Masterplan

Bilbohall, Elgin

Client: Bilbohall Consortium
Document No: 181031_Bilbohall-SG-RevH
Revision: H
Date: October 2018

open
optimised environments

Project: Bilbohall, Elgin
Document: Masterplan
Document Number: 181031-Bilbohall-SG-RevH

Issue	Revision	By	Approved	Date
First issue	For Consortium review and signoff	CS	CDG	23/10/17
A	For submission to Moray Council for internal review	CS	CDG	7/11/17
B	Final draft for Committee	CS	CDG	19/01/18
C	Amendments and additional sections	CS	CDG	14/02/18
D	Flooding comments and feedback from public consultation	CS	CDG	10/04/18
E	Planning, drainage and transport comments	CDG	PMAC	10/08/18
F	Submission for Moray Council Internal Review	CS	CDG	31/08/18
G	Minor comments following MC Internal review	CDG	PMAC	5/10/18
H	FOR COMMITTEE	CDG	PMAC	26/10/18
H	FOR COMMITTEE	CDG	PMAC	30/10/18

This Masterplan for Bilbohall has been produced through a collaborative process with The Moray Council and the Bilbohall Consortium which comprises the various landowners of the masterplan area's respective sites. Bilbohall provides an opportunity to create an attractive, high quality, mixed tenure residential neighbourhood. The site has been identified through the Moray Local Development Plan as having the potential to play an important role in the sustainable expansion of Elgin.

This document sets out the robust process which has been followed to understand the site, test the appropriate capacity and through established place-making principles, create a masterplan acknowledging the challenges of the site and provides a creative and distinctive solution which can be delivered through subsequent planning applications.

The following supporting reports and surveys have been completed in support of the Masterplan are available as appendices where appropriate:

- Transport Stage 2 Report;
- Landscape and Visual Appraisal; and
- Flood Risk Assessment and Preliminary Drainage Strategy.

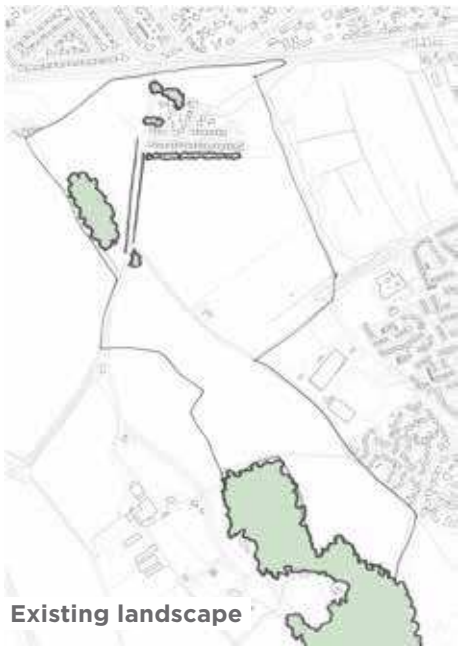
› Opportunity & Vision

The Opportunity and Vision

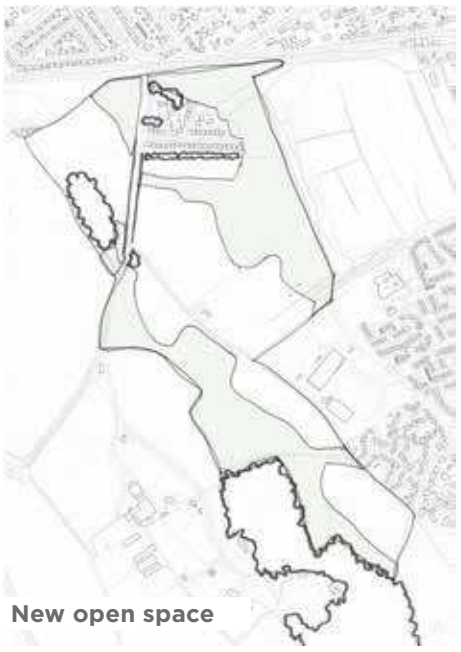
The Bilbohall site is a distinctive and well-contained series of linked parcels of land to the west of Elgin which has the potential to be developed as a high quality new residential neighbourhood. The site benefits from unique topography and mature landscape setting which has been sensitively considered through a careful and robust masterplan process. The vision is for these unique qualities to be integrated into carefully designed housing areas which have a character and identity that reflects and enhances the existing nature of the site.

Bilbohall will provide:

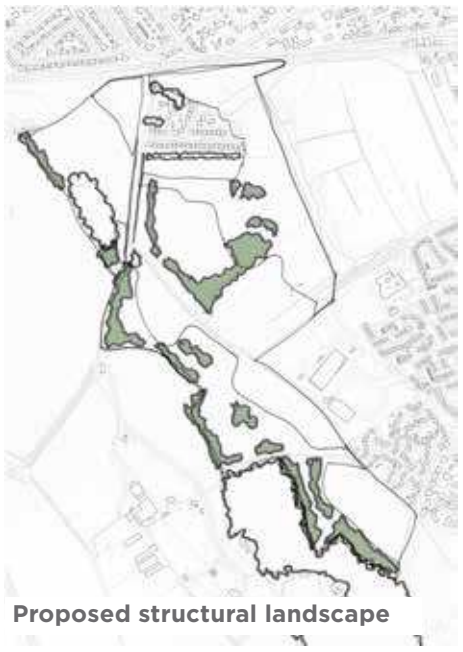
- A variety of housing types and tenures set within a high-quality landscape setting;
- New multi-functional open space including a neighbourhood park and pocket park;
- Enhanced and extended existing pedestrian and cycle routes;
- New woodland areas which will offer both more habitat areas and amenity spaces for residents and visitors;
- A new street network which will be permeable and connected, designed to work with the existing topography to ensure that the impact on existing knolls is controlled and limited as far as possible;
- Additional structural planting on slopes to further contain the site and reinforce the existing character of wooded knolls;
- Street trees and hedgerows along key routes, creating green corridors; and
- New building elements with a residential density that reflects the existing slopes and aspect.



Existing landscape

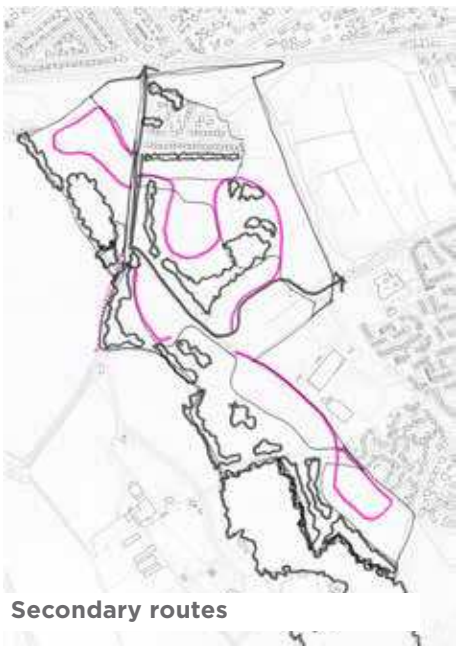


New open space



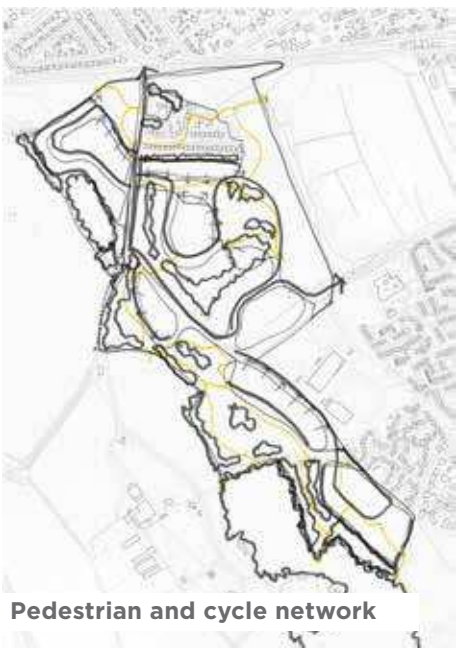
Proposed structural landscape

Primary route



Secondary routes

Appropriate densities



Pedestrian and cycle network

Responding to existing features

Retained hedgerows, trees and topographical features must be integrated into the masterplan layout to provide a unique character and identity.

Permeable network

A permeable street network comprising of a hierarchy of streets is laid out in a sensitive and comprehensive manner to be suitable for all users and connect Bilbohall into the surrounding area.

Public/private interface

Street frontages must ensure a clear public/private interface and well-designed street scene. Boundary walls and hedges must be used to enhance the street corridor and clearly define public and private space.

Example of how existing features can be integrated

Shared surface street with integrated landscaping acting as traffic calming

Stone walling separating public and private space

Existing feature to be integrated

Permeable frontage to shared surface streets

Combining hard and soft boundary treatments to define spaces.

Existing feature to be integrated

Street network suitable for pedestrian and vehicle users

Soft landscaping separates direct housing frontage from the street

Looking east towards Elgin High School with railline and Knockmasting Wood in foreground

Looking south-east along existing Core Path

Looking north to top of prominent knoll

contents

figures

1. Planning Context

1.1 Purpose

The purpose of this masterplan is to set out the design principles for the development of Bilbohall, which consists of sites R3, R4, R12, OPP7, and CF2 allocated for residential use in the Moray Local Development Plan 2015 (LDP 2015). These sites are proposed to be carried forward for residential use in the new Local Development Plan 2020 (LDP2020) which is currently in preparation. The design principles must be reflected in planning applications for these sites. The masterplan ensures a strategic approach is taken to the provision of the built-form, infrastructure, tenure integration, transportation and connections to surrounding areas, open space, recreation, walking and cycling and the integration of landscape, woodland and structure planting.

Should the Bilbohall masterplan be approved by the Planning and Regulatory Services Committee of Moray Council as Supplementary Guidance to the LDP 2015, and subsequently the LDP2020, it will be taken into consideration in the determination of planning applications.

The masterplan describes a residential development of around 380 units and associated landscape and open space proposals. It has been prepared following consultation with Moray Council officers, the Bilbohall Consortium and the community. Other key agencies consulted include Scottish Water, SEPA, Network Rail, SNH, Forestry Comission and Historic Environment Scotland.

1.2 National Policy & Guidance

In preparing the Masterplan, the following Scottish Government policy and guidance has been taken into account:

- National Planning Framework 3 (NPF3);
- Scottish Planning Policy (SPP);
- Creating Places
- Designing Streets and the SCOTS' National Roads Development Guide;
- Planning Advice Note 3/2010 – Community Engagement; and
- Planning Advice Note 83 – Masterplanning.

This Masterplan achieves the outcomes set out in NPF3 and SPP to create:

- A successful, sustainable place;
- A low carbon place;
- A natural, resilient place; and
- A more connected place.

The masterplan achieves the 6 qualities of a successful place set out in national policy (SPP. Creating Places, and Designing Streets):

- Distinctive;
- Safe and Pleasant;
- Welcoming;
- Adaptable;
- Resource Efficient; and
- Easy to Move Around and Beyond.

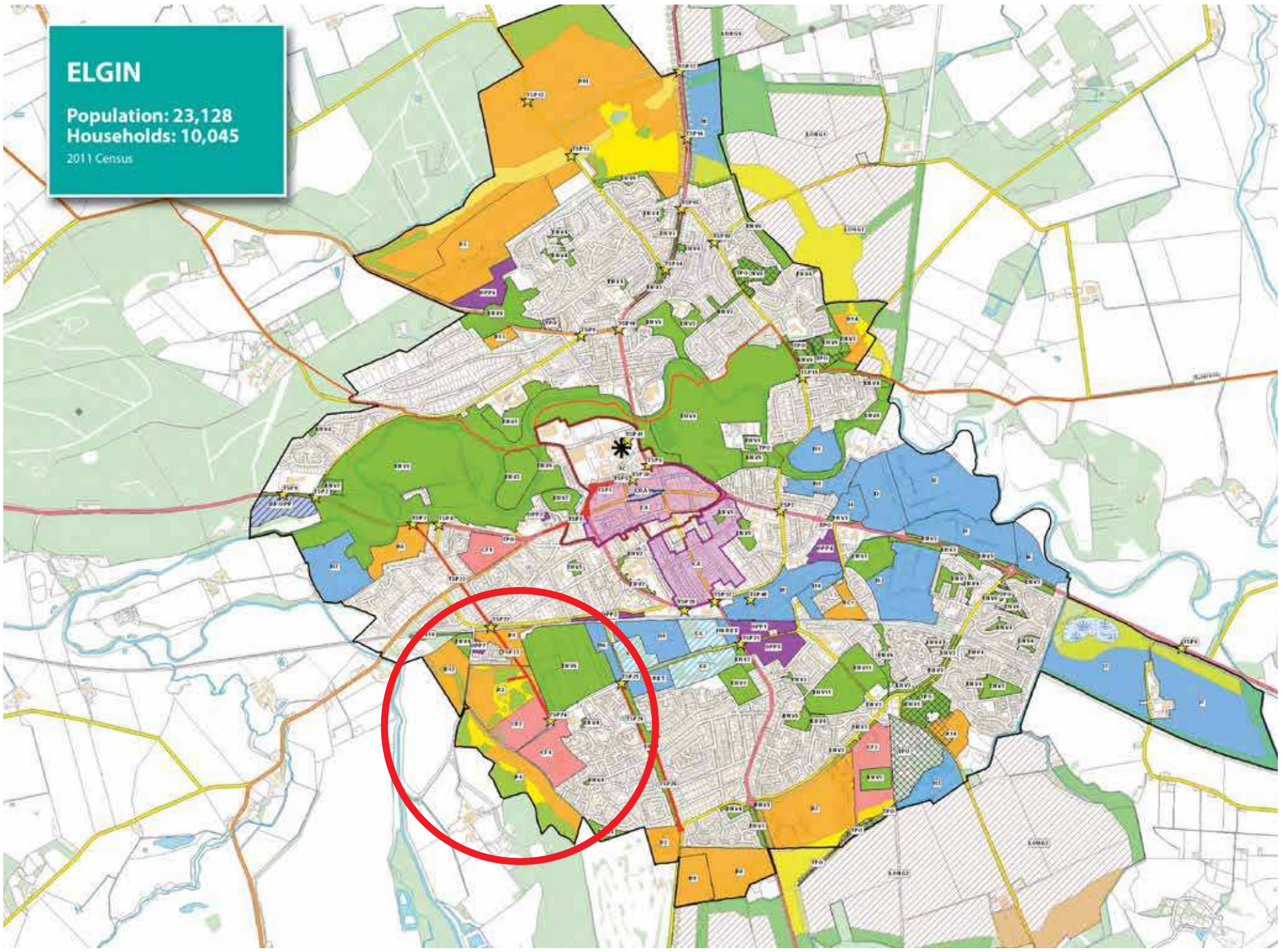


fig. 1: Extract from Moray LDP with Bilbohall Masterplan area circled

1.3 Local Policy & Guidance: Moray Local Development Plan 2015 (LDP2015) and Supplementary Guidance

The adopted Moray Local Development Plan 2015 sets out the policies and land use designations for future development in Moray. The policies and key design principles of the LDP 2015 have informed the masterplan, specifically primary policies PP3 Placemaking, PP2 Climate Change and PP1 Sustainable Economic Growth along with H8 Affordable Housing, H9 Housing Mix/Accessible Housing, E5 Open Space, and T2 Provision of Access.

The table extracted from LDP identifies a number of individual sites within the Bilbohall masterplan area that can accommodate development (see Figure 1)

LDP Site	Site Area (Ha)	Indicative Unit Capacity
R1	3.3	20
R3	9.9	100
R4	4	80
R12	5.39	85
OPP7		
CF2		

- OPP7 is an opportunity site identified where the council supports the redevelopment of existing NHS buildings that are surplus to requirements in favour of residential development. An indicative capacity is not given for OPP7.
- Community Facilities CF2 describes land to the north of Elgin High School beside Edgar Road. This land was reserved for new recreation facilities however it has been deemed surplus to requirements and alternative uses compatible with neighbouring residential land are proposed.

1.3.1 Extracts from the LDP2015

The following text is extracted from the LDP to give the specific background and requirements to the respective sites. Although R1 is included within the overall masterplan area, there are no proposals for R1 within the Bilbohall Masterplan as this site is largely developed.

R1 Bilbohall North

This site is carried forward from the previous plan. Planning consent was granted in 2005 for 60 houses. 40 houses have now been built however the remaining 20 are constrained until Transport Proposal (TSP) 3, 21, 22, 23, and 24 can be provided together with connectivity to adjacent development and routes to schools. Development proposals must provide a landscaped edge. A detailed flood risk assessment will be required for any planning application that is submitted for the site. A habitats survey is required.

R3 Bilbohall South

This 9.9 ha site has been carried forward from the previous plan and has capacity for 100 houses after landscaping requirements have been addressed. Due to the contours of the site, the prominent green knoll has been identified for open space and structural landscaping reducing the developable area of the site. A detailed development brief will be prepared for the site reflecting that the design principles should address the key design principles set out in the accompanying map. This site is constrained until TSP 3, 21, 22, 23, and 24 can be provided together with connectivity to adjacent development and routes to schools. Additional improvements to specific capacity constraints may be required, given the size of the development and its potential level of impact. At least two access points will be required and must be considered in association with the other sites in the vicinity. The impact on junctions TSP25 and TSP31 must be considered and a contribution to any necessary mitigation addressed. The text for TSP31 highlights that the junction already shows insufficient capacity. All sites which would impact on this junction will be required to contribute to any necessary improvements. Extensions to speed limit and provision of footways and street lighting will be required. A detailed flood risk assessment will be required for any planning application that is submitted for the site. The main concern for developments connecting into the sewer system in Elgin is the effect on the system with regard to sewer flooding. These effects will have to be assessed. An archaeological crop mark site is located in the northern part of the area, and will require evaluation. A habitats survey is required.

R4 South West of Elgin High School

This 4 ha site is able to accommodate 80 houses for development after landscaping requirements have been addressed. A masterplan should be prepared jointly with R12 and development proposals should address the key design principles set out in the accompanying map. Substantial landscaping will be required with open space and woodland planting along the south west of the site. Advance planting to ensure the ridges and upper slopes have established woodland will be required. Provision of new footpaths and access routes must be provided connecting to the High School and north across the railway. The core path running along the eastern edge of the site should be maintained and enhanced. A badger and habitats survey will require to accompany proposals. This site is constrained until TSP 3, 22, 23, and 24 can be provided together with connectivity to adjacent development and routes to schools. A Transport Assessment requires to be submitted with proposals. At least two access points will be required and must be considered in association with other sites in the vicinity. The primary access will be from Edgar Road adjacent to the High School (TSP24). The impact on junctions TSP25 and TSP31 must be considered and a contribution to any necessary mitigation addressed. The text for TSP31 highlights that the junction already shows insufficient capacity. All sites would which would have an impact on this junction will be required to contribute to any necessary improvements. A habitats survey is required.

CF2 Edgar Road

This site is reserved for new sport or recreation facilities. If this site becomes surplus to requirements alternative uses compatible with neighbouring land and the site location may be considered. The release of this site and the extent to which it can be developed will be dependent on the satisfactory resolution of road improvements related to TSP 23 and 24 which may affect this site. A Transport Assessment will be required and the following junctions must be considered TSP 31. A walkover and photographic survey of habitats is required to assess the presence of wetlands and to identify any consequent requirement to address/mitigate the impact on groundwater dependent terrestrial ecosystems.

R12 Knockmasting Wood

The site extends to approximately 5.39 hectares and has an indicative capacity for 85 houses. A masterplan must be prepared for development of the site and site R4. New woodland structure planting is required to successfully integrate development into the landscape and Knockmasting Wood should be retained. This site is constrained until TSP 3, 21, 22, 23, and 24 can be provided together with connectivity to adjacent development and routes to schools. A Transport Assessment requires to be submitted with proposals. At least two access points will be required and must be considered in association with other sites in the vicinity. Bilbohall Road will require widening. The impact on junctions TSP25 and TSP31 must be considered and a contribution to any necessary mitigation addressed. A flood risk assessment will require to be submitted and water resilient measures should be considered as part of this. A habitats survey will require to be submitted with proposals.

OPP7 Bilbohall

Redevelopment of the NHS buildings, that are surplus to requirements, for residential development will be supported. Access to the site is constrained and development that would result in additional trips using the Bilbohall railway bridge will not be supported until an alternative access is provided (see TSP 3, 21, 22, 23, and 24). A flood risk assessment and habitats survey will require to accompany proposals. A Tree Survey and Protection Plan should be submitted with proposals and where possible mature trees retained.

1.4.1 LDP Design Principles

The extracted plan below (Figure 2) sets out some high level initial design principles for the Bilbohall masterplan site. These have been interrogated and refined through the masterplan process, taking into account the findings of further site analysis and a landscape and visual appraisal.

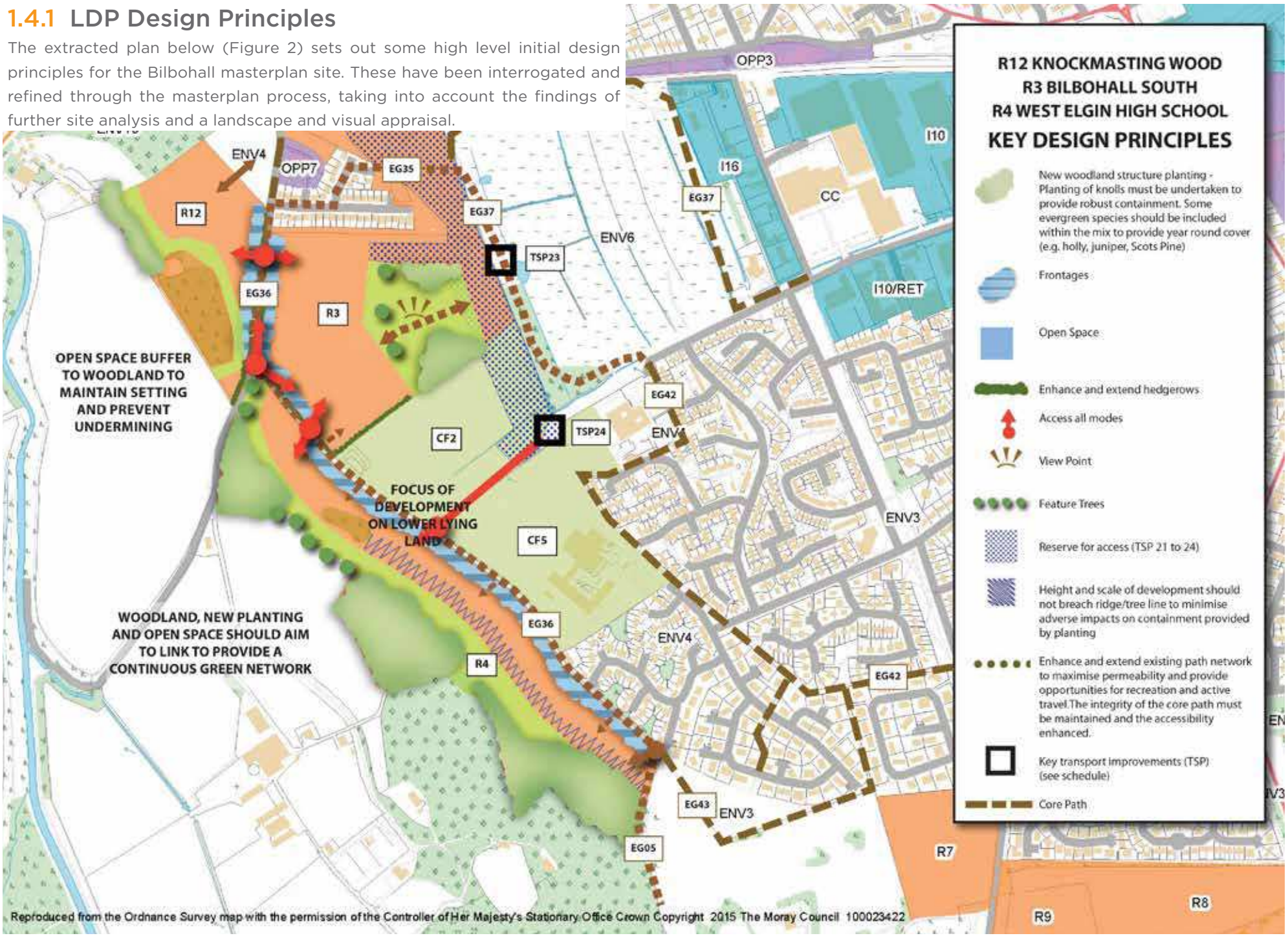


fig. 2: Bilbohall design principles extract

1.4 Supplementary Guidance

Additional detail on particular policies is contained in a series of Supplementary Guidance (SG) publications which support the LDP. These include:

- Affordable Housing;
- Accessible Housing;
- Climate Change;
- Housing in the Countryside;
- Trees in Development; and
- Urban Design.

Of specific relevance to this masterplan is the Urban Design SG which sets out the key elements and principles and vision which must be described and defined within the document. As part of the Masterplan an accompanying Design Code is required to expand and build on the Masterplan vision and demonstrate how design intentions might be implemented for specific elements. The Design Code is shown in Section 5.

Moray Council Supplementary Guidance Documents

1.5 Community consultation and engagement

In accordance with best practice in undertaking public engagement in the planning process and guidance provided by Moray Council, public consultation has been undertaken as part of the preparation of the emerging masterplan for Bilbohall and at Draft Masterplan stage. This is an important part of the process which allows people to engage and contribute to the proposals for new development at Bilbohall and keeps them informed of progress.

Bilbohall Masterplan Consultation
Public Exhibition November 2017

WELCOME!

Thank you for attending this public exhibition on development proposals for the Bilbohall masterplan area, which comprises six sites identified in the adopted Moray Local Development Plan 2015 (LDP). As a key area of expansion for Elgin, Bilbohall provides an opportunity to create an attractive, high quality, mixed tenure residential neighbourhood.

A Masterplan for Bilbohall has been produced through a collaborative process with The Moray Council and the Bilbohall Consortium which comprises the various landowners of the masterplan area's respective sites. The masterplan will ensure that a strategic approach is taken to the provision of built-form, infrastructure, transportation and connections to surrounding areas, open space, recreation, walking and cycling and the integration of landscape to offer a well-connected and highly desirable place to live.

The three main landowners of these sites (the 'Bilbohall Consortium') have worked over the past year to progress a Strategic Masterplan for the area. This exhibition sets out the robust masterplan process which has been followed, shares the information we have about the site, illustrates several masterplan options and presents the preferred option for the draft masterplan.

We welcome your thoughts and views on everything you see here - please feel free to ask questions and complete a questionnaire after you have viewed the exhibition in order to let us gather your views.

The exhibition boards can be viewed at:

www.op-en.box.com/v/Bilbohall

Comments can be submitted to Malcolm Campbell at Malcolm.campbell@knightfrank.com by 17 November.

1 ALLOCATIONS & LANDOWNERS

The Bilbohall Consortium (Moray Council, Scotia Homes, and Grampian Housing Association) is working to agree common principles for development across the individual LDP sites; the relevant details and site capacities are set out in the table below.

	Ownership	Masterplan Capacity	LDP site label
R1	Robertson Homes	20	R1 Bilbohall North
R3	Grampian Housing Association	105	R3 Bilbohall South
R4	Scotia Homes	107	R4 South West of Elgin High School
R12	Scotia Homes	85	R12 Knockmasting Wood
OP7	Moray Council	4	OP7 Bilbohall
CF2	Moray Council	75	CF2 Edgar Road
		376	

3 PROCESS & NEXT STEPS

Supplementary Guidance Process for adopting the Bilbohall Masterplan

- Autumn - Winter 2017: Consultation Council and design team collaborate masterplan process
- November 2017: Public consultation on preferred option for draft masterplan
- January 2018: Moray Council planning committee to consider draft masterplan
- March - April 2018: Public consultation on draft masterplan by Moray Council
- June 2018: Final masterplan reported to Moray Council Planning Committee for approval as Supplementary Guidance to LDP

4 SITE

A range of site surveys and technical studies have been commissioned for the site and analysed by the design team. These have included landscape and visual impact, transport and traffic capacity, topography, slope, drainage, ecology, site conditions and existing utilities.

Landform slope analysis and elevation studies in particular have informed the capacity for development of the masterplan area.


TOPOGRAPHY


EXISTING CONNECTIONS


SLOPE ANALYSIS


SLOPE

ELEVATION

Transport

The transport elements of the Masterplan have been developed in accordance with 'Urban Design Supplementary Guidance from Moray Council and 'Designing Streets', the Scottish Government guidance. The Masterplan will provide:

Prioritised direct routes through the development for **pedestrians** and cyclists, as well as permeability within it.

Links to **wider walking and cycling networks** including Core Paths and 'Q3' Walking Routes.

A **bus route** through the development.

A **Primary street** linking both access points that provides route choice for vehicles, but does not encourage through traffic.

Secondary streets that are attractive to cyclists and are appropriate for vehicles.

Minor streets that promote shared space between walking, cycling and vehicles.

A wider aim of the Masterplan is to support the growth of active travel within Elgin.

Approximately 5,400 people live within a 20-minute walk of the town centre, yet more than half of people use the car for trips within the town. This highlights the real potential for residents of Bilbohall to build walking and cycling into their daily routines.

Road linkages

The Masterplan area will connect with the existing local road network at two locations:

At the Mayne Farm Road / Wards Road / Mayne Road priority junction.

At the western end of Edgar Road close to Elgin High School.

Upgrades will need to be considered at the Mayne Farm Road / Wards Road junction and at the Edgar Road / Glen Moray Drive / The Wards junction.

Initial results from the Elgin Traffic Model, which covers the whole of Elgin, show that the impacts of Bilbohall traffic will largely be localised.

Detailed Applications

Full Transport Assessments will accompany the planning applications that will come forward at Bilbohall. These will include more detailed information on street layout and design, walking and cycling links, public transport improvements and any required upgrades to the existing road network.

5 VIEWS & VISIBILITY

A Landscape and Visual Appraisal (LVA) has been carried out for Bilbohall. Site work has shown that the visual influence of the proposed development would be limited to the localised area around the site largely owing to the screening effect of built form, land form and mature tree cover within the vicinity of the site. As part of the LVA, the baseline conditions were established which describe the landscape character and visual amenity, of the development site and the surrounding area. The findings with regard to visual effects have been addressed through embedded mitigation within the masterplan.

The concept for the layout design has been to respond to the natural landform by shaping the proposed development along the existing contours in those parts that are not overly steep and then retaining the steeper slopes as green space for the establishment of woodland. This approach would ensure a strong landscape framework is established which would provide a strong setting to the proposed development and a more robust western edge to the settlement of Elgin.


VIEW TOWARDS LDP SITE CF2 AND ELGIN HIGH SCHOOL


VIEW ACROSS LDP SITE R1 FROM RAILWAY BRIDGE / MAYNE FARM ROAD


VIEW ACROSS LDP SITE R4 FROM HAREHILLOCK AVENUE


VIEW ACROSS OPEN SPACE ENVIA TOWARDS LDP SITE R12


VIEW ACROSS LDP SITE R3 FROM MAYNE FARM ROAD


VIEW ACROSS LDP SITE R3 TOWARDS LDP SITE R12 AND KNOCKMASTING WOOD


VIEW FROM LDP SITE R3 TOWARDS EXISTING ROBERTSONS DEVELOPMENT


VIEW ACROSS LDP SITE R3 FROM MAYNE FARM ROAD

Bilbohall Masterplan Consultation
Public Exhibition November 2017

7 VISION

The Bilbohall site is a distinctive and well-contained series of linked parcels of land to the west of Elgin which has the potential to be developed as a high quality new residential neighbourhood. The site benefits from unique topography and mature landscape setting which has been sensitively considered through a careful and robust masterplan process. The vision is for these unique qualities to be integrated into carefully designed housing areas which have a character and identity that reflects and enhances the existing nature of the site.

Bilbohall will provide a variety of housing types and tenures set within a high-quality landscape setting. New multi-functional open space will be provided including a neighbourhood park and pocket park. Existing pedestrian and cycle routes will be enhanced and extended through new woodland areas which will offer both more habitat areas and amenity spaces for residents and visitors.

The new street network will be permeable and connected, designed to work with the existing topography to ensure that the impact on existing knolls is controlled and limited as far as possible. Additional structural planting on slopes will serve to further contain the site and reinforce the existing character of wooded knolls. Street trees and hedgerows along key routes will create green corridors which balance with the new building elements and the density of the new residential areas reflects the existing slopes and aspect.

RESPONDING TO EXISTING FEATURES

Retained hedgerows, trees and topographical features will be integrated into the masterplan layout and provide a unique character and identity.

PERMEABLE NETWORK

A permeable street network comprising of a hierarchy of streets that work in a sensitive and comprehensive matter to be suitable for all users and connect Bilbohall into the surrounding area.

PUBLIC/ PRIVATE INTERFACE

A careful consideration of street frontages to ensure that the public/private interface and well-designed street scene.

8 DESIGN DEVELOPMENT & OPTIONS

The Bilbohall masterplan has gone through an extensive process of site appreciation and design testing to balance a diverse range of factors and considerations. This included a cut and fill exercise which tested the general volume of earth moving that might be required to establish residential development on certain parts of the site. This technical exercise identified those slopes which could confidently be incorporated into the residential tissue and those which had to be more cautiously approached in order to provide for a viable and deliverable masterplan.

Following the cut and fill testing exercises a number of masterplan options were progressed and reviewed with Moray Council and the Bilbohall Consortium. Through an iterative process of design review and adjustment a preferred masterplan emerged which successfully balanced the sensitivities of the landscape setting with other factors including road access, slope, open space provision and residential density.


Approach 1

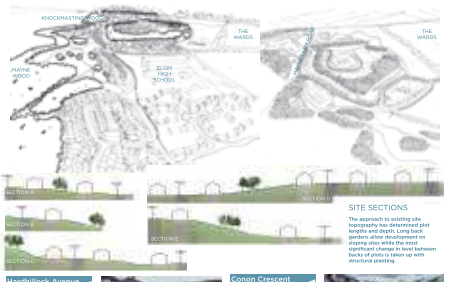
Assumes very minimal earthworks and avoids all of slopes above around 10%. Results in a detached development which is not connected across the site.


Approach 2

Alternative approach to better integrate sub-areas with further earthworks. Results in poor connections from top of knoll to rest of development.


Approach 3

Assumes no constraints on earthmoving in order to maximise connections. Results in considerable cut and fill across the site and relocation of sub-station.



SITE SECTIONS

The approach to existing site topography has determined plot lengths and depth. Long back gardens allow development on sloping sites while the most significant change in level between backs of plots is taken up with structural planting.

9 PREFERRED OPTION

This illustrative Masterplan progresses the key design principles for the development area and demonstrates how the spirit of the guidance might best be translated into reality. The resultant plan gives a good indication of the pattern of development that should emerge through subsequent detailed planning applications however other design solutions which adhere to the principles will also be acceptable.


ACCESS AND JUNCTION STRATEGY


OPEN SPACE AND LANDSCAPE STRATEGY


DENSITY


BUILDING HEIGHTS

10 CHARACTER

Six key character areas in the masterplan have been identified and these have developed as a response to the existing landscape, topography, and the location within the development. They will inform the future detailed layout of these areas, the character of open space, the palette of materials and architecture in each area.

The aim is to identify areas and zones across which a consistent and sympathetic character should emerge. The zones are therefore drawn in order to capture both sides of streets and catch those areas which should have a common relationship to adjacent open space.


