Northern Gateway (Former Corus Garden City Site)
Pochin Rosemound (Deeside) Ltd
Environmental Statement Non Technical Summary
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This is the non-technical summary for an Environmental Statement (ES) which has been prepared on behalf of Pochin Rosemound (Deeside) Ltd to accompany an outline planning application for mixed use redevelopment in Deeside.

This document is a summary of the ES that has been submitted as part of the outline planning application having regard to the Town and Country Planning (Environmental Impact Assessment) Regulations 2009 (EIA). The EIA process is outlined below.

The report describes the physical characteristics of the development, its land use requirements, an outline of the main alternatives considered and a description of the effects on the environment which are likely to be effected by the development.

These include:
- Direct, indirect or secondary effects
- Cumulative effects
- Short, medium or long term effects
- Permanent or temporary effects
- Positive effects

The report also identifies any measures required to mitigate potential adverse impacts of the proposals within and around the application site. Full details can be found within the Environmental Statement.

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### EIA Process

1. Identify Proposed Development
2. Scoping Submission
3. LPA 5 Week Review Period
4. Review Response & Prepare EIA Report
5. Identify Baseline
6. Predict Impact on Environment
7. Assess Significance of Impacts
8. Consider mitigation
9. Prepare / Finalise Environmental Statement

Feedback and consideration of alternatives / Update and amend masterplan for site
Site Description

The site is situated within the County of Flintshire in North Wales and lies close to the Wales and England border. The site lies to the west of the A494, approximately 7km North West of Chester City Centre.

The site is allocated for mixed use housing and employment development in the Flintshire UDP (2011). The site is located on the edge of Garden City, and the nearest town centre is Queensferry which is approximately 2 miles to the west of the site.

The site forms part of the Deeside Enterprise Zone and Growth Zone, which aims to be an engine for growth for the North Wales economy and is of national, regional and local importance.

The surrounding area comprises residential uses and employment development. The B5441 Welsh Road provides the main access to Garden City. Garden City was originally developed to house the workers of the Shotton Steelworks and comprises a mix of semi-detached and terraced housing. Garden City has some local facilities, however, a number of community facilities have ceased operating including a library, a leisure centre and a doctor’s surgery.

The site is accessible to public transport with bus routes on Welsh Road. The site is also adjacent to Hawarden Railway Station, and in reasonable walking distance to Shotton Railway Station.

The site is the former Corus Garden City site, which is approximately 70 hectares in extent and comprises agricultural land (Sealand Bank Farm) and the former (Listed) John Summers Buildings, which were occupied by Tata Steel.

The site is bounded by the River Dee to the south and the Wrexham-Bidston railway line to the west, beyond which lies Hawarden Station. Between the River Dee and the site lies a footpath lined with trees. To the north lies the former RAF Sealand ‘South Camp’ beyond which is the Deeside Industrial Park employment site and the Bangor to Chester Sustrans cycle path. To the east the site is bordered by Garden City and B5441 Welsh Road, which is the main vehicular access route for the site.

Planning Policy

Planning Policy supports schemes that will assist in regeneration and encourage growth and investment into Flintshire.

The Flintshire Unitary Development Plan was adopted in 2011. The site is allocated in the Flintshire UDP as a Strategic Mixed Use Development: Land North West of Garden City (Policy HSG2A).

The development proposals lie within an area designated as the Deeside Enterprise Zone, which is focussing on the advanced manufacturing sector. Deeside is one of five Enterprise Zones in Wales which were announced in September 2011.

The Planning Statement for this application confirms that the application proposals accord with the relevant policies of the statutory development plan (UDP). It demonstrates that the site is site best suited to the development proposals.
Development Description

Pochin Rosemound (Deeside) Limited is proposing to develop the Northern Gateway site for an employment-led mixed use development, incorporating a logistics and technology park and residential uses.

The proposal will be a high quality employment and residential scheme, which seeks to make the most of its riverside location. The main vehicular access point will be from Welsh Road (B5441) with a secondary access for the residential area off Farm Road. The existing riverside footpath will be retained and will form part of the footpath/cycle network though the site. The scheme positively utilises the existing office complex (the former John Summers buildings) as a mixed use campus, which could potentially include a training and skills centre, hotel, offices and light industrial uses.

The Public Open Space and landscaping perform an important role within the scheme, providing green infrastructure, and flood risk and drainage and biodiversity enhancement. The scheme will work with the natural features and creates distinctive places that are consistent with good urban design practice. The proposed illustrative masterplan has resulted from consideration of the site’s surrounding context and therefore respects residential amenity. The proposals take into account technical matters, including highways and flood risk.

Key components:

- Industrial and Logistics Park (B2, B8) – approximately 120,000 sq. m.
- Residential - 600 dwellings
- Offices (B1a) – approximately 3,300 sq. m.
- Light Industrial (B1c) – approximately 7,400 sq. m.
- Hotel (C1) – approximately 3,000 sq. m.
- Skills and Training Centre (C2, D1) – approximately 4,000 sq. m.
- Local Retail Centre (A1) – approximately 2,500 sq. m.
- Green infrastructure, including approximately 21.9 ha of parkland and landscaping/buffer and drainage areas
- Main vehicular access from Welsh Road and a secondary access for the residential area from Farm Road
The PRDL land that forms part of this planning application is within Policy HSG2A of the Flintshire UDP which identifies the site as a Strategic Mixed Use Development: Land North West of Garden City. To the north of the site lies the former RAF Sealand ‘South Camp’ which forms the remainder of the Northern Gateway allocation in the Flintshire UDP.

There is a clear need for this level of development, which is advocated by the allocation of it as a strategic site in the UDP and its recent designation as an Enterprise Zone (EZ) declared by the Welsh Government in 2011. The location of this site within an EZ demonstrates that the site is of strategic economic importance within the sub region.

The EZ has been designated to bring forward investment and new jobs particularly in the manufacturing sector. The benefits of the EZ status include creating the basis for improvements in infrastructure, especially public transport and an opportunity to create a large area of open space alongside the River Dee. The application site lies to the south of Deeside Industrial Park which currently employs 9000 people.

