



CRAIGFORTH CAMPUS, STIRLING

ENVIRONMENTAL IMPACT ASSESSMENT REPORT
NON-TECHNICAL SUMMARY

Non-Technical Summary

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Non-Technical Summary

1 Introduction

Introduction

1.1.1 This Non-Technical Summary (NTS) has been prepared to accompany applications to Stirling Council in respect of the Proposed Development made by Ambassador LB Holdings LLP (the Applicant) at the Craigforth Campus, Stirling. The Proposed Development comprises two applications to Stirling Council, both of which are considered and evaluated by a single Environmental Impact Assessment Report (EIAR) and this NTS. The two applications for the Proposed Development at Craigforth Campus are:

- A detailed application (called the Proposed Development (Detailed Application)) for the North Site, comprising proposed HQ office development including new access, car parking, landscaping and associated infrastructure; and
- An application for Planning Permission in Principle (called the Proposed Development (PPiP Masterplan)) for the full Site, comprising offices, retail, leisure, public houses, restaurants, residential, hotel, care home, nursery, car parking, landscaping and associated infrastructure.

1.1.2 The purpose of this NTS is to clearly explain the environmental impact of the Proposed Development and is designed to stand apart from the main Environmental Impact Assessment Report (EIAR) volumes. The EIAR comprises of four parts, which are as follows:

- Non-Technical Summary (this document)
- Volume 1 - Written Statement
- Volume 2 – Figures
- Volume 3 – Technical Appendices

Structure of this Non-Technical Summary

1.1.3 This NTS is set out in the same chapter format as the EIAR, to facilitate cross-referencing and to offer a summary of the environmental findings that will be submitted. To remain consistent, this NTS will look at each of the chapters in turn and, where appropriate, in two parts: the North Site; and the Masterplan Site which are concerned with the Proposed Development (Detailed Application) and Proposed Development (PPiP Masterplan) respectively.

2 Site Description

Introduction

1.2.1 The Craigforth Site is located 3.8km to the west of Stirling in central Scotland and is bounded by the River Forth to its west, the A84 to its north, the M9 to its east and the Raploch Burn and flat agricultural land to the south. At the centre of the Site is the Crag, a 68m high, tree covered rocky outcrop. The Crag is a prominent feature within the local landscape along with Stirling Castle and the Wallace Monument, the Touch/Gargunock Hills to the south and the Ochils/Sherrifmuir to the north. The Site is currently leased by Prudential for their Scottish HQ offices and associated support services. Access is from Junction 10 of the M9, the A84 to the north and Dumbarton Road via Kersbonny Road from the south.

North Site

1.2.2 The North Site which is subject to the Proposed Development (Detailed Application) is approximately 2.4 hectares of flat terrain. Currently, the North Site comprises car parking and

ancillary infrastructure that supports Lomond View, which itself is not included within the North Site boundary. At the northern most extent of the Craigforth campus, but not within the North Site boundary, is the Category A listed, Old Drip Bridge providing a pedestrian only crossing of the River Forth to Drip Bridge Conservation Area. The houses of the conservation area sit within flat agricultural land, known as the Carse and forms a high quality, picturesque landscape. A little over 500m further north of the North Site, the meandering River Forth meets the River Teith which is a designated Special Area of Conservation (SAC), noted for Atlantic salmon and three lamprey species. The North Site is predominantly semi-natural habitat and includes standard tree lines and a group of mature oak trees, a marshy area at the northern-most point and a small pond, containing very little standing water.

Masterplan Site

- 1.2.3 The Masterplan Site which is the subject of the Proposed Development (PPiP Masterplan) is approximately 54 hectares and encompasses the full extent of the Craigforth Campus. The Crag is the dominant feature of the Site with office buildings and carparking wrapping around its northern side and open farmland to the south. Presently, the Site is home to the Scottish HQ offices of Prudential and other supporting businesses which occupy further office space. Ancillary facilities such as an administration centre, dining and conference facilities, gatehouse, garages and an IT suite are also present. Car parking is concentrated to the north and north-west of the Crag. The original Craigforth House, a Category B-Listed Building sits below the north-east quadrant of the Crag and is currently being used as a childcare facility. Car parking is located to the east of Craigforth House. To the north of the Site is the Old Drip Bridge crossing the River Forth. The farmland that wraps around the southern half of the Crag is used for livestock grazing. The Crag has a dense covering of mature trees, designated as Ancient Woodland and a mature tree belt helps shield the Site from the adjacent M9 motorway and views from Stirling Castle and Wallace Monument. The deep, slow meanders of the River Forth are flanked in areas by woodland and the Raploch Burn on the southern boundary and snowberry hedgerows that separate the Crag woodland and the adjacent agricultural land all provide habitat and encourage biodiversity.

3 Alternatives and Design Evolution

Introduction

- 1.3.1 In accordance with the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017, alternative options to the Proposed Development have been considered and these help to demonstrate how the final design and layout was reached through reasoned and educated iterations of design evolution. The three alternative options explored were: Do Nothing; Alternative Locations and Uses for the Site; and Alternative Design/Layout. Clearly doing nothing would result in no progression of the Site and the existing buildings would remain unsuitable and increasingly obsolete as HQ office space with no benefit created to the local community. Alternative Locations and Uses has been dismissed because the Site is already an existing employment hub for the Stirling area. The Alternative Design/layout strategy is the only viable option to deliver the vision for the Site and the design evolution has been influenced through consultation with Stirling Council, the local community, future occupiers and findings of the EIA process.

North Site

- 1.3.2 The North Site is constrained by 1 in 200 year flood events according to risk modelling. This resulted in a slight change to the location of the HQ offices and removing two waterfront pavilions providing additional office space from the design entirely.

Masterplan Site

- 1.3.3 An initial design proposed 5 riverside apartment blocks. Detailed flood modelling demonstrated that these buildings were at risk of flooding. To remedy this, the apartment blocks have been relocated further east out of the flood area into a space that allows for 9 blocks to be located. Consequently, the relocation of these riverside apartment blocks resulted in adjusting the position of the mixed-use retail elements of the Masterplan design, including a pub/restaurant, small retail unit, nursery and gym. A riverside cafe has been removed from the design since it too would be impacted by flooding. The area to the south of the Crag was initially designated for detached and semi-detached housing. As the Proposed Development (PPiP Masterplan) has evolved this has become a more inclusive, multi-generational community that includes a care home, supported living and retirement housing. Again, flood modelling influenced the siting of all buildings on the southern portion of the Site so that they are out of the flood risk area. Kersebonny Road was discussed as an option for vehicles to access the southern part of the Site and the associated residential buildings. Feedback from public consultation and iterative design has scaled this back to emergency motor vehicle access only. Improvements to this access will be made so that it is of better quality and encourages use by pedestrians and cyclists to connect into the site-wide active travel routes.

4 Description of Proposed Development

Introduction

- 1.4.1 The Proposed Development is for a mixed use campus that provides regional employment opportunities, leisure facilities and new residential dwellings. Existing facilities will be improved and expanded into a business campus that will incorporate high quality office accommodation, commercial facilities, landscaping and improved accessibility, leading to employment and leisure facilities for the wider area. By creating a sense of place set within a high quality environment on the banks of the River Forth, the vision is for an attractive destination for business, residents and the wider community. The demolition, construction and operational phases of the Proposed Development will be considered throughout the EIA process for both the Proposed Development (Detailed Application) on the North Site; and the Proposed Development (PPiP Masterplan) for the full Site.

North Site

- 1.4.2 The Proposed Development (Detailed Application) on the North Site is for a modern HQ office building including new access, car parking, landscaping and associated infrastructure. The office building will have a rectangular footprint and be three stories in height, sited sensitively within the landscape and of similar height to existing mature trees which will contribute to minimising visual impact. The new, sustainable HQ offices will replace the outdated existing facilities and support the long-term vision for the Site by retaining a key employer in the area. The entrance to the new building is orientated to minimise traffic noise and maximise natural light and outlook across the surrounding landscape. It will predominantly be built on what is existing car parking, minimising any loss of open space and the removal of mature trees. The existing open space will be enhanced with landscaping and the planting of trees and hedges that will effectively soften the edges of the new building and reduce any adverse effects on the nearby Old Drip Bridge and Drip Bridge Conservation Area. A new access from the A84 will operate as a one-way system to relieve traffic pressure on the Craigforth roundabout at junction 10 of the M9. Active travel will be encouraged throughout, linking the North Site to all parts of the Site and wider area. The existing Lomond View building will be retained on the North Site.

Masterplan Site

- 1.4.3 The Proposed Development (PPiP Masterplan) is for redevelopment of the entire Craigforth

Campus. It is not possible at this time to submit detailed applications for all elements of the phased development, so a Masterplan Framework approach has been adopted which will ensure consistency with the EIA assessment as the design evolves. The EIA process has considered a maximum level of development in all technical assessments so that there is sufficient flexibility for design whilst maintaining compliance with the parameters of a robust EIA process that aims to predict the worst case scenarios of any adverse environmental effects. The Masterplan Framework looks at the key elements of the Proposed Development (Masterplan PPIp) and includes:

- 1.4.4 *Access and Movement:* The Site will be accessible from three points including from the existing Craigforth roundabout at junction 10 of the M9 and a new access from the A84 and upgrading of the road connecting the Site to Dumbarton Road to the south. New internal walking and cycling routes will connect all parts of the Site and minimise the interaction of pedestrians and cyclists with vehicles and the existing path along the eastern side of the Crag will be upgraded for emergency access
- 1.4.5 *Landscape and Public Realm:* A key element of the Masterplan is to retain and enhance approximately 30 hectares as open space which is easily accessible for the public, campus users and residents. Open spaces will include the Crag, Riverside, a new riverside park and enhanced landscaping and new planting throughout the Site. Connectivity for pedestrians and cycling will be encouraged with segregated and shared routes as active travel options.
- 1.4.6 *Development Zones and Land Use:* The Site is made up of three sub-areas. The North-Sub Area (includes the North Site) is dedicated for employment and will be the location of the new 9243 m² office development, retaining the existing Lomond View building and see improvements in landscaping and infrastructure. The Central Sub-Area will be predominantly retail and leisure commercial with up to 850 m² retail space and a 150 bedroom, five storey hotel (6000 m²) with potential for a further 30 bedroom hotel within Craigforth House (subject to a further planning and listed building consents for refurbishment and conversion) and 11 holiday villas of 75 m². A 120 place nursery is included in the Central Sub-Area and potential to locate some of the 360 dwellings planned across the Site. The South Sub-Area will be the primary development area for residential dwellings with a mixture of starter homes, apartments, retirement homes, supported living and family housing. These dwellings will be made up of 75 detached houses, 100 semi-detached houses, 165 apartments which will include retirement flats and 20 sheltered housing units. This is designed to give a broad cross section of society living on the Site. The Applicant has committed to at least 25% of these dwellings being affordable housing. The provision of a Care Village is included in the design of the South Sub-Area which will incorporate a 60 bed care home and 30 retirement apartments. The Care Village has been located within walking distance of the wider Site's services and the Crag.
- 1.4.7 *Energy Sustainability and Climate Change:* An Energy Statement for the Site has been submitted as part of the Proposed Development. This takes a holistic view of low and zero carbon energy generation and sustainable development across the Site and design details will evolve as the Masterplan PPIp design progresses.

