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Feature	Value	Potential Impacts During Operational Phase	
		Habitat Loss, Deterioration and Fragmentation	Disturbance to or Displacement of Protected Species or Reduction in Habitat Availability
			No further nesting habitat will be removed during operation and no further displacement will occur.
Farmland birds	Local importance (higher value)	Not applicable	<p>No likely significant impact.</p> <p>No direct impacts on farmland birds.</p> <p>No further roosting, commuting or foraging habitat will be removed during operation and no further displacement will occur.</p>
Smooth newt	Local importance (higher value)	Not applicable	<p>No likely significant impact.</p> <p>No direct impacts on newts are likely to occur at operational stage.</p> <p>No further pond habitat will be removed during operation and no further displacement will occur.</p>
Otters	Local importance (higher value)	Not applicable	<p>No impact.</p> <p>No direct or indirect impacts on any features identified as being used by otters shall be affected at operational stage.</p>
Badgers	Local importance (higher value)	Not applicable	<p>No likely significant impact.</p> <p>No direct impacts on badgers are likely to occur at operational stage.</p> <p>No further sett disturbance will occur during operation and no further displacement will occur.</p>

Table 11.15: Potentially Significant Operational Stage Impacts of the Proposed Project on Terrestrial Biodiversity

Feature	Value	Potential Impacts During Operational Phase	
		Habitat Loss, Deterioration and Fragmentation	Disturbance to or Displacement of Protected Species or Reduction in Habitat Availability
European Sites, their buffer zones and the UNESCO Biosphere Reserve	International	<p>No impact.</p> <p>There will be no direct or indirect loss, deterioration or fragmentation of terrestrial habitats for which these sites have been designated. Marine habitats are assessed in EIAR Chapter 9 Biodiversity (Marine) and the NIS.</p>	<p>No impact.</p> <p>There will be no direct or indirect disturbance to or displacement of terrestrial protected species, or reduction in terrestrial habitat availability to protected species for which these sites have been designated. Impacts on marine species are assessed in EIAR Chapter 10 and the NIS.</p>
Inland NHAs	National	<p>No impact.</p> <p>There will be no direct or indirect loss, deterioration or fragmentation of terrestrial habitats for which terrestrial pNHAs have been designated. pNHAs with marine habitats are assessed in EIAR Chapter 9.</p>	<p>No impact.</p> <p>There will be no direct or indirect disturbance to or displacement of terrestrial protected species, or reduction in terrestrial habitat availability to protected species for which any terrestrial pNHA sites have been designated. Impacts on marine species are assessed in EIAR Chapter 9 Biodiversity (Marine) and Chapter 10 Biodiversity (Marine Ornithology) and the NIS.</p>
NDA	County	<p>No likely significant impact.</p> <p>NDA has been identified to provide opportunities for habitat improvement. A proposed 20m wayleave through the NDA does not prevent those opportunities arising.</p>	<p>No impact.</p> <p>Not applicable as NDAs are not designated in the Development Plan for the occurrence of protected species</p>
GS2 grassland	Local importance (higher value)	<p>No impact.</p> <p>The operation of the project will not result in any ongoing impacts to areas of dry meadows and grassy verges.</p>	Not applicable
GS4 grassland	Local importance (higher value)	<p>No impact.</p> <p>The operation of the project will not result in any ongoing impacts to areas of wet grassland.</p>	Not applicable
(Mixed) broadleaved woodland, scrub, hedgerows and treelines	Local importance (higher value)	<p>No impact.</p> <p>The operation of the project will not result in any ongoing impacts to areas of (mixed) broadleaved woodland, scrub, hedgerows and treelines.</p>	Not applicable
Fixed dune habitat at Portmarnock	Local importance (higher value)	<p>No impact.</p> <p>The operation of the project will not result in any ongoing impacts to areas of fixed dune habitat.</p>	Not applicable
GA1 and GA2 grasslands, spoil and recolonising bare ground, arable crops, horticultural land and tilled land	Local importance (lower value)	<p>No impact.</p> <p>The operation of the project will not result in any ongoing impacts to areas of grasslands, spoil and recolonising bare ground, arable crops, horticultural land and tilled land.</p>	Not applicable
Bats	Local importance (higher value)	Not applicable	<p>No likely significant impact.</p> <p>No direct impacts on roosting, commuting or foraging bats.</p>