The proposed development forms part of the larger Deeside Enterprise Zone (EZ), which was designated by the Welsh Assembly Government in September 2011. The PRDL land that forms part of this planning application is within Policy HSG2A of the Flintshire UDP which identifies the site as a Strategic Mixed Use Development: Land North West of Garden City. To the north of the site lies the former RAF Sealand ‘South Camp’ which forms the remainder of the Northern Gateway allocation in the Flintshire UDP.

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The proposed development forms part of the larger Deeside Enterprise Zone (EZ), which was designated by the Welsh Assembly Government in September 2011. The EZ will create a Growth Zone at Deeside which incorporates over 200 hectares of employment land at Northern Gateway, Deeside Industrial Park and Hawarden Business Park. The Deeside Growth Zone aims to be an engine for growth for the North Wales economy and is of national, regional and local importance. The aim is to deliver sustainable growth and regeneration which transforms communities and attracts inward investment, and provides a catalyst for generating new skilled jobs whilst safeguarding existing jobs.

The Wales Spatial Plan (2008) and the West Cheshire/North East Wales Sub-Regional Strategy (2006) highlight the importance of developing and supporting strategic hubs around Deeside and focusing on areas in need of regeneration. There is therefore a need to exploit the opportunities arising from the designation of the EZ and delivery of growth and regeneration on the site.

An outline planning application on part of the Northern Gateway site was submitted in February 2012 (Application No. 049320) by Crag Hill Estates Ltd (Praxis). The Praxis outline planning application covers the 100 hectares of the former RAF Sealand South Camp site. The outline planning application was approved by members at committee on 18 April 2012 and was for:

“The redevelopment of a strategic brownfield site for an employment led mixed use development with new accesses and associated infrastructure include flood defences and landscaping”.

The PRDL proposed development therefore complements that proposal and completes the Northern Gateway aspiration as established through Policy HSG2A for a strategic mixed use development at the northern gateway to Wales.

The employment space will have two distinct characters providing alternative forms of employment space on the site to meet identified need. This will include a logistics park predominantly comprising of B2 and B8 uses with ancillary B1a, similar in character to the large units proposed on the adjacent Praxis site; and a Technology Park along the River Dee frontage.

The focal point for the Technology Park will be the Listed Clock tower building which will be retained in situ. This re-use of the Listed Buildings will be provide a positive aspect to the river frontage and create an opportunity to create a mixed use campus and technology park. New offices (B1), a hotel (C1), training and skills centre (C2, D1) and an...
advanced manufacturing hub will also be created along the River Dee frontage to maximise the benefit of the River frontage campus setting.

This employment focus is in entire accordance with UDP Policy HSG2A. National and local policy states that sufficient land should be made available for housing development to meet the needs of local people.

PPW identifies that the planning system should seek to deliver high quality, mixed housing that makes efficient and effective use of land.

There is a significant need for new housing to be delivered in Wales. Official projections from Welsh Assembly Government estimate 284,000 additional homes are required in Wales between 2006 and 2026, which on average equates to 14,200 dwellings per year. Welsh Government statistics published in June 2012 indicate that Wales needs to increase house building by 254%. The statistics indicate that new house building has been on average at around 6,600 each year over the last five years, with only 5,575 new homes completed during 2011-12, of which 829 (15%) were social housing.

The provision of new housing is therefore significantly below that which is required. Furthermore, population growth and household formation is exacerbating the need for new housing. Within Flintshire projected households are likely to increase by 16% from 64,100 to 74,600 between 2008 and 2033, reinforcing the need to provide additional new housing. These projections also highlight the declining household size with household sizes falling in Flintshire from 2.32 in 2008 to 2.01 in 2033.

The UDP identifies that Flintshire should be providing 7,400 new homes between 2000 and 2015. The overriding need for new housing is emphasised through the North East Wales Housing Market Assessment (2008) which indicates a critical need for more market and affordable housing.

The latest affordable housing information indicates that within the vicinity of the site there are currently 375 applicants requiring 2 bed rental accommodation and 124 requiring 3 bed rental accommodation on the housing waiting list.

Within the context of the above need, it is imperative that sites allocated for housing are brought forward to meet these needs. The proposed development will therefore help meet the recognised housing need within Flintshire and specifically Deeside. It will provide both market homes to address the open market housing need and reinforce the five year housing supply as required within national policy, and also affordable housing to contribute towards meeting local affordable housing needs.

The proposed development will therefore provide both market homes to address the open market housing need and reinforce the five year housing supply as required within national policy, and also affordable housing to contribute towards meeting local affordable housing needs.

In reviewing the Joint Housing Land Availability Studies and the UDP it is evident that the under provision of housing, in relation to completion rates, that defined the first five years of the UDP Plan period has extended throughout the Plan period.

TAN1 states that local planning authorities must takes steps to increase the supply of housing land. In light of the national policy direction and the focus on delivering more housing in the County, the Council needs to increase its housing supply for the foreseeable future to meet its housing need and to make up previous years shortfall.

Detailed information for the last annual reporting year 2011-12 is unavailable at present. However it is likely that with the current market conditions the delivery of housing in Flintshire is likely to be below the housing requirement. This initial analysis reveals the significant issues of delivering housing in the short term and reaffirms the focus and need towards increasing housing supply to overcome the historic shortfalls.

The Joint Housing Land Availability Assessment indicates that there are 3,413 dwellings available over the next five years, including UDP allocations. This shows that Flintshire will not overcome the historic shortfalls in the immediate future and is unlikely to achieve the UDP housing requirement. This re-emphasises the need for the Council to reinforce the short term housing land supply to address the identified housing need and meet the UDP housing objectives.

PPW states that “the Assembly Government is committed to building a vibrant Welsh economy delivering strong and sustainable economic growth by providing opportunities for all”. PPW considers the approach should be focussed on an increasingly skilled, innovative and entrepreneurial workforce, an advanced technology and knowledge base, strong communities and quality of life.

