non - agricultural property.
					Option located on Leixlip train station grounds, within CIE boundary	Option located on Leixlip train station grounds, within CIE boundary	Option 3 is located outside of the CIE land boundary; land acquisition is required
				Soils and Geology and likely impact on geological resources and soil resources to be developed/removed. Existing information relating to potential to encounter contaminated land.	Comparable to other options	Comparable to other options	Comparable to other options
		3.8	Geology and Soils (including Waste)		No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.
			Radiation and	Overall likely impact on existing sources	Comparable to other options	Comparable to other options	Comparable to other options
		3.9	Stray Current	of electromagnetic radiation.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
			Vulnerable	Benefits that accrue to those suffering	Comparable to other options	Comparable to other options	Comparable to other options
	Accessibility		groups and deprived geographic areas	from social deprivation, geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
4	& Social inclusion	4.1			Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
			Local accessibility	Quality of access in the area	The quality of access in the area will be maintained the same	The quality of access in the area will be maintained the same, but it impacts less than the other options as it is not in the parking area	The quality of access in the area will be maintained the same
5	Safety	5.1	Pail's Safatu	Assessment of safety from an operational	Comparable to other options	Comparable to other options	Comparable to other options
]	Salety	J. I	Rail's Safety	point of view	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.



MCA (Multi Criteria Analysis) for Leixlip Confey ASP

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Leixlip Confey ASP Incompatible with substations option 1	Option 2 – Leixlip Confey ASP	Option 3 – Leixlip Confey ASP Incompatible with substations option 1		
			User's / People's	Assessment of safety from User's /	Comparable to other options	Comparable to other options	Comparable to other options		
		5.2	Safety	People's Safety point of view	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.		
				Comparable to other options	Comparable to other options	Comparable to other options			
		5.3	RAM	Assessment of Reliability, Availability and Maintainability of the solution	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM		
					Comparable to other options	Comparable to other options	Comparable to other options		
6	Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits		



Comparison of Options and Recommendation

The following table summarises the averaged results of the MCA assessment per parameter for comparison purposes.

Table 21. Summary of the MCA Assessment Parameters

	Option 1 – Leixlip Confey ASP	Option 2 – Leixlip Confey ASP	Option 3 – Leixlip Confey ASP
Economy	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
Integration	Some comparative advantage over other options	Some comparative disadvantage over other options	Significant comparative disadvantage over the other options
Environment	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
Accessibility & Social inclusion	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new ASP in Leixlip Confey is **Option 2**, because in compared with option 1 wouldn't use parking space and it would be better the entrance in the current park.



M3 Parkway PSP

					DART Maynooth & City Centre Enhancements	s. MCA Criteria and parameters		
					MCA (Multi Criteria Analysis) for	M3 Parkway PSP		
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – M3 Parkway PSP	Option 2 – M3 Parkway PSP Incompatible with substations option 2 and interference with CWSET Compound	Option 3 – M3 Parkway PSP	Option 4 – M3 Parkway PSP Incompatible with substations option 3
					Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
			CAPEX	Capital expenditure (CAPEX) required to implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	There is no difference in the cost of installing and building the PSP, the three locations would be very similar	There is no difference in the cost of installing and building the PSP, the three locations would be very similar	There is no difference in the cost of installing and building the PSP, the three locations would be very similar	There is no difference in the cost of installing and building the PSP, the three locations would be very similar
		1.1			Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
1	Economy			Road access, utilities clash and earthworks, depending on the unevenness	No new road is required. The existing one for car park can be used.	No new road is required. The existing one for car park can be used.	No new road is required. The existing one for car park can be used.	No new road is required. The existing one for car park can be used.
				Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
		1.2			There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.
			OPEX		Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
				Long term maintenance cost depending on maintenance and inspection of the new roads	There is no difference in the long term maintenance costs in comparison with other options.	There is no difference in the long term maintenance costs in comparison with other options.	There is no difference in the long term maintenance costs in comparison with other options.	There is no difference in the long term maintenance costs in comparison with other options.
				Qualitative Assessment of how this	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
		2.1	Integration with existing equipment	option/solution/technology can be integrated with the existing equipment.	The new PSP would be further away from the current technical building than option 2 to carry out the migration.	The new PSP would be very close to the current technical building, so the migration would be very advantageous.	The new PSP would be further away from the current technical building than option 2 to carry out the migration.	The new PSP would be further away from the current technical building than option 2 to carry out the migration.
2	Integration			Qualitative Assessment of how this	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
	mogration	2.2	Integration with parallel projects/contracts	option/solution/technology can be integrated with the existing and current parallel projects/contracts	There is no difference in integration with parallel projects/contracts for this option in comparison with others and it is not expected to have interferences with project developments in the future	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.
		2.3	Geographical Integration	Square meters of additional land used, or volume required to implement the solution	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options



MCA (Multi Criteria Analysis) for M3 Parkway PSP

	MCA (Multi Criteria Analysis) for M3 Parkway PSP											
Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – M3 Parkway PSP	Option 2 – M3 Parkway PSP Incompatible with substations option 2 and interference with CWSET Compound	Option 3 – M3 Parkway PSP	Option 4 – M3 Parkway PSP Incompatible with substations option 3					
				The building will have the same dimensions regardless of the area where it is located. However, this option means taking space away from the current station car park, especially places reserved for people with reduced mobility.	The building will have the same dimensions regardless of the area where it is located. However, this option is more advantageous because there will be no need to take up space in the station car park, access will be able to be used in the same way as it is today to access the current technical building.	The building will have the same dimensions regardless of the area where it is located. However, this option means taking space away from the current station car park.	The building will have the same dimensions regardless of the area where it is located. However, this option is more advantageous because there will be no need to take up space in the station car park, access will be able to be used in the same way as it is today to access the current technical building.					
				Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options					
			Space for road access and walkways	There is space for road access, but removing some parking spaces	There is space for road access without affecting the area	There is space for road access, but removing some parking spaces	There is space for road access without affecting the area					
				Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options					
	2.4	Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.					
			A	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options					
	2.5	Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long- term basis for this option in comparison with others.					
		Ownership or open technology		Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options					
	2.6		Considerations of whether the solution is a registered product/technology, range of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.					
				Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options					
3 Environment	3.1	Noise and Vibration	Likelihood of a noise impact on nearby noise sensitive locations	The PSP building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The PSP building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a longterm basis for this option in comparison with others.	The PSP building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The PSP building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.					
		Air Quality and	Assessment of local air quality effects based on potential air	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options					
	3.2	Air Quality and Climate	and effects based on potential air	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.					



MCA (Multi Criteria Analysis) for M3 Parkway PSP

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – M3 Parkway PSP	Option 2 – M3 Parkway PSP Incompatible with substations option 2 and interference with CWSET Compound	Option 3 – M3 Parkway PSP	Option 4 – M3 Parkway PSP Incompatible with substations option 3
					Some comparative advantage over other options	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
		3.3	Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	Option 1 is located within the confines of an existing car parking area. There are no sensitive landscape and visual characteristics in vicinity of this option and as such, no impacts are likely.	Option 2 is located within the confines of an existing car parking area. There are no sensitive landscape and visual characteristics in vicinity of this option and as such, no impacts are likely.	Option 3 is located within the confines of an existing car parking area. There are no sensitive landscape and visual characteristics in vicinity of this option and as such, no impacts are likely.	Option 4 would be built in an area with a similar sort of building that is already screened to some extent from a residential dwelling that is located in close proximity. It is likely to have a direct visual impact to the rear of this property.
			Biodiversity (flora	Potential compliance/conflict with biodiversity objectives; Indirect	Comparable to other options			
		3.4	and fauna)	impacts on protected species, designated sites; Overall effect on nature conservation resource.	This option does not present any disadvantage or advantage regarding biodiversity.	This option does not present any disadvantage or advantage regarding biodiversity.	This option does not present any disadvantage or advantage regarding biodiversity.	This option does not present any disadvantage or advantage regarding biodiversity.
				Overall effect on cultural, archaeological and architecture	Comparable to other options			
		3.5	Cultural, Archaeological and Architectural Heritage	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)	Located on made ground in M3 Parkway Station site. This option does not present any advantage or disadvantages over other options.	Located on made ground in M3 Parkway Station site. This option does not present any advantage or disadvantages over other options.	Located on made ground in M3 Parkway Station site. This option does not present any advantage or disadvantages over other options.	Located on made ground in M3 Parkway Station site. This option does not present any advantage or disadvantages over other options.
				Overall potential significant effects	Comparable to other options			
		3.6	Water Resources	on water resource attribute likely to be affected during construction and operation.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.
				Overall impact on land take & property. Number of properties to be impacted/acquired. Likely temporary or permanent severance effects, etc.	Comparable to other options			
		3.7	Agriculture and Non-Agricultural		There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.
					Option located on the grounds of M3 Parkway., within CIE land boundary.	Option located on the grounds of M3 Parkway., within CIE land boundary.	Option located on the grounds of M3 Parkway., within CIE land boundary.	Option located on the grounds of M3 Parkway., within CIE land boundary.
				Soils and Geology and likely impact on geological resources based on	Comparable to other options			
		3.8	Geology and Soils (including Waste)	preliminary/likely construction details. % of soil resources to be developed/removed. Existing	Developing on paved area in M3 Parkway. This option does not present any advantage or disadvantages over other options.	Developing on paved area in M3 Parkway. This option does not present any advantage or disadvantages over other options.	Developing on paved area in M3 Parkway. This option does not present any advantage or disadvantages over other options.	Developing on paved area in M3 Parkway. This option does not present any advantage or disadvantages over other options.
					Comparable to other options			
		3.9	Radiation and Stray Current	Overall likely impact on existing sources of electromagnetic radiation.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
4	Accessibility & Social inclusion	4.1		Benefits that accrue to those suffering from social deprivation,	Comparable to other options			



MCA (Multi Criteria Analysis) for M3 Parkway PSP

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – M3 Parkway PSP	Option 2 – M3 Parkway PSP Incompatible with substations option 2 and interference with CWSET Compound	Option 3 – M3 Parkway PSP	Option 4 – M3 Parkway PSP Incompatible with substations option 3
			Vulnerable groups and deprived geographic areas	geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
					Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
			Local accessibility	Quality of access in the area	The quality of access in the area will be maintained the same, but PRM parking spaces would have to be removed.	The quality of access in the area will be maintained the same	The quality of access in the area will be affected to access into the parking	The quality of access in the area will be maintained the same
		5.1	Rail's Safety	Assessment of safety from an operational point of view	Comparable to other options			
			rail 5 calcty		Rail's safety is fulfilled in both options.			
			User's / People's	Assessment of safety from User's / People's Safety point of view	Comparable to other options			
5	Safety	5.2	Safety		User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.
					Comparable to other options			
		5.3	RAM	Assessment of Reliability, Availability and Maintainability of the solution	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM
					Comparable to other options			
6	Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



Comparison of Options and Recommendation

The following table summarises the averaged results of the MCA assessment per parameter for comparison purposes.

Table 22. Summary of the MCA Assessment Parameters

	Option 1 M3 Parkway PSP	Option 2 M3 Parkway PSP	Option 3 M3 Parkway PSP	Option 4 M3 Parkway PSP
Economy	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
Integration	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
Environment	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
Accessibility & Social inclusion	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new PSP in M3 Parkway is **Option 1** because it is not expected to have interferences with project developments in the future, **in opposite in option 2 that incompatibilities with electrical substation 2 and interference with CWSET Compound.**



Dunboyne ASP

	DART Maynooth & City Centre Enhancements. MCA Criteria and parameters									
					MCA (Multi Criteria Analysis) for Dunboyne ASP					
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Dunboyne ASP Incompatible with substations option 1	Option 2 – Dunboyne ASP	Option 3 – Dunboyne ASP Incompatible with substations Option 3			
				Capital expenditure (CAPEX) required to implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	Comparable to other options	Comparable to other options	Comparable to other options			
					There is no difference in the cost of installing and building the ASP, the three locations would be very similar	There is no difference in the cost of installing and building the ASP, the three locations would be very similar	There is no difference in the cost of installing and building the ASP, the three locations would be very similar			
		1.1	CAPEX		Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options			
1	Economy			Road access, utilities clash and earthworks, depending on the unevenness	It would not require undertaking major works to accommodate road access from L228.	It would not require undertaking major works to accommodate road access from L228.	It would not require undertaking major works to accommodate road access from L228; but some facilities could be affected in this option such as bicycle parking.			
	_			Operating expenditure (OPEX) of the day-	Comparable to other options	Comparable to other options	Comparable to other options			
			. OPEX	to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.			
		1.2		Long term maintenance cost depending on maintenance and inspection of the new roads	Comparable to other options	Comparable to other options	Comparable to other options			
					There is no difference in the long term maintenance costs in comparison with other options.	There is no difference in the long term maintenance costs in comparison with other options.	There is no difference in the long term maintenance costs in comparison with other options.			
	2 Integration			Qualitative Assessment of how this	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options			
2		2.1	Integration with existing equipment	option/solution/technology can be integrated with the existing equipment.	The new ASP would be right next to the current technical building, so the migration would be very advantageous.	The new ASP would be right next to the current technical building, so the migration would be very advantageous.	The new ASP would be further away from the current technical building than other options.			
		2.2			Comparable to other options	Comparable to other options	Comparable to other options			



MCA (Multi Criteria Analysis) for Dunboyne ASP

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Dunboyne ASP Incompatible with substations option 1	Option 2 – Dunboyne ASP	Option 3 – Dunboyne ASP Incompatible with substations Option 3
			Integration with parallel projects/contracts	Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.
				Square meters of additional land used, or volume required to implement the solution	Comparable to other options	Comparable to other options	Comparable to other options
		2.3	Geographical		The terrain at his location is plain, therefore no major earthworks are envisaged, and there are no clashes with existing utilities networks.	The terrain at his location is plain, therefore no major earthworks are envisaged, and there are no clashes with existing utilities networks.	The terrain at his location is plain, therefore no major earthworks are envisaged, and there are no clashes with existing utilities networks.
			Integration	Space for road access and walkways	Comparable to other options	Comparable to other options	Comparable to other options
					There is space for road access and walkways	There is space for road access and walkaways	There is space for road access and walkways
				Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	Comparable to other options	Comparable to other options	Comparable to other options
		2.4	Buildability during operation		There is no difference in terms of buildability during operation. The construction of the ASP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the ASP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the ASP will not disturb in the normal operation of the line.
					Comparable to other options	Comparable to other options	Comparable to other options
	2.5	2.5	Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.
				Considerations of whates the solution	Comparable to other options	Comparable to other options	Comparable to other options
	2.0		Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
3	Environment	3.1	Noise and Vibration		Comparable to other options	Comparable to other options	Comparable to other options



MCA (Multi Criteria Analysis) for Dunboyne ASP

				MCA (Multi Criteria Analysis) for Dunboyne ASP		
Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Dunboyne ASP Incompatible with substations option 1	Option 2 – Dunboyne ASP	Option 3 – Dunboyne ASP Incompatible with substations Option 3
			Likelihood of a noise impact on nearby noise sensitive locations	The ASP does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The ASP does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The SEB does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.
			Assessment of local air quality effects based on potential air emissions during construction and operational phases	Comparable to other options	Comparable to other options	Comparable to other options
	3.2	Air Quality and Climate		No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
			Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	Comparable to other options	Comparable to other options	Comparable to other options
	3.3	Landscape and Visual (including light)		This option is located next to the paved area within the grounds of Dunboyne Train Station. There are no sensitive landscape and visual characteristics in vicinity of this option and as such, no impacts are likely.	This option is located on paved area within the grounds of Dunboyne Train Station. There are no sensitive landscape and visual characteristics in vicinity of this option and as such, no impacts are likely.	This option is located on a paved area within the railway corridor in vicinity of residential area. The vegetation on the boundary of the railway corridor will provide a screen for the residential properties.
			Potential compliance/conflict with	Comparable to other options	Comparable to other options	Comparable to other options
	3.4	Biodiversity (flora and fauna)	biodiversity objectives; Indirect impacts on protected species, designated sites; Overall effect on nature conservation resource.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.
			Overall effect on cultural, archaeological	Comparable to other options	Comparable to other options	Comparable to other options
	3.5	Cultural, Archaeological and Architectural Heritage	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)	There are no RPS, National Monuments, SMRs and Conservation areas located within this Option.	There are no RPS, National Monuments, SMRs and Conservation areas located within this Option.	There are no RPS, National Monuments, SMRs and Conservation areas located within this Option.
			Overall potential significant effects on water	Comparable to other options	Comparable to other options	Comparable to other options
	3.6	Water Resources	resource attribute likely to be affected during construction and operation.	There is low risk flooding this Option due to a greater distance from a floodplain.	There is low risk flooding this Option due to a greater distance from a floodplain.	There is low risk flooding this Option due to a greater distance from a floodplain.
	3.7		Overall impact on land take & property. Number of properties to be	Comparable to other options	Comparable to other options	Comparable to other options



MCA (Multi Criteria Analysis) for Dunboyne ASP

					MCA (Multi Criteria Analysis) for Dunboyne ASP		
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Dunboyne ASP Incompatible with substations option 1	Option 2 – Dunboyne ASP	Option 3 – Dunboyne ASP Incompatible with substations Option 3
			Agriculture and Non- Agricultural	impacted/acquired. Likely temporary or permanent severance effects, etc.	There are no direct impacts on non - agricultural property. Option is located within CIE land boundary, acquisition of	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.
			rig.rountara.		land is not required.	Option is located within CIE land boundary, acquisition of land is not required.	Option is located within CIE land boundary, acquisition of land is not required.
				Soils and Geology and likely impact on geological resources based on preliminary/likely construction details. % of	Comparable to other options	Comparable to other options	Comparable to other options
	3.8 Geology and Soils (including Waste)		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.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	
					Comparable to other options	Comparable to other options	Comparable to other options
		3.9	Radiation and Stray Current	Overall likely impact on existing sources of electromagnetic radiation.	This option does not present any disadvantage or advantage regarding in relation to nearby receptors.	This option does not present any disadvantage or advantage regarding in relation to nearby receptors.	This option does not present any disadvantage or advantage regarding in relation to nearby receptors.
			Vulnerable groups and deprived geographic areas	Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	Comparable to other options	Comparable to other options	Comparable to other options
	Accessibility &				This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
4	Social inclusion	4.1		Ought and account in the count	Some comparative advantage over other options	Some comparative disadvantage over other options	Significant comparative disadvantage over other options
			Local accessibility	Quality of access in the area	The quality of access in the area will be maintained the same	It would take part of the existing walkway	Walkway and bicycle parking would have to be removed
		F 4		Assessment of safety from an operational	Comparable to other options	Comparable to other options	Comparable to other options
5		5.1	Rail's Safety	point of view	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.
					Comparable to other options	Comparable to other options	Comparable to other options



MCA (Multi Criteria Analysis) for Dunboyne ASP

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Dunboyne ASP Incompatible with substations option 1	Option 2 – Dunboyne ASP	Option 3 – Dunboyne ASP Incompatible with substations Option 3
	User's / People's Safety			Assessment of safety from User's / People's Safety point of view	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.
					Comparable to other options	Comparable to other options	Comparable to other options
	5.3 RAM		RAM	Assessment of Reliability, Availability and Maintainability of the solution	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM
	6 Physical 6.1 Health b				Comparable to other options	Comparable to other options	Comparable to other options
6			Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



Comparison of Options and Recommendation

The following table summarises the averaged results of the MCA assessment per parameter for comparison purposes.

