

DART+ Depot - Jacksons Bridge (OBG23) Options MCA															
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 1. Double online track. Vertical track lowering and track protection	Rating	Option 2. Double online track. Bridge deck reconstruction and track protection	Rating	Option 3. Double offline track and L5041 road diversion	Rating	Option 4. Double offline track without impacting the L5041	Rating	Option 5. Double online track. Jackson's Bridge railway bridge deck removal and L5041 diversion	Rating			
1	Transport User Benefits and Other Economic Impacts	1.1 Alignment with Customer Requirements Specification	Train operation functionality	5 – Slightly Positive Impact	5	5 – Slightly Positive Impact	5	7 – Highly positive Impact	7	7 – Highly positive Impact	7	7 – Highly positive Impact			
			1.2 Transport Costs and Operational Characteristics	Transport Costs	3 – Slightly Negative Impact	3	3 – Slightly Negative Impact	3	2 – Negative Impact	2	2 – Negative Impact	2	1 – Highly Negative Impact		
			1.3 Change of Land Value	Positive or Negative impacts on Land Value consequent the depot delivery enabling the introduction of the DART+ service	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact		
			1.3 Site Security	Site Security	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact		
2	Accessibility Impacts	2.1 Impacts on existing accessibility	Impacts on access to jobs, key services and recreational facilities, and freight access.	4 – Neutral Impact	4	3 – Slightly Negative Impact	3	6 – Positive Impact	6	4 – Neutral Impact	4	6 – Positive Impact			
			2.2 Freight Access	Impact on access for freight traffic and access to freight facilities	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact		
				Impact on access for freight facilities	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact		
3	Social Impacts	3.1 Social Impacts	Impacts on socially disadvantaged geographical areas	6 – Positive Impact	6	6 – Positive Impact	6	6 – Positive Impact	6	6 – Positive Impact	6	6 – Positive Impact			
			Impacts on socially disadvantaged geographical areas	6 – Positive Impact	6	6 – Positive Impact	6	6 – Positive Impact	6	6 – Positive Impact	6	6 – Positive Impact			
4	Land Use Impacts	4.1 Change in Quality of Public Realm	Impacts related to changes in public realm, such as streets, footpaths, and public buildings, as a result of a scheme.	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact			
			4.2 Existing Transport Network and Service Impact	Impact of Local Road Network	1 – Highly Negative Impact	1	1 – Highly Negative Impact	1	3 – Slightly Negative Impact	3	3 – Slightly Negative Impact	3	1 – Highly Negative Impact		
				4.3 Material Assets: Property	Impact on agricultural and non-agricultural property	4 – Neutral Impact	4	4 – Neutral Impact	4	2 – Negative Impact	2	3 – Slightly Negative Impact	3	3 – Slightly Negative Impact	
					4.3 Built Services (Utilities)	Impacts on existing utilities	4 – Neutral Impact	4	3 – Slightly Negative Impact	3	2 – Negative Impact	2	1 – Highly Negative Impact	1	2 – Negative Impact
						4.4 Soils and Geology (incl. Waste)	land, soils, waste and geological heritage sites.	3 – Slightly Negative Impact	3	3 – Slightly Negative Impact	3	2 – Negative Impact	2	2 – Negative Impact	2

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4.5	Planning Applications	Planning search: LAs, ABP, EIA Portal	Large Scale residential and non-residential planning applications (granted and pending) potentially within the site boundaries.	3 – Slightly Negative Impact	3	3 – Slightly Negative Impact	3	3 – Slightly Negative Impact	3	3 – Slightly Negative Impact	3	3 – Slightly Negative Impact	
			The Railway Order Application made for the Dart + West project passes through the site. This application, ACP reference 314232, was permitted on 18th July 2024, however the Order omitted permission for all works west of bridge OB621 west of Maynooth Station. There are no other planning applications within the site boundary or significant applications within the study area relevant to the proposed development.	The Railway Order Application made for the Dart + West project passes through the site. This application, ACP reference 314232, was permitted on 18th July 2024, however the Order omitted permission for all works west of bridge OB621 west of Maynooth Station. There are no other planning applications within the site boundary or significant applications within the study area relevant to the proposed development.	The Railway Order Application made for the Dart + West project passes through the site. This application, ACP reference 314232, was permitted on 18th July 2024, however the Order omitted permission for all works west of bridge OB621 west of Maynooth Station. There are no other planning applications within the site boundary or significant applications within the study area relevant to the proposed development.	The Railway Order Application made for the Dart + West project passes through the site. This application, ACP reference 314232, was permitted on 18th July 2024, however the Order omitted permission for all works west of bridge OB621 west of Maynooth Station. There are no other planning applications within the site boundary or significant applications within the study area relevant to the proposed development.							