Northern Gateway addresses a number of these priorities in PPW through delivering an Enterprise Zone, developing housing and the potential for a skills and training centre.

The UDP explains that the employment need for Flintshire is 300 hectares in the plan period. The Northern Gateway site is identified for employment through Policy EM1. The site is
also identified for employment-led mixed uses through Policy HSG2A, which identifies 98 hectares for B8 uses, supported by B1 and B2 uses for the entirety of the Northern Gateway allocation.

The Parkland along the River Dee will include formal and informal public open space and biodiversity and habitat enhancement. The delivery of the Parkland along the River Dee will significantly improve the quality of life for existing and future residents in Garden City and they will experience the benefits of formal and informal public open space and equipped play areas, improved pedestrian and cycle linkages along the river and biodiversity and habitat enhancement. Improvements to the existing drainage system created by this parkland including improved flood alleviation and defence measures will ensure further benefits to the existing community which would not be realised without this development. The flood defence measures are being extended beyond the site frontage to the River Dee to ensure that a comprehensive flood solution is delivered. This will ensure that existing properties within Garden City are provided with enhanced flood protection which is of significant benefit to them.

The proposed local retail centre is positioned at the southern entrance to the site adjacent to Welsh Road. This will ensure that it serves the needs of not only the proposed development, but also has a direct linkage with the existing resident population of Garden City and is highly accessible in this regard. The retail centre will cater primarily for a very localised walk-in catchment and will serve the Northern Gateway area. The location therefore ensures that the needs of both existing and proposed residents are met in a sustainable way. Positioning the centre further within the site or elsewhere in the vicinity would not serve the community in the same way. There is a distinct lack of choice of retailing for the resident population and therefore for the proposed population. A new centre is therefore essential to promote sustainable development and to create ‘walkable neighbourhoods’, as is indicated by the UDP Policy.

The scale of development is designed to serve a local catchment and is appropriate in this regard. The development proposals for the northern section of the Northern Gateway site may also include housing and the local centre is likely to support the relevant needs of the resultant population.

The provision of a local centre also provides an appropriate higher value use that increases the viability of the overall development scheme and ultimately improves the deliverability of what is an important development for Flintshire.

In summary, it is considered that the local centre element of the proposal will fulfil a need in this locality that will both serve the needs of the existing population, but also of the resultant population of the site. The proposal meets the requirements of National Policy and Guidance. It also meets the requirements of Local Policy, with specific regard to the criteria within Policy S6 and to the site specific Policy HSG2A.

The quantum and mix of development proposed in this location are all essential components which are required to generate the critical mass to make the scheme viable and sustainable. The delivery of an employment hub on the site is considered critical to secure the economic future of Deeside as it has the capacity to meet a large part of the County’s employment needs over the plan period. Integral to the creation of an employment hub of this scale is the need to provide a new community which creates a number of integrated uses in an accessible location striking a balance between live and work opportunities. The integration between the existing Garden City homes and proposed residential development and local services created by a new retail offer will also be important in creating a cohesive neighbourhood.

The delivery of the mix of uses proposed as part of this development is integral to bringing forward this strategic allocation identified in the UDP. Without this critical mass of development the site will not be able to deliver the scale of development and infrastructure to realise the economic potential and inward investment expected in this Enterprise Zone.
A number of alternative development options were considered in formulating the final proposals which are the subject of this ES and are summarised below:

**Do Nothing**

The application site is allocated in the Flintshire UDP as part of the wider Strategic Mixed Use Development: Land North West of Garden City (Policy HSG2A), which identifies land across the entire allocation for at least 650 dwellings, 98 hectares of employment land, other ancillary uses to support a new community and a large parkland area. A clear need for this level and mix of development in this location is set out in the recently adopted Flintshire UDP and has resulted in the allocation of this site in the UDP.

The Do Nothing scenario would therefore not meet the significant need for new employment and housing (including affordable housing) which is contrary to government guidance in the form of Planning Policy Wales (PPW), the aspirations of the Flintshire UDP allocation and importantly it would be a missed opportunity to exploit the benefits and investment arising from the designation of the EZ which recognises that the site is of strategic economic importance, within the sub region and is of national and international significance.

**Comprehensive Residential Development**

Comprehensive residential development of the site would support the Government’s and County’s housing needs, however it would be contrary to the sub-regional strategy for Deeside and Policy HSG2A of the UDP which advocates the need for a mixed use development on this strategic site. Any proposals for residential development across some parts of the site will also need to overcome technical constraints associated with flood risk and drainage issues on the site which may exacerbate flood risk for houses on parts of the site in close proximity to the River. Without employment led mixed use development this proposal would fail to realise the opportunities presented by the EZ and deliver the growth and regeneration required to transform communities, attract inward investment, and provide the catalyst for generating new skilled jobs in the area.

**Comprehensive Employment Development**

The site has been allocated for many years for employment purposes, but has not come forward due to the high cost of infrastructure. On this basis, a comprehensive employment option could provide much needed jobs to the area and could deliver the growth, regeneration and employment hub advocated by the EZ; but it would not be viable to deliver and would be contrary to Policy HSG2A of the UDP. This site provides a sustainable location for a mixed use development and provides the opportunity to provide a balanced community which improves the quality of life of its local population by transforming the Garden City and creating a number of community benefits which could not be achieved on a site occupied by comprehensive employment development.

The delivery of the proposals would significantly improve the quality of life for existing residents in Garden City, providing them with more choice and a greater range of services and facilities that will address existing deficiencies. The proposals would provide job opportunities, economic growth, improve quality of life and be a catalyst for alleviating deprivation.

**Comprehensive Retail development**

An extensive retail outlet would help the local economy and maximise the sites location in Deeside. However, this option has very little policy support and there is no evidence of need for this level of retail in this location. Whilst there are localised retail needs in Deeside, to meet existing deficiencies and serve the new development, these should not be to the significant detriment of other retail centres. A large scale of retail development on the site could have a detrimental impact on the surrounding town centres. This could significantly conflict with Deeside’s regeneration aspirations. In addition the market conditions are unlikely to accommodate a major retail outlet in this location.

