

Proposed Housing Development

Lahardane /
Ballincolly
Ballyvolane
Cork

Design Evolution

Nov 2019

Submission to An Bord Pleanála

Longview Estates Ltd

LONGVIEW ESTATES LTD



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MULTI-UNIT RESIDENTIAL DEVELOPMENT, BALLYVOLANE, CORK

Executive Summary

This document describes to An Bord Pleanála (“ABP” or the “Board”) how the design of the proposal to build 753 dwelling at Ballyvolane in Cork has evolved through twenty-months of preparation, and gives a clear, reasoned argument for the design and engineering choices that we have subsequently made.

It seeks to set out, not only the basis and logic behind our design choices, but also the facts that both commercial and design constraints are an intrinsic part of the delivery process. The proposal is located on challenging topography/sub-surface conditions and is adjacent to depressed housing and has required considerable work and investment to forge into a scheme that can be successfully built.

Cork City is located on challenging topography with a stark choice of flood-risk-areas in the City centre or hilly topography in the surrounding residual zoned areas. Ground conditions are also variable, with many areas either underpinned by limestone to the south of the City or on old red sandstone and mud-stones to the north.

As a result, most of the development in Cork City has occurred on the south-side of the City. This is easier land to develop, access and service, but it is over five kilometres from the City Centre and is, generally, served by local shopping centres taking focus away from the City. Very little new housing has been built on the Northside, despite it being closer to the City (2-3 km), as access and services have been difficult and expensive to provide. This is due mainly to complex topography causing higher development costs which are not compensated by sales values which are, generally, lower than elsewhere in the City. The Applicant has spent significant time and money ensuring that these services can be provided. These services not only cater for the Site, but also open up the wider residentially zoned Ballyvolane Urban Expansion Area land to further development.

The Ballyvolane area (“Ballyvolane”) can be defined as an “Outer Suburban/Greenfield’ site”¹. In fact, as an Urban Expansion Area, Ballyvolane is the only remaining undeveloped land that is both zoned and contiguous to the City of Cork. As part of this submission, enhanced connecting roads and infrastructure are proposed to link the Site with the City area to the south. Critically, a PWSA (Project Works Service Agreement) has been entered into with Irish Water whereby the Applicant is funding a significant portion of network improvements by Irish Water to both service the Site and to unlock other lands in the area; using a solution that has, prior to now, not been possible. The Applicant is reserving substantial land for both road improvements and to provide a new Irish Water pumping-station, having acquired further lands to the south to open-up the development and make this possible.

The Lahardane site is unique in that, despite constraints, it is one large land-holding abutting the City which is both capable of development and has a plan to provide the necessary services.

The soil and sub-soil conditions, challenging topography, Part L (the need to plan, cost and design for NZEB Rated Houses), Part M (road gradient obligations), and the commercial realities that house/residential values in Ballyvolane are lower than elsewhere in the City, create a housing-delivery challenge that is not solved by simply adding more houses or units to the proposed mix. The Applicant has carefully considered the mix, type and form of housing needed to open-up not just the Site, but the wider Ballyvolane area to appropriate future development.

In summary, the current design, and its evolution has incorporated:

1. Planning Policy.

¹ Sustainable Residential Density Guidelines

2. Topography / Ground Conditions.
3. Design Evolution.
4. Density (feedback and learning).
5. Commercial viability local market conditions – the same values are not generated in Cork, Limerick or Galway as in Dublin for example.
6. On-site and off-site constraints.

To this end, the applicant is now proposing a development that, in broad terms:

- Has a range of densities reflecting the variable differing topographies of the site;
- Achieves 35.7 units P/Ha Nett despite rising topography, ground conditions and, currently, low viability for residential apartments. Moreover, the proposal retains lands to “Plan and Provide for the construction of 2.2 km Link Road from Mayfield to Kilbarry ²”;
- Is phased to create a commercially and socially viable mix of uses;
- Allows for connectivity and access to existing neighbourhoods & community;
- Creates new and additional public transport;
- Reflects the fact that the proposal must provide a distributor road through the site from Ballyhooly Road (R614) to the north-eastern portion of the site.

We ask that the Board has regard to the fact that Cork City is not a single homogenous market for house values and Ballyvolane, and the Northside in general, is a location in which house values are lower as existing housing is sub-standard and the area lacks infrastructure. We ask that this also considers the fact that build-costs in the Site are higher due to the complex challenging topography and underlying ground conditions. Further, the Site is an initial “keystone” development which will encourage further investment in a manner that is consistent with the LAP and is intended to lift the image of the ‘Northside’ improving perception and attracting other developers as the development of this Site will open up the lands to east.

In summary, the Site is less appealing economically than sites further from the City because:

1. Sales values in the Northside are, currently, depressed;
2. There are considerable additional costs in delivering 35 Units P/Ha Nett on a site which is a hilly as this one. Our construction managers have advised this has a cost premium of between €12 – 20k + in abnormal cost per unit.
3. Additional abnormal direct costs per unit are incurred due to foul water infrastructure and surface water costs in the region of €3500 & €1500 per unit respectively.
4. Major 110kV electrical corridors/wayleaves traverse the Site and other zoned, undeveloped lands on the north side of the City.
5. Notable road corridors exist in the north side of the City (i.e. the Mayfield Kilbarry Link Road) that must be left untouched depending on detailed design.
6. Apartment complexes are less commercially viable in Cork as build cost is currently marginally higher than the sales value and exceeds that of “conventional” housing ³.

² Table 3.4.3, Cork County Council Cobh MD LAP

³ <https://www.linesight.com/knowledge/2018/ireland/linesight-average-irish-construction-costs-2018> (see Appendix Three)

7. Additional road infrastructure needs to be provided to open the area up to public transport and the City.



1.0 Introduction

This report will try to set out the evolution of planning proposals for a site at Ballyvolane (the “Site” or “Lahardane” with the wider area referred to as “Ballyvolane”) by Longview Estates Ltd (also the “Applicant” or the “Developer”). This process has taken twenty-months thus far and has involved one prior consultation with the Board under PL04.300557, numerous meetings with both Cork City and Cork County Councils in addition to regular meetings with statutory authorities and organisations, such as Irish Water.

The document should be read in conjunction with the separate response to the An Bord Pleanála opinion on 304350-19.

In their opinion the Board asked that the applicant consider the following:

1. Timing and Phasing of Development
2. Site Topography
3. Water and Waste Water infrastructure
4. Surface water management and Flooding
5. Residential Density
6. Traffic and Transportation
7. Public Open Space
8. Design, Layout and Unit Mix

These above issues are addressed in detail in the accompanying response to the ABP Opinion.

This document seeks to set out the evolution of planning proposals for the landholding. We, as a design team have sought to minimise what we saw as adverse impacts, promote the positives and take advantage of site features / constraints where possible.

The applicant has, over a period of years, extended their landholding. The current application encompasses a larger landholding than was previously available to the applicant and that was previously presented to the Board, under PL04.300557.

The acquisition of additional lands has allowed the applicant to address key concerns that the Board noted during that pre-application consultation and;

- allow for the set-aside of areas for roads
- allow for the main Irish Water pumping station for the area (located on Ballyhooly Road) and to;
- increase the size and scope of the application.

In addition, by engaging with Irish Water, the provision of substantial funding for a Project Works Services Agreement and the provision of land for a pumping station (located on Ballyhooly Road), Irish Water has committed to carrying out network improvements under a Major Connection Agreement⁴.

This will address any foul water infrastructure needs that existed in the area for Phase One development, as defined under the Local Area Plan provisions for the Ballyvolane Urban Expansion Area (0-1175 Houses). The infrastructure will also allow for the wider Ballyvolane greater area to be

⁴ The upgrades that Irish Water will introduce will serve the site and other areas of new and existing development in due course.

opened up and serviced. This will provide a significant block of land which can be developed for housing whilst also providing for and respecting, the constraints identified by the Council in the LAP.

The applicant landholding, next to the Ballyhooly Road and encompassing the route of the Mayfield Kilbarry Link Road, is important to develop in that it:

1. Delivers much needed, high quality, housing in the Northside of the City, on existing and proposed bus routes;
2. Develops the initial tranche of housing - 753 dwellings;
3. Reserves lands for the City Council to develop detailed designs of the Mayfield – Kilbarry Link Road.
4. Provides for physical pedestrian and cyclist linkage to the City and reserves lands for an agreed corridor for the upgrades to the Ballyhooly Road.
5. Solves a drainage problem for the entire area that had, previously, been insolvable.

1.1 The Proposal

The proposal is for the construction of a residential development of 753 dwelling units in the north environs of Cork at Lahardane, Ballyvolane. The development includes open space and play areas, internal roads, bus stops, Irish Water Foul and Storm Water Services and landscaping.

From a history viewpoint, the Board will note that there was another proposal by the applicant on a portion of the lands now owned; PL04.300557. This proposed 457 units at a lower density with a smaller landholding⁵; changes to density and landholding are critical issues to which we shall return.

The proposal is essential to the area being opened up to meet housing needs and to deliver on the Local Area Plan zoning objectives.

The entire western side of the UEA requires delivery of new Foul Services in the form of a Foul Pumping Station, to be served by local mains and downstream rising mains to Tivoli to the east. These upgrades that Irish Water will introduce will serve the site and other areas of new and existing development in due course. At present, the service capacity of the UEA and the entire northern area of the City, without additional foul infrastructure, is very limited as both funding and delivery of this infrastructure requires a significant number of housing units to be consented to allow it to take place.

This proposal, is core to Irish Water investment in the area as the infrastructure is privately funded via a Project Works Service Agreement with Irish Water. A project of scale has to be allowed so as to financially underpin a services solution. The services solution proposed enables wider development potential to be unlocked and this infrastructure will allow Irish Water to enhance services to existing estates, provide for new connections and allow for ongoing foul network management.

The foul pumping station solution, incorporated into our proposal adjacent to Ballyhooley Road is at a location selected by Irish Water, to their design and specification. This will be taken in charge by them and has the capacity to provide foul pumping services for 5000 + units in the future, depending on network management, extensions and planning consents. Irish Water is committing to investment

⁵ Additional lands were acquired to improve linkages and connectivity

in the area because there is a viable volume of units in the pipeline being established by the application.

Longview Estates Ltd is of the opinion that this evolution of design, in liaison with the state bodies, has led to the formulation of a superior development that is better integrated into the landscape and future transport networks, while also achieving greater and more sustainable density targets and supporting a diverse housing mix.

Based on the previous consultation with the Board under PL04.300557, and further changes in design and open space and connectivity in response to the Board's opinion on 304350-19, the revised design promotes higher densities, and comprehensive solutions to the challenges in the area.

1.2 Changes from PL04.300557 – the Initial 2017 Proposal

The proposal now before the Board is neither the same landholding nor scheme as presented to ABP in 2017.

Fundamental changes have occurred in site size / land ownership (see Footnote 4, Section 1.1), access, density, linkage and services solutions. These changes allow a proposal to evolve that creates a cornerstone scheme that will open up access and services to the area in a phased manner, commences private sector investment in services and housing, and correlates with Council actions in the delivery of infrastructure.

In summary, the core changes relate to the applicant's acquisition of additional land to the south and west of the initial landholding (under PL04.300557). This is important as it allows for;

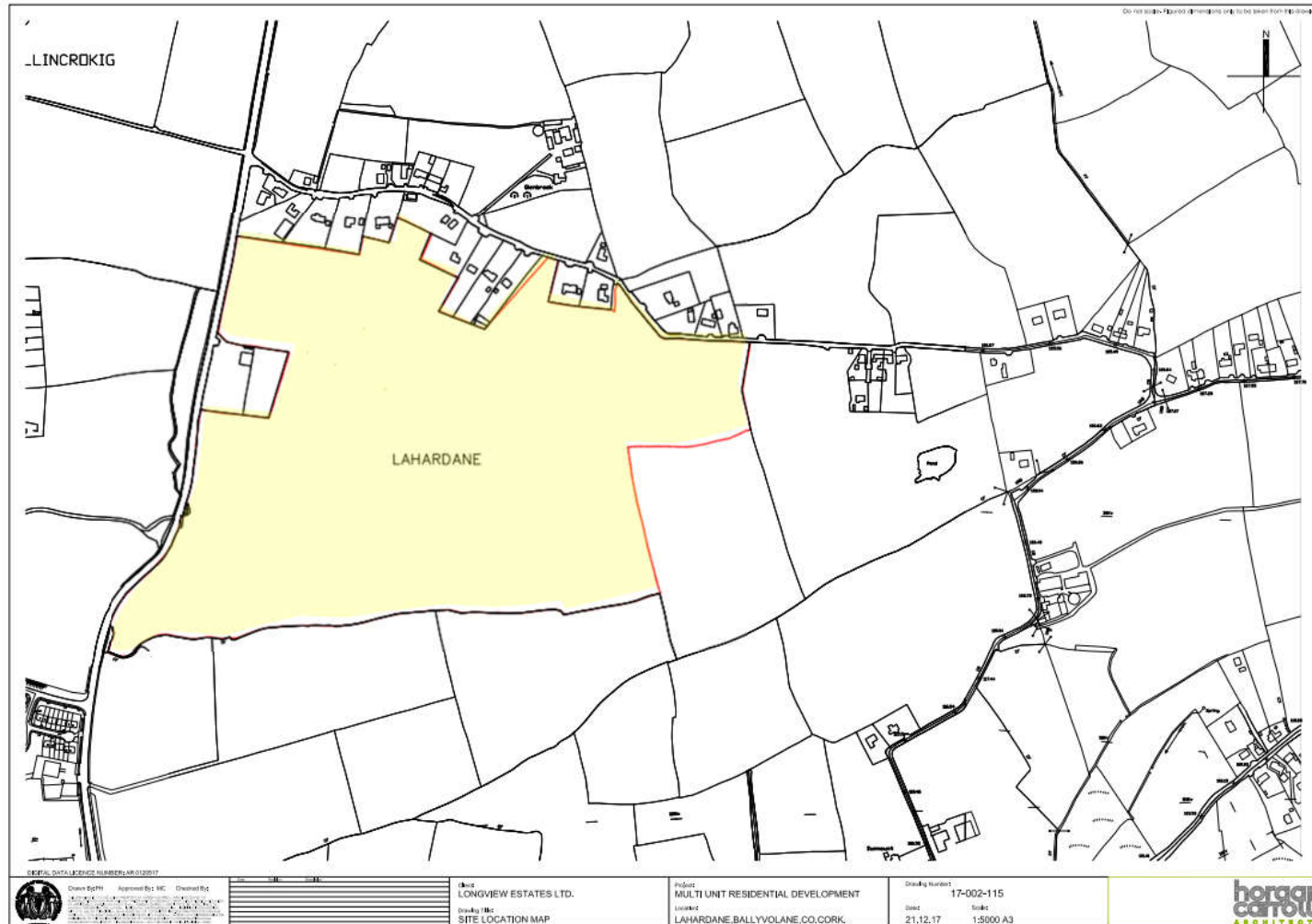
- Direct linkage to existing built up areas in Cork City suburbs, siting of roads necessary to the development and the siting of a new pumping station to allow foul water to be dealt with.
- The provision of a critical Pumping Station on Ballyhooly Road for Irish Water to serve the later phases of the scheme and provide services for other proposals in the UEA. Opening up the application lands and the potential for 3000 - 5000 units to be serviced in the UEA.
- The applicant to reserve lands for the entire 20 Ha Public Park if and when required by Cork City Council.
- Reservation of lands for the future provision of the Mayfield Kilbarry Link Road – part of the Inner Northern Distributor Road in CMATS (Cork Metropolitan Area Transport Strategy).
- The creation of the only access identified in the Cobh MD LAP to deliver Distributor roads from the Ballyhooly Road eastwards into the Urban Expansion Area. The proposal constructs distributor roads NE-U-03 and NE-U-04 which open up the western side of the Urban Expansion Area. These provide access from the east to within the landholding and beyond, access lands that are to be set aside for the Department of Education for schools to serve the entire area Urban Expansion Area and open up the park area to future use. None of the lands to the south of the application site that are also located abutting the Ballyhooly Road are required to be developed so as to serve areas to the north.