4.6	Zoned Land, Land Use Planning and Spatial Planning	Impacts on strategic land-use planning at a national, regional, or local level.	Policy Review	7 – Highly positive Impact	7	7 – Highly positive Impact	7	5 – Slightly Positive Impact	5	1 – Highly Negative Impact	1	6 – Positive Impact	
			Impact on land use strategies and regional and local plans. Assessment of impact for land use factors local land use and planning.	The route of the potential MOOR crossing the existing train line. It also traverses the site. However, due to the nature of the works proposed in lowering the track line, it is not envisaged that there are any significant effects on future delivery of this orbital route which would not have previously been considered by the Local Authority when identifying the route crossing the existing rail line. On the basis that the works proposed at Jackson's bridge are part of wider proposals to bring Dart + west to Maynooth and Killock, the works described will have a positive impact on achieving strategic land use planning proposals including national and regional goals for sustainable transport, new housing and transport orientated development for Maynooth and Killock.	The route of the potential MOOR crossing the existing train line. It also traverses the site. However, due to the nature of the works proposed in lowering the track line, it is not envisaged that there are any significant effects on future delivery of this orbital route which would not have previously been considered by the Local Authority when identifying the route crossing the existing rail line. On the basis that the works proposed at Jackson's bridge are part of wider proposals to bring Dart + west to Maynooth and Killock, the works described will have a positive impact on achieving strategic land use planning proposals including national and regional goals for sustainable transport, new housing and transport orientated development for Maynooth and Killock.	The route of the potential MOOR crossing the existing train line. It also traverses the site and the new track alignment. However, it is not envisaged that there are any significant effects on future delivery of this orbital route which would not have previously been considered by the Local Authority when identifying the route crossing the existing rail line. On the basis that the works proposed in Option 3 are part of wider proposals to bring Dart + west to Maynooth and Killock, the works described will have a positive impact on achieving strategic land use planning proposals including national and regional goals for sustainable transport, new housing and transport orientated development for Maynooth and Killock. The TAF rating outlined in the policy context section (i.e. 7 – highly positive impact) is downgraded to 5 – Slightly Positive having regard to the development on unzoned lands (deemed primarily agricultural) and agricultural zoned lands within the settlement boundary of Maynooth.							
5	Safety Impacts	Safety Considerations associated with site layout	Operational Safety of Site	2 – Negative Impact	2	2 – Negative Impact	2	6 – Positive Impact	6	6 – Positive Impact	6	2 – Negative Impact	
			The current track has a lateral clearance to the bridge abutment of 2.78 m, but to allow the passage of the second track, the current track must be moved towards the abutment, reducing the lateral clearance to 1.98 m. The new track is 1.96 m from the opposite abutment of the bridge. A risk assessment must be carried out and implementation of mitigation measures to be adopted.	Option 2, similar to Option 1, introduces a new track through the current OB623, reducing the current lateral clearance. A risk assessment must be carried out and implementation of mitigation measures to be adopted.	Option 3, is an offline solution that avoid going through the OB623, eliminating the potential risk of collision.	Option 5, is an online solution that demolish the central arch over the railway. Similar to Option 1, introduces a new track through the current OB623, reducing the current lateral clearance. A risk assessment must be carried out and implementation of mitigation measures to be adopted.							
5.2	Other Safety Impacts	Impacts on anti-social behaviour, trips, falls, etc	Review of Alignment with local infrastructure	3 – Slightly Negative Impact	3	3 – Slightly Negative Impact	3	6 – Positive Impact	6	6 – Positive Impact	6	4 – Neutral Impact	
			Option 1 maintains the current railway pass under OB623 a situation with risk of anti-social behaviour impacting the trains. Option 2 reduces the current lateral clearance because of new double track, with a reduced pass for maintenance staff.	Option 2 maintains the current railway pass under OB623 a situation with risk of anti-social behaviour impacting the trains. Option 2 reduces the current lateral clearance because of new double track, with a reduced pass for maintenance staff.	Option 3 removes the current railway pass under OB623 a situation with risk of anti-social behaviour impacting the trains. Option 3 provides a safe passage for maintenance staff.	Option 4b removes the current railway pass under OB623 a situation with risk of anti-social behaviour impacting the trains. Option 4b provides a safe passage for maintenance staff.							