The chosen option demonstrates that the mixed use development will assist in the wider regeneration of the area and allows growth and investment as well as meeting an identified need.
This Technical Paper assesses the likely significant effects of the proposed development in terms of geology and ground conditions.

The published British Geological Survey map and information from the Environment Agency website show that the site is underlain by drift deposits comprising Alluvium over Glacial Till. Beneath the drift deposits, the solid deposits comprise Carboniferous Middle Coal Measures, with Triassic Sherwood Sandstones overlying the Coal Measures in the northern part of the site. The Alluvium is Classed as a Secondary Aquifer. The Triassic Sandstones are classed as Principal Aquifer, whilst the Coal Measures are classed as a Secondary Aquifer.

Historical maps identify that the site has remained predominantly fields since before 1882, except for Sealand Bank Farm in the south east of the site, residential properties in the far south and offices and associated buildings currently occupied by Tata Steel in the far west.

Investigations to date have identified some thin Made Ground around the current Tata buildings in the west of the site. Elsewhere no significant thicknesses of Made Ground are anticipated, with natural soils being anticipated beneath topsoil.

No significant contamination has been identified as part of contamination testing to date and based on the nature of the site and its history, no significant contamination is anticipated across the majority of the site. Further investigation is however proposed prior to development and localised remediation may be required dependent on the findings of this work and subsequent assessment.

During construction there is the potential for air emissions through the creation of dust. However through the appropriate mitigation measures including dust suppression techniques, air emissions are considered to be negligible. Proposed construction methods are not anticipated to have an adverse effect on geology or groundwater during or post development, provided normal good construction practice is followed.

Some additional noise and vibration will be associated with the construction works, though these are anticipated to have a minor effect and will be mostly mitigated by appropriate design and good construction design.

Other mitigation measures required during site development works will include protection of watercourses, noise and vibration monitoring and safe site working practices to prevent spillages/leakages of contaminants associated with the construction works.

Works are proposed to the existing River Dee Flood embankment which will improve overall stability.

Following implementation of cost effective mitigation measures, the residual impacts of the development are considered negligible during the construction phase and negligible during the operational phase.

Further ground investigation is required to more fully assess ground and contamination conditions across the site but the need and scope of this can be controlled by planning condition.
This Technical Paper considers potential impacts on the water environment that could be affected by the proposed development or could impact the development.

The assessment summarises the anticipated flood risk, water quality, water supply and wastewater disposal issues, highlighting potential environmental impacts associated with a number of receptors within the defined study area comprising the tidal River Dee, the Shotwick Brook and Garden City Drain and an interconnecting network of drains and culverted watercourses and existing and future residents and visitors. The assessment is supported by a Flood Consequences Assessment (FCA).

The significance of potential unmitigated environmental impacts on the construction phase of the development has been assessed as negative (Water quality River Dee, Shotwick Brook, Water quality and increased rainfall run off and temporary increase in fluvial flood risk on Garden City Drain, Shotwick Brook, people and property, Pollution from temporary sanitary facilities on the River Dee and water quality on the Manor Drain).

Mitigation measures from adverse risks identified for the construction phase have been identified including good working practices and pollution prevention techniques, a Construction Environmental Management Plan, surface water drainage strategy incorporating Sustainable Drainage methods e.g. swales and ponds and appropriate means of disposal of pollution from temporary sanitary facilities on the River Dee and water quality on the Manor Drain.

Mitigation measures from adverse risks identified for the construction phase have been identified including good working practices and pollution prevention techniques, a Construction Environmental Management Plan, surface water drainage strategy incorporating Sustainable Drainage methods e.g. swales and ponds and appropriate means of disposal of pollution from temporary sanitary facilities, in accordance with relevant consent conditions. These are assessed as reducing the magnitude of all the potential adverse effects in the construction phase to a residual negligible risk.

The significance of potential unmitigated environmental impacts of the operation phase of the development has been assessed as moderate (Water quality on the River Dee and Garden City Drain and people and property) to minor (Water quality on the River Dee and Garden City Drain) to Benefit (flood risk on people and property).

Mitigation measures for the operation phase have been identified including appropriate facilities for the disposal of liquid and solid waste generated from the employment areas and drainage systems for roads, car parks etc. that facilitate runoff containment and treatment. Surface water drainage strategy incorporating Sustainable Drainage methods e.g. swales and ponds. Existing sewer network upgraded to accommodate additional loads. Sewers to be maintained under adopting authority or private agreements.

Flood risk mitigation measures have been embedded into the scheme design and include: zoning land to locate lower vulnerability development in the areas at highest risk of flooding, strengthening flood defences along the River Dee and increasing the crest height to 7.2m AOD. Optimising ground levels and provision of compensation storage for floodwaters.

Flood risk mitigation measures that are embedded into the scheme design include: creation of development free buffers along watercourses, reducing the length of existing culverts and maximising open channel reaches and provision of compensation storage for floodwaters.

These are assessed as reducing the magnitude of all the potential adverse effects to a residual risk of “Minor Adverse”, “Negligible” and “High Beneficial”, increasing the benefits associated with water quality, drainage, foul drainage and flood risk. The high beneficial impacts relate to the benefit of flood mitigation for existing residents of Garden City who will benefit from the River Dee strengthening proposed.
An ecological assessment has been undertaken to determine the ecological value of the proposed development site and to assess the potential impact of the proposed works on the habitats and species identified within the Study Area.

Within 2km of the Application Site 8 statutory and 9 non-statutory nature conservation sites were noted. The closest being the River Dee and Bala Lake SAC and River Dee SSSI adjacent to the southern boundary of the Application Site. Assessment of the potential effects of the development both during construction and operation on this and the other nature conservation sites has concluded that with the appropriate mitigation measures in place there will not be any adverse effects of greater than negligible significance on the ecological integrity of the sites, as a result of the construction or operation of the proposed development.