5 Planning Policy Context

- 1.5.1 The EIAR supports two planning applications: the Proposed Development (Detailed Application) for the North Site and the Proposed Development (PPIp Masterplan) across the whole Site.
- 1.5.2 These applications will be assessed by Stirling Council with consideration to National and Local policy including:
 - National Planning Framework 3 (NPF3);

- Scottish Planning Policy;
- Stirling Local Development Plan (2018); and
- Other Material Considerations – Planning Advice Notes (PAN).

1.5.3 Both applications are made with full consideration of the relevant planning legislation and policy and full details of the relevant policies are contained within the Planning Statements that accompany both applications.

6 EIA Methodology and Approach

Introduction

1.6.1 The EIA Methodology and Approach Chapter of the EIAR discusses the rationale and general systematic approach adopted to undertake and complete the EIA. The purpose of the EIA is to identify and evaluate the potential for significant effects on the environment from the Proposed Development and identify appropriate mitigation and management measures of any potential significant adverse effects. The EIA process provides an opportunity for the design of the Proposed Development to evolve and to 'design out' adverse effects wherever possible by making alterations to that design before the planning applications are submitted. This process is informed by and based upon feedback from consultees. Where potential adverse effects cannot be designed out, mitigation measures are proposed to avoid, compensate, or reduce significant environmental effects to an acceptable level.

1.6.2 The environmental information gathered during the EIA is collected through a systematic process of identification, prediction and evaluation of the likely significant environmental effects of the Proposed Development. This process includes identifying the sensitivity of the baseline conditions/receptors; predicting the magnitude of potential impacts; predicting the significant effect of the impacts; detailing mitigation measures; predicting the potential residual effects as well as the potential cumulative impacts. The results and findings are presented in full within the EIAR and summarised in this NTS document.

Scoping and Consultation

1.6.3 A pre-scoping meeting was held with Stirling Council to discuss the Proposed Development and a Scoping Request was submitted in February 2020. Feedback from meetings with Stirling Council and Statutory Consultees and the Council's Scoping Opinion has shaped the methodology and approach for the EIAR and defined the topics that should be and are included as technical chapters. Constructive dialogue throughout the EIA process and consultation responses have been obtained from the following organisations:

- Stirling Council;
- Scottish Environmental Protection Agency (SEPA);
- Scottish Natural Heritage (SNH);
- Historic Environment Scotland (HES);
- Transport Scotland; and
- Scottish Water.

Scope of the EIAR

1.6.4 Based on the consultation responses received and opinions given within the Scoping Opinion, the key topics assessed and the scope of study of the EIAR include the following:

- Landscape and Visual Amenity;
- Cultural Heritage;
- Biodiversity;

- Flood Risk;
- Drainage and Hydrology;
- Ground Conditions;
- Traffic and Transport;
- Noise and Vibration;
- Air Quality;
- Socio-Economics;
- Human Health; and
- Sustainability and Climate Change.

Public Consultation

- 1.6.5 Two public consultation events were held to gather input and opinion on the Proposed Development from the local community. In line with COVID-19 guidance, these events were hosted online and the feedback received helped inform the design of the Proposed Development. Feedback received from the public was positive and constructive, focussing mainly on job creation and retention and improved access to the Site that includes active travel measures.

7 Landscape and Visual Amenity

Introduction

- 1.7.1 The Landscape and Visual Amenity chapter of the EIAR considers the potential effects that the Proposed Development will have on landscape character and visual amenity. The LVIA looks at how people experience the Proposed Development within the wider landscape context and how it might change that landscape. The impact on landscape and visual amenity will change at different stages of the Proposed Development lifecycle so the LVIA assesses the construction phase, year one and year ten stages. The study area was defined through consultation with Stirling Council, SNH and HES and was agreed to be 2.5km, extended to include the Wallace Monument. This section of the NTS will summarise the potential effects, outline additional mitigation and describe the residual effects after mitigation.

North Site

Potential Effects

- 1.7.2 The potential landscape effects of the Proposed Development (Detailed Application) during the construction phase will be temporary, but significant in a landscape containing notable cultural heritage elements such as the Wallace Monument and Stirling Castle. Existing onsite development has already established the landscape character and, once the construction phase is complete, the change in landscape effects will be minimal. Furthermore, as new trees mature and screen the North Site the potential effects will be negligible by year ten of the operational phase. The visual effects of the Proposed Development (Detailed Application) during the construction phase will be significant for one residential receptor, Hill of Drip farmhouse, that sits in an elevated position overlooking the Site; and approaching the Site along the A84. Existing trees will not provide screening of construction works for these two receptors. Planned additional mitigation will result in reduced adverse effects in year one and more so in year ten of the operational phase.

Additional Mitigation

- 1.7.3 The Applicant will undertake extensive new tree planting along the A84 and within car parks as part of the Proposed Development (Detailed Application) which, when mature, will screen the car parks and break up the edges of the HQ office building, especially viewing from the A84. Additionally, wherever possible, existing mature trees will be retained and left undisturbed.

Residual Effects

- 1.7.4 The additional mitigation measures are an integral element of the Proposed Development (Detailed Application) design and will become increasingly effective as trees grow. Therefore, the residual landscape and visual effects at year ten of the operational phase will see only Hill of Drip farmhouse experiencing moderate, significant adverse effects since the additional mitigation planned will only screen the lower portion of the North Site from its elevated position. Other visual receptors are predicted to experience negligible to minor-moderate effects combined with a decreased sensitivity from existing commercial buildings in the area.

Masterplan Site

Potential Effects

- 1.7.5 The potential landscape effects of the Proposed Development (PPiP Masterplan) during the construction phase are expected to be significant, particularly for the low lying carselands and peripheral residential and commercial urban areas. These adverse effects would reduce with additional mitigation measures after year one into the operational phase and by year ten of the operational phase the landscape effects are expected to be insignificant for all landscape character types. The predicted adverse effects on visual amenity from the Proposed Development (PPiP Masterplan) will have a longer-term effect, being significant during the construction phase through to and including year ten of the operational phase. The southern area of the site will have the greatest impact, resulting in six identified sensitive receptors experiencing significant adverse effects for the lifetime of the Proposed Development (PPiP Masterplan). These receptors are isolated farmhouses and the view from a minor road on the Carse of Stirling, namely Kaimes Farm, North Kersebonny, Cowden Farm and cottage, Baad Farm and Chalmerston Road. In addition, Hill of Drip Farm will experience significant adverse effects from the northern area of the Site during the construction and operational phases of Proposed Development (PPiP Masterplan). It is expected that traffic using the junction 10 offramp of the M9 will experience adverse effects as the buildings on the central area of the Site increase in height. The change in height is not significant and additional mitigation measures will reduce this impact further. It is worth noting specifically that there will be no significant effects on either Stirling Castle or the Wallace Monument from the Proposed Development (PPiP Masterplan).

Additional Mitigation

- 1.7.6 Additional mitigation will take the form of extensive new tree planting and where possible, retaining existing mature tree belts and standings throughout the Site. Specifically, new trees will be planted along the A84 corridor and within carparks to the north of the Site which will soften the edges of the new office building. An area of rough grass stretching to the River Forth will be transformed into parkland planted with native trees and shrubs. On the central area of the Site, new trees will be planted along the River Forth and along the M9 corridor and within carparking areas that will complement existing mature trees. This will help to screen the Proposed Development (PPiP Masterplan) and blend it into the existing landscape. Tree planting along the River Forth will continue into the southern area of the Site and add to the mitigation measures of peripheral tree planting and a large area of native woodland which when established and mature will screen and soften the edges of buildings and act to connect the Proposed Development (PPiP Masterplan) with the existing Craigforth landscape environment.

Residual Effects

- 1.7.7 The LVIA considers effects during the construction phase and after the first year of the operational phase and at the tenth. The additional mitigation measures are an integral element of the Proposed Development (PPiP Masterplan) design and will become increasingly effective as trees grow. Therefore, the operational effects after 10 years are the residual effects.

8 Cultural Heritage

Introduction

- 1.8.1 The Cultural Heritage chapter of the EIAR assesses the potential for adverse effects as a result of the Proposed Development on culturally important heritage assets and archaeological remains. Three study areas are looked at: the North Site Boundary, the Site Boundary and an Outer Study Area that extends 1km beyond the Site Boundary plus selected culturally important assets within a 2.5km radius. A baseline of heritage assets within the areas of study has been compiled using HES data and a comprehensive walkover survey of the Site. Thirty four heritage assets have been identified within the study areas.
- 1.8.2 The assessment considers direct effects on the heritage asset itself and potential setting effects of the following heritage assets within the study areas:
- Craigforth House and non-designated designed landscape;
 - Stirling Castle;
 - Stirling, Royal Garden including King's Knot;
 - Drip Old Bridge over River Forth;
 - Drip Bridge Conservation Area;
 - Stirling Town and Royal Park Conservation Area; and
 - The Wallace Monument.

North Site

Potential Effects

Direct Effects

- 1.8.1 There are no known designated heritage assets within the North Site study area and the design of the Proposed Development (Detailed Application) avoids any direct effects on heritage assets nearby. It is possible that there are yet undiscovered heritage assets within areas of undeveloped land and without mitigation measures, damage or even destruction during the construction phase could result in significant adverse direct effects on these unknown assets.