MASSING MODEL, SHOWING STRUCTURAL LANDSCAPE CONTAINING DEVELOPMENT


MASSING MODEL, SHOWING STRUCTURAL LANDSCAPE CONTAINING DEVELOPMENT

1.5.1 Public consultation on the Preferred Option for the Draft Masterplan

Public consultation was held by the Bilbohall Consortium on the preferred option for the draft Masterplan over the period 1-17 November 2017 in which a drop-in exhibition was held on 1 November at the Graham Alexander Bell Centre, Moray UHI, Elgin from 2-8pm where the Masterplan consultants, members of the Bilbohall Consortium and officers from Moray Council were available to deal with queries. Over 100 people attended the exhibition and a summary of the representations received together with a response and the resultant amendments to the draft Masterplan are set out in sections 1.5.2 to 1.5.4.

1.5.2 Summary of Representations

The main feedback received following the community engagement process highlighted the following issues:

Housing

- Provide screening barriers between proposed affordable housing and existing private housing on Fairfield Avenue.
- Council housing should not be proposed next to private housing as this will unfairly lead to a reduction in property values.
- Affordable housing plans to be applauded however the Council already owns houses which are empty and could be rented out.
- The level of affordable housing proposed is too high and should be reduced.
- Welcome the provision of much needed social housing.
- Too much housing being built in Elgin. Sites already allocated and under development are sufficient to meet demand.
- The number of houses now proposed is more than is allowed for in the Local Development Plan.

Transportation

- Reliance on use of the current railway bridge at Bilbohall Road as one of the main accesses to the site is a mistake. The reintroduction of the western link road would be a better option.
- The railway bridge is not capable of handling the increase in traffic volumes arising from the new development. It was previously restricted to 40 houses. The lifespan of the bridge will be shortened as a result of the increase in traffic using it.
- Concern expressed about the increase in the volume of traffic and noise arising from the proposals.
- Concern expressed about access through the site becoming a rat run to new Elgin.
- It was disappointing that the options for the improvements to the railway bridge were not available in detail to comment on.
- Visibility is poor at the railway bridge crossing and the increased volume in traffic may result in a higher risk of accidents.
- The railway bridge is too narrow to accommodate buses.
- Concern about the detrimental impact of construction traffic on the area.
- Support the option for the railway bridge crossing which includes a new pedestrian bridge.
- Concern expressed about the proposed improvements to the railway bridge crossing and their ability to provide disabled access address the future dualling and electrification of the railway line and allow HGVs, buses and emergency vehicles to use the bridge safely.
- Concern expressed about the detrimental impact of the proposals on local roads to the north of the railway line.
- The existing level crossing at the Wards will become more problematical in the future as a result of an introduction of an hourly train service to Inverness and a high speed service between Inverness and Aberdeen. This will cause backing up of traffic on Wards Road and the Wards which will result in more rat running in the area.
- The reintroduction of the Western Link Road would be a better solution to address traffic issues.
- The proposals are a poor substitute for the Western Link Road.
- Who will be funding the improvements proposed to the railway bridge crossing?
- The proposed football pitch will require to have its own car park to prevent on street parking on the nearby residential streets.

Design and Layout

- Significant measures need to be taken to shield the properties on Fairfield Avenue from being overlooked.
- Long gardens are not the answer for providing separation as it is likely these gardens (some 50 metres long) will not be looked after properly. The gardens need to be shortened and an additional buffer area placed between the proposed and the existing housing.
- The new houses proposed parallel to Fairfield Avenue need to be realigned so that all are equidistant from the existing houses on Fairfield Avenue.
- The proposals are overdevelopment of the area.
- The flats proposed for the Firs (3 storeys) are too high for the area.

Education, Community and Medical Facilities

- The hospital and schools in Elgin do not have the resources to cope with the additional houses.
- Local GP and Dental Practices do not have the capacity to cope with the increase in patients that the development would create.
- The proposals will need a new primary school.

Environment

- The wetland area to the north east of the development proposals needs to be protected. There could be problems with the SUDs area catching all the surface drainage leading to the drying out of the wetland area.
- The impact of the proposed development on the wetland area needs to be carefully assessed.
- The proposals have been well thought out with lower density housing and many green spaces.
- Consideration should be given to the inclusion of areas for allotments.
- Concern about the detrimental impact on wildlife and the isolation of the wetland wildlife area from the countryside to the west.
- The trees near the bridge at the bottom of Mayne Road need to be protected from the development.
- Has an environmental impact assessment been carried out?
- Incorporation of green space into the development is welcomed. The Bilbohall Masterplan should look to incorporate wildlife friendly measures into its overall design. This includes, the planting of native trees, flower rich grassland, bird boxes, bat friendly lighting and wildlife friendly gulley pots and SUDs.
- Consideration should be given to the provision of a district heating network for the proposals.

Drainage

- The new housing may lead to flooding in the lower lying areas of Fairfield.
- Is there sufficient capacity in the sewage network to cope with this development?
- Flood Risk Assessment required.
- Need to check the impact of the proposed development on existing groundwater abstractions.

General

- Concern expressed that the number of houses proposed will escalate after planning consent has been given.
- Is it a coincidence that the area shown as not to be developed is the same as that previously proposed for the Elgin by-pass?.
- The costs of building the Council houses will be uneconomic due to the site preparation costs and demolitions required.
- The maintenance cost for the proposed new open space will prove a problem as who will maintain these areas.

Miscellaneous

- The pdf of the exhibition boards was too small and did not facilitate zooming in on detail on the proposals and also made it difficult to assess details and measurements.
- All staff involved in the consultation were pleasant and helpful.
- Event not well enough publicised especially for the residents at Fairfield.

Support and Opposition

- Five of those commenting on the emerging masterplan gave general support for the proposals. Six people/organisations were neither opposed or supported the proposals, two people opposed the proposals and 51 of the responses received were strongly opposed. It would be fair to say that the majority of those who were strongly opposed were resident in the existing houses at Fairfield. All those commenting expressed concerns about aspects of the proposals and in some instances suggested how these concerns might be addressed.

1.5.3 Responses to Representations

A response to the comments raised is considered below.

Housing

The Bilbohall proposals provide a much needed opportunity to make a major addition to affordable housing in Elgin. In addition to the 25% provided from the private element of the proposals, housing provided by Moray Council and Grampian Housing Association will all be affordable. There will be diversity in the mix of affordable housing proposed to address different needs and this will include low cost home ownership in addition to housing for rent. The masterplan is seeking to take forward the housing allocations in the Moray Local Development Plan and the detailed technical work undertaken for the masterplan has identified additional capacity for the land at Bilbohall to accommodate housing.

Transportation

It is recognised that this is a contentious issue, especially given the previous constraints placed on the land at Bilbohall and the abandonment of the Western Link Road proposals. In recognition of this, detailed transport studies have been undertaken to establish capacities. The studies have also identified solutions to allow development at Bilbohall to proceed including improvements to the junctions at the railway bridge at Bilbohall Road, at Edgar Road/Glen Moray Drive/The Wards and proposals to manage traffic movements through the development. Further more detailed traffic studies will be undertaken at the planning application stage to test the robustness of the traffic interventions proposed.

Design and Layout

The overlooking aspect of the housing proposed opposite the existing housing on Fairfield Avenue was a major concern for local residents and this will be addressed in changes to the masterplan considered in Section 1.5.4. In terms of the proposed heights of buildings on site, further work is being done on this by the Design Team in consultation with Moray Council Planning.

Education, Community and Medical Facilities

The impact of the proposals on education, community and medical services has carefully been considered. The Bilbohall proposals will be phased so the impact will be spread out over a 5-10 year period. Developer contributions from the development will also be required to help address any capacity issues.

Environment and Drainage

The Design Team for Bilbohal has included masterplanners, landscape architects, engineers and ecologists. Supporting studies undertaken to support the masterplan in addition to the transport studies, have included, a Landscape and Visual Appraisal, a Flood Risk Assessment and Preliminary Design Strategy, a Tree Survey and an Extended Phase 1 Habitat Survey. These studies address the concerns expressed on the environment and will help ensure the proposals do not have a detrimental impact on the environment.

Miscellaneous

In terms of costs and viability the Bilbohall Consortium have employed cost consultants to consider all costs and how these are shared by the Consortium members. Scottish Government grants may also be available to help with infrastructure funding for the development. The maintenance of open space areas will be principally done through a factoring arrangement, though the Council will likely cover the open space areas related to their part of the development. Comments about the publicity arrangements for the public consultation event are noted and will help inform future events.

1.5.4 Impact on Draft Masterplan

The suggestions and ideas for the consultations undertaken have been considered by the Design Team.

Concerns were raised about the proposed development parallel to Fairfield Avenue. Residents were concerned about the potential for overlooking, the length of gardens proposed to try and mitigate this. In response to these concerns the following changes have been made to the Bilbohall Masterplan:

- Plot depths in Development Block D have been reduced in order to decrease the length of the rear gardens of these properties
- An additional landscape buffer has been introduced to increase screening;
- All properties in Development Block D have been designated as single-storey height in response to concerns with regards to overlooking.

Public exhibition, 2017

1.5.5 Public Consultation on the Draft Masterplan

Public consultation was held on the draft Masterplan by Moray Council over an 8 week period commencing on 5 March and ending on 27 April 2018 during which a drop-in exhibition was held in tandem with the Main Issues Report for the Moray Local Development Plan 2020 where officers from Housing, Planning and Transportation were available to deal with queries. 36 representations were received from the public with many raising the same points as previously through the consultation on the preferred option for the draft Masterplan. A summary of the main points raised and response along with the resultant amendments to the draft Masterplan are set out in section 1.5.6 and 1.5.7.

1.5.6 Summary of Representations and Response

The main issues raised through the public consultation on the draft Bilbohall Masterplan are similar to those raised previously and an overview and response is provided below:

- Intrusion on privacy: The height of properties within Block E were reduced to single storey and the length of rear gardens decreased to enlarge the buffer strip, which will be planted with trees, in the draft Masterplan to reflect concerns raised during the initial consultation. The final Masterplan includes further detail on the minimum distance between the rear elevations of properties within Block E and Fairfield Avenue, a minimum 15m wide buffer strip of planting adjacent the existing 10m buffer strip, and details on tree species to ensure an overall mature height of 10-12m, year-round foliage and coverage at understorey level.
- Level of affordable homes: The provision of affordable housing is a key priority of Moray 2026: A Plan for the Future, the Local Housing Strategy (LHS) and the Moray Health and Social Care Strategic Plan 2016-19. The Housing Needs and Demand Assessment 2017 which has been afforded 'robust and credible' status by the Scottish Government identifies the Elgin Housing Market Area (HMA) as having the greatest need for affordable housing with approximately 63% of development requiring to be affordable over the period 2018-22. The level of affordable housing proposed (62% of the total development) through the Bilbohall Masterplan is therefore more akin to the actual need than the 25% requirement stipulated in Scottish Planning Policy (SPP). The sites being developed for affordable and private housing are determined to a large extent by land ownership. The sites owned by the Council and Grampian Housing Association are identified as key priorities for investment in the Strategic Housing Investment Plan (SHIP). The affordable housing will be provided in the form of social rented housing and low cost home ownership and the mix will include specially adapted accommodation for older and disabled people as well as mainstream family housing.
- Flooding and Drainage Issues: Additional technical studies have been carried out as part of the preliminary Drainage Strategy and Flood Risk Assessment to assess pre-development and post-development run-off rates and ensure that adequate storage is provided in order that a 1 in 200 year event plus climate change can be contained and managed on-site. This has included an analysis of catchments, discharge rates and volumes. The Moray Council Flood Team are satisfied that surface water from the development can be adequately discharged without causing flooding problems in the immediate vicinity or further downstream. Detailed Drainage Designs and Flood Risk Assessments are a requirement of subsequent planning applications.
- Increase in traffic volume: The Strategic Traffic Modelling undertaken in the preparation of the Masterplan shows that the link capacity of the roads in the vicinity of the development can generally accommodate the increase in the volume of traffic associated with the Bilbohall development. Improvements will be required to the existing bridge over the rail line at Bilbohall Road. Options for improvement which have been assessed include the removal of the footway on the eastern side of the existing rail bridge to provide a southern carriageway to allow two-way traffic over the bridge, and provision of a separate active travel bridge across the rail line and the retention of the bridge in its current form with the signalisation of Bilbohall Road/Mayne Road/Wards Road/Fleurs Road junction. Initial analysis of junction options has been explored for the final Masterplan and further detailed transport modelling and design will be required as part of planning applications. Transport Assessments will accompany subsequent planning applications which will set out detailed proposals for the necessary mitigation measures on the local transport network, which will include the signalisation of the Edgar Road/The Wards/Glen Moray Drive junction.
- Concerns about 'rat-running' and safety: The Bilbohall road network has been designed to discourage through traffic travelling between the south and west of Elgin through a combination of measures which respond to the location rather than apply rigid standards, regardless of context, and prioritises pedestrians over motor vehicles. This is in accord with Scottish Government policy 'Designing Streets', the National Roads Development Guide 2014 (NRDG) and the Council's Supplementary Guidance on Urban Design which promotes good placemaking in which designing natural traffic calming into the development and creating attractive, safe streets is a key component. Examples of such traffic calming measures are illustrated in the final Masterplan.
- Impact on Wildlife/Biodiversity: An extended Phase 1 Habitat Survey has been undertaken during the preparation of the Masterplan which identified that the predominant grasslands are typically low value to biodiversity and recommends that further surveys for bats, badgers and nesting birds are undertaken at planning application stage. SNH have been involved in the preparation of the Masterplan from the outset and the wildlife corridor proposed has been incorporated into the Masterplan. Wildlife friendly measures suggested by the RSPB have been incorporated into the final Masterplan. At the planning application stage additional, more detailed measures will be required to accord with the new Biodiversity policy in the Proposed Moray LDP 2020.
- Impact on Health and Education Facilities: Developer obligations will be sought from developers to mitigate any adverse impact the proposed development may have on education, health and transport infrastructure at the time of a planning application.

1.5.7 Impact on Final Masterplan

The main changes incorporated into the final Masterplan are:

- Design code - Further detail is provided in the design code for the 6 character areas to ensure distinct pockets of development are created helping people to identify and find their way around the development
- Relocation of pocket park – The pocket park within site R4 has been relocated from the western edge to a central open space between blocks O and P to encourage sharing of facilities:
- Site OPP7 - The indicative capacity of site OPP7 has been increased from 4 to 10 units to allow for a range of redevelopment options such as cottage style flats. The height of properties within site OPP7 has also been reduced from 3 to 2 storey to reflect privacy concerns;
- Site R3, Block E - Further detail on the planting provisions and property separation distances between new and existing properties within and adjacent site R3;
- Drainage and Flood Risk - Additional information pertaining to drainage and flood risk in terms of a Surface Water Drainage Strategy and Flood Risk Assessment to demonstrate the proposed development will not increase the flood risk to the Tyock Burn catchment; and,
- Transport Network - Further detail on the road network in terms of traffic calming measures and junction options at Bilbohall Road/Wards Road/Fleurs Road/Mayne Road to the north of the site.

Public exhibition, 2017

2. The Site

2.1 Context & location

The Bilbohall masterplan area lies on the western edge of Elgin. To the immediate north, beyond the railway line, areas of established residential and other uses extend further west to form the furthest westerly point of Elgin. Development at Bilbohall will round off the town.

The north of the site is bounded by the Inverness – Aberdeen railway line with Wards Road immediately to the north, running parallel with the railway line. The east boundary is defined by the Wards wildlife site and the recently reconfigured Elgin High School site. Edgar Road has been extended as part of the school works and provides a further point of access. The south and south-west boundary is defined by established mature woodland while the western boundary nominally follows an existing ridge line from the woodland block to Bilbohall Road. At this point the boundary runs north-north-west to the rear of Knockmasting Wood.

2.1.1 Ownership

The site comprises around five distinct parcels in various ownerships and/or under option control, with the key parties being Scotia Homes, Moray Council and Grampian Housing Association. Robertson Homes retain ownership of a portion of the masterplan area to the north adjacent to the railway line, however this land is largely safeguarded should electrification/dualling of the railway line require a new crossing point to replace the existing bridge at Mayne Farm. Figure 3 illustrates that ownership generally adheres to existing roads, Core Path alignment or field parcels. Where land falls into separate ownerships but is considered to be part of the same character or landscape unit, the masterplan has been developed as 'landownership' blind in order to prevent arbitrary divisions between neighbourhoods for example. Where delivery of key infrastructure is critical, ownership has been considered to ensure proposals are pragmatic and realistic.

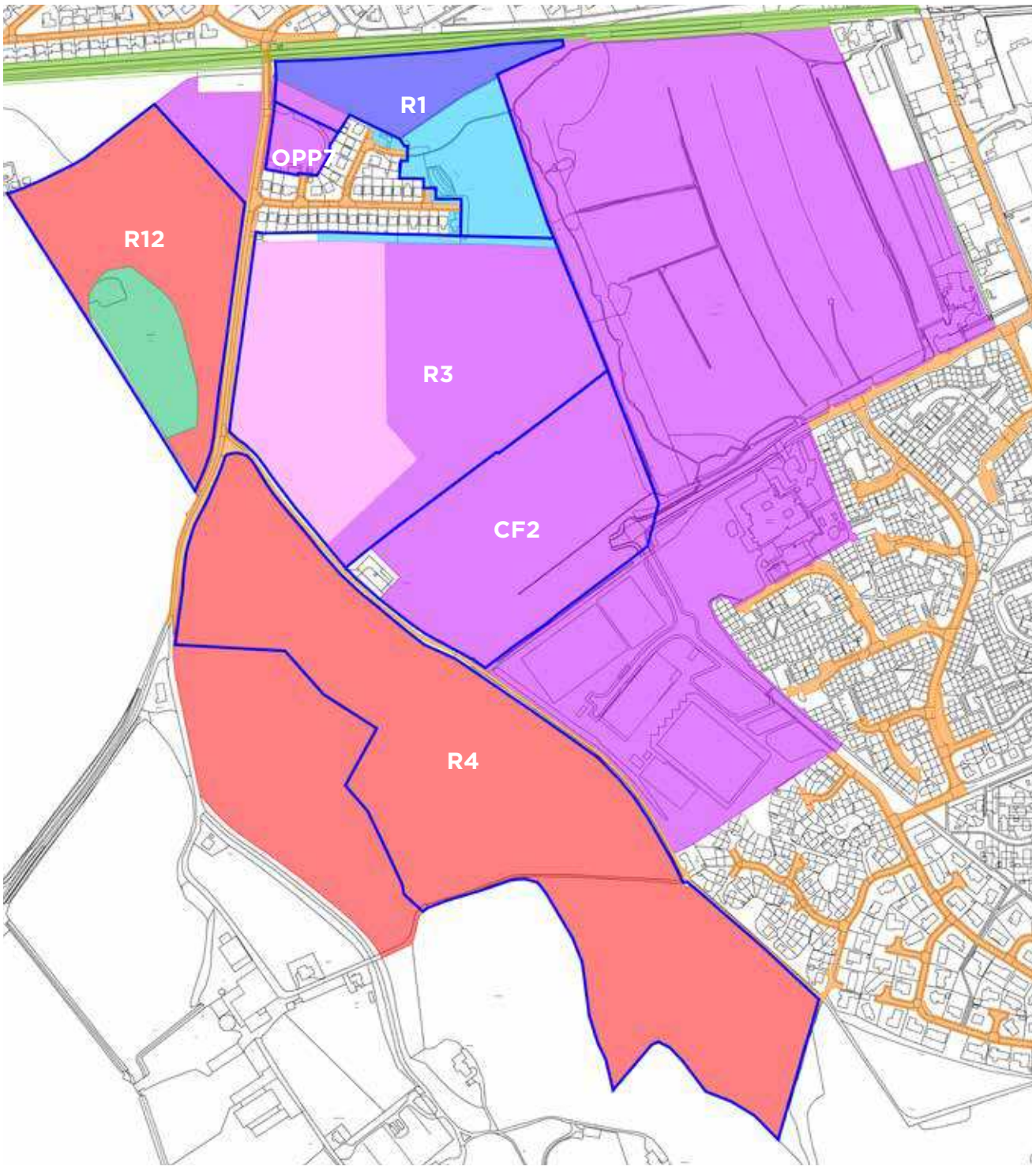


fig. 3: Land Ownership and Options

2.1.2 LDP Sites

R12

Occupies the north-west corner of the collective site. It sits to the west of Bilbohall Road and to the south of the Aberdeen to Inverness railway line. To the west lies the rural edge, characterised by large and open fields of arable and pasture farmland, although this western site boundary is largely enclosed by the landform of a distinctive knoll and stand of mature Scot's Pine. To the north of the R12 boundary lies open space and a small equipped play park.

R1

Is the northern most site, occupying the land to the immediate south of the Aberdeen to Inverness railway line and Wards Road and the immediate north and east of Fairfield Avenue, a recent residential development comprising two storey detached properties. R1 forms a small pocket of land gently sloping eastwards. R1 does not form part of the area being masterplanned as it has largely already been developed.

R3

Sits to the south of Fairfield Avenue and to the east of Bilbohall Road and is characterised by one of the distinctive knolls that define this area. Steep sides rise up to the relatively level circular plateau at the top of the open knoll. The flat and level wetland named 'The Wards' lies to the east and the lower lying and more level landform of site CF2 lies to the south.

R4

Occupies the long knoll to the west, which extends from Bilbohall Road in the north-west, to Elgin Golf Course in the south-east. The ridge follows this alignment with more level land rounding across the ridge and then slopes falling way to the north-east. This area is currently open farmland, although dense and mature woodland occupies the southern part of the ridge, which lies to the south of the site and which forms a substantial wooded backdrop.

CF2

Is enclosed by the landform of the knoll to the north and another longer knoll to the west. The new Elgin High School site lies to the immediate south, the big mass and institutional character of this super block establishing a strong influence over this urban / rural edge.

OPP7

Comprises a former NHS elderly care facility and associated grounds. The buildings are surplus to requirements and residential development is proposed. A group of disparate buildings occupy the site, set within a setting of mature trees which are under a Tree Protection Order.

2.2 Site Description

The Bilbohall site is a complex landscape area and is predominantly agricultural in nature. A distinctive series of landforms and features are evident, from planted knolls with woodland to rounded hills covered with grassland to rolling fields leading down to the flood plain area to the west. There is some arable cultivation alongside the grassland management and field boundaries range from post and wire fences to hedgerows. Outwith the established woodland blocks there are limited areas of mature trees, generally planted in lines or grouped at junctions. There is evidence of wetter areas immediately adjacent to the Wards which is a low-lying area of nature conservation immediately to the east of the Bilbohall site. Aside from the distinctive knoll to the east of Mayne Farm road, the Scots pine woodland of Knockmasting wood contributes a particular character to the area in addition to providing a strong spatial and visual containment along that particular edge. From elevated parts of the site there are views back to many parts of Elgin; similarly, there are glimpse views along streets and between houses from the east of the site to the rounded hills of Bilbohall, although these are viewed with taller landforms evident in the background.

2.2.1 Land use and designations

The site and study area are not covered by any national, regional or local landscape designations, which would otherwise denote scenic value or landscape quality. There are also no townscape designations covering the site or study area, except for the High Street and Elgin South Conservation Area which covers the historic core of the town to the north-east of the study area. The enclosure of this area, combined with the separation distance from the site and the extent of urban development within the separation distance, ensures that the proposed development would not have an effect on the character of the Conservation Area.

Designations adjacent to the site include an area of Ancient Woodland to the south and a local Wildlife Site (The Wards) to the east. A network of core paths cross the site and link into the wider urban area. An area of site OPP7 falls under a Tree Preservation Order (TPO). The recently constructed Elgin High School is located to the south of CF2.

Fairfield Avenue is a recent housing development north of R3 whilst there is more established residential neighbourhoods to the east of R4 which are edge-of-town in character and density.

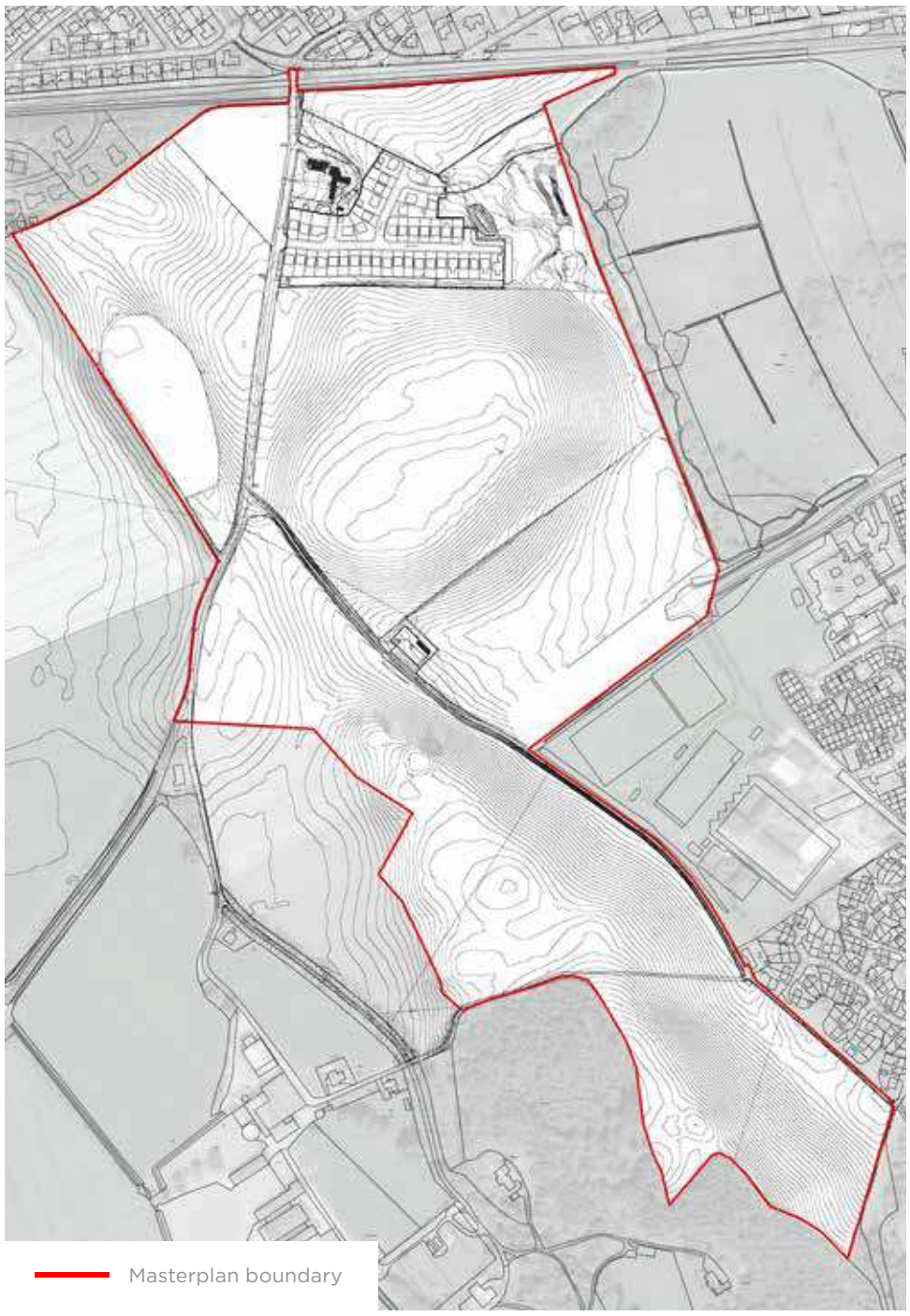


fig. 4: Landform and topographic survey

2.3 Site topography and drainage

Figures 4-6 illustrate that the site has a particularly complex set of landforms with slopes of all aspects and steepness. The masterplan area shows a variety of landforms, with several distinctive knolls, the most prominent being that of R3. This acts as a visual boundary to direct and contain views in certain directions, whilst offering long-distance views from the upper slopes. Mayne Wood to the south and east covers the highest landforms in the immediate vicinity, whilst a public right of way runs along a mini-valley between CF2/R3 and R4. The elevation varies across the parcels from a high point of around 46m AOD within R4 to 15m AOD within CF2 which is an obvious low point due to the presence of marshy land and proximity to The Wards.

The River Lossie runs to the west of the site, however SEPA Flood risk mapping shows no identified risk from river flooding within the masterplan boundaries. There are no watercourses within the site although local drainage channels are evident immediately to the south of CF2 and the adjacent Wards site is obviously a key location for water storage and collection.

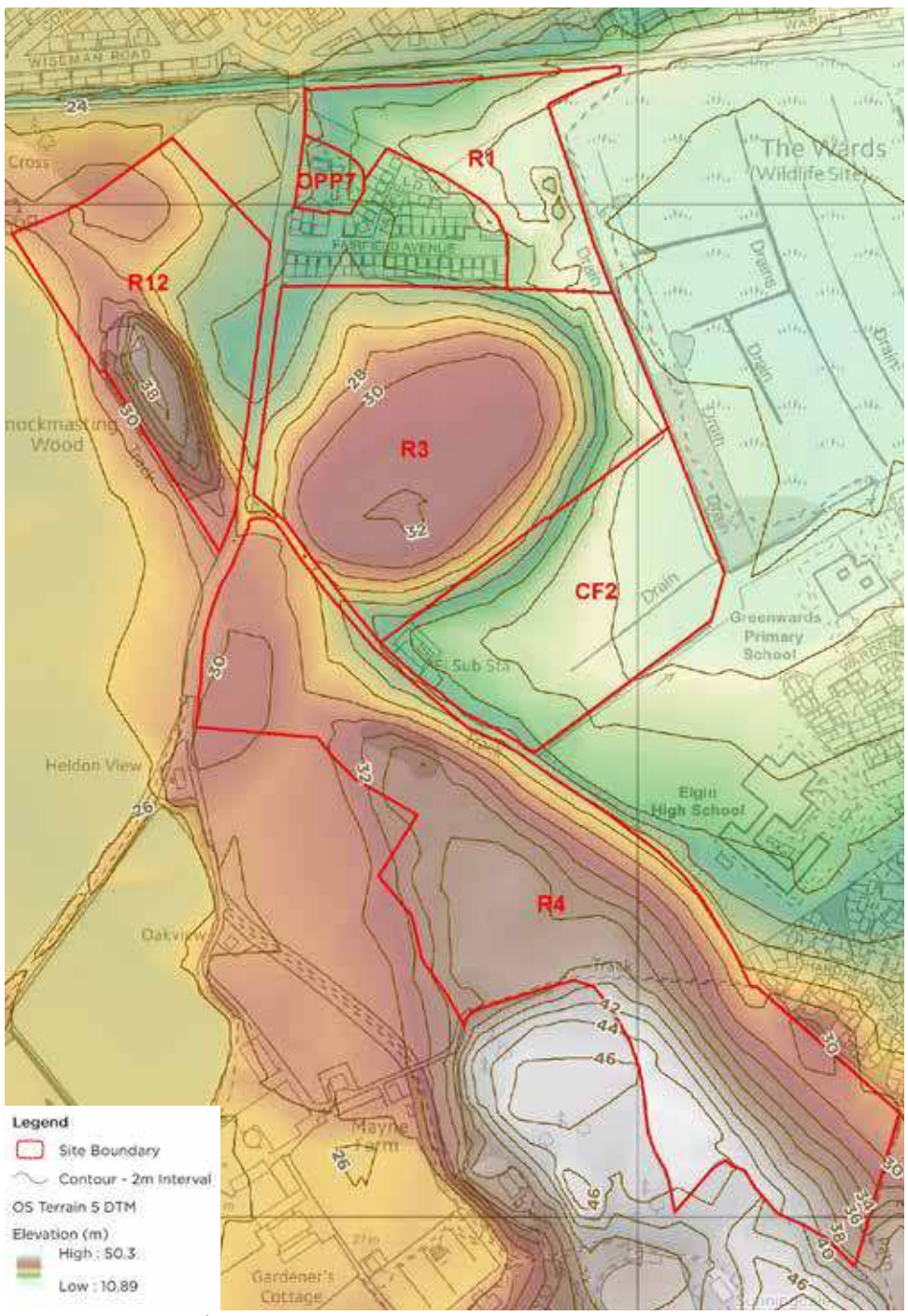


fig. 5: Topography/elevation

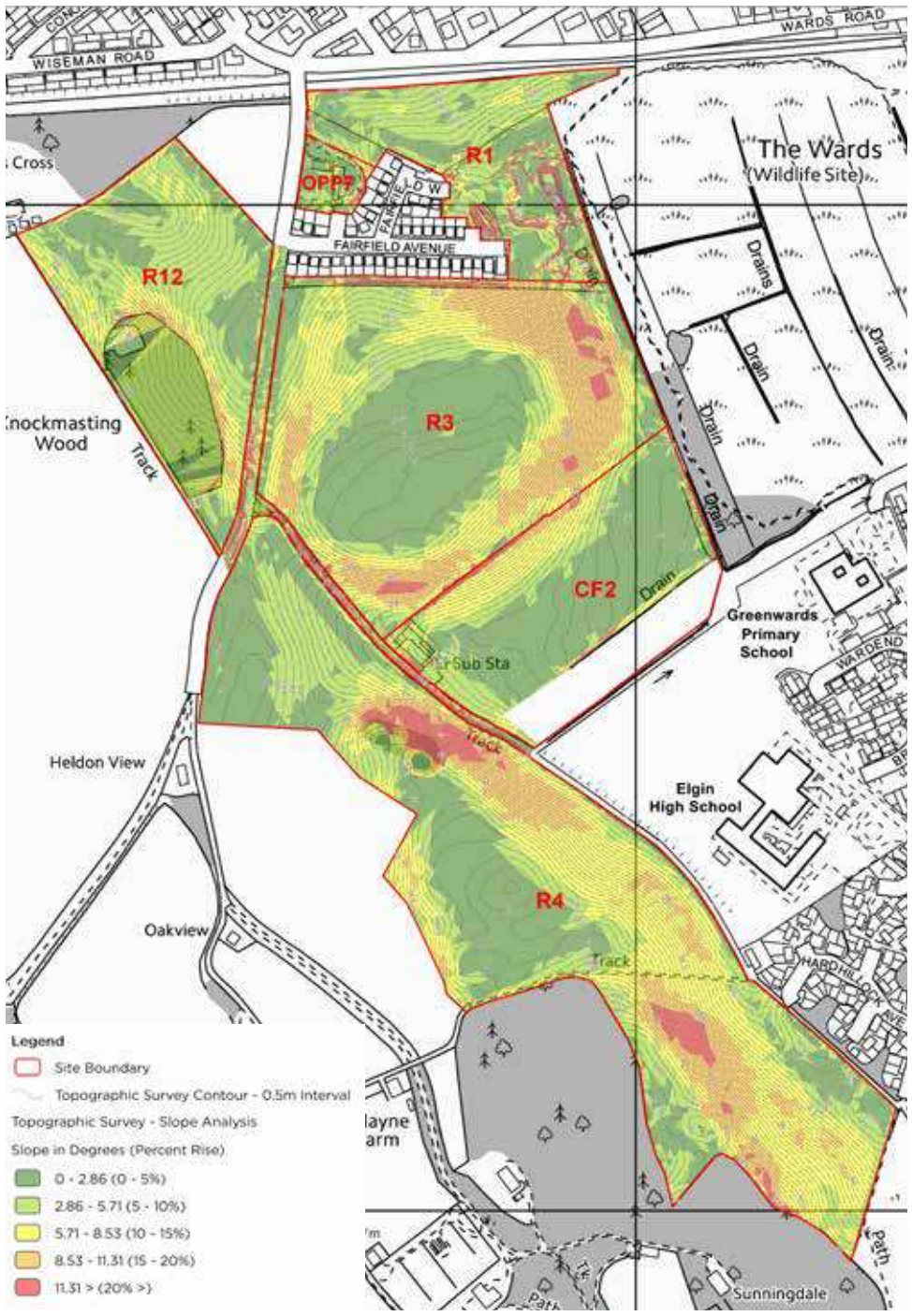


fig. 6: Slope

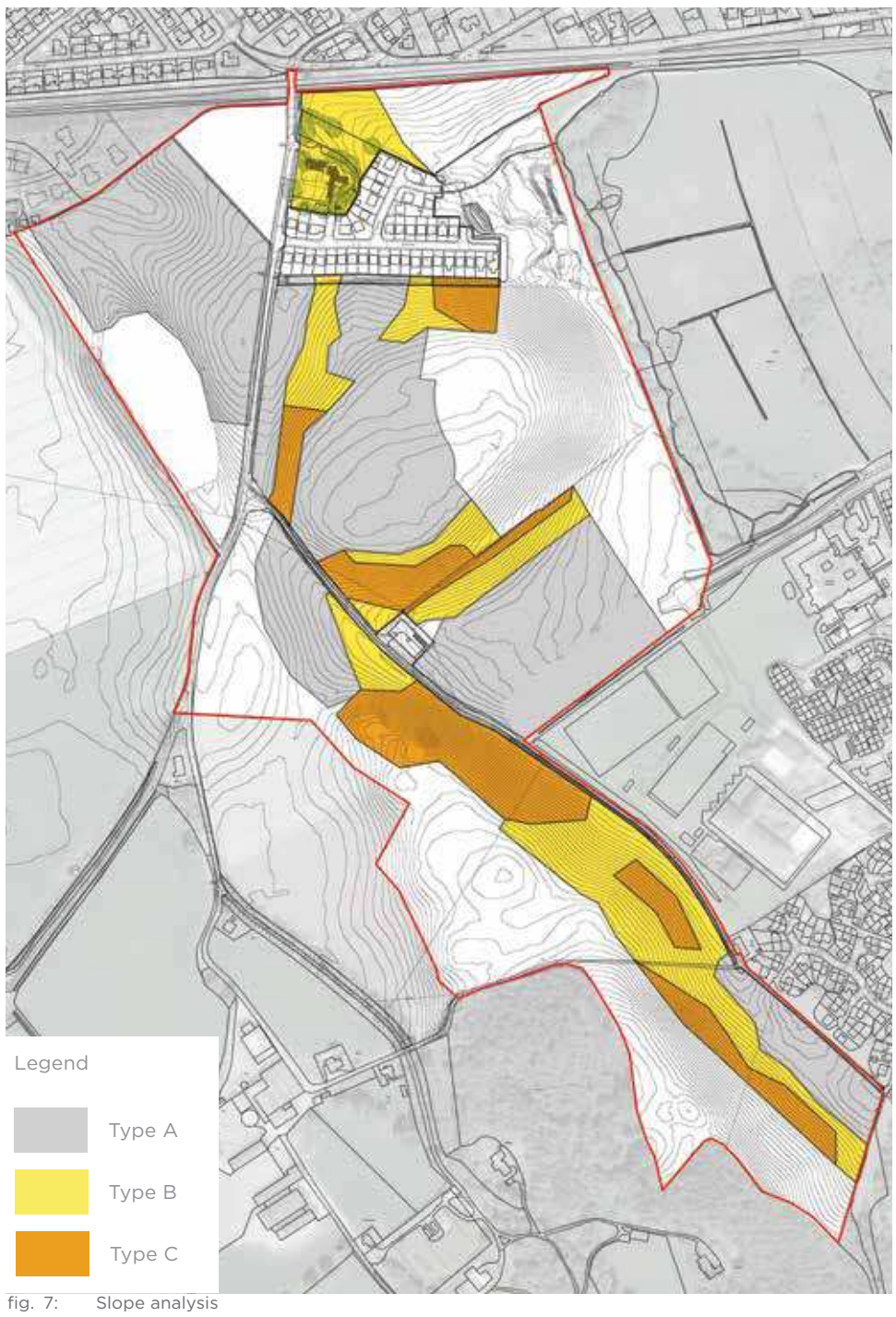


fig. 7: Slope analysis

2.3.1 Slope

Given the particular nature of the site in terms of landform and elevation, a careful analysis of slope was undertaken to assess and categorise parts of the site in terms of relative constraints to development (figure 7). Three categories of slope have been established that will require varying approaches in relation to extent of earthworks and consideration of street alignments in order to sensitively accommodate residential development:

The slope analysis revealed a number of areas where previously developed design guidance required to be refined in order to ensure the masterplan reflected the realities of the site. Although the site has a varied landform, this can be taken advantage of to provide suitable residential development. Proposed roads either follow the route of existing roads or circle the knoll and slopes to ensure accessibility is maximised.