- Provide for the widening of the Ballyhooly Road for the implementation of the BALLYVOLANE STRATEGIC TRANSPORT CORRIDOR PROJECT: NORTH RING ROAD TO BALLINCOLLY, JUNE 2019”⁶
- Signalise junction between the Ballyhooly Road and Lower Dublin Hill.

Image 1, following, shows the lands in ownership for 2017. Image 2, following, shows the lands in ownership in 2018 (this design).

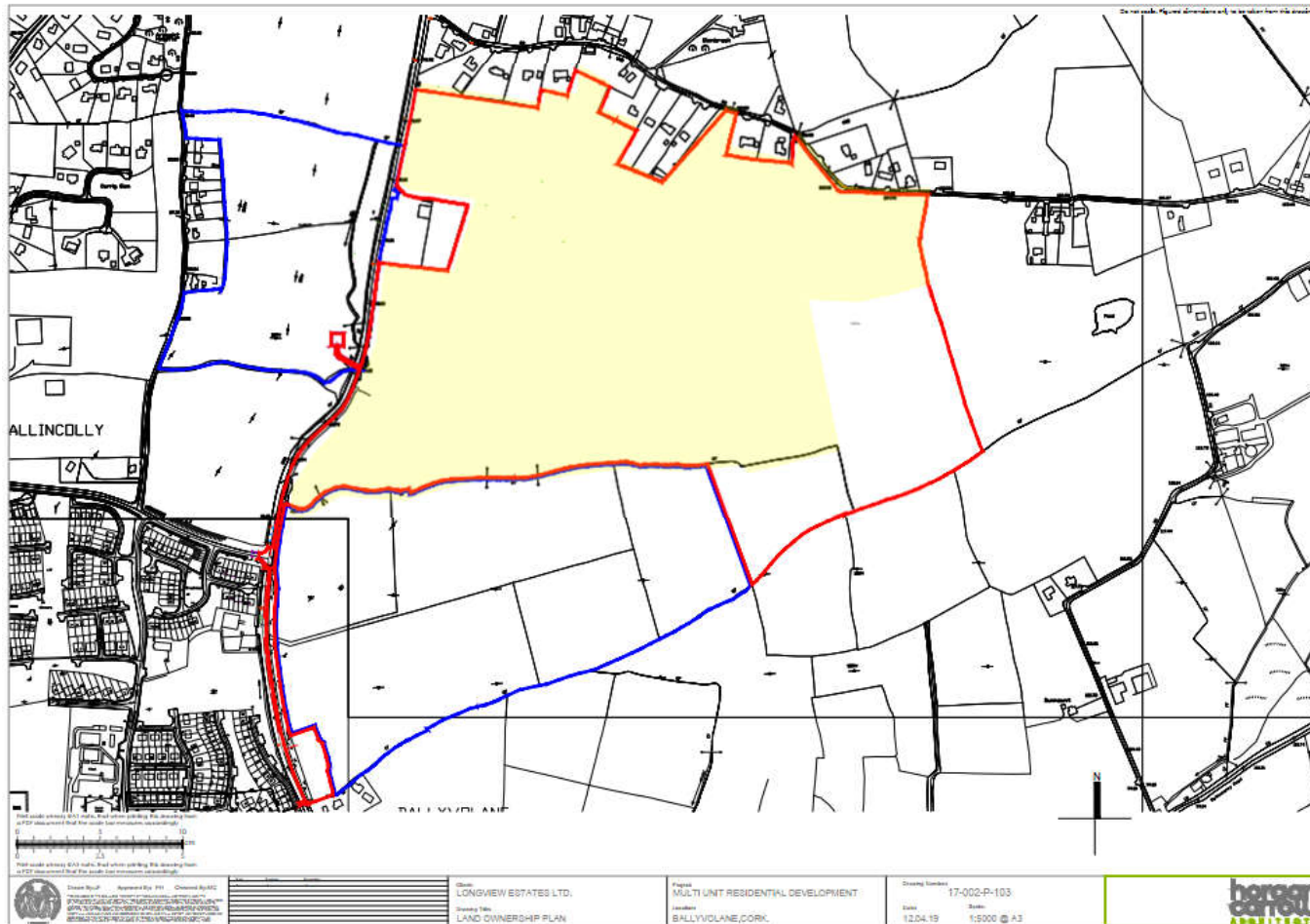
⁶ Pages 1-2 included as Appendix B

Image 1: 2017 Land Holding



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Image 2: 2018 Landholding – Red Line Application Area and Blue Line Ownership
Yellow = Original Application Site and Land Holding



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We wish to give the Board a clear understanding of the choices and challenges faced in developing this site to a “Residential Guidelines Density” compliant standard where there are hills, design/engineering constraints and commercial delivery issues with respect to the sale value of properties in Ballyvolane relative to other more lucrative and established parts of Cork City and other areas around the City.

We also believe that a high-quality development at Lahardane, and the establishment of the infrastructure to support it will both enhance the character of the ‘Northside’ and will open-up other lands for development in the wider Ballyvolane area.

This report will set the overall development of the site in the context of the local and regional planning framework and will address the evolution of the detailed scheme design. To this end the report will consider:

- Planning Policy
- Topography / Ground Conditions
- Design Evolution
- Density (feedback and learnings)
- Economic Viability
- On-site and off-site constraints

Some of the above issues are referred to and addressed in the response to the Board’s Opinion on the Pre Application Discussion.

1.3 Changes from the Pre Application Consultation to the Full Application Submission

The Board has offered an opinion following the Pre Application Consultation ABP-304350-19.

Certain design changes, that create further design evolutions, have been made on foot of this which include:

- The creation of an additional enhanced separated pedestrian and cyclist route in Neighbourhood 5 (east of the school zone and the distributor road). This has necessitated changes to unit mix and layout and the need for alterations to drainage (surface water) / open space areas. It also creates the opportunity for a completely separate, cyclist and pedestrian route through the housing areas from the southern boundary of Neighbourhood 5 through Neighbourhood 2 and onto the “Greenway” park / 110 kv wayleave route heading to Neighbourhood 1 and 6.
- The introduction of a vehicle linkage to the local road to the north. This has necessitated changes to unit mix and layout and the need for alterations to drainage (surface water) / open space areas. This vehicular access has been designed (from a connectivity viewpoint) to be available to trip movements but not to be designed as a priority connection.
- The creation of additional housing frontages onto the Distributor Road.
- The creation of additional housing units in Neighbourhood 1 and Neighbourhood 3 facing on to the Greenway and Open Space to create additional overlooking.

- The introduction of houses in specific locations to ensure passive overlooking of open spaces and linkages.
- The loss of housing units has occurred in certain areas due to design changes and but the overall numbers proposed (50+ per Ha Nett close within 500 m of the Ballyhooly Rd Bus Stop 207 / 207A) and 35.7 Per Ha Nett overall remains). In locations, duplex units have been removed and terraced / semi detached units introduced so as to increase numbers lost following redesign, post tri partite meeting, to increase open space and connectivity provision.
- Extension of roads to boundaries with third party properties in three locations to the west of the site; the applicant reiterates that we are not creating “ransom strips” to services and roads and we are allowing for connections to adjoining lands.
- Increasing the size of the Creche following advice from the Cork Childcare Committee.
- The introduction of additional open spaces in Neighbourhood 5 following discussions with Cork City Council.
- The introduction of gable fronted properties / passive overlooking in areas where linkages through to third party lands may occur in the future.
- Moving the Type 3 Pumping Station in Neighbourhood 5 to the west of the distributor so as to maintain residential density (not lose units) due to the pumping station set backs. This created an additional cost and an additional 500 m3 of drainage excavation.
- The introduction SUDS measures, additional to the attenuation and infiltration previously proposed by the use of permeable paving in locations and the use of “swales” in green areas.
- The provision of a bus turning area and bus stops internally within the scheme.

Image 3 following shows many of these changes.

Image 3: Changes from the Tri Partite Meeting – Also see Architects Design Statement

Second tripartite meeting with An Bord Pleanála June 2019 (ABP ref. PL04_304350)

Further amendments which have occurred since the second tripartite meeting with An Bord Pleanála under ref. PL04_304350 meeting held in June 2019 are as follows:

- A. Road extended to connect with distributor road and incorporate more units to provide additional overlooking and supervision of the gateway.
- B. Additional green open space more central to the neighbourhood 2
- C. Additional houses added and redesign of area to allow houses to address the distributor road and create active edges with on-street parking.
- D. Additional house added to provide additional active edge with the open space and reduce length of blank walls.
- E. Redesign of area with the incorporation of a shared cycle and footpath along the edge of the embankment. Active edges created with the paths to provide overlooking and supervision while taking advantage of the views from the elevated position on site.
- F. Additional houses added to provided added overlooking and supervision of the gateway.
- G. Area redesigned to address the internal road and create a softer entrance to the neighbourhood.
- H. Area redesigned to address the distributor road with on-street parking and create a neighbourhood enclosure to the rear of these units.
- I. Redesign to allow houses to address the open space to provide additional overlooking and supervision.
- J. Addition of a priority pedestrian and cycle green route through neighbourhood 2 and 5 which connects to the gateway via the neighbourhood centre which is a focal point on this route.
- K. Increase of buffer area to surrounding houses and vehicular connectivity to the local road
- L. Revised private amenity space for duplex units
- M. Redesign of area to allow on-street parking and create active edge with the distributor road.
- N. Revised amenity route through the site
- O. Part V mix revised to allow a greater variety of units.
- P. An increase in density to 35.7 Per Ha Nett.



2.0 Planning Policy

Lahardane & Ballyvolane Urban Expansion Area in context – why Lahardane?/why Ballyvolane?

Ballyvolane is a natural extension to the City

While Cork County Council has identified a need for 22,000 housing units⁷ to cater for growth in and around the City Environs, there is limited land being developed in the right places as natural extensions to the City.

Local issues, land ownerships, policy challenges and market/commercial viability all challenge the delivery of housing.

What does Ballyvolane, and more specifically the application Site, have to offer that addresses the above housing need?

The Lahardane site is unique in that, despite constraints, it is one large land-holding abutting the City which is both capable of development and has a plan to provide the necessary services.

The site will be serviced, accessible and developable at commercially viable densities. Additionally, it opens-up access to significant adjacent lands to the east which will otherwise be land-locked from the City. The large-scale of this development is such that it will provide sufficient core infrastructure, sewers and distributor road access to the east and will encourage smaller developments that would, otherwise, not be economic.

The scheme reserves areas that are needed for important roads and infrastructure and is contributing significantly to the provision of such roads and services.

The Ballyvolane area is identified by the County Development Plan and Local Area Plan as an “Urban Expansion Area” and is only 2-3 kms from the City Centre. The Urban Expansion Areas are one of the central components of the growth of Cork City.

The area is identified as a location for growth, housing and investment in:

- the Draft RSES.
- The CMATS – The Cork Metropolitan Transport Strategy.
- Cork Area Strategic Plan.
- The County Development Plan.
- The Cobh MD Local Area Plan.

The importance to the sub region in seeing this area opened up has also been emphasized by both Cork City and County Council’s in that they have sought investment in roads infrastructure in the area under the URDF (Urban and Regional Development Fund) and have obtained NTA funding for the widening of the Ballyhooly Road for the implementation of the BALLYVOLANE STRATEGIC TRANSPORT CORRIDOR PROJECT: NORTH RING ROAD TO BALLINCOLLY, JUNE 2019⁸. This is the only bus corridor

⁷ Page 13 of Cobh MD LAP

⁸ Pages 1-2 included as Appendix B

scheme at present accessing the UEA.

The Councils are not in control of Irish Water investment; that has been secured by this applicant and this application through a Private Works Service Agreement / Major Connection Agreement negotiated with Irish Water for delivery of Foul Water services that will serve the site. This infrastructure will also serve existing / proposed areas of development subject to Irish Water agreement.

In addition, the site is located close to an existing District Centre (Dunnes Stores, Ballyvolane), which has recently been physically upgraded, a local Lidl store (located in the Town Centre zoned area of Ballyvolane – NE-T-01) and the Kilbarry Employment Centre.

The Cobh MD LAP recognizes that Ballyvolane has an important role in development in the North City area. It states that;

“In the overall strategy for the Local Area Plan, the Cork City North Environs consists of a suburban area that adjoins the administrative area of Cork City within the metropolitan area. In terms of future growth, The CASP Update 2008 seeks to prioritise those areas close to the city and located along the suburban rail corridor. It is crucial that the approach to accommodating the targeted population increase in the North Environs is cognisant of CASP proposals and the need to create a critical mass to promote public transport options and support a new district centre. The CASP Update specifically identifies Ballyvolane as having the most potential for future population growth, in particular, private sector housing development as it is located adjacent to the strategic employment centre at Kilbarry. The retail strategy for Cork County, as set out in the Cork County Development Plan 2014, has also identified Ballyvolane as a potential district centre serving the north east of the city”⁹.