Setting Effects

- 1.8.2 It is possible that the Proposed Development (Detailed Application) will have adverse effects on the understanding and experience of heritage assets within the Outer Study Area. As distance increases the potential for adverse effects will decrease to a negligible level. Therefore, it is expected that any change in cultural significance, understanding, appreciation or experience of heritage assets beyond 1km from the North Site will be negligible.
- 1.8.3 The front elevation of Craigforth House faces north-east and once had open views towards Bridge of Allan and the Forth Valley. Existing office buildings and mature tree coverage partially obscures this view already and the view towards the Proposed Development (Detailed Application) on the North Site is screened by existing buildings, mature trees and the topography of the Crag.
- 1.8.4 The Proposed Development (Detailed Application) would be visible beyond the Raploch residential area and Castle Business Park from the western ramparts of Stirling Castle and potentially from the Royal Gardens and Kings Knot that sits below, albeit at a distance of 2km, and the lower lying Royal Gardens will largely be screened by trees. The Stirling Town and Royal Park Conservation Area is noted for its topography; skyline and roofscape; approach; landmarks; street pattern; and activity and movement. The Conservation Area includes Stirling Castle, the Royal Gardens and Kings Knot along with the Old Town, Commercial and Town House Sectors. The Proposed Development (Detailed Application) would present a slight

change to the setting of the Stirling Town and Royal Park Conservation Area but this will be not significant. The important wider landscape experience of the Conservation Area, including Stirling Castle and the Royal Gardens and Kings Knot will be largely unaffected from all areas, with Drip Bridge Conservation Area as an exception. The effects are assessed as minor significance.

- 1.8.5 Drip Bridge Conservation Area lies approximately 200m to the north-west of the North Site and includes the Old Drip Bridge crossing the River Forth and the original Inn, the Tollhouse and Smithy listed buildings. The Proposed Development (Detailed Application) will be visible from the Drip Bridge Conservation Area and it is expected to experience a slight change to the setting. The Proposed Development (Detailed Application) is carefully designed to maintain a respectful buffer between the new office HQ and Old Drip Bridge to minimise any adverse effects and the design of the North Site includes enhanced landscaping on the banks of the River Forth which will further preserve the setting of the bridge. The view towards Stirling Castle from the Old Drip Bridge and Drip Bridge Conservation Area is a historically important view and the Proposed Development (Detailed Application) will partially obscure these views. This view is already compromised and partially obscured by existing trees around junction 10 of the M9 so the change in that view is expected to be minimal. Although this is an important view it represents only a small portion of the overall landscape setting of Drip Bridge Conservation Area and when considered within the wider context of existing development, visitors will experience no change on the cultural significance, understanding or appreciation of the setting of Stirling Castle. Views in all other directions from Drip Bridge Conservation area will be unaffected and the designed buffer from the Proposed Development (Detailed Application) will preserve the setting of the Old Drip Bridge in the wider landscape. The effects are assessed as minor significance.
- 1.8.6 It is thought that a Roman road passed nearby and crossed the River Forth close to Drip Bridge. No evidence showing the line of this road has ever been uncovered. Any remains of a Roman road would be a regional level heritage asset with a moderate sensitivity. A documented 16th century ford at the Old Drip Bridge, later used as a ferry and marked on Roy's 'Military Survey of Scotland' map will have some local level historical interest of low sensitivity.
- 1.8.7 The Wallace Monument enjoys extensive views all around and is a major visitor attraction. From the Monument, the Proposed Development (Detailed Application) would be visible 3.6 km away and would be seen in the same view as the northern built-up suburbs of Stirling. The Proposed Development (Detailed Application) would be a minor addition to the existing built-up area and would not interrupt views towards Stirling Castle or in any other direction. Views from the wider landscape towards the Wallace Monument would not be affected by the Proposed Development (Detailed Application) including views from the A84 travelling towards Stirling or from Drip Bridge Conservation Area. The effects are assessed as minor significance.
- 1.8.8 It is concluded that any adverse effects, either directly or on the setting of heritage assets will not be significant.

Additional Mitigation

- 1.8.9 Mitigation will take place prior to, and in some circumstances during the construction phase. A professional archaeological organisation will follow a Scope of Works that will be detailed in a Written Scheme of Investigation (WSI) which will be drafted in collaboration with Stirling Council's Archaeology Advisor and record all activity and findings.
- 1.8.10 Stirling Council's Archaeologist has requested that a metal detecting survey is carried out prior to construction works commencing. This will take place after vegetation cover is stripped but before any disturbance or removal of topsoil.

- 1.8.11 Stirling Council's Archaeologist has requested archaeological investigations take place as a 5% sample trial trenching evaluation. Trial trenching will take place, including on previously undeveloped land, before any construction works take place.
- 1.8.12 If metal detecting or trial trenching uncover any archaeological remains it may be necessary to initiate a watching brief during excavations. The scope of any watching brief will be agreed through consultation with Stirling Council's Archaeologist. Any remains that are discovered will be recorded and provisions made either for preservation or excavation of remains and recording and publication of results.

Residual Effects

- 1.8.13 Following additional mitigation measures, the potential for adverse effects of heritage assets during the construction phase will not be significant. During the operational phase, the residual effects of Proposed Development (Detailed Application) on heritage assets in the study areas will remain the same as the potential effects. Six residual adverse effects lasting the lifetime of the Proposed Development (Detailed Application) are assessed to be of minor significance.

Masterplan Site

Potential Effects

Direct Effects

- 1.8.14 There are two heritage assets that would experience direct effects from the Proposed Development (PPiP Masterplan). Craigforth House is intended to be redeveloped into a hotel, subject to securing further planning and listed building consents for refurbishment and conversion. The building was gutted by fire in the 1930s and refurbished as offices in the 1960s. Although not a restoration of the original character, the direct effects of the Proposed Development (PPiP Masterplan) would have moderate positive significance. There is evidence of buried structures within the gardens of Craigforth House and although these are of low sensitivity, the Proposed Development (PPiP Masterplan) will have direct effects of moderate significance. Two other heritage assets within the Site are an ice house and ornamental garden feature, both of which will remain with no effect from Proposed Development (PPiP Masterplan) and the former Craigforth House stables and kennels were lost previously in the development of the existing Prudential offices.

Setting Effects

- 1.8.15 Craigforth House will be a focal point of the Proposed Development (PPiP Masterplan) central area and although it is currently set within the existing office buildings, the design of new buildings will not restore the original setting of the House. As a focal point, the experience and appreciation of Craigforth House by visitors will be enhanced so the effect will moderate.
- 1.8.16 The setting effects as a result of Proposed Development (PPiP Masterplan) on Stirling Town and Royal Park Conservation Area including Stirling Castle and Royal Gardens and Kings Knot will be similar to those expected from the Proposed Development (Detailed Application). These effects have been assessed as minor significant. This is also true for Drip Bridge Conservation Area including the Old Drip Bridge and for the Wallace Monument. All of these heritage assets will experience minor significant setting effects from Proposed Development (PPiP Masterplan).

Additional Mitigation

- 1.8.17 A Written Scheme of Investigation (WSI) will be drafted and the Scope of Works contained within it will detail the recording of all findings and activities. The Additional Mitigation for the Proposed Development (PPiP Masterplan) will be the same as for the Proposed Development (Detailed Application). The Craigforth House redevelopment will require further planning and listed building consents for refurbishment and conversion and it is considered that this planning

process will ensure the preservation and enhancement of this heritage asset and that mitigation of any adverse effects will be dealt with through this process.

Residual Effects

- 1.8.18 Following additional mitigation measures, the potential for adverse effects on heritage assets during the construction phase will be not significant. During the operational phase, the residual effects of heritage assets in the study areas will remain the same as the potential effects. One residual beneficial effect of moderate significance is predicted for Craigforth House and six residual adverse effects of minor significance are predicted across the study areas. The residual effects that will last the lifetime of Proposed Development (PPiP Masterplan) are considered to be not significant.

9 Biodiversity

Introduction

- 1.9.1 The Biodiversity chapter of the EIAR assesses the effects of the Proposed Development on ecology and draws findings from a desk-based review of available information, a Phase 1 Preliminary Ecological Survey and a Bat Roost Potential Survey. In addition to this, a Preliminary Ecology Appraisal Report and an Ecological Management Plan have been produced which provide further information for a robust assessment. There is potential for biodiversity to be affected during the demolition, construction and operational phases and each of these have been considered within the assessment.

North Site

Potential Effects

- 1.9.2 It is expected that potential effects on biodiversity will be restricted to the construction phase only. The North Site contains a few ponds that are the result of flooding from the River Forth and have no real ecological value. Also, an area of nearby marshy grassland has little ecological value and both this area and the ponded area are within the floodplain of the River Forth, so will not form part of the Proposed Development (Detailed Application) footprint. Giant Hogweed and Himalayan Balsam grow on the banks of the River Forth near the North Site, both of which are invasive species. There is a potential adverse effect of this spreading during construction works which is significant. There are potentially significant effects on bats roosting in the mature oak trees. The Proposed Development (Detailed Application) intends to retain these trees. If they are to be removed, a detailed bat roost survey would be required. Disturbing nesting birds during the construction phase could present a significant adverse effect. The nearby River Teith SAC is protected for three species of lampreys and Atlantic salmon. There is a significant potential for construction works to create silt or fuel leak pollution that would have an adverse effect on the watercourse. There may be some loss of marshy grassland. The effect of this on biodiversity is not considered to be significant.

Additional Mitigation

- 1.9.3 It is expected that all potential effects can be mitigated by employing good practice pre-construction planning and construction site practices and following appropriate pollution prevention guidance. These measures have been considered and included as part of the construction program. Artificial lighting used during the construction and operational phases should be directed away from the River Forth to minimise any adverse effects of light pollution on the habitat of water creatures. To comply with Schedule 9 of the Wildlife & Countryside Act 1981 (as amended), an Invasive Species Management Plan will be required to ensure that the correct measures are in place to avoid the illegal spread of giant hogweed and Himalayan balsam. Drafting a tree management plan for the North Site prior to construction works

commencing will identify the most ecologically valuable trees that should remain undisturbed. This will also assess if any trees have potential for nesting birds and a management plan to avoid disturbing birds can be prepared.

Residual Effects

- 1.9.4 By applying the additional mitigation measures noted above, it is anticipated that all of the potential effects can be avoided and the risk of adverse effects will be reduced to not significant.

Masterplan

Potential Effects

- 1.9.5 Due to the size of the Site, it is unsurprising that there are many sensitive ecological receptors with the potential to experience effects from the demolition, construction and operational phases of development. The potential effects on each identified receptor are listed below:

Designated Sites

- 1.9.6 The River Teith SAC to the north of the Site has no barriers to prevent lampreys or Atlantic salmon moving upstream and into the River Forth that forms the western boundary of the Site. The habitat within the River Forth at this point is not suitable for either salmon spawning grounds or for lamprey burrowing. There will be no requirement for river crossing during demolition, construction or operation or for any instream works and prior to construction an Environmental Management Plan (EMP) will be agreed with SEPA outlining best practice working standards near watercourses and suitable measures to avoid silt and pollution entering the river system. As such, it is predicted to be extremely unlikely that the River Teith SAC will experience any adverse effects and that a Habitats Regulation Assessment will not be required.