6	Climate Change Impacts	Qualitative assessment of carbon emissions	Greenhouse gases - assumption will be that the depot building will be the same on all sites. Sites that will require longer journeys for rail in more operational energy have also been considered.	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact	4	4 – Neutral Impact	
			All options have been assigned a score of 4 – Not significant or neutral as there will be GHG emissions associated with them, however all options facilitate the drive to encourage modal shift to public travel and are in line with CAP25. There is the potential to improve this rating to a positive impact through the implementation of mitigation measures such as using low carbon intensive construction materials, reuse of site materials or increased planting to provide carbon sink opportunities for example. There are no significant adverse impacts induced by the operational phase. The score is not significant or neutral. Under the Transport Appraisal Framework (TAF) Climate Change Scorecard the impact is also considered neutral.	All options have been assigned a score of 4 – Not significant or neutral as there will be GHG emissions associated with them, however all options facilitate the drive to encourage modal shift to public travel and are in line with CAP25. There is the potential to improve this rating to a positive impact through the implementation of mitigation measures such as using low carbon intensive construction materials, reuse of site materials or increased planting to provide carbon sink opportunities for example. There are no significant adverse impacts induced by the operational phase. The score is not significant or neutral. Under the Transport Appraisal Framework (TAF) Climate Change Scorecard the impact is also considered neutral.	This option is least preferred as it will likely result in the highest GHG emissions. This option will result in emissions from removal of track and road surface removal from realignment of the L5041 and R148, excavation, fill material, transport, and construction of two deepwater structures, a new bridge, and a realignment of the L5041 and the R148 and the two new offline tracks. However, when the these works are considered in isolation of the wider DART+ Programme, there is no significant change with respect to operational phase GHG emissions, modal shift or car km travelled.	All options have been assigned a score of 4 – Not significant or neutral as there will be GHG emissions associated with them, however all options facilitate the drive to encourage modal shift to public travel and are in line with CAP25. There is the potential to improve this rating to a positive impact through the implementation of mitigation measures such as using low carbon intensive construction materials, reuse of site materials or increased planting to provide carbon sink opportunities for example. There are no significant adverse impacts induced by the operational phase. The score is not significant or neutral. Under the Transport Appraisal Framework (TAF) Climate Change Scorecard the impact is also considered neutral.							
6.2	Climate Adaption Impact	Impact on Resilience and Robustness of Transport Infrastructure	Crosswaters Flood risk, sites with soil stability issues, wind exposure. Train journeys (additional train running)	1 – Highly Negative Impact	1	1 – Highly Negative Impact	1	2 – Negative Impact	2	3 – Slightly Negative Impact	3	3 – Slightly Negative Impact	
			High vulnerability to fluvial flooding and requires the most mitigation. This option is heavily reliant on the siphon under the railway. Its capacity is limited and sensitive to flow increases and blockage. Therefore the adaptability of this option is low, as the only means of managing the risk is to increase the height of the track side retaining wall. Low vulnerability to other climate change hazards.	High vulnerability to fluvial flooding and requires the most mitigation. This option is heavily reliant on the siphon under the railway. Its capacity is limited and sensitive to flow increases and blockage. Therefore the adaptability of this option is low, as the only means of managing the risk is to increase the height of the trackside retaining wall. Low vulnerability to other climate change hazards.	Vulnerability to fluvial flooding is low, due to the minimum track level designed at 61.27 mOD, 30m above the 0.1% AEP +CC+500 mm freeboard to ensure that flooding does not reach the rail level. Mitigation measures for this option involves a diversion channel which can be widened and adapted to climate change. CSA will be required to mitigate impacts, but these have a limited effectiveness at higher flows and volumes. Low vulnerability to other climate change hazards.	Vulnerability to fluvial flooding is low, due to a slab supported by piles is designed to allow water to pass under the tracks towards the Royal Canal. Mitigation measures for this option involves a diversion channel which can be widened and adapted to climate change. Low vulnerability to other climate change hazards.							
7.1	Biodiversity	Impact on European sites (SAC / SPAs/RAMSAR), nationally designated sites and protected species, ASSIs, AONBs Nature Reserves, Wildlife Reserves, Invasive Species.	Identification of European sites (SAC / SPAs/RAMSAR), nationally designated sites and protected species, ASSIs, AONBs Nature Reserves, Wildlife Reserves, Invasive Species.	3 – Slightly Negative Impact	3	3 – Slightly Negative Impact	3	2 – Negative Impact	2	2 – Negative Impact	2	2 – Negative Impact	
			Requires construction within 15m of the Royal Canal pHNA for approx. 1.5 km along the existing track. Potential water quality impacts, construction disturbance and hedgerow/corbuc removal from along the existing track.	Requires construction within 15m of the Royal Canal pHNA for approx. 1.5 km along the existing track. Potential water quality impacts, construction disturbance and hedgerow/corbuc removal from along the existing track.	This option has a large construction footprint to accommodate the offline railway line and a new road and road overbridge. The construction of the new road overbridge will require works over the Royal Canal pHNA. New crossings of the Lyeen River and Ballycaghan Stream for the railway line will also be required, and a section of the Grapador river will be diverted. Approximately 900m of hedgerow habitat will be lost within the footprint.	The majority of the footprint verges away from the Royal Canal pHNA. New crossings of the Lyeen and Ballycaghan Stream will be required, and the Ballycaghan Stream will also be diverted. The railway line will travel over an embankment. This option will result in the loss of c. 280 m of hedgerow habitat within the footprint.							