Category of Slope	Description
Type A	Normal site slope conditions. Considered generally unconstrained in terms of residential development and suitable for a range of densities and uses.
Type B	Somewhat constrained due to slopes of up to 15%. Lower density approach required or some re-grading to accommodate residential uses.
Type C	Over 15% slope requires specific earthworks and re-grading strategy to accommodate residential uses in a viable manner.

2.4 Existing landscape features

Although largely agricultural in nature, there are a number of prominent landscape features within the development area which have been identified for retention or integration into the masterplan. For the most part these are existing hedgerows which run parallel with key routes (both roads and paths) and which contribute to the character of the area.

The existing woodland areas of Knockmasting Wood and Mayne Wood fall outwith the landownership of the Bilbohall Consortium and will therefore not be effected by the Masterplan proposals. Integrating them into the design is critical however as they provide not only important functions in relation to visual containment, but are also amenity and habitat resources.

2.5 Habitat

An Extended Phase 1 Habitat survey has been undertaken which reports that the predominant grasslands are typically of low value to biodiversity. Field boundaries and woodlands provide most suitable habitat for protected species. There is Badger evidence in the surrounding woodland and further surveys are recommended for bats, badgers and nesting birds.

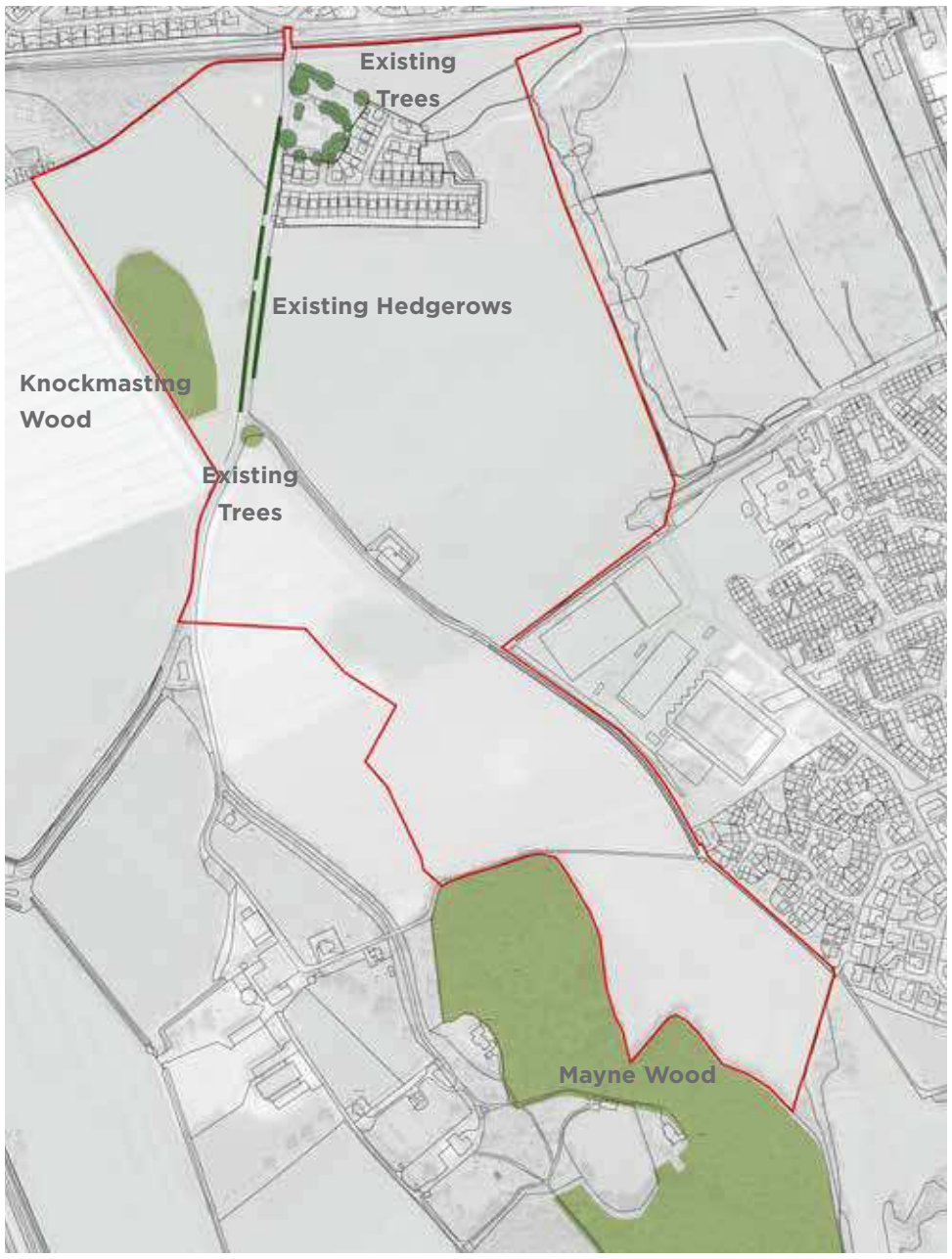


fig. 8: Existing landscape features

Hedgerow along core path

Knockmasting Wood

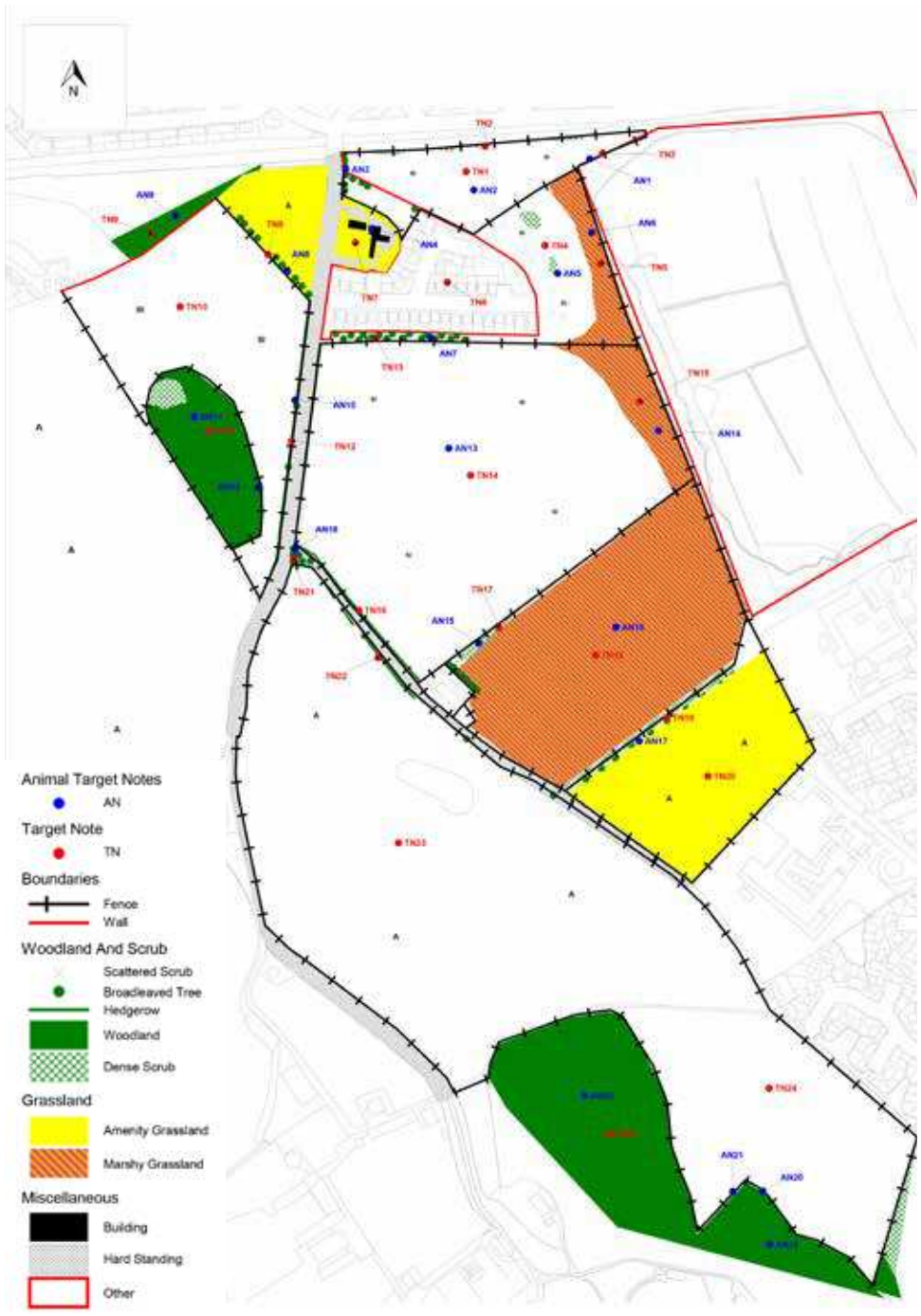


fig. 9: Phase 1 Habitat survey plan

Existing Hedgerows along Bilbohall Road with Knockmasting Wood to the right

2.6 Connectivity

The existing movement network surrounding the masterplan area allows for good pedestrian, cycle and vehicle flow (see Figure 10). The surrounding area has a mix of residential, commercial and retail uses and schools, which can be accessed by all modes of transport (foot, cycle and vehicles). The wider accessibility has been analysed and is good.

2.6.1 Pedestrian

In the existing residential areas to the east of Bilbohall, the pedestrian network is typically defined by footways adjacent to the carriageway, and paths providing short cuts between residential blocks. Within the Masterplan area, and in the open spaces of The Wards Wildlife Site and Mayne Wood, a network of primarily off-road paths provide connections. The Core Path running south through the site links Wards Road with Elgin High School, Elgin Golf Club and the residential area around Hardhillock Avenue.

2.6.2 Cycle

National Cycle Route 1 (NCN 1) passes to the north of Elgin City Centre. In the vicinity of the site cycling is typically limited to the road network. A number of routes within the Elgin Sustainable Travel Network (ESN) link with, or pass close to, the Bilbohall area (see Figure 11). These include ESN 6 between Birnie Crescent and The Wards Wildlife Park and Elgin Retail Park, and ESN 2 which provides a surfaced, primarily off-road cycle link between Reiket Lane and Wards Road.

2.6.3 Public transport

Bus

To the north of the Masterplan area, the existing public transport network passes through residential areas around Dr Gray's Hospital, and to the south along Glen Lossie Drive. The current local operator's bus fleet likely to be available to residents of Bilbohall comprises the following vehicles:

- Optare Solo (minibus)
- Alexander Dennis Enviro 200 (minibus)
- Alexander Dennis Enviro 300 (full size single decker)
- Volvo B9R/Plaxton Panther (coach- less likely)
- Volvo B12B/B13R Plaxton 15m coaches (less likely)

Network Rail

The Aberdeen to Inverness rail line runs from east to west at the northern boundary of the masterplan area. The Mayne Farm Rail bridge currently serves as a crossing point from the site towards Elgin town centre north of the railway line.

2.6.4 Local road network

There are two current vehicular access points into the Masterplan area. To the north, Bilbohall Road provides a connection to Wards Road via the railway bridge, and to the east Edgar Road provides access at the recently constructed junction with Elgin High School.

fig. 10: Existing connections

Existing Core Path Network
Other Existing Paths
Existing bus route (33)
Existing street network

1 Elgin High School
2 Greenwards Primary School
3 Local shops
4 Elgin retail park
5 The Wards Wildlife Area
6 Mayne Wood

fig. 11: Cycle and walking routes around Elgin

2.7 Views and Visibility

A Landscape and Visual Appraisal (LVA) has been carried out for Bilbohall which is included as a separate appendix. As part of that document, the baseline conditions were established which describe the landscape character and visual amenity of the development site and the surrounding area. Some key observations from that baseline are below and the findings with regard to visual effects have been addressed through embedded mitigation within the masterplan which are set out later in this document.

The presence of the distinctive knolls and mature woodland, whilst themselves apparent landscape features, particularly in views from the west rather than the east, would screen large parts of the proposed development. On the southern side of the site, the presence of the mature and dense Mayne Wood, covering a substantial part of the Distinctive Knoll, precludes visibility from receptors to the south. While visibility of the proposed development would be readily evident along the eastern boundary where it abuts Elgin Golf Course, the residential area and the grounds of the new Elgin High School, this front row of development would screen much of the proposed development from receptors lying behind. Where the proposed development abuts 'The Wards' along the northern part of the eastern boundary, the potential for visual receptors to be affected would be limited by the extent of enclosing tree cover around the paths system and this would also preclude visibility arising further east across the town. There would however be glimpsed views from close range paths through The Wards'.

The extent of visibility along the northern site boundary is similarly contained. To the north of the Aberdeen to Inverness railway line and Wards Road, the landform rises, and the presence of residential development enclosing this aspect would prevent the influence of the proposed development affecting visual receptors beyond the localised area.

The combination of these enclosing elements would restrict the potential visibility of the proposed development to within the localised area.

2.7.1 Baseline Views

The LVA identifies a number of viewpoints and principal visual receptors which have been appraised in terms of effects on visual amenity. A selection of those viewpoints are shown below to illustrate the typical baseline condition. These include:

- View from Ward's Road west: Selected to be representative of the views of road users and residents on Wards Road.
- View from Bilbohall Road: Selected to be representative of walkers, road-users and residents.
- View along Core Parth EG36: Selected to be representative of walkers along the main access through the proposed development."

fig. 12: Baseline Views

1. View from Wards Road West

2. View from Bilbohall Road

3. View from Bilbohall Road Junction

Visualisation from Wards Road West illustrating indicative housing blocks and embedded landscape mitigation following assessment process

2.7.2 Selected site character views

A number of site views have been selected to illustrate the existing characteristics of the site and certain features that have guided the masterplan process.

fig. 13: Site views. Key Plan

View 1: View over CF2 towards Elgin High School

View 2: View towards prominent knoll in R3 from adjacent to Elgin High School

View 3: View towards Mayne Wood in R4 from adjacent to Elgin golf course

View 4: View from the south of the masterplan area over R4

View 5: View south across R4

View 6: View over R3 towards Elgin town centre

View 7: View towards Knockmasting Wood in R12 from edge of R3 knoll

View 8: View towards existing play area to the north of R12

2.8 Site analysis and constraints

The distinctive knolls create an irregular pattern of landform which is further complicated by the imposition of field boundaries, roads and paths which do not necessarily relate to the contours. The mature woodland forms a prominent feature, and adds to the enclosure formed by the knolls, but could be extended to contribute to a clearer pattern. While the current urban edge is poorly defined, the proposed development presents the opportunity to create a more robust and responsive western edge to Elgin.

Analysis has highlighted a number of locations where steep slopes are likely to be a constraint to development. Direction of slopes also dictate the alignment of streets in order to avoid excessive areas of cut and fill and allow for reasonable gradients.

A number of existing hedgerows have been identified for retention as part of a designed street section. Where these cannot be retained within the new street corridor, a substitute hedge must be planted. This is a key design principle.

2.9 Site appraisal and site principles

The site surveys and assessments have been brought together in the form of a site approach diagram which identifies those areas to be protected as open space and structural landscape and those areas which would be most suitable for development. Key connections that must be delivered in terms of pedestrian and vehicle movements are integrated and suggest a structure for individual development parcels which can then be delivered in a robust and connected way.

Future electrification or twin-tracking of the Aberdeen to Inverness rail line in Elgin may require the construction of a new bridge across the rail line to replace the Mayne Farm Rail bridge. The Masterplan safeguards a corridor which makes allowance for a new bridge linking the Masterplan site with Wards Road adjacent to Wittet Drive. More detail is provided in Section 4.4.4.

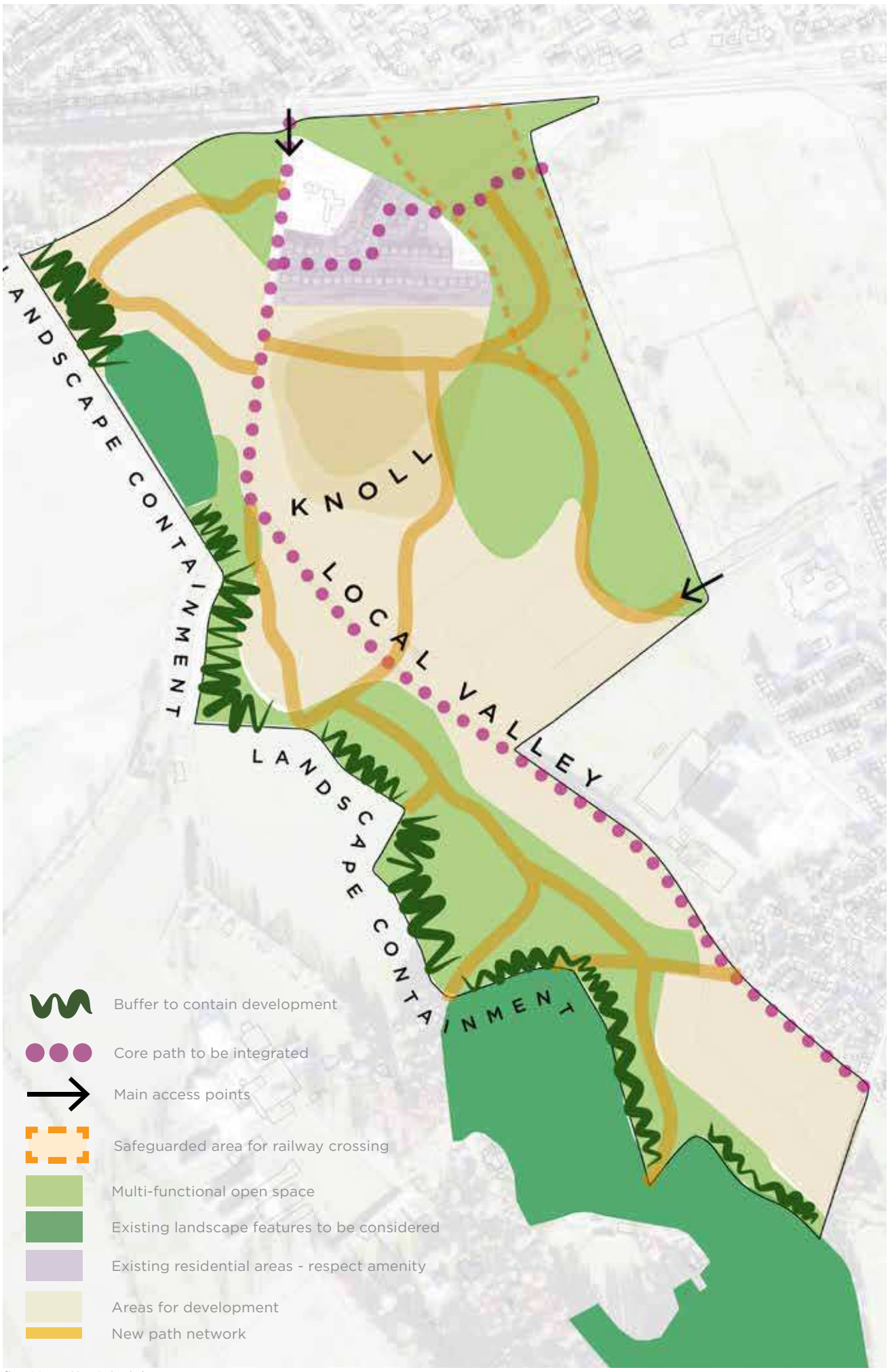


fig. 14: Site Principles

2.10 Residential density in context

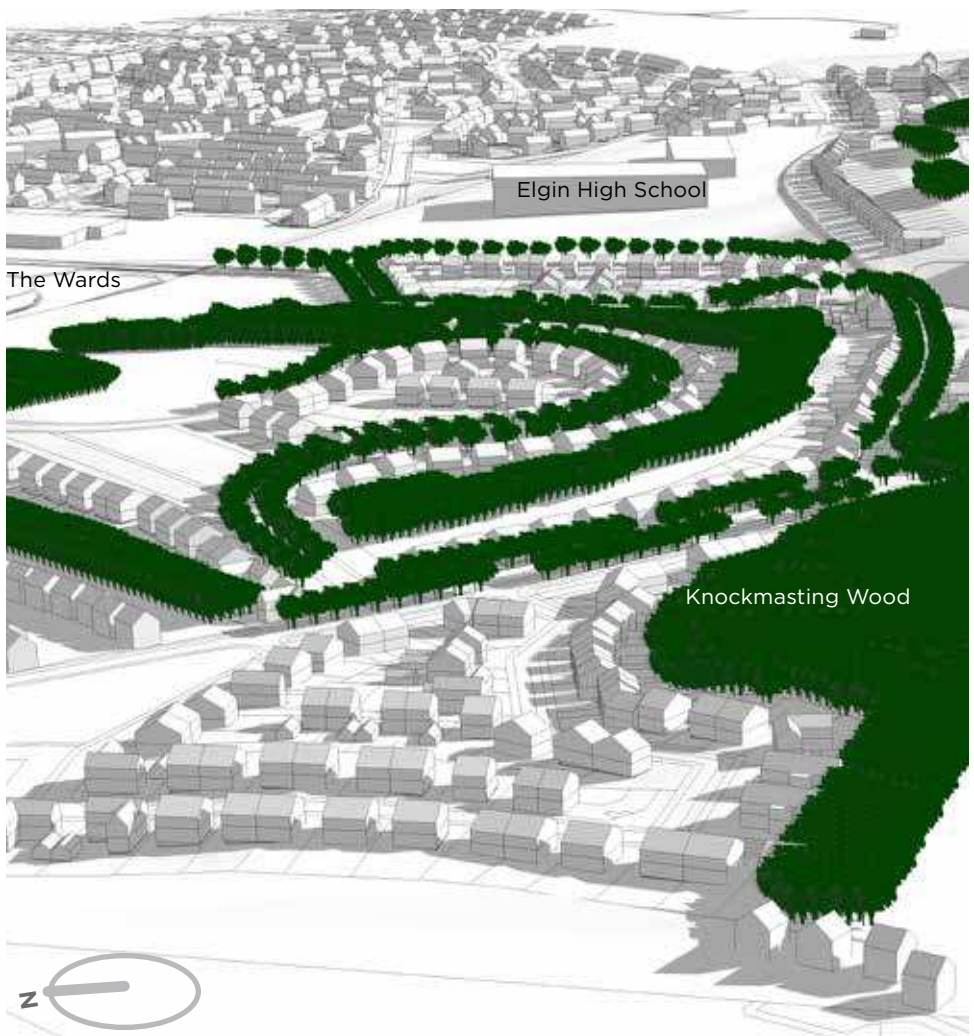
A series of density studies have been undertaken on selected residential sites around the masterplan area in order to establish typical densities. These studies have shown a range from around 11 units/hectare up to 42 units/hectare. These densities reflect the differences in residential types and the approach to slope which has been necessary elsewhere. The studies show that even on areas of up to 10%, densities of up to 29 units/hectare are achievable.

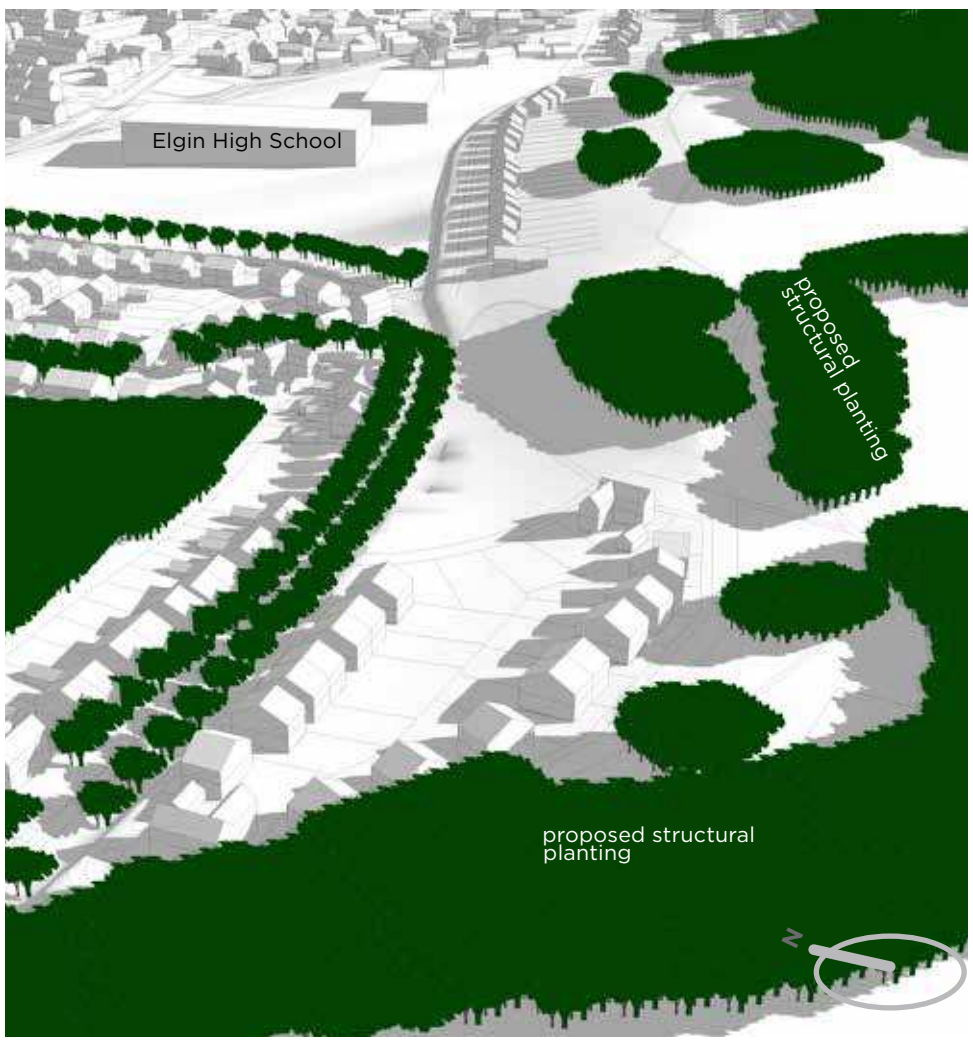
3. Design Development

3.1 Design development

The Bilbohall masterplan has gone through an extensive process of site appreciation and design testing to balance a diverse range of factors and considerations. The iterative design process included an initial period of specific study on transport impact and road network capacity to establish the feasibility of the sites prior to commencing masterplanning tasks. Once it was established that the sites could be accommodated through the Elgin Transport Strategy, an intensive period of site survey and analysis was undertaken to obtain up-to-date baseline information on conditions, habitat, topography etc. These were assimilated into a comprehensive opportunities and constraints plan which in turn informed a site approach plan which suggested a way to progress the masterplan layout.

Looking south towards ridge line with Mayne Wood with the Wards and prominent knoll in foreground

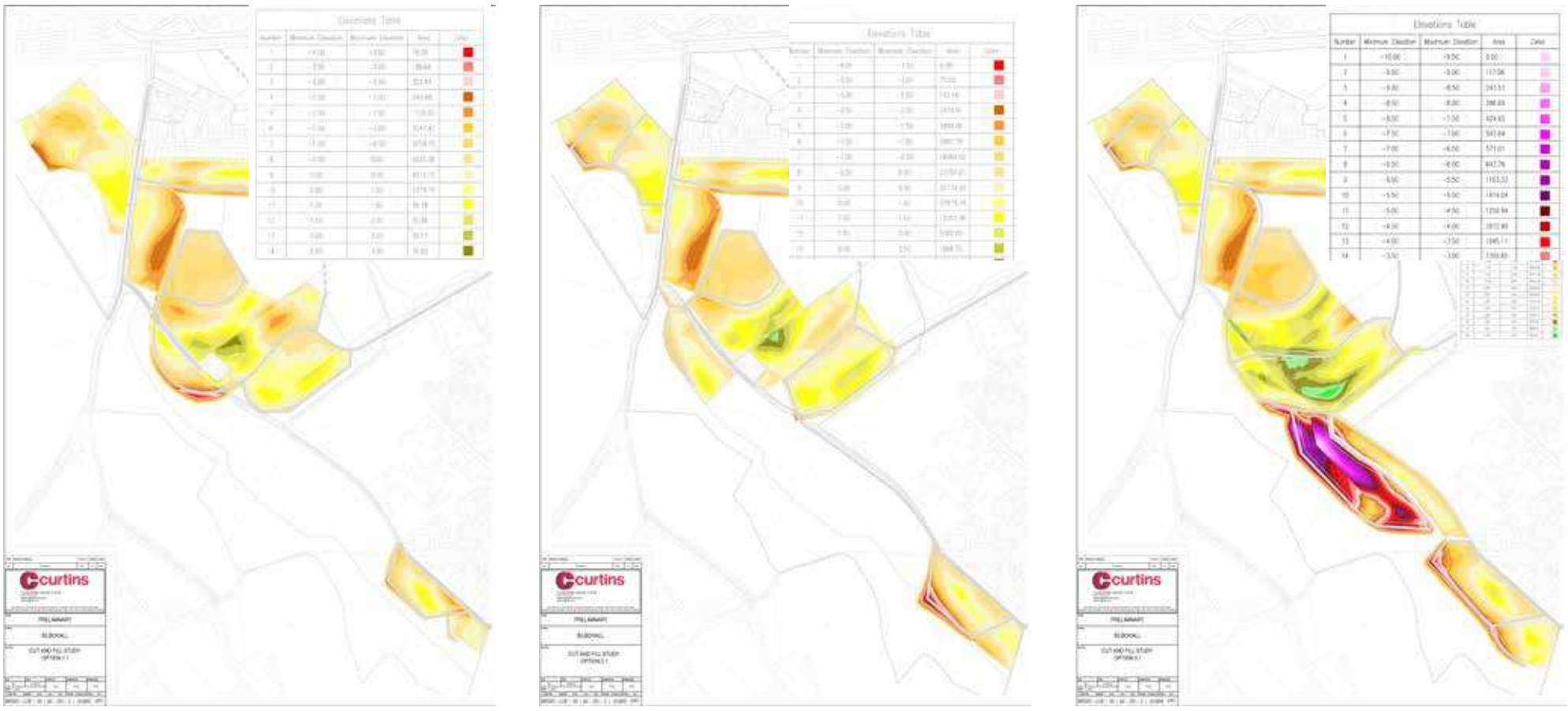




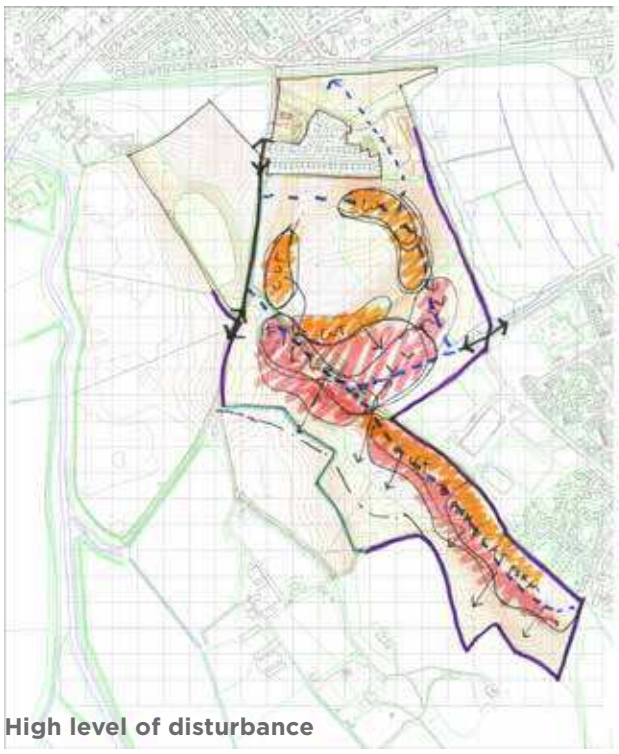
Initial massing models

3.1.1 Cut and fill testing

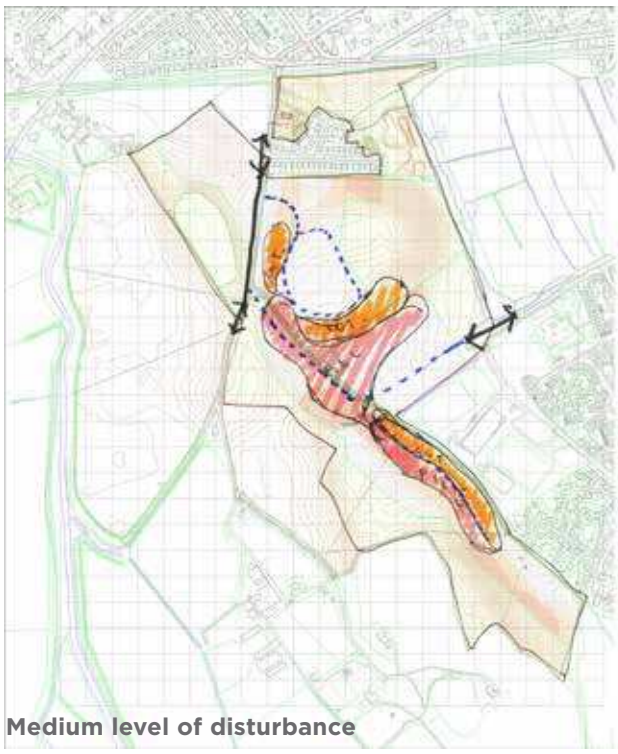
Following the completion of a full topographic survey, it was evident that some of the measured slopes on the site were more severe than had been previously expected from interrogation of Ordnance Survey Digital Terrain Model data and on-site visual analysis. Given the importance to placemaking of establishing a series of connected residential neighbourhoods across the site, there were a number of areas where it was felt that increased technical study was required with regards cut and fill balancing. In order to test the general amount of earth moving that might be required to establish residential development on certain parts of the site, a series of potential scenarios (high, medium and low-impact) were drawn and high-level cut and fill modelling undertaken. This technical exercise informed the design process with regard to those slopes which could confidently incorporate residential development and those which had to be more cautiously approached in order to provide for a viable and deliverable masterplan.