Twelve habitats were recorded within the application site, none of which were considered to be representative of habitats of conservation concern listed on UK and Flintshire Biodiversity Action Plans. Extensive ecological surveys of the site identified that some of the habitats on the site were being used by protected and notable species including: common lizard, otter; water vole; badger, bats (roosting and foraging); wintering lapwing; and nesting house martins.

The proposed retention of key habitats including the Shotwick Brook and Garden City Drain and their adjacent habitats and opportunities to enhance these habitats and create new habitats within a designated and well managed ecological mitigation area will ensure that in general the populations of protected and notable species using the site can be retained and given additional habitat to expand their ranges into. It is recognised that the loss of the arable area will result in the loss of habitat being used by wintering lapwing and nesting house martins. However, the creation of a large area of ecological mitigation area containing a mosaic of wetland and non-wetland ecologically-rich habitats will provide a great ecological benefit to the site and will provide additional key ecological buffer zones adjacent to the key wildlife feature, the River Dee.

With the mitigation proposed implemented, the ecological effects resulting from the proposed development will be predominately of residual negligible to moderate beneficial significance. Minor adverse effects have been identified associated with potential NOx deposition on habitats within Shotton Bank (1 and 2) Wildlife Site as a result of increased traffic use of the A494 bridge over the River Dee.
The Traffic and Transportation Technical Paper provides an assessment of the likely transport impacts of the application proposals on the site and sensitive receptors in the surrounding area. It should be read in conjunction with the Transport Assessment which has been prepared by Curtins Consulting.

The existing traffic flow situation on the local highway network has been determined based on classified traffic count information provided by an independent traffic survey company.

Highway safety has been considered on the local highway network based on personal injury accident data supplied by Flintshire County Council which covers the most recent five year period recorded.

This highways and transportation assessment has considered the impact of the proposed development on accessibility, traffic flows and highway safety.

The proposed development scheme includes a mix of land uses. For the purposes of this assessment the traffic impact has been assessed for two scenarios. The first scenario includes Phase 1 of the PRDL scheme only, the second scenario includes the impact arising from the full PRDL scheme.

Phase 1 of the PRDL scheme represents the total quantum of development which can realistically be accommodated by the highway network without the need to link through the adjoining Praxis site.

The assessment concludes that both the proposed Phase 1 and full build PRDL development would have an impact on the immediate highway network.

The development proposals include the provision of and enhancements to the sustainable transport infrastructure. These improvements will further encourage travel by non-car travel modes and will have a minor beneficial impact.

The increase in traffic flows during the operational phase will result in a minor adverse impact on the local highway network. However, the proposed highway improvements will have a minor beneficial impact at local junctions.

The construction phase of the proposed development would have a temporary minor adverse impact.

In terms of safety, the proposed development scheme is not expected to exacerbate any existing highway safety issues and therefore the impact is considered to be negligible.

The nuisance arising from construction traffic would be mitigated via considerate construction practices and road/vehicle cleaning facilities.

To mitigate against general increase in traffic resulting from the proposed development, a Travel Plan will be produced to reduce reliance on the car and promote initiatives that encourage the use of sustainable modes of travel including walking, cycling and bus services.

Off-site highway improvements would also be delivered to mitigate the traffic impact of the proposed development at key junctions on the local highway network.
Oxford Archaeology / AP Heritage was commissioned to undertake an Environmental Impact Assessment Paper on archaeology and cultural heritage.

In total 22 cultural heritage assets (receptors) were identified as being either within (11) or lying in close proximity to the Scheme Area (11). The receptors included Listed Buildings, a registered park and garden, earthwork remains and known and potential buried archaeological remains.

During the construction phase the proposed development is considered likely to have a direct impact upon eight of the heritage assets lying within the Scheme Area. These impacts will be permanent and adverse. The magnitude of the impacts ranges from substantial through to high and moderate and to minor/negligible. The slight majority of the impacts are negligible, but with a similar amount split evenly between high and moderate, and with just one substantial impact.

The remaining eleven assets will be subject to indirect adverse impacts. All of these assets lie outside of the Scheme Area and all of the impacts for these sites are considered to be negligible.

The direct impacts identified during the construction phase relate to the demolition of buildings and also as a direct result of intrusive ground works upon known and potential archaeological sites. The indirect impacts comprise a possible change to the cultural setting of the heritage assets, and with these being mostly the Listed Buildings including bridges.

The impacts will however, be reduced to negligible by the implementation of mitigation measures. The mitigation comprises a programme of archaeological works for the known and potential below ground sites and the listed buildings and garden. The archaeological works would include excavation, the stripping of targeted areas, a watching brief, surveying, and two levels of building investigation.

Following the mitigation, and with the exception of the Listed Building subject to re-use, all of the impacts are reduced to negligible during the operational phase. The Listed Building is considered to be exposed to a minor adverse impact on a long term basis, although this could be reduced through sympathetic management.

If the programme of mitigation works to be undertaken prior to and during the construction phase of the development is adhered to in full, then it is very unlikely then there will be any residual effects as a result of the development proposal. The mitigation will effectively reduce or offset any impacts upon the cultural heritage assets within the Scheme Area.
This assessment has examined the landscape and visual impacts in relation to the development proposals. The potential impacts have been thoroughly assessed through a combination of desk study research and walk over surveys of the site and the surrounding context.

The baseline assessment included a desktop review of available published landscape planning policy and landscape character documents and visits to assess the site and viewpoints from potentially sensitive locations. Representative photo viewpoint locations were selected and agreed through discussion with officers from Flintshire County Council.

The site is included in the Garden City Coastal and Estuary Urban Area and the Dee Coastal Levels. The Landscape Character of the application site has been assessed as having a Landscape Value of “Local” importance, with the exception of the Listed Buildings, their setting and the Registered Landscape which is considered to be of “National” importance.

A number of potentially sensitive visual receptors were identified principally from the Registered Landscape and from the extensive network of footpaths and cycle routes in the area both in close proximity to the site and also from more rural areas elevated above the site to the south-west.