7.2	Water Resources	Impact on surface water, ground waterbodies, and flood risk	Flood Risk: using Eastern CFRAMS Hydrological Studies and Hydraulic Models, NFM, Local Area Plans, County SFRAs, Ground Profile, Lidar and ground survey, Historic Mapping, Current Aerial Photography	1 – Highly Negative Impact	1	1 – Highly Negative Impact	1	2 – Negative Impact	2	2 – Negative Impact	2	3 – Slightly Negative Impact	
			Increasing the head of water at the siphon as a result of preventing the overflow of flood waters onto the railway/canal has the impact of increasing flow downstream and increasing flood levels upstream. An increase in flood depth and extent is found upstream, impacting on agricultural lands and the road network and critically residential areas to the east. Compensation areas are only partially effective as the impact is as a result changing the conveyance and not storage in the system. There is also a resulting feedback into increased spillage into the upper canal pound, which will pass over the lock. There are impacts that cannot be mitigated.	Increasing the head of water at the siphon as a result of preventing the overflow of flood waters onto the railway/canal has the impact of increasing flow downstream and increasing flood levels upstream. An increase in flood depth and extent is found upstream, impacting on agricultural lands and the road network and critically residential areas to the east. Compensation areas are only partially effective as the impact is as a result changing the conveyance and not storage in the system. There is also a resulting feedback into increased spillage into the upper canal pound, which will pass over the lock. There are impacts that cannot be mitigated.	The hydraulic performance at the siphon is maintained, and the impacts are as a result of the loss of floodplain with the track embankment and/or loss of conveyance routes as a result of the crossings of the Lyeen and Ballycaghan Stream by railway and diversion road. Increased bridge openings help to reduce the afflux, and a new route for the Ballycaghan stream to the Lyeen is needed to remove any impacts in more local storms. The impacts are managed in the 1% AEP event but in the 0.1% event a sustained impact in the floodplain upstream of the new canal road crossing was noted. This can be reduced by use of compensation areas but not fully eliminated, although it is not significant in larger events.	The hydraulic performance at the siphon is maintained, and the impacts are as a result of the loss of floodplain with the road approach embankment. The flood overtopping route is maintained under the elevated track and there is limited impact.							
7.2	Water Resources	Vulnerable Aquifers; Desktop Study - GSI	Option 1 is underlain by a Locally Important Aquifer- Bedrock which is Moderately Productive only in Local Zones and there are no gravel aquifers or karst features nearby. Approximately 11% of the option is underlain by Alluvium, with the remaining 89% being underlain by Till derived from limestones. The subsol permeability is low. This option is underlain by the Dublin groundwater body, the WFD risk status of which is under review. Approximately 78% of this option is underlain by groundwater of Moderate vulnerability, approximately 10% by groundwater of High vulnerability and approximately 12% by groundwater of Extreme vulnerability. The average groundwater recharge rate is in the range of 51-100mm/yr. The eastern end of the option comes within the accuracy range of borehole 2923SW104 accurate to 1km with a yield class of 'poor'. There are no Public Water Supply Source Protection Areas or Group Water Scheme Zones of Contribution in the vicinity.	1	Option 2 is underlain by a Locally Important Aquifer- Bedrock which is Moderately Productive only in Local Zones and there are no gravel aquifers or karst features nearby. Approximately 11% of the option is underlain by Alluvium, with the remaining 89% being underlain by Till derived from limestones. The subsol permeability is low. This option is underlain by the Dublin groundwater body, the WFD risk status of which is under review. Approximately 78% of this option is underlain by groundwater of Moderate vulnerability, approximately 10% by groundwater of High vulnerability and approximately 12% by groundwater of Extreme vulnerability. The average groundwater recharge rate is in the range of 51-100mm/yr. The eastern end of the option comes within the accuracy range of borehole 2923SW104 accurate to 1km with a yield class of 'poor'. There are no Public Water Supply Source Protection Areas or Group Water Scheme Zones of Contribution in the vicinity.	1	Option 3 is underlain by a Locally Important Aquifer- Bedrock which is Moderately Productive only in Local Zones and there are no gravel aquifers or karst features nearby. Approximately 11% of the option is underlain by Alluvium, with the remaining 89% being underlain by Till derived from limestones. The subsol permeability is low. This option is underlain by the Dublin groundwater body, the WFD risk status of which is under review. Approximately 35% of this option is underlain by groundwater of Moderate vulnerability, approximately 29% by groundwater of High vulnerability and approximately 36% by groundwater of Extreme vulnerability. The average groundwater recharge rate is in the range of 51-100mm/yr. The eastern end of the option comes within the accuracy range of borehole 2923SW104 accurate to 1km with a yield class of 'poor'. There are no Public Water Supply Source Protection Areas or Group Water Scheme Zones of Contribution in the vicinity.	