Table 23. Summary of the MCA Assessment Parameters

	Option 1 Dunboyne ASP	Option 2 Dunboyne ASP	Option 3 Dunboyne ASP
Economy	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
Integration	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
Environment	Comparable to other options	Comparable to other options	Comparable to other options
Accessibility & Social inclusion	Some comparative advantage over other options	Some comparative disadvantage over other options	Significant comparative disadvantage over other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new ASP in Dunboyne is **Option 1**



Clonsilla PSP

	DART Maynooth & City Centre Enhancements. MCA Criteria and parameters										
	MCA (Multi Criteria Analysis) for Clonsilla PSP										
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Clonsilla PSP	Option 2 – Clonsilla PSP	Option 3 – Clonsilla PSP				
				Capital expenditure (CAPEX) required to	Comparable to other options	Comparable to other options	Comparable to other options				
			OADEV	implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	There is no difference in the cost of installing and building the PSP, the three locations would be very similar	There is no difference in the cost of installing and building the PSP, the three locations would be very similar	There is no difference in the cost of installing and building the PSP, the three locations would be very similar				
		1.1	CAPEX	Road access, utilities clash and	Comparable to other options	Comparable to other options	Comparable to other options				
				earthworks, depending on the unevenness	A new access road would be necessary, to connect the PSP with R121 road.	A new access road would be necessary, to connect the PSP with R121 road.	A new access road would be necessary, to connect the PSP with R121 road.				
	Economy	1.2	. 2 OPEX	Operating expenditure (OPEX) of the day- to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	Comparable to other options	Comparable to other options	Comparable to other options				
					There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.				
				Long term maintenance cost depending on maintenance and inspection of the new roads	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options				
					The new road will be longer than other options to access the new site.	PSP building is close to the existing road.	PSP building is close to the existing road.				
2 Integration		2.1	Integration with 1 existing equipment		Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options				
	Integration			Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	The new PSP would be further away from the current technical building than option 2 to carry out the migration.	The new PSP would be very close to the current technical building, so the migration would be very advantageous.	The new PSP would be very close to the current technical building, so the migration would be very advantageous.				
		2.2			Comparable to other options	Comparable to other options	Comparable to other options				



MCA (Multi Criteria Analysis) for Clonsilla PSP

	MCA (Multi Criteria Analysis) for Clonsilla PSP									
Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Clonsilla PSP	Option 2 – Clonsilla PSP	Option 3 – Clonsilla PSP				
		Integration with parallel projects/contracts	Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.				
				Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options				
	2.3	Geographical Integration		The building will have the same dimensions regardless of the area where it is located. However, this option involves constructing a new building in an area that is currently unbuilt.	The building will have the same dimensions regardless of the area where it is located. However, this option is more advantageous because access will be able to be used in the same way as it is today to access the current technical building.	The building will have the same dimensions regardless of the area where it is located. However, this option is more advantageous because access will be able to be used in the same way as it is today to access the current technical building.				
				Some comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options				
				There is space for a new road access.	There is no space for road access due to the Royal Canal	There is space for using the current road access.				
		Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	Comparable to other options	Comparable to other options	Comparable to other options				
	2.4			There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.				
				Comparable to other options	Comparable to other options	Comparable to other options				
	2.5	Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	There is no difference in obsolesce in a long- term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.				
	2.6			Comparable to other options	Comparable to other options	Comparable to other options				



MCA (Multi Criteria Analysis) for Clonsilla PSP

					MCA (Multi Criteria Analysis) for Clonsilla PS	P	
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Clonsilla PSP	Option 2 – Clonsilla PSP	Option 3 – Clonsilla PSP
			Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
		3.1			Comparable to other options	Comparable to other options	Comparable to other options
			Noise and Vibration	Likelihood of a noise impact on nearby noise sensitive locations	The PSP building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The PSP building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The PSP building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.
		3.2	Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	Comparable to other options	Comparable to other options	Comparable to other options
					No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
3	Environment	3.3	Landscape and Visual (including light)	-	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
					Option 1 is located within greenfield lands adjacent to the existing Dublin to Maynooth rail line. No sensitive receptors are likely to be visually impacted by Option 1.	Option 2 is located the adjacent to the existing Dublin to Maynooth rail line, adjacent to the Royal Canal Corridor, a sensitive landscape area. It is likely that some vegetation will be removed as part of Option 2, and will likely have a direct impact on the landscape character of the Royal Canal.	Option 3 is located adjacent to the existing Dublin to Maynooth rail line in proximity to the Royal Canal. Due to the existing natural screening along the Royal Canal, no impacts to its landscape setting are likely. No sensitive receptors are likely to be visually impacted by Option 3.
		3.4	Biodiversity (flora and fauna)	Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected species, designated sites;	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options



MCA (Multi Criteria Analysis) for Clonsilla PSP

					MCA (Multi Criteria Analysis) for Clonsilla PS		
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Clonsilla PSP	Option 2 – Clonsilla PSP	Option 3 – Clonsilla PSP
				Overall effect on nature conservation resource.	This option will require the removal of some scrub along the railway embankment.	This option will require the removal of mature trees and riparian vegetation along the Royal Canal. This will lead to operational impacts associated with light spill onto the canal, potential noise and visual disturbance to species.	This option will require the removal of a treeline along the railway corridor.
				Overall effect on cultural, archaeological and architecture heritage resource. Likely	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
		3.5	Cultural, Archaeological and Architectural Heritage	I SIMPE Concervation areas atc Number	There are no RPS, National Monuments, SMRs and Conservation areas located within Option 1. No known heritage resources recorded. Potential of unknown archaeological resources on greenfield sites.	There are no RPS, National Monuments, SMRs and Conservation areas located within Option 2. Option 2 is likely to have an indirect impact on Clonsilla Railway Station (NIAH No. 11353004) and the Royal Canal.	There are no RPS, National Monuments, SMRs and Conservation areas located within Option 1.
		3.6		Overall potential significant effects on water resource attribute likely to be affected during construction and operation.	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
			6 Water Resources		Low risk of flooding comparable across all options. Comparably lower risk to water quality than option 2.	Low risk of flooding comparable across all options. Increased risk to water quality of Royal Canal during construction due to very close proximity.	Low risk of flooding comparable across all options. Comparably lower risk to water quality than option 2.
					Comparable to other options	Comparable to other options	Comparable to other options
		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.	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.
					Option is located within the confines of the existing railway corridor.	Option is located within the confines of the existing railway corridor.	Option is located within the confines of the existing railway corridor.
		3.8			Comparable to other options	Comparable to other options	Comparable to other options



MCA (Multi Criteria Analysis) for Clonsilla PSP

				MOA (Multi Officeria Arialysis) for Giorisina i o				
Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Clonsilla PSP	Option 2 – Clonsilla PSP	Option 3 – Clonsilla PSP		
		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.	This option will result in loss of some soil resources and soil sealing. However, it does not represent a significant advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.		
				Comparable to other options	Comparable to other options	Comparable to other options		
	3.9	Radiation and Stray Current			Overall likely impact on existing sources of electromagnetic radiation.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
	4.1		Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	Comparable to other options	Comparable to other options	Comparable to other options		
Accessibility 4 & Social		Vulnerable groups and deprived geographic areas		This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas		
inclusion				Comparable to other options	Comparable to other options	Comparable to other options		
		Local accessibility	Quality of access in the area	The quality of access in the area will be maintained the same	The quality of access in the area will be maintained the same	The quality of access in the area will be maintained the same		
		D 11 0 ()	Assessment of safety from an operational	Comparable to other options	Comparable to other options	Comparable to other options		
	5.1	Rail's Safety	point of view	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.		
5 Safety		Handa / Describe	Account of a fact of a second lives of	Comparable to other options	Comparable to other options	Comparable to other options		
	5.2	User's / People's Safety	Assessment of safety from User's / People's Safety point of view	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.		
	5.3	RAM		Comparable to other options	Comparable to other options	Comparable to other options		



MCA (Multi Criteria Analysis) for Clonsilla PSP

	mon (multi officeria Affaiysis) for Giorisina i of							
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Clonsilla PSP	Option 2 – Clonsilla PSP	Option 3 – Clonsilla PSP	
				Assessment of Reliability, Availability and Maintainability of the solution	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	
					Comparable to other options	Comparable to other options	Comparable to other options	
6	Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	



Comparison of Options and Recommendation

The following table summarises the averaged results of the MCA assessment per parameter for comparison purposes.

Table 24. Summary of the MCA Assessment Parameters

	Option 1 – Clonsilla PSP	Option 2 – Clonsilla PSP	Option 3 – Clonsilla PSP
Economy	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Integration	Some comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options
Environment	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
Accessibility & Social inclusion	Comparable to other options	Comparable to other options	Comparable to other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new PSP in Clonsilla is **Option 3**



Ashtown ASP

				DART Maynoo	oth & City Centre Enhancements. MCA Criteria a	and parameters	
					MCA (Multi Criteria Analysis) for Ashtown ASP		
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Ashtown ASP	Option 2 – Ashtown ASP	Option 3 – Ashtown ASP
				Capital expenditure (CAPEX) required to	Comparable to other options	Comparable to other options	Comparable to other options
				implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	There is no difference in the cost of installing and building the ASP, the three locations would be very similar	There is no difference in the cost of installing and building the ASP, the three locations would be very similar	There is no difference in the cost of installing and building the ASP, the three locations would be very similar
		1.1	CAPEX	Road access, utilities clash and earthworks, depending on the unevenness	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
1	Economy				There are no accessibility problems from the road so it would not require undertaking major works to accommodate road access.	No new road is required. The existing one can be used.	It would not require undertaking major works to accommodate road access from Ashtown Road.
			OPEX	Operating expenditure (OPEX) of the day-	Comparable to other options	Comparable to other options	Comparable to other options
				to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.
		1.2		Long term maintenance cost depending on maintenance and inspection of the new roads	Comparable to other options	Comparable to other options	Comparable to other options
					There is no difference in the long term maintenance costs in comparison with other options.	There is no difference in the long term maintenance costs in comparison with other options.	There is no difference in the long term maintenance costs in comparison with other options.
				Qualitative Assessment of how this	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
		2.1	Integration with existing equipment	option/solution/technology can be integrated with the existing equipment.	The new ASP would be further away from the current technical building than option 2 to carry out the migration.	The new ASP would be right next to the current technical building, so the migration would be very advantageous.	The new ASP would be further away from the current technical building than option 2 to carry out the migration.
2	Integration			Qualitative Assessment of how this	Comparable to other options	Comparable to other options	Comparable to other options
		2.2	Integration with parallel projects/contracts	option/solution/technology can be integrated with the existing and current parallel projects/contracts	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.
		2.3	Geographical Integration	Square meters of additional land used, or volume required to implement the solution	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options



MCA (Multi Criteria Analysis) for Ashtown ASP

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Ashtown ASP	Option 2 – Ashtown ASP	Option 3 – Ashtown ASP
					The building will have the same dimensions regardless of the area where it is located. However, this option means taking space away from the current place far from the station. Also the proposed location is outside the existing IÉ railway boundaries	The building will have the same dimensions regardless of the area where it is located. However, this option is more advantageous because access will be able to be used in the same way as it is today to access the current technical building.	It would not require relocate the existing exit/entry; However, it can be part of the suppression of the existing railroad crossing works.
					Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
				Space for road access and walkways	There is space for road access but it would be through an industrial property	There is space for using the current road access to the station.	There is space for using the current road access
			Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	Comparable to other options	Comparable to other options	Comparable to other options
		2.4			There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.
			Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	Comparable to other options	Comparable to other options	Comparable to other options
		2.5			There is no difference in obsolesce in a long- term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.
					Comparable to other options	Comparable to other options	Comparable to other options
		2.6	Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
3	Environment	3.1	Noise and Vibration	Likelihood of a noise impact on nearby noise sensitive locations	Comparable to other options	Comparable to other options	Comparable to other options



MCA (Multi Criteria Analysis) for Ashtown ASP

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Ashtown ASP	Option 2 – Ashtown ASP	Option 3 – Ashtown ASP
					The ASP does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The ASP does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The ASP does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.
				Assessment of local air quality effects based on potential air emissions during construction and operational phases	Comparable to other options	Comparable to other options	Comparable to other options
		3.2	Air Quality and Climate		No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
		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 advantage over other options	Some comparative disadvantage over other options
					Option located in a vegetated area in proximity to the Mill building (NIAH: 11362067). Likely to have an impact to the landscape character and amenity of the area.	Option located adjacent to residential area in amenity walkway area right next to existing Ashtown station. Therefore no significant change in landscape character.	Option is adjacent to the Royal Canal Corridor, and the 10 th lock (NIAH: 50060121), a sensitive landscape area. It is likely to have direct visual impact to the property located adjacent to the Royal Canal.
		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.	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
					This option will require the removal of vegetation and mature trees and will lead to some habitat loss	This option is on the vegetated railway embankment and will lead to some habitat loss.	The option will require removal of vegetation scrub from the rail way embankment
		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)	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options



MCA (Multi Criteria Analysis) for Ashtown ASP

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Ashtown ASP	Option 2 – Ashtown ASP	Option 3 – Ashtown ASP
					In proximity to Mill building (NIAH: 11362067). While the site is screened by existing vegetation there is potential for indirect impacts on mill and outbuildings (RPS 691).	No recorded cultural, archaeological and architecture heritage resources present on site.	Indirect impacts on the Royal Canal, 10th lock (NIAH:50060121)
		3.6	Water Resources	Overall potential significant effects on water resource attribute likely to be affected during construction and operation.	Comparable to other options	Comparable to other options	Comparable to other options
					This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.
		3.7		Overall impact on land take & property. Number of properties to be impacted/acquired. Likely temporary or permanent severance effects.	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
			Agriculture and Non-Agricultural		There are no direct impacts on non - agricultural property. Option located outside of CIE land boundary, acquisition of land is required.	There are no direct impacts on non - agricultural property. Option located within CIE land boundary, no land acquisition required	There are no direct impacts on non - agricultural property. Option located within CIE land boundary, no land acquisition required
		3.8		Soils and Geology and likely impact on	Comparable to other options	Comparable to other options	Comparable to other options
			Geology and Soils (including Waste)	geological resources and soil resources to be developed/removed. Existing information relating to potential to encounter contaminated land.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.
		3.9	Radiation and Stray Current	Overall likely impact on nearby receptors.	Comparable to other options	Comparable to other options	Comparable to other options
					This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
4		4.1			Comparable to other options	Comparable to other options	Comparable to other options



MCA (Multi Criteria Analysis) for Ashtown ASP

	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Ashtown ASP	Option 2 – Ashtown ASP	Option 3 – Ashtown ASP
		Vulnerable groups and deprived geographic areas		Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
	Accessibility & Social inclusion				Comparable to other options	Comparable to other options	Comparable to other options
			Local accessibility	Quality of access in the area	The quality of access in the area will be maintained the same	The quality of access in the area will be maintained the same	The quality of access in the area will be maintained the same
		5.1		Assessment of safety from an operational	Comparable to other options	Comparable to other options	Comparable to other options
			Rail's Safety	point of view	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.
				Assessment of safety from User's / People's Safety point of view	Comparable to other options	Comparable to other options	Comparable to other options
5	Safety		2 User's / People's Safety		User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.
				Comparable to other options	Comparable to other options	Comparable to other options	
		5.3	B RAM	Assessment of Reliability, Availability and Maintainability of the solution	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM
					Comparable to other options	Comparable to other options	Comparable to other options
6	Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



Comparison of Options and Recommendation

The following table summarises the averaged results of the MCA assessment per parameter for comparison purposes.

Table 25. Summary of the MCA Assessment Parameters

	Option 1 – Ashtown ASP	Option 2 – Ashtown ASP	Option 3 –Ashtown ASP
Economy	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Integration	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
Environment	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Accessibility & Social inclusion	Comparable to other options	Comparable to other options	Comparable to other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new ASP in Ashtown is **Option 2**



Glasnevin PSP

	DART Maynooth & City Centre Enhancements. MCA Criteria and parameters								
	MCA (Multi Criteria Analysis) for Glasnevin PSP								
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 2 – Glasnevin PSP	Option 3 – Glasnevin PSP	Option 4 – Glasnevin PSP	Option 6 – Glasnevin PSP	
					Some comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options	
1	Economy	1.1	CAPEX	Capital expenditure (CAPEX) required to implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	The capital expenditure required for the PSP is lower as the PSP is above ground; the Royal Canal way needs to be widening in a small stretch. Preventive measures will have to be undertaking in order to avoid potential water damage due to its proximity to the canal.	The capital expenditure required for the PSP is lower as the PSP is above ground; the Royal Canal way needs to be widening in a long stretch. Preventive measures will have to be undertaking in order to avoid potential water damage due to its proximity to the canal.	The capital expenditure required for the traction substation is significant lower as the substation is far from the Royal Canal and the access is easy to provide.	The capital expenditure required for the traction substation is significant lower as the substation is far from the Royal Canal and the access is easy to provide.	
			1.2 OPEX	Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options	
		1.2			There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	
					Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options	Significant comparative advantage over other options	
2	Integration	2.1	Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	In this option, it would be necessary to widen the Royal Canal Way to allow road access from R108.	In this option, it would be necessary to widen the Royal Canal Way to allow road access from R108, which is 530m approximately distant from R108, on its east side.	In this option, the Gaelic football pitch limits (layout) would have to be adjusted to allow the PSP construction. It would be necessary accommodate the road access provided from Clareville Court to the existing Gaelic football pitch area.	In this option, the Gaelic football pitch limits (layout) would have to be adjusted to allow the PSP construction. Compared to option 4 also located in the existing Gaelic football pitch, this one has less land take from the Gaelic football pitch, than the others. It would be necessary accommodate the road access provided from Clareville Court to the existing Gaelic football pitch area.	
		2.2	Integration with parallel projects/contracts	Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options	



MCA (Multi Criteria Analysis) for Glasnevin PSP

MCA (Multi Criteria Analysis) for Glasnevin PSP							
Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 2 – Glasnevin PSP	Option 3 – Glasnevin PSP	Option 4 – Glasnevin PSP	Option 6 – Glasnevin PSP
				Due to its location next to the Royal Canal, it can interfere in the future development of this area.	Due to its location next to the Royal Canal, it can interfere in the future development of this area. The MDC are aware that DCC are proposing to expand the Royal Canal greenway. The location of the PSP at this location may impact the options available to DC however there is no approved planning application details provided at this stage. Consultation required with DCC if identified as the preferred option.	This option is not integrated in parallel projects/contracts	This option is not integrated in parallel projects/contracts
		3 Geographical Integration	Square meters of additional land used, or volume required to implement the solution	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
	2.3			The building will have the same dimensions regardless of the area where it is located. The proposed location is not within the existing IÉ railway boundaries; therefore, land take will be required	The building will have the same dimensions regardless of the area where it is located. The proposed location is not within the existing IÉ railway boundaries; therefore, land take will be required	The building will have the same dimensions regardless of the area where it is located. The proposed location is not within the existing IÉ railway boundaries; therefore, land take will be required	The building will have the same dimensions regardless of the area where it is located. The proposed location is not within the existing IÉ railway boundaries; therefore, land take will be required
				Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
	2.4	Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.
				Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
	2.5	Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) for Glasnevin PSP **Parameter** Criteria **Sub-Criteria (Quantitative Qualitative)** Option 2 - Glasnevin PSP Option 4 - Glasnevin PSP Option 6 - Glasnevin PSP Option 3 - Glasnevin PSP Comparable to other options Comparable to other options Comparable to other options Comparable to other options This option does not present This option does not present any Considerations of whether the solution is a registered This option does not present any This option does not present any Ownership or open any disadvantage or disadvantage or advantage in 2.6 product/technology, range of providers or open disadvantage or advantage in disadvantage or advantage in technology advantage in regards the use regards the use of registered technology regards the use of registered regards the use of registered of registered product/technology and range of product/technology and range of product/technology and range of product/technology and range providers. providers. providers. of providers. Comparable to other options Comparable to other options Comparable to other options Comparable to other options The PSP building does not The PSP building does not emit The PSP building does not emit The PSP building does not emit emit noise or vibration while in noise or vibration while in noise or vibration while in Likelihood of a noise impact on nearby noise noise or vibration while in operation. Noise and Vibration 3.1 operation. Therefore, there is operation. Therefore, there is no operation. Therefore, there is no sensitive locations Therefore, there is no difference in no difference in the noise or difference in the noise or difference in the noise or the noise or vibration impacts on a vibration impacts on a longvibration impacts on a long-term vibration impacts on a long-term long-term basis for this option in term basis for this option in basis for this option in basis for this option in comparison with others. comparison with others. comparison with others. comparison with others. Comparable to other options Comparable to other options Comparable to other options Comparable to other options Assessment of local air quality effects based on No likely significant air quality or No likely significant air quality No likely significant air quality or No likely significant air quality or 3.2 Air Quality and Climate potential air emissions during construction and climate emission sources during the or climate emission sources climate emission sources during climate emission sources during operational phases construction and/or operational during the construction and/or the construction and/or the construction and/or operational phases therefore operational phases therefore all phases therefore all options are operational phases therefore all 3 **Environment** comparable. all options are comparable. options are comparable. options are comparable. Some comparative Significant comparative Some comparative advantage Some comparative advantage advantage over other disadvantage over other options over other options over other options options Option 2 is located on a vegetated Option 4 is located on the Option 3 is located on a Option 6 is located on the area, adjacent to the Royal Canal boundary of Saint Vincent's boundary of Saint Vincent's vegetated area, adjacent to Way and the Royal Canal oNHA, a school sports field. Vegetation Landscape and Visual Key landscape characteristics affected; Effects on the Royal Canal Way and the school sports field. Vegetation 3.3 sensitive landscape area. This option will be removed and therefore (including light) listed/ key views; Impact on landscape character. Royal Canal, a sensitive will be removed and therefore is likely to have an impact to the screening to the residential landscape area. This option is screening to the residential landscape character and amenity of properties will be impacted. likely to have an impact to the properties will be impacted. the area. The views to and from the Local landscape impacts and landscape character and Local landscape impacts and Royal Canal are also likely to be visual impacts to dwelling amenity of the area. The views visual impacts to dwelling houses impacted. This option is also located houses on Clareville Court. to and from the Royal Canal on Clareville Court. Replacement in proximity to the Royal Canal 6th Replacement screening could are also likely to be impacted. screening could reduce impacts. Lock, a RPS cultural heritage feature reduce impacts. and is likely to have an indirect