Feature	Value	Potential Impacts During Construction Phase	
		Habitat Loss, Deterioration and Fragmentation	Disturbance to or Displacement of Protected Species or Reduction in Habitat Availability
			routes may be severed by loss of broadleaved woodland, scrub, hedgerows and treelines.
Farmland birds	Local importance (higher value)	Not applicable	<p>Potentially significant impact.</p> <p>No direct impacts on nests in use, but nesting habitat will be removed during construction. Breeding species will be displaced to adjacent woodland, scrub, hedgerows and treeline habitat.</p>
Smooth newt	Local importance (higher value)	Not applicable	<p>Potentially significant impact.</p> <p>Direct impacts on ponds used by newts may occur during construction. Species will be displaced to adjacent ponds.</p> <p>Newts may be accidentally harmed in the absence of any special measures.</p> <p>Wildlife offence may occur.</p>
Otters	Local importance (higher value)	Not applicable	<p>No impact.</p> <p>No direct or indirect impacts on any features identified as being used by otters shall be affected during the Construction Phase.</p>
Badgers	Local importance (higher value)	Not applicable	<p>Potentially significant impact.</p> <p>Direct impacts on badger setts within the proposed construction corridor will occur during construction. Species will be displaced to adjacent habitat.</p> <p>Badgers may be accidentally harmed in the absence of any special measures.</p> <p>Wildlife offence may occur.</p>

Table 11.14: Potentially Significant Construction Stage Impacts of the Proposed Project on Terrestrial Biodiversity

Feature	Value	Potential Impacts During Construction Phase	
		Habitat Loss, Deterioration and Fragmentation	Disturbance to or Displacement of Protected Species or Reduction in Habitat Availability
European Sites, their buffer zones and the UNESCO Biosphere Reserve	International	No impact. There will be no direct or indirect loss, deterioration or fragmentation of terrestrial habitats for which these sites have been designated.	No impact. There will be no direct or indirect disturbance to or displacement of terrestrial protected species, or reduction in terrestrial habitat availability to protected species for which these sites have been designated.
Inland NHAs	National	No impact. There will be no direct or indirect loss, deterioration or fragmentation of terrestrial habitats for which terrestrial pNHAs have been designated.	No impact. There will be no direct or indirect disturbance to or displacement of terrestrial protected species, or reduction in terrestrial habitat availability to protected species for which any terrestrial pNHA sites have been designated.
NDAs	County	No likely significant impact. The Proposed Project will pass 10m below the NDA at Abbotstown and will partially tunnel through the golf course at Silloge. NDAs have been identified to provide opportunities for habitat improvement. A temporary construction site corridor running through the NDA does not prevent those opportunities arising.	No impact. Not applicable as NDAs are not designated in the Development Plan for the occurrence of protected species
GS2 grassland	Local importance (higher value)	No likely significant impact. Direct impact will occur, as areas of dry meadows and grassy verges will be removed during construction.	Not applicable
GS4 grassland	Local importance (higher value)	No likely significant impact. Direct impact will occur, as areas of wet grassland will be removed during construction.	Not applicable
(Mixed) broadleaved woodland, scrub, hedgerows and treelines	Local importance (higher value)	No likely significant impact. Direct impact will occur, as areas of (mixed) broadleaved woodland, scrub, hedgerows and treelines will be removed during construction.	Potentially significant impact. Indirect impact on species will occur, as these habitats are used by protected species to move throughout the wider area and their removal may impede the ability of species to do that throughout construction.
Fixed dune habitat at Portmarnock	Local importance (higher value)	No impact. Construction of the project will avoid this habitat.	Not applicable
GA1 and GA2 grasslands, spoil and recolonising bare ground, arable crops, horticultural land and tilled land	Local importance (lower value)	No likely significant impact. Direct impact will occur, as areas of grasslands, spoil and recolonising bare ground, arable crops, horticultural land and tilled land will be removed during construction.	Not applicable
Bats	Local importance (higher value)	Not applicable	Potentially significant impact. No direct impacts on roosts. Indirect impact on bats may occur as their foraging and commuting