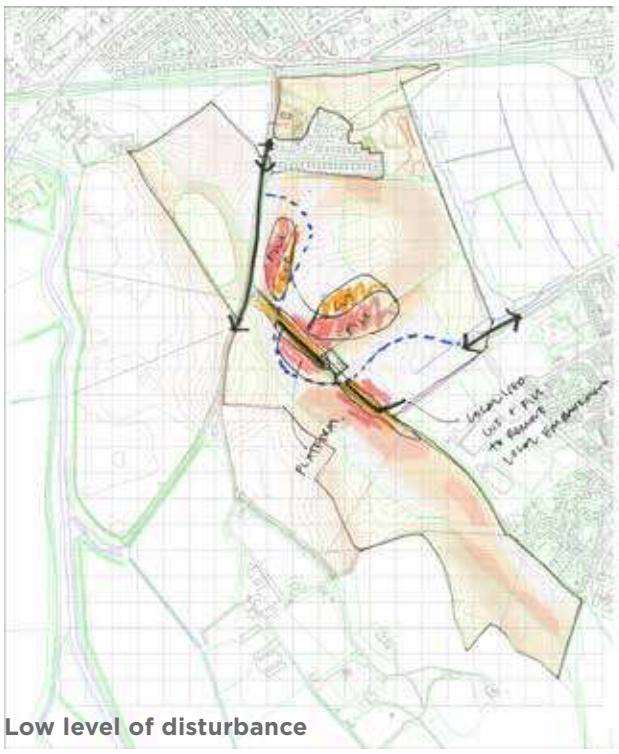
Cut and fill options



High level of disturbance



Medium level of disturbance



Low level of disturbance

Testing conceptual approaches to cut and fill

3.1.2 Masterplan options

Following the cut and fill testing exercises a number of masterplan options were progressed and reviewed with Moray Council and the Bilbohall Consortium. Through an iterative process of design review and adjustment a preferred masterplan emerged which successfully balanced the sensitivities of the landscape setting with other factors including road access, slope, open space provision and residential density.

3.1.3 Site Sections

A number of indicative site sections were taken through key areas of the masterplan to demonstrate the level changes across the site and to explore areas where there may be issues with overlooking. As a result of this, changes were made through the masterplan process to the proposed storey height within development blocks and the areas to be identified as landscape buffers for screening.

Low

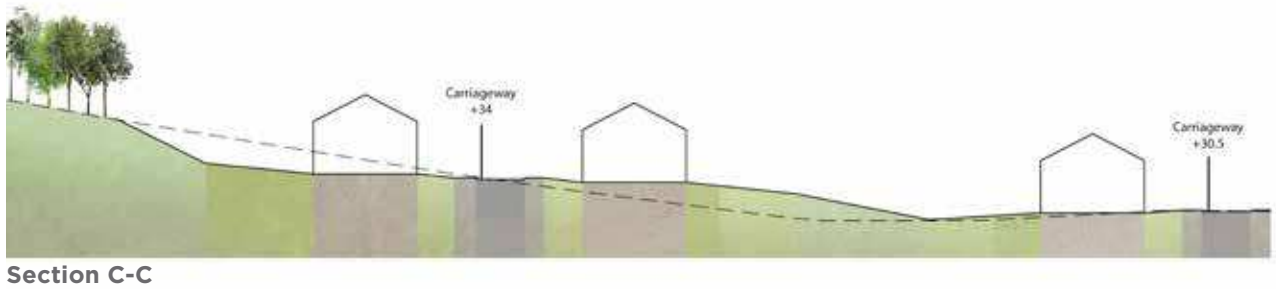
Medium

High

Early sketches testing low, medium and high levels of development

Section A-A

Section B-B



Section C-C

Section D-D

Testing approach to the slopes through key sections which gauge extent of cut and fill

Initial urban grain and residential tissue sketch. Sections Key Plan.

4. Masterplan

4.1 Introduction and purpose

This Masterplan has developed as a result of an in-depth study of the Bilbohall masterplan site and where it sits in the surrounding context of Elgin. It has taken a strategic approach to the provision of the built-form, infrastructure, tenure integration, transportation and connections to surrounding areas, open space, recreation, walking and cycling and the integration of landscape, woodland and structure planting. The masterplan establishes a structure within which detailed proposals can come forward in the future.

The masterplan reflects a clear vision for the study area and sets out the relationship between buildings, spaces, movement and land use in 2D and 3D imagery. In this chapter the following is set out as design principles:

- Integration of landscape character and topography with development;
- Permeable street and block structure that connects with surrounding context;
- Hierarchy of streets;
- Relationship between public and private space and how building address open space to create active frontages;
- How the distribution of activities and uses reinforces the street hierarchy and create active public spaces;
- The density and form of development including key building locations;
- The relationship between street layout and built form to the historic/cultural context;
- How micro-climate/energy efficiency is integrated;
- The promotion of healthy lifestyles and biodiversity through a rich variety of open space and green networks, this includes SUDs; and
- Integration of infrastructure elements such as utilities.

Massing model showing view from east of Bilbohall along core path with Mayne Wood to right and Elgin High School to left

4.2 Sustainable design

The Moray Local Development Plan (LDP2015) Primary Policy (PP2) on Climate Change and the Supplementary Guidance on Urban Design outline the requirement to integrate micro-climate and energy efficiency into masterplans for larger developments. Comprehensive detail on the measures that should be taken in any new development in Moray can be found in the Moray Local Development Plan PP2 and Supplementary Guidance on Climate Change.

The decisions made through early design and planning stages of a masterplan such as this have a tremendous impact on the potential of the development to be an efficient, low-energy community which can function without compromising the ability of future generations to meet their own needs. Early design decisions are more permanent than later decisions and therefore critical to the efficacy of later strategies. When these principles are considered and integrated from the outset, the opportunity is maximised for a successful and attractive place to emerge which encourages sustainable and healthy lifestyles, minimises energy use and pollution and provides stewardship of the natural and built environment.

The text below summarises the key principles outlined in the Moray LDP 2015 Supplementary Guidance on Climate Change which must be taken into account in planning proposals.

Maximising passive solar gains

The street hierarchy of primary and secondary streets and resultant development blocks have been oriented where possible to generally run in an east-west alignment which allows elevations to be oriented as close to south as possible to maximise opportunities for passive solar energy gain and reduced lighting loads through the use of natural daylight through south-facing orientation. As detailed layouts are progressed, these principles should be translated into plot-specific responses which also promote east-west street alignments for minor streets and lanes and arrange elevations to the south.

Responding to prevailing wind direction

Principles of windbreak and shelter from prevailing winds (South-Westerly and particularly Northerly winter storms) have been considered in the positioning of woodland belts within the masterplan and should be further strengthened through street alignments and positioning of built form to act as a windbreak against prevailing winds, to prevent the direct passage of wind and limit exposure. The natural topography of the site lends itself to further increasing windbreak through taking advantage of existing knolls.

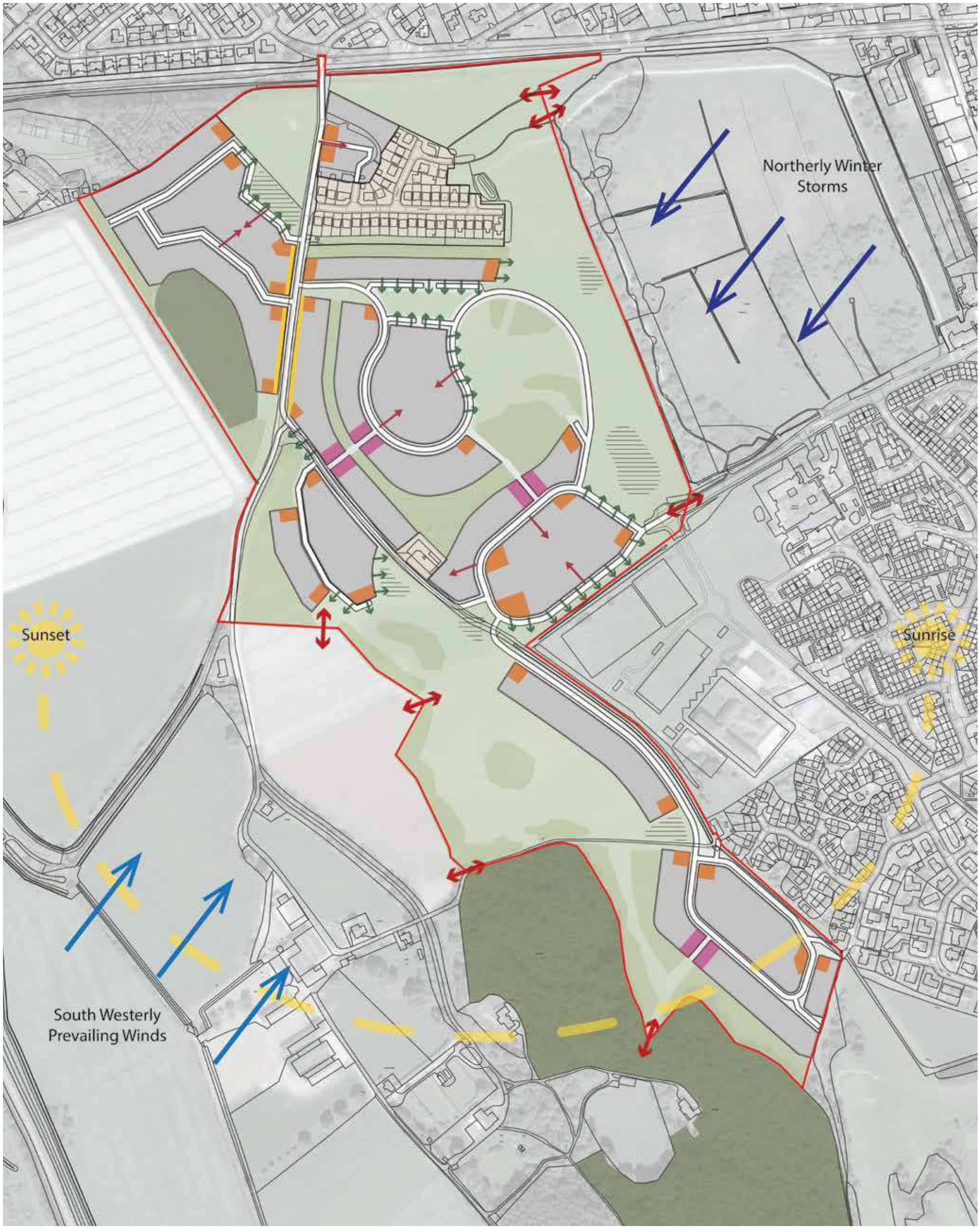


fig. 15: Strategic Masterplan

Key Buildings

Overlooking Pedestrian Route

Private Driveways

Buildings to Address Open Space

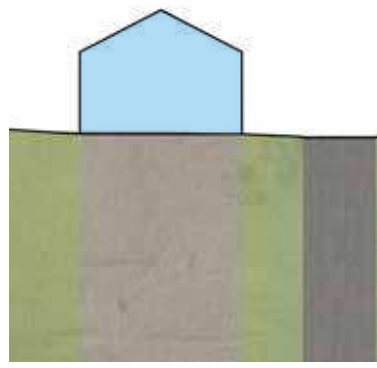
Suggested Development Block internal access

Open space connections

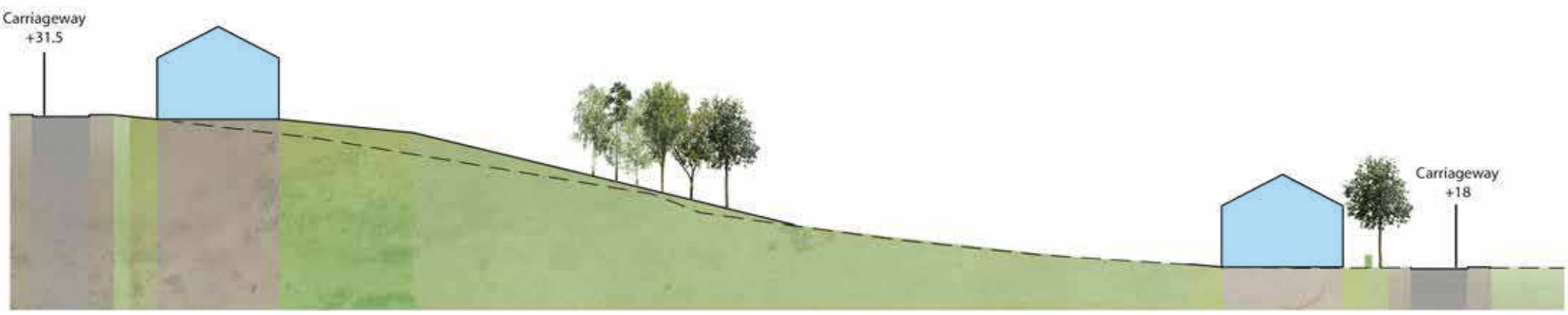
4.3 Approach to topography

The approach to site topography has been to stay true to existing levels as much as possible. This has limited the amount of cut / fill that is required and has led to a more sustainable approach to development. Where the existing ground level leads to development on higher slopes, long back gardens have been allowed for that ensure larger distances between building lines and therefore no overlooking. Where the slopes are too steep for development, structural planting is proposed to provide visual screening.

Section A-A



Section B-B



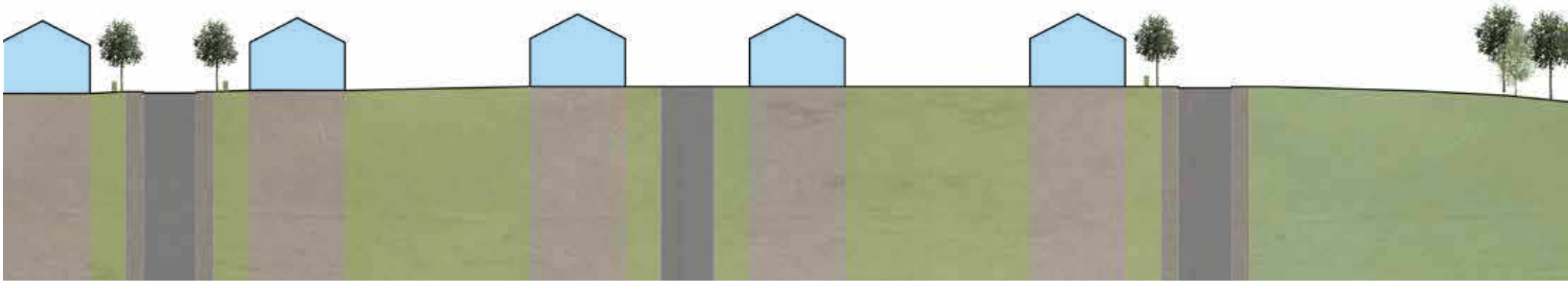
Section C-C

Single storey to address existing residential sensitivities

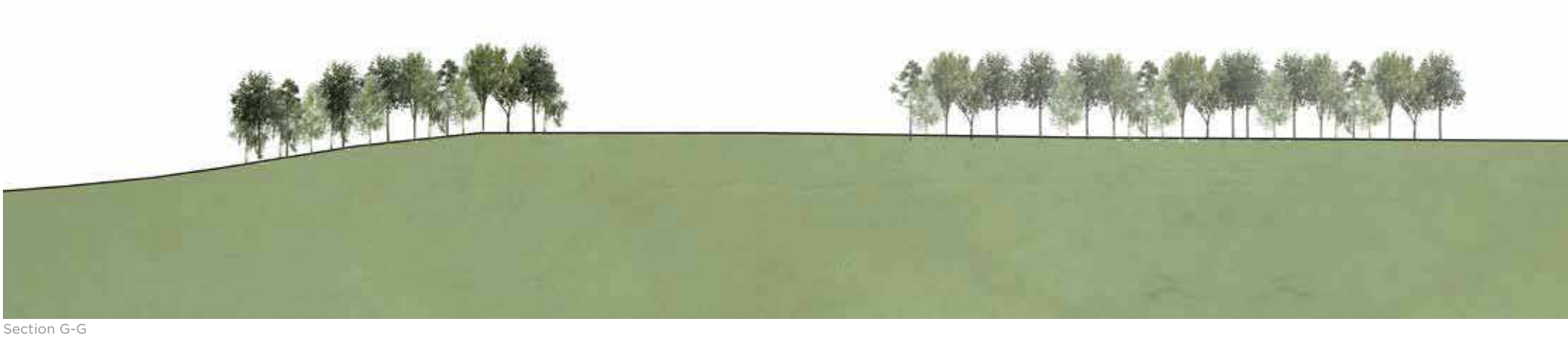
2 storey to reflect adjacent existing housing / provide appropriate street containment on primary streets

Generally 2 storeys with potential for inhabited roof

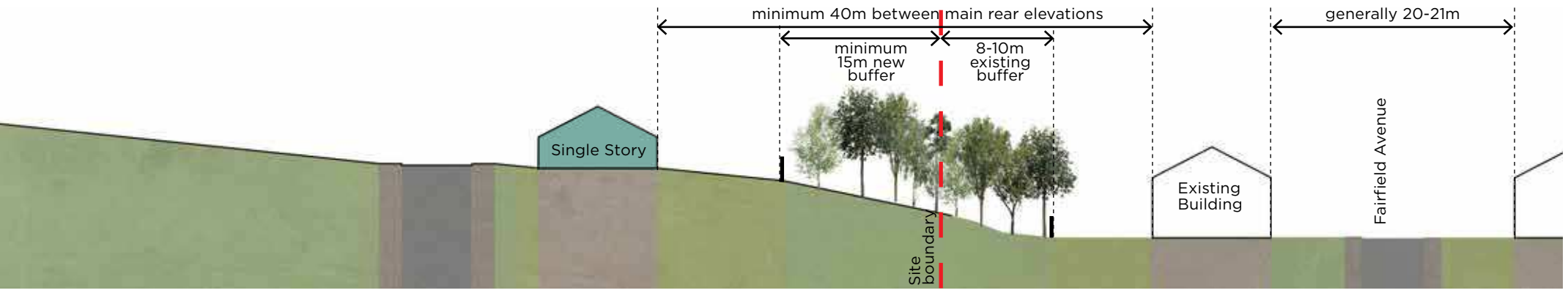
Section E-E



Section F-F

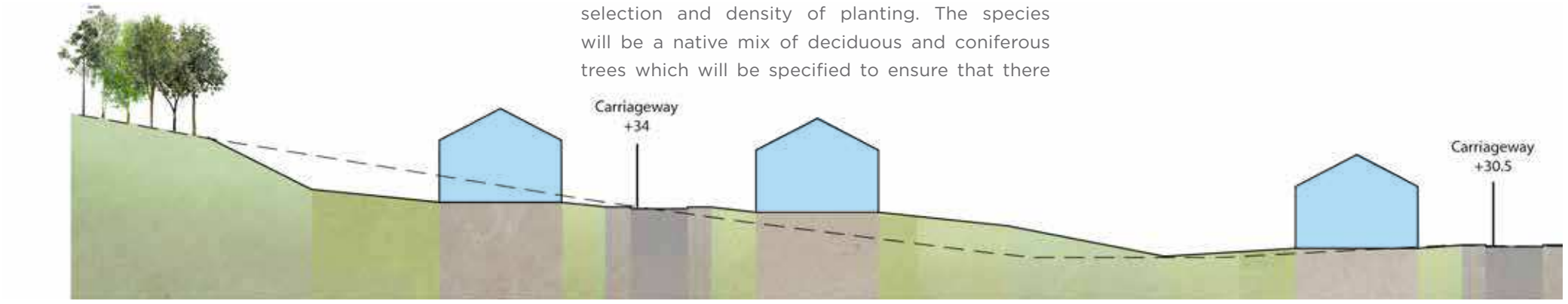


Section G-G



Proposed landscape buffer

A new landscape buffer is required between Block E and the existing buffer to the rear of the properties at Fairfield Avenue. The planting will be designed to prevent access and screen views through species selection and density of planting. The species will be a native mix of deciduous and coniferous trees which will be specified to ensure that there is an appropriate level of year-round foliage to prevent views through during winter months. Trees will include multi-stem forms in order to ensure coverage down to understorey level and an overall mature height of around 10m.



Section D-D

4.4 Access and Circulation

Key Principles

The transportation elements of the Masterplan have been developed in accordance with 'Urban Design' Supplementary Guidance from Moray Council and 'Designing Streets', the Scottish Government's policy statement for street design.

The 'Urban Design' guidance promotes development that is integrated and connected to the surrounding area and within itself, and offers a variety of modes of travel.

'Designing Streets' sets out the principles of good street design, and provides technical advice which is aimed particularly at residential and lightly trafficked streets.

The premise upon which the document is based is that good street design should derive from an intelligent response to location, rather than the rigid application of standards, regardless of context.

It advocates a street user hierarchy that considers pedestrians first and motor vehicles last. The Masterplan will provide:

- Prioritised direct routes through the development for **pedestrians** and **cyclists**, as well as permeability within it;
- Links to **wider walking and cycling networks** travelling to destinations that future residents and visitors will be attracted to, such as local schools and parks, and employment areas such as the town centre and Dr Gray's Hospital;
- A **bus route** through the development that provides access to Public Transport within 400m of each property;
- A **Primary street** linking both external access points that provides route choice for **vehicular traffic**, but does not encourage through traffic between the south and west of Elgin;
- **Secondary streets** that are attractive to cyclists and are appropriate for vehicular use; and
- **Minor streets** that promote shared space between walking, cycling and vehicular use.

A wider aim of the Masterplan is to support the growth of active travel within Elgin, in line with the aspirations set out in Moray Council's 'Elgin Transport Strategy' (ETS), and ongoing recent initiatives such as the '123' Walking Routes around New Elgin.

The ETS demonstrated that 9,400 people live within a 20-minute walk of the town centre, yet more than 50% of people use the car for trips within the town. This highlights the real potential for residents of Bilbohall to build walking and cycling into their daily routines.

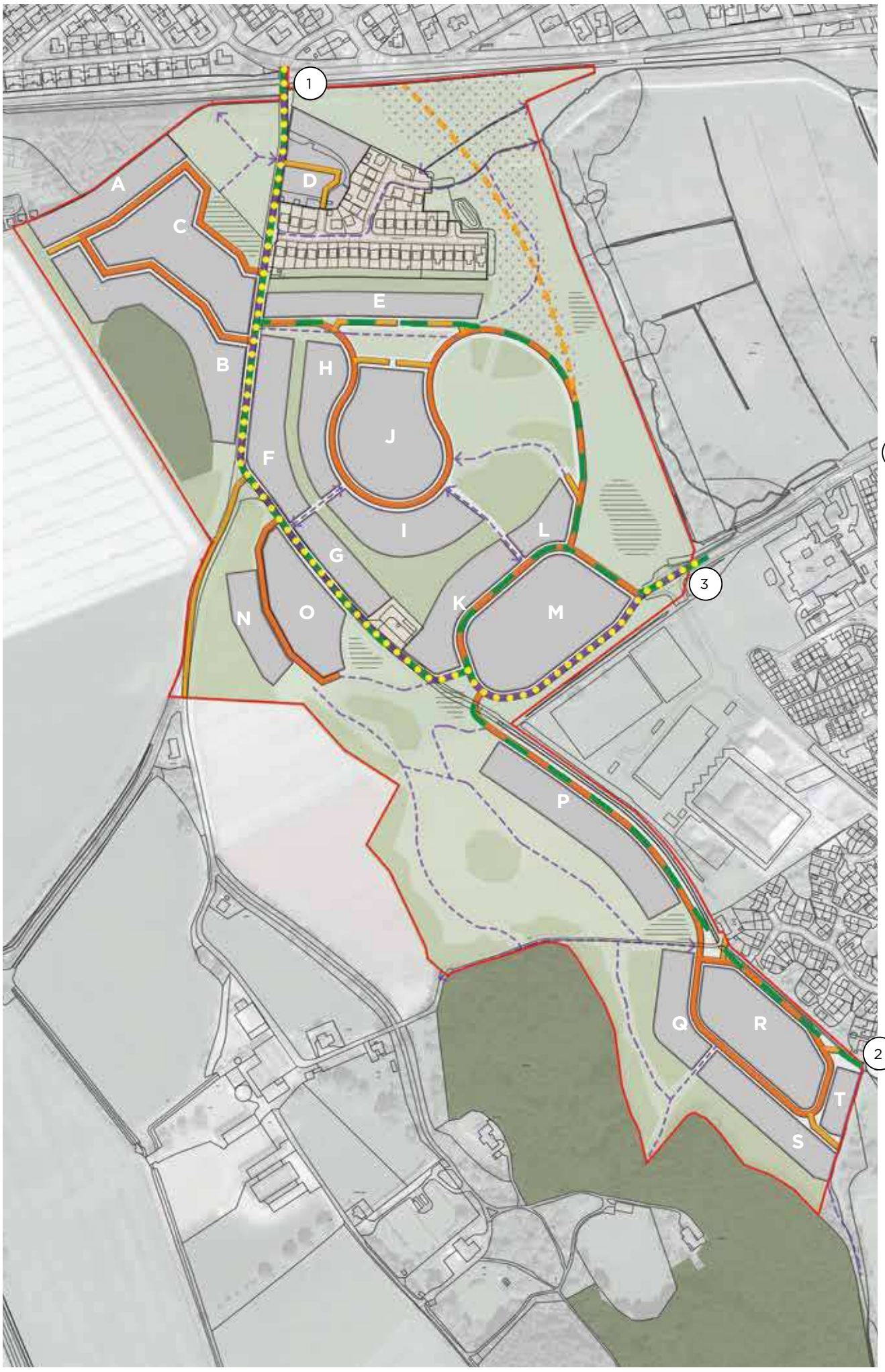


fig. 16: Access and junction Strategy

1. Junction improvements subject to detailed design
2. Emergency access from Hardhillock Avenue
3. Tie in with existing junction at Edgar Road
4. Capacity improvements subject to detail design on Edgar Road (off plan)

- Primary street
- Secondary street
- Minor street
- Cycle route
- Potential bus route
- Pedestrian route
- Safeguarded land

4.4.1 Active Transport

Provision for walking and cycling within the Masterplan area is a key consideration. Internal links should provide direct connections providing permeability throughout the development, with the overall aim being to develop a 'walkable neighbourhood'

These links should connect into the existing Core Path and footway networks to complement existing connections throughout the town. Key external destinations are Elgin town centre, The Wards wildlife area, the Edgar Road Commercial Centre, Elgin High School and Greenwards Primary School.

The existing Core Path links within the area will be retained and enhanced.

- The route between Wards Road and Edgar Road will form the main route through the development with a segregated shared-use path provided for the full length of this route.
- The existing Core Path from Bilbohall Road to Hardhillock Avenue and Elgin Golf Club will be retained and enhanced, with a segregated shared-use path provided.
- Attractive and safe links will also be provided to Elgin High School and Greenwards Primary School.
- The Core Path running from Fairfield Way through to the Wards wildlife site provides an attractive alternative off-road route for residents through to the town centre. Further links into this Core Path will be provided from the south of the Masterplan area.

The Masterplan also provides an alternative route for cyclists from north to east using quieter Secondary Streets and cycling connectivity through Minor Streets closed to through vehicular traffic.

Transport Assessments for the subsequent planning applications must consider what improvements will be carried out to address the increased usage of the wider paths network.

4.4.2 Public Transport

The existing public transport network to the north of Bilbohall passes through residential areas to the north of Mayne Road around Dr Gray's Hospital, and along Glen Lossie Drive to the east of Hardhillock Avenue.

The Masterplan identifies a new bus route through the development, running along the Primary Street between Edgar Road and Wards Road. This new route will ensure that all residents of Bilbohall will live within 400m of a public transport stop, the guideline distance set out within Scottish Planning Policy.

Bus routes should be designed to cater for 12m buses. They should be a minimum of 6m wide, with more space provided at corners as appropriate. This should be identified at the detailed design stage through swept-path analysis. Wider roads and straighter alignments will provide easier passage for buses, but could potentially increase the attractiveness of the bus route to through traffic.

Street design should also take into account how frequently buses and other large vehicles are likely to use streets, and design routes accordingly. The right balance will therefore need to be struck between facilitating bus access and how this affects the Masterplan's design principles, which include discouraging traffic between the west and south of Elgin.

It is the consideration of the Bus Operating Company that the most likely initial service to be operated in to the development would be through the diversion or re-routing of the existing 33A/C service which would be routed through the development to form a new two-way service with access at Bilbohall Road and Edgar Road. Should this service prove to be a commercial success then this could be strengthened in terms of frequency and or larger bus capacity/quality.

The Mayne Road Farm rail bridge is 6m wide, but consideration should be given as to how buses would safely pass should they meet on the bridge.

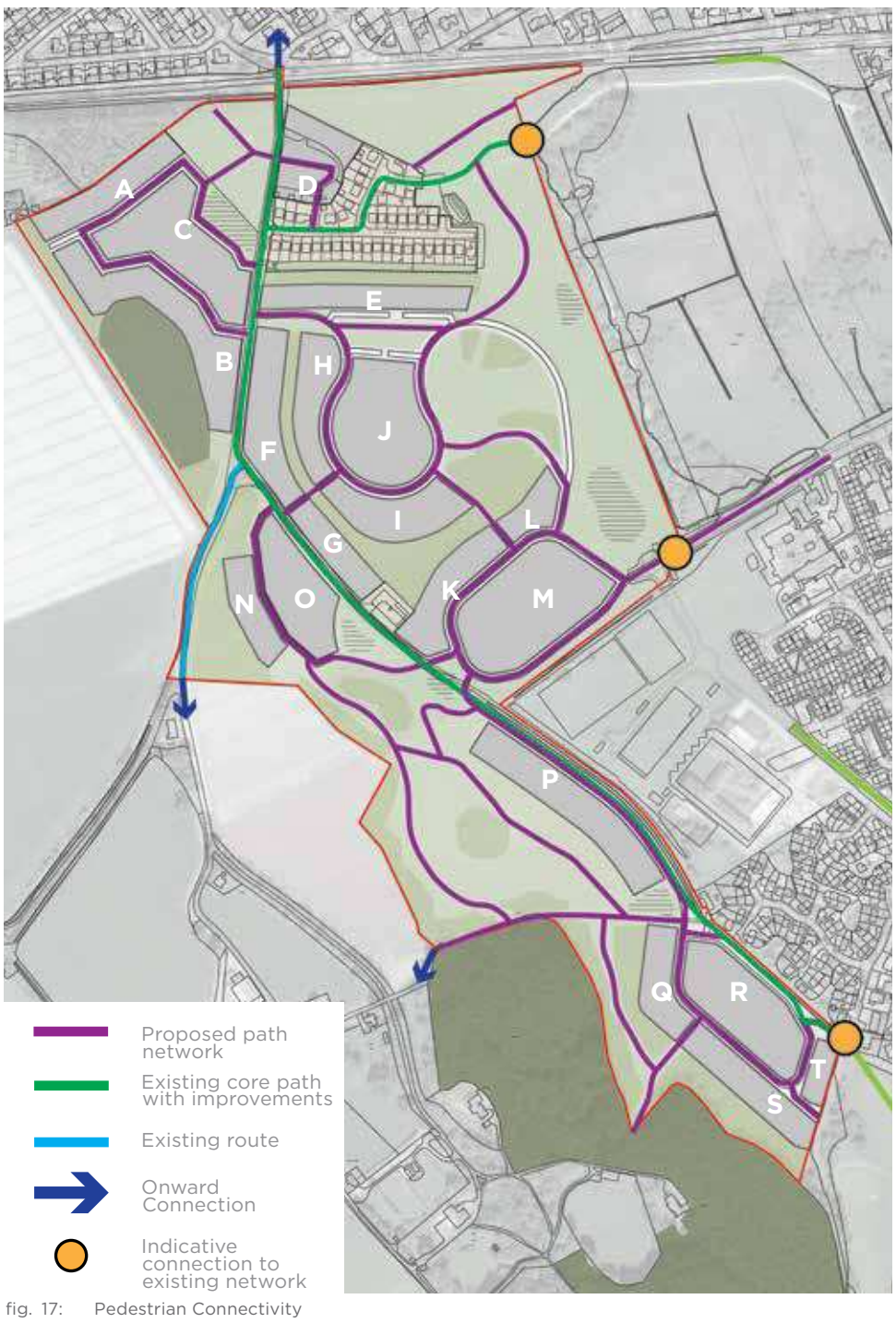


fig. 17: Pedestrian Connectivity

fig. 18: Cycling/ Public Transport Connectivity

4.4.3 Road Linkages

The Masterplan area will connect with the existing local road network at two locations:

1. At Bilbohall Road via the existing bridge over the rail line into the Bilbohall Road / Wards / Mayne Road priority junction.
2. At the recently constructed junction between an extended Edgar Road and the redeveloped Elgin High School. The Bilbohall development will form the western arm of this junction.

