

Noise – See Annex C, Appendix G

Local Air Quality – See Annex D, Appendix I

Greenhouse Gas Worksheet – See Annex D, Appendix J

Worksheet 1

Environment: Landscape

The Landscape Sub-Objective

Features	Description	Scale it matters	Rarity	Importance	Substitutability	Impact	Additional Mitigation
Pattern	Settlement is very dispersed with scattered isolated farmsteads within the Outmarsh sub areas	Local	Typical	Low Local	Replaceable	Slight negative impact	Landscaping measures e.g. planting of vegetation and
Tranquillity	Moderately high baseline noise primarily from the Strategic Road Network and rail movements.	Local	Typical	Low Typical	N/A	Neutral	Use of acoustic barriers and 'Low noise' road surfaces (e.g. porous asphalt)
Cultural	A site of local nature conservation	Local	Typical	Medium local	Replaceable	A slight negative impact	
Landcover	Development of infrastructure corridor, including A180 (T) dual carriageway and power supply cables. The outmarsh field are small and where ancient drained landscape exists. Here there is a relatively high proportion of grass and rough grazing alongside vegetable crops. Woodland on the out marsh is almost non existent except around farmsteads and settlement edges.	Local	Typical	Low local	Irreplaceable	Slight negative impact	Landscaping measures e.g. planting of vegetation, screening of facility. Replanting of lost vegetation.
Summary of character	Settlement is very dispersed with scattered isolated farmsteads within the Outmarsh sub areas. Here there is a relatively high proportion of grass and rough grazing alongside vegetable crops. Development of infrastructure corridor, including A180 (T) dual carriageway and power supply cables.	Local	Typical	Low Local	Replaceable	Slight negative impact	Landscaping measures and low noise surfaces

Reference Source(s) North East Lincolnshire Local Plan Adopted (November 2003)
Lincolnshire Coast Character Area 42
Lincolnshire Biodiversity Action Plan

Summary assessment score: **slight adverse impact**

Qualitative
comments:

Accessibility improvements will enhance vitality and viability of area and encourage regeneration and human interaction.

Slight risk of visual intrusion into rural area.

Potential to incorporate sensitive and sustainable construction and engineering principles in infrastructure design and landscaping.

Worksheet 1 Environment: Townscape

Features	Description	Scale it matters	Rarity	Importance	Substitutability	Changes in do minimum	Impact	Additional Mitigation
Layout	Pelham Road is characterised by residential development and retail and community facilities with frequent side roads	Local	Typical within locality	Low Local Importance		No Change	No Impact	None
Density and mix	Mix of residential , retail and community facilities	Local	Typical within locality	Low Local Importance		No Change	No Impact	None
Scale	Majority two/three storey houses/shops. Kennedy Way/Civic Centre provide larger scale buildings	Local	Typical within locality	Low Local Importance		No Change	No Impact	None
Appearance	many of the retail outlets at the northern gateway are in need of renovation. Kennedy Way Shopping precinct built in the 1970s is in need of modernisation and is perceived to be an eyesore by the local community.	Local	Typical within locality	Low Local Importance		No Change	No Impact	None
Human interaction	Pelham Road acts as a barrier for human interaction between Community and retail facilities on both sides	Local	Typical within locality	Medium Local Importance		No Change	Improved human interaction across Pelham Road	None
Cultural	County Hotel is a large distinctive building that was originally built in 1913. Granite War Memorial located in front of County Hall	Local	Typical within locality	Low Local Importance		No Change	No Impact	None
Land use	Residential , retail, school community buildings	Local	Typical within locality	Low Local Importance		No Change	No Impact	None
Summary of character	Pelham Road is the main focal point for Immingham providing community facilities. Most buildings are in an average to good state of repair or are in the process of being refurbished.	Local	Typical within locality	Low Local Importance		No Change	No Impact	None

Reference Source(s):__ Healthcheck Report for Immingham produced for the Immingham Partnership _____

Summary assessment score: __ Slight Beneficial _____

Qualitative comments: ____ Small scale improvement works on Pelham Road, improving pedestrian accessibility and reducing severance and improving social interactions. _____

Worksheet 1 Environment: Heritage of Historic Resources - Plan Level

Part 1		Part 2			Part 3
Feature	Description	Scale it matters	Significance	Rarity	Impact
Form	Crop marks suggest presence of archaeological remains, one of which is probably post-medieval in vicinity of link road	local	local	Unknown	unlikely to have any significant adverse effect upon any designated historic assets in the area.
Survival	Unknown				
Condition	Unknown				
Complexity	Unknown				
Context	Unknown				
Period	Unknown				

Reference Source(s): _____

Summary assessment score: Potentially Slight Adverse _____

Qualitative comments: It is likely that archaeological remains could be encountered during construction, and it is recommended that an archaeological watching brief is implemented during construction _____

Worksheet 1 Environment: Biodiversity - Plan Level

Scheme / option:

Area	Description of feature / attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Biodiversity and earth heritage value	Magnitude of impact	Assessment score
Drainage dykes and becks, particularly North Beck Drain	Broad Habitats listed in the Lincolnshire BAP	local	important in serving as wildlife corridors through large expanses of arable	potential to provide biodiversity enhancement	Lower	potential for enhancement to provide locally significant wetland habitat	Minor beneficial
Outmarsh	Habitat for Water Vole. Prints found during the survey show that badger and fox use the drain as a pathway	Habitat for nationally important species	Habitat for water vole which are nationally important species		High	the drain at this point has already been subject to culverting and reinforcement works any negative impacts to wildlife would be minimal. Underpass for badgers and foxes would be provided	Neutral

Reference Source(s): Ecological Baseline Study

Summary assessment score: Minor Beneficial

Qualitative comments: _____

Worksheet 1 - Environment : Water Environment

Description of study area / Summary of potential impacts	Feature	Attributes/ Services	Quality	Scale	Rarity	Substitutability	Importance	Magnitude	Significance
Study Area: Proposed A18-A180 link road. Potential Impacts:Surface water quality / Rivers	North Beck / drain	Water Supply	There is a pumping station located on North Beck drain (TA 199 134). Two current licensed abstraction points located within 2km of the site (TA 1886 1264). One is owned by Anglian Water and is at Little London, about 1 km from the site. AW have 4 boreholes on the site at TA18831143, TA18761147, TA18801140 and TA18971147, licensed for public water supply (licence ref 4/29/9/G/3). Other licensed abstraction point is within 2km north east of the site and is used for industrial purposes (licence ref 4/29/09/G/0005). Here there are two boreholes at TA19971330 and TA20051330. There are two deregulated licences within 1.5km and located south west of the site. At the two deregulated sites the water can still be used.	Local	Common	Limited	Medium	Minor	Insignificant
		"Fairly good" Water Quality General Quality Assessment (GQA) grade (C) from Laceby Brook watercourses approx. 8 miles away from the site but watercourse not part of North Beck drain catchment. (Sampling site - Golf Course - 200m D/S Littlecoates Br) No data available for North Beck.	Local	Common	Limited	Medium	Minor	Insignificant	
		Biodiversity	No Biological Water Quality General Quality Assessment (GQA) grade from Laceby Brook watercourse. No data available for North Beck. The North Beck Drain is probably too fast in most parts to be suitable as aquatic habitat for any amphibians. No great crested newts or other amphibians or their eggs/spawn are present.	Local	Common	Limited	Medium	Negligible	Insignificant
		Aesthetics	Scheme is within an Area of Local Importance	Local	Common	Limited	Medium	Negligible	Insignificant
		Cultural heritage	Ancient drain	Local	Common	Limited	Medium	Negligible	Insignificant
			The drains are administered by the North East Lindsey Drainage District. There is a danger warning to recreational use as the drains appear more shallow than they actually are and the pumping inlets and outlets are dangerous.	Local	Common	Limited	Medium	Negligible	Insignificant
	Conveyance of flood flows	The right hand aside of the link road falls within an area that could be flooded from the sea by a flood that has a 0.5% (1 in 200) or greater chance of happening each year.	Regional	Common	Limited	Low	Negligible	Insignificant	

Study Area: Proposed A18-A180 link road Potential Impacts: Floodplain / flooding	North Beck / drain	Biodiversity	The North Beck Drain is probably too fast in most parts to be suitable as aquatic habitat for any amphibians. No great crested newts or other amphibians or their eggs/spawn are present.	Local	Common	Limited	Low	Negligible	Insignificant
		Aesthetics	The area is a Site of Local Nature Conservation Importance	Local	Common	Limited	Medium	Negligible	Insignificant
Study Area: Proposed A18-A180 link road Potential Impacts: Groundwater	North Beck / drain	Water Supply	Two current licensed abstraction points located within 2km of the site (TA 1886 1264). One is owned by Anglian Water and is at Little London, about 1 km from the site. AW have 4 boreholes on the site at TA18831143, TA18761147, TA18801140 and TA18971147, licensed for public water supply (licence ref 4/29/9/G/3). Other licensed abstraction point is within 2km north east of the site and is used for industrial purposes (licence ref 4/29/09/G/0005). Here there are two boreholes at TA19971330 and TA20051330. There are two deregulated licences within 1.5km and located south west of the site. At the two deregulated sites the water can still be used.	Regional	Common	Limited	Medium	Minor	Insignificant
			Area is an aquifer. There is a Groundwater Source Protection Zones SPZ 1 (inner zone) just outside the boundary of the study area. The study area is outer zone (SPZ 2).	Regional	Common	Limited	Medium	Negligible	Insignificant

Reference Sources :

Environment Agency - website information for flood maps, groundwater vulnerability map & water quality. Direct liaison for abstraction point information.
North East Lincolnshire Local Plan Adopted (November 2003), Lincolnshire Coast Character Area 42, ESL (Ecological Services) Ecological Baseline Study Of Land North-West of Stallingborough April 2007, Magic, emap, Anglian Water.