There will be significant visual impact on the views currently enjoyed from key receptor locations in the residential areas of Garden City and by cyclists and pedestrians using the network of routes in close proximity to the site. What were once open views across the landscape will now be obscured by new built form.

Infrastructure landscape treatments to site boundaries and perimeters of plots will screen buildings, roads and low level activities. However tops of industrial buildings and residential units will still be visible from certain viewpoints. The views across an open ‘rural’ landscape that are currently available (from the National Cycle Route, in particular) will be lost and not be replaced.

Only one of the Construction Impacts is estimated as substantial adverse which is the impact of the flood defence works on the setting of the Listed Building. Mitigation in the form of carefully co-ordinated excavation and earth moving operations to allow early completion and establishment will reduce the residual risk to high adverse.

Only one of the Construction Impacts is estimated as high adverse which is the impact on the setting of the Listed Building and the Registered Landscape. The appropriate protection of trees and planting will reduce the residual risk, however these impacts cannot be fully mitigated against, therefore impact will remain as high adverse.

The impact of the removal and replacement of the tree avenue along the southern boundary during construction pre-mitigation will be moderate adverse. Mitigation in the form of phased tree removal with replacement over 10-15 years in accordance with good arboricultural practice will reduce the residual risk to “Minor Adverse”.

The remaining construction impacts are minor or negligible. These include loss of vegetation and existing tree cover; impact of construction work close to the existing tree avenue along the southern boundary; impacts of the realignment of the existing watercourse; impacts of storage of site materials; equipment and temporary site structures; temporary surfacing and car parking; HGV movements; general building works; temporary hoardings and the temporary diversion of the footpath/cycle route during construction of the flood defence.

Overall, the mitigation and enhancement measures during construction will reduce the residual risk to minor adverse.

The proposed development in Character Area 3 is assessed as having an adverse effect pre-mitigation due to its proximity to the Listed Buildings, its setting and the Registered Landscape. The Magnitude of Impact will reduce over time as the infrastructure landscape and mitigation measures develop and mature and the residual risk will be moderately reduced.

The remaining operational impacts are assessed as minor adverse or moderate beneficial.

In summary although the development will result in a high degree of change to the landscape and visual character of the site, with appropriate mitigation measures it is considered that over time the impact will reduce to Minor Adverse overall.
The proposed development brings a series of significant benefits to Sealand, Deeside, Flintshire and the Region. The overall impact of the proposal in terms of socio-economic issues is considered to be negligible to substantial beneficial due to the major regeneration potential of the proposals including the provision of much needed housing to meet identified need, employment opportunities and community infrastructure and positive effects that the development will have to the local community and economy.

The provision of new housing within Sealand has been assessed as having a moderate benefit impact upon the current housing need and will be made available to the local population. Essentially, more homes will be available providing local housing opportunities for people who might otherwise have moved outside of the area. The new homes will be provided in a range of house types which will respond to the existing housing market within the area. The proposed development will also incorporate affordable housing to address the need within the area.

The employment development will meet an identified need for Deeside to become a strategic hub for sustainable economic development opportunities for North East Wales, Mersey Dee Alliance, Flintshire and Deeside. The proposed employment development will have a high benefit on Sealand, Deeside and Flintshire. Employment opportunities for the local population will be provided through the proposed development. The Technical Paper indicates that it is expected that the scheme will deliver 2,880 temporary construction jobs and a range of spin off jobs spread across the 12 year construction period. The proposed development generates additional demand for local services which would have a potential positive impact on the employment of additional staff by existing businesses in the locality. The proposed project will generate £47,352,960 of net additional GVA within Flintshire over the construction period.

The longer term employment opportunities for the local population are expected to deliver 2,169 permanent jobs per annum. The operational development will generate £35,662,698 of net additional GVA within Flintshire per annum and nearly £356 million over a ten year period. This provides a substantial positive impact.

The proposed residential development does bring a series of significant benefits to the local area, district and the region. We therefore conclude that the following beneficial socio-economic impacts will arise as a result of the proposed development:

- Provision of new housing within Sealand
- The delivery of a range of house types in to the local housing market
- Increased employment opportunities during the construction phase
- Increased employment opportunities once the development is fully operational
- Additional demand for local services and delivery of additional household expenditure within local shops and services in Sealand
- Delivery of affordable housing could contribute towards addressing the need within the area.

The development proposals are fully consistent with strategic policies, strategies and frameworks on national, regional and local levels. In addition, a strong regeneration case exists for the proposed development of the site, with Sealand identified as one of the 20% of most deprived parts of the Deeside Corridor. The project will contribute to alleviating these socio-economic concerns by helping to meet unemployment levels and housing needs and therefore support the economic growth for the area.

The project will also result in a range of physical benefits, such as improvements in pedestrian and vehicular linkages and the creation of a Parkland. The wider benefits of the proposed project are difficult to quantify in monetary terms, but will be of a significant benefit to local residents. For example, the project will contribute to improving internal and external perceptions of the local area. It will also support the growth and development of existing and new businesses within the town centre, as well as helping to ensure the maintenance and provision of key local facilities and infrastructure. Based on the findings of the socio-economic impact assessment there are no known socio-economic impacts which will adversely impact upon the immediate or surrounding area post mitigation.
An assessment of the noise arising from construction activities, operational activities and road traffic noise associated with the proposed development has been undertaken by Vanguardia Consulting.

During the construction phase, predictions based on initial estimates indicate that there is potential for substantial adverse temporary effects at some existing noise sensitive receivers (NSRs) when construction activities are in close proximity to existing dwellings. The employment of best practicable means (BPM) and a construction management plan (CMP) during the construction phase will reduce the impact of these activities to predominantly being moderate and minor adverse temporary effects when particularly noisy activities are occurring close to the boundary with NSRs. The effect of vibration from construction activities is anticipated to be negligible.

