Cardiff Parkway Developments Ltd

CARDIFF HENDRE LAKES

Non Technical Summary
August 2020

LLYNNOEDD HENDRE CAERDYDD
CARDIFF HENDRE LAKES
Gwasanaethir gan Parcffordd Caerdydd
Served by Cardiff Parkway

ARUP

Contents

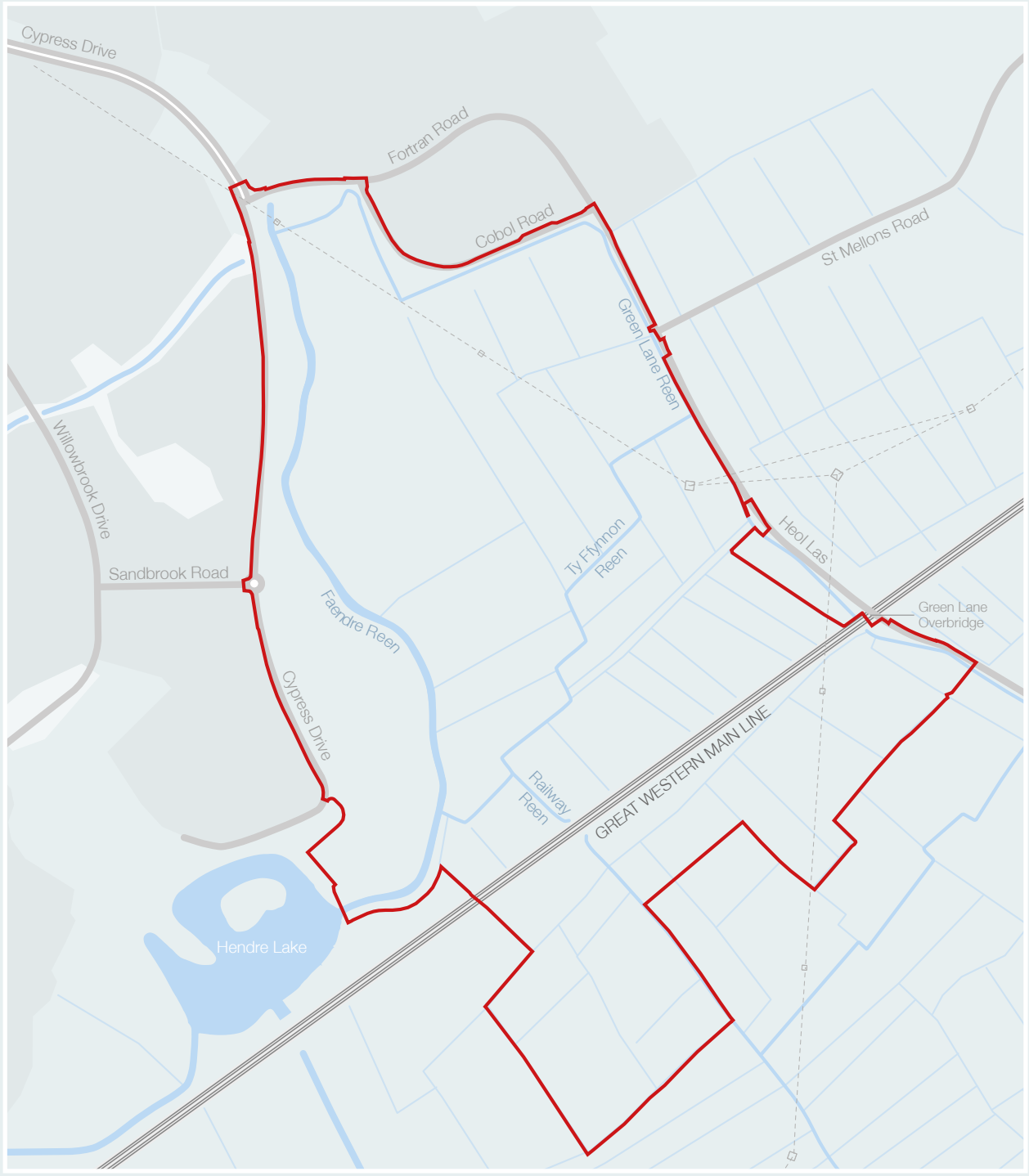


Figure 1: Site boundary

1 What is Hendre Lakes?

Hendre Lakes is a proposed development south west of St Mellons, Cardiff, which includes an employment business park (forecast to bring up to 6,000 new jobs to the area), a new railway station, integrated transport facilities and car parking. The site boundary is shown in Figure 1.

Hendre Lakes lies between Cardiff and Newport and within the Gwent Levels, comprising undeveloped farmland reclaimed from the sea during the Roman period, as shown in Figure 2. The site contains a reen system, formed of artificial drainage channels, historically used to drain the land in the surrounding Gwent Levels. The South Wales Main Line (railway) bisects the site.

The site is allocated for employment development in the Cardiff Local Development Plan. The plan establishes the principles of development in this location. An outline planning application is now being made to Cardiff Council by Cardiff Parkway Developments Ltd (CPDL). If approved, full design details would be prepared and be subject to a further application and approvals process. Proposals include three accesses with Heol Las on the eastern boundary, which will be subject to individual planning applications to Newport City Council.

The Environmental Statement (ES) accompanies the Cardiff and Newport planning applications. It describes the environmental effects of the proposed development, assessed in accordance with the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017.

This document is the Non-Technical Summary (NTS) of the ES, providing an overview of proposals, summarising the assessment outcomes and identifying appropriate mitigation.