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) for Glasnevin PSP **Parameter** Criteria **Sub-Criteria (Quantitative Qualitative)** Option 2 - Glasnevin PSP Option 3 - Glasnevin PSP Option 4 - Glasnevin PSP Option 6 - Glasnevin PSP impact on its setting/landscape character. Some comparative Some comparative Some comparative Some comparative advantage over advantage over other disadvantage over other disadvantage over other other options options options options The option is located adjacent to This option is located in an the railway corridor on the sports Located on playing pitches, this area of dry grassland and This option is located on dry field. This option will result in option will result in loss of trees between the canal amenity grassland and possibly grassland and scrub between the loss of amenity grassland and towpath and railway. This Potential compliance/conflict with biodiversity canal and railway. This option tree loss. The pitch has been some trees. The pitch has been option requires works directly Biodiversity (flora and objectives; Indirect impacts on protected species, requires works adjacent to the Royal identified as an important identified as an important (Major) 3.4 adjacent to the Royal Canal fauna) designated sites; Overall effect on nature Canal pNHA and will likely result in (Major) feeding ground for Brent feeding ground for Brent Geese. pNHA and will likely result in conservation resource the loss of grassland and scrub Geese. Construction stage Construction stage impacts are the loss of grassland and habitat. Japanese Knotweed has impacts are likely as the site is likely as the site is located on the trees. Japanese Knotweed been recorded within the rail corridor located on the edge of the pitch edge of the pitch however this has been recorded within the approx. 100m northeast of the site. however this could be mitigated could be mitigated by avoiding rail corridor approx. 120m During operation there may be water by avoiding works during winter works during winter periods. No northwest of the site. During quality which requires further periods. No significant impacts significant impacts are expected operation there may be water assessment. are expected to the feeding to the feeding grounds during the quality which requires further grounds during the operational operational stage. assessment. stage. Some comparative Some comparative disadvantage Some comparative advantage Some comparative advantage disadvantage over other 3.5 over other options over other options over other options options Overall effect on cultural, archaeological and architecture heritage resource. Likely effects on RPS, Cultural, Archaeological There are no RPS, National National Monuments, SMRs, Conservation areas, Indirect impacts on the Royal Canal Option 3 is located in proximity There are no RPS, National and Architectural Monuments, SMRs and etc. Number of designated sites/structures (by level (RPS), Royal Canal 6th Lock (RPS) of the Royal Canal and is likely Monuments, SMRs and Heritage Conservation areas located of designation) directly impacted by scheme (land context and setting. There is potential to have an indirect impact on Conservation areas located within Option 4. There is take) for unknown archaeological its setting. Potential to within Option 5. There is potential potential unknown resources to be encountered. There encounter unknown unknown archaeological archaeological resources to be is potential unknown archaeological archaeological resources. . resources to be encountered. encountered. resources to be encountered Comparable to other options Comparable to other options Comparable to other options Comparable to other options No record of historical or No record of historical or No record of historical or predicted No record of historical or Overall potential significant effects on water resource flooding within the vicinity of the site. predicted flooding within the predicted flooding within the predicted flooding within the 3.6 Water Resources attribute likely to be affected during construction and vicinity of the site. This option vicinity of the site. This option vicinity of the site. This option This option does not present any operation. disadvantage or advantage with does not present any does not present any does not present any regards to water resources. disadvantage or advantage disadvantage or advantage with disadvantage or advantage with with regards to water regards to water resources. regards to water resources. resources.



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) for Glasnevin PSP

	MCA (Multi Criteria Analysis) for Glasnevin PSP									
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 2 – Glasnevin PSP	Option 3 – Glasnevin PSP	Option 4 – Glasnevin PSP	Option 6 – Glasnevin PSP		
					Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options		
		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.	Option is not located within CIE land boundary - acquisition of Land	Option is not located within CIE land boundary - acquisition of land.	Option is not located within CIE land boundary - acquisition of land.	Option is not located within CIE land boundary - acquisition of land.		
				Soils and Geology and likely impact on geological resources based on preliminary/likely construction	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options		
		3.8	Geology and Soils (including Waste)	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.	This option does not present any disadvantage or advantage over other options.	This option does not present any disadvantage or advantage over other options.	This option does not present any disadvantage or advantage over other options.	This option does not present any disadvantage or advantage over other options.		
			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		
		3.9			This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors		
			Vulnerable groups and	Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options		
		4.1	deprived geographic areas		The works of the Metrolink project in the area may disrupt the whole area	The works of the Metrolink project in the area may disrupt the whole area	No accessibility issues are foreseen	No accessibility issues are foreseen		
4	Accessibility & Social inclusion				Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options		
		4.2	Vulnerable groups	Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas		
5	Safety	5.1	Rail's Safety		Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options		



	MCA (Multi Criteria Analysis) for Glasnevin PSP									
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 2 – Glasnevin PSP	Option 3 – Glasnevin PSP	Option 4 – Glasnevin PSP	Option 6 - Glasnevin PSP		
				Assessment of safety from an operational point of view	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.		
					Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options		
		5.2	User's / People's Safety	Assessment of safety from User's / People's Safety point of view	User's / People's safety is fulfilled in this option, as the area is not linked to any particular safety sensitive environment	User's / People's safety is fulfilled in this option, as the area is not linked to any particular safety sensitive environment	User's / People's safety is fulfilled in this option, as the PSP is designed to be safe and not allow public to enter the site. Netting will be put up to stop balls from entering the property	User's / People's safety is fulfilled in this option, as the PSP is designed to be safe and not allow public to enter the site. Netting will be put up to stop balls from entering the property		
			RAM		Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options		
		5.3		Assessment of Reliability, Availability and Maintainability of the solution	Potential unavailability due to inherent risks due to the location next to the Royal Canal	Potential unavailability due to inherent risks due to the location next to the Royal Canal	Reliability, Availability and Maintainability fulfilled in this option.	Reliability, Availability and Maintainability fulfilled in this option.		
			6.1 Health benefits		Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options		
6	Physical Activity	6.1		Health benefits derived from using a specific option	This option provides health benefits, as it does not affect sport areas	This option provides health benefits, as it does not affect sport areas	This option presents a disadvantage regarding health benefits, as it affects sports areas	This option presents a disadvantage regarding health benefits, as it affects sports areas		



Comparison of Options and Recommendation

The following table summarises the averaged results of the MCA assessment per parameter for comparison purposes.

Table 26. Summary of the MCA Assessment Parameters

	Option 2	Option 3	Option 4	Option 6
	Glasnevin PSP	Glasnevin PSP	Glasnevin PSP	Glasnevin PSP
Economy	Some	Significant	Significant	Significant
	comparative	comparative	comparative	comparative
	disadvantage	disadvantage	advantage	advantage
	over other	over other	over other	over other
	options	options	options	options
Integration	Significant	Significant	Some	Significant
	comparative	comparative	comparative	comparative
	disadvantage	disadvantage	advantage	advantage
	over other	over other	over other	over other
	options	options	options	options
Environment	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
Accessibility & Social inclusion	Some	Some	Significant	Significant
	comparative	comparative	comparative	comparative
	disadvantage	disadvantage	advantage	advantage
	over other	over other	over other	over other
	options	options	options	options
Safety	Some	Some	Significant	Significant
	comparative	comparative	comparative	comparative
	disadvantage	disadvantage	advantage	advantage
	over other	over other	over other	over other
	options	options	options	options
Physical Activity	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new PSP in Glasnevin is **Option 6.**



Connolly PSP

				DART Maynooth & City C	entre Enhancements. MCA Criteria and para	meters		
				MCA (Multi	i Criteria Analysis) for Connolly PSP			
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Connolly PSP	Option 2 – Connolly PSP	Option 3 - Connolly PSP	Option 4 - Connolly PSP
				Capital expenditure (CAPEX) required to implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
					The cost of installing and building the PSP is lower.	This solution is more expensive since you have to prepare the installation of the PSP next to it in the vias area.	The cost of installing and building the PSP is lower.	The cost of installing and building the PSP is lower.
		1.1	CAPEX		Some comparative advantage over other options	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options
1	1 Economy			Road access, utilities clash and earthworks, depending on the unevenness	No new road is required for accessing from R105. No utilities clash. The terrain at this location is plain.	There is no road access because PSP is in the viaduct next to the railways. No utilities clash. The terrain at this location is plain.	No new road is required for accessing from R105. Clash with existing utilities that would need diversion. The terrain at this location is plain. Access to be provided by Failte Ireland	No new road is required for accessing from Oriel Street Lower. No utilities clash. The terrain at this location is plain. Paving for parking area is required
				Operating expenditure (OPEX) of the day-	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
				to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.
		1.2	OPEX		Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
				Long term maintenance cost depending on maintenance and inspection of the new roads	There is no difference in long maintenance cost in comparison with other options	It is more difficult because all maintenance operations have to be made at night after finishing railway service.	There is no difference in long maintenance cost in comparison with other options	There is no difference in long maintenance cost in comparison with other options
			late and 30	Qualitative Assessment of how this	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
2	Integration	2.1	Integration with existing equipment	option/solution/technology can be integrated with the existing equipment.	There is no difference in integration of any option.	There is no difference in integration of any option.	There is no difference in integration of any option.	There is no difference in integration of any option.



			DART Maynooth & City Co	entre Enhancements. MCA Criteria and para	meters		
			MCA (Multi	Criteria Analysis) for Connolly PSP			
Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Connolly PSP	Option 2 – Connolly PSP	Option 3 – Connolly PSP	Option 4 – Connolly PSP
			Qualitative Assessment of how this	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
	2.2	Integration with parallel projects/contracts	option/solution/technology can be integrated with the existing and current parallel projects/contracts	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others.	There is no difference in integration with parallel projects/contracts for this option in comparison with others
				Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
	2.3	Geographical Integration	Square meters of additional land used, or volume required to implement the solution	The building will have the same dimensions regardless of the area where it is located. However, this option means taking space away from the current station car park. The PSP is in front of an existing building. Finally, the proposed location is outside the existing IÉ railway boundaries.	The building will have the same dimensions regardless of the area where it is located. However, this option is more advantageous because there will be no need to take up space in the station car park and SPS is next to the railway.	The building will have the same dimensions regardless of the area where it is located. However, this option means taking space away from the current station car park. Also the proposed location is outside the existing IÉ railway boundaries	The building will have the same dimensions regardless of the area where it is located. However, this option is more advantageous because there will be no need to take up space in the station car park and SPS is next to the railway.
			Space for road access and walkways	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
				There is space for using the current road access to the station.	The road access nowadays is through tracks crossing. There is not enough space for a new access road due to private properties next to the viaduct.	There is space for using the current road access to the station.	There is space for using the current road access to the station
				Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
	2.4	Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.
				Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
	2.5	Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	There is no difference in obsolesce in a long- term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.



			DART Maynooth & City C	entre Enhancements. MCA Criteria and para	meters		
			MCA (Multi	i Criteria Analysis) for Connolly PSP			
Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Connolly PSP	Option 2 – Connolly PSP	Option 3 – Connolly PSP	Option 4 – Connolly PSP
			Considerations of whether the solution is a registered product/technology, range of providers or open technology	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
	2.6	Ownership or open technology		This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
		Noise and Vibration		Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
	3.1		Likelihood of a noise impact on nearby noise sensitive locations	The PSP building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The PSP building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The PSP building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The PSP building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.
		Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
3 Environment	3.2			No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
				Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
	3.3	Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	Option 1 is located on made ground in vicinity of the Connolly Station. The existing building structures are similar in character within the area to the proposed PSP building. No impacts to the landscape character are likely. This option is likely to have an indirect impact on the setting Irish Rail Head Office, Connolly Station, a RPS cultural heritage feature (ref no. 130).	Option 2 is located on made ground in vicinity of the Connolly Station. The existing building structures are similar in character within the area to the proposed PSP building. No impacts to the landscape character are likely. This option is likely to have an indirect impact on the setting of the Water Tower, (NIAH Reg. No. 50010041) a cultural heritage feature.	Option 3 is located on made ground in vicinity of the Connolly Station and is not likely to have an impact on the landscape character of the area.	Option 4 is located on made ground in vicinity of the Connolly Station and is not likely to have an impact on the landscape character of the area.
	3.4			Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) for Connolly PSP **Parameter** Criteria **Sub-Criteria (Quantitative Qualitative)** Option 1 - Connolly PSP Option 2 - Connolly PSP Option 3 - Connolly PSP Option 4 - Connolly PSP Potential compliance/conflict with This option does not present any biodiversity objectives; Indirect impacts This option does not present any This option does not present any This option does not present disadvantage or advantage in regards to Biodiversity (flora on protected species, designated sites; disadvantage or advantage in regards to disadvantage or advantage in regards any disadvantage or advantage biodiversity. and fauna) in regards to biodiversity. Overall effect on nature conservation biodiversity. to biodiversity. resource. Some comparative disadvantage over Some comparative disadvantage Some comparative advantage over Some comparative advantage other options over other options other options over other options Overall effect on cultural, archaeological and architecture heritage resource. Likely Cultural. effects on RPS, National Monuments, There are no RPS, National Monuments, Option 2 is located on made ground in Archaeological and SMRs, Conservation areas, etc. Number Option 1 is located on made ground in SMRs and Conservation areas located vicinity of Water Tower at Connolly Architectural There are no RPS, National of designated sites/structures (by level of vicinity of Irish Rail Head Office, Connolly within Option 4 Heritage Station, a RPS cultural heritage designation) directly impacted by scheme Station, a RPS cultural heritage feature (ref Monuments, SMRs and feature (NIAH Reg. No. 50010041) . (land take) no. 130). This option is likely to have an Conservation areas located This option is likely to have an indirect within Option 3 indirect impact on the setting of this cultural impact on the setting of the Water heritage site. Tower. Comparable to other options Comparable to other options Comparable to other options Comparable to other options Overall potential significant effects on water resource attribute likely to be Water Resources This option does not present any This option does not present This option does not present any affected during construction and This option does not present any disadvantage or advantage in regards any disadvantage or advantage disadvantage or advantage in regards to operation. disadvantage or advantage in regards to water resources to water resources. in regards to water resources. water resources. Some comparative Some comparative advantage over Some comparative advantage over Some comparative disadvantage over other options other options disadvantage over other other options options Overall impact on land take & property. Agriculture and Number of properties to be There are no direct impacts on non -There are no direct impacts on There are no direct impacts on non -3.7 There are no direct impacts on non -Non-Agricultural impacted/acquired. Likely temporary or agricultural property. non - agricultural property. agricultural property. agricultural property. permanent severance effects, etc. Option is located within CIE land Option is not located within CIE Option is located within CIE land Option is not located within CIE land boundary, acquisition of land is not land boundary, acquisition of boundary, acquisition of land is not boundary, acquisition of land is required required. land is required. required. 3.8 Comparable to other options Comparable to other options Comparable to other options Comparable to other options



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) for Connolly PSP **Parameter** Criteria **Sub-Criteria (Quantitative Qualitative)** Option 1 - Connolly PSP Option 2 - Connolly PSP Option 3 - Connolly PSP Option 4 - Connolly PSP Soils and Geology and likely impact on This option does not present any geological resources based on advantage or disadvantages over other preliminary/likely construction details. % options. of soil resources to be This option does not present developed/removed. Existing information This option does not present any This option does not present any advantage Geology and Soils any advantage or relating to potential to encounter advantage or disadvantages over (including Waste) or disadvantages over other options. disadvantages over other contaminated land. High-level other options. options. assessment based on the likely structures/ works required and the potential for ground contamination due to historic landfills, pits and quarries. Comparable to other options Comparable to other options Comparable to other options Comparable to other options Radiation and Overall likely impact on existing sources This option does not present any This option does not present any This option does not present This option does not present any 3.9 Stray Current of electromagnetic radiation. disadvantage or advantage regarding any disadvantage or advantage disadvantage or advantage regarding in disadvantage or advantage regarding in relation to nearby receptors. in relation to nearby receptors. regarding in relation to nearby relation to nearby receptors. receptors. Comparable to other options Comparable to other options Comparable to other options Comparable to other options Benefits that accrue to those suffering Vulnerable groups from social deprivation, geographic This option does not present any This option does not present This option does not present any This option does not present any and deprived isolation and mobility and sensory disadvantage or advantage regarding disadvantage or advantage regarding any disadvantage or advantage disadvantage or advantage regarding geographic areas deprivation regarding vulnerable groups vulnerable groups and deprived geographic vulnerable groups and deprived vulnerable groups and deprived areas geographic areas and deprived geographic areas geographic areas Accessibility & Social 4.1 Some comparative advantage over Some comparative inclusion Some comparative advantage over Some comparative disadvantage over other options disadvantage over other other options other options options Local accessibility Quality of access in the area The quality of access in the The quality of access in the area will be The quality of access in the area will be The quality of access in the area will area will be affected to access maintained the same affected to access into the parking be maintained the same into the parking Comparable to other options Comparable to other options Comparable to other options Comparable to other options Assessment of safety from an operational 5.1 Rail's Safety point of view Rail's safety is fulfilled in both Rail's safety is fulfilled in both options. 5 Safety Rail's safety is fulfilled in both options. Rail's safety is fulfilled in both options options. User's / People's Assessment of safety from User's / Comparable to other options Comparable to other options 5.2 Comparable to other options Comparable to other options Safety People's Safety point of view



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) for Connolly PSP Option 2 - Connolly PSP Criteria **Sub-Criteria (Quantitative Qualitative)** Option 1 - Connolly PSP Option 3 - Connolly PSP Option 4 - Connolly PSP **Parameter** User's / People's safety is fulfilled in both User's / People's safety is fulfilled in both User's / People's safety is fulfilled in User's / People's safety is options options. both options. fulfilled in both options. Comparable to other options Comparable to other options Comparable to other options Comparable to other options Assessment of Reliability, Availability and 5.3 RAM This option does not present any This option does not present This option does not present any Maintainability of the solution This option does not present any disadvantage or advantage regarding any disadvantage or advantage disadvantage or advantage regarding disadvantage or advantage regarding RAM RAM RAM regarding RAM Comparable to other options Comparable to other options Comparable to other options Comparable to other options Health benefits derived from using a **Physical** 6 Health benefits This option does not present any This option does not present any This option does not present This option does not present any Activity specific option disadvantage or advantage regarding disadvantage or advantage regarding health disadvantage or advantage regarding any disadvantage or advantage health benefits benefits health benefits regarding health benefits



Comparison of Options and Recommendation

The following table summarises the averaged results of the MCA assessment per parameter for comparison purposes.