A further access point restricted to emergency vehicles only will be provided through Hardhillock Avenue. Emergency vehicles will be able to use the combined footway / cycleway to gain access through this location, which will not be open to general traffic.

The Masterplan proposals will increase the volume of traffic on Bilbohall Road and on the western sections of Edgar Road.

Bilbohall Road

Upgrades will need to be considered on Bilbohall Road in the vicinity of the rail bridge to accommodate traffic from the Masterplan area.

- The Elgin Transport Strategy suggests the removal of the footway on the eastern side of the bridge to provide a southbound carriageway allowing two-way traffic over the bridge, and provision of a separate active travel bridge across the rail line as an option.

An alternative option has been explored which involves the retention of the bridge in its current form and signalisation of the Bilbohall Road / Mayne Road / Wards Road junction. This option would require a departure from standards in terms of inter-visibility between stoplines, but it is recommended that it is considered as an alternative option. Network Rail will need to be closely involved in any new design which involves the alteration or addition of any structures over the rail line. Curtins has considered the new active travel bridge and has established likely bridge width and highlighted potential parapet considerations. Establishing land ownership boundaries for the areas of the bridge landing points, abutments, form, material cost and other structural elements will dictate the span, location and alignment of the bridge.

Future detailed transport modelling as part of applications should consider these, or similar junction options. Some initial analysis of junction options has been undertaken on the basis of:

- Stopping up Mayne Road at its southern end, or potentially making Mayne Road one-way only, either to the south or north.
- The impact of additional traffic on the network of residential streets to the north of Mayne Road.
- Providing a footway on the northern side of Wards Road between Bilbohall Road and Wittet Drive, to link the active travel bridge/existing footway into the footway network.

These options are set out at the end of this Masterplan document.

Edgar Road / The Wards / Glen Moray Drive

Traffic modelling has demonstrated that the Edgar Road / The Wards / Glen Moray Drive priority junction is likely to need capacity improvement to accommodate the full Masterplan traffic. Other factors to consider are:

- Retaining footway and cycle-route linkages through the junction.
- Retaining access to the car-showroom to the east of the junction.

Full Transport Assessments will accompany subsequent detailed planning applications that come forward at Bilbohall. These should include detailed junction modelling at the above locations and set out firm proposals for the upgrades at both locations.

4.4.4 Network Rail

Future electrification or twin-tracking of the Aberdeen to Inverness rail line in Elgin is likely to require the construction of a new bridge across the rail line to replace the Mayne Farm Rail bridge.

The Masterplan safeguards a corridor which makes allowance for a new bridge linking the Masterplan site with Wards Road adjacent to Wittet Drive. The safeguarded route comprises the northern portion of the previous promoted Western Link Road (WLR) alignment. Although the WLR is included in the 2015 LDP, The Moray Council has since decided not to proceed with this scheme, and it is not included in the more recent Elgin Transport Strategy.

Should a future railway crossing be required, this would tie into the proposed secondary street that passes around the east of the site. Sufficient space has been allowed to allow this to be upgraded to form the primary street through the site.

Subsequent Transport Assessments will require to take the following matters into account for any future development on this site:

- Consideration must be given to the impacts that any development would have on Elgin Station and the increased patronage of local rail services within the Moray Council area;
- Enhancement of existing facilities may be required and the TA should clearly identify the number and type (e.g. walkers, cyclists and drivers) of users of the station generated by the development and the responsibility for funding and providing any identified enhancements.
- One of the two main road access points to the site is via a road bridge over the Aberdeen to Inverness Line, Overbridge 294/020 Mayne Farm Road (Bilbohall Road). This overbridge is a single lane carriageway with one footpath. A TA must identify the impacts that any development will have on the use of this bridge and should determine what upgrades will be required for the necessary level of access for the development. Network Rail will need to be closely involved in any proposals which require the alteration of this structure or any future proposals for a new bridge over the railway.
- Due consideration must also be given to the impacts that any development would have on Wards Road Level Crossing. The potential increase of traffic over the crossing must be considered in a Transport Assessment. Mitigation works may be required to ensure that the safety of the Level Crossing is not compromised by the development and the TA should clearly quantify in detail the likely increase of traffic over this crossing.
- Future phases of the Aberdeen to Inverness Enhancement Project which would increase the frequency of trains on this line and would impact on the barrier down time of Wards Road Level Crossing should be also taken into account.

4.4.5 Elgin Traffic Model

A strategic transport and modelling appraisal has been undertaken using the Elgin Traffic Model (ETM) to identify the impacts of the Masterplan on the wider transport network.

This assessment has considered how Bilbohall fits into the wider pattern of development across Elgin up to 2030. It also incorporates the intervention measures identified within Moray Council's 'Elgin Transport Strategy'. This modelling exercise provides an indication on the performance of the road links throughout the network identifying bottlenecks or hot spots.

The model results show that at the proposed housing number, the Bilbohall Development will have an impact on traffic levels and conditions across Elgin, proportionate with the scale of the proposed development. The following points have emerged from runs of the Elgin Traffic Model:

- Most development traffic is predicted to use the Edgar Road access point in preference to Bilbohall Road, with a split of 56%/44% between Edgar Road / Bilbohall Road in the AM Peak hour and 70% / 30% in the PM peak hour.
- The model predicts a limited amount of through traffic on the primary route. The design of traffic calming and speed reduction measures will be important to restrict this to a minimum.
- The model predicts that development traffic will use Mayne Road to travel to and from Bilbohall, highlighting the need to address the issue of development traffic using this residential street. The solution is likely to involve routeing traffic east or west onto Wards Road and Fleurs Road.
- The model predicts noticeable increases on Edgar Road (westbound in the PM peak), The Wards (southbound in the PM peak) and Glen Moray Drive (GMD) (both directions in the AM and PM peaks). This reinforces the need for future capacity at the Edgar Road / Wards Road / GMD junction to be assessed as part of the detailed planning applications.

More detailed analysis has been presented in a separate Strategic Modelling Report.

The ETM is being updated and the new 2018 Elgin Traffic Model will need to be run as part of the Transport Assessments that will accompany future detailed applications. The scope of the Transport Assessment must be agreed with Transport Scotland, with any impact on the A96 Trunk Road identified, along with any required mitigation measures. The results will also be used to assess the cumulative impact of the proposed development on the wider road network and to calculate Developer Obligations in this respect.

4.4.6 Internal Road Hierarchy

National Roads Development Guide 2014 (NRDG) advocates a move away from hierarchies of standard road types based on traffic flows and/or the number of buildings served, towards the design of roads which fit the context of the location.

Based on this approach, a simple and legible street hierarchy has been developed within the Masterplan area to ensure that appropriate routes are available to all users.

The access and connectivity plan (Figure 16) indicatively illustrates this street hierarchy that has been developed in response to the existing site features.

- Primary Street: the link road through the core of the site that connects the Wards Road and Edgar Road access points. The design of which is suitable for public transport and mixed use.
- Secondary Streets: providing access to residential blocks and providing connecting loops where required.
- Minor Streets: generally providing internal access into blocks promoting equal priority to all users.

All streets must provide suitable access for service and emergency vehicles as appropriate, with space provided for refuse vehicles to enter and leave in a forward gear.

	Design Speed	Minimum width	Cycle / Footways	Verges
Primary Street	<30mph Include features to ensure self-enforcing.	6m Wider on corners to allow buses to pass.	3m shared surface in at least one direction 2m footway on development frontage	2m grass (where no footways)
Secondary Street	<20mph Include features to ensure self-enforcing	5.5m	2m footway on development frontage	2m grass (where no footways)
Minor Street	Encourage speeds below 10mph	3m vehicle path with passing places	Shared surface	

fig. 19: Street characteristics

4.4.7 Street Sections

A palette of typical street sections has been established that indicates the design parameters and character of the varying streets within the hierarchy. Generally the primary street is the main distribution road for the settlement while the secondary and minor routes run between and through development blocks.

4.4.8 Primary Streets

A Primary Street is proposed that will link the two access points on Wards Road to the north and Edgar Road to the east, and will be suitable for public transport, cars and cycles. The street will have a minimum width of 6m and a Design Speed of less than 30mph.

The design of this street will need to strike the right balance between providing route choice for residents whilst deterring through-traffic between the south and west of Elgin. Traffic calming measures will be important.

The preferred design shows that the Primary Street does not take a direct route through the development and is characterised by development on both sides of the street.

The aim is to create a sense of 'activity' on the Primary Street sufficient to introduce uncertainty for drivers, thus lowering speeds.

fig. 20: Typical primary street corridor

fig. 21: Typical primary street corridor where existing hedgerows are to be retained (Option 1)

fig. 22: Typical primary street corridor where existing hedgerows are to be retained (Option 2)

4.4.9 Secondary Streets

Secondary streets will create connecting loops and give access to residential blocks. They will have Design Speeds of 20mph or less and will be attractive as alternative routes to cyclists.

fig. 23: Typical secondary street corridor

4.4.10 Minor Streets

Minor streets are anticipated to follow the 'Home Zone' principle, with shared surfaces and high-quality streetscape promoting equal priority for all users. These streets may either be of traditional carriageway and footway design or shared surface as appropriate. They will have Design Speeds of less than 10mph.

fig. 24: Typical minor street corridor

4.4.11 Traffic calming

Traffic calming measures will be provided throughout the development to reduce traffic speeds to appropriate levels. Reductions in vehicle speeds will be achieved through a combination of:

- Development frontage, junction and crossing features;
- Horizontal road alignments and reductions in forward visibility;
- Landscaping and visual design features; and
- Changes and contrasts in surfacing.

NRDG recommends that speed reduction should not be achieved through the introduction of vertical features such as speed bumps, although vertical traffic calming features such as raised tables at junctions may be suitable in new low traffic residential developments.

The following example measures listed and illustrated are not intended as an exhaustive list, but have been identified as appropriate for use within the Bilbohall development.

- Full width speed tables (should be used sparingly);
- Throttles / narrowings (should be used sparingly);
- Raised junction;
- Width restriction on carriageway;
- Occasional strip; and
- Median strip.

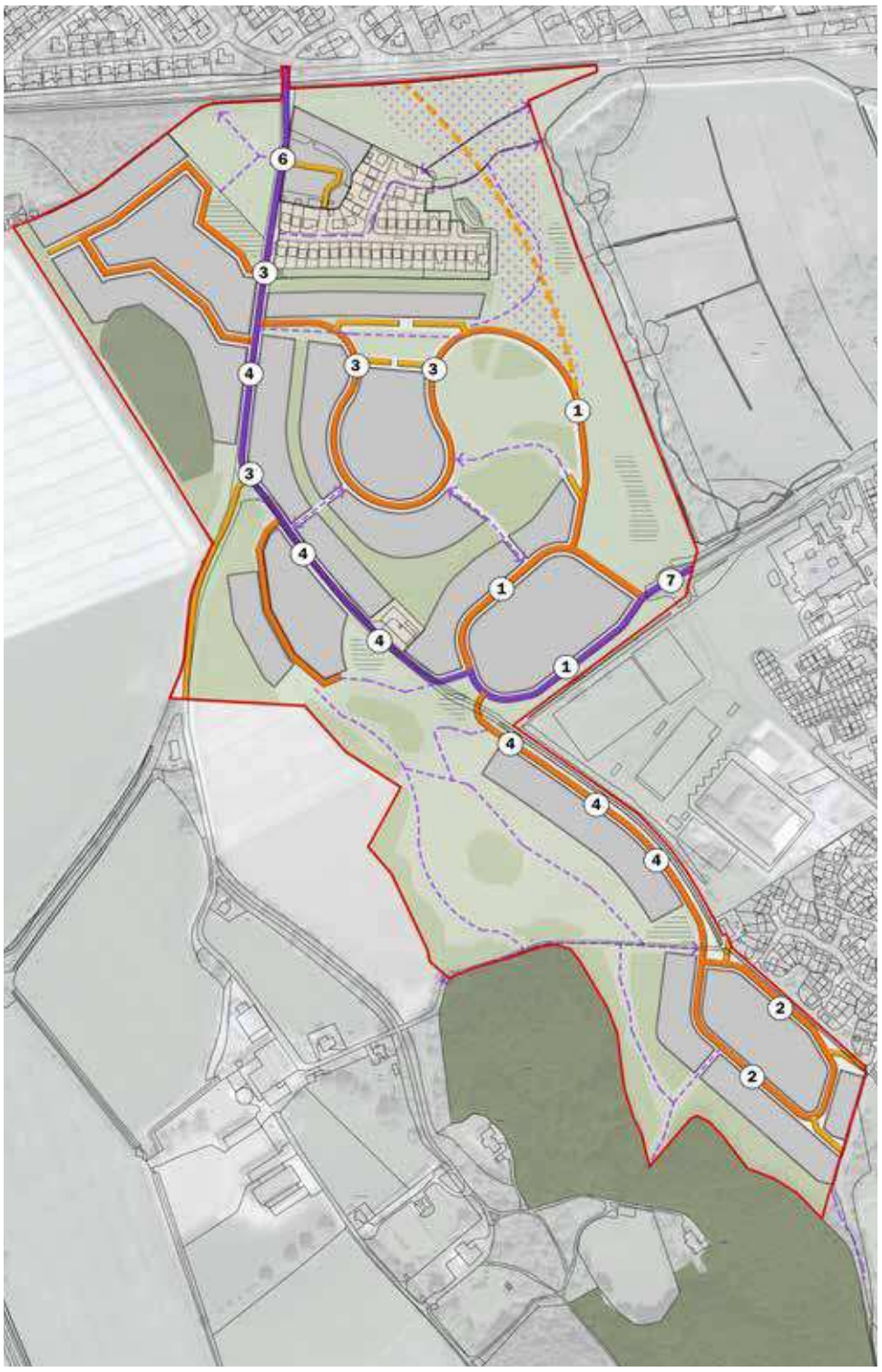
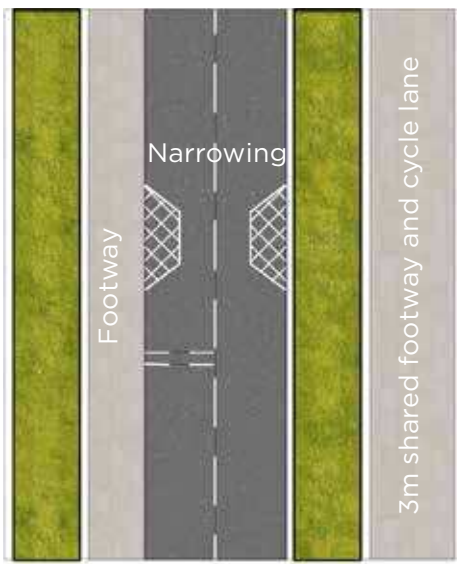
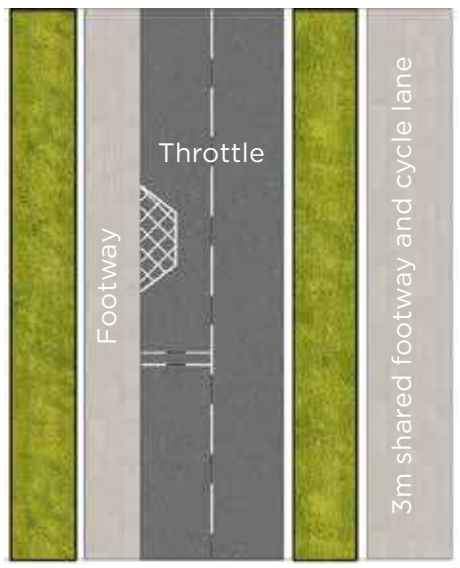


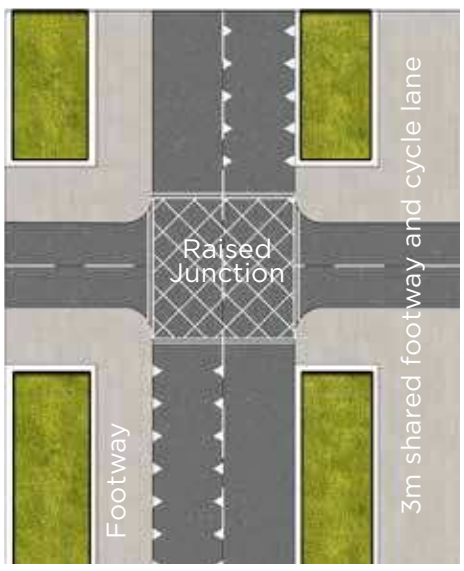
fig. 25: Traffic calming key plan



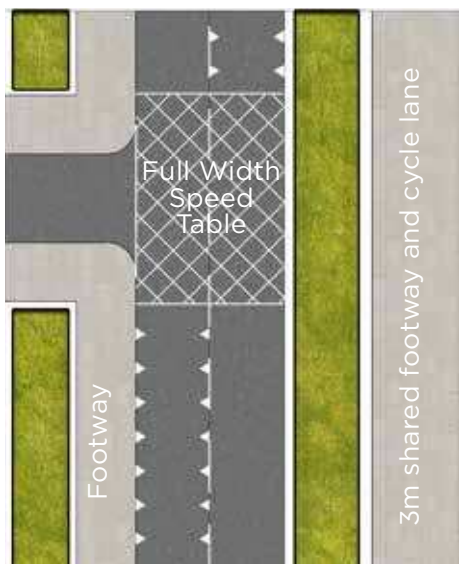
OPTION 1
- Narrowings



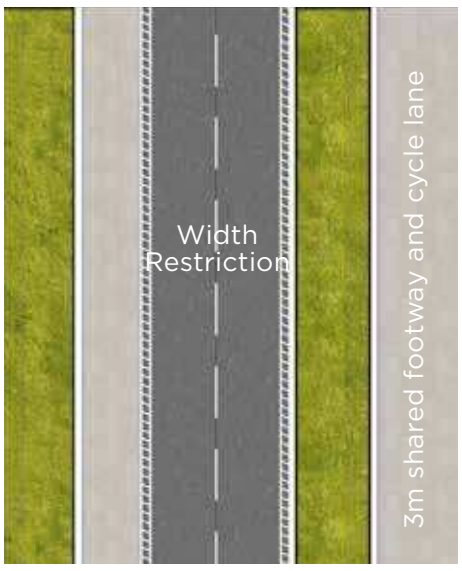
OPTION 2
- Throttles



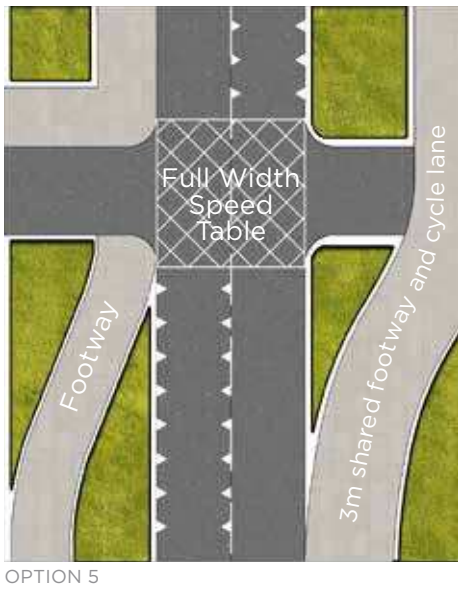
OPTION 3
- Raised junction



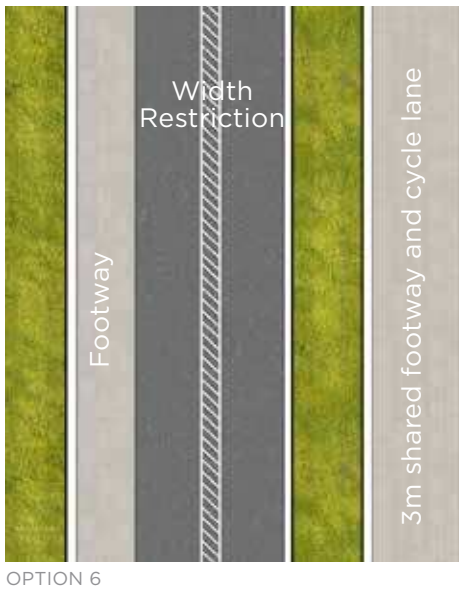
OPTION 4
- Footway alongside road



OPTION 7
- Width restriction on carriageway



OPTION 5
- Hedge partially retained



OPTION 6
- Width restriction on carriageway

4.4.12 Complementary measures

In addition to traffic calming measures, complementary physical features must be considered to further slow traffic by emphasising the measures and therefore effecting the behaviour of street users. This can be made through changing perceptions of speed, narrowness and functional and user priorities. Examples of these features are set out in various categories below:

- Vertical features: Elements of public realm such as walls, planters and fences not only contribute to the overall character and identity of the street, but can be used to restrict vehicle movements, reduce the real and apparent widths of carriageways and direct non-vehicular movements to defined crossing points. Considering bollards and other pieces of street furniture such as lighting columns and bins in this way allows them to be used for multiple functions whilst minimising street scene clutter.
- Planting: By utilising street trees, shrubs and ground cover, the visual perception of a street width or section of street can be influenced. The type and spacing of trees can have an impact on the perception of speed for street users; they also offer a vertical element to the street which can influence the spatial sequences.
- Paving: The type of carriageway material has a big impact on the perception of users in vehicles and bicycles; by changing the type and colour of material, a change in priority can be highlighted or safe route identified. Changes in texture such as from asphalt to setts also act to slow traffic and make users more aware of their surroundings. All materials must satisfy Moray Council Roads adoption standards.

4.4.13 Discouragement of through traffic

The road network within Bilbohall has been designed primarily to provide access to and from the Masterplan area, and to provide permeability within it. Bilbohall will be a residential area, and it is important that traffic speeds and conditions within the Masterplan area reflect this.

To retain the character of the Masterplan area it is important that the primary route does not attract a large volume of through-traffic travelling between south and west Elgin. To deter this the Masterplan aims to increase journey time on the primary street, in order to make the journey from Edgar Road to Wards Road less attractive than existing routes within the town. Features include:

- The primary street will be typically 6m in width, and follows a convoluted route through the development.
- A package of traffic calming and mitigation measures, as set out in Sections 4.4.11 and 4.4.12, must also be implemented.
- A signage strategy must be developed which continues to route traffic on existing routes rather than through Bilbohall.

4.4.14 Parking

Parking requirements will be informed by the current Parking Standards at the time of the planning application(s), or any associated guidance setting out the standards for parking including any equivalent planning policy and/or guidance which supersedes or replaces the parking standards.

The perceived dominance of car parking on the street scene in existing developments has been identified as a key issue by Moray Council. The Masterplan promotes parking for residents to the side or rear of properties. Visitor parking to the front of properties should only be considered where it can be satisfactorily integrated by appropriate streetscape features or planting. Bays for electric vehicles (EV) charging and Car Clubs (or similar) must also be provided as appropriate.

4.4.15 Signage

All signage within the Bilbohall development will be to the latest standards and best practice guidance. It will be fully coordinated across the Masterplan area, linking consistently with the signing strategy across Elgin.

4.4.16 Noise Impact

A desktop noise assessment has been undertaken on the proposed masterplan which identified the locations around the site where road traffic noise will increase; these locations have been ranked in accordance with the impact scale promoted by the Noise and Vibration section of the "Design Manual for Roads and Bridges" (DMRB Vol. 11, sec. 3, Part 7). The assessment suggests that following development, the vast majority of the surrounding roads will be left with negligible, no change or small beneficial impact in road traffic noise. Approximately 144 dwellings are anticipated to experience a Minor impact due to increased road traffic noise. Two streets with approximately 19 affected dwellings will experience a "Moderate" increase in road traffic noise. The western extent of Edgar Road, incorporating the new link road to the Bilbohall masterplan site, is anticipated to experience the highest increase in road traffic noise associated with the proposed development. The change from cul-de-sac to link road is anticipated to increase the road traffic noise by around 5.4 db (between Glen Losie Drive and Greenwards Primary School) and by around 9 dB (between Greenwards PS and Elgin HS). Any level of increase above 5 dB would be considered to be a "Major" noise impact however the calculated increase is only 0.4 Db above this figure. It is estimated that only approximately 8 dwellings will be affected and for these dwellings it is estimated that there would be an increase of 37 % of residents bothered by road traffic noise.

Traffic flow data for roads around existing residential dwellings centred on Fairfield Avenue off Mayne Farm Road were not included in the assessment. These locations will require site surveys to determine the baseline noise environment and should be included within detailed noise impact assessments which will accompany future planning applications.

4.4.17 Air Quality

An Air Quality Assessment has been undertaken on the proposed masterplan which demonstrated that future residents of Bilbohall will experience acceptable air quality, with pollutant concentrations well below the air quality objectives. Bilbohall will generate additional traffic on the local road network, however the assessment has shown there will be no significant effects at any existing sensitive receptor. Overall, the air quality impacts associated with the proposed development are 'not significant'.

Full width speed table

Throttle used to narrow the carriageway and reduce speed

Vertical features and planting influencing the spatial feeling and therefore perception of speed for street users

Parking to the side/rear of properties

Shared surface street. Planting extends into carriageway.

Off street parking to the sides of properties

4.5 Landscape strategy

Usable, well-designed open space is recognised as creating opportunities for communities to interact, promoting a sense of place and helping to promote healthy active lifestyles. The Bilbohall Masterplan benefits from a significant extent of open space which functions in multiple ways, embeds mitigation for visual impact and provides a setting for new housing. A land budget for the masterplan area is broken down into key components below and shows that over 30% of the total site is open space.

Component	Area (ha)	% of total area
Multi-functional open space (to include SUDS, recreational path network, allotments, amenity space and natural green space)	11.4	28%
Existing woodland	1.2	3%
Proposed structural landscape	6.5	16%
Neighbourhood and pocket park	1.8	4%

Key principles

The open space and landscape strategy is illustrated in figure 26 which sets out the principles of the landscape approach that has been developed through the masterplan process. These are summarised below:

- New woodland structure planting and open space has been incorporated along the western edge of the masterplan area to create a continuous green network and further visually contain the site. This will further reinforce the orientation of development eastwards away from the surrounding open countryside;
- Existing core paths are retained and enhanced on their current alignment. A new network of paths connect to these paths and allow access across the site, linking The Wards with Mayne Wood and other open space resources including the existing play space at Bilbohall Road. These paths would be used for recreation including dog walking etc;
- An open space setting has been defined for The Wards wildlife site to ensure development does not occur immediately adjacent to its boundaries;
- The western slopes and western portion of the upper plateau of the Prominent Knoll within R3 has been protected from development in order to limit the visual impact of views from the existing residential areas to the east;
- Woodland planting on the upper plateau and steeper slopes of the knoll reinforce the wooded knoll character of the area and direct views out from the upper plateau across the adjacent area;;
- Development has generally been limited to lower slopes and below existing/proposed tree lines to minimise the impact on the surrounding countryside;
- The area around the existing play park at Bilbohall Road is to be upgraded to form a Neighbourhood Park with associated visitor parking to be provided; and
- A Pocket Park is to be provided with R4 with pedestrian links towards R3 and elsewhere in the masterplan.

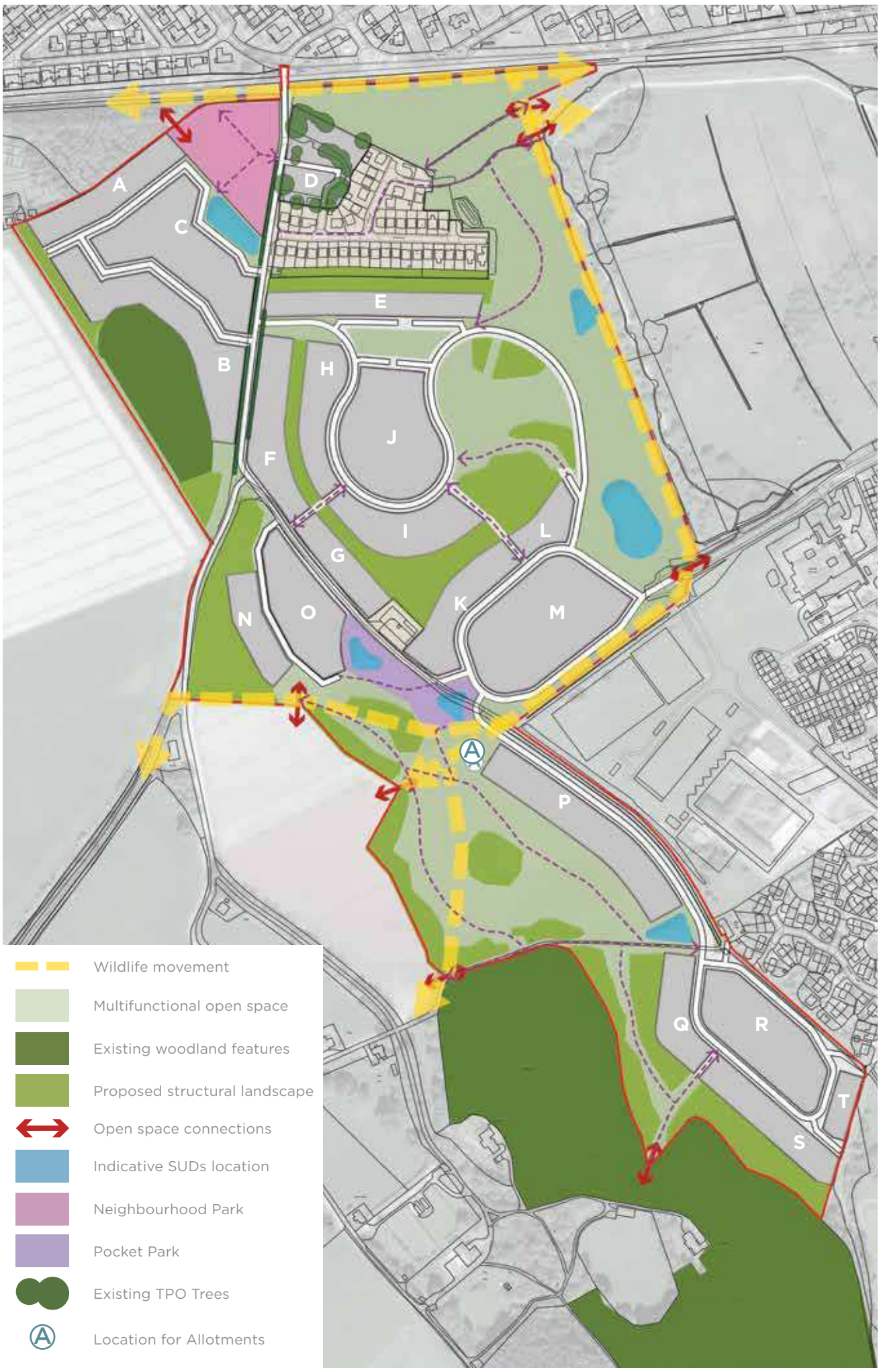


fig. 26: Open Space and Landscape Strategy

Wildlife corridors

The masterplan incorporates corridors across the site which support the movement of wildlife, linking open spaces with the cover of vegetation and woodland areas. These enhance biodiversity, provide tranquil spaces between the residential areas and allow for increasing resilience in the changing climate.

Blue-green infrastructure

Blue-green infrastructure will be incorporated into the multi-functional open space in the form of swales, sustainable urban drainage systems and other water features which are design elements which contribute to sustainability and also help create a sense of place and identity;

The final design of sustainable urban drainage systems will be up to the subsequent planning applications, but consideration must be given to imaginative responses such as multiple basins with interlinked wetlands using the naturally sloping ground. SUDS is encouraged to be incorporated on a small scale into the hard surfaces as 'blue infrastructure'. Retaining water across the whole site in areas where it's doing no harm (i.e. naturally watering plants in planted borders and in car parks) may relieve pressure on the SUDS system and enable a more flexible approach to the settlement basins.

Existing and proposed tree planting

The hedging and existing trees are key landscape features of this area and must be retained and enhanced. Where technical width requirements for street corridor does not allow the retention of existing hedges on both sides, then a replacement hedge must be provided;

Tree planting along development boundaries could provide habitat and access routes from housing to forest that could benefit red squirrels. They are

able to take advantage of bird feeders in gardens, wooded links to housing will provide safe access to gardens from surrounding areas such as Mayne Wood. A significant proportion of planting in these areas must be conifers such as douglas fir, pines, spruces, larch and yew as these provide the best habitat for red squirrel and will benefit them most.

The landscape proposals associated with subsequent detailed planning applications will provide further detail on the type, location and extent of planting including where any screen planting may be necessary.

Intergenerational design

There is an increasing awareness of the importance of considering intergenerational needs in the design of the built environment. The detail design of public open space must provide for the needs of all generations and consider the requirements of older people in terms of mobility and accessibility to ensure people feel and are included in public life into oldest age. The findings of research such as Mood, Mobility and Place (https://sites.eca.ed.ac.uk/mmp/) should be utilised in design proposals. This includes the provision of seating and resting opportunities within streets, paths and open spaces, the construction of well-designed and solid surfaced pathways through rural environments and the integration of resting opportunities into the fabric of the deveoopment through the likes of low walls etc.

4.5.1 Moray Council Open Space Strategy

The landscape strategy addresses the requirements set out in LDP2015 Policy E5 Open Space and the Moray Council Open Space Strategy, these include quality of open space, accessibility, quantity, and park hierarchy. The specific requirements for a Neighbourhood Park and Pocket Park are set out below:

- **Neighbourhood Park.** A parkland area which includes a variety of play equipment for a range of ages. A playing field of 60x40m is to be provided along with informal and formal landscape areas with seating to accommodate informal and formal recreation and activities.
- **Pocket Park.** A small park which is easily accessible to the immediate residential population and contains a small range of play equipment particularly suited for younger children. A kickabout area of 30x20m is to be provided along with landscaping, planting and seating.

Policy E5 Open Space Requirements

Any areas within the masterplan area identified under the ENV designation are to be safeguarded and retained as open space.

New open space provision should be at least 30% of the overall site area and include allotments, formal parks and playspaces. Design of these spaces must adhere to the following guidelines:

- Overlooked by buildings with active frontages;
- Well positioned, multi-functional and easily accessible;
- Well connected to adjacent green and blue corridors, public transport and neighbourhood facilities;
- Safe, inclusive and welcoming;
- Well maintained and performing an identified function; and
- Support the principles of Placemaking policy PP3.

4.5.2 Relationship between buildings and open space

The Bilbohall masterplan has been designed to ensure that open spaces are generally overlooked by adjacent residential streets with active frontages. This provides the benefit of natural surveillance and will help promote the safe use and enjoyment of open space, ensuring the new facilities are actively used and contribute to the sense of community across the development.

4.5.3 Structural woodland and advance planting

To the external boundaries of the masterplan area, to the west and particularly along the ridgeline, structural woodland planting and associated open space is required. This provides robust visual containment all year round and a continuous green network that connects through the masterplan area. Both evergreen and deciduous native species are to be planted including oak, birch, rowan, hazel, hawthorn and scots pine. The proposed structural woodland will enhance and improve the setting of the existing woodland knolls and will reflect their character. Existing path networks will be enhanced and expanded through woodland areas to maximise permeability and provide opportunities for recreation and active travel.