2	Option 4 is underlain by a Locally Important Aquifer- Bedrock which is Moderately Productive only in Local Zones and there are no gravel aquifers or karst features nearby. Approximately 22% of the option is underlain by Alluvium, with the remaining 78% being underlain by Till derived from limestones. The subsol permeability is low. This option is underlain by the Dublin groundwater body, the WFD risk status of which is under review. Approximately 59% of this option is underlain by groundwater of Moderate vulnerability, approximately 8% by groundwater of High vulnerability and approximately 33% by groundwater of Extreme vulnerability. The average groundwater recharge rate is in the range of 51-100mm/yr. The eastern end of the option comes within the accuracy range of borehole 2923SW104 accurate to 1km with a yield class of 'poor'. There are no Public Water Supply Source Protection Areas or Group Water Scheme Zones of Contribution in the vicinity.	2	Option 5 is underlain by a Locally Important Aquifer- Bedrock which is Moderately Productive only in Local Zones and there are no gravel aquifers or karst features nearby. Approximately 22% of the option is underlain by Alluvium, with the remaining 78% being underlain by Till derived from limestones. The subsol permeability is low. This option is underlain by the Dublin groundwater body, the WFD risk status of which is under review. Approximately 43% of this option is underlain by groundwater of Moderate vulnerability, approximately 18% by groundwater of High vulnerability and approximately 39% by groundwater of Extreme vulnerability. The average groundwater recharge rate is in the range of 51-100mm/yr. The eastern end of the option comes within the accuracy range of borehole 2923SW104 accurate to 1km with a yield class of 'poor'. There are no Public Water Supply Source Protection Areas or Group Water Scheme Zones of Contribution in the vicinity.	3	Option 5 is underlain by a Locally Important Aquifer- Bedrock which is Moderately Productive only in Local Zones and there are no gravel aquifers or karst features nearby. Approximately 22% of the option is underlain by Alluvium, with the remaining 78% being underlain by Till derived from limestones. The subsol permeability is low. This option is underlain by the Dublin groundwater body, the WFD risk status of which is under review. Approximately 43% of this option is underlain by groundwater of Moderate vulnerability, approximately 18% by groundwater of High vulnerability and approximately 39% by groundwater of Extreme vulnerability. The average groundwater recharge rate is in the range of 51-100mm/yr. The eastern end of the option comes within the accuracy range of borehole 2923SW104 accurate to 1km with a yield class of 'poor'. There are no Public Water Supply Source Protection Areas or Group Water Scheme Zones of Contribution in the vicinity.

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7	7.3	Landscape & Visual Quality	Potential landscape and visual impacts from new depot.  Potential landscape and visual impacts on protected views, Royal Canal / Greenway and general landscape and visual environment.	Key landscape characteristics affected: Effects on listed/ key views: Impact on landscape character.	Impact on the wider landscape is minimal and temporary. Provision of overhead electrical catenary will have a slight negative impact on the canal corridor. Subject to the use of sensitive finishes, raising part of the parapet of the bridge over the railway will only have a slight negative impact on the appearance of Jackson's Bridge and for views of the railway / canal corridor from the bridge.  The potential impact of Option 1 on Jackson's Bridge, the Royal Canal, the 14th Lock, the adjoining residential property and for views to and from the Bridge is slight adverse during construction, and slight neutral thereafter.	Impact on the wider landscape is minimal and temporary. Demolition of the railway arch and bridge reconstruction and road raising works will have a significant temporary and short-term negative impact on Jackson's Bridge, the 14th Lock, and adjoining residential property and on the local canal corridor.  Provision of overhead electrical catenary will have a slight negative impact on the canal corridor. Subject to the use of sensitive finishes, raising part of the parapet of the bridge over the railway will have a moderate negative impact on the appearance of Jackson's Bridge and for views from the canal corridor from the adjoining residential property.  The potential impact of Option 2 on Jackson's Bridge, the Royal Canal, the 14th Lock, the adjoining residential property and for views to and from the Bridge is significant adverse during construction, and moderate adverse to neutral thereafter.	The works will result in a significant impact on the wider landscape west and south of Jackson's Bridge. Construction of the elevated link road and new bridge over the canal and existing railway, and the construction of the elevated offline section of railway will necessitate removal of sections of treelines and hedgerows, including those on the canal corridor, and will have a significant short and medium-term negative impact on the local area, including the local canal corridor and the residential farm property along the L5041 south of the new railway alignment. Provision of overhead electrical catenary will have a slight negative impact on the canal corridor.  The potential impact of Option 3 on the Royal Canal, the Royal Canal Greenway, and the local landscape is significant adverse during construction and moderate / significant adverse thereafter.	