Table 27. Summary of the MCA Assessment Parameters

	Option	Option 2	Option 3	Option 4
	Connolly PSP	Connolly PSP	Connolly PSP	Connolly PSP
Economy	Some comparative advantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Integration	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Environment	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Accessibility & Social inclusion	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
Safety	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options
Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new PSP in Connolly is **Option 4**



Spencer Dock PSP

Spencer Dock PSP with Architectural Option 3

DART Maynooth & City Centre Enhancements. MCA Criteria and parameters

MCA (Multi Criteria Analysis) for Spencer Dock PSP

	MCA (Multi Criteria Analysis) for Spencer Dock PSP								
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Spencer Dock PSP	Option 2 – Spencer Dock PSP	Option- 3		
				Capital expenditure (CAPEX) required to	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options		
				implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	There is no difference in the cost of installing and building the PSP, the three locations would be very similar	The cost of installing the PSP is lower because Substation 2 is near.	There is no difference in the cost of installing and building the PSP, the three locations would be very similar		
		1.1	CAPEX	Road access, utilities clash and earthworks, depending on the unevenness	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options		
1	Economy				It would not require undertaking major works to accommodate road access from Park Lane; however, part of existing car park will be required to be taken for this purpose.	It would not require undertaking major works to accommodate road access from Park Lane; however, part of existing car park will be required to be taken for this purpose.	For this option, it would be necessary accommodate the road access from Abercorn Rd or from Park Lane.		
				Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	Comparable to other options	Comparable to other options	Comparable to other options		
					There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.	There is no difference in the operating costs in comparison with others.		
		1.2	OPEX		Comparable to other options	Comparable to other options	Comparable to other options		
				Long term maintenance cost depending on maintenance and inspection of the new roads	There is no difference in long maintenance cost in comparison with other options	There is no difference in long maintenance cost in comparison with other options	There is no difference in long maintenance cost in comparison with other options		
2	Integration	2.1	Integration with existing equipment		Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options		



MCA (Multi Criteria Analysis) for Spencer Dock PSP

Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Spencer Dock PSP	Option 2 – Spencer Dock PSP	Option- 3
			Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	The new PSP would be right next to the current technical building, so the migration would be very advantageous.	The new PSP would be right next to the current technical building, so the migration would be very advantageous.	The new PSP would be further away from the current technical building than options 1, 2, 3 or 9 to carry out the migration.
		Integration with parallel projects/contracts	Qualitative Assessment of how this	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
	2.2		option/solution/technology can be integrated with the existing and current parallel projects/contracts	The new PSP would be closer from some Traction Substation options.	This option could interfere with future urbanistic development in the aera	The new PSP would be closer from some Traction Substation options and New Spencer Dock station.
		Geographical Integration	Square meters of additional land used, or volume required to implement the solution	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
	2.3			The building will have the same dimensions regardless of the area where it is located. However, this option means taking space away from the current station car park. Also the proposed location is outside the existing IÉ railway boundaries. PSP would be close to the Canal.	The building will have the same dimensions regardless of the area where it is located. However, this option means taking space away from the current station car park. Also the proposed location is outside the existing IÉ railway boundaries	The building will have the same dimensions regardless of the area where it is located. However, this option is outside the existing IÉ railway boundaries
			Space for road access and walkways	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
				There is space for using the current road access to the station.	There is space for using the current road access to the station.	There is space for road access, but removing some existing buildings and facilities.
	2.4	Buildability during operation		Comparable to other options	Comparable to other options	Comparable to other options



MCA (Multi Criteria Analysis) for Spencer Dock PSP

Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Spencer Dock PSP	Option 2 – Spencer Dock PSP	Option- 3
			Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.	There is no difference in terms of buildability during operation. The construction of the PSP will not disturb in the normal operation of the line.
				Comparable to other options	Comparable to other options	Comparable to other options
	2.5	Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.	There is no difference in obsolesce in a long-term basis for this option in comparison with others.
	2.6	Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	Comparable to other options	Comparable to other options	Comparable to other options
				This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.	This option does not present any disadvantage or advantage in regards the use of registered product/technology and range of providers.
				Comparable to other options	Comparable to other options	Comparable to other options
3 Environment	3.1	Noise and Vibration	Likelihood of a noise impact on nearby noise sensitive locations	The PSP does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The PSP does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The PSP does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.
		2 Air Quality and Climate	Assessment of local air quality effects based on	Comparable to other options	Comparable to other options	Comparable to other options
	3.2		Assessment of local air quality effects based on potential air emissions during construction and operational phases	No likely significant air quality or climate emission sources during the construction and/or operational	No likely significant air quality or climate emission sources during the construction and/or	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.



MCA (Multi Criteria Analysis) for Spencer Dock PSP

Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Spencer Dock PSP	Option 2 – Spencer Dock PSP	Option- 3
				phases therefore all options are comparable.	operational phases therefore all options are comparable.	
				Comparable to other options	Comparable to other options	Comparable to other options
	3.3	Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	This option is located on made ground paved area within the grounds of Docklands Train Station. There are no sensitive landscape and visual characteristics in vicinity of this option and as such, no impacts are likely.	This option is located on paved area within the grounds of Docklands Train Station. There are no sensitive landscape and visual characteristics in vicinity of this option and as such, no impacts are likely.	This option is located on a paved area within the railway corridor in vicinity of residential area. The existing fence on the boundary of the railway corridor will provide a screen for the residential properties.
		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
	3.4			This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.
		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
	3.5			There are no RPS, National Monuments, SMRs and Conservation areas located within this Option.	There are no RPS, National Monuments, SMRs and Conservation areas located within this Option.	There are no RPS, National Monuments, SMRs and Conservation areas located within this Option.
			Overall potential significant effects on water resource attribute likely to be affected during construction and operation.	Comparable to other options	Comparable to other options	Comparable to other options
	3.6	Water Resources		There is low risk flooding this Option due to a greater distance from a floodplain.	There is low risk flooding this Option due to a greater distance from a floodplain.	There is low risk flooding this Option due to a greater distance from a floodplain.
	3.7	Agriculture and Non-Agricultural		Comparable to other options	Comparable to other options	Comparable to other options



MCA (Multi Criteria Analysis) for Spencer Dock PSP

Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Spencer Dock PSP	Option 2 – Spencer Dock PSP	Option- 3
			Overall impact on land take & property. Number of properties to be impacted/acquired. Likely temporary or permanent severance effects, etc.	There are no direct impacts on non - agricultural property. Option is not located within CIE land boundary, acquisition of land is required.	There are no direct impacts on non - agricultural property. Option is not located within CIE land boundary, acquisition of land is required.	There are no direct impacts on non - agricultural property. Option is not located within CIE land boundary, acquisition of land is required.
			Soils and Geology and likely impact on geological resources based on preliminary/likely construction	Comparable to other options	Comparable to other options	Comparable to other options
	3.8	Geology and Soils (including Waste)	details. % of soil resources to be developed/removed. Existing information relating to potential to encounter contaminated land. Highlevel assessment based on the likely structures/ works required and the potential for ground contamination due to historic landfills, pits and quarries.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.	This option does not present any advantage or disadvantages over other options.
		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
	3.9			This option does not present any disadvantage or advantage regarding in relation to nearby receptors.	This option does not present any disadvantage or advantage regarding in relation to nearby receptors.	This option does not present any disadvantage or advantage regarding in relation to nearby receptors.
				Comparable to other options	Comparable to other options	Comparable to other options
Accessibility 4 & Social inclusion	4.1	Vulnerable groups and deprived geographic areas	Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
		Local accessibility	Quality of access in the area	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options



MCA (Multi Criteria Analysis) for Spencer Dock PSP

	Parameter	nmeter Criteria		Sub-Criteria (Quantitative Qualitative)	Option 1 – Spencer Dock PSP	Option 2 – Spencer Dock PSP	Option- 3
					The quality of access would be impacted as some walkway would have to be removed	The quality of access would be impacted as some walkway would have to be removed	The quality of access in the area will be maintained the same
					Comparable to other options	Comparable to other options	Comparable to other options
		5.1 Rail's Safety		Assessment of safety from an operational point of view	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.	Rail's safety is fulfilled in both options.
				Assessment of safety from User's / People's Safety point of view	Comparable to other options	Comparable to other options	Comparable to other options
5	Safety	5.2	User's / People's Safety		User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.	User's / People's safety is fulfilled in both options.
				Assessment of Reliability, Availability and Maintainability of the solution	Comparable to other options	Comparable to other options	Comparable to other options
		5.3	RAM		This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM	This option does not present any disadvantage or advantage regarding RAM
					Comparable to other options	Comparable to other options	Comparable to other options
6	6 Physical Activity	6.1	Health benefits Health benefits derived from using a specific option		This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits

Comparison of Options and Recommendation

The following table summarises the averaged results of the MCA assessment per parameter for comparison purposes.

Table 28. Summary of the MCA Assessment Parameters

Spencer Dock PSP Scenery with Architectural option 3

	Option	Option 2	Option 3
	Spencer	Spencer	Spencer
	Dock PSP	Dock PSP	Dock PSP
Economy	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Integration	Some	Some	Some
	comparative	comparative	comparative
	disadvantage	disadvantage	advantage
	over other	over other	over other
	options	options	options
Environment	Comparable to other options	Comparable to other options	Comparable to other options
Accessibility & Social inclusion	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
Safety	Comparable	Comparable	Comparable
	to other	to other	to other
	options	options	options
Physical Activity	Comparable	Comparable	Comparable
	to other	to other	to other
	options	options	options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new PSP in Docklands is **Option 3.**



9.5.8 Telecoms Location MCA

	DART Maynooth & City Centre Enhancements. MCA Criteria and parameters									
	MCA (Multi Criteria Analysis) of MAYNOOTH STATION									
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – External pavement close to Station	Option 2 –Parking area after auxiliary buildings	Option 3 – Parking area at the access road before station building			
			CAPEX	Capital expenditure (CAPEX) required to implement the option.	Comparable to other options	Comparable to other options	Comparable to other options			
		1.1		Assessment of cost of installation and investment to construct/install/use the solution.	The equipment is installed outdoor, on a paved area, a prefabricated building is foreseen	The equipment is installed outdoor, on a paved space, a prefabricated building is foreseen	The equipment is installed outdoor, on a paved space, a prefabricated building is foreseen			
				Access and earthworks	Comparable to other options	Comparable to other options	Comparable to other options			
1	Economy				No new access is required.	No new access is required.	No new access is required.			
					On a paved surface	On a paved surface	On a paved surface			
			OPEX	Operating expenditure (OPEX) of the day-to-day expenses that Irish	Comparable to other options	Comparable to other options	Comparable to other options			
		1.2		Rail would incur to keep maintain the system/solution/option operational.	Option is accessible from the access road, modular and independent.	Option is accessible from the access road, modular and independent	Option is accessible from the access road, modular and independent			
				Long term maintenance cost depending on maintenance and inspection of the new roads	Comparable to other options	Comparable to other options	Comparable to other options			



				DART Maynooth & City	Centre Enhancements. MCA Criter	ia and parameters	
				MCA (Multi (Criteria Analysis) of MAYNOOTH ST	TATION	
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – External pavement close to Station	Option 2 –Parking area after auxiliary buildings	Option 3 – Parking area at the access road before station building
					There is no difference in long term maintenance cost regarding access roads	There is no difference in long term maintenance cost regarding access roads	There is no difference in long term maintenance cost regarding access roads
					Comparable to other options	Comparable to other options	Comparable to other options
		2.1	Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.
		2.2	Integration with parallel projects/con tracts	Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	Comparable to other options	Comparable to other options	Comparable to other options
2	Integration				There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.
					Comparable to other options	Comparable to other options	Comparable to other options
		2.3	Geographic al Integration	Square meters of additional land used, or volume required to implement the solution	The option is outside of existing IÉ boundary, and a standard surface is being considered for the new TER	The option is outside of existing IÉ boundary, and a standard surface is being considered for the new TER	The option is outside of existing IÉ boundary, and a standard surface is being considered for the new TER
				Space for access and walkways	Comparable to other options	Comparable to other options	Comparable to other options
					Both road and pedestrian access	Both road and pedestrian access	Both road and pedestrian access



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of MAYNOOTH STATION Option 3 - Parking area at the **Sub-Criteria (Quantitative** Option 1 - External pavement Option 2 -Parking area after access road before station **Parameter** Criteria Qualitative) close to Station auxiliary buildings building Comparable to other options Comparable to other options Comparable to other options Qualitative Assessment of the Buildability buildability of the solution during 2.4 during operation. Impact in operation Construction is located outdoor. A Construction is located outdoors. A Construction is located outdoors. A operation and disruptions. prefabricated building is being prefabricated building is being prefabricated building is being considered considered considered. Comparable to other options Comparable to other options Comparable to other options Assessment the obsolescence of Obsolescen 2.5 the solution/technology in a longсе term basis Not applicable, Civil Works and Not applicable, Civil Works and Not applicable, Civil Works and Infrastructure Infrastructure Infrastructure Comparable to other options Comparable to other options Comparable to other options Considerations of whether the Ownership solution is a registered 2.6 or open product/technology, range of Not applicable, Civil Works and Not applicable, Civil Works and Not applicable, Civil Works and technology providers or open technology Infrastructure Infrastructure Infrastructure 3 **Environme** Noise and Likelihoods of a noise impact on 3.1 Comparable to other options Comparable to other options Comparable to other options Vibration nearby noise sensitive locations nt



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of MAYNOOTH STATION Option 3 - Parking area at the **Sub-Criteria (Quantitative** Option 2 -Parking area after Option 1 - External pavement access road before station **Parameter** Criteria Qualitative) close to Station auxiliary buildings building The TER building does not emit The TER building does not emit The TER building does not emit noise or vibration while in noise or vibration while in noise or vibration while in operation. operation. Therefore, there is no operation. Therefore, there is no Therefore, there is no difference in difference in the noise or vibration difference in the noise or vibration the noise or vibration impacts on a impacts on a long-term basis for impacts on a long-term basis for long-term basis for this option in this option in comparison with this option in comparison with comparison with others. others. others. Comparable to other options Comparable to other options Comparable to other options Assessment of local air quality effects based on potential air Air Quality 3.2 and Climate emissions during construction and No likely significant air quality or No likely significant air quality or No likely significant air quality or operational phases climate emission sources during climate emission sources during climate emission sources during the the construction and/or operational the construction and/or operational construction and/or operational phases therefore all options are phases therefore all options are phases therefore all options are comparable. comparable. comparable. Comparable to other options Comparable to other options Comparable to other options Key landscape characteristics Landscape and Visual affected; Effects on listed/ key All options are broadly comparable All options are broadly comparable All options are broadly comparable 3.3 (including views; Impact on landscape located in close proximity to each located in close proximity to each located in close proximity to each character. light) other in an urbanised environment. other in an urbanised environment. other in an urbanised environment. Located in urbanised location. Direct impacts to landscape Located in urbanised location. Direct impacts to landscape character of Royal Canal including Direct impacts to landscape view to and from Royal Canal character of Royal Canal including character of Royal Canal including view to and from Royal Canal (RC6 view to and from Royal Canal (RC6 (RC6 Mullen Bridge



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of MAYNOOTH STATION Option 3 - Parking area at the **Sub-Criteria (Quantitative** Option 2 -Parking area after Option 1 - External pavement access road before station **Parameter** Criteria Qualitative) close to Station auxiliary buildings building Railpark/Maynooth) also an RPS Mullen Bridge Railpark/Maynooth) Mullen Bridge Railpark/Maynooth) Maynooth Station and signal box also an RPS (B05-60). The also an RPS (B05-60). The 'entrance/wayfinding' to station for (B05-60)'entrance/wayfinding' to station for passengers would also be passengers would also be compromised by this option. compromised by this option. Comparable to other options Comparable to other options Comparable to other options Potential compliance/conflict with Biodiversity biodiversity objectives; Indirect 3.4 (flora and impacts on protected species, designated sites; Overall effect on fauna) nature conservation resource. This option requires works close to This option requires works close to This option requires works close to Royal Canal pNHA Royal Canal pNHA Royal Canal pNHA Overall effect on cultural, archaeological and architecture Comparable to other options Comparable to other options Comparable to other options heritage resource. Likely effects Cultural. on RPS. National Monuments. Archaeologi 3.5 SMRs, Conservation areas, etc. cal and Number of designated Indirect impact to Royal Canal and Indirect impact to Royal Canal and Indirect impact to Royal Canal and Architectura Maynooth Station and signal box Maynooth Station and signal box Maynooth Station and signal box I Heritage sites/structures (by level of designation) directly impacted by (B05-60) (B05-60) (B05-60) scheme (land take) Water Overall potential significant 3.6 Comparable to other options Comparable to other options Comparable to other options

MAY-MDC-GEN-OTHE-RP-Y-0002 166

effects on water resource attribute

Resources



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of MAYNOOTH STATION Option 3 - Parking area at the **Sub-Criteria (Quantitative** Option 2 -Parking area after Option 1 - External pavement access road before station **Parameter** Criteria Qualitative) close to Station auxiliary buildings building likely to be affected during construction and operation. OPW CFRAMS flood mapping OPW CFRAMS flood mapping OPW CFRAMS flood mapping indicates option location as liable to indicates option location as liable indicates option location as liable to flood in extreme events from fluvial to flood in extreme events from flood in extreme events from fluvial fluvial sources. sources. sources. Comparable to other options Comparable to other options Comparable to other options Overall impact on land take & Agriculture property. Number of properties to 3.7 and Nonbe impacted/acquired. Likely Agricultural temporary or permanent Options located in the Station Options located in the Station Options located in the Station severance effects. grounds. grounds. grounds. Comparable to other options Comparable to other options Comparable to other options Soils and Geology and likely impact on geological resources Geology and Soils and soil resources to be 3.8 (including developed/removed. Existing No significant advantages or No significant advantages or No significant advantages or information relating to potential to Waste) disadvantages over other options. disadvantages over other options. disadvantages over other options. encounter contaminated land. Comparable to other options Comparable to other options Comparable to other options Radiation Overall likely impact on nearby 3.9 and Strav receptors. This option does not present any This option does not present any This option does not present any Current disadvantage or advantage in disadvantage or advantage in disadvantage or advantage in relation to nearby receptors. relation to nearby receptors. relation to nearby receptors.



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of MAYNOOTH STATION Option 3 - Parking area at the **Sub-Criteria (Quantitative** Option 2 -Parking area after Option 1 - External pavement access road before station **Parameter** Criteria Qualitative) close to Station auxiliary buildings building Comparable to other options Comparable to other options Comparable to other options Vulnerable Benefits that accrue to those groups and suffering from social deprivation, 4.1 deprived geographic isolation and mobility geographic and sensory deprivation No impact No impact No impact areas Accessibilit y & Social inclusion Some comparative advantage Some comparative disadvantage Some comparative disadvantage over other options over other options over other options Local Quality of access in the area accessibility It does not impact on local It impacts on the reduction of two It impacts on the reduction of two accessibility parking areas parking areas Comparable to other options Comparable to other options Comparable to other options Rail's Assessment of safety from an 5.1 Rail's safety is fulfilled in all Rail's safety is fulfilled in all Rail's safety is fulfilled in all operational point of view Safety options. options. options. Comparable to other options Comparable to other options Comparable to other options User's / Assessment of safety from User's 5.2 People's User's / People's safety is fulfilled User's / People's safety is fulfilled User's / People's safety is fulfilled in / People's Safety point of view Safety in all options. in all options. all options. 5 Safety Comparable to other options Comparable to other options Comparable to other options Assessment of Reliability, Option is an external allocation. Option is an external allocation. Option is an external allocation. 5.3 **RAM** Availability and Maintainability of with easy access for maintenance, with easy access for maintenance, with easy access for maintenance, the solution but not as protected as an indoor but not as protected as an indoor but not as protected as an indoor solution solution solution



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of MAYNOOTH STATION Option 3 - Parking area at the **Sub-Criteria (Quantitative** Option 1 - External pavement Option 2 -Parking area after access road before station **Parameter** Criteria Qualitative) auxiliary buildings close to Station building Comparable to other options Comparable to other options Comparable to other options This option does not present any This option does not present any This option does not present any Health benefits derived from **Physical** Health 6.1 6 disadvantage or disadvantage or disadvantage or Activity benefits using a specific option advantage regarding health advantage regarding health advantage regarding health benefits benefits benefits



The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes:

DART Maynooth & City Centre Enhancements. MCA Criteria and parameters									
	MCA (Multi Criteria Analysis) of MAYNOOTH STATION								
Parameter Option 1 –External pavement close to Station Option 2 –Parking area after auxiliary buildings Option access roa									
Economy	Comparable to other options	Comparable to other options	Comparable to other options						
Integration	Comparable to other options	Comparable to other options	Comparable to other options						
Environment	Comparable to other options	Comparable to other options	Comparable to other options						
Accessibility & Social inclusion	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options						
Safety	Comparable to other options	Comparable to other options	Comparable to other options						



	DART Maynooth & City Centre Enhancements. MCA Criteria and parameters							
	MCA (Multi Criteria Analysis) of MAYNOOTH STATION							
Physical Activity		Comparable to other options	Comparable to other options	Comparable to other options				

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new TER in Maynooth Station is Option 1.