Table 11.21: Impacts of the Proposed Project in the Absence of Mitigation

Aquatic Ecological Receptor	Location and Rating	Potential Impacts During the Construction Phase									Potential Impacts during the Operational Phase		
		Suspended Solids Pollution	Pollution with Other Substances	Introduction of Invasive Species	Trenchless Crossing	Culvert and Bridge Construction	Construction of Access Roads	Compound Areas	Hydrological Changes	Environmental Incidents and Accidents	Pollution from Pipe Leakage/Spillage of Untreated Wastewater	Pollution from Runoff from Hardstanding Areas	Accidental Spillage of Fuels/Oil/Chemicals
ER1	Tolka River (Location 1) of county importance	Moderately negative on a local scale, short-term	Moderately negative on a local scale, medium-term	Significantly negative on a local scale, long-term	No impact	No impact	Slightly negative on a local scale, short-term	Slightly negative on a local scale, short-term	Moderate, negative on a local scale, permanent	Significantly negative on a local scale, long-term	Slightly negative on a local scale, temporary	Slightly negative on a local scale, temporary	Slightly negative on a local scale, temporary
ER2	Santry River (Location 2) of local importance (lower value)	Moderately negative on a local scale, short-term	Moderately negative on a local scale, medium-term	Significantly negative on a local scale, long-term	Moderately negative on a local scale, short-term	No impact	Slightly negative on a local scale, short-term	Slightly negative on a local scale, short-term	No impact	Significantly negative on a local scale, long-term	Slightly negative on a local scale, temporary	No impact	Slightly negative on a local scale, temporary
ER3	Mayne River (Location 3) of local importance (lower value)	Moderately negative on a local scale, short-term	Moderately negative on a local scale, medium-term	Significantly negative on a local scale, long-term	Moderately negative on a local scale, short-term	No impact	Slightly negative on a local scale, short-term	Slightly negative on a local scale, short-term	No impact	Significantly negative on a local scale, long-term	Slightly negative on a local scale, temporary	Slightly negative on a local scale, temporary	Slightly negative on a local scale, temporary
	Mayne River (Location 5) of local importance (lower value)	Moderately negative on a local scale, short-term	Moderately negative on a local scale, medium-term	Significantly negative on a local scale, long-term	No impact	Moderately negative on a local scale, permanent	Slightly negative on a local scale, short-term	No impact	Slight negative on a local scale, permanent	Significantly negative on a local scale, long-term	No impact	Slightly negative on a local scale, temporary	No impact
ER4	Cuckoo Stream (Location 4) of local importance (lower value)	Moderately negative on a local scale, short-term	Moderately negative on a local scale, medium-term	Significantly negative impact on a local scale, long-term	Moderately negative on a local scale, short-term	No impact	Slightly negative on a local scale, short-term	Slightly negative on a local scale, short-term	Moderate, negative on a local scale, permanent	Significantly negative on a local scale, long-term	Slightly negative on a local scale, temporary	Slightly negative on a local scale, temporary	Slightly negative on a local scale, temporary



Legend

- Proposed Project Boundary
- Proposed Construction Compound
- Proposed Outfall Pipeline Route (Marine Section)
- Vantage Point Viewsheds
- Estuarine Survey Area
- Special Protection Area

Greater Dublin Drainage

Project: Greater Dublin Drainage Project

Drawing Title: Figure 10.1 - Location and Extent of Marine, Coastal and Estuarine Ornithological Surveys



Rev	Date	Purpose of revision	Drawn	Checked	Revised	Approved
1	15/03/18	Revision 1: infrastructure updated	CH	RI	KAG	RI
2	05/03/18	Final	CH	RI	KAG	RI
3	12/01/18	Infrastructure updated	CH	RI	KAG	RI
4	13/09/17	Infrastructure updated	CH	RI	KAG	RI
5	25/10/16	For issue	CH	RI	KAG	RI
6		Purpose of revision	Drawn	Checked	Revised	Approved