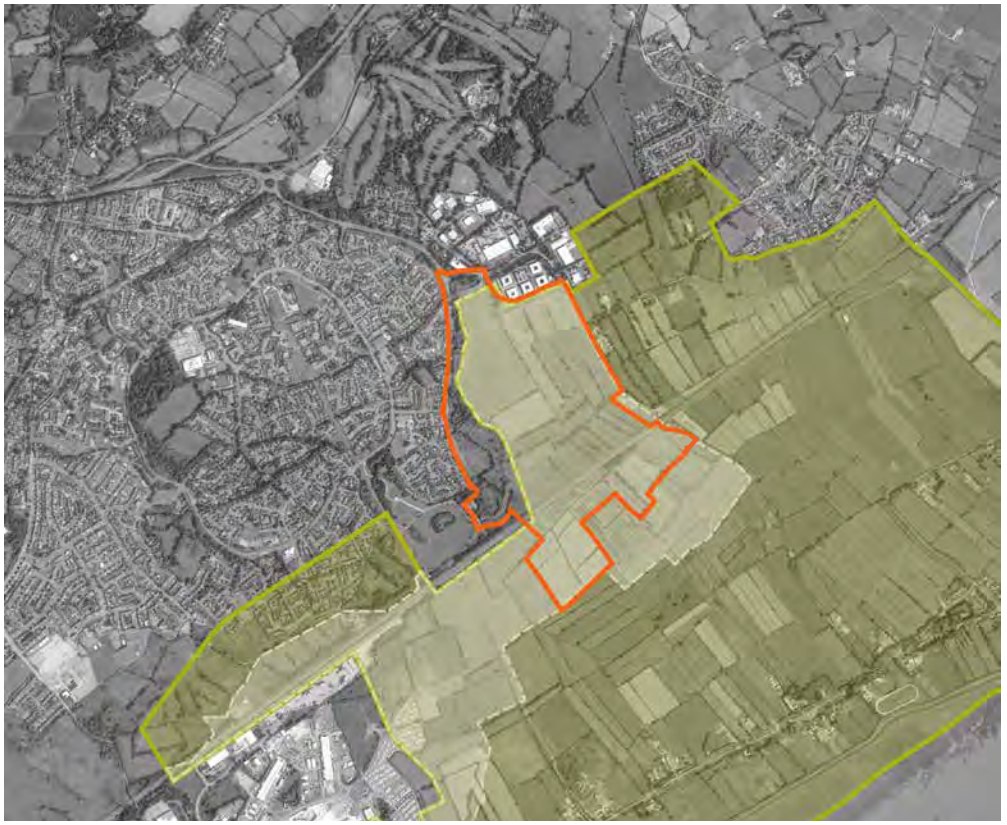
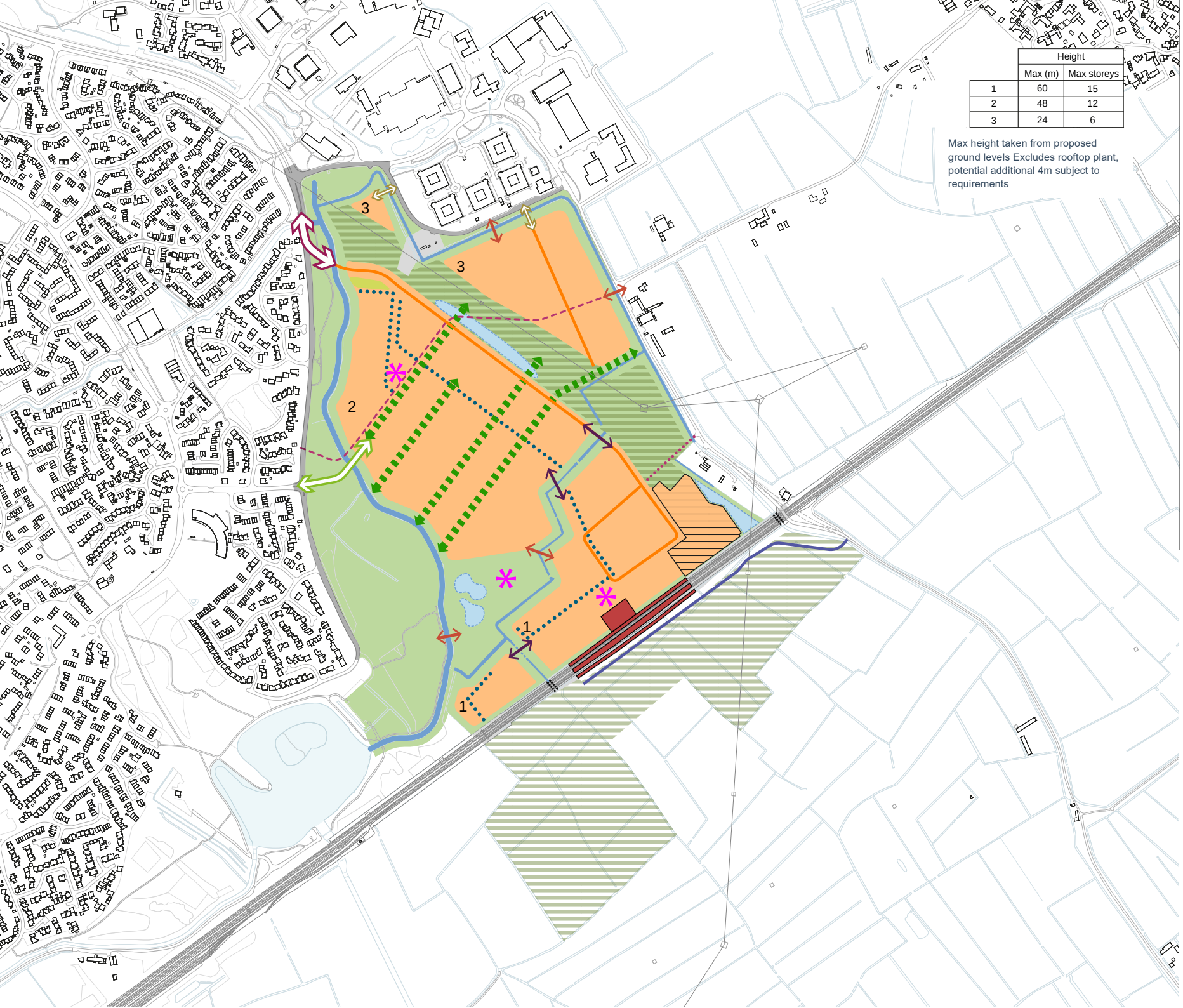


Figure 2: Site boundary in the context of the Gwent Levels



	Height	
	Max (m)	Max storeys
1	60	15
2	48	12
3	24	6

Max height taken from proposed ground levels Excludes rooftop plant, potential additional 4m subject to requirements

Legend

- Planning application boundary (to be agreed)
- Retained reen
- Culverted reen
- Primary site access point
- Secondary site access point
- Vehicle access point
- Pedestrian crossing
- Vehicular crossing
- Main vehicular route
- Construction and emergency vehicular access
- Station building and platforms
- Surface parking for station
- Mitigation area for habitat north of rail line
- Ecological mitigation, access and agriculture
- Strategic green infrastructure and access*
- On-plot green connections (integrated SUDs)
- Strategic water feature*
- Dry ponds*
- Hendre Lake
- Location of existing primary reen culvert
- Proposed and enhanced diverted right of way
- Potential active travel link to Heol Las
- Development areas
- Key public spaces
- Plots
- Land in other uses (gas pumping station/ railway)
- Existing highway

* All water features, dry ponds, structural landscaping, green connections, access roads and corridors, parking areas and plots will incorporate SuDS features throughout

Figure 3: Illustrative Plan

2 What is being proposed?

The proposed Hendre Lakes development covers a total area of approximately 80 hectares and includes a number of distinct components which are described in this section and represented on the illustrative plan in Figure 3. This plan summarises the key proposals for Hendre Lakes which form the basis of the planning application, including:

- The planning application boundary;
- The proposed extent of development and arrangement into three development areas, focussed around the station, the centre of the site and the north-east corner.
- Access points for vehicles and active modes such as pedestrians and cyclists.
- The areas proposed for ecological mitigation, including enhancement of existing habitat.

Hendre Lakes development areas

Employment: Employment floorspace up to a total of 90,000m^2 across the site

Railway station: The railway station building would be up to 2,500m^2 and proposals are for four platforms. The station would be situated on the existing South Wales Main Line

Transport interchange: A drop-off/pick-up area, cycle parking, taxi rank, bus stops and parking for persons of reduced mobility would all be within 100m of the railway station connected via a high-quality open public space. A 650 space Park & Ride car park is also provided within all spaces within a two to four-minute walk of the station.