					Enhancements. MCA Criteria and paramete	ers	
				MCA (Multi Criteria Anal	ysis) of Leixlip Louisa Bridge Station		
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Parking area	Option 2 –Area close to the station between parking places	Option 3 – Area adjacent to an existing building
				Capital expenditure (CAPEX) required	Comparable to other options	Comparable to other options	Comparable to other options
			CAREY	to implement the option. Assessment of cost of installation and investment to construct/install/use the solution.	The equipment is installed outdoor, on a paved space, a prefabricated building is foreseen	The equipment is installed outdoor, on a paved space, a prefabricated building is foreseen	The equipment is installed outdoor, on a paved space, a prefabricated building is foreseen
		1.1	CAPEX		Comparable to other options	Comparable to other options	Comparable to other options
1	Economy			Access and earthwork	No new road access is required. Access through the existing road. On a paved area.	No new road access is required. Access through the existing road. On a paved area.	No new road access is required. Access through the existing road. On a paved area.
		1.2	OPEX	Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	Comparable to other options	Comparable to other options	Comparable to other options
					Option is accessible from the road, modular and independent	Option is accessible from the parking road, modular and independent	Option is accessible from the trackside, modular and independent
				Long term maintenance cost depending on maintenance and inspection of the new roads	Comparable to other options	Comparable to other options	Comparable to other options
					Same in comparison with other options	Same in comparison with other options	Same in comparison with other options
					Comparable to other options	Comparable to other options	Comparable to other options
		2.1	Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.
2	Integration				Comparable to other options	Comparable to other options	Comparable to other options
		2.2	Integration with parallel projects/contracts	Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.
		2.3			Comparable to other options	Comparable to other options	Comparable to other options



						ers	
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Parking area	Option 2 –Area close to the station between parking places	Option 3 – Area adjacent to an existing building
				Square meters of additional land used, or volume required to implement the solution	The option is inside exiting IÉ boundary, and a standard surface is being considered for the new TER	The option is inside exiting IÉ boundary, and a standard surface is being considered for the new TER	The option is inside exiting IÉ boundary, and a standard surface is being considered for the new TER
			Geographical Integration		Comparable to other options	Comparable to other options	Comparable to other options
				Space for access and walkways	The option is inside exiting IÉ boundary, and a standard surface is being considered for the new TER Comparable to other options Construction is located outdoors. A prefabricated building is being considered Comparable to other options Comparable to other options Comparable to other options Comparable to other options Not applicable, Civil Works and Infrastructure Comparable to other options Not applicable, Civil Works and Infrastructure Comparable to other options The TER building does not emit noise or vibration while in operation. Therefore, there is no indifference in the noise or vibration while in operation. Therefore, there is no indifference in the noise or vibration impacts on a long-term basis for this option in comparison with others.		There is space for accessing through road
				Qualitative Assessment of the	Comparable to other options	Comparable to other options	Comparable to other options
	1 1/1 1		Buildability during operation	buildability of the solution during operation. Impact in operation and disruptions.		prefabricated building is being	Construction is located outdoors. A prefabricated building is being considered
		2.5		Assessment the obsolescence of the solution/technology in a long-term basis	Comparable to other options	Comparable to other options	Comparable to other options
					1		Not applicable, Civil Works and Infrastructure
		2.6	Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	Comparable to other options	Comparable to other options	Comparable to other options
							Not applicable, Civil Works and Infrastructure
					Comparable to other options	Comparable to other options	Comparable to other options
3	Environment	3.1	Noise and Vibration	Likelihood of a noise impact on nearby noise sensitive locations	vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for	vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for	The TER building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a longterm basis for this option in comparison with others.
		3.2			Comparable to other options	Comparable to other options	Comparable to other options



			<u> </u>	Enhancements. MCA Criteria and paramet	ers	
			MCA (Multi Criteria Anal	ysis) of Leixlip Louisa Bridge Station		
Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Parking area	Option 2 –Area close to the station between parking places	Option 3 – Area adjacent to an existing building
		Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
				Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
	3.3		Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	This Option is located within the confines of an existing car parking area at Louisa Bridge Train Station. This Option is located at a greater distance to the residential apartments facing the existing station but will still be visible to a number of higher apartments.	This Option is located within the confines of an existing car parking area at Louisa Bridge Train Station. This Option is located at a greater distance to the residential apartments facing the existing station but will still be visible to a number of higher apartments.	This Option is located within the confines of an existing car parking area at Louisa Bridge Train Station. This Option is the closest to residential apartments facing the existing station and will be visible to a larger number of apartments when compared to Options 1 and 2.
	3.4		Overall effect on cultural,	Comparable to other options	Comparable to other options	Comparable to other options
		Cultural, Archaeological and Architectural Heritage	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)	This Option is located on made ground within the confines of an existing car parking area at Louisa Bridge Train Station. This option does not present any advantage or disadvantages over other options.	This Option is located on made ground within the confines of an existing car parking area at Louisa Bridge Train Station. This option does not present any advantage or disadvantages over other options.	This Option is located on made ground within the confines of an existing car parking area at Louisa Bridge Train Station. This option does not present any advantage or disadvantages over other options.
			Overall potential significant effects on	Comparable to other options	Comparable to other options	Comparable to other options
	3.5	Water Resources	water resource attribute likely to be affected during construction and operation.	This option does not present any disadvantage or advantage in regard to water resources.	This option does not present any disadvantage or advantage in regard to water resources.	This option does not present any disadvantage or advantage in regard to water resources.
	3.6	Agriculture and Non- Agricultural	Overall impact on land take & property. Number of properties to be	Comparable to other options	Comparable to other options	Comparable to other options



					Enhancements. MCA Criteria and paramete ysis) of Leixlip Louisa Bridge Station	ers	
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Parking area	Option 2 –Area close to the station between parking places	Option 3 – Area adjacent to an existing building
				impacted/acquired. Likely temporary or permanent severance effects, etc.	There are no direct impacts on non - agricultural property. Option located on Louisa Bridge Train Station grounds, within CIE land boundary.	There are no direct impacts on non - agricultural property. Option located on Louisa Bridge Train Station grounds, within CIE land boundary.	There are no direct impacts on non - agricultural property. Option located on Louisa Bridge Train Station grounds, within CIE land boundary.
				Soils and Geology and likely impact on geological resources based on	Comparable to other options	Comparable to other options	Comparable to other options
			Geology and Soils (including Waste)	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.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.
		1 38 1		Overall likely impact on existing sources of electromagnetic radiation.	Comparable to other options	Comparable to other options	Comparable to other options
			Radiation and Stray Current		This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
			deprived geographic	Benefits that accrue to those suffering	Significant comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
4	Accessibility & Social inclusion			from social deprivation, geographic isolation and mobility and sensory deprivation	This option reduces 2 PMR places in the parking area	This option reduces 1 parking place and might impact PMR at construction phase	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas
			Local accessibility	Quality of access in the area	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
		4.2			This option impacts on the parking area.	This option impacts on the parking area.	It does not impact on the quality of access in the area
5	Safety	5.1	Rail's Safety		Comparable to other options	Comparable to other options	Comparable to other options



	DART Maynooth & City Centre Enhancements. MCA Criteria and parameters								
				MCA (Multi Criteria Anal	ysis) of Leixlip Louisa Bridge Station				
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Parking area	Option 2 –Area close to the station between parking places	Option 3 – Area adjacent to an existing building		
				Assessment of safety from an operational point of view	Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.		
		5.2		Assessment of safety from User's / People's Safety point of view	Comparable to other options	Comparable to other options	Comparable to other options		
			User's / People's Safety		User's / People's safety is fulfilled in all options.	User's / People's safety is fulfilled in all options.	User's / People's safety is fulfilled in all options.		
			RAM	Assessment of Reliability, Availability and Maintainability of the solution	Comparable to other options	Comparable to other options	Comparable to other options		
					Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution		
					Comparable to other options	Comparable to other options	Comparable to other options		
6	Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits		



The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

	DART Maynooth & City Centre Enhancements. MCA Criteria and parameters								
		MCA (Multi Criteria Ai	nalysis) of Leixlip Louisa Bridge Station						
	Parameter	Option 1 – East parking area	Option 2 –Area to the east of the station between parking places	Option 3 – Area adjacent to an existing building east of the station					
4	Economy	Comparable to other options	Comparable to other options	Comparable to other options					
·		Comparable to other options	Comparable to other options	Comparable to other options					
2	Integration	Comparable to other options	Comparable to other options	Comparable to other options					
3	Environment	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options					
4	Accessibility & Social inclusion	Significant comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options					
5	Safety	Comparable to other options	Comparable to other options	Comparable to other options					
6	Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options					

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new TER in Leixlip Louisa Bridge Stations Option 2.



	DART Maynooth & City Centre Enhancements. MCA Criteria and parameters								
	MCA (Multi Criteria Analysis) of Leixlip Confey								
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – End of parking area	Option 2 –Parking place booked for staff	Option 3 – South of the railway		
1	Economy	1.1	CAPEX	Assessment of cost of installation and investment to construct/install/use the solution.	Comparable to other options	Comparable to other options	Significant comparative disadvantage over other options		
					The equipment is installed outdoor, on a paved space, a prefabricated building is foreseen	The equipment is installed outdoor, on a paved space, a prefabricated building is foreseen	The equipment is installed outdoor, but on a gardened place without a direct road access		
				Access and earthworks	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant comparative disadvantage over other options		
					Road access through the existing parking area.	Road access through the existing parking area.	New access to be provided		
					On a paved area.	On a paved area.	On a green area		
							(If Substations option 2 is chosen, this TER location could be integrated)		
		1.2	OPEX	Operating expenditure (OPEX) of the day-to- day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	Comparable to other options	Comparable to other options	Comparable to other options		
					Option is accessible from the parking road, modular and independent	Option is accessible from the parking road, modular and independent	Option is accessible from the trackside (once the access is constructed), modular and independent		
				Long term maintenance cost depending on maintenance and inspection of the new roads	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant comparative disadvantage over other options		
					No long-term maintenance cost regarding access.	No long-term maintenance cost regarding access.	More long-term maintenance cost as a new access is required		
2	Integration	2.1	Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	Comparable to other options	Comparable to other options	Comparable to other options		
					There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.		



	DART Maynooth & City Centre Enhancements. MCA Criteria and parameters						
	MCA (Multi Criteria Analysis) of Leixlip Confey						
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – End of parking area	Option 2 –Parking place booked for staff	Option 3 – South of the railway
		2.2	Integration with parallel projects/contracts	Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	Comparable to other options	Comparable to other options	Comparable to other options
					There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.
		2.3	Geographical Integration	Square meters of additional land used, or volume required to implement the solution	Comparable to other options	Comparable to other options	Significant comparative disadvantage over other options
					The option is inside exiting IÉ boundary, and a standard surface is being considered for the new TER	The option is inside exiting IÉ boundary, and a standard surface is being considered for the new TER	The option is outside of exiting IÉ boundary, and a standard surface is being considered for the new TER
				Space for access and walkways	Comparable to other options	Comparable to other options	Comparable to other options
					There is space for road and pedestrian access	There is space for road and pedestrian access	There is space for road and pedestrian access
		2.4	Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	Comparable to other options	Comparable to other options	Comparable to other options
					Construction is located outdoors. A prefabricated building is being considered	Construction is located outdoors. A prefabricated building is being considered	Construction is located outdoors. A prefabricated building is being considered.
		0.5	Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	Comparable to other options	Comparable to other options	Comparable to other options
		2.5			Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure



	DART Maynooth & City Centre Enhancements. MCA Criteria and parameters						
	MCA (Multi Criteria Analysis) of Leixlip Confey						
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – End of parking area	Option 2 –Parking place booked for staff	Option 3 – South of the railway
	2.6			Considerations of whather the colution is	Comparable to other options	Comparable to other options	Comparable to other options
		6 Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure	
		3.1	Noise and Vibration	Likelihood of a noise impact on nearby noise sensitive locations	Comparable to other options	Comparable to other options	Comparable to other options
3					The TER building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The TER building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The TER building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.
		3.2	Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	Comparable to other options	Comparable to other options	Comparable to other options
	Environment				No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
		3.3	Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
					Option 1 is located within the confines of an existing car parking area at Leixlip Train Station. It is likely to have landscape and visual impact to the neighbouring residential receptors.	Option 2 is located within the confines of an existing car parking area at Leixlip Train Station. It is likely to have landscape and visual impact to the neighbouring residential receptors.	Option 3 is located in open space area which will have a direct impact on landscape character and amenity lands that area also located adjacent to sensitive residential receptors.
		3.4	Cultural, Archaeological	Overall effect on cultural, archaeological and architecture heritage resource. Likely effects on RPS, National Monuments, SMRs,	Comparable to other options	Comparable to other options	Comparable to other options



				DART Maynooth &	City Centre Enhancements. MCA Criteria and pa	arameters	
				МСА	A (Multi Criteria Analysis) of Leixlip Confey		
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – End of parking area	Option 2 –Parking place booked for staff	Option 3 – South of the railway
			and Architectural Heritage	Conservation areas, etc. Number of designated sites/structures (by level of designation) directly impacted by scheme (land take)	This Option is located on made ground within the confines of an existing car parking area at Leixlip Train Station. This option does not present any advantage or disadvantages over other options.	This Option is located on made ground within the confines of an existing car parking area at Leixlip Train Station. This option does not present any advantage or disadvantages over other options.	No known heritage resources recorded. Potential of unknown archaeological resources on undeveloped lands. However, this option does not present any significant advantage or disadvantages over other options.
					Comparable to other options	Comparable to other options	Comparable to other options
		3.5	Water Resources	Overall potential significant effects on water resource attribute likely to be affected during construction and operation.	Location may be liable to flood from fluvial sources. Flood Risk is comparable to other options. Risk to surface water quality is comparable to other options.	Location may be liable to flood from fluvial sources. Flood Risk is comparable to other options. Risk to surface water quality is comparable to other options.	Location may be liable to flood from fluvial sources. Flood Risk is comparable to other options. Risk to surface water quality is comparable to other options.
			Agriculture and Non-Agricultural		Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
	3.6	3.6		Overall impact on land take & property. Number of properties to be impacted/acquired. Likely temporary or	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.
				permanent severance effects, etc.	Option located on Leixlip Train Station grounds, within CIE land boundary.	Option located on Leixlip Train Station grounds, within CIE land boundary.	Option 3 is located outside of the CIE land boundary; land acquisition is required.
		3.7	Geology and Soils (including Waste)	Soils and Geology and likely impact on geological resources based on preliminary/likely construction details. % of	Comparable to other options	Comparable to other options	Comparable to other options
				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.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.	This option will result in loss of some soil resources and soil sealing. However, it does not represent a significant advantage or disadvantages over other options.
					Comparable to other options	Comparable to other options	Comparable to other options
		3.8	Radiation and Stray Current	Overall likely impact on existing sources of electromagnetic radiation.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
			Vulnerable		Comparable to other options	Comparable to other options	Comparable to other options
4	Accessibility & Social inclusion	4.1	groups and	Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	The option is located in one of the corners of the parking area, with little impact.	The option is located in one of the corners of the parking area, with little impact.	This option does not present any disadvantage or advantage regarding vulnerable groups and deprived geographic areas.
	Total Illoration		Local	Quality of access in the area	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
			accessibility	Quality of access III the alea	It would impact on the parking area.	It would impact the parking place booked for staff, requiring a new one	It would have no impacts on the access in the area.



	DART Maynooth & City Centre Enhancements. MCA Criteria and parameters										
	MCA (Multi Criteria Analysis) of Leixlip Confey										
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – End of parking area	Option 2 –Parking place booked for staff	Option 3 – South of the railway				
		5.1	Rail's Safety	Assessment of safety from an operational	Comparable to other options	Comparable to other options	Comparable to other options				
		3.1	Rail's Salety	point of view	Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.				
			User's / People's	Assessment of safety from User's / People's	Comparable to other options	Comparable to other options	Comparable to other options				
5	Safety	5.2 ety	Safety	Safety point of view	User's / People's safety is fulfilled in all options.	User's / People's safety is fulfilled in all options.	User's / People's safety is fulfilled in all options.				
				Assessment of Reliability, Availability and Maintainability of the solution	Comparable to other options	Comparable to other options	Comparable to other options				
		5.3	RAM		Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution				
					Comparable to other options	Comparable to other options	Comparable to other options				
6	6 Physical Activity		6.1 Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits				



The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

		DART Maynooth & City Centi	re Enhancements. MCA Criteria and parameters	
			iteria Analysis) of Leixlip Confey	
	Parameter	Option 1 – End of parking area	Option 2 –Parking Area (Staff)	Option 3 – South of the railway
1	Economy	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant comparative disadvantage over other options
2	Integration	Comparable to other options	Comparable to other options Comparable to other options	
3	Environment	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
4	Accessibility & Social inclusion	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
5	Safety	Comparable to other options	Comparable to other options	Comparable to other options
6	Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new TER in Leixlip Confey Station is Option 2, being the one closest to the station building.