(emphasis added)

Cork City and County Councils have a long tradition of planning for the expansion and development of the Greater Cork Area as part of the broader strategic, sub regional planning approach ¹⁰.

In implementing strategic sub-regional plans, such as the Cork Area Strategic Plan, the County Council has identified Urban Expansion Areas to accommodate new housing demands and population growth. The Lahardane site now before the Board, and the entire Ballyvolane area, is a key part of one of the main UEA expansion areas.

Over recent plan cycles, the aim of developing the Ballyvolane Area has been identified. The Cobh MD LAP sets out the history of development in Ballyvolane and the Council’s development strategy, which involves advanced master-planning, land-owner agreements and the broader delivery of services. This approach has been proposed and attempted in other urban expansion areas and has, due to a number of reasons, not managed to encourage the development of the lands, leaving Cork desperately short of housing.

⁹ Page 81, Cobh MD LAP

¹⁰ Cork Area Strategic Plan

2.1 Why Does This Site Deliver Policy Objectives Of The LAP In A Manner That No Other Site Can

This site is unique in that it:

- Is the only land parcel suited to delivery of Phase 1 LAP objectives. The Longview Estates landholding delivers Phase 1 LAP objectives in a way that no other site or landholding in the UEA can.
- It provides foul infrastructure solutions that no other site does.
- It provides (and is required to provide) access roads to the western side of the UEA that no other site does.
- It provides Park Land opportunities (that open up parkland uses for other areas in the UEA) that no other site does.
- It “opens up” and services zoned primary and secondary school lands in the UEA that no other site does.

In summary, we submit that this site brings forward Local Area Plan Objectives for Phase 1 of the UEA in a manner that is “sequentially” correct having due regard to constraints of 110kv corridors and long term roads reservations.

2.2 Reconciling Policy and Topography

The proposal seeks to deliver a design solution to a complex series of challenges, opportunities and constraints. The northside of Cork City is not an easy location to develop and deliver housing with current design guidance and building standards but this proposal does.

These areas have “challenges” of some form or another; whether land ownership, economics, services or the topography. These challenges necessarily influence design and engineering choices and they are reconciled in the current design and land holding assembled.

The Longview Estates landholding is well defined as a large c.220 acre landholding adjoining the Ballyhooly Road / R616. It is a hilly, rising site that climbs to a “plateau” to the north east and central areas of the UEA.

The northern portion of the holding presents challenging topography, but also has the only defined access point and alignment for service roads to the north west of the UEA. In this respect, development has to proceed from the western side of the Ballyhooly Road.

As a result of the topography, the proposal, in having to work with access gradients advocated by DMURS and roads radaii defined by Roads Design Standards, sees the proposed Distributor Road accessing the site traversing the topography in a circuitous route.

From an environmental viewpoint, this is much better than the route (NE-U-03) proposed by the LAP as the “LAP Route” would see very significant volumes of cut as one excavated through significant volumes of rising land. The alignment would also lead to challenges in connectivity and gradients for pedestrians / cyclists.

It has also allowed the opportunity to create defined Neighbourhoods within the scheme where, flatter, DMURS & Part M compliant neighbourhoods are created. In this manner, we are working with the landscape, design, topographical and zoning parameters to create housing “neighbourhoods”, appropriate (gradient 1:20) pedestrian linkages, amenity areas and integrate the 110 kv wayleaves into parkland and connectivity solutions walkways.

This above ground work is also matched and reflected in sub surface engineering and ground works. Cut and Fill areas are created, and attenuation, infiltration and SUDS areas established in open space areas.

The southern portion of the landholding (a portion that is outside the application area but within our ownership) is constrained by topography, the “wayleaves”¹¹ for two no. 110kv Power corridors and the Mayfield Kilbarry Link Road Corridor (Image 3). Note, that image also shows two alignment options for the Mayfield Kilbarry Link Road. Option A is the LAP identified route; this creates a large cut through the hillside. Option B is a route that more naturally follows contours and has less of an impact (less cut). These options would naturally be assessed as part of the detailed design of the Mayfield Kilbarry Link Road but the choice options do highlight the constraint presented by the route at this stage.

There is however, sufficient unencumbered land available to construct the required Irish Water Pumping Station for the entire western and southern portion of the UEA along with the permanent alignment of the cycle way and pedestrian footpath for the “Ballyvolane Strategic Transport Corridor Project: North Ring Road To Ballincolly” (now in design for delivery in 2022).

However, pending the resolution of the detailed alignment of the Mayfield Kilbarry Link Road (although the junction of the Ballyhooly Road / Lower Dublin Hill and the Mayfield Kilbarry Link Road is well defined), and the location of the 110 KV wayleaves, this area is not readily developable for residential uses. The confluence of the 110 kv wayleaves & Mayfield Kilbarry Link Road route, and the topography means that the area where the 110 kv lines cross the Ballyhooly Road is very challenging for building delivery in the short term.

2.3 Visibility, Intervening Zones and Topography

The site, in a broader context, is separated visually from the mass of the City to the south (around the R635 junction with Ballyhooley Road), by topography and the NE-O-04 ¹², NE-T-01 ¹³ and NE-C-02 ¹⁴ Zones.

Part of the NE-O-04 zone will provide a 20 Ha Public Park. Our land holding contains approx. 20 Ha of zoned NE-O-04 lands and we are proposing to enter into a Section 47 agreement with the City Council on the reservation of lands for same. The southern boundary of this NE-O-04 area will ultimately be defined by the route alignment of the Mayfield Kilbarry Link Road which will be delivered c. 2031.

This latter road forms part of a wider orbital route that will be delivered by linking proposals across the north site of the City (under CMATS); it is a route that has the potential to fundamentally change traffic flows in the City once completed but currently demands further design work which limits the delivery of lands in the southern portion of the Urban Expansion Area as the detailed alignment and relationship to lands is not yet known.

Connections into and through the wider area are also supported by the application. These connections support pedestrian, cyclist and vehicular connection. A broader landscape strategy, prepared by AECOM, and agreed by Cork City Council Parks Department as a template for the Landscape Strategy across the UEA, is also incorporated into this proposal.

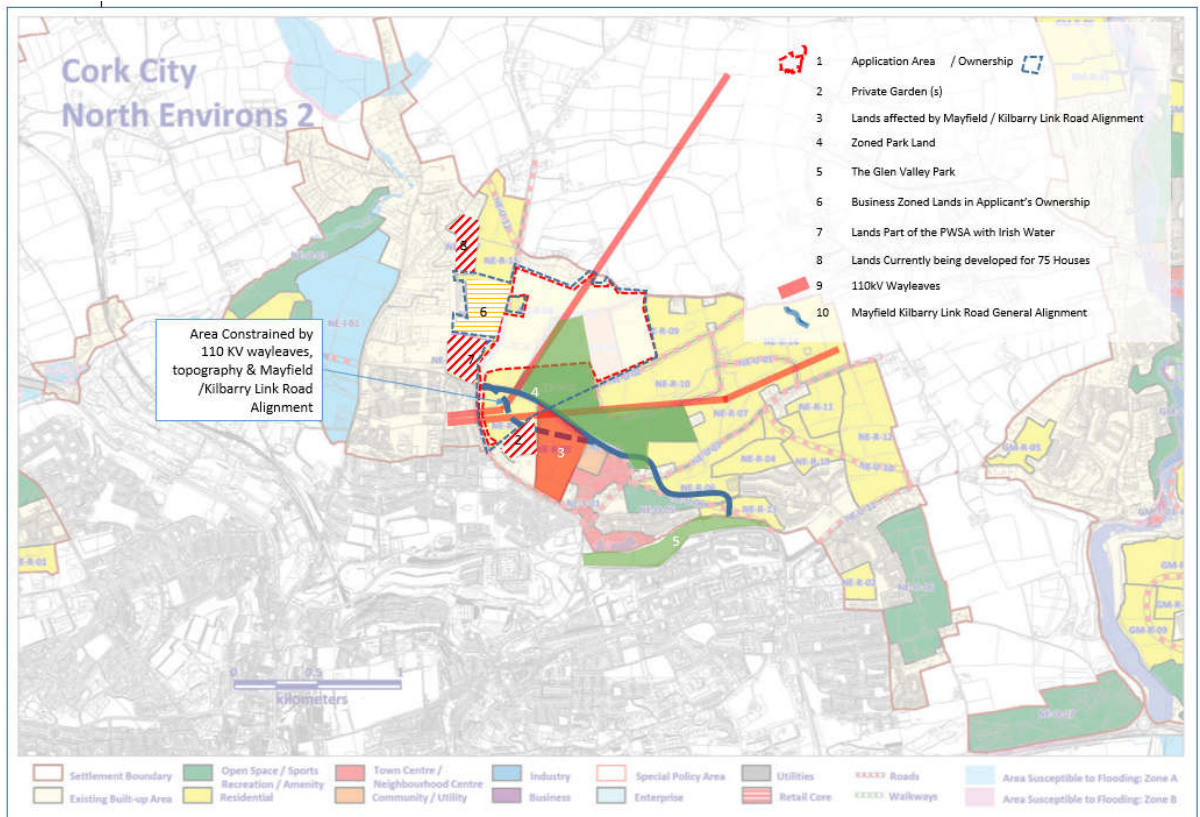
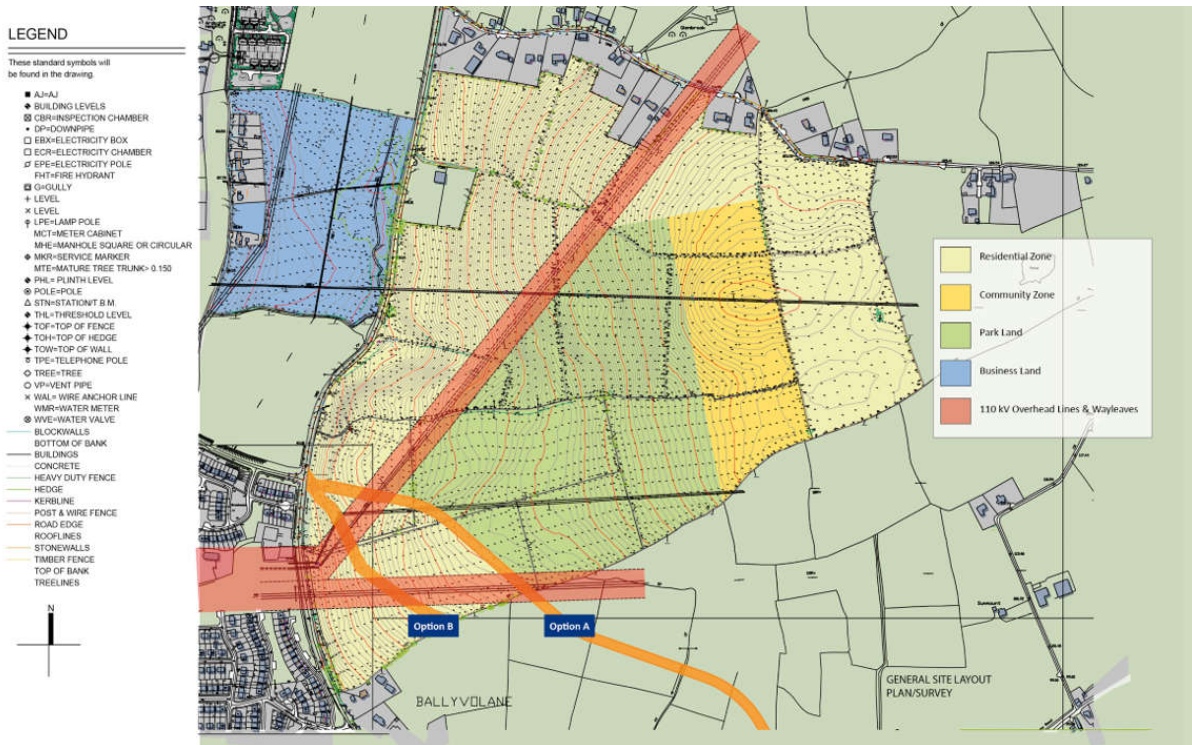
¹¹ Under ESB Guidance, no buildings are allowed under 110 kv lines under a 50 m corridor but the lands can function as locations for roads or generally open space locations / connections.

¹² a 35.4 Ha Open Space Passive Amenity area

¹³ The Lidl and Town Centre areas by Fox and Hounds

¹⁴ A Primary School Site that is landlocked

Image 3: Constraints (including Mayfield – Kilbarry Link Road – Option A [LAP Route] ; Option B [less “excavation / cut” route as it follows contours])



Drainage and services solutions are incorporated into the application (the proposed Irish Water Pumping Station on Ballyhooly Rd that provides for capacity to service the Urban Expansion Area) and the scheme is designed so as to deliver solutions that support Irish Water’s objectives for the area and beyond. These are addressed in the EIAR and NIS provided as part of the application; the EIAR setting out significant impacts and mitigation measures for the environment.

In summary and conclusion, the proposal seeks to deliver a design solution to a complex series of challenges, opportunities and constraints. There is no ideal design solution when developing on hilly topography as each site, with intrinsic design constraints, policy demands, sub surface challenges and wider interactions with adjacent lands offers a different set of responses.

2.4 Delivery of Housing to meet Policy Needs

Image 4 (following), illustrates the location of the current Urban Expansion Areas. Image 5 (following) illustrates the location relative to the City and Image 6 illustrates the wider zoning that applies to the area and local constraints over development. In these areas, very limited housing development is occurring.

Table 1 identifies the various Urban Expansion Areas identified by Cork County Council in the County Development Plan, all of which have either had specific objectives expressed in the Local Area Plan or SDZ Approvals by An Bord Pleanála. However, only limited housing activity is taking place.