Car parking: In addition to the station, parking would be provided for offices and other businesses based on the site. This would be provided adjacent to the buildings and in shared parking areas. The number of spaces provided would be based on Cardiff Council parking standards

Building densities and heights

Building heights would be zoned and would be greater around the proposed railway station and transport interchange.

Lower building densities and heights in the north of the site would be in keeping with the surrounding residential areas. Details of building densities would be determined and approved at a later stage.

Figure 4 shows the maximum possible height of any individual building:

- Station zone: up to 15 storeys (60m)
- Main area: up to 12 storeys (48m)
- Northern parcels: up to 6 storeys (24m)

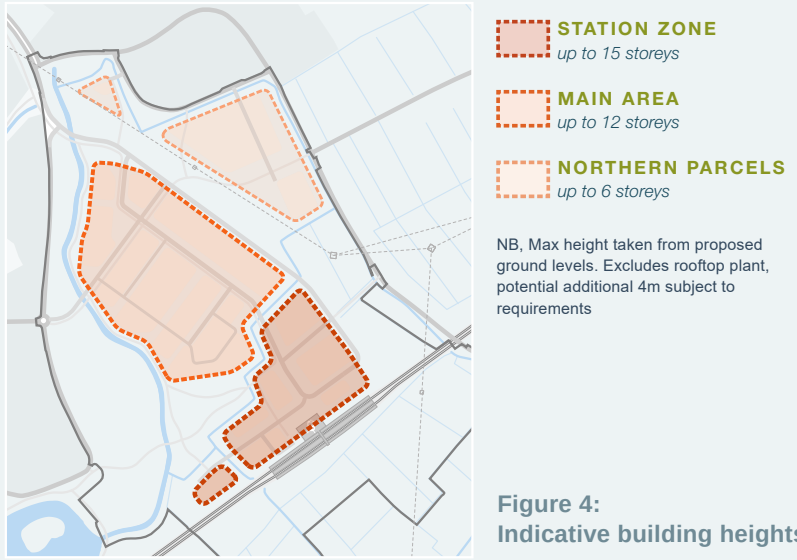


Figure 4:
Indicative building heights

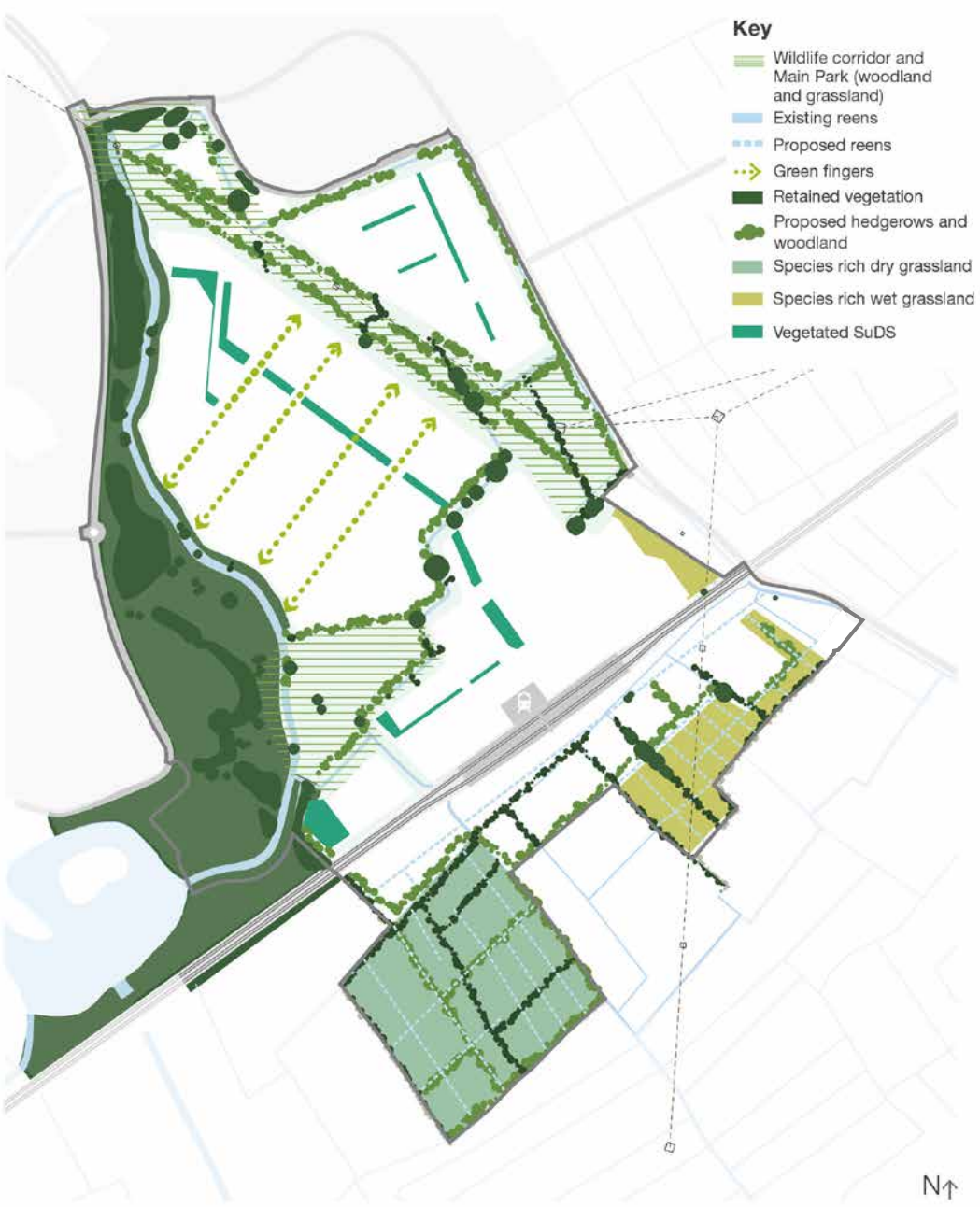


Figure 5 : Biodiversity strategy

Ecology

The site is currently farmland and contains a network of reens and hedgerows. The hedges and secondary reens are managed by landowners while Natural Resources Wales is responsible for the primary reens. Water levels within the primary and secondary reens are managed through penning. The hedges and reens are home to a wide range of species, with the fields themselves being of relatively low biodiversity value.

The ecological approach for the Hendre Lakes development is to retain as much habitat as possible and work towards an overall increase in biodiversity. New habitat would be created, and existing habitat enhanced for protected and notable species. Ecologically designed areas of particular importance for biodiversity are shown in Figure 5. The key components of the approach are detailed below:

- The 'Wildlife Corridor', running north west to south east, comprising a line of double hedgerows, enclosed by a swathe of wet woodland along one edge, and hazel-dominated woodland and a scrub / species-rich grassland mosaic along the other edge;
- A 12.5m wildlife buffer on either side of Ty Ffynon Reen, running north east to south west through the site, comprising 1-2m verges of vegetation suitable for water vole foraging on the reen banks, alongside a hedgerow set back from the reen (to avoid shading), providing further connectivity across the site for dormice;
- A 12.5m wildlife buffer on the development side of Hendre Reen to the west and Green Lane Reen to the north and east;
- The introduction of 3.72km of new secondary reens and ditches to the south of the railway to replace those secondary reens and ditches that will be lost to create development;
- The introduction of 4.2km of new species-rich intact hedgerows, planted strategically throughout the proposed development to maintain connectivity for dormice and foraging / commuting bats;
- The introduction of woodland strip planting in the south, which when combined with the new woodland planting within the Wildlife Corridor, totals approximately 2.6ha (of 1.8ha dry woodland and 0.8ha wet woodland);
- The introduction of 3.2ha of new species-rich wet grassland and 8.9ha of new species-rich dry grassland; and
- The Main Park will be designed to create a mosaic of seasonally wet and dry grasslands and biodiverse native tree and hedgerow planting, including orchards.