Summary Assessment Score : **Neutral**

Qualitative Comments:

Water Quality - There is no data available for the North Beck so as an indicator the Laceby Brook was investigated. This watercourse is approx. 8 miles away from the site but is not in the North Beck drain catchment. The sampling site is the Golf Course - 200m downstream of Littlecoates Bridge.

Drainage - The drains are administered by the North East Lindsey Drainage District www.northeastlindsey-idb.org.uk. The drainage of the district is dependant upon both gravity outfalls and pumping to the Humber Estuary. From the website a warning appears THE WATER IN DRAINS AND RIVERS ALWAYS APPEARS TO BE MORE SHALLOW THAN IT ACTUALLY IS. YOU SHOULD NOT PLAY IN OR AROUND DRAINS, DYKES AND RIVERS. PUMPING STATION INLETS AND OUTLETS ARE VERY DANGEROUS AND YOU SHOULD NOT GO NEAR THESE STRUCTURES. PUMPS CAN START AUTOMATICALLY AT ANY TIME AND THE POWER OF THE WATER CAN BE FATAL!

Flooding - The majority of the site has no flood risk but the right hand side of the link road falls within an area that could be flooded from the sea, by a flood that has a 0.5% (1 in 200) or greater chance of happening each year.

Biodiversity - The flow of North Beck Drain is probably too fast in most parts to be suitable as aquatic habitat for any amphibians. No great crested newts or other amphibians or their eggs/spawn were found during the surveys. ESL (Ecological Services) Ltd 150 Monks Road Lincoln LN2 5PL. April 07

Groundwater - Zone 1 (Inner protection zone). Any pollution that can travel to the borehole within 50 days from any point within the zone is classified as being inside zone 1. This applies at and below the water table. This zone also has a minimum 50 metre protection radius around the borehole. These criteria are designed to protect against the transmission of toxic chemicals and water-borne disease (EA).

Aquifers/abstraction points/boreholes - further investigation is necessary to consider the impact of the scheme especially on the boreholes infrastructure pipework.

Worksheet 1

Environment: Physical Fitness

Activity Duration per day	Change in Number of People	
	Pedestrians	Cyclists
Less than 30 minutes	0	0
Greater than 30 minutes	0	0

Reference Source(s): _____

Summary assessment score: __Neutral_____

Qualitative comments: ___ The scheme does not promote or discourage walking or cycling

Worksheet 1 Environment: Journey Ambience

Factor	Sub-factor	Better	Neutral	Worse
Traveller Care	Cleanliness		No impact	
	Facilities		No impact	
	Information		New directional signs associated with new link road but no improvement to existing signage	
	Environment			
Travellers' Views	-	Far reaching rural views rather than urban landscape		
Traveller Stress	Frustration			The introduction of a new junction on the B1210 may result in an increase in driver frustration as a result of having to slow down
	Fear of potential accidents	Drivers no longer have to pass through Immingham where there is high pedestrian activity which will reduce the fear of potential accidents. There will also be a reduction in fear of potential accidents to pedestrians on Pelham Road as the number of HGVs will be significantly reduced		
	Route uncertainty	The introduction of a new junction on the B1210 will include new route signs, therefore should reduce the number of people who get lost		

Reference Source(s): _____

Summary assessment score: _ Overall there is a benefit to Journey Ambience. As the scheme should benefit between 500 and 10,000 people per day including pedestrians and drivers no longer having to go through Immingham, it is considered that the scheme would have a **moderate beneficial** impact on journey ambience.

Qualitative comments: _____

Worksheet 1: Assessment of Security Sub-objective

Security Indicator	Relative importance (High/Medium/Low)	Without strategy (Poor/Moderate/High)	With strategy (Poor/Moderate/High)
Site perimeters, entrances and exits	Low	N/A	N/A
Formal surveillance	Low	Poor	Poor
Informal surveillance	Low	Poor	Poor
Landscaping	Low	N/A	N/A
Lighting and visibility	Low	N/A	N/A
Emergency call	Low	Poor	Poor

Approximate numbers of users affected: _____

Overall assessment of impact on Security sub-objective (slight/moderate/large positive/negative or neutral): ___Neutral _____

Reference Source(s): _____

Qualitative comments: _ The scheme does not include any specific measures to improve the sense of security for road users _____

Economy: Reliability

	Old Route (i)	New Route (ii)
Do minimum stress (a)	41.9%	not applicable
Do something stress (b)	30.4%	56.3%
Difference in stress (c=a-b, restricting a and b to the range 75% - 125%)	0%	0%
Do something AADT flow (d)	7697	7994
Overall impacts (e=c*d)	0	0
Overall assessment (e(i) +e(ii)):		0

Note: Where a new road route is provided, the Quantitative column should contain values a(i) and b(ii). Where no new road route is provided, use values a(i) and b(i).

Reference sources: A18-A180 MSBC Local Air Quality Assessment
Pelham Road ATC, March 2007

Assessment scores: Minor adverse

Qualitative comments: No significant impact on 'stress'. Introduction of new roundabout on B1210 results in delays which vary by a few seconds.