Consideration must be given to advance planting in these particular areas to ensure that development is integrated as quickly as possible. Sacrificial planting is not desirable or a good use of resources therefore areas should only be planted when it is certain that any following works in the nearby vicinity will not have an impact, however advance planting must be implemented once final road levels and extent of earthworks in this area are known.

fig. 27: Structural woodland planting


Established structural woodland


Structural woodland with path network

4.6 Drainage strategy

A drainage strategy has been completed for the entire site (all site parcels), and is available as a separate document as an overall view of drainage requirements, constraints and opportunities. The report reviewed the following information:

- The SEPA flood maps for river, coastal and surface water;
- SEPA Technical Flood Risk Guidance for Stakeholders (July 2018);
- Moray Council local development plan and guidance;
- Scottish Water public sewer records;
- Scottish Planning Policy (SPP) (June 2014);
- Sewer for Scotland 3rd Edition; and
- CIRIA Manual c753.

4.6.1 Foul Drainage

Foul flows from the development area will be routed to existing public sewers, in the residential areas to the north and east. Gravity sewers will be used where possible, but due to the distances involved pumping stations may be necessary. The sewers are to be adopted by Scottish Water will be designed in accordance with Sewers for Scotland 3rd Edition.

4.6.2 Surface Water

The masterplan site has been divided into a number of development plots. It Is expected that these smaller plots will be sold and developed individually but each will need to tie into the drainage infrastructure for the entire site. Each development plot will have allowable discharge rates for surface and foul water, which will form the design flows for the overall masterplan sewerage infrastructure.

Surface water will be discharged to ground where infiltration allows. Infiltration testing will be undertaken to BRE365 standard at the location, depth and with a head of water that replicates the proposed design to confirm viability. Evidence must be sought on groundwater levels and seasonal variations and to confirm that the maximum likely groundwater levels are >1m below the base of the infiltration device.

There are combined sewers in the town, north and east of the masterplan however due to the existing sewer flooding issues in Elgin, a connection to the existing Scottish Water system has been considered as unfeasible. A study of the site catchments at pre development scenario has been carried out based on visual inspection, topographical survey and the FEH Webservice information. The study shows the site is divided, in surface water catchment terms, into three areas: catchment north (comprising 15.98 ha), catchment south (21.24 ha) and catchment west (3.51 ha). The catchment north is currently discharging east to the nature reserve, the catchment south is draining east directly to the Tyock Burn and catchment west is draining west to the river Lossie.

The proposal, at the post development scenario, is to discharge the surface water, attenuated and treated, from Plots A, B, C and D to the nature reserve. Plots E, F, G, H, I, J, K, L, M, N, O, P, Q, R and S will drain, attenuated and treated, to the Tyock Burn and the green/landscape at the west of the site will drain west to the river Lossie, as existing. It is proposed, therefore, that the catchment areas at the post development scenario will be refined from the pre development scenario. The catchment area proposed to drain to the nature reserve will be 12.11

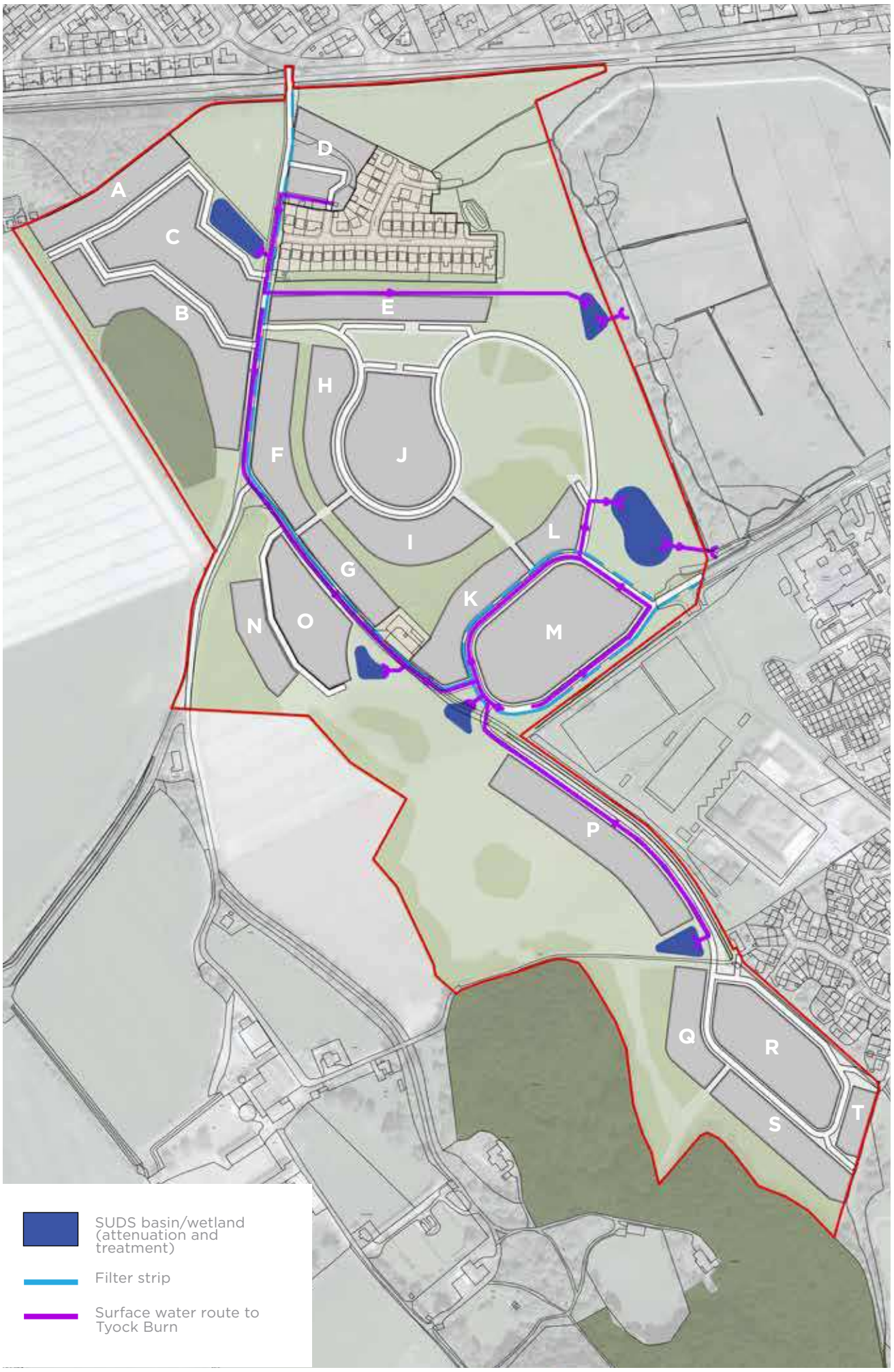


fig. 28: Surface water drainage strategy

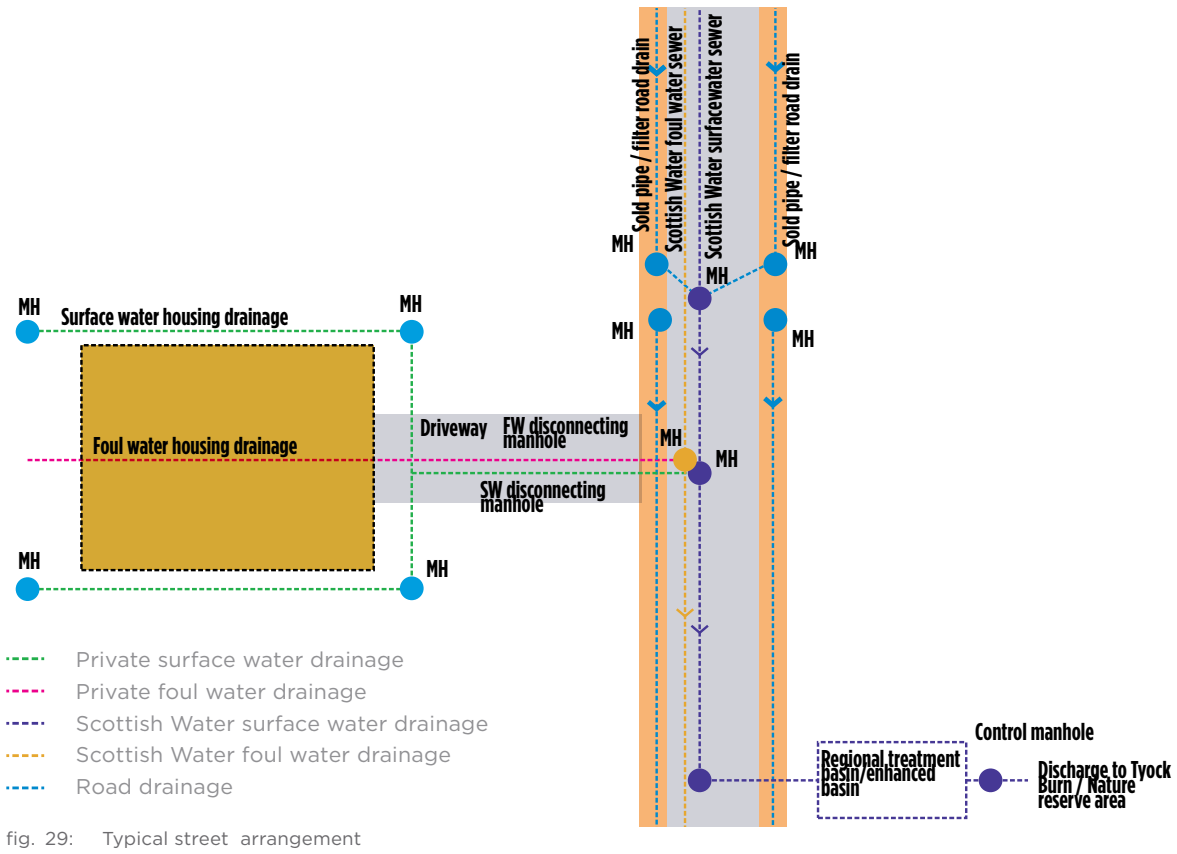


fig. 29: Typical street arrangement

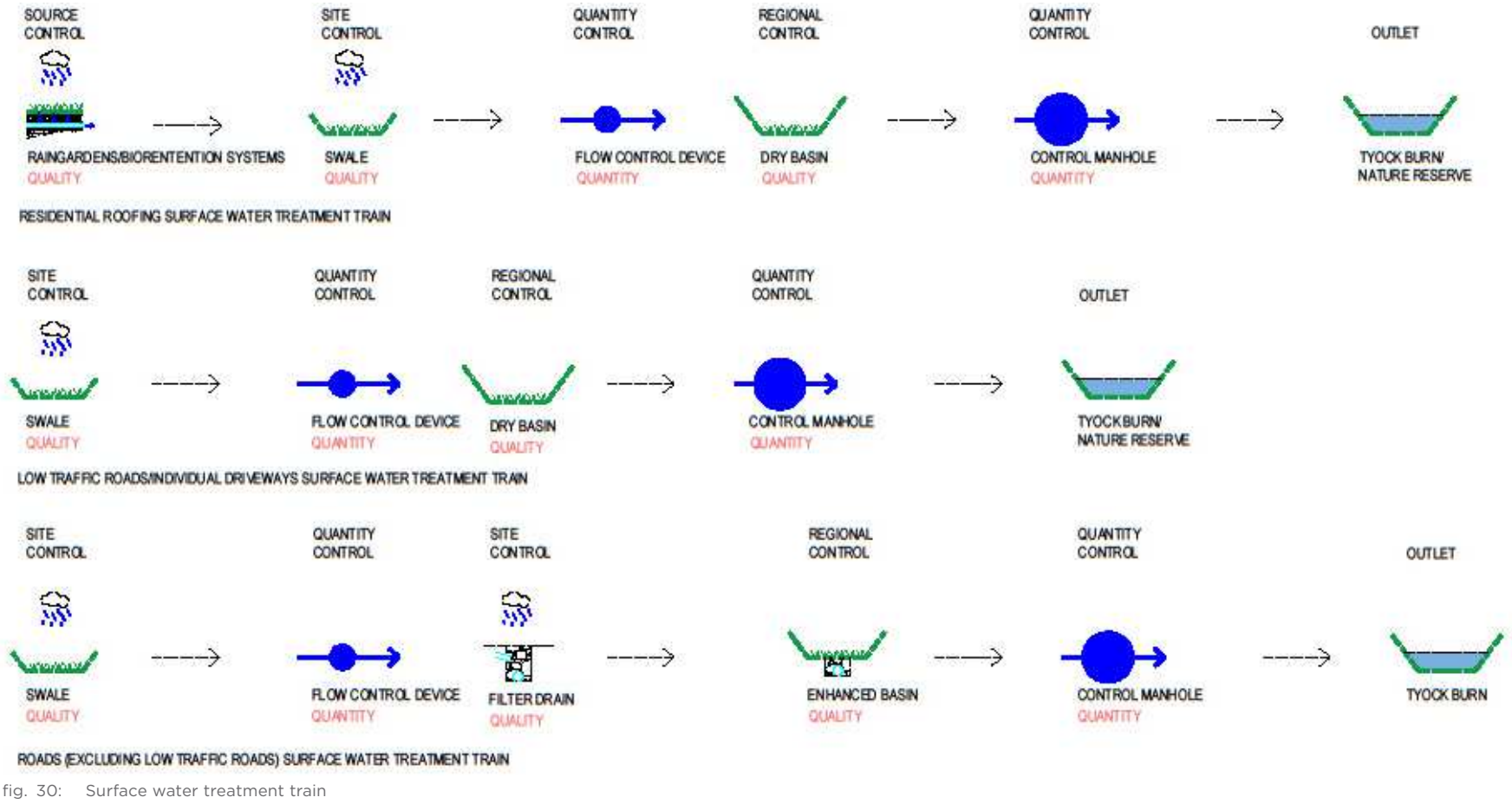


fig. 30: Surface water treatment train

ha, 3.87 ha reduction from the pre development scenario. The catchment area proposed to drain directly to the Tyock Burn will be 26.38 ha, 5.14 ha increase at the post development scenario and the catchment area proposed to drain west to the river Lossie will be 2.24 ha, 1.27 ha reduction from the pre development scenario.

A Flood Risk Assessment has been undertaken to ensure the proposal will not increase the flood risk downstream of the site, along the Tyock Burn. A 1D hydraulic modelling has been developed, using Flood Modeller software, to represent the Tyock Burn. As the main scope of the report is to demonstrate that the proposed drainage strategy will not increase the flood risk downstream of the site and along the Tyock Burn, the 1D approach has been considered to be the most suitable method.

Eight scenarios have been considered for the modelling:

- The 1 in 30 year event + 30% Climate change pre development scenario;
- The 1 in 200 year event + 20% Climate change pre development scenario;
- The 1 in 200 year event + 30% Climate change pre development scenario;
- The 1 in 30 year event + 30% Climate change post development scenario;
- The 1 in 200 year event + 20% Climate change post development scenario;
- The 1 in 200 year event + 30% Climate change post development scenario;
- The 1 in 200 year event + 30% Climate Change + 40% blockage pre development scenario; and
- The 1 in 200 year event + 30% Climate Change + 40% blockage post development scenario;

The assessment shows, based on the proposed strategy, that there is a reduction in flood risk along the Tyock Burn at all the post development scenarios considered. The masterplan area can, therefore, be considered suitable for residential development, from a flooding perspective.

4.6.3 Design Considerations

Because of the phased approach to development and the positioning of some site areas, there may be a need to design parts of both the foul and surface water systems with extra capacity, allowing for the addition of upstream flows as the wider development progresses. Where possible, sewers will be kept to the access roads, but in some situations, sites may need to connect to the public sewer network through another site, or by connecting into another site's sewer network.

4.6.4 PDE (Pre-Development Enquiry Form)

Prior to any development taking place, and to allow Scottish Water to conduct further assessment of the development's impact on the local network, the developer should submit a Pre-Development Enquiry form (PDE). Scottish Water Recommends that all planned development relating to more than a single house connection submits a PDE as early as possible.

4.6.5 Site investigation works

Further site investigation work, to include groundwater monitoring and infiltration testing to BRE 365 standards, will be required to accompany all subsequent planning applications. This will identify high / low infiltration zones and groundwater levels and should confirm final locations for SUDS features. Storage of surface water will be provided above ground.

4.6.6 Requirements for subsequent planning applications

Water and drainage assessments help to identify sustainable methods for the following objectives:

1. Supplying water
2. Disposing of wastewater
3. A Drainage Impact Assessment
4. Overland flow study
5. A Full Flood Risk Assessment managing flooding from all sources; and
6. Groundwater monitoring and infiltration testing to BRE 365 standards to inform the SUDS design in the final site layout.

Subsequent planning applications must undertake the required studies and assessments to demonstrate how individual phases fit into the masterplan area drainage network. All individual phases of development must be drained by Sustainable Drainage Systems (SUDS) designed in accordance with the CIRIA SUDS Manual (C753) along with Sewer for Scotland 3rd Edition and developers must submit a drainage impact assessment for any development proposals coming forward in line with PAN 61, Policy NE6 of the Local Development Plan and Supplementary Guidance on Drainage Assessments.

Developers should look for opportunities to protect and improve the water environment by taking account of the water features within and close to their sites. Work carried out by the developer should conform to the standards as indicated in the Scottish Water publications, 'Water for Scotland 3rd Edition' and 'Sewers for Scotland 3rd Edition'.

As the Tyock Burn is currently at fluvial flood risk, a flap valve must be installed at all surface water direct discharge outfalls into the Tyock in order to prevent further flows entering the Burn and maintaining the flood flows within the site.

Unless under management of a factor or management company, the SUDS solutions will require to satisfy the adoption and maintenance requirements of Scottish Water and/or Moray Council.

A summary of planning application requirements (for flooding and drainage) is included in Appendix I within the Drainage Strategy document.

4.6.7 Integration of SUDS components into the site

The masterplan shows indicative locations for SUDS basins which have been integrated into the development and located such that the community can benefit from them. These will require to be designed in detail to be part of multi-functional open space, adding to the overall bio-diversity of the landscape and to meet the requirements of the Council and SEPA as well as Scottish Natural Heritage. Final layout, configuration and engineering design of the SUDS basins will be informed by proposed developments on each plot.

Further guidance as to how these components are integrated into the masterplan can be found in section 5.10 of the Design Code.

4.7 Residential density

An appropriate residential density for each development block has been determined through a careful assessment of the existing site topography and their immediate context. The densities have also been informed by a separate study of existing residential densities in the surrounding context of Elgin to ensure that the Bilbohall development is in keeping with the surrounding housing (see section 2.10).

The residential density categories below have been applied to the development block areas to give an indication of the potential residential units which might be delivered:

- Low density: 15 - 25 units/Ha
- Medium density: around 30 units/Ha
- High density: 35 - 45 units/Ha.

Development Blocks	Block Area (Hectares)	Potential Residential Units
A	0.51	18
B	0.90	27
C	1.13	40
D	0.62	10
E	0.53	17
F	0.65	20
G	0.36	11
H	0.50	13
I	0.61	16
J	1.09	28
K	0.53	16
L	0.24	8
M	1.38	51
N	0.35	10
O	0.70	21
P	0.87	20
Q	0.39	10
R	0.93	28
S	0.53	13
T	0.15	5
TOTAL	12.98	382

4.7.1 Residential types

A mix of building typologies, tenures and plot sizes will ensure that Bilbohall is a diverse and inclusive development. By providing a range of accommodation, a broad variety of residents will be able to find a form of residence that works for them, regardless of their position in the housing lifecycle. Because of the scale of the proposed development and the opportunities inherent in the site relating to access to open space and surrounding facilities, a range of market sectors and densities is proposed which will include:

- Detached;
- Semi-detached;
- Townhouses and terraces;
- Apartments and flats (potentially within block D)

The final mix will be developed in response to market demand and detailed layout design, to ensure that an appropriate development can emerge which makes the most of the unique site. The aim is to appeal to a variety of residents and provide them with a choice of types of places for them to live and work.

fig. 31: Density

High 35-45 units/Ha

Medium around 30 units/Ha

Low 15-25 units/Ha

4.7.2 Affordable housing

Bilbohall will provide a range of tenures and housetype and will include a significant element of affordable housing. As Grampian Housing Association and Moray Council are both committed to delivering affordable housing, the level of affordable housing provided at Bilbohall will be above the 25% minimum required by the Moray Local Development Plan. It is anticipated that over 60% of the housing will be affordable. This is akin to the actual need for affordable housing in Elgin as set out in the Housing Needs and Demand Assessment.

This housing will be provided on-site and will generally be distributed across the masterplan area, integrated so as to ensure that affordable and private housing sit comfortably side by side in a 'tenure blind' fashion. The type of affordable housing will be determined on a site-by-site basis and will include social rented accommodation, mid-market rent accommodation and low-cost home ownership.

Specialist housing, including housing for the elderly and assisted living will also be provided. Wheelchair accessible units (as defined by Housing for Varying Needs) must be provided to the level set out in Policy H9 and the Accessible Housing SG.

4.8 Building heights

Indicative building storey heights have been assigned to each development block, however during detailed design a variety of heights should be used to ensure that a varied roofscape and associated streetscape can be created. The storey height categories shown in the adjacent diagram have considered:

- Height of adjacent existing properties;
- Slope and ground conditions to ensure appropriate visual impact;
- Requirement on primary street to provide an appropriate sense of enclosure;
- Potential for split-level house types where upslope and downslope storey heights may be different.
- The density of the residential blocks.

Areas which are potentially visually sensitive, such as the existing knoll at block J, have been assigned low storey heights to help mitigate development, while the lower slopes and valley floor have slightly higher storey heights.

Note: Single storey properties will be required to be provided in accordance with H9 Housing Mix/ Accessible Housing policy. These may fall into any of the areas identified above.

4.8.1 Block E specific requirements

In addition to limiting Block E to single-storey heights, development in this location has a number of other requirements in order to respond to the existing properties on Fairfield Avenue:

- Provision of a planted landscape buffer of 15m in depth between the existing fenceline and the back garden plot boundary of Block E. Note that this dimension is in addition to the existing 'buffer' that has been established by the Fairfield Avenue development which measures between 8 and 10m in depth; and
- A minimum of 40m distance between the main rear elevations of Fairfield Avenue and the new housing in Block E. This compares with the a distance of between 20 and 21m between front elevations of houses on Fairfield Avenue.
- Species and mix for the planted landscape buffer should be selected to prevent access and screen views. Species should include multi-stemmed and fastigate forms with a mature height of 5-12m. An evergreen component should be included in the mix. Typical species would include: Common Yew (Taxus baccata); Box (Buxus sempervirens); Port laurel (Prunus lusitanica) Holly (Ilex aquifolium); Field maple (Acer campestre); Beech (Fagus sylvatica); Hazel (Corylus avellana) Spruce (Picea abies); and Scot's Pine (Pinus sylvestris).

fig. 32: Building Heights

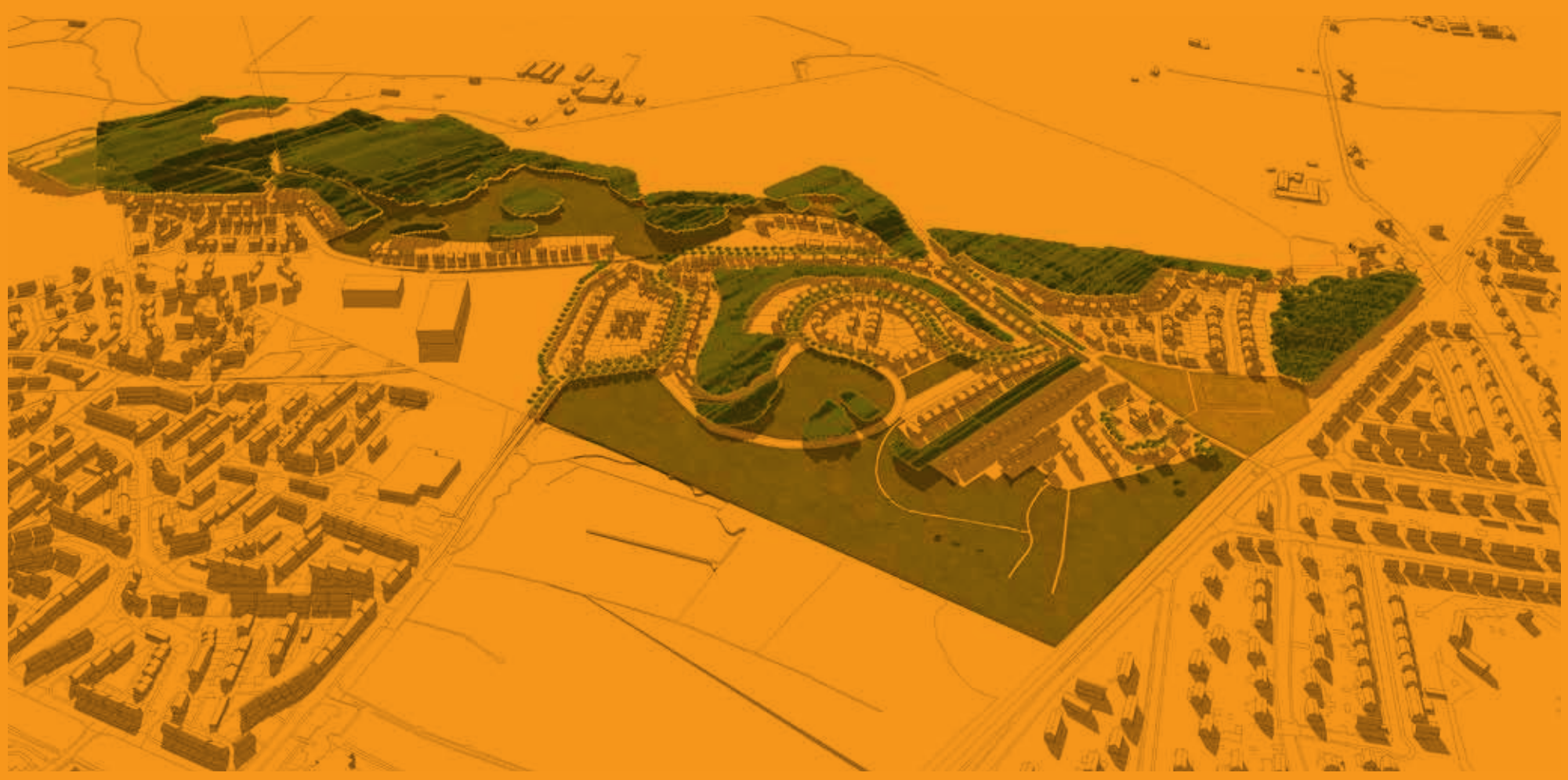
Single storey to address existing residential sensitivities

2 storey to reflect adjacent existing housing / provide appropriate street containment on primary streets

Generally 2 storeys with potential for inhabited roof

Visualisation from Wards Road West illustrating indicative housing blocks and embedded landscape mitigation

5. Design Code



5.1 Pattern of Development

The adjacent layout progresses the key design principles for the development area, spaces and streets previously set out in the Masterplan chapter and demonstrates how the spirit of the guidance can be translated into reality. The resultant plan sets out the pattern of development that should emerge through subsequent detailed planning applications.

This chapter sets out further detail guidance in the form of a design code which expands on particular aspects of best practice. The design code aims to allow a strong identity to emerge which responds to both the immediate context and the wider Bilbohall masterplan area. It is intended that this guidance will provide the starting point for detailed design solutions which will follow throughout the planning application process.

1. Elgin High School
2. Greenwards Primary School
3. The Wards Wildlife Area
4. Knockmasting Wood
5. Pocket Park
6. Mayne Wood
7. Neighbourhood Park

5.2 Urban design principles

In development of the masterplan a ‘design code’ has been established that builds upon the vision for the masterplan area and aims to ensure a high quality development is realised as the masterplan develops over time. The ‘design code’ focuses on the key generators of character including key routes, corners, buildings, edges, spaces, in order to articulate the main design intent. It includes information on:

- Parking;
- Frontage;
- Density and building heights;
- Key and focal buildings, street hierarchy;
- Key spaces and open spaces;
- Public art;
- Building types;
- Pattern of development;
- Palette of materials within distinct character area; and
- SUDs and waste benchmarks.

5.3 Built form and spatial definition

The adjacent plan identifies those locations which must function to define spaces and key urban conditions such as corners and street frontages.

5.3.1 Key corners

The establishment of locations for key corners where buildings wrap around to address both streets is crucial to both anchor a legible structure but also identify where ‘special’ buildings must be located. These corner sites are visually prominent, have two frontages and need to face both ways. The buildings can include an L-shaped footprint or windows built into the gable elevation in order to address another street, avoid blank elevations and provide natural surveillance. Other architectural devices such as chimneys, articulated window surrounds or feature windows in gables will also be considered to provide focal points.

These special buildings must be distinctive because of their function, quality of materials, detailing and considered architectural form. In some instances, the simple identification of a junction or corner which would benefit from a particularly positioned building is enough to create an urban marker which helps with wayfinding and orientation.

5.3.2 Street trees

There are a number of street lengths where avenue trees or single lines of trees must be provided to create identity and help to strengthen the hierarchy of the core routes identified, see figure 27. This shows how character can be established with simple landscape elements used repetitively. Trees are not only proposed on the core routes identified and must also be provided on streets and courtyards within blocks to add character and enhance the public environment.

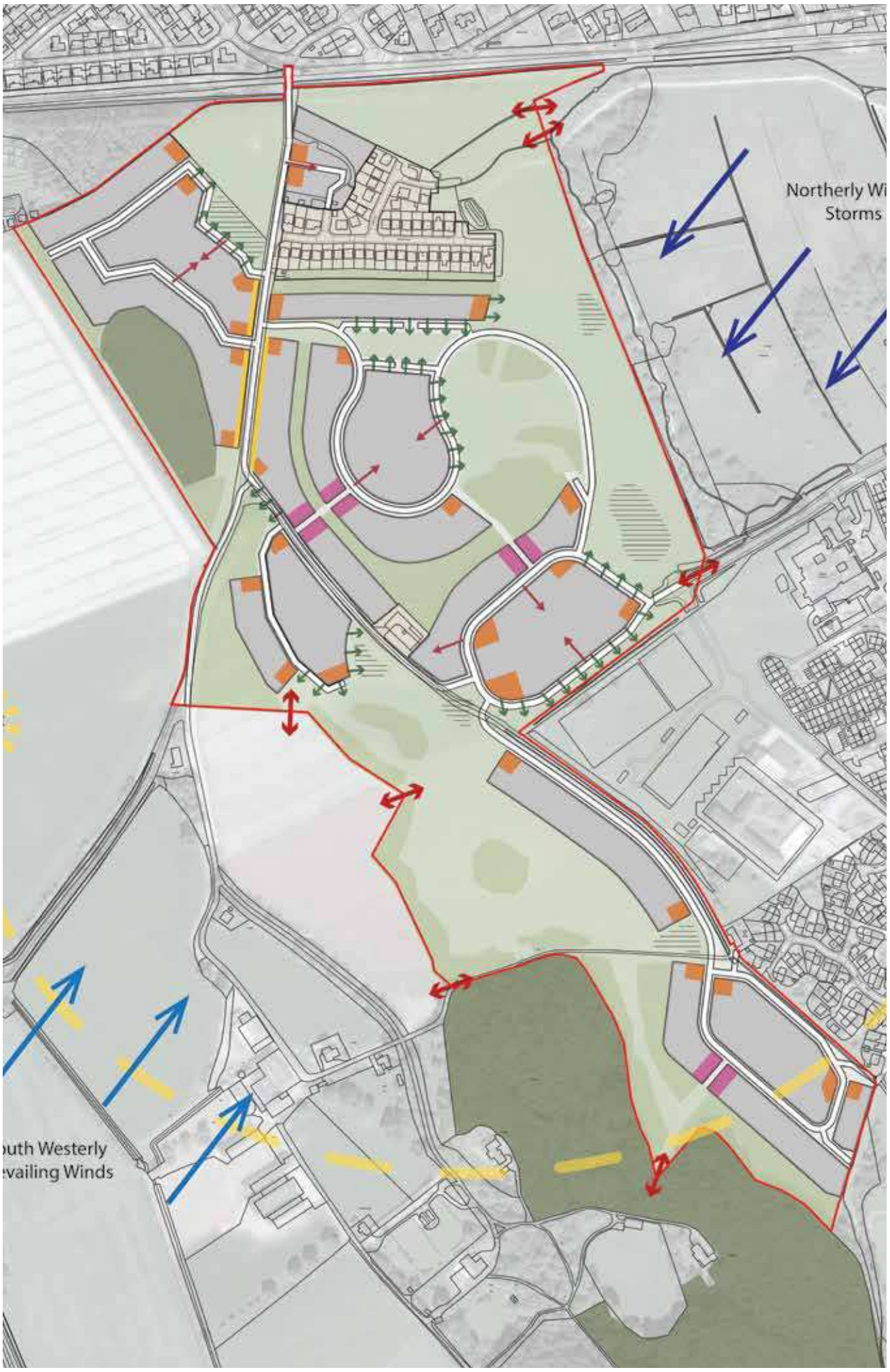


fig. 33: Urban design principles

Key corners which require ‘special’ buildings to ‘turn the corner’

Adjacent buildings to overlooking pedestrian route

Access via shared driveways to allow for retention of existing hedgerows

Buildings to address adjacent open space

Suggested development block internal access

Open space connections

5.3.3 Buildings addressing open space

New streets have been laid out to overlook adjacent open space in order to encourage activity and natural surveillance of the space. Private ‘backs’ onto public open space are not supported and the aim is to create secure perimeter blocks where there is clear definition between public fronts and private backs.

fig. 34: Streets with potential for tree planting

5.4 Parking

Parking requirements will be informed by the current Parking Standards at the time of the planning application(s), or any associated guidance setting out the standards for parking including any equivalent planning policy and/or guidance which supersedes or replaces the parking standards. Parking must not dominate the streetscape and will be provided through a mixture of parking courts, in-curtilage parking and on-street parking. Parking must be to the side or rear of properties set back behind the building line of the house to minimise the impact of the car on the street scene. Limited parking may be permitted to the front of buildings provided this is satisfactorily mitigated by planting and other boundary treatments such as low stone walls and fencing.

Rear parking courtyards can be appropriate for certain types of housing such as flats. Where rear parking courtyards are used, they must be carefully designed to ensure overlooking for natural surveillance and security. Soft landscape and planting should be used to break up parking bays. On-street parking can be considered for shared surfaces on minor streets and small-scale lanes where low traffic speeds are expected and street furniture and planting can be used to influence driver behaviour and also visually mitigate parking. Locations for EV charging points and car share parking spaces must be considered in subsequent planning applications.

Examples of good practice when it comes to parking are illustrated below.

Detached housing with parking behind building line.

On-street parking within shared surface lane to be limited and integrated with soft and hard landscape

Parking courtyard overlooked with good integrated landscape structure and privacy.

Off street parking behind building line.

5.5 Public Art Integration

Public art must be integrated from the outset of the development as it can contribute to the creation of a sense of place and identity. Public art should be considered for its potential to be a character generator that can contribute to the overall Bilbohall identity while providing interpretation, joy and beauty. Public art may not necessarily result in a physical manifestation or object but could also be in the form of events, processes and public engagement. Furthermore, public art should be considered for the potential 'upgrading' of standard specifications of such items as seating, boundary treatments, paving and other elements such that it is integrated into the public realm.