Flood management

In adverse weather conditions the site is susceptible to flooding, therefore flood management measures have been integrated into the design. This includes the raising of areas where development is proposed by 1.0-2.0m. The application therefore creates a number of raised platforms for development which can accommodate a range of different building types that meet flood policy requirements.

To compensate for the removal of flood storage resulting from land raising, a flood storage area will be introduced south of the railway line with smaller secondary storage areas to the north. In these storage areas the ground would be lowered to provide additional water storage in the event of adverse weather.

New reens would also be introduced to the south of the site and Green Lane Reen would be widened by 3m to further manage the flood risk to the site. Structures such as sluices will be introduced to the reen system to control the movement of water in extreme weather events.

Access and movement

The proposed development provides vehicle and pedestrian access points on Cypress Drive, Cobol Road and Heol Las providing easy connection to the areas surrounding the site (as shown in Figure 6). Three street typologies have been created. The primary access road is designed to provide a direct route to the station car park and runs along the wildlife corridor. The secondary streets will have bus stops, cycle facilities and local accesses to buildings. The remaining streets will be low speed, lightly trafficked areas, benefiting pedestrians and cyclists moving into and through the site from the surrounding areas.

The main vehicle access would be from a new junction with Cypress Drive in the north-west of the site, down to the railway station and park and ride avoiding the central areas of development. A secondary vehicle access point would be from a junction with Cypress Drive / Sandbrook Road.

Three accesses with Heol Las in the east are proposed and these are subject to separate planning applications. The ES considers the effects of the project with and without the two active travel routes.