Ancient Woodland

- 1.9.7 The woodland covering the Crag is designated ancient woodland and there is a proposal for this to be further designated as a Local Nature Conservation Site. This woodland will be kept as part of the Proposed Development (PPIP Masterplan) design with the inclusion of public viewpoints. If a small number of trees are required to be removed to create these viewpoints it is expected that the potential for adverse effects on the overall woodland habitat will not be significant. If any individual tree is removed for this purpose, a survey to determine the potential for roosting bats may be required first.

Bats

- 1.9.8 Seven existing buildings, the woodland on the Crag and areas of mature broad-leaf trees have the potential to be suitable habitats for roosting bats. Although seasonal surveys have been carried out and established the presence of a moderate number of bats generally on the Site, specific emergence/return surveys at the buildings have not yet been completed due to COVID-19 lockdown restrictions. The subject locations of these specific bat surveys are not scheduled for any demolition or construction works in the first phase of development and will not experience any adverse effects from that first phase. In due course, when lockdown restrictions are lifted, the emergence/return surveys will be completed which will allow for a full assessment of the potential for adverse effects on roosting bats in these buildings and trees.

Additional Mitigation

- 1.9.9 As with the North Site, it is expected that all potential effects can be mitigated by employing good practice, pre-construction planning and construction site practices and following appropriate pollution prevention guidance. These measures have been considered and included as part of the construction program. Artificial lighting used during the construction and operational phases should be directed away from the River Forth to minimise any adverse effects of light pollution on the habitat of water creatures. Management plans for specific animal

species should be in place to avoid any adverse effects and these are listed below:

Bat Species Protection Plan

- 1.9.10 A detailed bat roosting survey should be carried out at seven buildings identified as having potential for roosting bats prior to demolition or construction work commencing. Only Craigforth House has been assessed as having a high potential for roosting bats. If it is found that there is risk of adverse effects on roosting bats at any of these locations, a license will be acquired that permits the disturbance and subsequent replacement of suitable roosts at locations within the Site. The conversion and refurbishment of Craigforth House will require further planning and listed building consents which will allow for bat surveys to be carried out again in advance of any development there.

Otter Species Protection Plan

- 1.9.11 No pre-construction survey for otters is required since all Proposed Development is at least 50m away from watercourses but escape ramps should be included in trenches and excavation works to prevent otters becoming trapped.

Badger Species Protection Plan

- 1.9.12 No badgers have been recorded within the Site and only a small portion of the Site would provide suitable habitat. A resurvey of this area confirming that no badgers are present should take place prior to construction starting. Escape ramps will be included in trenches and excavation works to prevent badgers becoming trapped.

Bird Management Plan

- 1.9.13 Common bird species are likely to be breeding within the Site from April to August and construction works should be scheduled to minimise disturbance of birds during this time.

Residual Effects

- 1.9.14 The mitigation measures noted above will be effective in safeguarding the River Teith SAC from pollution and any adverse effect from the demolition, construction or operational phase. The design of the Proposed Development (PPiP Masterplan) has considered ecological habitats and any habitats that will be lost are of very limited ecological value.
- 1.9.15 There will be no significant residual effects on ecology including habitats or animal species.

10 Flood Risk

Introduction

- 1.10.1 The Proposed Development has the potential to create changes to hydrology that could increase the risk of flooding on the Site and other receptors within the study area. A site specific Flood Risk Assessment (FRA) using hydraulic modelling has predicted that areas within the north, west and south of the Site are at risk during a 1 in 200 year flood event. The areas likely to flood are accepted as the functional flood plain and the design of the Proposed Development has been guided by the FRA.

North Site

Potential Effects

Construction Phase

- 1.10.2 The Proposed Development (Detailed Application) construction phase is short term compared to the operational phase. The risks of flooding remain, albeit temporary. The potential adverse effects are higher during periods of intense and/or prolonged rainfall and could create downstream flooding as a result of a reduction in floodplain storage from bulk material

stockpiling and changes to runoff patterns; greenfield drainage, runoff and infiltration changes as a result of temporary construction drainage systems increasing surface water runoff rates and volumes in adjacent watercourses. Adverse effects could also result from groundwater flooding of excavations, changing ground levels and from storage of welfare facilities if located in flood risk areas. The level of effect during the construction phase has been assessed as moderate.

Operational Phase

- 1.10.3 The operational phase will involve a permanent change to the current conditions. The adverse effects of Proposed Development (Detailed Application) are long-term so the effects on sensitive receptors can be greater. Changes to runoff behaviour from permanent structures and impermeable surfaces such as car parks can occur. Changes in ground levels can reduce the volume of floodplain storage available resulting in greater flood risk downstream. The Proposed Development (Detailed Application) avoids changes in ground levels and inherent mitigation to control the dispersal of floodwater through impermeable permanent surfaces and effective drainage systems is considered in the design. Therefore, the potential effects are assessed as negligible.

Additional Mitigation

- 1.10.4 An Environmental Management Plan (EMP) will be produced and include best practice and Site specific method statements that mitigate potential adverse effects during the construction phase. The EMP will be submitted to and agreed by SEPA prior to construction works starting. Specifically, for the construction phase, the EMP will include installing temporary drainage/SUDS systems that control water flow rates prior to discharge to a watercourse and all welfare facilities and temporary storage will be located at least 10m away from watercourses and out of flood risk areas.

Residual Effects

- 1.10.5 Following Additional Mitigation measures, it is anticipated that the Residual Effects on flood risk caused by the Proposed Development (Detailed Application) will be negligible.

Masterplan Site

Potential Effects

Construction Phase

- 1.10.6 The construction phase is short term compared to the operational phase. The risks of flooding remain, albeit temporary. The potential adverse effects are higher during periods of intense and/or prolonged rainfall and could create downstream flooding as a result of a reduction in floodplain storage from bulk material stockpiling and changes to runoff patterns; greenfield drainage, runoff and infiltration changes as a result of temporary construction drainage systems increasing surface water runoff rates and volumes in adjacent watercourses. Adverse effects could also result from groundwater flooding of excavations and changing ground levels and from storage of welfare facilities if located in flood risk areas. The level of effect during the construction phase has been assessed as moderate.

Operational Phase

- 1.10.7 The operational phase will result in permanent changes with potential for long term adverse effects that are a greater significance on receptors. Flood risk could increase if land levels are altered resulting in a reduction in floodplain storage; permanent changes to greenfield drainage; and existing sewerage systems becoming overwhelmed resulting in sewer flooding. Inherent mitigation of the Proposed Development (PPiP Masterplan) means that no land raising will occur within the functional floodplain and development will be restricted to landscaping and

pedestrian access. Where parking or roads enter the functional floodplain, levels will be lower than existing ground levels resulting in a net gain of floodplain storage. Effective surface water drainage systems will prevent any increase in surface water runoff rates and flow. The level of effect of the operational phase has been assessed as negligible.

Additional Mitigation

Construction Phase

- 1.10.8 An Environmental Management Plan (EMP) will be produced and include best practice and Site specific method statements that mitigate potential adverse effects during the construction phase. The EMP will be submitted to and agreed by SEPA prior to construction works starting. Specifically, for the construction phase, the EMP will include installing temporary drainage/SUDS systems that control water flow rates prior to discharge to a watercourse and all welfare facilities and temporary storage will be located at least 10m away from watercourses and out of flood risk areas.

Operational Phase

- 1.10.9 The inherent mitigation of the Proposed Development (PPiP Masterplan) design is effective and no Additional Mitigation measures will be required during the operational phase.

Residual Effects

- 1.10.10 Following Additional Mitigation measures it is anticipated that the Residual Effects on flood risk caused by the Proposed Development (PPiP Masterplan) will be negligible.

11 Drainage and Hydrology

Introduction

- 1.11.1 The Drainage and Hydrology chapter considers the potential for effects of pollution, obstruction and change that the Proposed Development may have on surrounding drainage from the Site, water quality and hydromorphology – the water flow character, energy, and surface features of a body of water. The assessment was informed by a detailed desktop study of all available information; consultation with Stirling Council, SEPA, Scottish Water and SNH; and a comprehensive walkover survey of the Site allowing inspection and analysis of hydrological features and function. The Proposed Development lies in the catchment of the River Forth and the study area used for this assessment focuses on the portion of this catchment that drains the Site. A search radius of 1km from the Site has been used to study abstraction water quality and key water environments assessed in this section are: River Forth; Raploch Burn; Callander Groundwater Body; Teith and Forth Valley Groundwater Body; and Carron and Touch Groundwater Body. A Flood Risk Assessment (FRA) report and Baseline Water Environment mapping has informed this chapter and the design evolution of the Site.

North Site

Potential Effects

Construction Phase

- 1.11.2 During the construction phase there is potential for minor – moderate adverse effects on the drainage and hydrology of the Site. These will be of a temporary nature and can be minimised or completely avoided with the use of appropriate mitigation measures and best practice techniques. These mitigation measures will be documented in an Environmental Management Plan (EMP) which will be submitted and agreed with SEPA prior to any construction works taking place. Changes to surface water runoff patterns as a result of soil compaction and risk of destabilised watercourse banks from heavy machinery could create temporary changes to the hydrology, water quality and hydromorphology characteristics of the Site. There is also a

temporary risk of pollution from spills or leaks of fuel, oil, concrete and other building materials; welfare facilities; or runoff silt.

Operational Phase

- 1.11.3 The Proposed Development (Detailed Application) will create permanent changes to the existing water environment. Hydrology is particularly at risk as new, impermeable surfaces change runoff behaviour and reduce surface water absorption. Increased pollution from foul water infrastructure and greater human activity has the potential for adverse effects on water quality and increased erosion that results in sedimentation of watercourse beds and banks could change the hydromorphic flow and speed characteristics of the water environment. These adverse effects have been anticipated and considered as part of the design evolution and by applying best practice design standards to the Proposed Development (Detailed Application), adverse effects will be avoided or reduced to a minimum through additional mitigation measures.