Table 1: UEA – Current Status

Shannonpark in Carrigaline	Limited Housing Activity
Water-Rock in Midelton	LIHAF Site. No Activity other than Part 8 and landowner discussions with Council as to how integrated planning solution can be delivered. Part 8 approved by Cork County Council but no landowner engagement.
Carrigtwohill North in Carrigtwohill	Limited funding under URDF for part of Phase 1 Access Road. No housing activity.
Ballincollig South (Maglin) in Ballincollig	No Activity.
Ballyvolane in North City Environs	Proposal under this Fast Track Application Process of 74 units permitted on Old Dublin Pike. Irish Water services solution via an agreed PWSA allowing for infrastructure upgrades in the area with contracts signed for same that Irish Water will implement. This development supports the majority of costs associated with the PWSA.
Ballinglanna – Dunkettle in Glanmire	Fast Track Consent issued. Density less than 35 Per Ha. Site works under way; understood that compliance with conditions is being sought.
Stoneview in Blarney	No Activity.
Monard SDZ	No Activity.
Cobh North in Cobh	No Activity/refusals if consent for Fast Track Application in Ballyleary.

In summary, whilst Cork County Council has identified a need for 22,000 units¹⁵ to cater for growth, very limited amounts of land are being developed. Ballyvolane will deliver 753 units and open-up an area that has, to date, been sterilised through lack of infrastructure. It will also enhance the perceived image of the 'Northside', investing in the area, promoting new-build residential for the first time in a generation and supporting reinvestment in the existing social and community infrastructure.

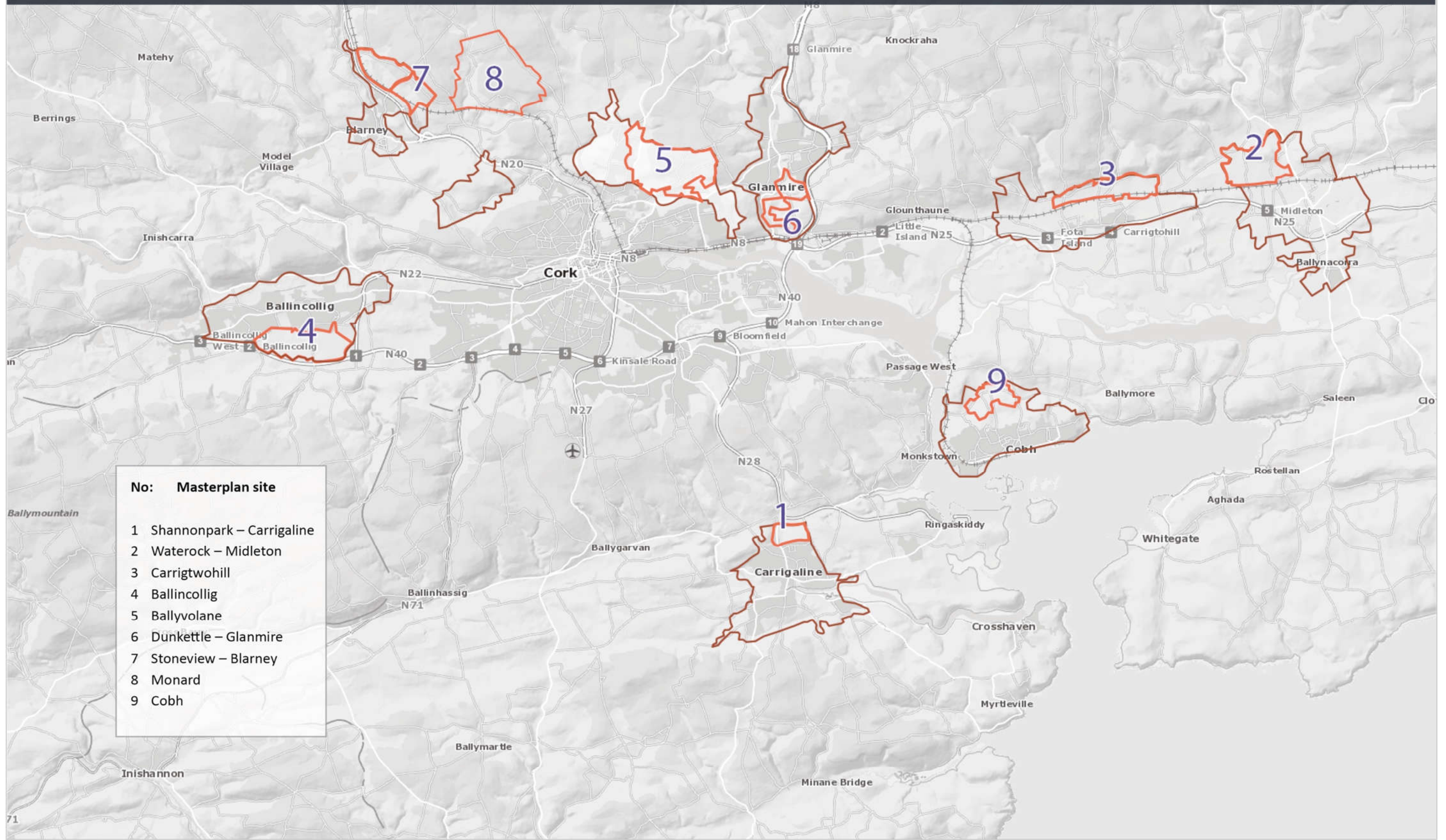
The importance of the 'Northside' in the growth of Cork has been recognised, not only by the County Council in policy documents, but by representative bodies such as the Chamber of Commerce. Cork Chamber CEO, Conor Healy, has, in a recent Cork Chamber of Commerce publication¹⁶, discussed the opportunities for the Northside of Cork City in light of Project Ireland 2040, in which he highlighted the need for much improved and diversified transport infrastructure, the employment potential and the overall latent opportunities for the City.

Despite the need in Cork for the development of housing, this is not currently happening.

¹⁵ Page 13 of Cobh MD LAP

¹⁶ Chamberlink, Q4 2018

IMAGE 4: UEA locations identified by Cork County Council



No:	Masterplan site
1	Shannonpark – Carrigaline
2	Waterrock – Midleton
3	Carrigtwohill
4	Ballincollig
5	Ballyvolane
6	Dunkettle – Glanmire
7	Stoneview – Blarney
8	Monard
9	Cobh

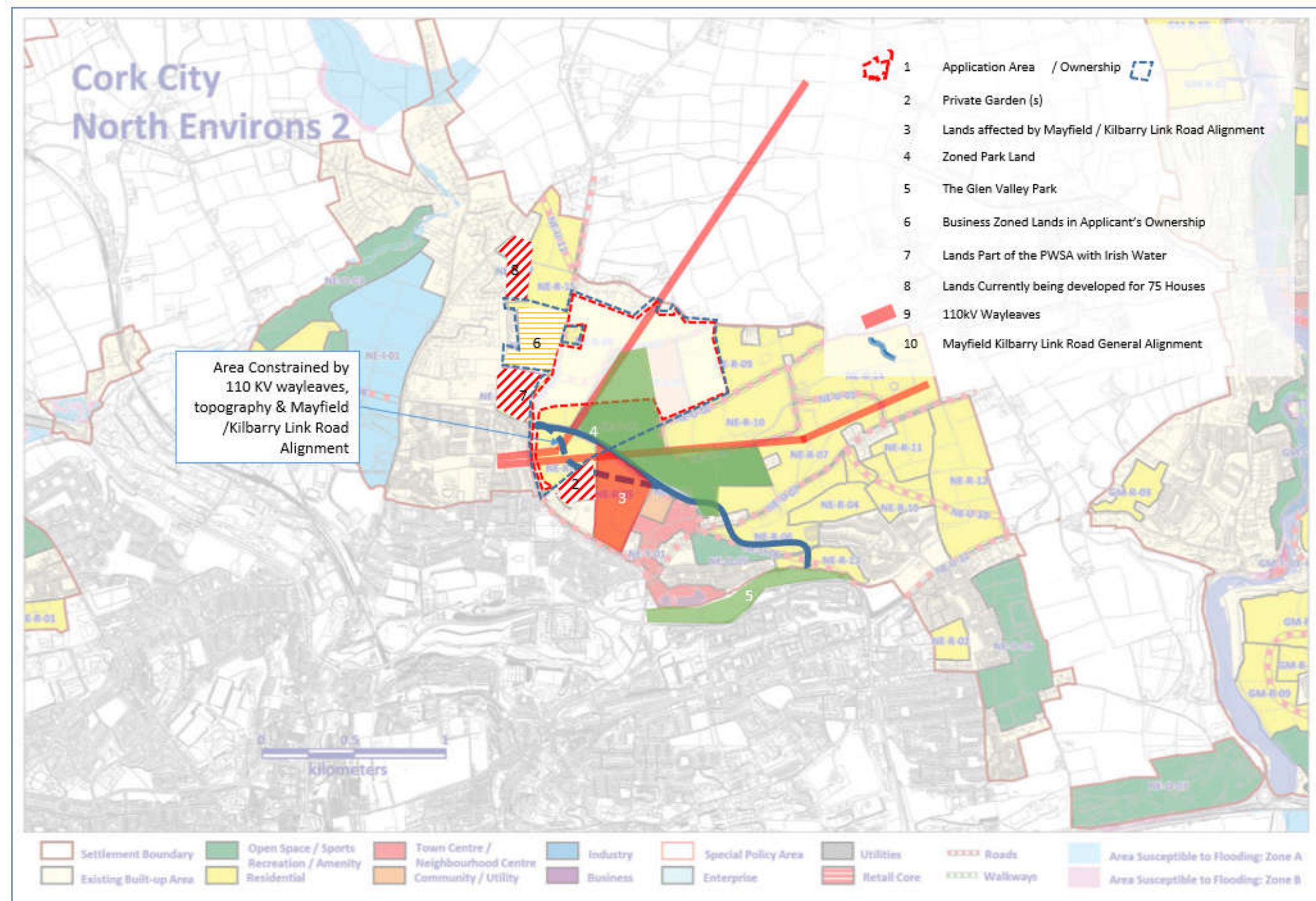


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IMAGE 2: Site Location / Selected Zoning



IMAGE 6: Constraints - Detailed Topography, 110KV Infrastructure the potential alignment of the Mayfield – Kilbarry Link Road (Lands covered by Topographical Survey are in Client Ownership) – ZONING OVERLAY



3.0 Topography & Ground Conditions

Topography and Ground Conditions

Cork City is situated such that most residential development has a stark choice between severe flood risk or hilly topography. This means that sequentially, not all development can or should occur in what may seem an obvious sequence on a map.

Zoned lands to the north of the City are predominantly in areas where the local steeply rising topography makes viable high-density development difficult and design compromise necessary. Workable road gradients are also difficult to achieve. Achieving 30 – 35 per Ha Nett in such circumstances is very challenging.

In addition, the area houses significant infrastructure that challenges what can be developed irrespective of zoning. For example, 110 kV wayleave corridors¹⁰ cannot provide housing and significant volumes of zoned lands can be lost to embankments and cuts to create workable access roads. Sub-surface ground conditions also create further constraints when making the Site work.

In summary, we ask the Board to note that the selection of the northern portion of the site to develop initially has been based on real constraints and challenges to the southern portion. These include where 110 kV infrastructure and road reservations (detailed design pending) justify developing to the north of these constraints in particular given the linkages created to the south, the pedestrian connectivity, the cyclist connectivity and the new infrastructure including foul water service.

Image 7 (following) shows the layout proposed under PL04.300557. This initial design solution resulted in a layout with a lower density than desired by the Board or National Policy under PL04.300557. This previously proposed density of 18 P/Ha Nett (under PL04.300557) was in accordance with the Council LAP Objectives.

It shows the previous road alignment, which followed the Council LAP alignment at DMRB Gradients which were considered undesirable by the Board. This alignment necessitated an extensive cut into the landscape and the only way to reduce this was to change to the new alignment. The Ballyvolane area is identified by Cork County Council as an “Urban Expansion Area”. It is a challenging area to develop. The area has topographical and infrastructure constraints¹⁷ to factor into development proposals while also having to maintain consistency with the overall zoning strategy and objectives of the County Council MD LAP. ABP under PL04.300557, expressed concerns as to density (and other matters) and the applicant team was faced with the challenges of:

1. Increasing the density to meet ABP concerns.
2. Dealing with a Distributor Road that traverses the land holding from South West to North East (Cobh MD LAP NE-U-02).
3. Providing for Council demands that a lower road gradient be achieved.
4. Connectivity within the site and to existing urban development.
5. The site remaining hilly; rising up from the Ballyhooly Road to the flatter lands above; and
6. The potential of “Leapfrogging”, the sequential development of lands outwards from the City.

¹⁷ 110 Kv Corridors / Roads Objectives and Reservations / Topography

IMAGE 7: ABP PL04.300557 Layout Initial Longview Design 2017



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Each of these points is dealt with below in Section 3.1 however, the it should also be read in conjunction with the separate response (cover letter) to the An Bord Pleanála opinion on 304350-19 which offers detailed commentaries on ABP’s opinion where we were asked to consider the following:

- Timing and Phasing of Development
- Site Topography
- Water and Waste Water infrastructure
- Surface water management and Flooding
- Residential Density
- Traffic and Transportation
- Public Open Space
- Design, Layout and Unit Mix

3.1 Responding to Design / Delivery Challenges

1. Increasing Density

Following the ABP determination previously issued, the applicant has acquired additional lands in Lahardane. This has afforded us the opportunity to review the project design to achieve a density of at least 30 – 35 Per Ha Nett viably in areas that are not constrained by roads, zoning objectives or wayleaves to the south. The consequence is that we have achieved a density of 35.7 Per Ha Nett and this will be considered in more detail in Section 5.0 of this report (this increased from 35.3 Per Ha Nett as proposed under the Pre Application submission to ABP). The new alignment, with added connectivity to the Ballyhooly Road, Irish Water Pumping Station to allow for future servicing of the site. The UEA is shown in in Image 5.

2., 3. & 5. Distributor Road Alignment, Gradient & Topography

Image 8 following shows detailed topography of the Site. This topographical survey is far more detailed than any OS Survey Map and clearly shows the challenging gradients to the west of the site. This site has to bear the cost and challenges of providing the access to, not only the applicant’s lands, but also to the zoned lands to the eastern end of the access road, that are outside of our ownership and currently landlocked, allowing for higher densities to be achieved in those lands without the attendant cost/design challenge of getting up into the site.

Intrinsic to the question of density and the delivery of a sustainable scheme is the matter of access.