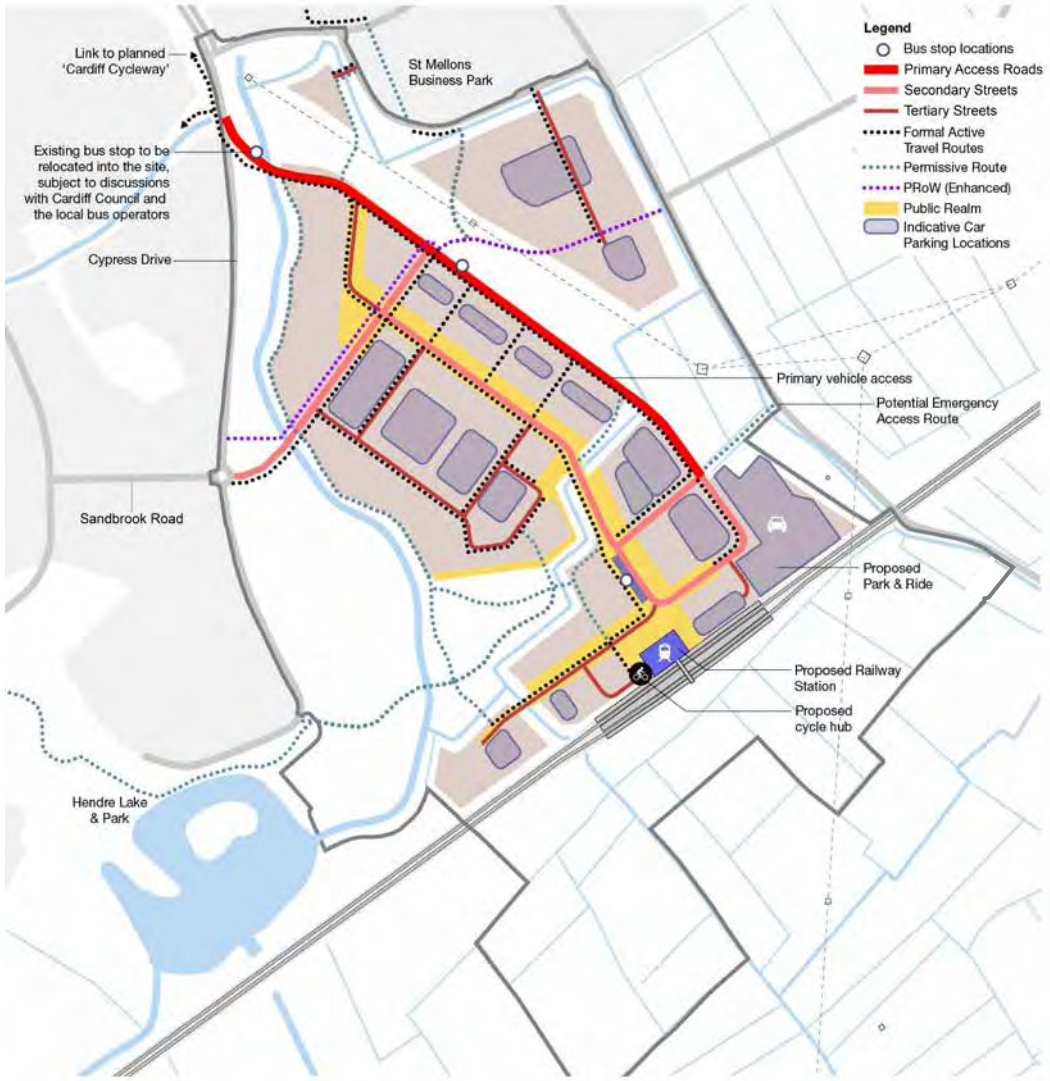


Figure 6 : Site access and movement

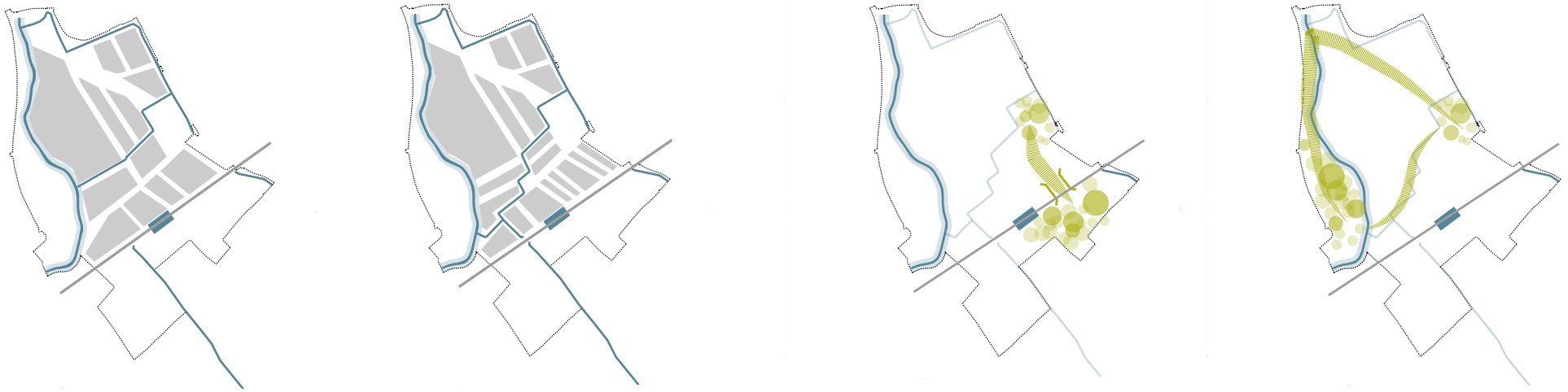


Figure 7: Design Evolution

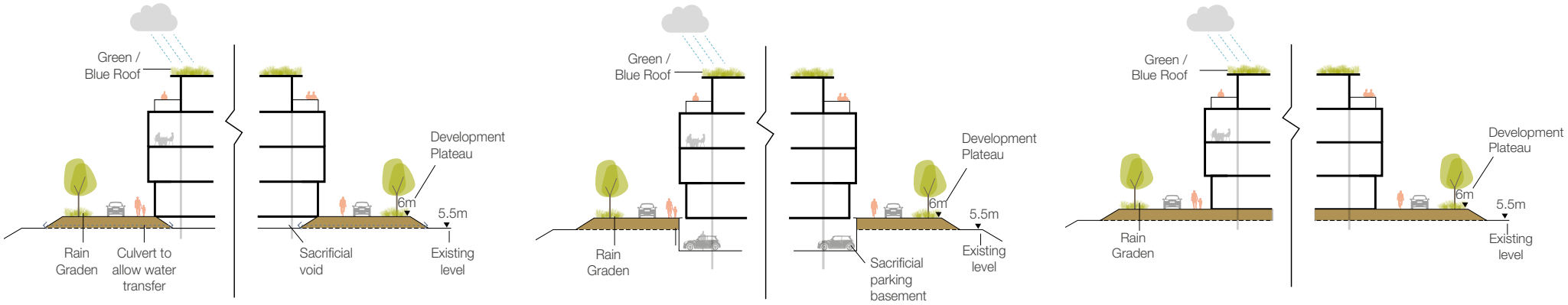
3 How have the plans evolved?

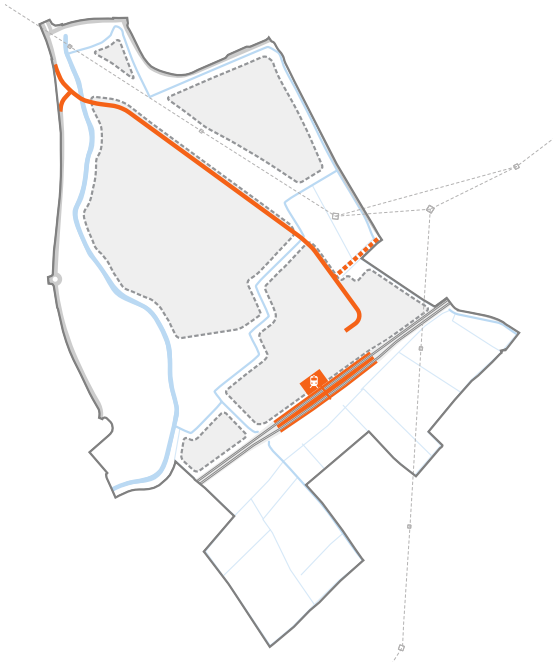
The concept for Hendre Lakes was behind the allocation of the site for a business park and transport interchange in the Cardiff Local Development Plan (LDP) 2006-2026.

During the planning and design of the proposed development, different case studies were explored to identify trends and high-quality design approaches for employment areas adjacent to railway stations.

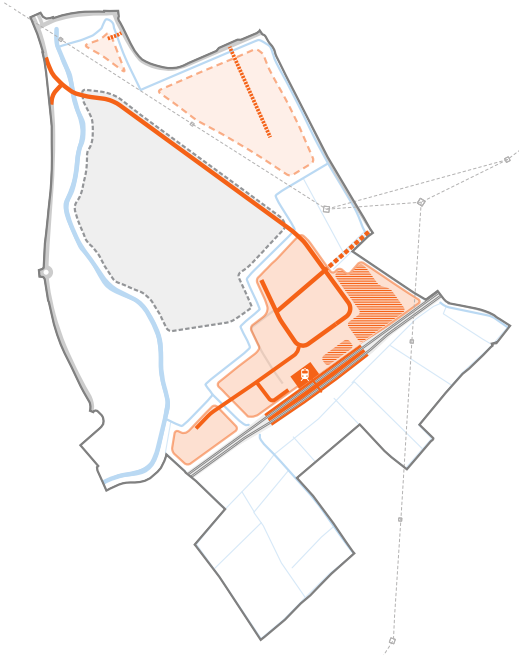
Several design options for the development of the site were examined, these included a variety of options for the ways in which reens access into-and-through the site and how habitat connectivity, and flood and drainage were integrated into the proposals. The evolution of the design is shown in Figure 7.

Early consultation is a critical first step in the development of comprehensive and balanced proposals and therefore consultation has been carried out with Cardiff Council, Newport City Council, Natural Resources Wales (NRW), Glamorgan-Gwent Archaeological Trust Ltd, Western Utilities and Dŵr Cymru Welsh Water. The discussions helped with the evolution of design (including environmental design mitigation), in the identification of potential issues and opportunities for enhancement to inform the environmental assessment.

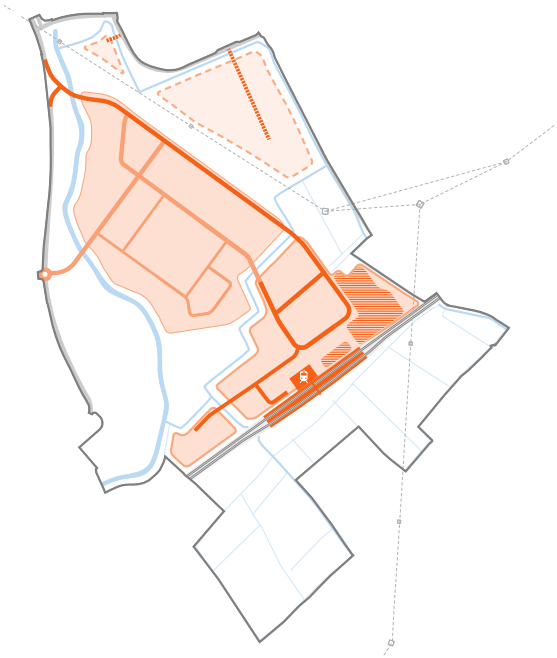




Enabling infrastructure (2021 - 2024)



Early phases (2024 - 2026)



Middle and later phases (2026 - 2028)

Figure 8: Indicative Phasing

4 How would Hendre Lakes be constructed?

The construction of Hendre Lakes will be undertaken in phases over an estimated eight-year period. The programme for construction takes into account the need for planning permissions and licenses, together with seasonal and ecological constraints. The programme for construction will also be influenced by the Cardiff Capital Region property market.