Additional Mitigation

Construction Phase

- 1.11.4 An Environmental Management Plan (EMP) will be produced and will include best practice and site specific method statements that mitigate potential adverse effects during the construction phase. The EMP will be submitted to and agreed by SEPA prior to construction works starting. To mitigate effects of construction site runoff, temporary drainage systems will be used that include sediment and pollution containment and avoidance measures. Stockpiling of materials will be limited and where stockpiling is necessary it will be located in areas of low flooding risk and away from watercourses. Topsoil scraping will take place only in areas immediately scheduled for works and bare surfaces will be restored or covered over when works are finished. Working practices will also avoid activity during periods of heavy rain and minimise heavy plant use on wet ground. To mitigate the risk of water quality pollution during construction all refuelling of machinery will be carried out by duly trained personnel on designated safe areas of the Site with impermeable surfaces that are away from watercourses and not in a flood risk area. Spill kits will be stored at key locations around the site and marked on the Construction Environmental Management Plan (CEMP). Regular checks for leaks in equipment will be ongoing and stationary plant fitted with drip trays will be emptied routinely. Only in the event of breakdown will machinery be repaired at point of breakdown; otherwise only emergency maintenance will take place onsite in protected areas and all regular maintenance will take place offsite. Construction activities will comply with the Pollution Incident Response Plan (PIP). To mitigate the risk of water pollution from stored chemicals, fuel and oil it will be contained in suitable, lockable tanks on an impermeable surface at a designated area of stable ground that is not at risk of flooding or near watercourses. In addition to this, a bund of no less than 110% of the storage capacity of the tanks will be constructed around its perimeter. Concrete, cement and grouts will be prevented from adversely affecting water quality during the construction phase by ensuring mixing and washing areas are contained and away from watercourses and areas of flood risk. These designated areas will have settlement and recirculation systems adopted for water reuse. Water used for washing equipment will not be disposed of into the water environment, rather if appropriate it will be disposed of to the foul sewer system or collected and disposed of at an authorised off site location. Dry working areas will be in place for pouring concrete into channels and if concrete is poured over a water feature or within 10m of a watercourse, quick setting products will be used with additional protection form spills.

Operational Phase

- 1.11.5 The design of Proposed Development (Detailed Application) fully considers inherent mitigation to minimise and avoid adverse effects throughout the operational phase. The Proposed

Development (Detailed Application) has been sited with consideration to sensitive receptors and beneficial separation from watercourses. SEPA guidance promotes a natural water environment and includes the use of natural habitats and buffers between the built environment and watercourses. These beneficial features have been included in the design of the Proposed Development (Detailed Application). A Surface Water Drainage Scheme has been designed with the aim of echoing natural drainage patterns and preventing excessive runoff having adverse effects on the quality of the water environment. This design is guided by the principles of Sustainable Urban Drainage Systems (SUDS) which restricts runoff rate and delivers pollution control measures. Developed surfaces will be of a permeable nature and volumes of surface water will be drained and controlled through filtering channels to underground storage tanks capable of limiting discharge to the natural water environment in a sustainable manner like that expected in a greenfield environment. A Foul Water Drainage Scheme has been designed in accordance with Scottish Water's guidance and is proposed to drain to an existing Scottish Water Waste Water Pumping Station. This design will prevent foul water discharge from adversely affecting the surrounding water environment.

Residual Effects

- 1.11.6 It is anticipated that following additional mitigation measures and inherent mitigation that is part of the overall design of the Proposed Development (Detailed Application), the residual effects of both the construction and operational phases on the water environment through drainage and hydrology will be negligible.

Masterplan Site

Potential Effects

Construction Phase

- 1.11.7 The construction phase of the Proposed Development (PPiP Masterplan) will be temporary in nature, but there is a high risk of adverse effects of pollution and damage to the water environment during this intense period of onsite activity. It is proposed that there will be no engineering works in water channels and a buffer of 25m from watercourses will be maintained throughout the construction period. This will minimise or completely avoid damage to banks and the potential for sediment build up in watercourses as a result of erosion from heavy machinery. It is anticipated that the risk of adverse effects resulting in pollution or change to drainage and hydrology can occur from construction activities across the Site that may be temporary or permanent in nature such as:

- Construction traffic and heavy plant movement;
- Construction personnel welfare facilities;
- Transport, storage and disposal of construction materials;
- Earthworks and changes to existing ground levels;
- Road and infrastructure installation;
- Deeper excavations and foundation preparation;
- Actual construction of permanent buildings and associated drainage and utilities infrastructure; and
- Landscaping and restoration works.

These construction activities can change the runoff and drainage pattern of surface water on the hydrology, water quality and hydromorphology of the water environment. There is also a temporary risk of pollution from spills or leaks of fuel, oil, concrete and other building materials; welfare facilities; or runoff silt.

Operational Phase

1.11.8 The operational phase of Proposed Development (PPiP Masterplan) will create permanent changes to the existing water environment both in terms of potential pollution and characteristic changes. The increase in population and activity onsite will present the greatest risk of adverse effects from foul water, rubbish disposal, chemical, soil erosion, traffic and increase of impermeable surfaces. The Proposed Development (PPiP Masterplan) considers the potential for adverse effects and addresses them through best practice, high quality design to fully avoid or significantly minimise potential adverse effects. The design elements that contribute to the inherent mitigation follow the guidelines of SEPA and include adhering to:

- Siting and Design Principles
- Surface Water Drainage Scheme; and
- Foul Water Drainage Strategy.

Additional Mitigation

Construction Phase

1.11.9 An EMP will be drafted and agreed with SEPA prior to construction works starting. This document will contain details of best practice and Site specific methods to fully avoid or significantly minimise adverse effects from construction on the water environment. The EMP will include a Pollution Prevention Plan (PPP), a Pollution Incident Response plan (PIP) and a Water Quality Monitoring Plan (WQMP). The details of additional mitigation measures during the construction phase are the same as those described for the Proposed Development (Detailed Application) noted in section 1.11.4 – 1.11.5 above. At 54 hectares the construction phase of the Proposed Development (PPiP Masterplan) will require to be regulated by the Water Environment (Controlled Activities) Regulations 2011 (CAR), which requires a construction site license (CSL). The PPP will be included for approval for a CSL from SEPA and give details of minimising, controlling and treating surface water runoff; maintenance and monitoring; and general management that prevents pollution. This ensures accountability for preventing pollution from construction activities. In addition to this, monitoring of Total Suspended Solids (TSS) draining from the Site is a requirement of the CSL and will facilitate ongoing maintenance and management measures of to prevent pollution of the water environment.

Operational Phase

1.11.10 Additional mitigation for drainage and hydrology during the operational phase will not be required as the design of all elements of the Proposed Development (PPiP Masterplan) will consider all the inherent mitigation measures required to prevent pollution, damage or change to the water environment.

Residual Effects

1.11.11 It is anticipated that following additional mitigation measures and inherent mitigation that is part of the overall design of the Proposed Development (PPiP Masterplan) the residual effects of both the construction and operational phases on the water environment through drainage and hydrology will be negligible.

12 Ground Conditions

1.12.1 Due to the legal restrictions and lockdown measures arising from the current COVID-19 pandemic a ground conditions chapter has not yet been completed. It has been agreed with Stirling Council that surveys and assessment will take place when safe and legal to do so and results and findings will be supplied as part of the EIAR at a later date. A desktop assessment of all historical information and data has been completed and it has been concluded from this

desktop assessment and in the absence of new ground investigations, that no adverse effects are predicted as a consequence of the Proposed Development.

13 Traffic and Transport

Introduction

1.13.1 The Traffic and Transport chapter of the EIAR considers how the Proposed Development will change traffic characteristics on the local road network. The assessment looks at the environmental impacts which include traffic impact; severance; driver delay; pedestrian delay; pedestrian amenity, fear and intimidation; and accidents and road safety. The scope of a Transport Assessment (TA) was agreed with Stirling Council and Transport Scotland and the data contained within it is the primary source of information for this assessment. The TA looks at the local road network which comprises the A84 and the M9, both of which are trunk roads. It considers other forms of travel to access the Site such as cycling, walking and public transport. Baseline traffic flow data was collected at nine key locations and showed that peak traffic flow in the area is between 8am and 9am and 4.30pm and 5.30pm. The new office building on the North Site will see a reduction in floorspace from 31,219 m² in the existing office complex to 16,038 m² and a corresponding reduction in car parking spaces. This will combine with flexible working hours to reduce the number of users accessing the North Site. A new access point to the North Site will be located on the A84 and will operate as an entrance point only. A one-way system has been designed to move traffic within the Site and the exit location will be at the existing entry/exit point at the Craigforth roundabout at junction 10 of the M9. The existing two-way arrangements of Craigforth roundabout will remain for servicing the central and south areas of the Site.

North Site

Potential Effects

Traffic Impacts

1.13.2 The Proposed Development (Detailed Application) will not be in its operational phase until 2022 so an agreed forecast based on existing data is projected to create a 2022 baseline. This 2022 baseline can then be compared to a 2022 traffic flow assessment resulting from the Proposed Development (Detailed Application). The assessment shows a net decrease in traffic flow in the local transport network with the exception of the immediate vicinity of the new entrance on the A84, which will see a slight increase. The increase in traffic flow at the new A84 entrance is predicted to be less than a 30% increase and is therefore considered not significant. Overall a positive impact is expected on the road network as a result of the Proposed Development (Detailed Application).

Severance

1.13.3 Severance is a term that describes the degree of difficulty for pedestrians or cyclists crossing a road with changes to traffic flow and key considerations are: road width; traffic flow and composition; traffic speeds; the availability of crossing facilities; and the number of movements that are likely to cross the affected route. Most pedestrian movement will be internal to the Site and it is expected that no pedestrians will cross the external road network except a minimal level to the east of the new entrance on the A84, near Dobbies garden centre. As a result, any adverse effects on severance from the Proposed Development (Detailed Application) will be slight.

Driver Delay

1.13.4 Driver delay can be caused by parked or turning vehicles at access points and, more likely for the Proposed Development (Detailed Application), will occur from congestion on the local road

network. Based on the results of the TA showing a reduction in road traffic the effects are predicted to be insignificant or even positive.

Pedestrian Delay

- 1.13.5 Pedestrian delay is caused while waiting to cross a road safely in the gaps between travelling vehicles. It is already established that traffic flow will decrease and considering the potential effects on severance from the Proposed Development (Detailed Application), pedestrian delay will be insignificant.

Pedestrian Amenity, Fear and Intimidation

- 1.13.6 Effects on pedestrian amenity, fear and intimidation result from a combination of how heavy the flow of traffic is, the kind of traffic on the road and the feeling of safety -or lack of- from the width of the pedestrian walkway and its separation from the traffic on the road. An accepted level of change comes when traffic flow, especially HGV traffic is doubled or if the pedestrian walkway is narrow offering little protection or buffer from traffic. Again, since the Proposed Development (Detailed Application) expects a decrease in traffic flows the effect on pedestrian amenity, fear and intimidation will be insignificant.

Accidents and Road Safety

- 1.13.7 Since 2015 records show relatively few accidents of any severity on the local road network and that there is no pattern to the accidents that have occurred. This suggests that there are no historical road safety issues on the road network around the Proposed Development (Detailed Application) and that its effect will be insignificant.