Vitamin G project by the Arts Partnership Surrey

Potential themes include:

The planting knolls of Bilbohall

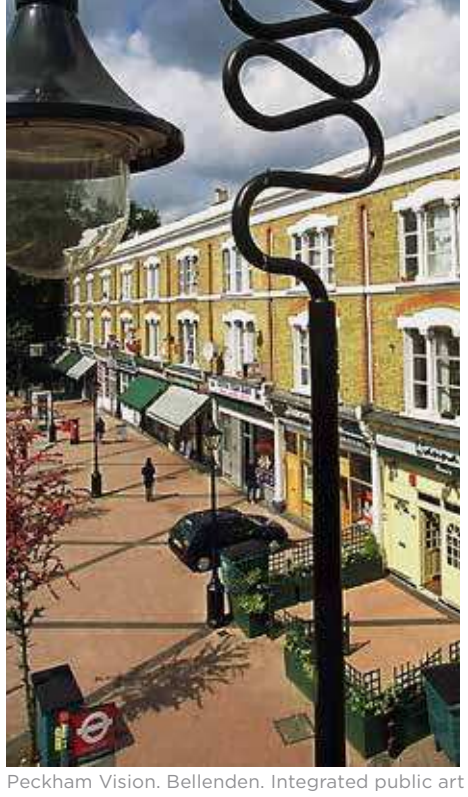
Taking landscape as its theme, there is an opportunity to use public art to interpret the existing landscape and provide new planting to embed Bilbohall into the landscape.

Allotments

There is the potential for artist involvement in the planning and delivery of the the allotments, whether through the formal launch event, early ideas on growing and food production or ongoing planning of public engagement. This would be public art as process-driven rather than providing a fixed end result.

Play related

Providing for interaction with children and young adults, this public art project could emerge from the design of play areas and equipment, allowing the new residents to input into the process and shape their own environment.



Peckham Vision. Bellenden. Integrated public art

5.6 Recreation and play areas

Neighbourhood and pocket parks are included that will provide public amenity and recreation for all ages. Green corridors and cycle/footpaths will link these spaces together.

Play spaces must be designed to provide an element of adventure play, education and interpretation of the natural environment. Structures such as magnifying posts, planters, herb gardens, etc. could be considered.

Informal play areas

Formal play areas

Formal play areas

Trails/cycle paths

M.U.G.A

Formal play areas

5.7 General Palette of materials

Given the scale of the development, a broad palette of materials has been included for buildings and street which would be suitable for all character areas with 'accent' or substitute materials allowing for particular differentiation across the site. While there may be a range of materials apparent across the masterplan, it is important that there is consistency through the public realm or street scene materials in order to avoid a patchwork of materials which distract and confuse.

5.7.1 Building materials

In general, walls should draw from a palette of render and masonry. Accent walling materials may include coloured render, feature panels, timber feature walls or weatherboarding. Roofs should draw from a palette of slate and tiles.

5.7.2 Streetscape and public realm

Despite the variations that there are across the site in terms of slope and character, the streetscape and public realm will aim to provide a consistent and coherent identity across the masterplan area. A common palette of materials will be used across both soft and hard landscape elements to tie the masterplan together. In general, surfacing should consider tarmac, or charcoal and grey block for pedestrian surfaces and to break up the carriageway as required for traffic calming measures. Informal paths through open space may use whinstone or self-binding gravel.

5.7.3 Boundary treatments

Existing elements such as mature hedegrows will be retained to enhance the sense of place. If new street corridors widths require the removal of such features, they must be reinstated in the form of formal boundary hedging. Certain principle streets will benefit from stone boundary walls to generate character and further define public/private spaces.

5.7.4 Street trees

Tree species should be selected in response to the respective design principles of the character areas within the masterplan area. Each selection will take into account the identity of the resepctive area and serve to enhance the aesthetic quality of the area by responding to the site conditions and scale of development.

There are certain areas that run through character areas, such as the primary street, a consistent tree species will be used throughout this area which will convey an identity and specific character to Bilbohall.

Examples of species that would be suitable for use as street trees are, Lime, Pear, Maple, Birch.


Render


Masonry Features


Slate effect / concrete tile


Coloured Render


Cladding


Standing seam


Grey and brindle block paving


Bound gravel for pedestrian/ low traffic shared areas


Compacted gravel pathways through open space


Stone feature boundary wall


Boundary hedge


Street trees

5.8 Character areas

Whilst the preceding sections have described the urban design principles and best practice, this section expands on those specific guidelines to give overarching guidance on architectural character and built-form for grouped areas. The aim is to identify areas and zones across which a consistent and sympathetic character must emerge. The zones are therefore drawn in order to capture both sides of streets and catch those areas which must have a common relationship to adjacent open space. Six key character areas have been identified and these character areas have developed as a response to the existing landscape, topography, and the location within the development. They must inform the detail layout of these areas, the character of open space, the palette of materials and architecture in each area.

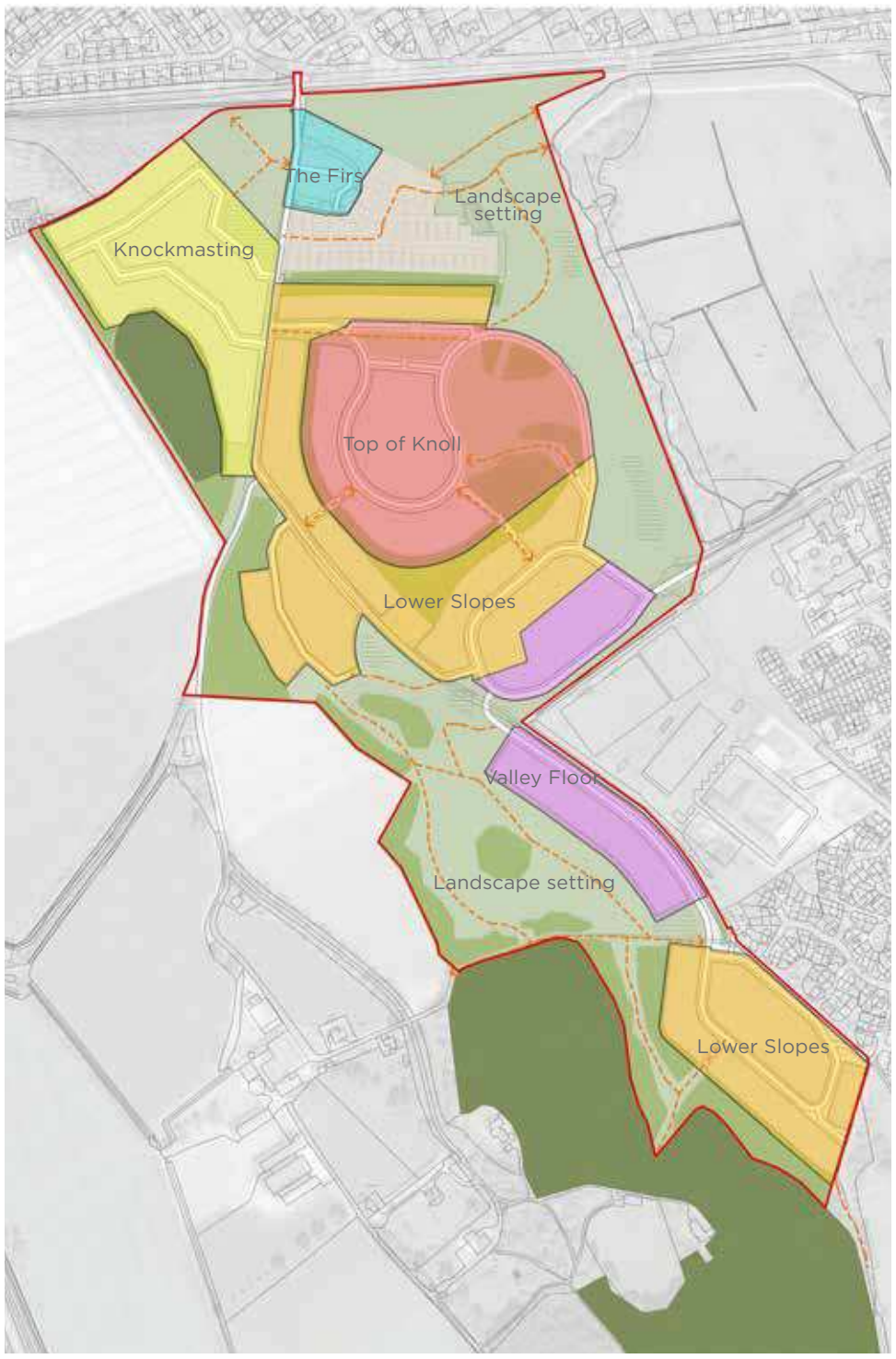


fig. 35: Character Areas

Summary table of key attributes

Character Area	Predominant building materials	Architectural features	Boundaries	Predominant public realm, planting and soft landscape character
The Firs	Coloured textured render /wet dash with slate or slate effect.	Traditional forms to reflect Wards area. Pitched roofs, chimneys. Window and door surrounds. Gable features.	Stone walls.	Large format paving slabs and units. Integration of mature trees. Formal hedging to separate public and private space. Where replacement trees are required these should be large species to reflect existing forms (eg. Castanea sativa, Fagus sylvatica)
Top of Knoll	Render and cast stone. Masonry features. Slate or slate effect.	Porches and entrance features. Masonry/stone feature walls or gables.	Light railings and informal shrub boundary planting.	Bound gravel within minor streets and shared surfaces. Flowering tree species used as small street tree (eg. Prunus Sunset Boulevard). Characterful Scots Pine on plateau to reflect adjacent wooded knolls.
Lower Slopes	Coloured render and timber cladding. Red/brown roofing tones.	Dormers and inhabited roofs. Dark window frames and tertiary elements. Traditional roof features.	Post and wire with hedges.	Setts and block units within minor streets and shared surfaces. Soft verge to accommodate filter strips to edge of carriageway. Formal medium-sized street tree (eg. Tilia cordata 'Greenspire')
Knockmasting	Timber cladding and white/off white texture render. Masonry features. Dark roofing tones.	Picture windows towards Knockmasting Wood. Window and door surrounds.	Hedges.	Existing hedgerows retained and integrated where possible. Soft and green frontages. Planting within public accent open spaces to include Scots Pine to reflect Knockmasting Wood.
Valley Floor	Coloured metal / timber feature cladding to pick up Elgin High School language and colours. Render. Standing seam roof.	Opportunities for modern and contemporary design.	Rendered walls.	Smaller street trees (eg. Sorbus aria Lutescens) and colourful accent trees (eg. Acer rubrum) to line pedestrian routes.

5.8.1 The Firs

Description

'The Firs' character area covers the former NHS site adjacent to the recent Fairfield Avenue development. The development area and proposed character are largely driven by the existing mature trees on the site which are subject to a TPO. Residential development must retain and integrate these trees into the layout and the likely density is low to reflect the existing constraints.

Key characteristics

- Double frontages to address key corders;
- Specific design responding to existing trees and open space;
- Layout responds to existing TPO trees.

Materials

A combination of coloured render with slate or slate effect and stone boundary walls to respond to the existing buildings and stone walls in this part of the site.

fig. 36: Extract from illustrative masterplan

New development responding to existing mature trees with masonry feature walls

Traditional forms, materials and details.

fig. 37: 'The Firs' character area

Materials

3d massing sketch showing character area in context

5.8.2 Top of Knoll

Description

The ‘Top of Knoll’ character is made up of development blocks on top of and surrounding the top of the existing knoll in the centre of the masterplan area. The block arrangement is outward looking and is integrated with the adjacent parkland, providing natural surveillance and active frontage.

Key characteristics

- Houses arranged to overlook open space on top plateau of knoll
- Low density, predominantly detached, responding to existing topography
- Shared surface streets within internal blocks
- Double-frontage units turn corners adjacent to open space

Materials

Primarily render to be used at the top of knoll with cast stone and masonry feature accents to create subtle variation to facades. Light railings and informal shrub boundry planting treatments to be used to respond to the adjacent open space.

fig. 38: Extract from illustrative masterplan

Masonry features

Buildings overlooking public space with light railings and informal shrub planting

Shared surface streets | landscaping extends into road to slow traffic

fig. 39: “Top of Knoll” character area

Materials

3d massing sketch showing character area in context

5.8.3 Lower Slopes

Description

The 'Lower Slopes' character is made up of development fronting on to streets and generally backing onto slopes with steep back gardens. Long plots take up the level change, and structural woodland planting is incorporated where the topography is too steep for development. Development runs along the lower slopes of the main landforms on the site.

Key characteristics

- Frontage overlooking primary streets
- Low - medium density
- Long rear gardens backing onto slope
- Private drives behind retained hedgerows
- Potential for swales to run along street corridors as part of blue-green infrastructure

Materials

Coloured render and timber cladding. Red/brown roofing tones. Existing landscape features to be retained.

fig. 40: Extract from illustrative masterplan

Colour render and red/brown tone roof

Parking well considered to side of properties

fig. 41: "Lower Slopes" character area

Materials

3d massing sketch showing character area in context

5.8.4 Knockmasting

Description

The 'Knockmasting' character is defined by an existing woodland knoll and a neighbourhood park. Development in this area forms part of the entrance into the site.

Key characteristics

- Buildings arranged to overlook neighbourhood park and ensure natural surveillance
- Medium - high density
- Backs of plots to existing woodland for security purposes
- Existing hedgerows retained

Materials

The full range of materials in the palette are available however consideration should be given to cladding and masonry used as features in response to the strong geometry of the development block. Existing hedges to be retained and tree planting should compliment the adjacent neighbourhood park.

fig. 42: Extract from illustrative masterplan

fig. 43: "Knockmasting" character area

3d massing sketch showing character area in context

Housing facing onto open space

Pleasant green frontages | safe pathways | space hierarchy

Housing overlooking parkland space

Plot design responding to Knockmasting Wood

Materials

5.8.5 Valley Floor

Description

The 'Valley Floor' character is made up of predominantly terraced and semi-detached properties. Shared surface streets within internal blocks are overlooked to ensure natural surveillance.

Key characteristics

- Natural surveillance overlooking amenity space including integrated SUDS feature
- Medium - high density
- Predominantly terraced and semi-detached units
- Double frontage plots on corners

Materials

Predominantly render with coloured metal / timber feature cladding. Standing seam roof.

fig. 44: Extract from illustrative masterplan

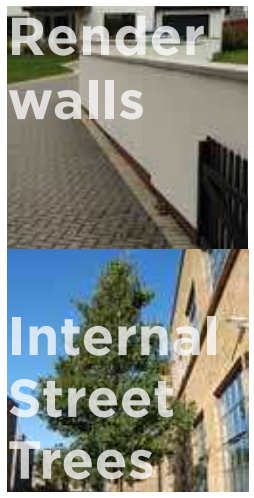
Clean and contemporary details

Clean and unfussy building lines

Contemporary details and roof forms

fig. 45: "Valley Floor" character area

Materials



3d massing sketch showing character area in context

5.9 Sustainability principles

5.9.1 Energy efficiency

The Moray Local Development Plan Climate Change SG contains comprehensive guidance outlining energy efficiency principles which should be considered when progressing detailed design applications. All developments should be designed in accordance with the 'energy hierarchy' that is set out in the Climate Change document. Reducing energy demand is the priority, followed by energy efficiency measures and then the use of renewable energy technology. The adjacent table sets out some of the measures that can be used to achieve this.

In practice, this means good design (ie. efficient layout which considers orientation, micro-climate and exposure) and fabric in first instance (ie. high levels of insulation and air tightness). The table below sets out specific principles and standards which are applicable at Bilbohall in relation to energy efficiency measures.

Passive Energy Efficiency Measures	Operational Energy Efficiency Measures	Renewable Technology Measures	Emerging Technological Measures
Orientation	Heating systems	Photovoltaic	Hydrogen fuel cells
Day lighting	Insulation	Solar water heating	Anaerobic digestion
Natural Ventilation	Lighting and Appliances	Micro wind	
Air Tightness	Glazing	Micro hydro	
Using natural features of site for shelter etc	Building materials	Biomass	
	Mechanical Ventilation / Heat air source recovery	Ground and air source heat pumps	

Maximising passive solar gains	The street hierarchy of primary and secondary streets and resultant development blocks have been oriented to generally run in an east-west alignment which allows elevations to be oriented as close to south as possible. This is to maximise opportunities for passive solar energy gain and reduced lighting loads through the use of natural daylight through south-facing orientation. As detailed layouts are progressed, these principles must be translated into plot-specific responses which also promote east-west street alignments for minor streets and lanes and arrange elevations to the south.
	Principles of windbreak and shelter from prevailing winds (South-Westerly and particularly Northerly winter storms) has been considered in the positioning of woodland belts within the masterplan and will be further strengthened through street alignments and positioning of built form to act as a windbreak against prevailing winds, to prevent the direct passage of wind and limit exposure.
Natural ventilation	There is a presumption in favour of natural ventilation strategy for all residential dwellings. Limiting building depths helps with natural ventilation and daylighting levels. Additionally, the use of chimneys or stack features should be considered to help with ventilation during summer months.
Improving fabric	• Higher levels of Insulation to external, floors, party walls, ground floors & roofs; • Improved air tightness; • Improved thermal bridging detailing; • Improved glazing specifications; • Higher insulated external door components; • Low energy lighting; • Improved heating controls; • Improved hot water storage; • Heat recovery systems (eg. Shower Waste Water & Flue Gas Boilers); and • Natural, trickle and Mechanical Extract Ventilation, utilising low speed fans
Water efficiency measures	Water efficient fixtures must be specified for all water sources and features. This may include: • Low water use appliances (such as washing machines and dishwashers if provided); • Ultra-low volume or dual flush WC cisterns; • Factory fitted restrictors to tap fittings/aerated taps; and • Low flow showers and reduced volume baths; Dwellings with a garden should include provision for rainwater harvesting for irrigation purposes.
Potential for home composting and food production	Dwellings with a garden to have private open space arranged in such a way that there is space for a composting bin to be accommodated. A location should be identified which receives some sun during the day and away from any windows and doors on the dwelling itself or neighbouring properties.
Sustainable Transport	The Masterplan promotes walking and cycling through new and improved links to, from and within the Masterplan area, as well as provision for a bus route through the site. Electric vehicle charging bays and Car Club (or similar) parking spaces will also be provided as appropriate.

5.9.2 Inclusion of wildlife friendly measures

By incorporating measures which accommodate wildlife, the overall sustainabilty of the development can be increased. A range of measures should be considered for use at Bilbohall, such as:

- Wildlife friendly kerbstones, gulley pots and SUDs;
- Bat-friendly lighting;
- Native tree species;
- Flower rich grasslands and assocaited wildlife friendly mowing regime to benefit pollinating insects; and
- Bird boxes.

5.9.3 Ground conditions

The site is largely greenfield and there are no great contamination concerns that would impact on the masterplan. There are possible issues with historical land use around the Firs while the known presence of peat in some areas will likely require a ground gas assessment.

A standard Phase I desk study contamination assessment for the whole development will be required with the subsequent planning application(s). Any requirement for further investigation or mitigation measures would need to be identified in this report and implementation of these measures would then become a condition of consent.

5.10 Water as feature of design

Sustainable Urban Drainage (SUDS)

SUDS features must be above ground and integrated into the development, reflecting a character that is appropriate to the existing site features and the development. SUDs features must help to form a sense of place and create a local identity incorporated as part of the local amenity space. A well-designed feature must substantially increase local biodiversity while also creating an attractive landscape setting. The character and form of these features will be developed in detailed design, but in principle the features must be integrated into the development so that the community can benefit from using the SuDS. The SuDS location within the development will also improve people's understanding of how runoff from their development is being managed and used, and the benefits of more sustainable approaches.

The illustrations on this page demonstrate how SUDS features can be fully integrated into open-space to provide multi-functional spaces which not only function to hold water during storm events, but act as biodiverse habitats and amenity space at other times. They are designed to be overlooked, providing an ever-changing character through the selection of seasonal species which flower and transform over the course of the year. Fencing has been eliminated through the careful design of slope and water depth and earth-modelling is natural and does not utilise 'engineering' approaches.

Interconnected SUDS basins with two levels of treatment, including wetland channels and areas and drier secondary basins.

Water systems integrated into the path network, allowing mutliple routes through and around the features and giving access to wetland edges.

SUDS features designed as an attractive landscape setting which changes with the seasons.

Swales integrated into residential layout to collect and treat surface water while also creating an engaging landscape feature.

Water and SUDS systems adjacent to street network, providing open space with biodiversity benefits.

More structured and formal 'rain gardens' which gather and hold storm water during events and slowly release water back into the environment in a controlled rate.

6. Phasing, Shared Infrastructure & Developer Requirements

6.1 Phasing strategy

6.1.1 Anticipated completions

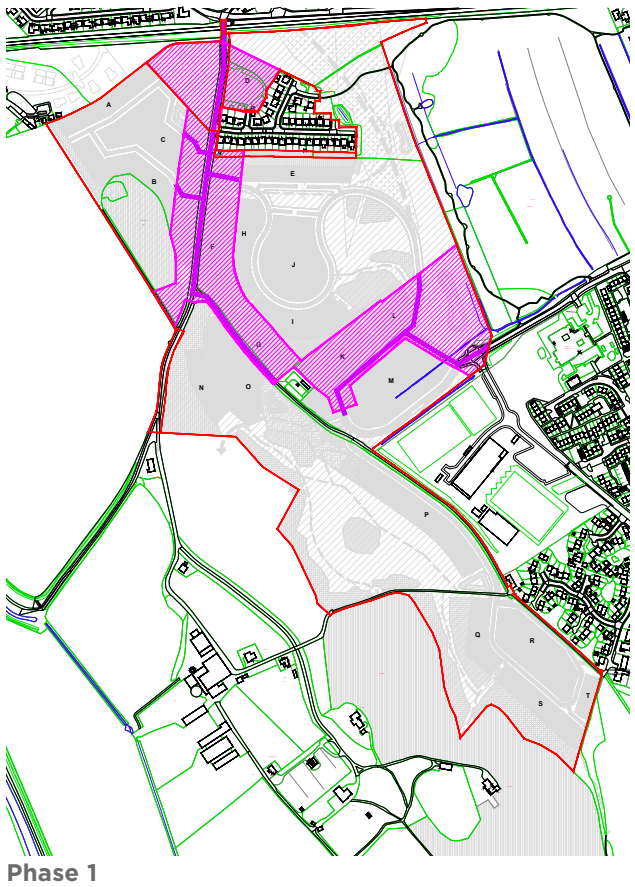
A matrix of anticipated housing completions has been agreed which sets out the various rates of construction expected by the three landowners/ promoters. This is indicative at this stage and should be viewed as a guide to overall completion rates which will ultimately be determined by the market. It is estimated that there will be around 25-30 units completed per year per active site with multiple sites under construction in parallel.

Developer	Block		2018	2019	2020	2021	2022	2023	2024	2025	Total
MC/GHA	R3	Annual completions			10	20	20	30	20	5	105
		Cumulative			10	30	50	80	100	105	
Scotia	R4	Annual completions				5	25	30	30	17	107
		Cumulative				5	30	60	90	107	
Scotia	R12	Annual completions			10	25	25	25			85
		Cumulative			10	35	60	85			
MC	OPP7	Annual completions			5	5					10
		Cumulative			5	10					
MC	CF2	Annual completions				20	20	25	10		75
		Cumulative				20	40	65	75		

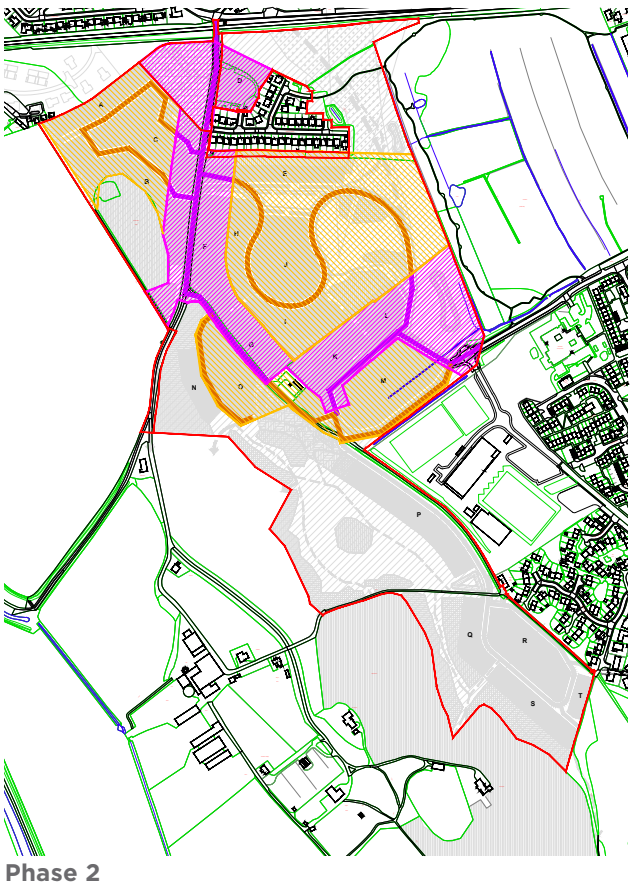
Summary	2018	2019	2020	2021	2022	2023	2024	2025
Total completions	0	0	25	75	90	110	60	22
Cumulative	0	0	25	100	190	300	360	382

6.1.2 Key Principles

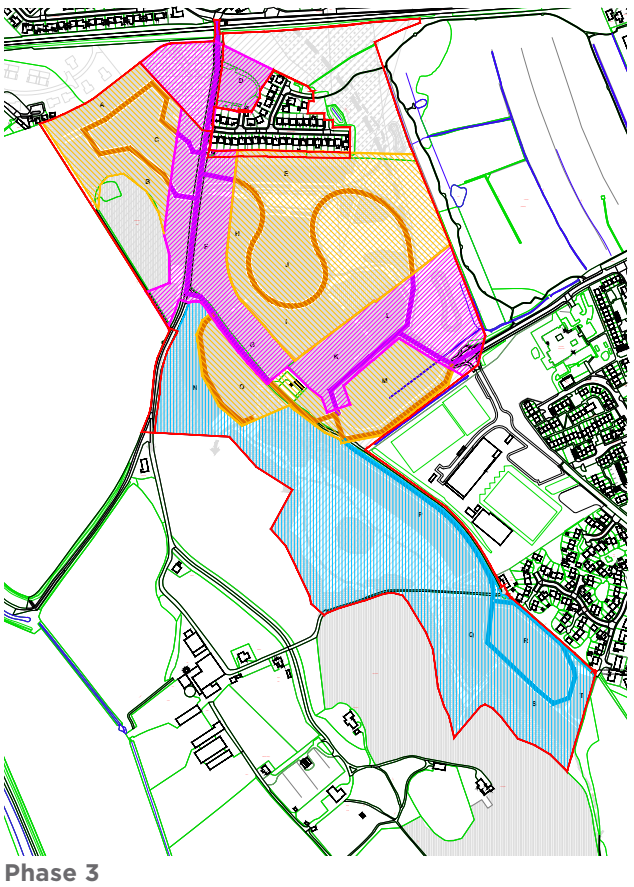
The phasing diagrams below illustrate the desired direction of growth from existing points of access and are not intended to be a rigid guide. Open space will be delivered in parallel with adjacent development.



Phase 1
c 2018 - 2021
100 units



Phase 2
c 2021 - 2023
200 units (300 units cumulative)

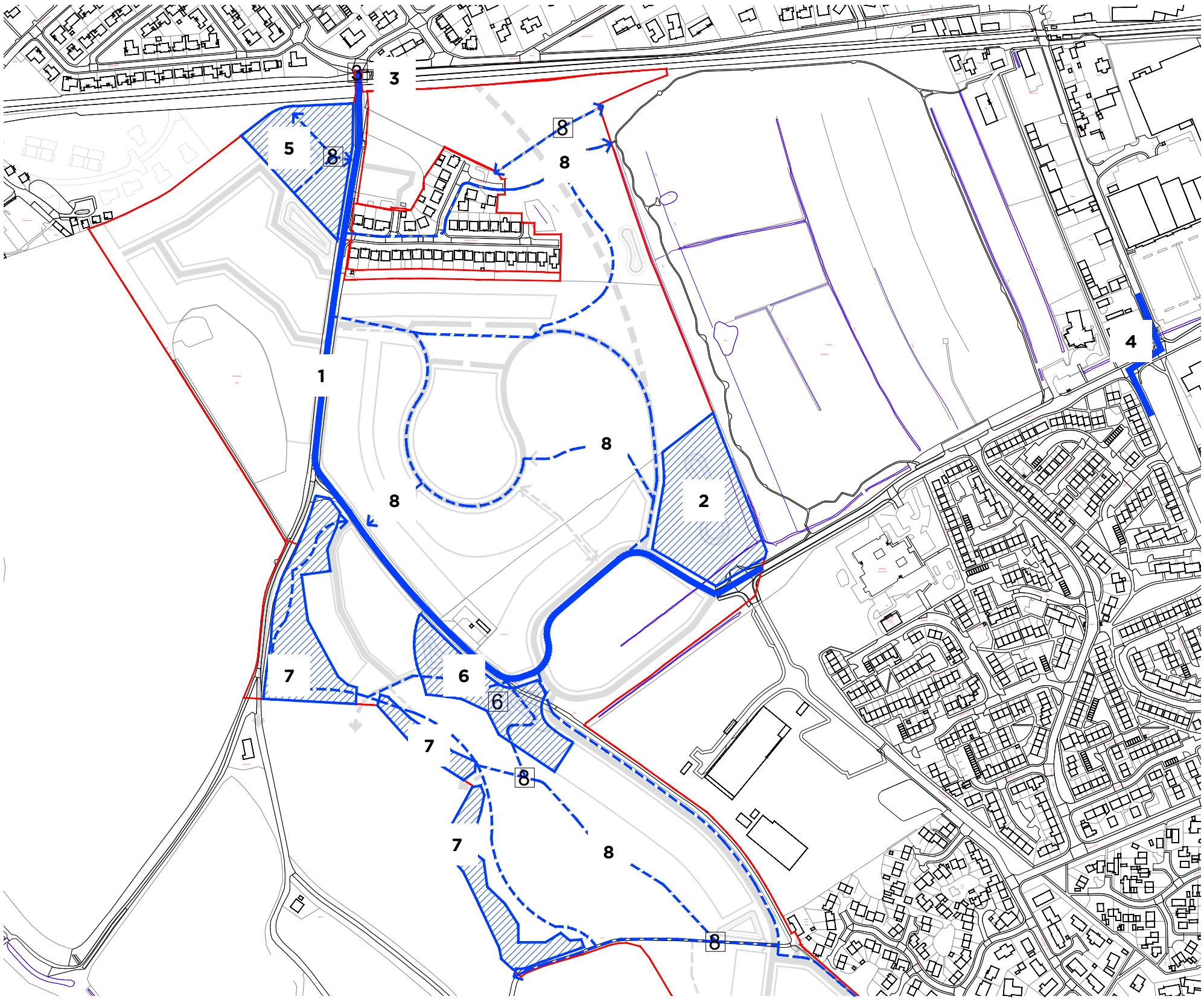


Phase 3
c 2023 - 2025
82 units (382 units cumulative)

6.2 Shared infrastructure

The following elements have been assessed to be considered as 'shared infrastructure' given that all the Bilbohall sites require them to be implemented in order to either provide adequate access or mitigate the impact of development.

1. Upgrade of Bilbohall Road and connection through to Edgar Road
2. Site-wide SUDS as required
3. Capacity improvements at Mayne Farm Rail bridge and any associated changes to the road and pedestrian network in the vicinity of Mayne Road and Wittet Drive.
4. Capacity improvements of Edgar Road / GMD / The Wards
5. Neighbourhood park provision (including visitor car parking) and upgrades to existing open space facilities.
6. Pocket park provision.
7. Structural landscape to contain western edge of development.
8. Site-wide path network



6.3 Developer Requirements

6.3.1 Developer obligations

Developer Obligations will be sought in accordance with policy IMP3 Developer Obligations of the MLDP2015 and associated Supplementary Guidance Developer Obligations to mitigate any adverse impact the development may have on education, healthcare, transport, and access and recreational infrastructure. Developers are encouraged to enter into early dialogue with the Council's Developer Obligations Team (email: developerobligations@moray.gov.uk).'

6.3.2 CEMP

Pollution prevention and environmental management will be addressed during the construction phases of the development of the site through the submission of a site specific Construction Management Plan

6.3.3 Flood Risk and Drainage

SEPA will require the below key issues to be addressed in any subsequent planning submissions and to be supported by the following assessments and drawings/maps:

- Flood risk – Flood Risk Assessment. Note: SEPA only have a specific flood risk issue for site R12, however Moray Council require Flood Risk Assessments for sites R1, R3, R12, OPP7 which have text in the adopted plan requiring this;
- Drainage – foul drainage to the public sewer and surface water treated by SUDS – Drainage Impact Assessment, map of proposed waste water drainage layout and map of proposed surface water drainage layout;
- Pollution prevention – Schedule of Mitigation and construction site layout, including mitigation, supporting drawing(s);
- Protection of the water environment - A site survey of existing water features, confirmation of any engineering works with justification and a map of the location of all proposed engineering activities in or impacting on the water environment, including proposed buffers and demonstrating compliance with the flood risk assessment;
- Existing groundwater abstractions - Confirmation of the location of groundwater abstractions within 250m of all excavations supported by a map demonstrating adequate buffers and, where relevant, assessment of impacts ;
- Environmental enhancements – Assessment of potential measures and map showing location of these;
- Use of carbon neutral technologies and design measures – consideration of the potential for heat network and details of sustainable design considerations, map showing proposed heat network infrastructure or areas secured for future use;
- Confirmation if the development will be phased and map of proposed phases of development; and
- Adequate information to enable assessment and comment on the potential consentability of any aspects of the proposal that may require authorisation from SEPA.