The works will result in a significant impact on the landscape south of Jackson's Bridge. Construction of the elevated offline railway and viaduct will necessitate removal of sections of treelines and hedgerows, including those on the canal corridor, and will have a significant short and medium-term negative impact on the local area, including the local canal corridor and the residential farm property along the L5041 south of the new railway alignment. Provision of overhead electrical catenary will have a slight negative impact on the canal corridor.  The potential impact of Option 4 on the Royal Canal, the Royal Canal Greenway and the local landscape is significant adverse during construction and slight / moderate adverse thereafter.	The works will result in a significant impact on Jackson's Bridge and the local landscape with the removal of the bridge structure. Construction of the elevated realigned local road and new bridge will necessitate removal of a significant tree-line along the east of the local road north of the canal, sections of hedgerows, and will have a very significant short and medium-term negative impact on the local area, including the local canal corridor, the setting of the 14th Lock and adjoining residential property and the residential farm property along the L5041 south of the railway. While the section of the existing L5041 local road north of the canal will be retained, the adjoining western edge of the realigned L5041 will be supported by means of a retaining structure of up to 6m in height. Provision of overhead electrical catenary will have a slight negative impact on the canal corridor.  The potential impact of Option 5 on the Royal Canal and 14th Lock, the Royal Canal Greenway and the residential property adjacent to the lock is very significant adverse during construction and significant adverse thereafter.  The potential impact of Option 5 on the Royal Canal, the Royal Canal Greenway, and the local landscape is significant adverse during construction and significant adverse thereafter.	3 - Slightly Negative Impact	3	2 - Negative Impact	2	3 - Slightly Negative Impact	3	2 - Negative Impact	2			
	7.4	Cultural Heritage	Impact on protected structures, archaeological sites and cultural heritage sites / features.	No. of RPS, National Monuments, SMRs, Conservation areas within 250m and / or directly affected by options etc. Number of designated sites/structures (by level of designation) directly impacted by scheme (landtake).	This option will not result in an impact on recorded monuments. This option will be primarily located within the footprint of the existing railway and as such there will be minimal potential for impacts on previously unrecorded archaeological sites that may be located within the area surrounding the railway.  The option will involve the lowering of the railway bed, which will see the retention of Jackson's Bridge, which is a protected structure. The option will require an increase in the parapet height of the railway bridge to a height of 1.8m. This will result in a direct, negative impact on the bridge structure, which is considered moderately negative.	This option will not result in an impact on recorded monuments. This option will be primarily located within the footprint of the existing railway and as such there will be minimal potential for impacts on previously unrecorded archaeological sites that may be located within the area surrounding the railway.  The option will involve the lowering of the railway bed, but will require the dismantling and reconstruction of Jackson's Bridge, which is a protected structure. This applies to the arch crossing the railway rather than the adjacent arches. The parapet height of the overall bridge will also be increased in height. This will result in a direct, negative impact on the bridge structure, which is considered significant negative.	This option will not result in an impact on recorded monuments, but the option comprises a re-route of a railway through greenfield to the south of Jackson's Bridge and railway and a new access road crossing the proposed and existing railway, along with the canal. As such there is the potential for impacts on previously unrecorded archaeological sites that may be located within the footprint of the realigned railway and road.  The option will bypass Jackson's Bridge and as such will not directly impact the bridge or adjacent protected structures (canal locks). The new bridge further to the west has the potential to indirectly impact the setting of the bridge, locks and canal, although the impacts would not be significant.	This option will not result in an impact on recorded monuments, but the option comprises a re-route of a railway through greenfield to the south. As such there is the potential for impacts on previously unrecorded archaeological sites that may be located within the footprint of the realigned railway.  The option will see a section of the railway to the south of Jackson's Bridge elevated on an embankment, with the new railway line at a higher elevation to Jackson's Bridge. This has the potential to result in a significant indirect negative impact on the setting of the structure.	This option will not result in an impact on recorded monuments. This option will be primarily located within the footprint of the existing railway, a new road will be required to cross the railway, which is located in greenfield and has the potential to directly impact previously unrecorded archaeological sites that may be located within this area.  The option will involve the removal of the railway arch at Jackson's Bridge, although the remaining structure will be retained in-situ. This is a protected structure. This will result in a direct, negative impact on the bridge structure, which is considered significant.  The new bridge further to the west has the potential to indirectly impact the setting of the bridge, locks and canal, although the impacts would not be significant.	3 - Slightly Negative Impact	3	2 - Negative Impact	2	3 - Slightly Negative Impact	3	2 - Negative Impact	2			