Cork County Council, under the Cobh MD LAP, have an objective for a Service Road under NE-U-03 and other links (NE-U-02 and NE-U-04) which open up the west of the Urban Expansion Area. This site is the only landholding that provides this link.

In order to provide this road with a satisfactory gradient, and without excessive cut-and-fill, a circuitous route has had to be followed at a point from the southern portion of the site. This diverges from the LAP alignment; Cork County Council agreeing pre application that this is a better design. This access road then informs the layout of housing areas and the parcels of land that can be utilised while applying DMURS gradients (Image 9 following). While all the site is zoned the topography and access gradients demanded has meant that many areas of the site, zoned for residential use, cannot physically accommodate it due to gradients and embankments.

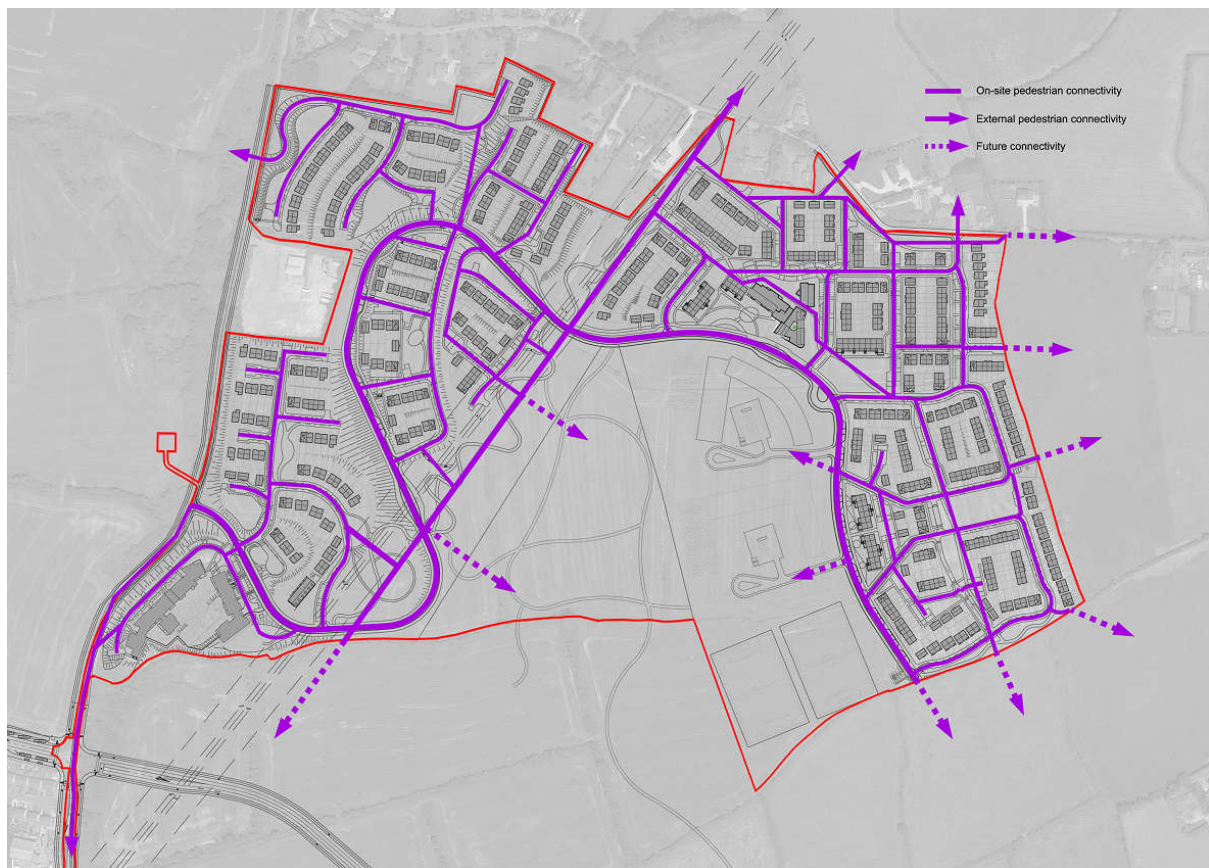
The commercial challenges of developing housing in these areas in Cork are considered in more fully in Section 5.

The redesigned access solution and Distributor Road alignment has allowed the proposal to create a more appropriate solution for pedestrians by allowing lower gradients. The access and design solution has also allowed the integration of the 110 kV wayleave corridors into the landscaping of the site and the creation of greenways through the site from the north-east down to the south-western corner of the site.

4. Connectivity

As described above, the new road alignment has allowed the proposal to create a more appropriate solution for pedestrians with lower gradients within the site. The integration of the 110 kV wayleave corridor has been used to create a greenway enhancing connectivity further.

Plate 1: Connectivity



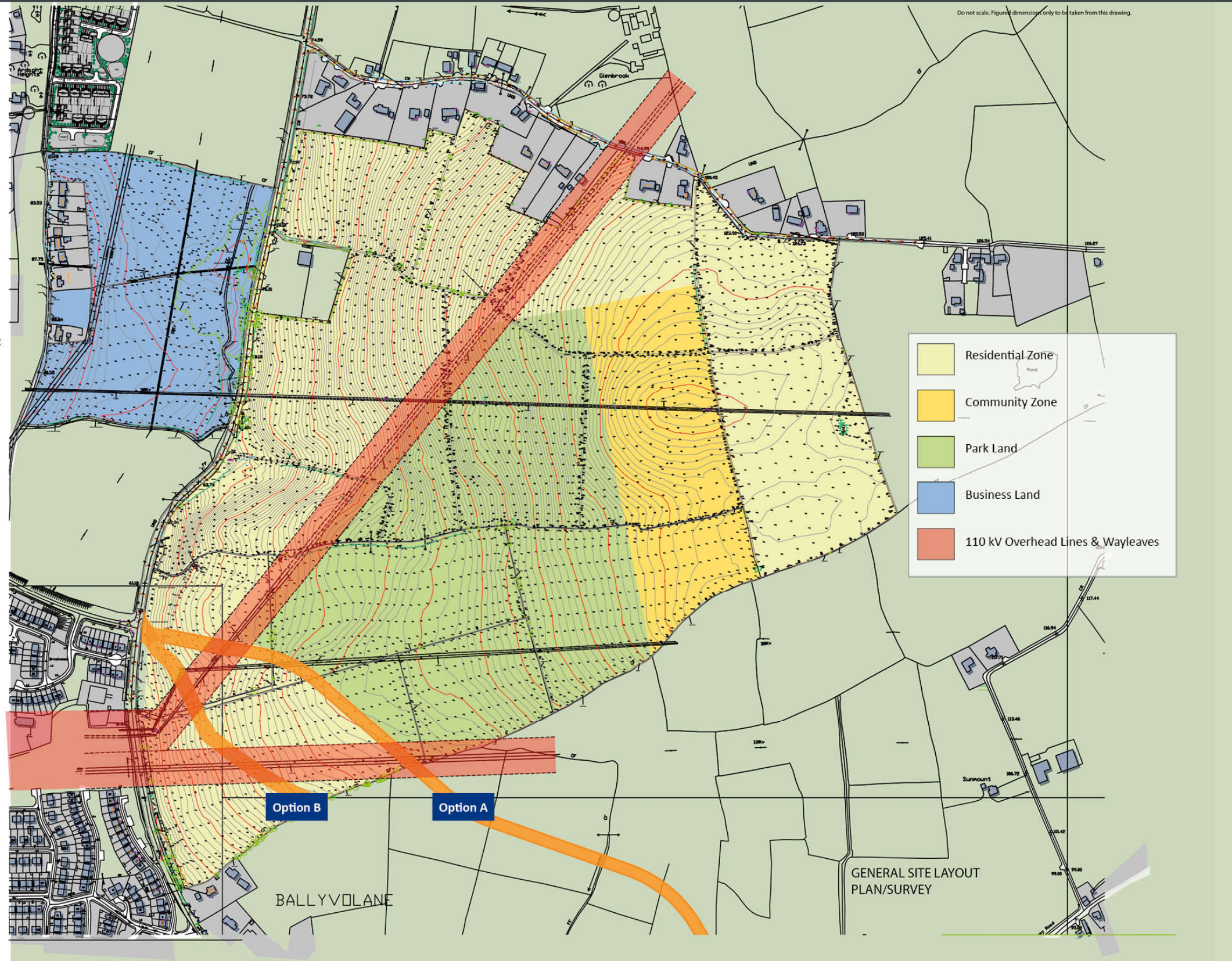
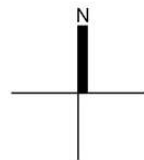
The additional lands purchased to the south have been used to create pedestrian and cycle linkages to the previous proposal. Additionally, the applicant has reserved land for the development of the Mayfield Kilbarry Link Road. We are committing to the City Council that they will remain free from development so as to afford the City Hall the maximum flexibility on their detailed design process.

IMAGE 6: Detailed Topography, 110KV Infrastructure the potential alignment of the Mayfield – Kilbarry Relief Road (Lands covered by Topographical Survey are in Client Ownership) – ZONING OVERLAY

LEGEND

These standard symbols will be found in the drawing.

- AJ=AJ
- ◆ BUILDING LEVELS
- ⊠ CBR=INSPECTION CHAMBER
- DP=DOWNPIPE
- EBX=ELECTRICITY BOX
- ECR=ELECTRICITY CHAMBER
- ⊕ EPE=ELECTRICITY POLE
- FHT=FIRE HYDRANT
- ⊠ G=GULLY
- + LEVEL
- x LEVEL
- ⊕ LPE=LAMP POLE
- MCT=METER CABINET
- MHE=MANHOLE SQUARE OR CIRCULAR
- ⊕ MKR=SERVICE MARKER
- MTE=MATURE TREE TRUNK> 0.150
- ◆ PHL= PLINTH LEVEL
- ⊕ POLE=POLE
- △ STN=STATION/T.B.M.
- ◆ THL=THRESHOLD LEVEL
- ◆ TOF=TOP OF FENCE
- ◆ TOH=TOP OF HEDGE
- ◆ TOW=TOP OF WALL
- ⊕ TPE=TELEPHONE POLE
- ◇ TREE=TREE
- VP=VENT PIPE
- x WAL= WIRE ANCHOR LINE
- WMR=WATER METER
- ⊕ WVE=WATER VALVE
- BLOCKWALLS
- BOTTOM OF BANK
- BUILDINGS
- CONCRETE
- HEAVY DUTY FENCE
- HEDGE
- KERBLINE
- POST & WIRE FENCE
- ROAD EDGE
- ROOFLINES
- STONEWALLS
- TIMBER FENCE
- TOP OF BANK
- TREELINES



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IMAGE 7: Proposed road access solution internally without the site with a color coded plan showing road gradients, cut and fill



The Mayfield Kilbarry Link Road is programmed for delivery by 2031. The proposal is contained in CMATS and the Cork City Council recently applied for funding for the Mayfield Link Road under the URDF fund but was unsuccessful.

The Joint City / County submission for the URDF Funding is attached as Appendix A. That submission clearly shows;

- a) The ease of public transport services in the area;
- b) Support for densities at over 30 P/Ha Nett (reflecting the topography)¹⁸;
- c) The importance of new housing in the area in a location proximate to employment hubs in Kilbarry;
- d) The fact that the Kilbarry Mayfield Link Road is also identified in the Draft CMATS (Cork Metropolitan Area Transport Strategy – See Appendix A).

The road is identified in the Cobh MD LAP as something that the Council must “plan and provide for”.

This is achieved by us as our lands area being reserved by the applicant free from development to allow flexibility in any design/alignment choice as it progresses east from the junction of Ballyhooley Road and Lower Dublin Hill.

Table 3.3.4 of the Cobh MD LAP states that Phase 1¹⁹ of the MD LAP is to “*Plan and provide for the construction of 2.2km Link Road from Mayfield to Kilbarry*”. Phase 2 of delivery of units in the Ballyvolane UEA (Units 1175 – 2325) states that the Council will “*continue completion*” of the road. The approach of the applicant is therefore consistent with the Plan’s “indicative” objectives.

The Board will also note that the traffic modelling submitted with this application does not depend on the Mayfield Kilbarry Link Road being delivered.

6. Leapfrogging

At the 2017 (PL04.300557) consultation with the Board, we were advised that there were some potential concerns that developments need to follow a sequence and not “leap-frog”. In section 4 we discuss leap-frogging in relation to:

- a) the context of the Ballyvolane Urban Expansion Area in relation further development in Cork City and its surrounds, and
- b) the Longview development (this application) in relation to the sequential development within the Ballyvolane Urban Expansion Area.

This matter is addressed in detail in Section 1 of our letter of response to ABP’s opinion.

Images 1 and 2 of this “evolution” document already illustrate the manner in which the land holding has increased in size so as to provide for an improve, deliverable, design solution to complex design, servicing and linkage challenges evident in the area.

¹⁸ The proposal is now at 35 p/Ha +

¹⁹ Units 0 - 1174

4.0 Sequencing and Phasing

Firstly, this section addresses the development of the Ballyvolane Urban Expansion Area in relation to existing built up areas and the consistency to the NPF's aim of "compact urban growth". It continues to outline the natural sequencing of the Longview development in relation to the Ballyvolane Urban Expansion Area, more specifically.

Secondly, a logical sequential internal phasing for the development is proposed. The project has been conceived to allow the first housing area to be located closest to the southern part of the site. This allows placemaking to occur establishing the address as a residential location. Site access/distributor roads will be developed at the beginning of the build, allowing the creation of a core spine of the site and the establishment of the local center in Neighborhood 2. The subsequent phases will allow for progressive infilling of the remaining areas.

4.1 Sequence of Development in Cork City

This matter is addressed in detail in Section 1 of our letter of response to ABP's opinion.

Images 1 and 2 of this "evolution" document already illustrate the manner in which the land holding has increased in size so as to provide for an improved, deliverable, design solution to the complex site, servicing and linkage challenges evident in the locality.

At the 2017 consultation with the Board, we were advised that developments need to follow a sequence and not "leap-frog" from the City outwards. Section 3 outlines the wider constraints of topography, infrastructure and zoning (and the parks and access requirements of the Phase 1 delivery of land in Ballyvolane UEA), in explaining why development is proposed towards the northern portion of the applicant's landholding; i.e. mainly due to the constraints created by the Mayfield Kilbarry Link Road and the 110 KV corridors.