Additional Mitigation

- 1.13.8 No additional mitigation is required for the Proposed Development (Detailed Application).

Residual Effects

- 1.13.9 Due to the reduction in office use there will be a beneficial effect on the local transport network during the operational phase.

Masterplan Site

Potential Effects

- 1.13.10 The Proposed Development (PPiP Masterplan) will encourage active travel within the Site and seek to reduce external travel through the provision of services and amenities as part of the campus. The Proposed Development (PPiP Masterplan) will be accessed via existing arrangements at Craigforth roundabout and internal roads will support public transport bus routes.

Traffic Impacts

- 1.13.11 The Proposed Development (PPiP Masterplan) is scheduled to reach its full operational phase by 2026 so an agreed forecast based on existing data is projected to create a 2026 baseline. This 2026 baseline can then be compared to a 2026 traffic flow assessment resulting from Proposed Development (PPiP Masterplan). The assessment shows an increase in traffic flow on the local transport network. The increase is forecast to be between 2% and 27% which is considered to be insignificant. The HGV component of increased traffic will be 5% and have an insignificant adverse effect on the local traffic network.

Severance

- 1.13.12 The majority of expected pedestrian activity will remain within the Site with only minimal activity near the new entrance to the North Site on the A84 and almost no activity on the rest of the external road network. It is more likely that cyclists will have greater activity on the local road

network and the Proposed Development (PPiP Masterplan) will link with existing and planned cycle routes to the south and east giving cycling access into Stirling. Therefore, the effects on traffic and transport from the Proposed Development (PPiP Masterplan) are expected to be insignificant.

Driver Delay

- 1.13.13 Junction 10 on the M9 has been assessed in the TA and, at this stage, the effects of Proposed Development (PPiP Masterplan) are predicted to be insignificant. This should be reassessed at the time of detailed application stage of the Proposed Development (PPiP Masterplan) and be considered throughout the design process.

Pedestrian Delay

- 1.13.14 Although the Proposed Development (PPiP Masterplan) expects an increase in traffic, pedestrian activity on external road networks has already been established as minimal. The internal transport network is inherently designed to be pedestrian friendly so the effects on pedestrian delay will be insignificant.

Pedestrian Amenity, Fear and Intimidation

- 1.13.15 The Proposed Development (PPiP Masterplan) is expected to result in less than a 30% increase in traffic flow so pedestrian amenity, fear and intimidation effects are predicted to be insignificant.

Accidents and Road Safety

- 1.13.16 With relatively few accidents of any severity recorded on the local transport network since 2015 and that no pattern has emerged, it can be accepted that there are no historical road safety issues on the local transport network and that the Proposed Development (PPiP Masterplan) will have an insignificant effect on accidents and road safety.

Additional Mitigation

- 1.13.1 It is expected that no additional mitigation is required to support the Proposed Development (PPiP Masterplan). If required, mitigation design will be addressed at the detailed application stage.

Residual Effects

- 1.13.2 The Proposed Development (PPiP Masterplan) is anticipated to result in traffic and transport effects that are insignificant. If any mitigation is required at the detailed application stage, it is expected that the effects will not change and remain insignificant.

14 Noise and Vibration

Introduction

- 14.1.1 Noise from the existing environment has the potential to disturb residents and users of the Proposed Development. Likewise, noise from the Proposed Development has the potential to have adverse effects on noise sensitive receptors in the surrounding environment. Noise from transport, particularly from the M9; and noise from future commercial activities centred around the retail and leisure amenities on the central area of the Site have the potential for adverse effects on the health and amenity of future users and residents of the Proposed Development. A baseline of existing ambient noise has informed predictions and assessment of likely effects on future users and residents of the Proposed Development. It is accepted that the Proposed Development will generate additional traffic on nearby roads. The predicted increase of less than 20% is below the threshold that would require specific assessment of offsite sensitive receptors, therefore offsite sensitive receptors have not been included in this assessment.

North Site

- 1.14.1 The noise and vibration assessment for Proposed Development (Detailed Application) has been conducted as part of the Site-wide assessment and findings are detailed below in the Masterplan section.

Masterplan Site

Potential Effects

- 1.14.2 The main sources of noise are from the M9 motorway and the A84 which have the potential for adverse effects on the health and amenity of future residents of the Proposed Development. Daytime and night-time noise modelling takes account of topographic screening and new buildings and shows that a significant portion of the south area will have night-time ambient noise levels above those recommended by the World Health Organisation (WHO) for outside areas of residential receptors. Outside daytime noise levels are compliant with WHO recommendations across most of the Site with the exception of the apartments to the north of the Crag. Noise from commercial and retail activity will have a risk of adverse effects on nearby apartments. Inherent mitigation including the use of good quality double glazing and acoustic trickle vents on sensitive receptors will largely avoid these potential adverse effects.

Additional Mitigation

- 1.14.3 Acoustic insulation will be required for dwellings most at risk from road traffic noise and closed windows with trickle vents used for exposed elevations. The orientation of gardens to the noise shadow side of the building will help prevent excessive daytime outdoor noise. The nursery should be carefully designed and located so that outdoor play and learning areas are suitably protected from daytime road traffic noise. All permanent fixed plant, including residential heating systems and commercial activities, should have appropriate acoustic characteristics to avoid unnecessary running noise. Prior to the detailed design stage of the south area residential development, a further noise study should be carried out to identify noise risk from the retail and leisure operational phase and, where necessary, include buffer zones as part of the design.

Construction Noise

- 1.14.4 During the demolition and construction phases the contractors will provide a method statement that outlines the measures adopted to minimise noise. This should include using the quietest machinery available for all site activities and scheduling the work program to avoid several noisy activities having a cumulative adverse effect. All plant that generates noise should, wherever practical, be screened or contained within acoustic enclosures and where plant is required for night-time activity, such as pumps and lighting, it should be powered from the electrical mains.

Residual Effects

- 1.14.5 With consideration to inherent mitigation and following the additional mitigation measures it is predicted that residential properties will experience slight adverse effects from traffic noise. There is limited potential for commercial and retail noise to affect the nearest residential apartments. The potential effects will be considered at detailed design to protect residential amenity and should include a further assessment of ambient noise following protocol agreed with Stirling Council.

15 Air Quality

Introduction

- 1.15.1 Activities on the Proposed Development will create additional traffic on the local road network. This traffic has the potential to increase air pollution which can have an adverse effect on human

health as toxic gases and microscopic particles are inhaled into the lungs. The main pollutants from road traffic that pose a risk to human health are the long-term exposure to nitrogen dioxide (NO₂) and airborne particles (PM₁₀ and PM_{2.5}). To assess the air quality impact of the Proposed Development, a Transport Assessment (TA) has been carried out to establish current traffic flows and model the predicted increased traffic flow as a result of Proposed Development. This TA studies 24 hour traffic flow at 12 locations across the study area. The air quality chapter considers the potential adverse effects on air quality from road traffic. It is acknowledged that there are potential adverse effects on air quality from dust during the demolition and construction phases. These effects will be temporary in nature and have not been quantified in the air quality chapter.

North Site

- 1.15.2 The air quality assessment for the Proposed Development (Detailed Application) has been conducted as part of the Site-wide assessment and findings are detailed below in the Masterplan section.

Masterplan Site

Potential Effects

- 1.15.3 Two scenarios have been used to compare air quality effects: the baseline study and the full Proposed Development during the operational phase. Modelling shows that the highest levels of air pollutants are at the River House Restaurant which is located to the north of the A84 roundabout access to castle Business Park. The predicted increase in NO₂ levels at this location as a result of increased traffic is 2%. This increase is assessed as negligible significance and complies with the statutory UK annual mean limit value at all sensitive receptors across the study area. With regard to particles, this same location is shown to have the highest concentrations and the modelled increase is 1%. A 1% increase in particles across the study area is assessed as being a negligible effect.

Additional Mitigation

- 1.15.4 No additional mitigation is required for air quality effects arising from increased road traffic from the Proposed Development (PPiP Masterplan). Air quality residual effects are of negligible significance.
- 1.15.5 Mitigation of dust arising from demolition and construction activities are detailed in the Air Quality Appendix 15.2. A Dust Management Plan will be drafted and Stirling Council's Environmental Health Officer will be formally advised of proposed working practices. A 'hotline' will be established between the public and the site manager for the notification of dust pollution issues and dust mitigation strategies will be reviewed monthly.

16 Socio-Economics

Introduction

- 1.16.1 The Socio-Economic Impacts chapter assesses the effects that Proposed Development could have on the existing population during its construction and operational phases. The assessment has been made following consultation with Stirling Council and using the following guidance:
- Scottish Planning Policy, 2014 (SPP);
 - Scotland's National Planning Framework 3, 2014 (NPF3);
 - Draft Advice on Net Economic Benefit and Planning, 2016 (Draft NEBP);
 - Tourism Development Framework for Scotland 2016-2020, 2016;
 - The Stirling Local Development Plan, 2018 (LDP);
 - Draft Supplementary Guidance – Developer Contributions, 2019 (Draft SGDC);

- Stirling's Economic Strategy, 2014 (ECS);
- Stirling's Education Improvement Plan 2019-2020, 2019;
- NHS Forth Valley Healthcare Strategy 2016 – 2021, 2016;
- Stirling's Open Space Strategy, 2012;
- The Tourism Strategy for Stirling, 2014; and,
- Stirling's Housing Strategy, 2012.

North Site

Construction Effects

- 1.16.2 The construction phase of the Proposed Development (Detailed Application) will result in a net gain of 70 jobs for the residents of the Stirling area over a two year construction period. This will result in a short term minor beneficial effect.

Operational Phase

- 1.16.3 The operational phase of the Proposed Development (Detailed Application) will result in a net gain of 1,340 jobs for residents in Stirling. This will result in a long term moderate beneficial effect.

Gross Value Added

The Proposed Development (Detailed Application) is predicted to add £65 million per annum to the local economy. This will result in a long term moderate beneficial effect.

Masterplan Site

Construction Effects

- 1.16.4 The construction phase of the Proposed Development (PPiP Masterplan)) will result in a net gain of 290 jobs for the residents of the Stirling area for the duration of the construction period. This will result in a short term minor beneficial effect.

Operational Phase

- 1.16.5 The operational phase of the Proposed Development (PPiP Masterplan) is expected to have a net decrease of 96 jobs. This is due to the reduction in office based jobs from 2,180 to 1,600 but the reduction will be significantly mitigated through job creation in retail and leisure employment opportunities. This will result in a long term minor adverse effect.

