17 INTERACTIONS

17.1 Introduction

The EIA Directive and its transposing Regulations requires that in addition to assessing impacts on human beings, fauna, flora, soil, water, air, climate, landscape, material assets and cultural heritage, the interrelationship between these factors must be taken into account as part of the environmental impact assessment process.

17.2 Interactions

Table 17.1 below is a matrix table indicating the significant interactions that are likely to occur between the various environmental disciplines with regard to the proposed scheme. Where an asterisk exists in a box in the table, this indicates that a relationship exists between the two environmental areas. The purpose of the table is to allow interaction between various disciplines to be recognised, although the level of interaction will vary in each case. It is assumed in presenting this table that an environmental discipline has a potential inter-relationship both during the construction and operational phases of the scheme. A summary of expected interactions is given in Table 17.2.

Table 17.1: Inter-relationship Matrix – Potential Interaction between Environmental Disciplines

	Human Beings	Air & Climate	Noise & Vibration	Landscape	Flora & Fauna	Water	Soil, Geology & Hydro-geology	Traffic	Coastal Processes	Cultural Heritage
Human Beings		●	●	●	●	●		●	●	●
Air & Climate	●			●	●			●		
Noise & Vibration	●			●	●			●		
Landscape	●		●		●			●		●
Flora & Fauna		●	●	●		●	●	●	●	
Water	●				●		●	●	●	
Soil, Geology & Hydrogeology		●			●	●			●	
Traffic	●	●	●	●	●	●				
Coastal Processes					●	●	●			
Cultural Heritage	●			●						

Table 17.2: Summary of Interactions

Environmental Discipline	Interaction With	Interaction
Human Beings	Air	The effect of increased traffic has potential to impact on human beings in the vicinity of the proposal The Air chapter has predicted that no significant impacts will occur.
	Noise	The proposal will introduce a new noise source thus potentially increasing noise levels. The Noise chapter has predicted that no significant noise impacts will occur during operation stage and a range of mitigation measures have been proposed to deal with temporary construction stage noise.
	Landscape	The proposals have potential to impact on the landscape and visual resources perceived by human beings. The Landscape and Visual chapter has predicted that there will be no significant landscape impacts and localised visual impacts at the Greencastle terminal.
	Flora & Fauna	The proposal has potential to impact on both terrestrial and marine flora and fauna enjoyed by the public. The Ecology chapters of the ES/EIS have shown that due to the modest scale of the proposal and through implementation of mitigation measures that no significant impacts will occur on species and habitats that the public enjoy for wildlife.
	Water	There is potential for water quality and water recreational activities to be affected by the proposals. The Water chapter has predicted that through suitable mitigation measures that there will be no significant impact on water quality.
	Cultural Heritage	There is potential for the architectural and archaeological heritage enjoyed by the public to be affected to some extent by the proposals. The architectural and archaeological heritage chapter has predicted that no significant impacts will occur.
	Traffic	Traffic generation has potential to impact on Human Beings. The Human Beings chapter has been prepared in close co-operation with the Traffic Consultant and no significant impacts will occur due to traffic generation following mitigation measures.
Air Quality	Flora & Fauna	Vegetation absorbs carbon dioxide and releases oxygen and therefore can have a positive effect on air quality. Dust from construction activities has the potential to impact on flora and fauna. The air quality assessment has predicted that there will be no significant impacts and suitable mitigation measures recommended to control fugitive dust.
	Soils & Geology	Aquatic flora & fauna are dependent on water quality. The air quality assessment has predicted that there will be no significant impacts and suitable mitigation measures recommended to control fugitive dust.
	Traffic	Traffic generation has potential to impact on Air Quality. The Air Quality chapter has been prepared in close co-operation with the Traffic Consultant and no significant air quality impacts will occur due to traffic generation.
	Human Beings	There is potential for local residents to be affected by changes in the local air quality. However, the Air chapter has predicted that no significant air quality impacts will occur.

Environmental Discipline	Interaction With	Interaction
	Landscape	The use of noise attenuation measures as part of the construction stage has potential implications for the landscape and visual impacts of the proposals. However, due to the temporary nature of mitigation measures no significant visual impacts are predicted.
Noise & Vibration	Landscape	The use of noise attenuation measures as part of the construction stage has potential implications for the landscape and visual impacts of the proposals. However, due to the temporary nature of mitigation measures no significant visual impacts are predicted.
	Traffic	Traffic generation has potential to impact on Noise Impacts. The Noise & Vibration chapter has been prepared in close co-operation with the Traffic Consultant and no significant noise impacts will occur due to traffic generation.
	Flora & Fauna	Noise from construction and operational phases of the development has potential to impact on the fauna in the vicinity of the proposed development. However, the ecology chapters of the ES/EIS have predicted that following suitable mitigation, no significant impacts will occur.
	Human Beings	Sensitive agricultural enterprises in the vicinity of the proposed development are likely to be impacted by construction and operational phase noise.
Landscape	Flora & Fauna	Vegetation is very important with respect to providing wildlife corridors for particular animals. However, where hedgerows are removed as part of the proposed road improvements they will be replaced and overall there will be no significant impact on flora & fauna.
	Human Beings	The proposals have potential to impact on the landscape and visual resources perceived by human beings. The Landscape and Visual chapter has predicted that there will be no significant landscape impacts and localised visual impacts at the Greencastle terminal.
	Cultural Heritage	The proposals have potential to impact on the Cultural Heritage features perceived by human beings. The architectural and archaeology chapter has predicted that there will be no significant impacts on features.
	Traffic	Traffic generation has potential to impact on landscape and visual resources. However the Landscape and Visual chapter has predicted that no significant impacts will occur from traffic.
Flora & Fauna	Water	Aquatic flora & fauna are dependent on water quality. Disruption in water chemistry or sediment levels has potential to impact on local flora and fauna. There has been close co-operation between the designer, water environment, ecological and coastal processes consultants. The ecology chapters have shown that no significant impacts will occur following implementation of mitigation measures.
	Landscape	Vegetation is very important with respect to providing wildlife corridors for particular animals. However, where hedgerows are removed as part of the proposed road improvements they will be replaced and overall there will be no significant impact on flora & fauna.
	Traffic	Disturbance from traffic generation has potential to impact on fauna. However the ecology chapters have predicted that no significant impacts will occur as a result of ferry related traffic.