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UISCE
WATER

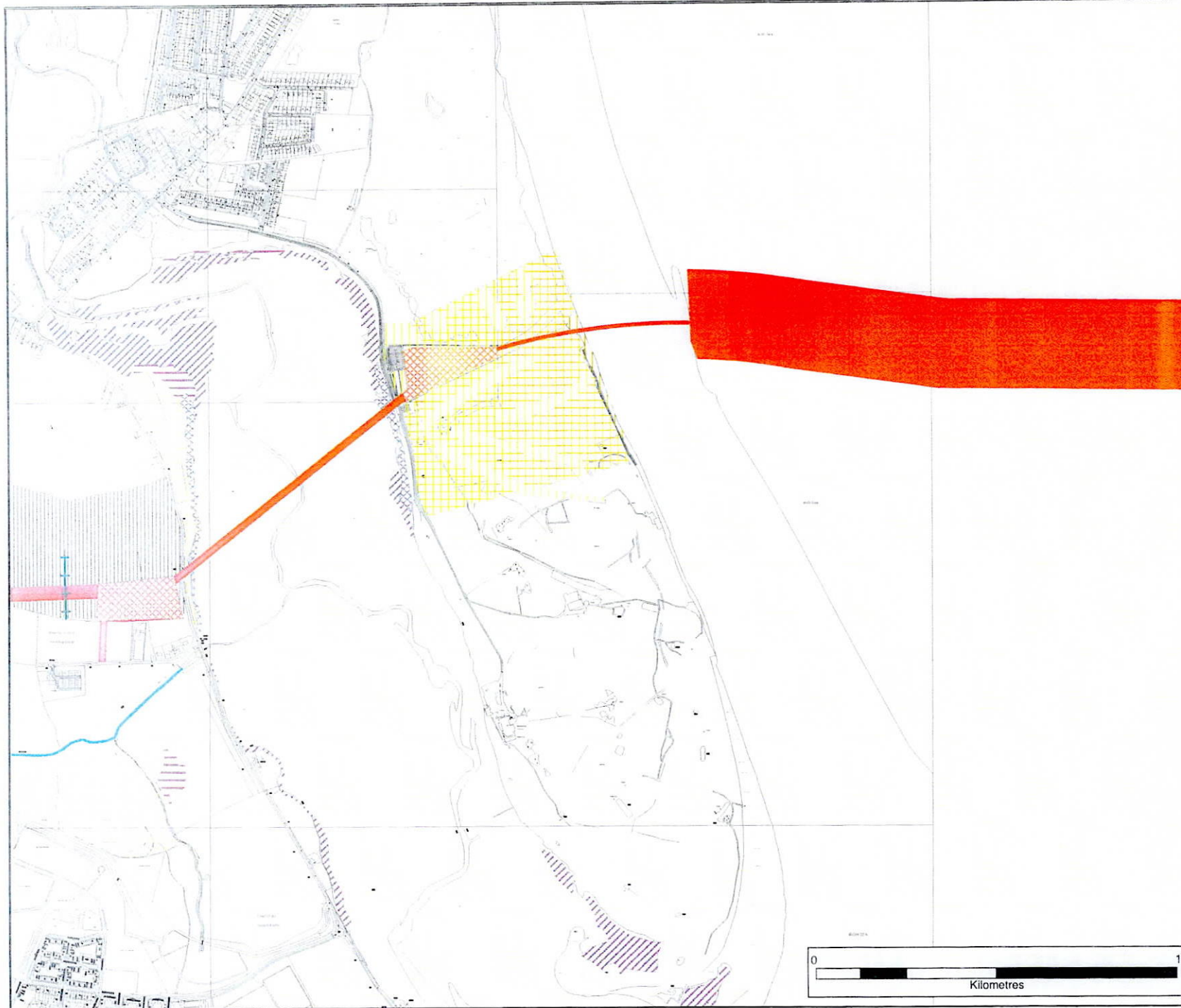
JACOBS **TOBIN**

Drawing Status: Final

Scale: A1 1:30,000 DO NOT SCALE

Job No: 32102902

Drawing No: 32102902-EIAR-1001



Legend:

- Proposed Project Boundary
- Proposed Compounds
- Access Routes
- (Mixed) Broadleaved Woodland (WD1)
- Immature Woodland (WS2)
- Scrub (WS1)
- Arable crops (BC1)
- Horticultural land (BC2)
- Tilled land (BC3)
- Buildings /artificial surfaces (BL3)
- Marram dunes (CD2)
- Fixed dunes (CD3)
- Atlantic Salt Meadow (CM2)
- Mediterranean Salt Meadow (CM2)
- Mixed Atlantic/Mediterranean Salt Meadow (CM2)
- Amenity grassland (Improved) (GA2)
- Dry calcareous & Neutral grassland (GS1)
- Dry Meadows & Grassy verges (GS2)
- Wet grassland (GS4)
- Improved Agricultural Grassland (GA1)
- Spoil & bare ground (ED2)
- Recolonising bare ground (ED3)
- Artificial lakes & ponds (FL8)
- Drainage ditches (FW4)
- Depositing lowland river (FW2)
- Hedgerow (WL1)
- Treeline (WL2)



Rev	Date	For Issue	Drawn	Checked	Filed	Arch
1	25/05/2019		JR	JMC	JMC	



Greater Dublin Drainage Project

Figure 11.5 - Habitat Survey Results (6 of 6)

Drawing Status	FINAL
Scale @ A3	1:10,000
Location No.	32102902
File path	
Drawing No.	32102902-EIAR-1105 (6/6)

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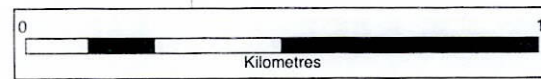


Figure 2-2: Manual Transect Routes from Dublin Airport to Portmarnock, 2017