	7.5	Noise & Vibration	Impact on sensitive properties	Estimated number of sensitive receptors (residential properties, community facilities etc) likely to be affected by transport related noise with the project within 50m, 100m, 200m and 300m bands.	The potential impact associated with this option relates to track lowering and the construction of a new track. The closest affected properties at those within Newtown hall / The Grove to the south-east of the RLB and those along Killock Road to the northwest. The works will require night-time and weekend possessions and associated significant construction noise impacts. There are no expected significant operational noise impacts due to change of fleet and the small horizontal alignment closer to these properties. The potential impact rating is 7/6, with 40 NSLs located within 50m. The overall impact is determined to be negative given the potential for short-term significant construction impacts and low operational noise impacts.	The potential impact associated with this option relates to track raising, the construction of a new track and bridge alterations. The closest affected properties at those within Newtown hall / The Grove to the south-east of the RLB and those along Killock Road to the northwest. The works will require night-time and weekend possessions and associated significant construction noise impacts. There are no expected significant operational noise impacts due to change of fleet and the small horizontal alignment closer to these properties. The potential impact rating is 7/30, with 42 NSLs located within 50m. The overall impact is determined to be negative given the potential for short-term significant construction impacts and low operational noise impacts.	The potential impact associated with this option relates to construction of a new offline track and realignment of the L5041 over the rail line to the west of Jackson's bridge. The closest affected properties are those within Newtown hall / The Grove to the south-east of the RLB and along Killock Road at the new level point of the realigned road. The works are unlikely to require night-time and weekend possessions, however there may be a short, possession during works on the new rail crossing set back from NSLs. During the operational phase, with the inclusion of the EAR noise barrier along the westbound track, operational noise impacts are long term and slight / not significant. The potential impact rating is 7/51, with 48 NSLs located within 50m. The overall impact is determined to be slightly negative given the less significant construction noise impacts compared to Options 1, 2 and 5 and the low residual operational noise impacts at the closest NSL to the realigned section of rail line and realigned road.	The potential impact associated with this option relates to construction of a new offline track. The closest affected properties are those within Newtown hall / The Grove to the south-east of the RLB. The works are unlikely to require night-time and weekend possessions and will require standard working hours. During the operational phase, with the inclusion of the EAR noise barrier along the westbound track, operational noise impacts are long term and slight. The potential impact rating is 7/16, with 40 NSLs located within 50m. The overall impact is determined to be slightly negative given the less significant construction noise impacts compared to Options 1, 2 and 5 and the low residual operational noise impacts at the closest NSL to the realigned section of rail line.	The potential impact associated with this option relates to construction of a new track and road realignment works. The closest affected properties at those within Newtown hall / The Grove to the south-east of the RLB and those along Killock Road at the tie in with the new realigned L5041. The rail and bridge works will require night-time and weekend possessions and associated construction noise impacts. There are no expected significant rail operational noise impacts due to change of fleet and the small horizontal alignment closer to NSLs. The potential impact rating is 7/58, with 51 NSLs located within 50m. The overall impact is determined to be negative given short-term significant construction impacts and low operational rail noise impacts.	2 - Negative Impact	2	2 - Negative Impact	2	3 - Slightly Negative Impact	3	2 - Negative Impact	2			
	7.6	Air Quality	Impact on sensitive properties	Estimated number of sensitive receptors (residential properties, community facilities etc) likely to be affected by transport related air quality impacts with the project within 50m of the site boundary.	No potential for significant impact on local air quality due to vehicle emissions of NOx, PM10 and PM2.5 as traffic volumes are below T11 screening criteria (PE-ENV-01106). There are sensitive receptors within 250 m of the potential construction works, however with dust mitigation there is no potential for significant effect on air quality.	No potential for significant impact on local air quality due to vehicle emissions of NOx, PM10 and PM2.5 as traffic volumes are below T11 screening criteria (PE-ENV-01106). There are sensitive receptors within 250 m of the potential construction works, however with dust mitigation there is no potential for significant effect on air quality.	No potential for significant impact on local air quality due to vehicle emissions of NOx, PM10 and PM2.5 as traffic volumes are below T11 screening criteria (PE-ENV-01106). There are sensitive receptors within 250 m of the potential construction works, however with dust mitigation there is no potential for significant effect on air quality.	