During each of the construction phases, the relevant permits and licences would be obtained.

The initial phase would include the construction of the new station and associated facilities. This phase would also include a suite of preparatory works, including; construction of access new roads into the site, diversion of services and ecological and flood mitigation works. The likely construction phases are outlined below and shown in Figure 8.

- Constructing the station, transport interchange, car park and primary access as part of the initial phase reflects the importance of the new station in attracting businesses to the development. As well as creating sustainable means of travel for new employees, visitors and the local community. Station, interchange, primary access and railway works are programmed to be undertaken between 2021-2023.
- To manage flood risk, proposals to provide flood storage capacity in the southern area of the site will be completed in advance of raising the ground level in the northern area of the site for the development areas. Flood management works will be undertaken between 2021-2022, alongside new habitat creation to the south of the railway line.
- The earthworks will be completed across the development in a number of phases over a period of 4-5 years. Flood management measures will be undertaken as part of the initial earthworks phase. Earthworks are scheduled to begin in 2022 and be completed across the site by 2027.
- The buildings will be developed in a number of phases in response to market appetite:
  - Initial Phase (2021 – 2024): The initial phase of buildings will be created around Station Square helping to create a new employment destination focussed on a sustainable transport node.
  - Early phases (2024 – 2026): Further development across the south of the site and potentially along the primary access road. Additionally, development of the north eastern corner of the site which could be developed independently could be undertaken as an early phase or in parallel.
  - Middle and later phases (2026-2028): Commercial development across the rest of the site constructed in a number of phases according to demand and viability. As part of these works the secondary access will be created onto Cypress Drive.

Construction Access

Construction vehicles will enter and exit the site at a variety of locations during construction.

South of the railway line a new junction from the site onto Heol Las will be created. This will enable railway related construction and the creation of the new biodiversity habitats, including planting of hedgerows, trees and grasslands, the creation of new reens and associated habitats. This new junction is subject to a separate planning application to Newport City Council.

North of the railway line access into and out of the site for construction will vary over time be reflecting the different phases, safety considerations and ecological constraints. The assessment has considered the effects of two options for access into and out of the site for construction:

1. All construction traffic movements north of the railway line, gains access into and out of the site from the proposed secondary access at the Cypress Drive/ Sandbrook Road roundabout on the western boundary of the site. This is the preferred option.
2. All construction traffic north of the railway line, gains access into and out of the site from an access route north of the gas reduction station access on Heol Las on the eastern boundary of the site. This access is subject to a separate planning application to Newport City Council. While the assessment allows for HGV access it is proposed that this route is only used for initial activities and will not be used by HGVs.

Construction Traffic Management Plan (CTMP) will be prepared to describe the ways in which vehicles will enter and leave the site during construction. The CTMP will be approved by the local planning authority and will ensure the impacts of construction traffic are effectively controlled.

Construction working hours

The following working hours would be adhered to for construction work on buildings and enabling infrastructure:

- Monday to Friday: 08:00 – 18:00
- Saturday: 08:00 – 13:00

Construction of the new railway station will require engineering works to be scheduled to minimise disruption on services to Cardiff and Newport. Construction works associated with the station and railway will therefore include overnight and weekend working. These works will be planned months in advance and information will be made available to local residents.

Construction Environmental Management Plan

A Construction Environmental Management Plan (CEMP) will be prepared which describes the ways in which the impact of the construction on the local environment will be managed. An outline (CEMP) is submitted with the planning application which describes some of the control measures and standards that would be implemented throughout the construction of the proposed development. The detailed CEMP will be approved as part of the planning applications and will include details of the working hours.

Construction jobs

The construction of the proposed development is expected to create temporary employment and training opportunities over a period of approximately eight years. This employment estimate is based on the total cost of the proposed development and the average output per worker in the construction industry. It is estimated that the construction of the proposed development would deliver the equivalent of 240 new construction jobs.

5 Summary of Assessments

The Environmental Statement presents assessments which enable an understanding of likely environmental effects and identifies measures to prevent, reduce and monitor such effects where appropriate. These assessments identify and propose enhancements for positive effects, where possible. It is standard practice to split the assessment into construction effects and effects once the development is complete.

Traffic and Transport

The traffic and transport chapter examined the effects relating to delays experienced by road traffic, delays experienced by pedestrians and cyclists, pedestrian and cycle amenity, road safety, access to public transport, and the potential for added severance of communities.

Proposals will deliver a new train station and transport interchange and new walking and cycling routes into the site, including improvements to a public-right-of-way which is currently impassable. Highway improvements have been identified to support proposals, in particular replacement of the A48 roundabout with a signalised junction which will provide significantly more capacity.

During construction there will be a significant increase in heavy goods vehicles (HGV) associated with import of materials. It is estimated that over the eight-year construction period there will be an average of 126 HGV trips per weekday (63 each way). During the busiest construction 12-month period 302 HGV trips per weekday are forecast. To help mitigate this a CTMP would be prepared by the Contractor and agreed with Cardiff Council prior to construction. This would set out the times and days construction vehicles can access the site, the sizes of vehicle, and the routes these vehicles are to use. Nevertheless, the increase in HGVs along Cypress Drive will result in temporary adverse effects on pedestrian and cycle amenities along Heol Las, Fortran Road and Cypress Drive itself.

Construction of the new railway station may impact on rail journeys between Cardiff Central and Newport. This could include speed restrictions on trains or temporary closure of the railway line, with these planned months in advance and generally taking place during weekends or overnight so as to limit their impact.

Once completed there are no negative transport effects identified. While an additional 5,000 car trips per day are forecast to visit the site, the highway improvements identified will accommodate this extra demand. The project is making a significant investment in sustainable travel measures including the new station and investment in infrastructure will be supported by Travel Plans for all businesses at the site.

The benefits of proposals will include improved access to public transport (bus and rail) as well as new and improved routes for pedestrians and cyclists.

Noise and Vibration

The noise and vibration chapter examined the effects associated with construction activities, including noise arising from construction traffic. The noise effects associated with the operation of new buildings was examined, as well as noise associated with trains stopping at the new station. The potential for construction vibration effects has also been assessed. The noise and vibration assessment considered local residences, offices, schools and outdoor public spaces.

During construction noise from construction activities and from additional HGV traffic would not be significant. There are no significant vibration effects forecast as a result of construction.

Construction activities will be managed through the CEMP, as discussed in Section 4. Through this plan further measures to eliminate construction vibration will be considered, informed by more detailed information on construction activities.

The arrival and departure of stopping trains at the completed station, is not expected to create any significant noise effects. The level of noise generated from building services would be managed through measures such as equipment specification and noise insulation to be compliant with standards. The effect of operational noise is therefore not considered significant.

Transport modelling has identified a possible minor adverse effect along a short section of Cypress Drive from increased road traffic. The effect is not considered to be significant. Transport modelling has identified a possible minor adverse effect along a short section of Cypress Drive from increased road traffic. The effect is not significant. Further surveys and assessments are proposed, starting when the site becomes operational. These will inform a decision on whether there is a need for mitigation and the form of that mitigation (if needed).

Air Quality

The air quality chapter examined the effects on humans and ecology associated with construction activities, including impacts from construction traffic. The air quality effects associated with traffic travelling to and from the completed development has also been examined.