Gross Value Added

- 1.16.6 The reduced employment rate in the Proposed Development (PPiP Masterplan) will result in a reduction in GVA to the local economy estimated to be around £19 million per annum. This loss would be significantly more if the Proposed Development (PPiP Masterplan) was not developed. It is assessed that this will result in a long term moderate adverse effect.

Population

- 1.16.7 The Proposed Development (PPiP Masterplan) will increase the local population which is expected to generate £1.8 million of retail and food and beverage expenditure per annum. This is assessed as a moderate beneficial effect.

GP Services

- 1.16.8 The additional population created by the Proposed Development (PPiP Masterplan) is expected to be absorbed by the existing GP network without additional resource. This is assessed as being a long term negligible effect.

Education

- 1.16.9 The existing primary school capacity within the survey area has significant spare capacity and is capable of absorbing the estimated 120 places required for the Proposed Development (PPiP Masterplan). This is assessed as a negligible long term effect. The existing secondary school network in the survey area has an additional 533 place capacity, it is estimated that the Proposed Development (PPiP Masterplan) will require approximately 50 places. This will result

in a long term negligible effect.

Open Green and Play Space

1.16.10 The Proposed Development (PPiP Masterplan) will provide additional open green and play spaces to the survey area which will result in a long term moderate beneficial effect.

Tourism

1.16.11 The Proposed Development (PPiP Masterplan) is expected to contribute significantly to the tourism sector in Stirling through the provision of tourist accommodation. This increase is expected to be around £5.5 million per annum. This will result in a long term minor beneficial effect.

17 Human Health

Introduction

1.17.1 The Human Health chapter is a standalone collection of information gathered from technical chapters within the EIAR such as air quality; noise and vibration; traffic and transport; and sustainability. It also draws conclusions on the landscaping and design elements of the Proposed Development and seeks to assess the likely significant impacts on the health and wellbeing on the community as a result of the Proposed Development. It is not practical to attribute effects from the North Site and the Masterplan Site separately, so the Site is taken as a whole for the purpose of this assessment. Guiding this chapter is Scottish Planning Policy and the Stirling Local Development Plan 2018 Vision along with a consultation response from Stirling Council.

Proposed Development Assessment

- 1.17.2 Road traffic has the potential to have adverse effects on air quality which directly contribute to human health. The primary risks of road traffic on air quality are from toxic gases such as NO₂ and microscopic particles such as PM₁₀ and PM_{2.5} that can be inhaled into the lungs. The increase in NO₂ arising from the Proposed Development has been predicted to remain below acceptable limits in the UK. The increase in PM₁₀ and PM_{2.5} will be negligible as a result of the Proposed Development.
- 1.17.3 Noise can have adverse effects on health and wellbeing, The M9 and A84 are considered to be the primary sources of noise that affects the Potential Development so the Site has been zoned and designed in a way that appropriate mitigation can be applied to counteract the adverse effects of noise. Additional tree planting and retaining the existing mature tree coverage will encourage biodiversity and act to buffer noise from the M9 for residential properties on the southern sub-area.
- 1.17.4 Parking on the Proposed Development (Detailed Application) will reduce and active travel will be encouraged with routes provided across the Site and interlinking the Proposed Development (PPiP Masterplan) and Proposed Development (Detailed Application). The Site will be accessible by foot, cycle and public transport and active travel measures such as cycling or walking have obvious benefits to the health and wellbeing of the Craigforth community.
- 1.17.5 A new access for the North Site will reduce traffic congestion and transport routes throughout the Proposed Development (Detailed Application) and Proposed Development (PPiP Masterplan) have been designed to minimise interaction with vehicles and pedestrians to make a safer environment with reduced accidents.
- 1.17.6 The Energy Strategy proposes measures to reduce carbon dioxide emissions on the Proposed Development (Detailed Application) and although it is not considered viable for district heating,

a district heating network has been considered possible on the central and southern sub-areas of the Proposed Development (PPiP Masterplan).

- 1.17.7 Landscaping and open public spaces will be enhanced throughout the site with a broad mixture of active and passive outdoor space. Greater use will be made of the Site's natural assets such as the Crag, ancient woodland and riverside. Outdoor space will be available for quiet reflection, sporting activities and socialising and the encouragement to use these spaces will extend to campus users, residents and the public alike. This all contributes significantly to the health and wellbeing of community.
- 1.17.8 The Proposed Development (Detailed Application) has been designed to capture natural light and benefit from the open natural outlook which will enhance the working environment. Space has been included within the design of the Proposed Development (Detailed Application) for the purpose of health and wellbeing of occupants, staff and visitors which will support wellness and productivity. Designated cycle parking areas and showers will be provided to facilitate active travel.
- 1.17.9 The Proposed Development (PPiP Masterplan) includes accommodation for a broad cross section of society including a care home, retirement apartments, sheltered housing, traditional housing and affordable housing. This will make Craigforth and its enhanced campus lifestyle a destination that is accessible for all demographics.

18 Sustainability and Climate Change

- 1.18.1 The social, political and economic drivers to combat climate change are without doubt, key objectives for sustainable development. Sustainability is not simply about building standards and renewable energy, although they are important factors, but should be taken as an overarching principle for all development processes and guide how development interacts with the community and environment throughout the lifecycle of that development. National and local policy outlines the targets and requirements to tackle global warming and reduce greenhouse gas emissions and the adopted Stirling Local Development Plan 2018 (LDP) is the primary document that links national policy aims and Stirling Council's own objectives. Within the LDP, Stirling Council has described eleven Sustainable Development Criteria which have been addressed in the chapters throughout this EIAR, demonstrating commitment and compliance to these principles in the delivery of the Proposed Development.
- 1.18.2 The LDP Sustainable Development Criteria are listed below:
- Improvement of the overall quality of the built environment;
 - Contribution to reduction in greenhouse gas emissions, in line with or better than national targets, and encouragement of energy and heat efficiency, and the use of low and zero carbon power generation;
 - Reduction of the need to travel and reliance on the private car by encouraging active travel and other more sustainable travel and transport opportunities;
 - Support of Zero Waste objectives, and minimising life-cycle resource requirements;
 - Avoiding areas at risk of flooding and erosion;
 - Protection and enhancement of historic and cultural environments, and the natural environment (including biodiversity and landscape), and responsible access to such environments;
 - Minimising adverse impacts on water, air and soil quality;
 - Supporting healthy and safer lifestyles, by improving access to amenities, promoting access to open space and other recreation opportunities and by addressing environmental problems;

- Involving re-use and/or regeneration of previously used land and property, including derelict and contaminated land, and the re-cycling of construction materials;
 - Making efficient use of existing and new infrastructure; and
 - Creating net economic benefit for the area.
- 1.18.3 The Proposed Development (Detailed Application) and Proposed Development (PPiP Masterplan) have both been designed to successfully reconcile sustainability and commercial viability whilst at the same time delivering on the ambitions of the Applicant and of Stirling Council. The Craigforth campus will be a destination that retains a major regional employer in new, energy efficient accommodation set in an enhanced environment on the North Site; a vibrant mix of businesses in the leisure, retail and hospitality sectors that service the campus, the wider Stirling community and visitors which aims to implement the principles of a circular economy where possible on the central site; and establish a community that represents a broad cross section of society who live in a modern, high quality, energy efficient and high amenity residential area. Details of the sustainability measures and climate change mitigation will be discussed at the detailed application stage of the elements that make up the Masterplan.
- 1.18.4 The inherent mitigation of the Proposed Development design and the additional mitigation measures outlined in each of the chapters of this EIAR describes how each of the LDP Sustainable Development Criteria is satisfied.
- 1.18.5 In support of the application, an Energy & Sustainability Statement specifically addresses sustainability and climate change for the Proposed Development (Detailed Application) and an Energy Statement outlines an energy strategy for the Proposed Development (PPiP Masterplan). Both documents can be found in the Sustainability and Climate Change chapter appendix.

19 Cumulative Impacts

Introduction

- 1.19.1 An assessment has been made of the cumulative effects of the Proposed Development and other nearby existing and proposed developments ('cumulative developments'). The effects can be both direct and indirect. Consultation with Stirling Council has established that the cumulative developments to be considered within the Cumulative Impacts chapter are:
- Stirling Agricultural Centre;
 - Dobbies Garden Centre; and
 - Kildean business Park.

North Site

- 1.19.2 The Proposed Development (Detailed Application) will have potential effects on the environment with consideration to cumulative impacts on each of the technical chapters covered in the EIAR.

Landscape and Visual Amenity

Construction Phase

- 1.19.3 In the absence of knowledge on works schedules for cumulative developments, it is possible that construction works for the Proposed Development (Detailed Application) will coincide with the cumulative developments' construction works. However, the Proposed Development (Detailed Application) lies 400m or more from cumulative developments with no direct line of sight due to mature tree screening. Furthermore, the type of construction works will be similar so limiting the effects of change to minor adverse effects, not significant in EIA terms. The visual

amenity as a result of cumulative impact is largely protected from substantial mature tree belts and roadside hedges along the A84 and will result in negligible or minor adverse effects. The exception to this is at the entrance to the Proposed Development (Detailed Application) on the A84 where some trees are likely to be required to be removed, resulting in a moderate-major effect.

Operational Phase

- 1.19.4 The Proposed Development (Detailed Application) and cumulative developments all lie within the Landscape Character Type (LCT) 0: Peripheral Residential and Commercial so the landscape has the capacity for the Proposed Development (Detailed Application) and cumulative developments, although extending development further into this LCT. The Proposed Development (Detailed Application) is also similar in scale to existing development. At year one it is expected that minor-moderate adverse effects will be experienced and that this will reduce to direct and indirect minor adverse effects at year 10 once additional mitigation matures. This is assessed as not significant. The visual amenity receptors along the A84 will generally experience minor effects with the exception of the entrance and road frontage of the Proposed Development (Detailed Application) on the North Site which will be a moderate adverse effect. At year 10 once tree screening has matured to soften the edges of development, the adverse effects will generally reduce to minor, which is not significant.

Cultural Heritage

- 1.19.5 It is possible that Proposed Development (Detailed Application) could have cumulative effects on cultural heritage. Based on the heritage assets identified within the Outer Study Area of the Cultural Heritage and Archaeology chapter, it has been assessed that the following heritage assets would experience effects:

- Stirling Castle will experience effects that are of minor significance: not significant in EIA terms.
- Drip Old Bridge over the River Forth will experience effects that are of minor significance: not significant in EIA terms.
- Drip Bridge Conservation Area will experience effects that are of minor significance: not significant in EIA terms.
- The Wallace Monument will experience effects that are of minor significance: not significant in EIA terms.

Biodiversity

- 1.19.6 There will be no adverse effects of cumulative impact on biodiversity.