The impact of the ‘existing’ and ‘with development’ noise environment on the proposed development’s residential dwellings has been considered. With the increased traffic flows resulting from the proposed development, a negligible effect is experienced at most proposed residential receivers as these receivers will be shielded by the outermost dwellings. At dwellings in close proximity to the PRDL-Praxis link road and Corus access road, moderate adverse effects are predicted during the day time period and minor adverse effects are experienced at night. This impact can be mitigated through acoustically treated trickle ventilation and appropriate glazing standards ($R_w + C_{tr} 27.6$ dB) on the relevant façades.

The operational noise of the employment area units is most critical during the night time period. Moderate adverse effects are predicted at Dee Bank Cottages and the proposed residential dwellings and a minor negative impact is proposed at The Lodge. A 2.4 m acoustic barrier is proposed around some of the southern boundary of the employment area running parallel with the River Dee. In addition, a 2.5m high bund is proposed along the western edge of the residential character area. The location of these mitigation measures are shown in Figure 7.8. They reduce the effects of operational noise at existing receivers to negligible and to minor adverse effect at the dwellings located at the proposed residential character area.

The layout of the employment areas will need to be sensitive to the NSRs that will be created as part of the development, particularly in the area containing the John Summers building. The indicative flows for this area suggest that there would be few night time operational activities in this area. Any night time operations should be carefully planned, with loading bays located with maximum distance and shielding from noise sensitive rooms as well as existing noise sensitive receivers. The layout of this cluster of buildings will need to be sensitive to noise, and the internal design of these buildings may need to consider orientation of rooms, ventilation strategy and façade insulation. The requirements for mitigation in this area will need to be reviewed as the design progresses.

An assessment of noise from fixed plant associated with employment area units will need to be undertaken against BS4142:1997 to ensure that it complies with the requirements of the Local Authority and permits acceptable internal and external noise levels at NSRs.

At most existing NSRs the increase in traffic with the proposed development provides a negligible effect during the day and night time period when compared to the impact of committed schemes only. This effect is considered to be acceptable therefore no mitigation is proposed.

The layout of the employment areas will need to be sensitive to the NSRs that will be created as part of the development, particularly in the area containing the John Summers building. The indicative flows for this area suggest that there would be few night time operational activities in this area. Any night time operations should be carefully planned, with loading bays located with maximum distance and shielding from noise sensitive rooms as well as existing noise sensitive receivers. The layout of this cluster of buildings will need to be sensitive to noise, and the internal design of these buildings may need to consider orientation of rooms, ventilation strategy and façade insulation. The requirements for mitigation in this area will need to be reviewed as the design progresses.

An assessment of noise from fixed plant associated with employment area units will need to be undertaken against BS4142:1997 to ensure that it complies with the requirements of the Local Authority and permits acceptable internal and external noise levels at NSRs.

There is potential for activities at Praxis employment areas to adversely affect the noise levels at the proposed dwellings and to a lesser extent Dee Bank Cottages and The Lodge. As the end users of the Praxis employment area units are not known, it is not possible to determine the impact or significance of this effect. However the 2.5m high bund on the western border of the proposed residential character area will aid in mitigating these effects. A detailed assessment should be undertaken when end users of the units are known.
This section presents a technical summary of the impact assessment completed for the Northern Gateway (Corus Garden City site) development in relation to impacts to air quality and dust.

The project has the potential to impact air quality at sensitive human and ecological receptors due to the emissions of dust during construction; and emissions from vehicle exhausts during both construction and operation.

The assessment follows a number of legally and non-legally binding documents in accordance with current best practise air quality assessments.

Impacts to air quality may arise during construction due to:
- Construction traffic exhaust emissions;
- Construction traffic track out;
- Demolition;
- Earthworks; and
- Other construction activities.

Impacts to air quality may arise during operation due to:
- Operational traffic exhaust emissions.

Impacts from dust associated with construction activities were assessed following the Institute of Air Quality Management (IAQM) guidance issued in 2012. This method uses risk categories based on the proximity of sensitive receptors and the scale of the activity being carried out.

Impacts from vehicle exhausts were assessed following the Design Manual for Roads and Bridges (DMRB) and associated spreadsheet tools. This applies a level of screening to each road, and if incremental changes in traffic exceed the thresholds recommended, then a spreadsheet can be used to calculate the concentration of pollutants at varying distances from the kerb. DMRB evaluates impacts at the local level (i.e. kerbside), and at the regional level (i.e. total increases in pollutants being released).

A number of significance criteria were used to arrive at classifications for impacts to air quality which fit into the overarching project significance criteria. For impacts to statutory Air Quality Standards (AQS) significance criteria issued by the IAQM have been used for impacts to human health. Impacts at ecological receptors were assessed using guidance issued by Defra under H1 in conjunction with the impacts discussed in the Ecology chapter. A summary of the specific significance criteria for human health, ecology and construction are detailed in Table 1.

The assessment into impacts to Air Quality during construction has identified:
- “Minor Adverse” impacts before mitigation for Demolition and Trackout activities;
- “Moderate Adverse” impacts before mitigation for Earthworks and other Construction activities; and
- “Negligible” impacts from traffic exhaust emissions.

Mitigation has been recommended for Minor and Moderate impacts in the construction phase, reducing the residual impacts to “Negligible” and “Minor” respectively.

In recognition that there is the potential for short term impacts to arise on occasion, and therefore result in nuisance issues at nearby sensitive human receptors, it has been assumed that implementation of best practise mitigation cannot be guaranteed to bring the impact to a negligible significance. This is particularly an issue where there are construction activities taking place in close proximity to receptors close to the site boundary.

In terms of the operation of the proposed development, there are predicted to be negligible impacts on sensitive human receptors as defined by the IAQM criteria with the exception of receptors along the Praxis and PRDL/Praxis internal link roads, where a Low Adverse impact is predicted. With regard to impacts on sensitive ecological receptors, there is the potential for Moderate Adverse impacts before mitigation on a short stretch of the River Dee SSSI and the Shotton Bank Wildlife Area to either side of the A494, where this crosses the river. With mitigation this can be brought down to minor adverse for the habitats.