Construction activities will be managed by the CEMP which will include measures to control air quality effects from construction including pollutants and dust. A CTMP will be prepared by the contractor and used to manage vehicle movements to the site.

With implementation of the measures identified in the CEMP air quality effects from construction activities are not considered significant to humans or ecology. Furthermore, during construction there would be no significant negative air quality effects in relation to construction traffic.

Once completed the proposals are forecast to have a negligible impact on air quality, with the exception of properties near the A48/Cypress Drive which are forecast to benefit from improved air quality due to highway improvements reducing congestion.

Overall the impact due to operation of the proposed development is predicted to not be significant.

Hydrology and Flooding

The hydrology and flooding assessment examined the effects relating to water quality, watercourse shape and flow, groundwater quality and flood risk during construction and on completion.

Figure 9: Altered Reen Network

As discussed in Section 2 the masterplan has retained the primary reens north of the railway line, Hendre Reen, Ty Fynnon Reen and Green Lane Reen, which is to be widened by 3.0m for a length of 600m. 3.72km of secondary reens are created south of the railway line mitigating loss as a result of development in the north. The design of the altered reen network has been developed to work with the natural environment and to replace the necessary construction phase loss as shown in Figure 12. A flood mitigation area will be introduced south of the railway line with smaller secondary storage areas to the north. These areas are created by lowering the existing ground by around 0.5m. Sustainable Drainage (SuDS) is proposed throughout the development, with this controlling the speed and quality of water run-off from hard surfaces.

During the construction of new reens in the south and the removal through filling of existing reens in the north, there would be significant adverse effects on the existing watercourse shape and flow. This cannot be mitigated. There is the potential for negative effects on surface water quality, groundwater quality and flood risk during construction, however construction activities will be managed through implementation of the CEMP by contractors and are therefore considered negligible.

Once the development is completed, the flood and reen mitigation measures proposed mean there are no adverse effects forecast on hydrology and flooding.

Ground Conditions

The ground conditions assessment examined a wide range of potential effects, from construction and operation of the site (including those on the underlying geology of the site), effects on hydrogeology (water within the ground) and potential contamination due to ground gas, water run-off, disturbance of aquifers and unexpected contamination due to spills etc. The potential effects from construction and operations dust on adjacent areas was also assessed.

The proposals will see the import of fill to create development areas onto which buildings, roads and public spaces will be constructed. Buildings will have piled foundations.

Construction will be undertaken in accordance with the CEMP and industry best practice. These will mitigate any potential effects on the water environment, works or adjacent areas. Overall the construction effects are assessed as negligible.

Once completed, negative effects could arise as a consequence of contamination of the ground from soils, dust, surface run-off, ground gas and piled foundations. If contamination is identified, then sampling, testing, monitoring, risk assessments and remediation measures would be undertaken to mitigate and manage any risks. These mitigation measures would reduce any negative effects to insignificant levels. Therefore, operational impacts are therefore considered negligible.

Biodiversity

The biodiversity assessment considers effects for both construction and operation; including habitat loss, severance and damage, and species mortality, injury and disturbance.

Section 2 of this NTS describes the ecological approach adopted, which is to retain as much habitat as possible and work towards an overall increase in biodiversity. New ecological habitat would be enhanced for protected and notable species, and proposals include significant areas of new species rich wet and dry grassland and hedgerow. Primary reens are to be retained and new secondary reens and ditches will be constructed south of the railway to replace those lost in the north.

During construction there will be significant temporary disturbance and loss at two designated sites. There is a significant adverse effect at the Gwent Levels–Rumney and Peterstone SSSI, namely the loss of secondary reens to the north and re-provision of 3.7km of reens in the south. There is also a significant adverse effect at the Marshfield Site of Importance for Nature Conservation, with the loss of 4.98ha of grassland and the creation of 12.12ha of new species rich grassland south of the railway. For both sites, as the habitat becomes established this effect would reduce to negligible. The assessment shows no or negligible effects during construction or operation on other designated sites.

As well as reens and grassland, construction will have temporary significant effects due to the loss of 1.41ha of mature wet and dry woodland and 3.57km of hedgerows, of which only 210m is considered species rich. These lost habitats are replaced with 2.6ha of woodland and 4.2km of species rich hedgerow, and as these habitats establish the effect will reduce to negligible.

Measures to reduce construction impacts, include the early planting of new habitat areas so these have the maximum amount of time to mature before existing habitat is removed. It is proposed that seed rich soils are translocated from reen banks and grassland areas.

Construction impacts on protected species has been assessed. There will be a significant temporary effect on foraging and commuting bats; this would reduce to not significant as the extensive new tree and hedgerow planting proposed becomes established. Overall the impact of construction on protected species is assessed as minor adverse.

Construction will result in temporary disturbance, and severance of otter habitat was identified for a limited period while bridge or culvert crossings of the primary reens are created, and flood alleviation works are undertaken. The masterplan includes buffer zones to all reens, so that once these works to the reens are completed, construction impacts associated with earthworks or buildings will not have any significant effect on otters.

Removal of the secondary reens during construction would cause habitat loss, fragmentation and temporary disturbance for water vole, however once planting along the newly created reens begins to establish, these effects would be reduced and not significant.

The assessment concluded that there would be a negligible or no impact during construction on other protected species including amphibians, badgers, birds, reptiles and fish, including European eel and Lampreys and aquatic invertebrates.

Once completed there are no significant adverse effects identified and as a result of new habitat creation, benefits are forecast for dormice, otter, water vole, amphibians, birds and invertebrates. For Dormice, translocating a proportion of the existing ‘at capacity’ population away from the local area and enhancing the habitat for the remaining population, through intensive planting, would encourage a healthy dormouse population structure and expansion.

Overall when completed, the assessment concludes there will be benefits to many species as a result of additional and enhanced habitats within the project area.

Archaeology and Cultural Heritage

The archaeology and cultural heritage assessment examined potential effects on sites of archaeological interest, through direct impacts to their physical condition or indirect impacts to their landscape setting.

During construction, there would be significant effects on the historic Wentloog field drainage system as a result of the removal of secondary reens and hedgerows from the area, and introduction of replacement reens and hedgerows south of the railway. In addition to changes to field patterns, there would also be the potential for indirect impacts on unknown archaeological assets. To reduce risks associated with unknown archaeological assets, a mitigation strategy would be agreed with Cardiff Council. This may include works such as geophysical survey, trial trenching, a watching brief on any construction and further hedgerow surveys to ascertain the location of archaeological assets in the area. Should any assets be discovered, they would be classified and evaluated. Overall the potential for effects on the historic field patterns and unknown archaeological assets is considered significant but an unavoidable effect from development.

Once completed the proposals will introduce buildings, infrastructure and traffic into the existing landscape. This would change the Historic Landscape Character of an area equivalent to less than 1% of the Gwent Levels. These changes are therefore not considered significant to the integrity of the Gwent Levels Historic Landscape as a whole.