Flood Risk

- 1.19.7 Following additional mitigation, the flood risk of the Proposed Development (Detailed Application) during the construction and operational phases has been assessed as negligible. All other schemes must also demonstrate similar flood risk mitigation and for this reason the cumulative impact of Proposed Development (Detailed Application) on flood risk will remain negligible.

Drainage and Hydrology

- 1.19.8 The new trailer centre and Kildean Business Park both have construction phases scheduled and both have the potential to adversely affect drainage and hydrology. However, both schemes will be subject to strict environmental mitigation in a similar manner to the Proposed Development (Detailed Application) so the cumulative impact on drainage and hydrology during the construction phase will be negligible. The Water Environment and Water Services (Scotland) Act 2003 required all development to incorporate SUDS. As such, all existing development will have suitable mitigation in place and the Proposed Development (Detailed Application) will have similar additional mitigation. The cumulative impact during the operational phase of the Proposed Development (Detailed Application) on drainage and hydrology will be

negligible.

Ground Conditions

1.19.9 There will be no adverse effects of cumulative impact on ground conditions.

Traffic and Transport

1.19.10 The Proposed Development (Detailed Application) will have insignificant effects on all elements considered in the traffic and transport assessment with the exception of traffic impacts which will experience positive effects. The cumulative impact effect of Proposed Development (Detailed Application) on traffic and transport is expected to be insignificant and remains positive on traffic impacts.

Noise and Vibration

1.19.11 The cumulative impact effect of Proposed Development (Detailed Application) on noise and vibration after additional mitigation is expected to be negligible or slightly adverse.

Air Quality

1.19.12 The cumulative impact effect of Proposed Development (Detailed Application) on air quality is expected to be negligible.

Socio Economics

1.19.13 The Proposed Development (Detailed Application) will retain employment and other nearby schemes will generate employment opportunities. However, the general rate of unemployment in the Stirling area is slightly higher than the national average so the cumulative impact effects of the Proposed Development (Detailed Application) are expected to be neutral over the longer term.

Health Impacts

1.19.14 There will be no adverse effects of cumulative impact on health.

Sustainability and Climate Change

1.19.15 There will be no adverse effects of cumulative impact on sustainability and climate change.

Masterplan Site

Landscape and Visual Amenity

Construction Phase

1.19.16 The Proposed Development (PPiP Masterplan) and cumulative developments all lie within the Landscape Character Type (LCT) 0: Peripheral Residential and Commercial. During the construction phase there will be demolition of existing buildings and new construction that would be of similar type to those in potential cumulative developments. The scheduling of works in cumulative developments is not known however, existing mature tree lines separating cumulative developments with the Proposed Development (PPiP Masterplan) will minimise effects to minor adverse, therefore not significant. With regards to visual amenity, there will be very limited views of construction of the Proposed Development (PPiP Masterplan) in combination with cumulative development and the cumulative impact is predicted to be negligible – minor. The exception to this will be receptors along the A84 who may experience moderate-major adverse effects due to any necessary clearing of roadside trees.

Operational Phase

1.19.17 The landscape character will experience change during the operational phase of the Proposed Development (PPiP Masterplan) when considered with cumulative developments. New building will take place on previous brownfield and vacant sites which will introduce a minor-moderate adverse effect at year one of the Proposed Development (PPiP Masterplan), however by year 10 as mitigating tree planting matures, the cumulative impact of Proposed Development (PPiP Masterplan) on the landscape character will be minor, therefore not significant. The visual amenity will largely experience minor adverse effects from the Proposed Development (PPiP Masterplan) on cumulative impact as there are limited views where both the Proposed

Development (PPiP Masterplan) and cumulative developments will be seen together. The exception to this is the frontage of the North Site experienced in a sequential view along the A84 where the cumulative impact is likely to be moderate adverse, which is significant. This will generally be reduced to minor or minor-moderate at the North Site frontage by year 10 when mature trees will soften the edges of the built environment and screen cumulative developments from each other. This will result in a cumulative impact from the Proposed Development (PPiP Masterplan) and cumulative developments that will be not significant.

Cultural Heritage

1.19.18 It is possible that Proposed Development (PPiP Masterplan) could have cumulative effects on cultural heritage. Based on the heritage assets identified within the Outer Study Area of the Cultural Heritage and Archaeology chapter, it has been assessed that the following heritage assets would experience effects:

- Stirling Castle will experience effects that are of minor significance: not significant in EIA terms.
- Drip Old Bridge over the River Forth will experience effects that are of minor significance: not significant in EIA terms.
- Drip Bridge Conservation Area will experience effects that are of minor significance: not significant in EIA terms.
- The Wallace Monument will experience effects that are of minor significance: not significant in EIA terms.

1.19.19 The Proposed Development (PPiP Masterplan) and other cumulative developments would result in no cumulative effects on Craigforth House and non-designated designed landscape, Stirling Royal Garden including King's Knot or Stirling Town and Royal Park Conservation Area and no cumulative effect on the settings of heritage assets in the Outer Study Area.

Biodiversity

1.19.20 The effects on biodiversity of Proposed Development (PPiP Masterplan) is predicted to be negligible. No cumulative impact effects are expected on biodiversity.

Flood Risk

1.19.21 Following additional mitigation, the flood risk of the Proposed Development (PPiP Masterplan) during the construction and operational phases has been assessed as negligible. All other schemes must also demonstrate similar flood risk mitigation and for this reason the cumulative impact of Proposed Development (PPiP Masterplan) on flood risk will remain negligible.

Drainage and Hydrology

1.19.22 The new trailer centre and Kildean Business Park both have construction phases scheduled and both have the potential to adversely affect drainage and hydrology. However, both schemes will be subject to strict environmental mitigation in a similar manner to the Proposed Development (PPiP Masterplan)) so the cumulative impact on drainage and hydrology during the construction phase will be negligible. The Water Environment and Water Services Act 2003 required all development to incorporate SUDS. As such, all existing development will have suitable mitigation in place and the Proposed Development (PPiP Masterplan) will have similar additional mitigation. The cumulative impact during the operational phase of the Proposed Development (PPiP Masterplan) on drainage and hydrology will be negligible.

Ground Conditions

1.19.23 There will be no adverse effects of cumulative impact on ground conditions.

Traffic and Transport

1.19.24 The Proposed Development (PPiP Masterplan) will have insignificant effects on all elements considered in the traffic and transport assessment and the cumulative impact effect of Proposed Development (PPiP Masterplan) is also expected to be insignificant.

Noise and Vibration

1.19.25 The cumulative impact effect of Proposed Development (PPiP Masterplan) on noise and vibration after additional mitigation is expected to be negligible or slightly adverse.

Air Quality

1.19.26 The cumulative impact effect of Proposed Development (PPiP Masterplan) on air quality is expected to be negligible.

Socio Economics

1.19.27 The Proposed Development (PPiP Masterplan) and cumulative development will both provide additional employment opportunities in the Stirling area which will help address the below national average employment rate in the area. It is anticipated that cumulative developments will create additional pressures on local social infrastructure and that financial contributions to council facilities, especially health care and education, will ease this pressure. The residential element of cumulative development is anticipated to be 202 units which modelling suggest an increase to the local population by 480 people. This cumulative development additional population combined with the Proposed Development (PPiP Masterplan) has the potential to have adverse effects on local social infrastructure in the following ways:

GP Services

1.19.28 It has been found that there is sufficient spare capacity in the local GP Services network so the cumulative impact of the Proposed Development (PPiP Masterplan) combined with other cumulative developments will have a neutral effect.

Primary Education

1.19.29 There is significant spare capacity of 810 places in primary education across the study area therefore the cumulative impact of the Proposed Development (PPiP Masterplan) and cumulative development will have a neutral effect.

Secondary Education

1.19.30 Similar to primary education, there is significant spare capacity of 530 places in secondary education across the study area and the cumulative effect of the Proposed Development (PPiP Masterplan) and cumulative development will be neutral.

Open and Play Spaces

1.19.31 The Proposed Development (PPiP Masterplan) will provide significant amounts of open and play spaces so the anticipated cumulative effects will be neutral.

Tourism

1.19.32 The Proposed Development (PPiP Masterplan) and cumulative developments are not related to tourism and will have a neutral effect on the tourism industry.

Health Impacts

1.19.33 There will be no adverse effects of cumulative impact on health.

Sustainability and Climate Change

1.19.34 There will be no adverse effects of cumulative impact on sustainability and climate change.

1.19.35 The Proposed Development (PPiP Masterplan) and other cumulative developments in the study area are predicted to have a neutral cumulative effect on socio-economics over the long-term.

20 Conclusion

1.20.1 This NTS reports on the findings of the EIAR which is the result of several months of survey, consultation, modelling and assessment with the purpose of establishing any potentially significant effects on the environment as a result of the Proposed Development.

1.20.2 Two planning applications will be submitted for Proposed Development: a detailed application

relating to the development of new office buildings on the North Site; and an application for planning Permission in Principle (PPiP) that relates to the full Masterplan Site boundary. The EIAR and this NTS are laid out to clearly show the potential effects of the North Site and the Masterplan Site.

- 1.20.3 The design evolution of the Proposed Development (Detailed Application) and the Proposed Development (PPiP Masterplan) considers the findings of assessments and where inherent mitigation is insufficient to protect the environment from adverse effects, additional mitigation measures are adopted as part of the iterative design process. A summary of mitigation is presented in full within Volume 1 of the EIAR, Chapter 20: Summary of Mitigation. Where appropriate, potential effects, additional mitigation and residual effects are described for the construction phase (including any demolition) and the operational phase within the EIAR.
- 1.20.4 The EIA process has established that there will be no significant adverse effects as a result of Proposed Development on either the North Site or the Masterplan Site. Additional mitigation will serve to protect the water environment, habitats and the setting of important heritage assets. The character of the landscape and the views that are enjoyed by locals and visitors to the area alike will be preserved and the iconic, tree covered Crag sitting at the centre of the Site will remain unchanged.
- 1.20.5 The Proposed Development (Detailed Application) will provide a modern, sustainable HQ office suite with enhanced landscaping and active travel measures to promote the retention a major employer in the Stirling area. The Proposed Development (PPiP Masterplan) will provide a mixed use campus of retail, leisure, hospitality and accommodation on the central sub-area and a multi-generational residential community on the southern sub-area. The EIAR has identified that both of these Proposed Developments will allow a similar level of employment to that currently existing to be maintained across The Craigforth Campus. In combination, the range and type of proposed uses will provide a significant contribution to the economy of Stirling and the wider area than would otherwise be the case if the Proposed Developments were not to proceed.