No potential for significant impact on local air quality due to vehicle emissions of NOx, PM10 and PM2.5 as traffic volumes are below T11 screening criteria (PE-ENV-01106). There are sensitive receptors within 250 m of the potential construction works, however with dust mitigation there is no potential for significant effect on air quality.	No potential for significant impact on local air quality due to vehicle emissions of NOx, PM10 and PM2.5 as traffic volumes are below T11 screening criteria (PE-ENV-01106). There are sensitive receptors within 250 m of the potential construction works, however with dust mitigation there is no potential for significant effect on air quality.	No potential for significant impact on local air quality due to vehicle emissions of NOx, PM10 and PM2.5 as traffic volumes are below T11 screening criteria (PE-ENV-01106). There are sensitive receptors within 250 m of the potential construction works, however with dust mitigation there is no potential for significant effect on air quality.	No potential for significant impact on local air quality due to vehicle emissions of NOx, PM10 and PM2.5 as traffic volumes are below T11 screening criteria (PE-ENV-01106). There are sensitive receptors within 250 m of the potential construction works, however with dust mitigation there is no potential for significant effect on air quality.	No potential for significant impact on local air quality due to vehicle emissions of NOx, PM10 and PM2.5 as traffic volumes are below T11 screening criteria (PE-ENV-01106). There are sensitive receptors within 250 m of the potential construction works, however with dust mitigation there is no potential for significant effect on air quality.	4 - Neutral Impact	4	4 - Neutral Impact	4	4 - Neutral Impact	4	4 - Neutral Impact	4
	7.9	Electromagnetic Compatibility	Electromagnetic Compatibility Impact on sensitive local receptors	Estimated number of potential receptors (residential properties, sensitive commercial properties etc) 100m either side of the outermost depot rail line.	No likely significant impacts on equipment susceptible to electromagnetic interference. Guideline limits for exposure to electromagnetic fields will not be exceeded for at any of the receptors in the current baseline environment.	No likely significant impacts on equipment susceptible to electromagnetic interference. Guideline limits for exposure to electromagnetic fields will not be exceeded for at any of the receptors in the current baseline environment.	No likely significant impacts on equipment susceptible to electromagnetic interference. Guideline limits for exposure to electromagnetic fields will not be exceeded for at any of the receptors in the current baseline environment.	No likely significant impacts on equipment susceptible to electromagnetic interference. Guideline limits for exposure to electromagnetic fields will not be exceeded for at any of the receptors in the current baseline environment.	No likely significant impacts on equipment susceptible to electromagnetic interference. Guideline limits for exposure to electromagnetic fields will not be exceeded for at any of the receptors in the current baseline environment.	No likely significant impacts on equipment susceptible to electromagnetic interference. Guideline limits for exposure to electromagnetic fields will not be exceeded for at any of the receptors in the current baseline environment.	No likely significant impacts on equipment susceptible to electromagnetic interference. Guideline limits for exposure to electromagnetic fields will not be exceeded for at any of the receptors in the current baseline environment.	No likely significant impacts on equipment susceptible to electromagnetic interference. Guideline limits for exposure to electromagnetic fields will not be exceeded for at any of the receptors in the current baseline environment.	4 - Neutral Impact	4	4 - Neutral Impact	4	4 - Neutral Impact	4	4 - Neutral Impact	4
<b>Criteria 7 (Local Environment Impacts) summary</b>				17	15	15	15	15	13											

1	Transport User Benefits and Other Economic Impacts			4 - Neutral Impact	4.0	4 - Neutral Impact	4.0	4 - Neutral Impact	4.3	4 - Neutral Impact	4.3	4 - Neutral Impact	4.0
2	Accessibility Impacts			4 - Neutral Impact	4.0	4 - Neutral Impact	3.5	4 - Neutral Impact	5.0	4 - Neutral Impact	4.0	4 - Neutral Impact	5.0
3	Social Impacts			4 - Neutral Impact	6.0	4 - Neutral Impact	6.0	4 - Neutral Impact	6.0	4 - Neutral Impact	6.0	4 - Neutral Impact	6.0
4	Land Use Impacts			4 - Neutral Impact	3.7	3 - Slightly Negative Impact	3.6	3 - Slightly Negative Impact	3.0	2 - Negative Impact	2.4	3 - Slightly Negative Impact	3.0
5	Safety Impacts			3 - Slightly Negative Impact	2.5	3 - Slightly Negative Impact	2.5	5 - Slightly Positive Impact	6.0	5 - Slightly Positive Impact	6.0	3 - Slightly Negative Impact	3.0
6	Climate Change Impacts			3 - Slightly Negative Impact	2.5	3 - Slightly Negative Impact	2.5	4 - Neutral Impact	3.0	4 - Neutral Impact	3.5	4 - Neutral Impact	3.5
7	Local Environment Impacts			3 - Slightly Negative Impact	3.0	3 - Slightly Negative Impact	2.7	3 - Slightly Negative Impact	2.7	3 - Slightly Negative Impact	2.7	3 - Slightly Negative Impact	2.6
	Overall Ranking			4 - Neutral Impact	3.67	4 - Neutral Impact	3.54	4 - Neutral Impact	4.29	4 - Neutral Impact	4.13	4 - Neutral Impact	3.87
	Total Ranking / Preferred site			Option 1. Double online track. Vertical track lowering and track protection	26.7	Option 2. Double online track. Bridge deck reconstruction and track protection	24.8	Option 3. Double offline track and L5041 road diversion	30.0	Option 4. Double offline track without impacting the L5041	28.9	Option 5. Double online track. Jackson's Bridge railway bridge deck removal and L5041 diversion	27.1