Landscape and Visual

The landscape and visual assessment considers effects on the landscape through analysing the susceptibility of landscape to changes, the sensitivity of the landscape, scale of change, geographical extent and duration of effects. Visual effects are identified by understanding the impacts on people with access to views of the site, their sensitivity and the scale of visual impact. Viewpoints included in the assessment were selected by determining the area from which the proposed development would be visible, and then identifying the most sensitive visual receptors within this area.

Landscape character areas are distinct sections of the landscape which share common topographical, land cover, settlement or historic characteristics. It was identified that during construction, the landscape character areas of Estuary Saltmarshes, Hendre Lakes Park, and Wentloog Levels would experience significant negative effects. These same landscape character areas would also experience significant negative effects during operation. These would be found both in the first year of opening and 15 years after the opening of the development when the proposed development landscape would have matured. These effects will remain significant at year 15 because the buildings will form a permanent and visible feature in these rural landscapes. Measures to reduce the landscape and visual effects during construction, include a phased construction programme, restricted working construction hours, and hoardings to reduce visual intrusion. This would lower the negative effect on all areas of the landscape, in particular the impact on Hendre Lake Park, however these effects would remain significant. The details of these measures would be agreed with the council at a later stage.

During construction and operation, the users of St Mellons footpath (footpath 4a on council plans) and recreational and transport users of Heol Las, would experience significant negative visual effects. However, the effects during construction would be short-term, temporary and reversible. During operation, residential properties to the west (a cluster at the south-east edge of Cypress Drive) and the southeast (one at Ton-yr-heol-las and a cluster at Peterstone Wentloog); recreational users of Wentloog footpath 7, and Hendre Lakes Memorial and Park; and workers within the St Mellons' Business Park would experience significant negative visual effects.

As well as providing replacements for any flood, reen, or vegetation losses, the design integrates measures to reduce landscape and visual effects during operation. This includes incorporating further reens, hedgerows and other natural landscape features where possible to enhance the quality of the landscape and its capacity to connect areas of habitat. The design responds sympathetically to the local context and includes a range of public amenities and new connections, in order to provide a suitable level of active transport, green space and recreational amenities to the community. These measures would help to filter views of the development, to increase recreational facilities for the community, and help to make the development feel more cohesive with the existing landscape.

They will reduce the negative impact of the development for all significantly affected visual receptors, and in particular reduce the effects on workers within the St Mellons' Business Park to insignificant. The details of the measures to reduce the landscape and visual effects during operation will be approved as part of the future planning applications.".

Socio-economic

The socio-economic chapter considers effects on the economy and labour market, local businesses, local residents, public rights of way and land use.

Hendre Lakes is expected to provide approximately 240 net Full Time Equivalent (FTE) construction jobs, supported during the construction phase between 2021 to 2028. Once completed, the proposed development would accommodate up to 6,000 jobs as well as bringing wider economic benefits and investment to the area. The provision of a new railway station with links to the existing highway and active travel networks, would also provide different access options for local businesses and residents, offering more sustainable transport options. Improvements to the existing public right of way on the site are proposed. In addition to the new jobs and investment, there would be more opportunities to access green and open spaces, to access natural spaces and the new transport hub would provide quicker and easier access across the Cardiff Capital region.

No significant negative socio-economic effects have been identified during construction. Significant beneficial effects during construction, include the provision of construction employment which would benefit the economy and labour market.

On completion, significant positive effects have been identified for the economy and labour market as well as local businesses and residents. No negative effects have been identified.

Health and Wellbeing

The health and wellbeing chapter considers how the proposed development may impact a number of health determinants, which are aspects of the environment which influence a person's health. Health determinants considered included: access to healthcare services, social infrastructure, open spaces and work and training; air quality, noise and neighbourhood quality; accessibility and active travel; climate change; and crime reduction and community safety.

No significant health effects were identified for the construction phase, although there would be some minor beneficial effects through increased employment opportunities.

Once completed, improvements in local transport networks allowing the local population to access a wider range of services, infrastructure and opportunities would have a significant health benefit. Upgrades to, and the provision of, walking and cycling routes would promote activity and active travel in the local community, providing further beneficial effects. Finally, the high number of jobs directly generated through the operation of the proposed development, and provision of transport links to increase access to other employment opportunities, would provide significant beneficial effects.

Climate Change

The climate change chapter assesses greenhouse gas (GHG) emissions, climate change resilience (CCR) and in-combination climate change impact (ICCI). The GHG assessment quantifies the potential release of GHG emissions during construction and operation and identifies mitigation measures to reduce these emissions. The CCR assessment evaluates the effectiveness and resilience of the proposed development to climate change. The ICCI assessment considers the combined effect of the proposed development and potential effects resulting from climate change.

During the construction phase, construction activities and use of materials would lead to a release of GHG emissions for which mitigation measures have been recommended to reduce GHG emissions. However, even with these recommendations construction emissions from the project are estimated to represent 1% of the total GHG from the Cardiff region. The construction effects on GHG emissions are therefore considered significant. The effects of proposals on CCR and ICCI during construction is negligible.

On completion, the proposed development would emit GHG as a result of energy consumption from buildings and transport, loss of habitat carbon sequestration and embodied emissions within maintenance and refurbishment activities. Mitigation measures have been recommended to reduce GHG emissions, but the effect is still considered significant.

The proposed development has been designed to take account of future climate change and therefore the development is considered resilient to climate change, including in-combination impacts.

At the current time the final type, size and range of employers and buildings attracted to Hendre Lakes is unknown. The assessment has therefore assumed a business as usual approach with buildings meeting current standards and National Grid connections as the primary power supply. There will be significant opportunities to reduce building emissions below the levels assumed in this assessment, through energy efficiency measures at a local or site-wide level, including those mandated by future, more stringent, standards.

Materials

The materials assessment examined the effects relating to the sources and availability of the material required to raise levels in the site during construction.

The raising of the ground level of the site would require 390,000m3 of aggregate. The project targets at least 70% of this material to be either recycled or secondary aggregate, with the remaining 30% being from quarries in the Cardiff and Newport area. By using a high percentage of recycled material the impacts of construction are assessed as not significant. Measures to manage the use of materials during construction will be approved as part of the CEMP. Overall, the impacts from construction on materials have been assessed as not significant.

Once complete there will be no large quantities of materials required, so there is no effect.

Cumulative Effects

The cumulative effects chapter presents an assessment of the effects of the Hendre Lake project when combined with other projects likely to be delivered in the local area.

Thirteen projects with the potential for cumulative effects were identified in the Cardiff Council administrative area and a further three projects were identified in the Newport City Council administrative area. These are all located within approximately 3km of the Hendre Lakes development.

For each environmental topic, the potential for cumulative effects was assessed and it was concluded there would be no effects.

6 More information

You may inspect copies of:

- the proposed application;
- the plans; and
- other supporting documents

online at www.cardiffhendrelakes.com

If you are unable to access the documents electronically, you may request copies of this information by emailing communityrelations@cardiffhendrelakes.com or telephoning the applicant on 0800 464 0850.

Anyone who wishes to make representations about this proposed development must write to the applicant/agent at communityrelations@cardiffhendrelakes.com

Or complete a feedback form online at www.cardiffhendrelakes.com (if you require a hard copy feedback form please call the freephone number: 0800 464 0850)

Or FREEPOST HENDRE LAKES (you do not need a stamp)