While there are frequent policy requests for more compact urban growth, development is already evident at further distances from Cork City Centre. Image 10 shows:

1. The proximity of the site to the City;
2. The location of major development locations that are considered to be part of the broader City area; clear evidence that the City Suburbs and other zoned development lands are located further from the City Centre than the Ballyvolane Urban Expansion Area. The Ballyvolane Urban Expansion Area therefore addresses the NPF aim of "compact urban growth";
3. Presence of developed/consented areas to the west and north west of the site/land holding.

Furthermore, the development of the Site is consistent with set development principles of the Ballyvolane Urban Expansion Area, as the land;

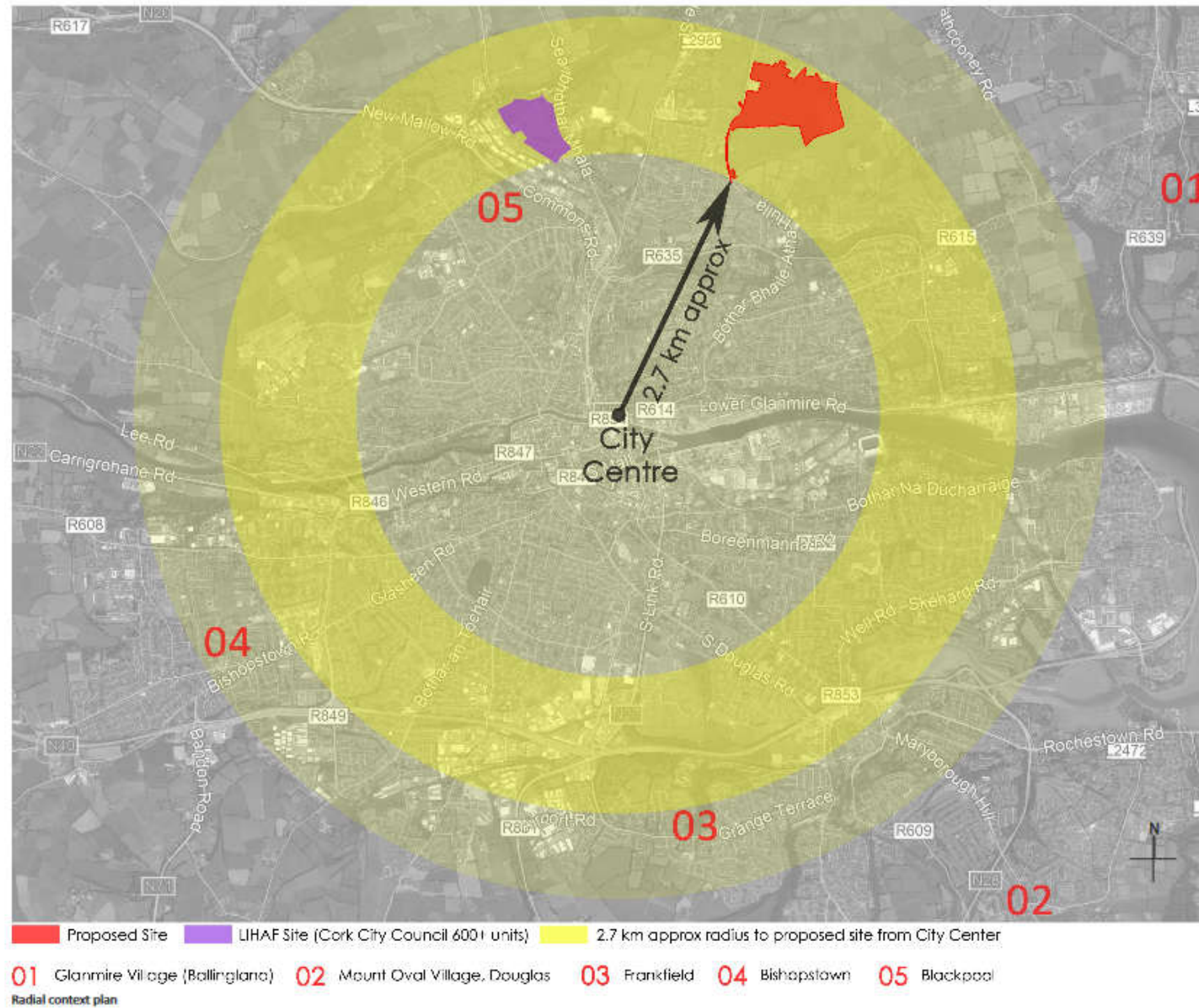
- a) is the logical first development in the Urban Expansion Area off the Ballyhooly Road due to infrastructure and topography constraints to the south (this is discussed fully above in Section 3).
- b) provides for connectivity to the City.

- c) meets CMATS objectives.
- d) is located closer to the City than other potential housing developments in the southern suburbs.
- e) is located closer to the City than other development sites to the north-west of the Ballyhooly Road which have been recently consented.
- f) is unlike other land holdings that are small and at best can only deliver piecemeal development and do not deliver the range of Phase 1 objective such as parks and connectivity.
- g) This proposal offers the scale and scope required to carry the additional costs (Irish Water services) to unlock the wider area.
- h) there is a natural barrier (Glen Valley) on the southern side of the Urban Expansion Area which physically separates northside from the existing city development. All development will radiate north from the Fox and Hounds, Image 3. Lands between the “Fox and Hounds” and the applicant landholding are smaller, fragmented, possess infrastructural uncertainties in relation to Mayfield/Kilbarry Link road alignment and do not deliver the range of Phase 1 objective such as parks and connectivity.

The existence of this development will not only meet housing objectives and needs, but will also encourage, justify and facilitate the creation of additional transportation infrastructure and create modal shift options for future development.

In addition, the provision of essential foul and services infrastructure, funded by the applicant, will open-up the lands to the east of the site which would otherwise remain landlocked.

IMAGE 10: Location of Growth Around the City



4.2 Phasing

As stated in previously, since initial consultations with the Board in 2017, further land has been acquired. Overall Phasing of units is illustrated in Table 4.1 following.

The acquisition of this land has allowed the proposal to provide for a comprehensive response to phasing and infrastructure delivery:

- An Irish Water Pumping Station.

The pumping station solution, is incorporated into our proposal, at a location selected by Irish Water (Plate 2 following). This is located on Ballyhooley Road. It is to their design and specification (Plate 3 following) so that it can be taken in charge by them and has the capacity to provide foul pumping services for 5000 + units in the future, depending on network management, extensions and planning consents. Irish Water is committing to investment in the area because there is a viable volume of units in the pipeline and it is supported by our Major Connection Agreement.

The Pumping Station adjacent to the Ballyhooley Road is a significant infrastructural item that will support Irish Water's need to service the wider Urban Expansion Area as it arises and other lands in this Northern Suburbs of Cork City.

In detail, Irish Water has entered into a Project Works Services Agreement with Longview Estates to service the area by way of Pumping Station to be included on their lands in Lahardane, Ballyhooley Road, Cork. The Pumping Station proposal is central to the provision and commercial implementation of the Foul Water services strategy locally and within the entire Urban Expansion Area. The Pumping Station will be served by a rising main that is to be located in the public road and / or public lands before accessing a discharge point to the existing foul network on the R635 adjacent to the R615 / Old Youghal Rd. Irish Water do not need statutory consents to construct this Rising Main and this is stated in their pre connection letter. This rising main will follow the Ballyhooley Road south from the Pumping Station and thereafter along the R635 or otherwise as agreed with Cork City Council though adjoining public lands.

- Integration with the design and delivery of the BALLYVOLANE STRATEGIC TRANSPORT CORRIDOR PROJECT: NORTH RING ROAD TO BALLINCOLLY which is being delivered by Cork City Council; supported by the NTA.

The infrastructure proposed under CMATS will be delivered on a progressive basis across the City. Complementary to CMATS are existing proposal to upgrade and improve the City's integrated Transport Network which are now being advanced. The public transport enhancements to Ballyhooley Road are one set of such improvements and these enhancements are facilitated by development as proposed under this consent. Cork City Council, supported by the NTA, has instructed Consultants to advance the Ballyhooley Road upgrades, including public transport enhancements, in August 2019. The PROJECT BRIEF for the Ballyhooley Rd enhancements "For the provision of Engineering Design Team Services relating to the design and delivery of the BALLYVOLANE STRATEGIC TRANSPORT CORRIDOR PROJECT: NORTH RING ROAD TO BALLINCOLLY, JUNE 2019"²⁰ has been instructed and design work has commenced. This commission started in September 2019 with expected delivery by 2022 – 2023.

²⁰ Pages 1-2 included as Appendix B

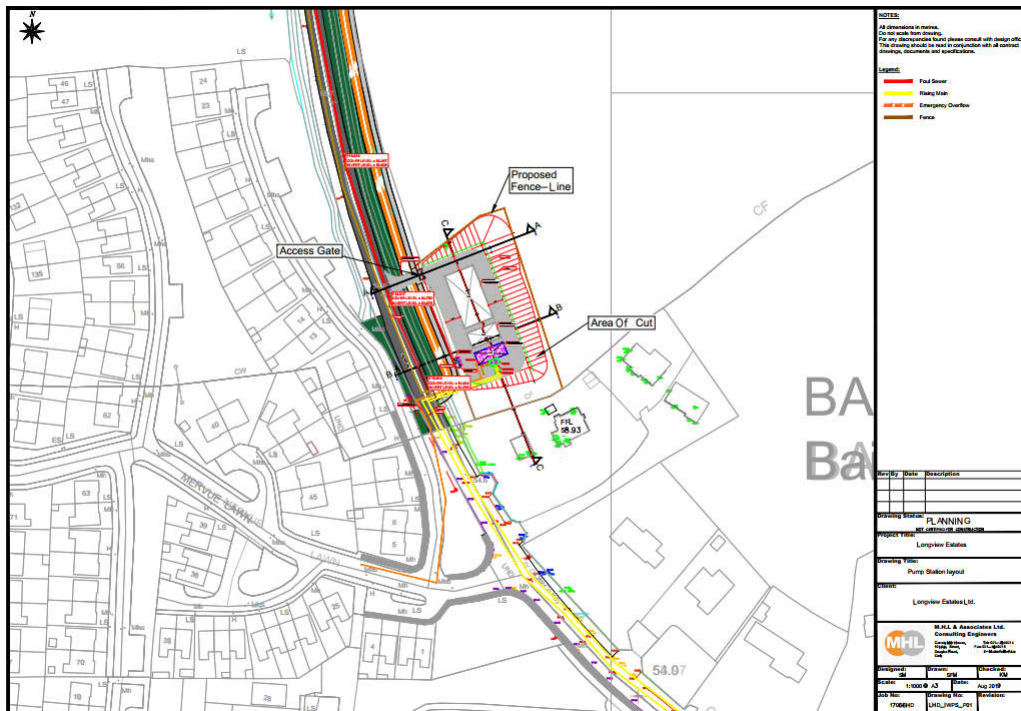


Plate 2: Application – Pumping Station Drawing

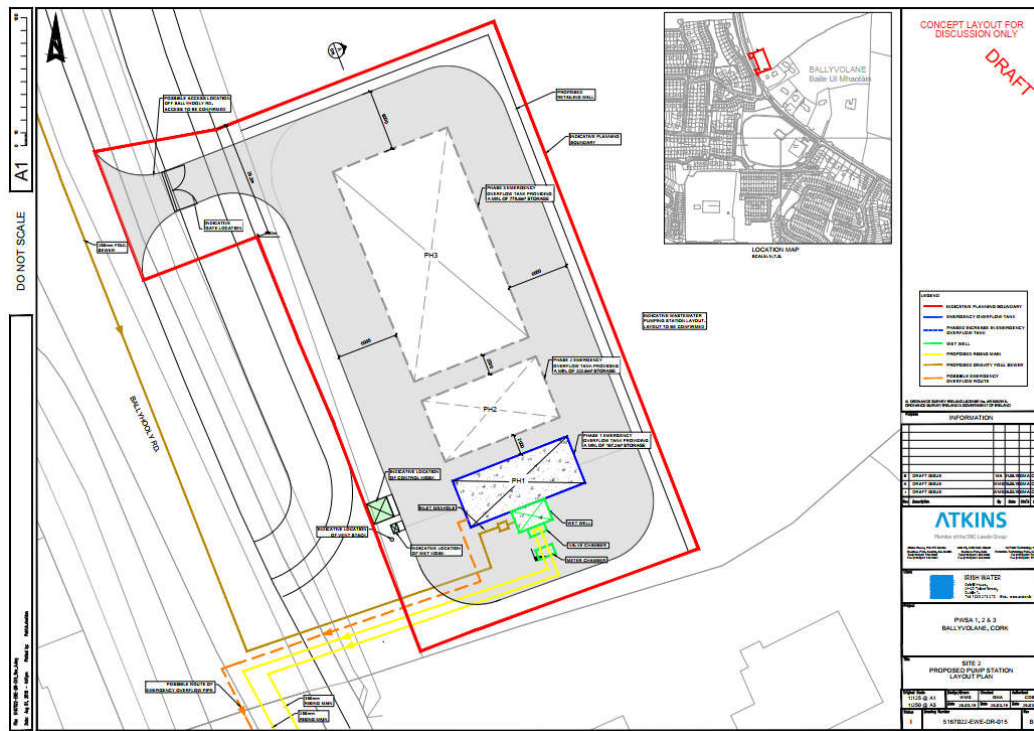


Plate 3: Irish Water Indicative Layout for Pumping Station (basis for Image 7 Above)

Table 4.1: Indicative Delivery Programme²¹

Neighbourhoods		N1	N2	N3	N4	N5	N6	
Number of Residential Units		75 Units	218 Units (Incl 27 Apts)	63 Units	93 Units	178 Units	126 Units	
Phases	Site Works	Phase 1 – End 2021	Phase 2 / 3– End 2022	Phase 2 / 3– End 2023	Phase 4– End 2024	Phase 5– End 2025	Phase 6 - End 2026	Phase 6- Mid 2027 – 2029
Indicative House & delivery Programme	Q2 2020 Early 2021	75 units ²²	100 units ²³	100 Units ²⁴	100 Units ²⁵	100 Units ²⁶	125 Units ²⁷	153 ²⁸ Units (Incl Apts in Neighbourhood 2 & 6)
Indicative Cumulative Delivery	0	75	175	275	375	475	600	753
Modal Shift		13% ²⁹	25%	35%	40%	45%	45%	45%