Environmental Discipline	Interaction With	Interaction
	Coastal Processes	There is an inter-relationship between coastal processes and marine ecology impacts. There has been close co-operation between the designer, water environment, ecological and coastal processes consultants and following suitable mitigation measures no significant impacts on marine ecology has been predicted.
	Air	Vegetation absorbs carbon dioxide and releases oxygen and therefore can have a positive effect on air quality. Dust from construction activities has the potential to impact on flora and fauna. However, the ecology chapters of the ES/EIS have predicted that there will be no significant impacts and suitable mitigation measures recommended.
	Noise	Noise from construction and operational phases of the development has potential to impact on the fauna in the vicinity of the proposed development. However, the ecology chapters of the ES/EIS have predicted that following suitable mitigation that no significant impacts will occur.
	Soils	Dust and contamination has potential to impact on flora and fauna in an area. Through the implementation of suitable mitigation measures no significant impacts are predicted.
	Air	Flora lost during construction will result in greater temperature gain in the vicinity of exposed soils. New structures will alter the microclimate in the vicinity of these structures which will in turn affect the distribution of certain species of plant.
	Material Assets	Land take may result in some local loss of range for some terrestrial fauna.
Coastal Processes	Flora & Fauna	There is an inter-relationship between coastal processes and marine ecology impacts. There has been close co-operation between the ecological and coastal processes consultants and following suitable mitigation measures no significant impacts on marine ecology has been predicted.
	Water	There is a potential inter-relationship between water quality and coastal processes. However the Coastal processes chapter has predicted that there will be no significant impacts.
	Soils & Geology	There is a potential inter-relationship between soils and coastal processes. However the Coastal processes chapter has predicted that there will be no significant impacts.
Cultural Heritage	Landscape	The proposals have potential to impact on the Cultural Heritage features perceived by human beings. The architectural and archaeology chapter has predicted that there will be no significant impacts on features.
	Human Beings	There is potential for the architectural and archaeological heritage enjoyed by the public to be affected to some extent by the proposals. The architectural and archaeological heritage chapter has predicted that no significant impacts will occur.
Water Quality	Soils	Disturbance of soils has potential to impact on water quality. The Water chapter has concluded that through appropriate mitigation measures there will be no significant impacts.
	Traffic	

Environmental Discipline	Interaction With	Interaction
	Flora & Fauna	Aquatic flora & fauna are dependent on water quality. Disruption in water chemistry or sediment levels has potential to impact on local flora and fauna. There has been close co-operation between the designer, water environment, ecological and coastal processes consultants. The ecology chapters have shown that no significant impacts will occur following implementation of mitigation measures.
	Coastal Processes	There is a potential inter-relationship between water quality and coastal processes. However the Coastal processes chapter has predicted that there will be no significant impacts.
	Human Beings	There is potential for water quality and water recreational activities to be affected by the proposals. The Water chapter has predicted that through suitable mitigation measures that there will be no significant impact on water quality.
Soils & Geology	Air	Aquatic flora & fauna are dependent on water quality. Disturbance to water features has potential to impact on local flora and fauna. The ecology chapters have shown that no significant impacts will occur following implementation of suitable mitigation measures.
	Flora & Fauna	Dust and contamination has potential to impact on flora and fauna in an area. Through the implementation of suitable mitigation measures no significant impacts are predicted.
	Water	Disturbance of soils has potential to impact on water quality. The Water chapter has concluded that through appropriate mitigation measures there will be no significant impacts.
	Coastal Processes	There is a potential inter-relationship between soils and coastal processes. However the Coastal processes chapter has predicted that there will be no significant impacts.
Traffic	Air	Traffic generation has potential to impact on Air Quality. The Air Quality chapter has been prepared in close co-operation with the Traffic Consultant and no significant air quality impacts will occur due to traffic generation.
	Noise	Traffic generation has potential to impact on Noise Impacts. The Noise & Vibration chapter has been prepared in close co-operation with the Traffic Consultant and no significant noise impacts will occur due to traffic generation
	Human Beings	Traffic generation has potential to impact on Human Beings. The Human Beings chapter has been prepared in close co-operation with the Traffic Consultant and no significant impacts will occur due to traffic generation following mitigation measures.
	Flora & Fauna	Disturbance from traffic generation has potential to impact on fauna. However the ecology chapters have predicted that no significant impacts will occur as a result of ferry related traffic.
	Water	
	Landscape	Traffic generation has potential to impact on landscape and visual resources. However the Landscape and Visual chapter has predicted that no significant impacts will occur from traffic.