6.3.4 Scottish Water

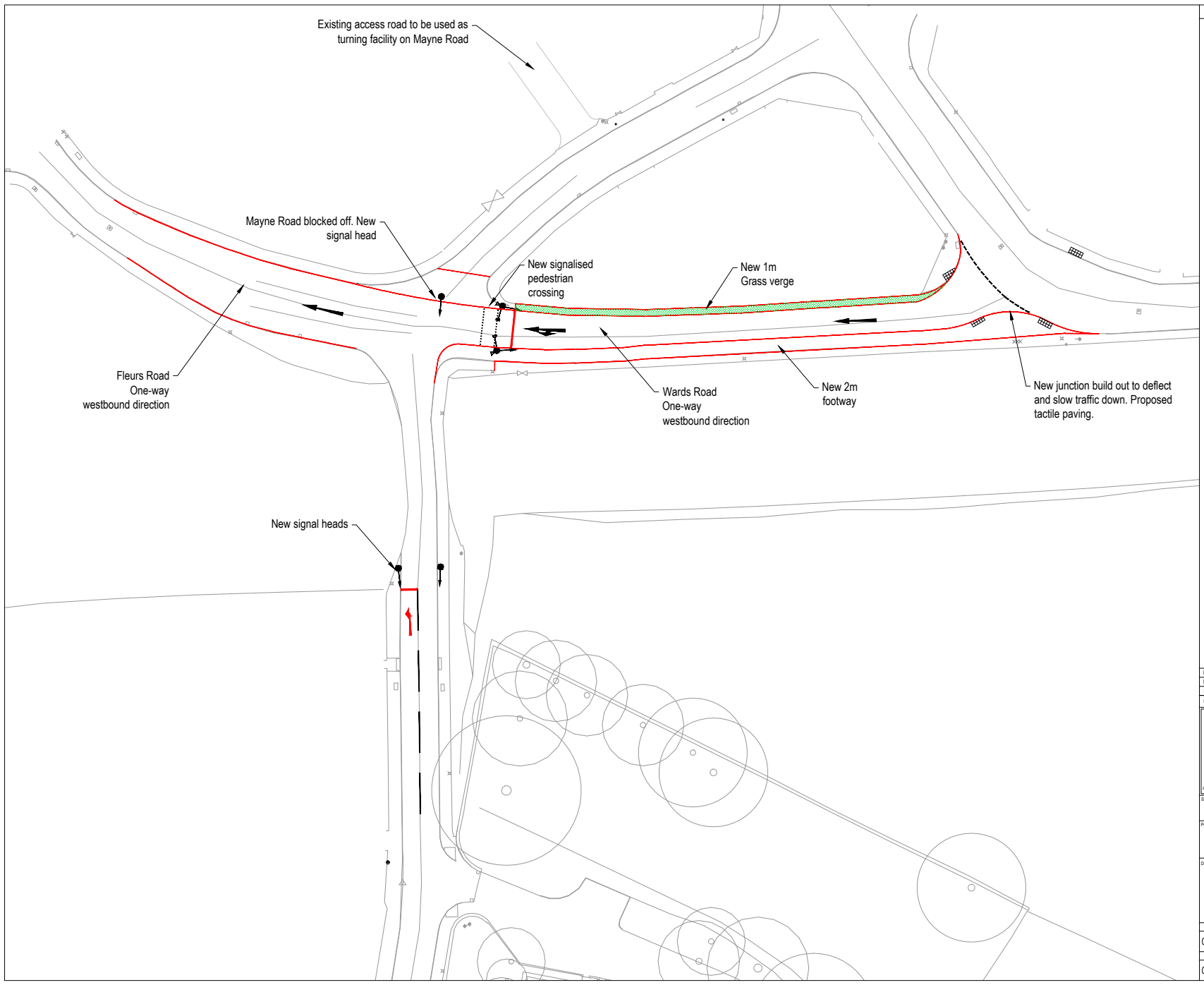
Developers would be advised to submit Pre-Development Enquiries at their earliest convenience to Scottish Water to permit an accurate assessment of our current ability to service proposed sites. Pre and post development flows and other factors (such as the use of pumping stations) will determine existing capacity within both the immediate water and wastewater networks in particular. Water and Drainage Impact Assessments may be needed for some or all of the sites above. Where network mitigation is identified following these assessments, upgrade works must be funded and carried out by developers. Scottish Water can contribute to upgrade works via Reasonable Cost Contributions. However, it should be noted that in some cases where significant upgrades are identified, all costs may not be fully recoverable.

6.3.5 Noise Impact Assessments

Future planning applications which impact traffic flow around existing residential dwellings centred on Fairfield Avenue off Mayne Farm Road will require detailed noise impact assessments, including site noise surveys to determine the baseline noise environment.

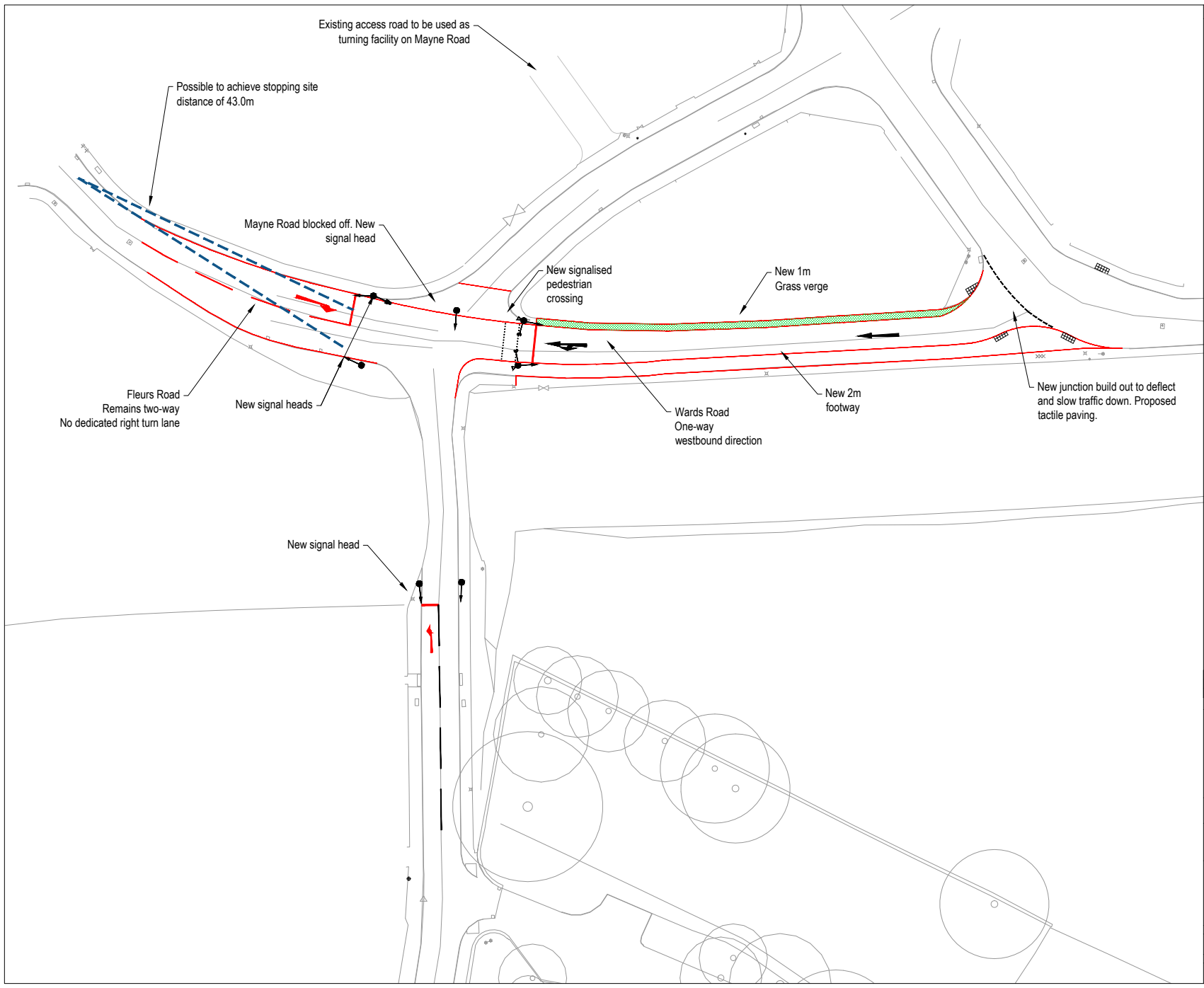
7. Junction Alternatives Proposed

Several different options have been designed and subject to initial testing for the Wards Road / Bilbohall Road / Fleurs Road / Mayne Road junction:. These options are outlined in the following pages to show the extent of study and testing which has been undertaken and demonstrate that a deliverable solution can be achieved at the subsequent detail application stage.



Option 1a

- The Wards Road / Bilbohall Road / Fleurs Road would be signal-controlled, with signal heads controlling traffic on all arms except Fleurs Road, which would be exit (from the junction)-only;
- Two traffic heads for each arm would be installed to minimise the extension of the inter-visibility area;
- The stop line on Bilbohall Road would be installed to the south of the bridge over the rail tracks, as there is not enough width to accommodate two-way traffic at the same time and also a footway;
- Wards Road and Fleurs Road would be one-way (eastbound) roads;
- Mayne Road would be blocked off and therefore could not be accessed via Wards Road / Bilbohall Road / Fleurs Road junction, only though Wittet Drive; the existing back alley off this road could be used as a turning head for longer service vehicles such as refuse vehicles;
- The back alley is not a public road and although it is considered to be adequate to be used as a turning head, Moray Council may require upgrading it to adoption standards and adopting the 12m-long section of back alley immediately to the west of Mayne Road;
- This means that traffic from Wards Road and Bilbohall Road driving northeast-bound and eastbound would need to significantly detour via Fleurs Road, Pluscarden Road and Wittet Drive, as Mayne Road and a section of Wards Road would not be available for them;
- In addition, those vehicles from the west intending to access Bilbohall Road would need to use the route through Pluscarden Road, Wittet Drive and Wards Road.
- New 2m wide footway and 1m wide grass verge to be built along the southern and northern sides of Wards Road respectively;
- A new build out on Wards Road to the west of the junction with Wittet Drive would be installed to deflect and slow traffic down; and
- New pedestrian crossings would be installed on Fleurs Road (signalised) around the junction with Wards Road and Bilbohall Road and also on Wards Road and Wittet Drive (both informal) around the junction between them.



GENERAL NOTES:

Rev:	Description:	Date:	By:	Chkd:
P03	Third Issue	25/10/18	JM	MR
P02	Second Issue	05/09/18	SG	MR
P01	First Issue	18/05/18	JW	GM

curtins
1a Belford Road, Edinburgh, EH4 3BL
0131 225 2175
edinburgh@curtins.com
www.curtins.com
Civils & Structures • Transport Planning • Environmental • Infrastructure • Geotechnical • Conservation & Heritage • Principal Designer
Birmingham • Bristol • Cambridge • Cardiff • Douglas • Dublin • Edinburgh • Glasgow • Kendal • Leeds • Liverpool • London • Manchester • Nottingham

Status: For Information

Project: Bilbohall Masterplan

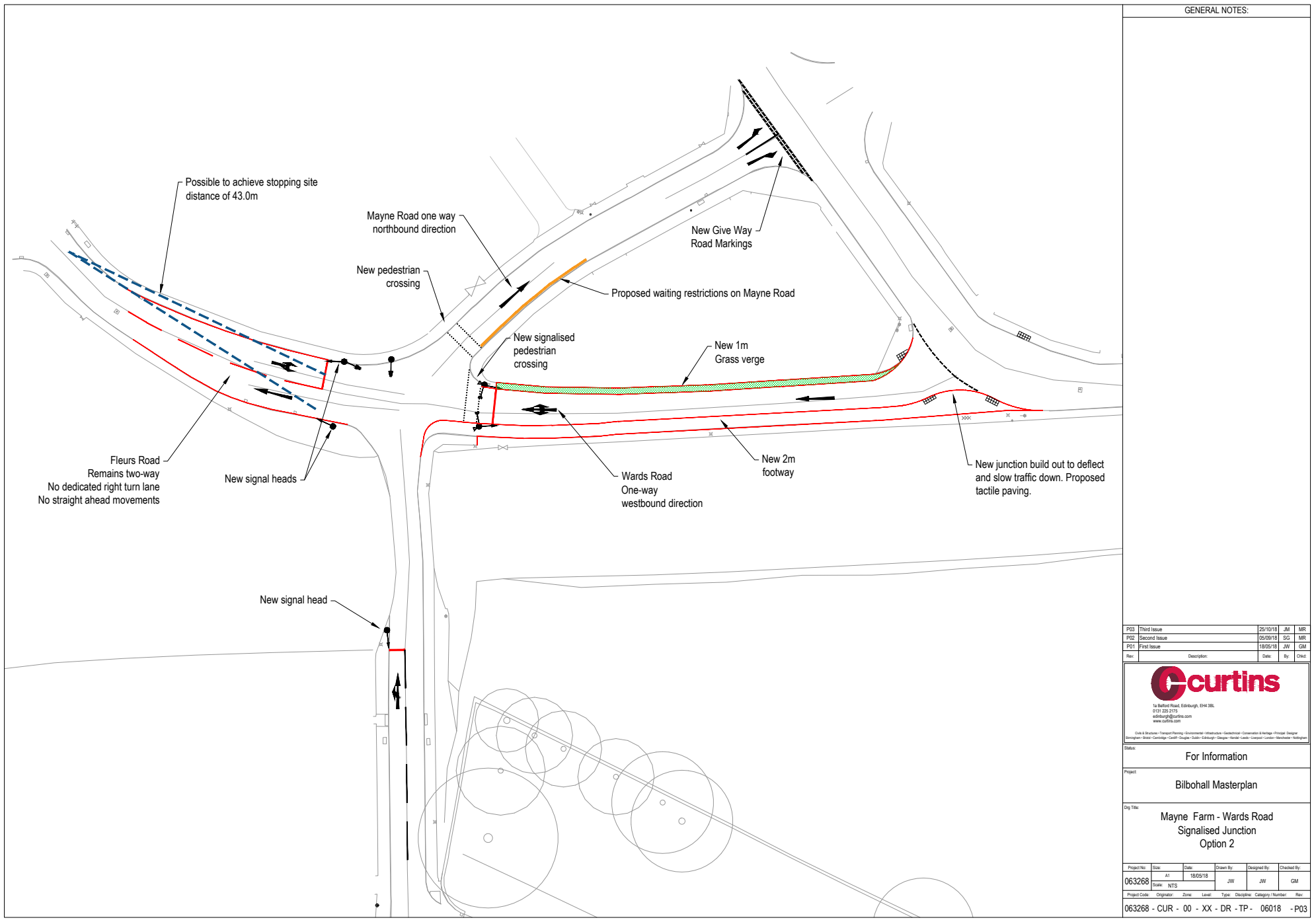
Drg Title: Mayne Farm - Wards Road Signalised Junction Option 1b

Project No.	Size:	Date:	Drawn By:	Designed By:	Checked By:
063268	A1	18/05/18	JW	JW	GM
	Scale: NTS				

Project Code:	Originator:	Zone:	Level:	Type:	Discipline:	Category / Number:	Rev:
063268	- CUR -	00	- XX -	DR	- TP -	06017	-P03

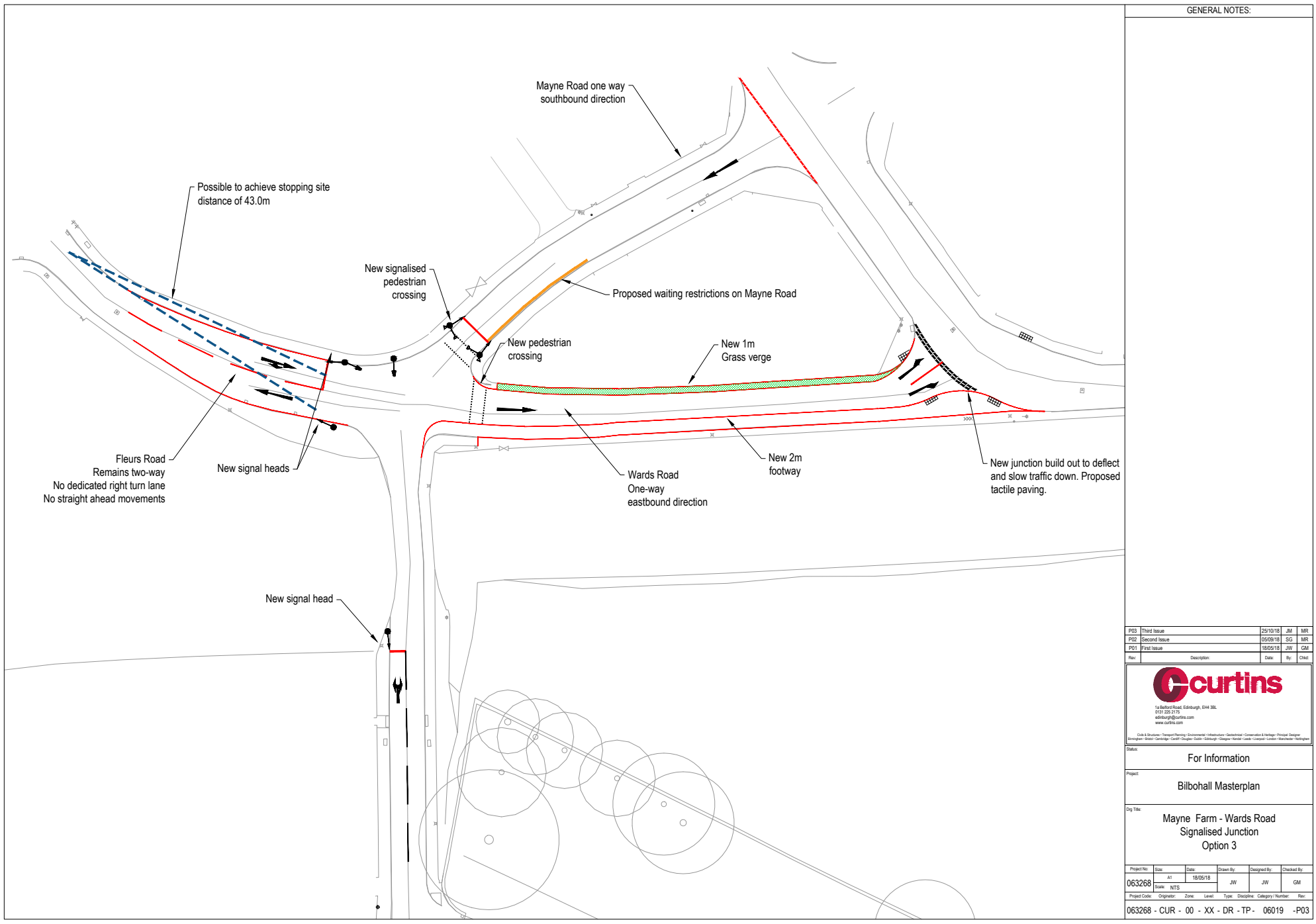
Option 1b

- An alternative to Option 1a, with the exception of Fleurs Road layout, which caters for two-way traffic, allowing a direct access to Bilbohall Road from the west.



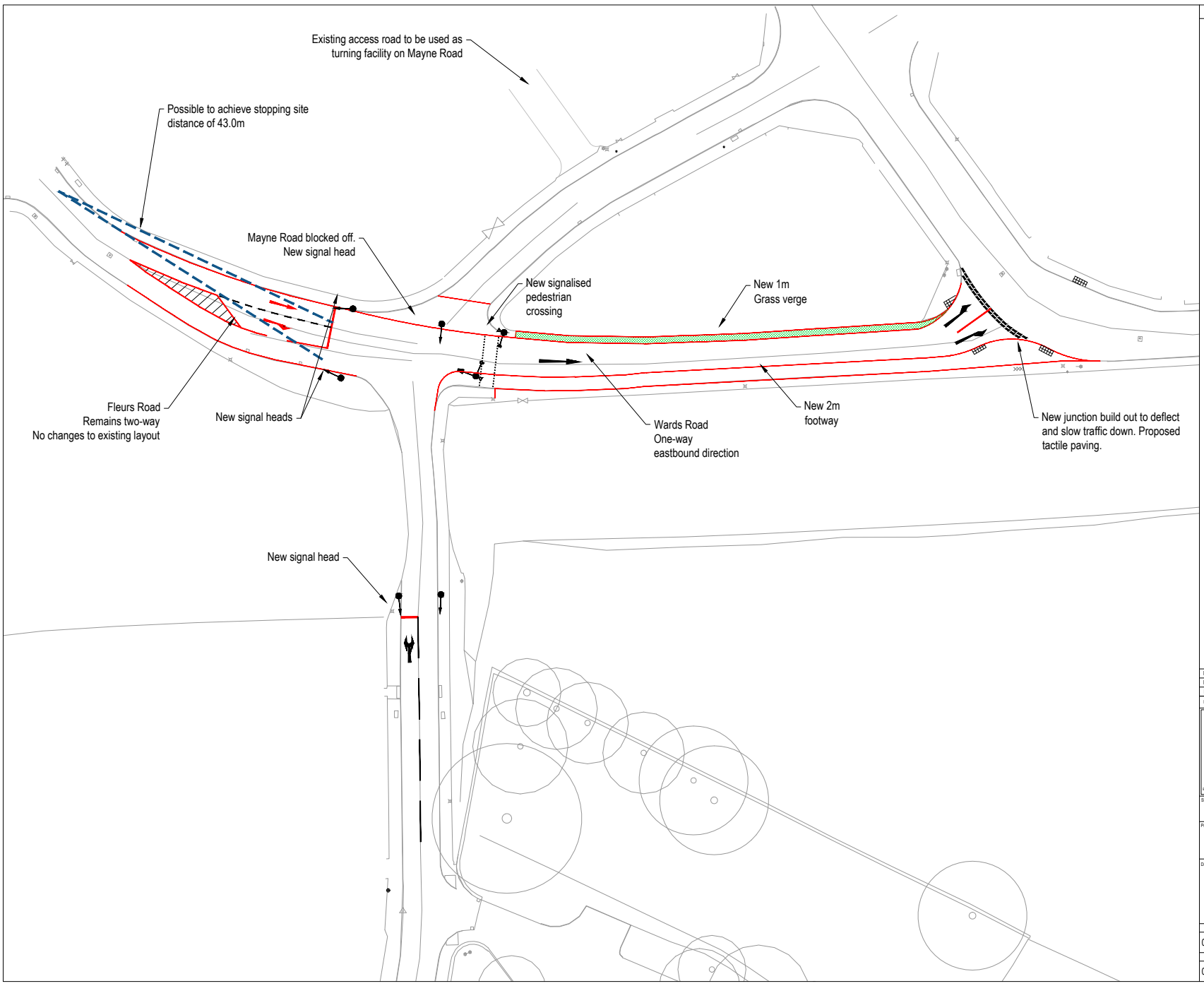
Option 2

- The Wards Road / Bilbohall Road / Fleurs Road / Mayne Road would be signal-controlled, with signal heads controlling traffic on all arms except Mayne Road, which would be exit(from the junction)-only;
- Two traffic heads for each arm would be installed to minimise the extension of the intervisibility area;
- The stop line on Bilbohall Road would be marked to the south of the bridge over the rail tracks, as there is not enough with to accommodate two-way traffic at the same time and also a footway;
- Wards Road would be a one-way (westbound) road with no dedicated turn lanes, while Fleurs Road would remain as a two-way road with no dedicated turn lanes and with the ahead movement not permitted;
- This means that traffic from Fleurs Road and Bilbohall Road driving eastbound would need to slightly detour via Mayne Road and Wittet Drive, as Wards Road would not be available for them;
- Mayne Road would be a one-way road (northeastbound);
- New 2m wide footway and 1m wide grass verge to be built along the southern and northern sides of Wards Road respectively;
- A new build out on Wards Road after the junction with Wittet Drive to deflect and slow traffic down; and
- New pedestrian crossings would be installed on Wards Road (informal) and Mayne Road (signalised) around the junction between them and also on Wards Road and Wittet Drive (both informal) around the junction between them.



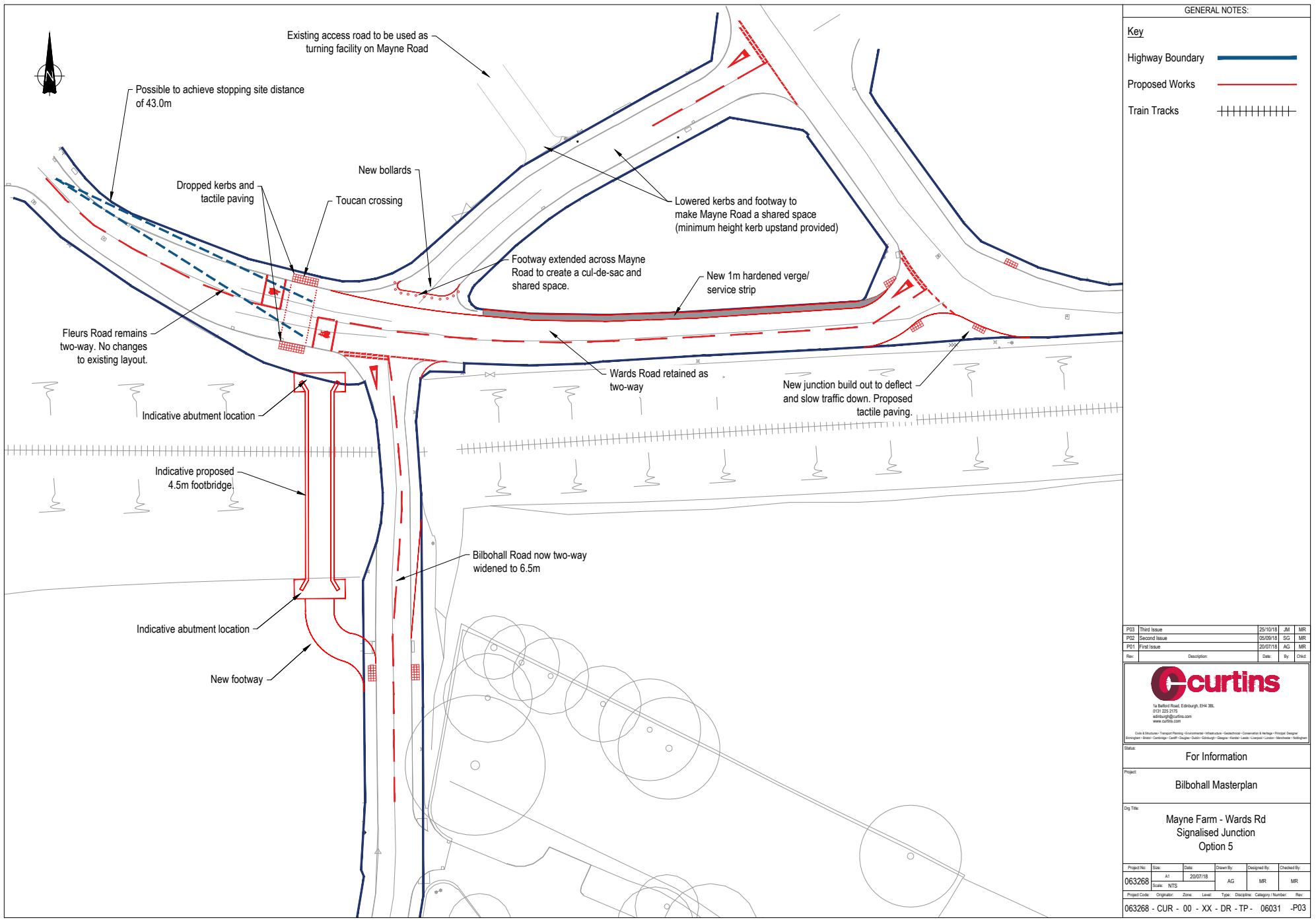
Option 3

- The Wards Road / Bilbohall Road / Fleurs Road / Mayne Road would be signal-controlled, with signal heads controlling traffic on all arms except Mayne Road, which would be exit (from the junction)-only;
- Two traffic heads for each arm would be installed to minimise the extension of the intervisibility area;
- The stop line on Bilbohall Road would be located to the south of the bridge over the rail tracks, as there is not enough with to accommodate two-way traffic at the same time and also a footway;
- Wards Road would be a one-way (eastbound) road with two lanes for turning left (Wittet Drive) or right (Wards Road) at its easternmost end, while Fleurs Road would remain as a two-way road with no dedicated turn lanes and with the left movement not permitted;
- This means that traffic from Fleurs Road and Bilbohall Road driving northeastbound would need to slightly detour via Wittet Drive and Wards Road, as Mayne Road would not be available for them;
- Mayne Road would be a one-way road (southwestbound);
- New 2m wide footway and 1m wide grass verge to be built along the southern and northern sides of Wards Road respectively;
- A new build out on Wards Road to the west of the junction with Wittet Drive would be installed to deflect and slow traffic down; and
- New pedestrian crossings would be installed on Wards Road (signalised) and Mayne Road (informal) around the junction between them and also on Wards Road and Wittet Drive (both informal) around the junction between them.



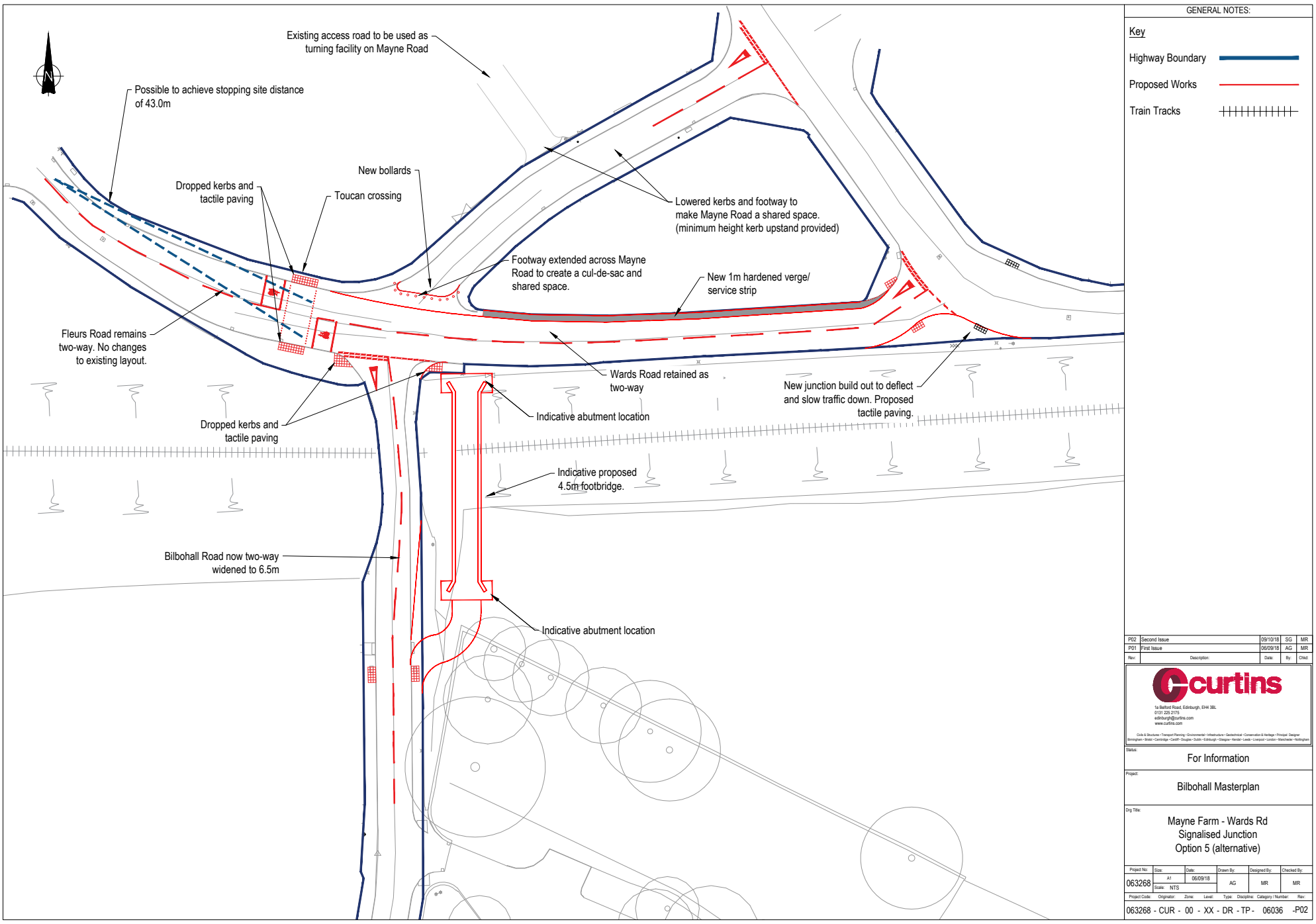
Option 4

- The Wards Road / Bilbohall Road / Fleurs Road would be signal-controlled, with signal heads controlling traffic on all arms;
- Two traffic heads for each arm would be installed to minimise the extension of the intervisibility area;
- The stop line on Bilbohall Road would be marked to the south of the bridge over the rail tracks, as there is not enough with to accommodate two-way traffic at the same time and also a footway;
- Wards Road would be a one-way (eastbound) road with two lanes for turning left (Wittet Drive) or right (Wards Road) at its easternmost end, while Fleurs Road would remain as a two-way road with a dedicated right turn lane;
- Mayne Road would be blocked off and therefore could not be accessed via Wards Road / Bilbohall Road / Fleurs Road junction, only though Wittet Drive; the existing back alley off this road would be use as a turning head for long-size vehicles;
- The back alley is not a public road and although it is considered to be adequate to be used as a turning head, Moray Council may require upgrading it to adoption standards and adopting the 12m-long section of back alley immediately to the west of Mayne Road;
- This means that traffic from Fleurs Road and Bilbohall Road driving northeastbound would need to slightly detour via Wittet Drive and Wards Road, as Mayne Road would not be available for them;
- New 2m wide footway and 1m wide grass verge to be built along the southern and northern sides of Wards Road respectively;
- A new build out on Wards Road to the west of the junction with Wittet Drive would be installed to deflect and slow traffic down; and
- New pedestrian crossings would be installed on Wards Road (signalised) around the junction with Fleurs Road and Bilbohall Road and also on Wards Road and Wittet Drive (both informal) around the junction between them.



Option 5

- The Wards Road / Bilbohall Road / Fleurs Road would be a priority T-junction, with Bilbohall Road being the minor arm.
- The give way line on Bilbohall Road would be installed at the junction with Wards Road and Fleurs Road as the footway on the existing bridge over the rail tracks would be removed, allowing two-way traffic to drive at the same time along the bridge;
- Wards Road and Fleurs Road would remain as two-way roads;
- Mayne Road would be blocked off and therefore could not be accessed via Wards Road / Bilbohall Road / Fleurs Road junction, only though Wittet Drive; the existing back alley off this road could be use as a turning head for long-size vehicles;
- The back alley is not a public road and although it is considered to be adequate to be used as a turning head, Moray Council may require upgrading it to adoption standards and adopting the 12m-long section of back alley immediately to the west of Mayne Road;
- Mayne Road would have lowered kerbs to the minimum permitted to make it a shared space;
- This means that traffic from Fleurs Road and Bilbohall Road driving northeastbound would need to slightly detour via Wittet Drive and Wards Road, as Mayne Road would not be available for them;
- A new pedestrian/cycling bridge would be built over the rail tracks, which would be for active travel; it would have 4.5m in total width with 3.5m available width to the inside of the bridge parapets;
- New 1m hardened strip to be built along the northern side of Wards Road, while the southern side will not be provided with a footway;
- A new build out on Wards Road to the west of the junction with Wittet Drive would be installed to deflect and slow traffic down; and
- New pedestrian crossings would be installed on Fleurs Road (signalised – potentially TOUCAN) around the junction with Wards Road and Bilbohall Road, on Bilbohall Road to the south of the existing bridge to connect the new pedestrian bridge with the footway on the eastern side, and on Wittet Drive and Wards Road (both informal) around the junction between them.



Option 5 (alternative)

- There is an alternative Option 5 where the new pedestrian/cycling bridge over the rail tracks would be constructed the east of the existing bridge and not the west. It would also have 4.5m in total width with 3.5m available width to the inside of the bridge parapets; and
- As the new signalised pedestrian crossing to be installed on Fleurs Road would still be built to the west of Bilbohall Road, but the pedestrian bridge would be to the west, a new informal crossing would be needed on Bilbohall Road to allow pedestrian to safely cross the road when walking between the two facilities; and
- The rest of the elements would be similar to the 'original' Option 5 proposed.

THIS PAGE INTENTIONALLY BLANK

optimised environments ltd.

Edinburgh
2nd Floor | Quartermile Two | 2 Lister Square
Edinburgh | EH3 9GL
t 0131 221 5920 | w optimisedenvironments.com

London
Warnford Court | 29 Throgmorton Street
London | EC2N 2AT
t 020 79474062

Manchester
13 Swan Street | Manchester | M4 5JJ
t 0161 696 7550