²¹ Delivery of all units subject to Multi phase Connection Agreement with Irish Water

²² All Neighbourhood 1

²³ 100 Units from Phase 2

²⁴ Remainder 91 Units from Neighbourhood 2 and 9 from Neighbourhood 3

²⁵ 54 Units from Neighbourhood 3 and 46 from Neighbourhood 4

²⁶ Balance of 47 Units from Neighbourhood 4 and 53 from Neighbourhood 5

²⁷ Residual Houses in Neighbourhood 5

²⁸ Balance of Neighbourhood 5 and Neighbourhood 6

²⁹ Public Transport and Non Vehicle use in area currently at 13%

<p>Range of Deliverables</p>	<p>Confirmation of Draft Section 47 Agreement between Cork City Council and Applicant prior to the commencement of development.</p> <p>Compliance / Submission & sign off by CCC.</p> <p>CEMP Preparation.</p> <p>Statutory Services Sign off (ESB / ESBI / IFI)</p> <p>Construction of compound, storage area together with</p>	<p>Local widening of Ballyhooly Road. For bus corridor and deliver of the permanent cycle lands and pedestrian footpaths for widened road.</p> <p>Landscaping to Phase 1.</p> <p>Landscaping to Ballyhooly Road boundary Phase 6.</p> <p>Landscaping to the Ballyhooly Road / Access to IW Pumping Station.</p> <p>Entrance Works.</p>	<p>IW Type 1 Pumping Station and associated infrastructure & Landtake to support the services facilities for the entire Ballyvolane Urban Expansion Area.</p> <p>Ballyhooly Road widening and improvements within site.</p> <p>Internal Access Distributor Road and Lighting.</p> <p>Landscaping to Phase 1 / 2 embankments and Distributor Road.</p>	<p>Park Land Provision and Public Lighting to Park as per NE-O-04.</p> <p>Balance of Park Zoned lands in Applicant Ownership / Control secured for passive amenity use as per NE-O-04</p> <p>Construction of all underground services, ducting etc to accommodate foul and surface water demands for later phases.</p> <p>Landscaping to Phase 3.</p>	<p>Construction of Second access to Ballyhooly Road.</p> <p>Construction of Park Land / Greenway north of Internal Distributor Road and pedestrian links to local rural road to the north.</p> <p>Construction of footpath on Ballyhooly Road to west of Phase 4 frontage.</p> <p>Construction of all underground services,</p>	<p>IW Type 3 Foul Pumping Station delivered to support lands to the north east of the land holding / site.</p> <p>Construction of all underground services, ducting etc to accommodate foul and surface water demands.</p> <p>Landscaping to Phase 5.</p>	<p>Reduce the size and layout of construction compound to allow for the construction of the apartments.</p> <p>Groundworks and sub level formation (relocation of compound to this area if necessary once complete).</p>	<p>Construction of Community Room in Neighbourhood 2 as part of apartment building in Neighbourhood 2; these apts and community space may be delivered at an earlier date subject to demand.</p> <p>Commence Apartment Construction.</p> <p>Complete landscaping to Phase 6.</p>
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	<p>offices and associated welfare facilities, cut & fill of land being developed including the relocation on site of excess spoil and the storage on site of excess general fill material acceptable for re-use in Neighbourhood 6.</p> <p>Access Road and Internal Distributor Road Works and the construction of all necessary underground services, ducting etc to accommodate</p>	<p>New Bus Stop on Ballyhooly Road.</p> <p>Pedestrian Crossing to Ballyhooly Road.</p> <p>Public Lighting to Ballyhooly Road.</p> <p>Construction of houses including roads and services together with all construction works to facilitate the development.</p> <p>Construction of retaining structures and embankments to facilitate</p>	<p>Construction of Local Access to the Northern Local Road.</p> <p>Ground Works for Neighbourhood 2 & Park Land Works as per NE-O-04 (commence provision of Park and retain residual lands for park as open space – retain existing natural hedgerows and features).</p> <p>Internal Temp Bus Turning Bay.</p>		<p>ducting etc to accommodate foul and surface water demands for later phases.</p> <p>Landscaping to Phase 4.</p>			
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	<p>e foul and surface water demands for later phases.</p> <p>Commence undergrounding of 38KV Line traversing the site.</p> <p>Construction of all Surface Water Drainage Infrastructure to facilitate Phase 1.</p> <p>Securing construction safety areas around 110 Kv Pylons to the as agreed with ESBI.</p>	<p>roads and development areas.</p> <p>Provision of signalised junction to Lower Dublin Hill / Ballyhooly Road Junction.</p> <p>Construction of all underground services, ducting etc to accommodate foul and surface water demands for later phases.</p>	<p>Creche Construction.</p> <p>Construction of all underground services, ducting etc to accommodate foul and surface water demands for later phases.</p> <p>Construction of Local Neighbourhood Centre.</p>					
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	Planting to enhance boundary to the north and construction of boundary walls to the north as proposed to local residents.							
Timeline	6-12 months	12 months	12 months	12 months	12 months	12 months	12 months	24-30 months
Average Construction Workers	30	80	80	80	80	80	80	80
Peak Construction Workers	50	100	100	100	100	100	100	100
Est Average Daily Construction Vehicles	60	60	60	60	60	60	60	60
Est Peak Daily Construction Vehicles (HGV / Van / Workers)	80 (2 HGV'S / 7 Vans / 15 Cars)	80 (2 HGV'S / 15 Vans / 60 Cars)	80 (2 HGV'S / 15 Vans / 60 Cars)	80 (2 HGV'S / 15 Vans / 60 Cars)	80 (2 HGV'S / 15 Vans / 60 Cars)	80 (2 HGV'S / 15 Vans / 60 Cars)	80 (2 HGV'S / 15 Vans / 60 Cars)	80 (2 HGV'S / 15 Vans / 60 Cars)



The Initial Traffic Assessment (MHL Consulting Engineers) provided to An Bord Pleanála as part of the Pre Application Consultation (Appendix E) illustrated that the;

“the development of up to 150 residential units on the Longview Site can be accommodated on the existing roads network (to be delivered and occupied by 2022) with minimal impact. Thereafter the development of up to 600 units can be accommodated before the modelled network loses operational functionality (delay greater than 120 sec). With the provision of scheduled junction upgrades (City Council have confirmed funding is available to carry out these works) the complete development of the site (750 units occupied by 2028) can be accommodated. It is fully expected that further development of the UEA can be facilitated with the provision of Distributor Roads and associated public transport provision, funded under the CMATS report. If a modest annual modal shift is achieved (estimated at 1.7% across all sustainable modes), then the modelled network will continue to operate within capacity for the foreseeable future”.

That traffic assessment has been further refined and the scope of the junctions assessed increased as part of the current application with an assessment based on very robust parameters. The refined TA now submitted to the Board is also very robust as:

1. For future year models the anticipated modal share target has not been applied to existing background traffic flows; they are only applied to the proposed scheme. Improvements to public transport provision, funded by the NTA, are primarily for the benefit of existing road users with the aim being to increase the modal share towards sustainable transport solutions. Therefore additional reductions in traffic volumes can be expected.
2. TII Medium growth rate factors have been applied to background flows for future year traffic models. With committed to investment in public transport in the area this growth rate would be expected to be negated by an increase in public transport usage.
3. Traffic generation for the proposed development has been carried out on a phased basis inline with the expected delivery of units and uses an existing housing scheme in the same area (IN/OUT data recorded in 2019). The implication is that the scheme will begin to benefit from an increase in modal shift in 2023 onwards; i.e. approx. 275+ units completed. Based on similar transport provision in Blanchardstown-Coolmine area the anticipated increase in modal shift would be up to 45% (based on 2016 CSO figures). As an added factor of safety only a 25% factor (results in a 12% reduction as current modal shift is 13%) has been applied to the 2023 traffic generation from the site. The impact of full modal shift is only applied for in 2026 for Phase 5 of the development.
4. Traffic Generation for the site is based on a local housing scheme comprising of semi-detached houses with 2 car parking spaces per unit. The proposed development will not have this level of parking provided and comprises mixed scale residential provision.
5. No allowance has been made for future measures that discourage private car use such as restrictions on City Centre Car Parking, ongoing reductions in on street car parking public

spaces, increases in tariffs or general measures by central government that increase the cost of private vehicle ownership.

The above approach mirrors and better, the approach adopted in the LIHAF supported SHD Site, Ballinglanna (ABP-300543-18).

The modelling exercise also proposed, and presented in the TTA, has been informed by the City Council position at the Pre Application Consultation with ABP where the delivery of Ballyhooly Road Corridor improvements was noted as being likely 2022; +/- 6 months (John Stapleton, Cork City Council). The TTA has also been informed by consultations with the Traffic Section of City Hall post the opinion of ABP on the pre application consultation whereby approaches regarding the determination of modal splits on foot of the proposed improvements were discussed and presented.

4.2.1 Preparation Phase

It is currently envisaged that the groundworks for the entire site will be undertaken at the outset, which will allow for the construction of the Distribution Road. This preparation phase will, subject to consent, provide site works, formation levels and the development of the access and distributor road from the Ballyhooly Road.

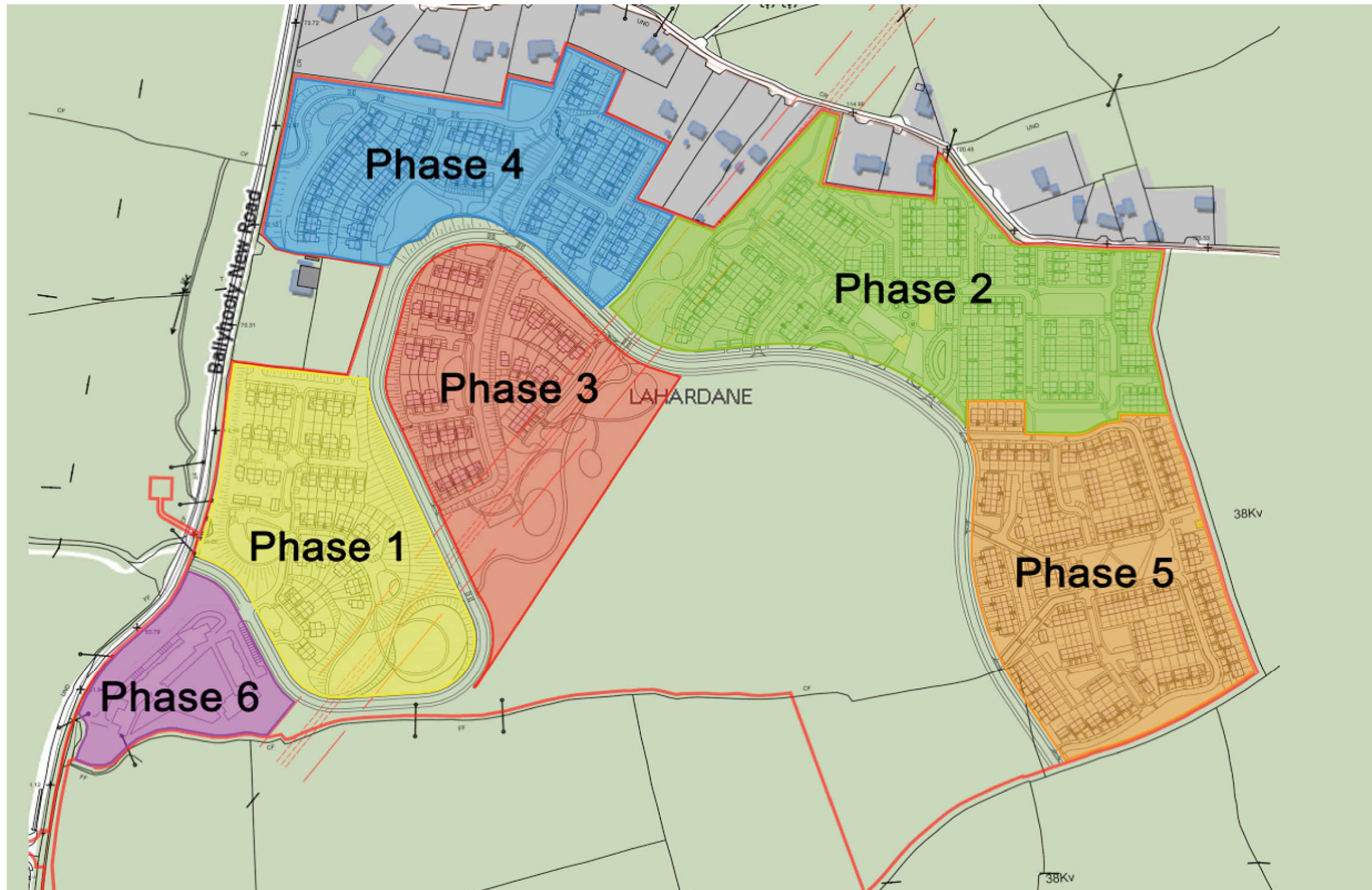
This is not a flat site and as a result the site faces challenges that are not ordinarily present, either from a cost or engineering perspective. As a consequence, the phases of development have had to consider the manner in which earthworks are to be carried out on site, seeking to minimise their environmental impact and cost all of which would otherwise challenge the viability of the consent.

The phasing proposed has also been predicated on the potential of funding being available from the Cork County Council under the HISCO (ISIF/Cork Co Co funding initiative for on-site infrastructure). Alternative funding avenues or the availability of ISIF/Cork Co Co may require a modification to Distributor Road phasing / speed of delivery but delivery will follow the phasing identified – see Architects Design Statement and Statement of Response to ABP.

As part of this preparation phase the construction compound will be built in the area that will become Phase 6. This area will be an established and well-constructed area that will service the remainder of the build. Being sited off the main road, this will allow easy deliveries and the size and shape of the land will lend itself to effective management of the site while not interfering with the cut-and-fill works.

To optimise cut-and-fill and earthworks (see 4.3 below for further detail) we have then broken the overall site down into six separate neighbourhoods/development areas based around the Distributor Road and which will be developed sequentially. The applicant would expect to deliver approximately 100 units in each year subsequent to the completion of the preparation phase. Appendix D shows the detailed composition of each phase.