Impacts have been identified at habitat designations in close proximity to the A494. These have been classified as Moderate Adverse before mitigation using guidance set out in H1 by DEFRA and the overarching ES significance criteria for this assessment. However as the SAC and SSSI designation relate to species within the moving water body of the river, it maybe that the qualifying feature are in reality insensitive to local air quality.
Interaction of Effects of Construction

**TOPIC**

- Earthworks, remediation and construction activity including noise and air quality.
- Construction Traffic
- Site contamination and physical impacts
- Water quality and drainage
- Landscape and visual impact
- Public footpaths/connectivity
- Employment
- Ecological impacts
- Heritage and Archaeological impacts

**IMPACT**

- Noise and vibration impact from construction activities
- Alteration of ground levels
- New sources of contamination
- Emissions to air including exhaust fumes and dust
- Impact on human health of construction workers from contamination
- Impact from fuels, chemicals, or from sediment mobilised in the site runoff
- Impacts from flood water overland onto adjacent properties and into watercourses
- Impacts on ground water
- Visual impact during ground modelling works including visibility of site equipment, hoardings and HGV movements
- Loss / impact on trees and historic garden
- Impacts upon footpath users
- Creation of construction employment opportunities
- Loss of habitats including tree and vegetation cover
- Pollution of watercourse
- Loss of grassland
- Impacts on habitats: Severance/fragmentation
- Hydrological disruption
- Drainage run off and air pollution
- Effects on archaeology
- Effects on Listed Buildings

**MITIGATION**

- Where possible materials to be re-used on site. A detailed method statement for earthworks will be produced including Construction Environmental Management Plan.
- Further ground investigation
- Introduce a route management Strategy
- Construction Management including limitation on hours
- Construction workers to operate a permit to work system
- All ground arising’s to be utilised on site where possible with minimal disposal off-site
- Use of Sustainable Urban Drainage Techniques
- Construction Environmental Management Plan.
- Stock piling of material in appropriate locations with landscape buffers
- Construction Management including limitation on hours of working and access routing
- Appropriate tree protection Measures
- Phased removal / replacement of trees
- Temporary diversion of footpath
- Beneficial impact – no mitigation proposed
- Ecological Mitigation Strategy
- Habitat enhancement and creation
- Construction Environmental Management Plan.
- Surface water to be collected in settlement ponds
- Surveys of habitats
- Use of best practice technique for water discharge from site
- Control of timing of works to respect habitats
- Archaeological and evaluation with recording
- Listed Building Evaluation
Interaction of Effects of Operational

**TOPIC**
- Noise and Air Quality
- Traffic and Transportation
- Community
- Employment
- Housing
- Ecological
- Landscape and Visual Impact
- Heritage and Archaeology
- Water Quality and Drainage

**IMPACT**
- Increase in traffic flows and related air quality and noise issues
- Effect of operation of employment uses and traffic on existing and proposed housing
- Impact on accessibility for Pedestrians and cyclists
- Impact on road safety
- Beneficial impact on community facilities (shops, schools, medical facilities)
- Creation of new high quality employment and jobs
- Beneficial impact on housing market and affordable housing
- Impact on bio-diversity
- Impact on landscape character
- Impact on cultural heritage
- Effect of increased surface water
- Effect of tidal flood risk
- Effect on sewerage infrastructure
- Effect on water quality

**MITIGATION**
- Off-site highway junction improvements
- Noise bunding and trickle venting
- Enhanced footpaths and linkages
- Bus shelter improvements
- Production of Travel Plan and implementation during operation
- Enhancement / financial contribution towards education provision
- Provision of new retail facilities
- Creation of new flood defence for existing and new residents
- Provision of affordable housing on site
- Creation of new housing and widening choice
- Enhancement and creation of flood areas, public open space, buffer areas and habitats
- Use of pollution prevention measures
- Habitat management in an Ecological Management Plan
- Green Infrastructure Plan
- Phased new tree planting and replacement
- Sensitive use of lighting
- Sensitive design of new properties and use of sensitive materials to respect setting of listed building
- Flood mitigation strategy to include on site storage, location and floor levels of development
- Creation of SUDS channels and storage areas
- Upgrade existing sewer network
- Liquid and solid waste disposal facilities.
Cumulative Effects

It was agreed with the Council that cumulative effects should be considered in the preparation of the ES and therefore the following cumulative development proposal has been identified.

A separate application submitted by Praxis Holdings for 100 hectares of land to the north of the application site which is part of the wider Northern Gateway UDP allocation (known as former RAF Sealand). The application was presented to planning committee, where Members agreed to approve the application and subject to the applicant’s agreeing the S106 legal agreement with the Council.

Overall, it is considered that cumulatively, the developments, post mitigation, would not have a detrimental impact that could not be addressed with suitable mitigation for each scheme. There are also a number of beneficial impacts of all these development coming forward for the County and Region.

Conclusions

The main purpose of the ES is to provide an objective assessment of the Environmental Impacts of the proposed development. This Non-technical Summary provides a summary of the mains issues identified within the ES Part 1 and ES Part 2.

The separate papers within ES Part 2 contain the detailed analysis of impacts and mitigation and should be referred to for the complete assessment of impact. ES Part 1 report aims to provide an overview of the predicted effects and how it is proposed to mitigate the impacts. It should be noted that the information submitted for this planning application is extensive given the nature of the site, however, the detailed mitigation strategies will be controlled via the use of planning conditions and the Section 106 Agreement.

The report also assesses the potential for the interaction of effects and concludes that the adverse interaction of impacts in and around the site will occur at its greatest during the short term period (construction and initial phase of operation). It is however considered that the mitigation proposed as part of this environmental assessment is sufficient to deal with these impacts which would be controlled by the use of planning conditions and S106 legal agreement should planning permission be granted. Benefits in the short term relate to direct and indirect employment related to the construction industry. In the longer term, there are benefits resulting from the proposals such as the strengthening of the flood defence, provision of housing and employment to meet need and encouragement of inward investment.
Comprehensive Illustrative Masterplan