			DART Maynooth	n & City Centre Enhancements. N	ICA Criteria and parameters	
			М	CA (Multi Criteria Analysis) of PC	ORTERSTOWN	
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Close to the existing technical buildings(preferred)	Option 2 – Close to the other side of the Level Crossing
			CAPEX	Capital expenditure (CAPEX) required to implement the option.	Some comparative advantage over other options	Some comparative disadvantage over other options
		1.1		Assessment of cost of installation and investment to construct/install/use the solution.	The equipment is installed outdoor, on a paved area, a prefabricated building is foreseen	The equipment is installed outdoor, on a paved space, a prefabricated building is foreseen, but currently there is an existing LOC (presumably for level crossing functionality), that would need to be removed
				Access and earthworks	Some comparative advantage over other options	Some comparative disadvantage over other options
1	Economy			Access and earnworks	There is access through the existing road at the level crossing	There is access from the trackside, and it is not close from the existing road
				Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to keep	Comparable to other options	Comparable to other options
				maintain the system/solution/option operational.	Option is accessible from the road, modular and independent	Option is accessible from the trackside, modular and independent
		1.2	OPEX		Comparable to other options	Comparable to other options
				Long term maintenance cost depending on maintenance and inspection of the new roads	Same long maintenance cost in comparison with other options regarding roads maintenance	Same long maintenance cost in comparison with other options regarding roads maintenance
					Some comparative advantage over other options	Some comparative disadvantage over other options
С	Integration	2.1	Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	The TER will be built on an empty space, so there is no impact on existing equipment	There TER would require removing an existing LOC, and a small yellow fence



					Comparable to other options	Comparable to other options
		2.2	Integration with parallel projects/contracts	Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	This would be a new TER, so no migration is required	This would be a new TER, so no migration is required
				Square meters of additional land	Comparable to other options	Comparable to other options
		2.3		used, or volume required to implement the solution	The option is in the limit of exiting IÉ boundary	The option is in the limit of exiting IÉ boundary
					Comparable to other options	Comparable to other options
				Space for access and walkways	There is no impact on walkways	There is no impact on walkways
				Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	Comparable to other options	Comparable to other options
		2.4	Buildability during operation		Option is located close to the trackside, but with a separation same as for existing technical buildings, no impact	Option is located close to the trackside, but with a separation same as for existing technical buildings, no impact
					Comparable to other options	Comparable to other options
			Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure
			Ownership or	Considerations of whether the solution is a registered	Comparable to other options	Comparable to other options
		2.6	open technology	product/technology, range of providers or open technology	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure
					Comparable to other options	Comparable to other options
3	Environment	3.1	Noise and Vibration	Estimated number of people likely to be affected by transport-related noise with the scheme within 50m.	The TER building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a longterm basis for this option in comparison with others.	The TER building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.
		3.2			Comparable to other options	Comparable to other options



		Air Quality and Climate	Local air quality effects. Number of receptors within 50m.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
		Landscape and Visual (including light)		Some comparative advantage over other options	Some comparative disadvantage over other options
	3.3		Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	Option 1 location would consolidate all buildings in one place.	This location would extend the impacts across a larger area.
	3.4	Biodiversity (flora	Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected	Comparable to other options	Comparable to other options
	3.4	and fauna)	species, designated sites; Overall effect on nature conservation resource.	This option does not present any disadvantage or advantage over other options.	This option does not present any disadvantage or advantage over other options.
			Overall effect on cultural, archaeological and architecture heritage resource. Likely effects	Some comparative advantage over other options	Some comparative disadvantage over other options
	3.5	Cultural, Archaeological and Architectural Heritage	on RPS, National Monuments, SMRs, Conservation areas, etc. Number of designated sites/structures (by level of designation) directly impacted by scheme (land take)	TER building would be located in proximity to existing buildings which are located in proximity to Kennan Bridge option 1 has some comparative advantage as it would result in consolidating any potential impacts rather than dispersing impacts. (NIAH 11361004).	TER building would be located in proximity to existing buildings which are also located in proximity to Kennan Bridge (NIAH NIAH 11361004)
	3.6	Water Resources	Overall potential significant effects on water resource attribute likely to be affected	Comparable to other options	Comparable to other options



				during construction and operation.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.
					Comparable to other options	Comparable to other options
		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.	This option does not present any disadvantage or advantage over other options.	This option does not present any disadvantage or advantage over other options.
			impact of	Soils and Geology and likely impact on geological resources based on preliminary/likely	Comparable to other options	Comparable to other options
			Geology and Soils (including Waste)	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.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.
				Overall likely impact on existing sources of electromagnetic radiation.	Comparable to other options	Comparable to other options
		3.8	Radiation and Stray Current		This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
		4.1	Vulnerable groups and deprived geographic areas	Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory	Comparable to other options	Comparable to other options
			geographic areas	deprivation	No impact	No impact
4	Accessibility & Social inclusion		geographic areas	deprivation	No impact Comparable to other options	No impact Comparable to other options
4			Local accessibility	deprivation Quality of access in the area	·	
4		F.4	Local accessibility	Quality of access in the area	Comparable to other options Access for pedestrians nor vehicles	Comparable to other options Access for pedestrians nor vehicles
5		5.1			Comparable to other options Access for pedestrians nor vehicles impacted	Access for pedestrians nor vehicles impacted



			User's / People's Safety	Assessment of safety from User's / People's Safety point of view	User's / People's safety is fulfilled in all options.	User's / People's safety is fulfilled in all options.
					Comparable to other options	Comparable to other options
		5.3	RAM	Assessment of Reliability, Availability and Maintainability of the solution	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution
					Comparable to other options	Comparable to other options
6	Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes:

	DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of PORTERSTOWN STATION										
	MCA (Multi C	Interia Analysis) of PORTERSTOWN	ISTATION								
	Parameter	Option 1 – Close to the existing technical buildings	Option 2 – Close to the other side of the Level Crossing								
1	Economy	Some comparative advantage over other options	Some comparative disadvantage over other options								
2	Integration	Some comparative advantage over other options	Some comparative disadvantage over other options								
3	Environment	Some comparative advantage over other options	Some comparative disadvantage over other options								
4	Accessibility & Social inclusion	Comparable to other options	Comparable to other options								
5	Safety	Comparable to other options	Comparable to other options								
6	Physical Activity	Comparable to other options	Comparable to other options								



Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new TER in Porterstown is Option 1, close to the existing technical buildings.



	DART Maynooth & City Centre Enhancements. MCA Criteria and parameters										
				MCA (Multi Crit	eria Analysis) of COOLMINE						
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Cark place in the middle of the parking area	Option 2 – Parking place in front of the station building	Option 3 – Garden area by the trackside close to existing TER				
			CAPEX	Capital expenditure (CAPEX) required to implement the option.	Comparable to other options	Comparable to other options	Comparable to other options				
				Assessment of cost of installation and investment to construct/install/use the solution.	The equipment is installed outdoor, on a paved area, a prefabricated building is foreseen	The equipment is installed outdoor, on a paved space, a prefabricated building is foreseen	The equipment is installed outdoor, on a garden area, a prefabricated building is foreseen				
		1.1			Comparable to other options	Comparable to other options	Comparable to other options				
1	Economy			Access and earthworks	No new access is needed. The one for the station entrance can be used.	No new access is needed. The one for the parking can be used.	No new access is needed. The TER is accessible from the trackside.				
				Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	Comparable to other options	Comparable to other options	Comparable to other options				
					Option is accessible from the parking road, modular and independent	Option is accessible from the parking road, modular and independent	Option is accessible from the trackside, modular and independent				
		1.2	OPEX	Long torm maintanance cost	Comparable to other options	Comparable to other options	Comparable to other options				
				Long term maintenance cost depending on maintenance and inspection of the new roads	Same long maintenance cost in comparison with other options regarding access maintenance	Same long maintenance cost in comparison with other options regarding access maintenance	Same long maintenance cost in comparison with other options regarding access maintenance				
				Ovalitativa Assessment (1)	Comparable to other options	Comparable to other options	Some comparative advantage over other options				
2	Integration	2.1 Integration with existing equipment		Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	Integration with existing equipment would be easier as new TER is adjacent to existing one, improving migration process.				



				DART Maynooth & City Centre E	Enhancements. MCA Criteria and param	eters	
				MCA (Multi Crit	eria Analysis) of COOLMINE		
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Cark place in the middle of the parking area	Option 2 – Parking place in front of the station building	Option 3 – Garden area by the trackside close to existing TER
				Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	Some comparative disadvantage over other options	Some comparative advantage over other options	Significant comparative advantage over other options
	_	2.2	Integration with parallel projects/contracts		There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	The existing TER does not have enough capacity for future service, this option is quite close to the existing TER, providing an easy migration of the equipment	The existing TER does not have enough capacity for future service, this option is the closest to the existing TER, providing an easy migration of the equipment
				Square meters of additional land	Comparable to other options	Comparable to other options	Comparable to other options
		2.3		used, or volume required to implement the solution	The option is in the limit of exiting IÉ boundary	The option is in the limit of exiting IÉ boundary	The option is in the limit of exiting IÉ boundary
				Space for access and walkways	Comparable to other options	Comparable to other options	Comparable to other options
					There is space for both road access and walkways	There is space for both road access and walkways	There is space for both road access and walkways
				O alliadi a Assassas de filla	Comparable to other options	Comparable to other options	Comparable to other options
		2.4	Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	Option is located in a paved area	Option is located in a paved area	Option is located in a garden area
				Assessment the obsolescence of the	Comparable to other options	Comparable to other options	Comparable to other options
		2.5	Obsolescence	solution/technology in a long-term basis	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure
		2.6	Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	Comparable to other options	Comparable to other options	Comparable to other options



				<u> </u>	Enhancements. MCA Criteria and param	eters	
				MCA (Multi Crit	eria Analysis) of COOLMINE		
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Cark place in the middle of the parking area	Option 2 – Parking place in front of the station building	Option 3 – Garden area by the trackside close to existing TER
					Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure
					Comparable to other options	Comparable to other options	Comparable to other options
		3.1	Noise and Vibration	Estimated number of people likely to be affected by transport-related noise with the scheme within 50m.	The TER building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The TER building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The TER building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.
					Comparable to other options	Comparable to other options	Comparable to other options
		3.2 Air Quality and Climate		Local air quality effects. Number of receptors within 50m.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
3	Environment	Landscape and Visual (including light)			Comparable to other options	Comparable to other options	Comparable to other options
			Visual (including	(including affected; Effects on listed/ key views;	This Option is located within the confines of an existing car parking area at Coolmine Train Station. There are no sensitive landscape and visual characteristics in vicinity of this option and as such, no impacts are likely.	This Option is located within the confines of an existing car parking area at Coolmine Train Station. There are no sensitive landscape and visual characteristics in vicinity of this option and as such, no impacts are likely.	This Option is located within the station trackside area at Coolmine Train Station. There are no sensitive landscape and visual characteristics in vicinity of this option and as such, no impacts are likely.
				Potential compliance/conflict with biodiversity objectives; Indirect	Comparable to other options	Comparable to other options	Comparable to other options
		3.4	Biodiversity	impacts on protected species, designated sites; Overall effect on nature conservation resource.	This option does not present any disadvantage or advantage in regards to biodiversity.	This option does not present any disadvantage or advantage in regards to biodiversity.	This option does not present any disadvantage or advantage in regards to biodiversity.
		3.5	Cultural, Archaeological and	Overall effect on cultural, archaeological and architecture heritage resource. Likely effects on	Comparable to other options	Comparable to other options	Comparable to other options



				DART Maynooth & City Centre E	Enhancements. MCA Criteria and param	eters	
				MCA (Multi Crit	eria Analysis) of COOLMINE		
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Cark place in the middle of the parking area	Option 2 – Parking place in front of the station building	Option 3 – Garden area by the trackside close to existing TER
			Architectural Heritage	RPS, National Monuments, SMRs, Conservation areas, etc. Number of designated sites/structures (by level of designation) directly impacted by scheme (land take)	No direct impacts identified. This option does not present any advantage or disadvantages over other options.	No direct impacts identified. This option does not present any advantage or disadvantages over other options.	No direct impacts identified. This option does not present any advantage or disadvantages over other options.
				Overall potential significant effects on water resource attribute likely to	Comparable to other options	Comparable to other options	Comparable to other options
		3.6	Water Resources	be affected during construction and operation.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.
					Comparable to other options	Comparable to other options	Comparable to other options
		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.	There are no direct impacts on non - agricultural property. Option located on Coolmine Train Station parking grounds within CIE land boundary.	There are no direct impacts on non - agricultural property. Option located on Coolmine Train Station parking grounds within CIE land boundary.	There are no direct impacts on non - agricultural property. Option located on Coolmine Train Station parking grounds within CIE land boundary.
			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	Comparable to other options	Comparable to other options	Comparable to other options
				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.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.
					Comparable to other options	Comparable to other options	Comparable to other options
		3.9	Radiation and Stray Current	Overall likely impact on existing sources of electromagnetic radiation.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
4	Accessibility & Social inclusion	4.1	Vulnerable groups and deprived geographic areas	Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	Comparable to other options	Comparable to other options	Comparable to other options



				•	Enhancements. MCA Criteria and parameria Analysis) of COOLMINE	eters	
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Cark place in the middle of the parking area	Option 2 – Parking place in front of the station building	Option 3 – Garden area by the trackside close to existing TER
					No impact	No impact	No impact
					Comparable to other options	Comparable to other options	Some comparative advantage over other options
			Local accessibility	Quality of access in the area	A couple of parking places are required for the location of this TER option	A couple of parking places are required for the location of this TER option	No parking places required
			Rail's Safety	Assessment of safety from an operational point of view	Comparable to other options	Comparable to other options	Comparable to other options
		5.1			Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.
		5.2 Use		Assessment of safety from User's / People's Safety point of view	Comparable to other options	Comparable to other options	Comparable to other options
5	Safety		User's / People's Safety		User's / People's safety is fulfilled in all options.	User's / People's safety is fulfilled in all options.	User's / People's safety is fulfilled in all options.
					Comparable to other options	Comparable to other options	Comparable to other options
		5.3	RAM	Assessment of Reliability, Availability and Maintainability of the solution	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution
					Comparable to other options	Comparable to other options	Comparable to other options
6	Physical Activity	6.1	Health benefits	enefits Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



195

The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes:

Ĵ		DART Maynooth & City Centre Enhan	cements. MCA Criteria and parameters	
			nalysis) of COOLMINE	
	Parameter	Option 1 – Cark place in the middle of the parking area	Option 2 – Parking place in front of the station building	Option 3 –Garden area by the trackside close to the existing TER
1	Economy	Comparable to other options	Comparable to other options	Comparable to other options
2	Integration	Some comparative disadvantage over other options	Some comparative advantage over other options	Significant comparative advantage over other options
3	Environment	Comparable to other options	Comparable to other options	Some comparative advantage over other options
4	Accessibility & Social inclusion	Comparable to other options	Comparable to other options	Comparable to other options
5	Safety	Comparable to other options	Comparable to other options	Comparable to other options
6	Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new TER in Coolmine is Option 3, garden area by the trackside close to the existing TER.



				DART Maynooth & City Centre Enhand	cements. MCA Criteria and parameters	S	
				MCA (Multi Criteria Ana	lysis) of CASTLEKNOCK		
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Station building, close to ticketing machine	Option 2 –Garden entrance of access road Close to substations option 2	Option 3 – End of Access Road after substation option 1
				Capital expenditure (CAPEX) required to implement the option.	Comparable to other options	Comparable to other options	Comparable to other options
				Assessment of cost of installation and investment to construct/install/use the solution.	The equipment is installed outdoor, on a paved area, a prefabricated building is foreseen	The equipment is installed outdoor, on a garden space, a prefabricated building is foreseen	The equipment is installed outdoor, on a garden space, a prefabricated building is foreseen
		1.1	CAPEX		Some comparative advantage over other options	Significant comparative disadvantage over other options	Some comparative disadvantage over other options
1	Economy			Access and earthworks	No new access is needed. The one for the station entrance can be used.	Extension of the existing access would be needed	No new access is needed. The one for the station entrance can be used. Earthworks would be needed.
		1.2	OPEX	Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	Comparable to other options	Significant comparative disadvantage over other options	Comparable to other options
					Option is accessible from the access road, modular and independent	Option would need additional extension of existing access road	Option is accessible from the access road, modular and independent
				Long term maintenance cost depending on maintenance and inspection of the new roads	Comparable to other options	Comparable to other options	Comparable to other options
					Same long maintenance cost in comparison with other options regarding roads maintenance	Same long maintenance cost in comparison with other options regarding roads maintenance	Same long maintenance cost in comparison with other options regarding roads maintenance
					Significant comparative advantage over other options	Comparable to other options	Comparable to other options
2	Integration	2.1	Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	This option is the closest one to the centre of the station building.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.
	intogration		Integration with parallel projects/contracts		Comparable to other options	Comparable to other options	Comparable to other options
		2.2		Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.



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					Comparable to other options	Comparable to other options	Some comparative disadvantage over other options
					The option is in the limit of exiting IÉ boundary	The option is in the limit of exiting IÉ boundary	The option is in the frontier of exiting IÉ boundary, but part of the TER would be outside existing boundary
					Comparable to other options	Comparable to other options	Comparable to other options
				Space for access and walkways	There is space for both road access and walkways	There is space for both road access and walkways	There is space for both road access and walkways
			Duildebilite during	Qualitative Assessment of the buildability	Comparable to other options	Some comparative disadvantage over other options	Significant comparative disadvantage over other options
		2.4	Buildability during operation	of the solution during operation. Impact in operation and disruptions.	Option is located in a paved area close to the station building	Impact can be foreseen with access road during construction	The is impact on the road access and the distance to the station might be excessive
	2.5 Obsolescence Assessr		Assessment the obsolescence of the	Comparable to other options	Comparable to other options	Comparable to other options	
		2.3	Obsolescence	solution/technology in a long-term basis	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure
		2.6	Ownership or open	Considerations of whether the solution is a registered product/technology, range of	Comparable to other options	Comparable to other options	Comparable to other options
			technology	providers or open technology	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure
		3.1	Noise and Vibration	Likelihood of a noise impact on nearby noise sensitive locations	Comparable to other options	Comparable to other options	Comparable to other options
	_				The TER building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a longterm basis for this option in comparison with others.	The TER building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a longterm basis for this option in comparison with others.	The TER building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.
3	Environment				Comparable to other options	Comparable to other options	Comparable to other options
		3.2	Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
		3.3	_		Comparable to other options	Comparable to other options	Comparable to other options



			Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	All options are located within the confines of the existing car parking area at Castleknock Train station and are directly facing the Royal Canal, a sensitive landscape feature. All Options are likely to have an impact on the landscape character as well as the views to and from the Royal Canal.	All options are located within the confines of the existing car parking area at Castleknock Train station and are directly facing the Royal Canal, a sensitive landscape feature. All Options are likely to have an impact on the landscape character as well as the views to and from the Royal Canal.	All options are located within the confines of the existing car parking area at Castleknock Train station and are directly facing the Royal Canal, a sensitive landscape feature. All Options are likely to have an impact on the landscape character as well as the views to and from the Royal Canal.
				Overall effect on cultural, archaeological and architecture heritage resource. Likely	Comparable to other options	Comparable to other options	Comparable to other options
		3.4	Cultural, Archaeological and Architectural Heritage	effects on RPS, National Monuments, SMRs, Conservation areas, etc. Number of designated sites/structures (by level of designation) directly impacted by scheme (land take)	All options are adjacent to the Royal Canal (RPS) and are likely to have an indirect impact on the RPS.	All options are adjacent to the Royal Canal (RPS) and are likely to have an indirect impact on the RPS.	All options are adjacent to the Royal Canal (RPS) and are likely to have an indirect impact on the RPS.
				Overall potential significant effects on	Comparable to other options	Comparable to other options	Comparable to other options
		3.5	Water Resources	water resource attribute likely to be affected during construction and operation.	This option does not present any disadvantage or advantage in regard to water resources.	This option does not present any disadvantage or advantage in regard to water resources.	This option does not present any disadvantage or advantage in regard to water resources.
					Comparable to other options	Comparable to other options	Comparable to other options
		3.6	Agriculture and Non-	Overall impact on land take & property. Number of properties to be	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.
			Agricultural	impacted/acquired. Likely temporary or permanent severance effects, etc.	Option located on Castleknock Train Station grounds, within CIE land boundary.	Option located on Castleknock Train Station grounds, within CIE land boundary.	Option located on Castleknock Train Station grounds, within CIE land boundary.
				Soils and Geology and likely impact on	Comparable to other options	Comparable to other options	Comparable to other options
		3.7	Geology and Soils (including Waste)	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.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.
			De Paris de 100	0	Comparable to other options	Comparable to other options	Comparable to other options
		3.8	Radiation and Stray Current	Overall likely impact on existing sources of electromagnetic radiation.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
	Accessibility &		Vulnerable groups and	Benefits that accrue to those suffering from social deprivation, geographic	Comparable to other options	Comparable to other options	Comparable to other options
4	Social inclusion	4.1	deprived geographic areas	from social deprivation, geographic isolation and mobility and sensory deprivation	No impact	No impact	No impact



			Local accessibility	Quality of access in the area	Some comparative disadvantage over other options	Comparable to other options	Comparable to other options
			200al accossistinty	Quality of access in the area	It takes some walkway space in front of the station entrance.	No impact on local accessibility	No impact on local accessibility
		5.1		Assessment of sofety from an	Comparable to other options	Comparable to other options	Comparable to other options
	Safety		Rail's Safety	Assessment of safety from an operational point of view	Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.
		5.2	User's / People's Safety	Assessment of safety from User's / People's Safety point of view	Comparable to other options	Comparable to other options	Comparable to other options
5					User's / People's safety is fulfilled in all options.	User's / People's safety is fulfilled in all options.	User's / People's safety is fulfilled in all options.
			RAM	Assessment of Reliability, Availability and Maintainability of the solution	Comparable to other options	Comparable to other options	Comparable to other options
		5.3			Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution	Rail's safety if fulfilled in all options
					Comparable to other options	Comparable to other options	Comparable to other options
6	Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

		DART Maynooth & City Centre Enhan	cements. MCA Criteria and parameters	
		MCA (Multi Criteria Ana	lysis) of CASTLEKNOCK	
	Parameter	Option 1 – Station building, close to ticketing machine	Option 2 –Garden entrance of access road	Option 3 – End of Access Road after substation option 1
1	Economy	Some comparative advantage over other options	Significant comparative disadvantage over other options	Some comparative disadvantage over other options
2	Integration	Some comparative advantage over other options	Some comparative disadvantage over other options	Significant comparative disadvantage over other options
3	Environment	Comparable to other options	Comparable to other options	Comparable to other options
4	Accessibility & Social inclusion	Some comparative disadvantage over other options	Comparable to other options	Comparable to other options
5	Safety	Comparable to other options	Comparable to other options	Comparable to other options
6	Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new TER in Castleknock Station is Option 1.



					DART Maynooth & City Centre Enhanceme		
					MCA (Multi Criteria Analysis) of NAVA	N ROAD PARKWAY STATION	
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – TER located in the platform	Option 2 – At the entrance of the parking area	Option 3 – Close to the existing GSM-R tower
				Capital expenditure (CAPEX) required to implement the option.	Comparable to other options	Comparable to other options	Comparable to other options
				Assessment of cost of installation and investment to construct/install/use the solution.	The equipment is installed outdoor, on a paved area, a prefabricated building is foreseen	The equipment is installed outdoor, on a paved space, a prefabricated building is foreseen	The equipment is installed outdoor, on a paved area, a prefabricated building is foreseen
		1.1	CAPEX	Access and earthworks	Comparable to other options	Comparable to other options	Comparable to other options
1	Economy			Access and carmworks	No new access is needed. The TER would be accessible from the trackside	No new access is needed. The TER would be accessible from the road	No new access is needed. The TER would be accessible from an unpaved road already existing to access the GSM-R tower
				Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	Comparable to other options	Comparable to other options	Comparable to other options
					Option is accessible from the trackside, modular and independent	Option is accessible from the road, modular and independent	Option is accessible from the access road , modular and independent
		1.2	OPEX	Long term maintenance	Comparable to other options	Comparable to other options	Comparable to other options
				cost depending on maintenance and inspection of the new roads	Same long maintenance cost regarding roads maintenance	Same long maintenance cost regarding roads maintenance	Same long maintenance cost regarding roads maintenance
			Integration with	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	Comparable to other options	Comparable to other options	Some comparative advantage over other options
2	Integration	2.1			There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	The TER would be located together with the existing GSM-R equipment, so integration with existing equipment is better and maintenance optimized



				DART Maynooth & City Centre Enhanceme	ents. MCA Criteria and parameters	
				MCA (Multi Criteria Analysis) of NAVA	N ROAD PARKWAY STATION	
Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – TER located in the platform	Option 2 – At the entrance of the parking area	Option 3 – Close to the existing GSM-R tower
			Qualitative Assessment of how this	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
	2.2	Integration with parallel projects/contracts	option/solution/technology can be integrated with the existing and current parallel projects/contracts	The existing TER does not have enough capacity for future service, this option is the closest to the centre of the station, providing an easy migration of the equipment	Integration for a new TER is feasible, but not as easy as in the option close to the existing TER	This option is a little too far from the station building
			Square meters of additional land used, or	Comparable to other options	Significant comparative disadvantage over other options	Comparable to other options
	2.3		volume required to implement the solution	The option is in the limit of exiting IÉ boundary	The option is out of the limit of exiting IÉ boundary	The option is in the limit of exiting IÉ boundary
				Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
			Space for access and walkways	This option reduces the space for pedestrians at the station platform	This option would reduce the space for pedestrian at the parking entrance	This option does not have any impact for access and walkways
			Qualitative Assessment of	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
	2.4	Buildability during operation	the buildability of the solution during operation. Impact in operation and disruptions.	Option is located in the trackside; some impact is foreseen on passengers at construction phase	Option is located in a paved area at the entrance of the parking, some impact on pedestrians 'access to the parking lot at construction phase	Option is located far from the station, no impact on passengers nor pedestrians
			Assessment the	Comparable to other options	Comparable to other options	Comparable to other options
	2.5	Obsolescence	obsolescence of the solution/technology in a long-term basis	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure
		Ownership or	Considerations of whether the solution is a	Comparable to other options	Comparable to other options	Comparable to other options
	2.6	Ownership or open technology	registered product/technology, range of providers or open technology	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure



					DART Maynooth & City Centre Enhanceme	nts. MCA Criteria and parameters	
					MCA (Multi Criteria Analysis) of NAVA	N ROAD PARKWAY STATION	
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – TER located in the platform	Option 2 – At the entrance of the parking area	Option 3 – Close to the existing GSM-R tower
				Estanta la colonat	Comparable to other options	Comparable to other options	Comparable to other options
		3.1	Noise and Vibration	Estimated number of people likely to be affected by transport-related noise with the scheme within 50m.	The TER building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The TER building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The TER building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.
					Comparable to other options	Comparable to other options	Comparable to other options
		3.2	Air Quality and Climate	Local air quality effects. Number of receptors within 50m.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
3	Environment	3.3	Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	Comparable to other options	Comparable to other options	Comparable to other options
					Option 1 is located within the confines of the Navan Parkway Station. There are no sensitive visual receptors in vicinity of this option.	Option 2 is located within the parking area just outside the Navan Parkway Station. There are no sensitive visual receptors in vicinity of this option.	Option 3 is located within the confines of the Navan Parkway Station. There are no sensitive visual receptors in vicinity of this option.
			Cultural,	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
		3.4			All options are located on made ground. No known heritage resources recorded. This option does not present any advantage or disadvantages over other options.	All options are located on made ground. No known heritage resources recorded. This option does not present any advantage or disadvantages over other options.	All options are located on made ground. No known heritage resources recorded. This option does not present any advantage or disadvantages over other options.



				DART Maynooth & City Centre Enhanceme	nts. MCA Criteria and parameters	
				MCA (Multi Criteria Analysis) of NAVA	N ROAD PARKWAY STATION	
Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – TER located in the platform	Option 2 – At the entrance of the parking area	Option 3 – Close to the existing GSM-R tower
			Overall potential significant effects on water resource attribute	Comparable to other options	Comparable to other options	Comparable to other options
	3.5	Water Resources	likely to be affected during construction and operation.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.
			Overall impact on land	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
	3.6	Agriculture and Non-Agricultural	take & property. Number of properties to be impacted/acquired. Likely	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.	There are no direct impacts on non - agricultural property.
			temporary or permanent severance effects, etc.	Option is located on Navan Parkway Station grounds, within CIE land boundary.	Option is located outside of CIE land boundary, acquisition of land is required.	Option is located on Navan Parkway Station grounds, within CIE land boundary.
			Soils and Geology and likely impact on geological resources	Comparable to other options	Comparable to other options	Comparable to other options
	3.7	Geology and Soils (including Waste)	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.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.
				Comparable to other options	Comparable to other options	Comparable to other options
	3.8	Radiation and Stray Current	Overall likely impact on existing sources of electromagnetic radiation.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
Accessibilit 4 & Social inclusion	y 4.1	Vulnerable groups and deprived	Benefits that accrue to those suffering from social deprivation, geographic isolation and	Comparable to other options	Comparable to other options	Comparable to other options
		geographic areas	mobility and sensory deprivation	No impact	No impact	No impact



					DART Maynooth & City Centre Enhanceme MCA (Multi Criteria Analysis) of NAVA		
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – TER located in the platform	Option 2 – At the entrance of the parking area	Option 3 – Close to the existing GSM-R tower
			Local accessibility		Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
				Quality of access in the area	This option would impact in the accessibility of the platform	This option would impact in the accessibility of the parking area	This option does not have any impact on quality of access
		5.1	Rail's Safety	Assessment of safety from an operational point	Comparable to other options	Comparable to other options	Comparable to other options
		J. I	Itali s Salety	of view	Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.
					Comparable to other options	Comparable to other options	Comparable to other options
5	Safety	5.2	User's / People's Safety	Assessment of safety from User's / People's Safety point of view	User's / People's safety is fulfilled in all options.	User's / People's safety is fulfilled in all options.	User's / People's safety is fulfilled in all options.
				A (D. P. 1999)	Comparable to other options	Comparable to other options	Comparable to other options
		5.3	RAM	Assessment of Reliability, Availability and Maintainability of the solution	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution
					Comparable to other options	Comparable to other options	Comparable to other options
	Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

	DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of NAVAN ROAD PARKWAY STATION										
	Parameter	Option 1 – TER located in the platform	Option 2 – At the entrance of the parking area	Option 3 – Close to the existing GSM-R tower							
1	Economy	Comparable to other options	Comparable to other options	Comparable to other options							
2	Integration	Some comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options							
3	Environment	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options							
4	Accessibility & Social inclusion	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options							
5	Safety	Comparable to other options	Comparable to other options	Comparable to other options							
6	Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options							

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new TER in Navan Road Parkway Station is Option 3, close to the existing GSM-R tower.



				DART Maynooth & City Centre E	nhancements. MCA Criteria and paramete	rs	
				MCA (Multi Crit	eria Analysis) of ASHTOWN		
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Close to the bicycle parking	Option 2 – Garden at the entrance road of the station	Option 3 – In the fenced area close to the station building where current TER is located
				Capital expenditure (CAPEX) required to implement the option.	Comparable to other options	Comparable to other options	Comparable to other options
		1.1	CAPEX	Assessment of cost of installation and investment to construct/install/use the solution.	The equipment is installed outdoor, on a paved space, a prefabricated building is foreseen	The equipment is installed outdoor, on a garden area, a prefabricated building is foreseen	The equipment is installed outdoor, on a garden area space, a prefabricated building is foreseen
					Comparable to other options	Significant comparative disadvantage over other options	Comparable to other options
1	Economy			Access and earthworks	No new access is required.	An extension of the existing access road is needed to reach the garden area	No new access is required
					On a paved surface		
		1.2	OPEX	Operating expenditure (OPEX) of the day-to-day expenses that Irish Rail would incur to keep maintain the system/solution/option operational.	Comparable to other options	Significant comparative disadvantage over other options	Comparable to other options
					Option is accessible from the access road , modular and independent.	Option requires an extension to the existing access road	Option is accessible from the access road, modular and independent
				Long term maintenance cost depending on maintenance and inspection of the new roads	Comparable to other options	Comparable to other options	Comparable to other options
					Option is accessible from the access road and from the trackside in the station, modular and independent.	Option is accessible from the access road, modular and independent	Option is accessible from the access road, modular and independent
					Comparable to other options	Comparable to other options	Significant comparative advantage over other options
		2.1	Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	The new TER would be located close to the existing one, migration and integration processes are easier.
2	Integration	2.2	Integration with parallel projects/contracts	Qualitative Assessment of how this	Comparable to other options	Comparable to other options	Comparable to other options
				option/solution/technology can be integrated with the existing and current parallel projects/contracts	There is no difference in integration with parallel projects in comparison with other options since all TERs are being renewed.	There is no difference in integration with parallel projects in comparison with other options since all TERs are being renewed.	There is no difference in integration with parallel projects in comparison with other options since all TERs are being renewed.



				DART Maynooth & City Centre E	nhancements. MCA Criteria and paramete	rs	
				MCA (Multi Crite	eria Analysis) of ASHTOWN		
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Close to the bicycle parking	Option 2 – Garden at the entrance road of the station	Option 3 – In the fenced area close to the station building where current TER is located
				Square meters of additional land used, or	Comparable to other options	Comparable to other options	Comparable to other options
		2.3	Geographical Integration	volume required to implement the solution	The option is inside existing IÉ boundary, and a standard surface is being considered for the new TER	The option is inside existing IÉ boundary, and a standard surface is being considered for the new TER	The option is inside existing IÉ boundary, and a standard surface is being considered for the new TER
				Space for access and walkways	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options
				Space for access and warkways	Road access but limiting free space to the bicycle parking and the stairs	Need for an extension of the access	Good access from access road
		2.4	Buildability during operation	Qualitative Assessment of the buildability	Comparable to other options	Comparable to other options	Comparable to other options
				of the solution during operation. Impact in operation and disruptions.	Construction is located outdoor. A prefabricated building is being considered	Construction is located outdoors. A prefabricated building is being considered	Construction is located outdoors. A prefabricated building is being considered.
				Assessment the obsolescence of the solution/technology in a long-term basis	Comparable to other options	Comparable to other options	Comparable to other options
		2.5	Obsolescence		Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure
			Ownership or open technology	Considerations of whether the solution is	Comparable to other options	Comparable to other options	Comparable to other options
		2.6		a registered product/technology, range of providers or open technology	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure
					Comparable to other options	Comparable to other options	Comparable to other options
3	Environment	3.1	Noise and Vibration	Estimated number of people likely to be affected by transport-related noise with the scheme within 50m.	The TER building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The TER building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The TER building does not emit noise or vibration while in operation. Therefore there is no difference in the noise or vibration impacts on a longterm basis for this option in comparison with others.



			DART Maynooth & City Centre E	nhancements. MCA Criteria and paramete	's	
			MCA (Multi Crite	eria Analysis) of ASHTOWN		
Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Close to the bicycle parking	Option 2 – Garden at the entrance road of the station	Option 3 – In the fenced area close to the station building where current TER is located
				Comparable to other options	Comparable to other options	Comparable to other options
	3.2	Air Quality and Climate	Local air quality effects. Number of receptors within 50m.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
				Comparable to other options	Comparable to other options	Comparable to other options
	3.3	Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	Option 1 is located within the confines of Ashtown Train Station. It is located at a distance to residential receptors but is likely to be visible from the main road, however it would not be a significant impact on the setting.	Option 2 is located within the confines of Ashtown Train Station on small portion of grass area. It is located at a distance to residential receptors and tree line provides adequate screening.	Option 3 is located within the confines of Ashtown Train Station. It is located at a distance to residential receptors.
		Biodiversity	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
	3.4.			This option does not present any disadvantage or advantage in regards to biodiversity.	This option does not present any disadvantage or advantage in regards to biodiversity. Will require the removal of some green space (grass)- but not a significant impact	This option does not present any disadvantage or advantage in regards to biodiversity.
			Overall effect on cultural, archaeological	Comparable to other options	Comparable to other options	Comparable to other options
	3.5	Cultural, Archaeological and Architectural Heritage	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)	No direct impacts identified. This option does not present any advantage or disadvantages over other options.	No direct impacts identified. This option does not present any advantage or disadvantages over other options.	No direct impacts identified. This option does not present any advantage or disadvantages over other options.



				nhancements. MCA Criteria and parameter	's	
			MCA (Multi Crite	eria Analysis) of ASHTOWN		
Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Close to the bicycle parking	Option 2 – Garden at the entrance road of the station	Option 3 – In the fenced area close to the station building where current TER is located
			Overall potential significant effects on	Comparable to other options	Comparable to other options	Comparable to other options
	3.6	Water Resources	water resource attribute likely to be affected during construction and operation.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.	This option does not present any disadvantage or advantage in regards to water resources.
		Agriculture and Non- Agricultural		Comparable to other options	Comparable to other options	Comparable to other options
	3.7		Overall impact on land take & property. Number of properties to be impacted/acquired. Likely temporary or permanent severance effects, etc.	There are no direct impacts on non - agricultural property. Option located on Ashtown Train Station grounds within CIE land boundary.	There are no direct impacts on non - agricultural property. Option located on Ashtown Train Station grounds within CIE land boundary.	There are no direct impacts on non - agricultural property. Option located on Ashtown Train Station grounds within CIE land boundary.
		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.	Comparable to other options	Comparable to other options	Comparable to other options
	3.8			No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.
		Radiation and Stray Current		Comparable to other options	Comparable to other options	Comparable to other options
	3.9		Overall likely impact on existing sources of electromagnetic radiation.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.



				*	nhancements. MCA Criteria and paramete	rs	
				MCA (Multi Crite	eria Analysis) of ASHTOWN		
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Close to the bicycle parking	Option 2 – Garden at the entrance road of the station	Option 3 – In the fenced area close to the station building where current TER is located
			Vulnerable groups and	Benefits that accrue to those suffering	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options
4	Accessibility & Social inclusion	4.1	deprived geographic areas	from social deprivation, geographic isolation and mobility and sensory deprivation	These options might impact at construction site, both bicycle parking space and the gateway stairs	A small extension of the access road is needed to reach the location as it is in the garden	There is an existing access from the trackside
		4.2			Some comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options
			Local accessibility	Quality of access in the area	There is access from the entrance road but limiting available space	An extension of the entrance road is needed.	There is access from the trackside
		5.1		Assessment of safety from an operational point of view	Comparable to other options	Comparable to other options	Comparable to other options
			Rail's Safety		Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.
		5.2	User's / People's Safety	Assessment of safety from User's / People's Safety point of view	Comparable to other options	Comparable to other options	Comparable to other options
5	Safety				User's / People's safety is fulfilled in all options.	User's / People's safety is fulfilled in all options.	User's / People's safety is fulfilled in all options.
					Comparable to other options	Comparable to other options	Comparable to other options
		5.3	RAM	Assessment of Reliability, Availability and Maintainability of the solution	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution
					Comparable to other options	Comparable to other options	Comparable to other options
6	Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits	This option does not present any disadvantage or advantage regarding health benefits



The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

		DART Maynooth & City Centre En	hancements. MCA Criteria and parameters									
	MCA (Multi Criteria Analysis) of ASHTOWN											
	Parameter	Option 1 – Close to the bicycle parking Option 2 – Garden at the entrance road of the station		Option 3 – In the fenced area close to the station building where current TER is located								
1	Economy	Comparable to other options	Significant comparative disadvantage over other options	Comparable to other options								
2	Integration	Comparable to other options	Comparable to other options Comparable to other options									
3	Environment	Comparable to other options	Comparable to other options	Comparable to other options								
4	Accessibility & Social inclusion	Some comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options								
5	Safety	Comparable to other options	Comparable to other options	Comparable to other options								
6	Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options								

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new TER in Ashtown Station is Option 3, in the fenced area close to the station building where current TER is located.



					ncements. MCA Criteria and parameters		
	Powerstand		Outract		is) of BROOMBRIDGE STATION Option 1 – External pavement close to	Option 2 –Aisle in the parking	Option 3 – Close to bus stop at the
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Station	space	entrance of station
				Capital expenditure (CAPEX) required to implement the	Comparable to other options	Comparable to other options	Comparable to other options
		1.1	CAPEX	option. Assessment of cost of installation and investment to construct/install/use the solution.	The equipment is installed outdoor, on a paved space, a prefabricated building is foreseen	The equipment is installed outdoor, on a pave space in the parking, a prefabricated building is foreseen	The equipment is installed outdoor, on a paved space, a prefabricated building is foreseen
					Comparable to other options	Comparable to other options	Comparable to other options
1	Economy			Access and earthworks	No new access is required. On a paved surface	No new access is required. On a paved surface	No new access is required. On a paved surface
'	Leonomy			Operating expenditure (OPEX) of the day-to-day expenses	Comparable to other options	Comparable to other options	Comparable to other options
				that Irish Rail would incur to keep maintain the system/solution/option operational.	Option is accessible from the access road, modular and independent.	Option is accessible from the parking road, modular and independent	Option is accessible from the parking road, modular and independent
		1.2	OPEX	Long term maintenance cost depending on maintenance and inspection of the new roads	Comparable to other options	Comparable to other options	Comparable to other options
					Option is accessible from the access road and from the trackside in the station, modular and independent.	Option is accessible from the parking road, modular and independent	Option is accessible from the parking road, modular and independent
			Integration with existing equipment	Qualitative Assessment of how this option/solution/technology can be integrated with the existing equipment.	Comparable to other options	Comparable to other options	Comparable to other options
		2.1			There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.
					Comparable to other options	Comparable to other options	Comparable to other options
2	Integration	2.2	Integration with parallel projects/contracts	Qualitative Assessment of how this option/solution/technology can be integrated with the existing and current parallel projects/contracts	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.	There is no difference in integration with existing equipment in comparison with other options since all TERs are being renewed.
					Comparable to other options	Comparable to other options	Comparable to other options
		2.3	Geographical Integration	Square meters of additional land used, or volume required to implement the solution	The option is outside of existing IÉ boundary, and a standard surface is being considered for the new TER	The option is outside of existing IÉ boundary, and a standard surface is being considered for the new TER	The option is outside of existing IÉ boundary, and a standard surface is being considered for the new TER



					ncements. MCA Criteria and parameters		
	Parameter		Criteria	MCA (Multi Criteria Analys Sub-Criteria (Quantitative Qualitative)	is) of BROOMBRIDGE STATION Option 1 – External pavement close to Station	Option 2 –Aisle in the parking space	Option 3 – Close to bus stop at the entrance of station
					Comparable to other options	Comparable to other options	Comparable to other options
				Space for access and walkways	Both road and pedestrian access	Both road and pedestrian access	Both road and pedestrian access
			Buildability during	Qualitative Assessment of the buildability of the solution	Comparable to other options	Comparable to other options	Comparable to other options
		2.4	operation	during operation. Impact in operation and disruptions.	Construction is located outdoor. A prefabricated building is being considered	Construction is located outdoors. A prefabricated building is being considered	Construction is located outdoors. A prefabricated building is being considered.
		2.5	Obsolescence	Assessment the obsolescence of the solution/technology in	Comparable to other options	Comparable to other options	Comparable to other options
		2.0	Obstitution	a long-term basis	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure
		2.6	Ownership or open technology	Considerations of whether the solution is a registered product/technology, range of providers or open technology	Comparable to other options	Comparable to other options	Comparable to other options
		2.0			Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure
			Noise and Vibration	Likelihood of a noise impact on nearby noise sensitive locations	Comparable to other options	Comparable to other options	Comparable to other options
		3.1			The TER building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The TER building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.	The TER building does not emit noise or vibration while in operation. Therefore, there is no difference in the noise or vibration impacts on a long-term basis for this option in comparison with others.
					Comparable to other options	Comparable to other options	Comparable to other options
3	Environment	3.2	Air Quality and Climate	Assessment of local air quality effects based on potential air emissions during construction and operational phases	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.	No likely significant air quality or climate emission sources during the construction and/or operational phases therefore all options are comparable.
					Comparable to other options	Comparable to other options	Comparable to other options
		3.3	Landscape and Visual (including light)	Key landscape characteristics affected; Effects on listed/ key views; Impact on landscape character.	This Option is located within the confines of an existing car parking area at Broombridge Train Station. There are no sensitive landscape and visual characteristics in vicinity of this option and as such, no impacts are likely.	This Option is located within the confines of an existing car parking area at Broombridge Train Station. There are no sensitive landscape and visual characteristics in vicinity of this option and as such, no impacts are likely.	This Option is located within the confines of an existing car parking area at Broombridge Train Station. There are no sensitive landscape and visual characteristics in vicinity of this option and as such, no impacts are likely.



					ncements. MCA Criteria and parameters		
	Parameter		Criteria	MCA (Multi Criteria Analys Sub-Criteria (Quantitative Qualitative)	is) of BROOMBRIDGE STATION Option 1 – External pavement close to Station	Option 2 –Aisle in the parking space	Option 3 – Close to bus stop at the entrance of station
					Comparable to other options	Comparable to other options	Comparable to other options
		3.4	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)	This Option is located within the confines of an existing car parking area at Broombridge Train Station. This option does not present any advantage or disadvantages over other options.	This Option is located within the confines of an existing car parking area at Broombridge Train Station. This option does not present any advantage or disadvantages over other options.	This Option is located within the confines of an existing car parking area at Broombridge Train Station. This option does not present any advantage or disadvantages over other options.
					Comparable to other options	Comparable to other options	Comparable to other options
		3.5	Water Resources	Overall potential significant effects on water resource attribute likely to be affected during construction and operation.	Location may be liable to flood from pluvial sources. Flood Risk is comparable to other options,	Location may be liable to flood from pluvial sources. Flood Risk is comparable to other options,	Location may be liable to flood from pluvial sources. Flood Risk is comparable to other options,
			Agriculture and Non- Agricultural	Overall impact on land take & property. Number of properties to be impacted/acquired. Likely temporary or permanent severance effects, etc.	Comparable to other options	Comparable to other options	Comparable to other options
		3.6			There are no direct impacts on non - agricultural property. Option is located outside of CIE land boundary; acquisition of land is required.	There are no direct impacts on non - agricultural property. Option is located outside of CIE land boundary; acquisition of land is required.	There are no direct impacts on non - agricultural property. Option is located outside of CIE land boundary; acquisition of land is required.
				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. Highlevel assessment based on the likely structures/ works required and the potential for ground contamination due to historic landfills, pits and quarries.	Comparable to other options	Comparable to other options	Comparable to other options
		3.7	Geology and Soils (including Waste)		No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.
					Comparable to other options	Comparable to other options	Comparable to other options
		3.8	Radiation and Stray Current	Overall likely impact on existing sources of electromagnetic radiation.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.
4	Accessibility	4.1	Vulnerable groups and deprived geographic areas	Benefits that accrue to those suffering from social deprivation, geographic isolation and mobility and sensory deprivation	Comparable to other options	Comparable to other options	Significant comparative disadvantage over other options
4	& Social inclusion				No impact	No impact	The option reduces space for circulation at it is close to the bus stop



				DART Maynooth & City Centre Enha	ncements. MCA Criteria and parameters		
				MCA (Multi Criteria Analys	s) of BROOMBRIDGE STATION		
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – External pavement close to Station	Option 2 –Aisle in the parking space	Option 3 – Close to bus stop at the entrance of station
					Some comparative advantage over other options	Some comparative disadvantage over other options	Significant comparative disadvantage over other options
		4.2	Local accessibility	Quality of access in the area	It does not impact on local accessibility.	It does not impact on local accessibility, but on construction phase it will impact traffic in the parking road.	It occupies all the walkway next to the bus stop.
		5.1	Rail's Safety	Assessment of safety from an operational point of view	Comparable to other options	Comparable to other options	Comparable to other options
		3.1	itali s Salety	Assessment of safety from an operational point of view	Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.	Rail's safety is fulfilled in all options.
		5.2	User's / People's Safety	Assessment of safety from User's / People's Safety point of view	Comparable to other options	Comparable to other options	Comparable to other options
5	Safety	J.2	Oser s / r eople's Galety		User's / People's safety is fulfilled in all options.	User's / People's safety is fulfilled in all options.	User's / People's safety is fulfilled in all options.
			RAM	Assessment of Reliability, Availability and Maintainability of the solution	Comparable to other options	Comparable to other options	Comparable to other options
		5.3			Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution.	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution.	Option is an external allocation, with easy access for maintenance, but not as protected as an indoor solution.
					Comparable to other options	Comparable to other options	Comparable to other options
6	Physical Activity	6.1	Health benefits	Health benefits derived from using a specific option	This option does not present any disadvantage or advantage regarding health benefits.	This option does not present any disadvantage or advantage regarding health benefits.	This option does not present any disadvantage or advantage regarding health benefits.



The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes.

DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of BROOMBRIDGE STATION **Parameter** Option 1 - External pavement close to Station Option 2 -Aisle in the parking space Option 3 - Close to bus stop at the entrance of station 1 Comparable to other options Comparable to other options Comparable to other options **Economy** 2 Comparable to other options Comparable to other options Comparable to other options Integration 3 **Environment** Comparable to other options Comparable to other options Comparable to other options **Accessibility & Social** 4 Some comparative advantage over other options Some comparative disadvantage over other options Significant comparative disadvantage over other options inclusion 5 Comparable to other options Comparable to other options Comparable to other options Safety 6 **Physical Activity** Comparable to other options Comparable to other options Comparable to other options



Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new TER in Broombridge Station is Option 1.



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of CONNOLLY Sub-Criteria Option 1 - Garden in Amiens Option 2 -Parking close to the Option 3 - Close to the round Criteria (Quantitative **Parameter** St close to Service Station trackside garden on the trackside Qualitative) Capital expenditure (CAPEX) required to Comparable to other options Comparable to other options Comparable to other options implement the option. Assessment of cost of The equipment is installed The equipment is installed The equipment is installed installation and outdoor, on a paved space, a outdoor, on a paved area, a outdoor, on a garden area, a investment to prefabricated building is prefabricated building is prefabricated building is construct/install/use the foreseen foreseen foreseen solution. 1.1 CAPEX Significant comparative Significant comparative Significant comparative disadvantage over other disadvantage over other advantage over other option options options **Economy** Access and earthworks An new access is required from A new access is required from There is access to the trackside the trackside the trackside Significant comparative Significant comparative Operating expenditure Significant comparative disadvantage over other disadvantage over other (OPEX) of the day-to-day advantage over other option options options expenses that Irish Rail 1.2 **OPEX** would incur to keep maintain the Option is not accessible from the Option is not accessible from the Option is accessible from the system/solution/option trackside station, new access station, new access operational.



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of CONNOLLY Sub-Criteria Option 1 - Garden in Amiens Option 2 -Parking close to the Option 3 - Close to the round **Parameter** (Quantitative Criteria St close to Service Station trackside garden on the trackside Qualitative) Comparable to other options Comparable to other options Comparable to other options Long term maintenance cost depending on maintenance and Same long maintenance cost in Same long maintenance cost in Same long maintenance cost in inspection of the new comparison with other options comparison with other options comparison with other options roads regarding roads maintenance regarding roads maintenance regarding roads maintenance Comparable to other options Comparable to other options Comparable to other options Qualitative Assessment of There is no difference in There is no difference in There is no difference in Integration with how this integration with existing integration with existing integration with existing 2.1 existing option/solution/technology equipment in comparison with equipment in comparison with equipment in comparison with can be integrated with the equipment other options since all TERs are other options since all TERs are other options since all TERs are existing equipment. being renewed. being renewed. being renewed. Comparable to other options Comparable to other options Comparable to other options Qualitative Assessment of how this Integration There is no difference in There is no difference in There is no difference in Integration with option/solution/technology integration with existing integration with existing integration with existing 2.2 parallel can be integrated with the equipment in comparison with equipment in comparison with equipment in comparison with projects/contracts existing and current other options since all TERs are other options since all TERs are other options since all TERs are parallel being renewed. being renewed. being renewed. projects/contracts Square meters of additional land used, or Significant comparative 2.3 Comparable to other options Comparable to other options volume required to advantage over other options implement the solution



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters

	MCA (Multi Criteria Analysis) of CONNOLLY						
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Garden in Amiens St close to Service Station	Option 2 –Parking close to the trackside	Option 3 – Close to the round garden on the trackside
					The option is out of the limit of exiting IÉ boundary	The option is out of the limit of exiting IÉ boundary	The option is in the limit of exiting IÉ boundary (as currently the rounded place close to it is being used by Signalling and abandoned)
				Space for access and walkways	Comparable to other options	Comparable to other options	Comparable to other options
					There is space for both road access and walkways	There is space for both road access and walkways	There is space for both road access and walkways
		2.4	Buildability during operation	Qualitative Assessment of the buildability of the solution during operation. Impact in operation and disruptions.	Comparable to other options	Comparable to other options	Comparable to other options
					Option is located in a paved area	Option is located in a paved area	Option is located in a paved area
		2.5	Obsolescence	Assessment the obsolescence of the solution/technology in a long-term basis	Comparable to other options	Comparable to other options	Comparable to other options
					Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure	Not applicable, Civil Works and Infrastructure



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of CONNOLLY Sub-Criteria Option 1 - Garden in Amiens Option 2 -Parking close to the Option 3 - Close to the round **Parameter** (Quantitative Criteria St close to Service Station trackside garden on the trackside Qualitative) Comparable to other options Comparable to other options Comparable to other options Considerations of whether the solution is a Ownership or registered 2.6 open technology product/technology, range of providers or open Not applicable, Civil Works and Not applicable, Civil Works and Not applicable, Civil Works and technology Infrastructure Infrastructure Infrastructure Comparable to other options Comparable to other options Comparable to other options Estimated number of The TER building does not emit The TER building does not emit The TER building does not emit people likely to be noise or vibration while in noise or vibration while in noise or vibration while in Noise and 3.1 affected by transportoperation. Therefore there is no operation. Therefore there is no operation. Therefore there is no Vibration related noise with the difference in the noise or difference in the noise or difference in the noise or scheme within 50m. vibration impacts on a long-term vibration impacts on a long-term vibration impacts on a long-term basis for this option in basis for this option in basis for this option in comparison with others. comparison with others. comparison with others. **Environment** Comparable to other options Comparable to other options Comparable to other options Local air quality effects. Air Quality and No likely significant air quality or No likely significant air quality or No likely significant air quality or 3.2 Number of receptors climate emission sources during climate emission sources during climate emission sources during Climate within 50m. the construction and/or the construction and/or the construction and/or operational phases therefore all operational phases therefore all operational phases therefore all options are comparable. options are comparable. options are comparable.



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of CONNOLLY Sub-Criteria Option 1 - Garden in Amiens Option 2 -Parking close to the Option 3 - Close to the round **Parameter** (Quantitative Criteria St close to Service Station trackside garden on the trackside Qualitative) Some comparative Some comparative disadvantage over other Some comparative advantage disadvantage over other options options Option 3 is located on made ground in vicinity of the Connolly Station. The existing building Key landscape structures are similar in characteristics affected: Landscape and Option 1 will have indirect Option 2 is located on made character within the area to the 3.3 Visual (including Effects on listed/ key impacts on the setting of the ground in vicinity of the Connolly proposed TER building. No liaht) views: Impact on Former Railway's Parcel Office, Station and is not likely to have impacts to the landscape landscape character. a protected structure (RPS 126) an impact on the landscape character are likely. This option and a cultural heritage feature character of the area. is likely to have an indirect (Reg no. 50010042). impact on the setting of the Water Tower, (NIAH Reg. No. 50010041) a cultural heritage feature. Potential Comparable to other options Comparable to other options Comparable to other options compliance/conflict with biodiversity objectives: Indirect impacts on 3.4 Biodiversity protected species, This option does not present any This option does not present any This option does not present any designated sites; Overall disadvantage or advantage in disadvantage or advantage in disadvantage or advantage in effect on nature regards to biodiversity. regards to biodiversity. regards to biodiversity. conservation resource. Overall effect on cultural. Cultural. archaeological and Some comparative Some comparative Archaeological 3.5 disadvantage over other architecture heritage disadvantage over other Some comparative advantage and Architectural resource. Likely effects options options Heritage on RPS, National



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of CONNOLLY Sub-Criteria Option 1 - Garden in Amiens Option 2 -Parking close to the Option 3 - Close to the round **Parameter** (Quantitative Criteria St close to Service Station trackside garden on the trackside Qualitative) Monuments, SMRs. Conservation areas, etc. Option 1 is located next to Option 3 is located in vicinity of Number of designated Former Railway's Parcel Office, Water Tower at Connolly sites/structures (by level There are no RPS, National a protected structure (RPS 126) Station, a RPS cultural heritage of designation) directly Monuments, SMRs and and a cultural heritage feature feature (NIAH Reg. No. impacted by scheme Conservation areas located 50010041). This option is likely (Reg no. 50010042). Option is (land take) within Option 2. likely to have an indirect impact to have an indirect impact on the on this structure. setting of the Water Tower. Comparable to other options Comparable to other options Comparable to other options Overall potential significant effects on water resource attribute Water Resources likely to be affected This option does not present any This option does not present any This option does not present any during construction and disadvantage or advantage in disadvantage or advantage in disadvantage or advantage in operation. regards to water resources. regards to water resources. regards to water resources. Some comparative Some comparative Overall impact on land Some comparative advantage disadvantage over other disadvantage over other take & property. Number over other options options options Agriculture and of properties to be 3.7 Non-Agricultural impacted/acquired. Likely There are no direct impacts on There are no direct impacts on There are no direct impacts on temporary or permanent non - agricultural property. non - agricultural property. non - agricultural property. severance effects, etc. Option is not located within CIE Option is not located within CIE Option is located within CIE land



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of CONNOLLY

MICA (MULLI CITETIA ARIALYSIS) DI CONNOLLT							
	Parameter		Criteria	Sub-Criteria (Quantitative Qualitative)	Option 1 – Garden in Amiens St close to Service Station	Option 2 –Parking close to the trackside	Option 3 – Close to the round garden on the trackside
					land boundary, acquisition of land is required.	land boundary, acquisition of land is required.	boundary, acquisition of land is not required.
		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.	Comparable to other options	Comparable to other options	Comparable to other options
					No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.	No significant advantages or disadvantages over other options.
		3.9	Radiation and Stray Current	Overall likely impact on existing sources of electromagnetic radiation.	This option does not present any disadvantage or advantage in relation to nearby receptors.	Comparable to other options This option does not present any disadvantage or advantage in relation to nearby receptors.	This option does not present any disadvantage or advantage in relation to nearby receptors.



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of CONNOLLY Sub-Criteria Option 1 - Garden in Amiens Option 2 -Parking close to the Option 3 – Close to the round (Quantitative **Parameter** Criteria St close to Service Station trackside garden on the trackside Qualitative) Benefits that accrue to Vulnerable those suffering from Comparable to other options Comparable to other options Comparable to other options groups and social deprivation, 4.1 deprived geographic isolation and mobility and sensory geographic areas No impact No impact No impact deprivation Accessibility Significant comparative Significant comparative & Social Significant comparative disadvantage over other disadvantage over other inclusion advantage over other options options options Quality of access in the Local accessibility area The option requires a connection The option has access from the The option requires a connection access to the trackside (parking access to the trackside trackside separated by a wall) Comparable to other options Comparable to other options Comparable to other options Assessment of safety 5.1 Rail's Safety from an operational point of view Rail's safety is fulfilled in all Rail's safety is fulfilled in all Rail's safety is fulfilled in all options. options. options. 5 Safety Comparable to other options Comparable to other options Comparable to other options Assessment of safety User's / People's 5.2 from User's / People's Safety User's / People's safety is User's / People's safety is User's / People's safety is Safety point of view fulfilled in all options. fulfilled in all options. fulfilled in all options. 5.3 RAM Comparable to other options Comparable to other options Comparable to other options



DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of CONNOLLY Sub-Criteria Option 1 - Garden in Amiens Option 2 -Parking close to the Option 3 - Close to the round **Parameter** Criteria (Quantitative St close to Service Station trackside garden on the trackside Qualitative) Assessment of Reliability, Option is an external allocation, Option is an external allocation, Option is an external allocation, with easy access for Availability and with easy access for with easy access for Maintainability of the maintenance, but not as maintenance, but not as maintenance, but not as protected as an indoor solution protected as an indoor solution protected as an indoor solution solution Comparable to other options Comparable to other options Comparable to other options Health benefits derived This option does not present any This option does not present any This option does not present any **Physical** 6 6.1 Health benefits from using a specific disadvantage or disadvantage or disadvantage or Activity option advantage regarding health advantage regarding health advantage regarding health benefits benefits benefits



The following table summarizes the averaged results of the MCA assessment per parameter for comparison purposes:

DART Maynooth & City Centre Enhancements. MCA Criteria and parameters MCA (Multi Criteria Analysis) of CONNOLLY						
	Parameter	Option 1 – Garden in Amiens St close to Service Station	Option 2 – Parking close to the trackside	Option 3 – Close to the round garden on the trackside		
1	Economy	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options		
2	Integration	Comparable to other options	Comparable to other options	Comparable to other options		
3	Environment	Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options		
4	Accessibility & Social inclusion	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options		
5	Safety	Comparable to other options	Comparable to other options	Comparable to other options		
6	Physical Activity	Comparable to other options	Comparable to other options	Comparable to other options		

Based on the MCA assessment performed, and the results obtained, the MDC's recommendation for the location of the new TER in Connolly Station is Option 3.