IMAGE 11: Proposed Neighbourhood Zones



The site achieves an overall density of 35.7 P/Ha Nett; up from 35.3 P/Ha Nett at pre application stage. This is within the ranges recommended for development in this location. It is the maximum commercially achievable on land that suffers from adverse conditions and site specific constraints each of which has been detailed in this document. It is, also, a significant increase from 18 P/Ha Nett that was envisaged in the last consultation with the Board.

4.2.2 Phase 1

Phase 1 is immediately north of the Ballyhooly Road entrance, has a useable area of 2.9 hectares and will comprise of 75 units.

The proposal for this neighbourhood breaks down into 12 detached houses, 50 semi-detached houses, 4 terraced and 9 duplexes. This provides a mix of housing and is closer to what Cork buyers are used to seeing. This part of the development, as well as being a more familiar mix, will also be visible from the Ballyhooly Road which will be important in place making and the marketing of the overall scheme. It will establish Longview as an attractive destination and create the impetus for opening up the UEA. As further discussed below, in 4.3 Timing, it is anticipated Phase 1 will be finished quickly and sold within the first year after groundworks have been completed – with the project quickly progressing to Phase 2.

4.2.3 Phase 2

Phase 2 is to the north-east of the site, has a useable area of 5.8 hectares and comprises of 218 units.

This is a flatter area further into the site where, while engineered fill is still used, the mix of units and uses is less constrained by level changes. This will allow the developer to increase building densities and create a neighbourhood-centre /retail, the creche and a medical-centre in the southern portion facing the school lands further south.

As well as being a focus for local community development, this area will provide 218 housing units, consisting of 20 detached houses, 60 semi-detached houses, 75 terraced houses and 36 duplexes.

There will be access to and from existing housing and local roads to the north and, as the development progresses, this will have pedestrian and vehicle links though to lands to the east. As further developments to the west and south of the Site are brought to maturity this area is likely to be an important community centre.

4.2.4 Phase 3

Phase 3 is between the proposed service/distributor road and the park area to the south-west. As the topography is more challenging in this area there is a need for a more engineered solution to address level changes and the land's relationship to the service/distributor road.

There are 63 units in this area which, as well as being adjacent to the park land area, will link Phase 1 and Phase 2 giving these areas further access to the green areas. The useable area is 2.28 hectares.

This phase will have 63 units consisting of 8 detached houses, 50 semi-detached houses and 5 terraced houses.

4.2.5 Phase 4

Phase 4 is located to the north-west of the site and, like Phase 1, is adjacent to the Ballyhooly Road.

This area will contain 93 units; 14 detached houses, 54 semi-detached houses and 25 terraced houses. It will complete the scheme to the north and provide continuity between the previous three phases. The useable area is 3.59 hectares.

4.2.6 Phase 5

Phase 5 is situated on land that the developer has added to this proposal since the last submission to the Board. This is a much flatter area of site and is contiguous with Phase 2, which is the centre of community development, and where, while engineered fill will need to be used, the mix of units and uses is less constrained by level changes. The useable area is 5.31 hectares.

Being at the end of the service/distributor road this land is opened-up by the prior four phases. It will also be the point of access to further new developments that, no doubt, will come before the Board, both south and east of the Site, as a consequence of the infrastructure being provided by Longview. The land also provides 38 KV wayleaves that are necessary for the development.

There are 178 unit in this neighbourhood consisting of 13 detached houses, 64 semi-detached houses, 77 terraces houses and 24 duplexes.

4.2.7 Phase 6

Phase 6 is to the south-east of the site and the useable area is 1.22 hectares. This area, prior to its development, will be used as the depot for building works. This phase will be all apartments (126), providing for 6 studios, 30 one-bedroomed, 64 two-bedroomed and 26 three-bedroomed units. The design of the apartments has them nestling into the rising topography such that roof heights are no higher than the roof-heights of the adjacent Phase 1 – giving them height and identity without making them unsightly towers.

While it is an important part of the development, a question that needs to be answered is why is this the last part of the development to be built? The answer to this is contained in 4.3 below which looks at timing, both of the development and of particular housing types as Cork transforms itself through the changing identity of the new Northside.

4.3 Timing

It is expected by the developer that 100 units a year will be marketed and sold each year. Any number above this will be difficult to market and will not allow the desired branding of Longview as the new 'Northside of Cork'. Assuming that planning permission will be granted in calendar 2019, and that the infrastructure and roads can be built within calendar 2020, then the build and sell cycle will be as follows:

- all of Phase 1 and 35 units out of Phase 2 will be sold in year 1, 2021;

- a further 100 units of Phase 2 will be sold in year 2, 2022. This will be the point at which a sense of place will begin as the community infrastructure is completed.
- In year 3, 2023 the remaining 74 units from Phase 2 and the first 26 units from Phase 3 will be sold.
- In year 4, 2024, the remaining 32 units from Phase 3 will be sold along with the first 68 units from Phase 4.
- In year 5, 2025 the remaining 27 units from Phase 4 will be sold together with the first 73 units of Phase 5.
- In year 6, 2026 Phase 5 will be completed with the sale of 126 units.
- This will leave the apartments to be built and completed in the course of 2026/2027 with some sales beginning off-plan, with final delivery in June 2027.

By 2022 there will be significant connectivity to public transport.

The apartments proposed in Neighborhood 6 will be close to the City and will provide excellent starter-housing for younger people as well as good accommodation for older people down-sizing. By 2026/2027, given the quality and form of the earlier phases of the development, it is anticipated that the apartments will, by then, be an attractive commercial proposition – being close to the City and part of an established area. Currently, if built alone, these apartments would lose money for the developer.

As has been stated, prior to development this area will be used as the compound for the construction of the other neighborhoods.

5.0 Design Evolution & Density

In looking at the design evolution we need to focus on three main areas:

Density/Mix; and

Access Gradients/Topography/Engineering Design Standards; and

Economics and Viability.

5.1 Density

The scheme density is 35.7 units P/Ha Nett. The scale of the site and the challenges in getting from the Ballyhooly Road, north-west and up the “hill”, to the flatter part of the Urban Expansion Area necessitates lower densities which rise as the development progresses west to east. This allows for the service/distributor road to be completed and for the development to be commercially deliverable.

The topographical changes moving west to east across the site and the challenge of delivering a DMURS compliant distributor road requires substantial reprofiling of the site. This is an engineering challenge which sees a gross development area at 30.66 Ha but the nett development area reducing to 21.09 Ha when one excludes steep slopes , greenway (i.e. 110 kV lines), parkland, buffers etc. See Table 5.1 following.

Appendix D following illustrates the density and project/layout/evolution in more detail.

Table 5.1: Area Explanations

Area	Commentary
30.6 Ha.	This is the area of the site where the actual physical development of housing and road improvements will occur. This includes the distribute road, greenway and areas of the site that are unsuitable housing due to topography and steep slopes. The red line area is larger due to the location of the proposed undergrounding of the 38 KV line.
21.09 Ha.	This is the residual nett development area, excluding steep slopes, distributor road, greenway (i.e. 110 kV lines), boundary buffers, parkland etc. 21.33 Ha is the net development area that defines the calculation of an overall density of 35.3 units per Ha.

While overall density of 35.7 p/Ha Nett is achieved, the mix of house types and unit types is delivering a high density of rooms per Ha. National guidance on density makes reference, in general, to the position that *“Studies have indicated that whilst the land take of the ancillary facilities remains relatively constant, the greatest efficiency in land usage on such lands will be achieved by providing net residential densities in the general range of 35-50 dwellings per hectare and such densities (involving a variety of housing types where possible) should be encouraged generally. Development at net densities less than 30 dwellings per hectare should generally be discouraged in the interests of land efficiency, particularly on sites in excess of 0.5 hectares”*. However, the Irish Guidance, is derived from UK guidance³⁰ which delves further into the discussion of density by also looking at Habitable rooms Per Hectare. Table 1 is a Density Matrix extracted from the *“Urban Design Compendium Homes and Communities Agency UK”*.

³⁰ Urban Design Compendium Homes and Communities Agency UK

This reflects a more nuanced approach to density than the raw calculation of housing density as a function of units per Ha in that it also considered Habitable Rooms per Ha. The proposal now dwellings. In total there are approx. 3743 Habitable Rooms in the scheme which equates to a figure of c.175 rooms per Hectare.

Table 3 below clearly shows that 175 Rooms Per Ha is the suburban standard for “Sites Along Transport Corridors”. With the proposed development, on a unit per Ha basis is at 35.7 per Ha., due to the number of rooms and three storey nature of some houses, we achieve on-target room numbers of 175 Per Ha. **This correlates with a density approx. 40 P/Ha Nett.**

Table 3: Extract from *Urban Design Compendium Homes and Communities Agency UK*

		Option 1	Option 2	Option 3
Car Parking Provision		High 2-1.5 spaces per unit	Moderate 1.5-1 space per unit	Low less than 1 space per unit
Redominant Housing Type		Detached & linked houses	Terraced houses & flats	Mostly flats
Location	Setting			
Site within Town Centre 'Ped-Shed' 6 ↑ Accessibility Index ↓ 4	Central			240-1100 hr / ha 240-435 u / ha Ave. 2.7 hr / u
	Urban		200-450 hr / ha 55-175 u / ha Ave. 3.1 hr / u	450-700 hr / ha 165-275 u / ha Ave. 2.7 hr / u
	Suburban		240-250 hr / ha 35-60 u / ha Ave. 4.2 hr / u	250-350 hr / ha 80-120 u / ha Ave. 3.0 hr / u
Sites along Transport Corridors & Sites close to a Town Centre 'Ped-Shed' 3 ↑ ↓ 2	Urban		200-300 hr / ha 50-110 u / ha Ave. 3.7 hr / u	300-450 hr / ha 100-150 u / ha Ave. 3.0 hr / u
	Suburban	150-200 hr / ha 30-50 u / ha Ave. 4.6 hr / u	200-250 hr / ha 50-80 u / ha Ave. 3.8 hr / u	
Currently Remote Sites 2 ↓ 1	Suburban	150-200 hr / ha 30-65 u / ha Ave. 4.4 hr / u		

Table 3.3 Density matrix
Average densities are based on case studies analysed as part of the *Sustainable Residential Quality: Exploring the housing potential of large sites* research (LPAC, DETR, GOL, LT and HC, 2000)

The development has gone from a density of 19 units P/Ha Nett to 35.7 units P/Ha Nett currently (and a figure of approx. 40 units P/Ha Nett on an equivalency basis if measured against rooms p/Ha guidance in the UK).

With respect to higher densities being sought on public transport corridors, the “Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas” state under Para 5.8 that:

“The State has committed very substantial investment in public transport under the Transport 21 capital programme. To maximise the return on this investment, it is important that land use planning underpins the efficiency of public transport services by

sustainable settlement patterns – including higher densities – on lands within existing or planned transport corridors.

The phasing of proposed major residential development in tandem with new public transport infrastructure / services (as in the case of the Adamstown Strategic Development Zone) should be considered.

Walking distances from public transport nodes (e.g. stations / halts / bus stops) should be used in defining such corridors. It is recommended that increased densities should be promoted within 500 metres walking distance of a bus stop, or within 1km of a light rail stop or a rail station. The capacity of public transport (e.g. the number of train services during peak hours) should also be taken into consideration in considering appropriate densities. In general, minimum net densities of 50 dwellings per hectare, subject to appropriate design and amenity standards, should be applied within public transport corridors, with the highest densities being located at rail stations / bus stops, and decreasing with distance away from such nodes. Minimum densities should be specified in local area plans, and maximum (rather than minimum) parking standards should reflect proximity to public transport facilities”.

(emphasis added)

Within 500 m of the proposed Ballyhooly Rd Bus Stop, 207 and 207 A Route, the proposal has a nett density of c.50 P/ Ha.

5.2 Access Gradients

Section 3 addressed access and the required distributor road, its gradient, alignment and how that influences development parcels. The original scheme presented to ABP at the Pre-App Tri Partite Meeting PL04.300557 provided for an overall density of 18 units P/Ha Nett. The road alignment (Distributor Road) followed the County Council MD LAP alignment while internal and local roads were designed to be consistent with DMURS. The overall design of the scheme was dictated by an inappropriate road alignment.

The evolved layout now before the Board presents a different design solution with a higher Nett Density figure of 35.7 units P/Ha Nett. Following consideration of the Cork County Council Housing Implementation Team comments and ABP comments received following tripartite meetings on PL04.300557 the development now has a more circuitous road which follows local topography, creating considerably less cut-and-fill and the opportunity to create six separate development areas/neighbourhoods. These each have a different character.

These neighbourhoods are then developed in a particular phasing sequence which is related to delivery and viability challenges generated by the necessary infrastructure / access roads.

It is noted that ABP in their Opinion asked for further consideration of density. It has not proven possible to increase the density further and maintain a viable house layout due to the need to maintain and address the connectivity, access, linkage and sub surface engineering design issues on site.

5.3 Economics & Viability

In order that the scheme progresses from planning to build it is essential that it is commercially viable with respect to delivery and planning having regard to both costs to build and local market conditions;

this is an essential part of any sustainable planning model. Sections 5.3.1 and 5.3.2 examine costs and revenues.

5.3.1 Costs

The site is expensive to develop for a number of reasons including:

- Ground works (cut & fill). This is a site that has hilly topography leading to the easier flatter areas;
- Services (foul and surface water drainage with necessary deep drainage infrastructure);
- Foul Water Pumping - It is important to recognise that much of the work undertaken by the developer has led to a previously insolvable drainage solution for foul water services to be addressed through the inclusion of an Irish Water spec Foul Pumping Station as part of the application; one that has the potential expansion capacity to serve 3,000-5,000+ units in time. This creates extra cost;
- Surface Water Services – Additional Surface water drainage to minimize downstream drainage challenges are to be provided. These drainage solutions will reduce the surface water drainage run off rates to **less than current greenfield rates**;
- Retaining structures and need for the creation of suitable development/formation levels relative to the road gradients/building regulations;
- Distributor Road alignment, and
- Design standards.

In some locations, particular house/unit types have been proposed to meet density and design requirements on which we project a financial loss or break-even i.e. the proposed duplex units. While commercial considerations are often, with respect, seen as secondary to design and planning considerations, they are nonetheless real. The Planning and Development Act seeks, amongst other considerations, in its Preamble, that it is *“to provide, in the interests of the common good, for proper planning and sustainable development including the provision of housing”*.

Commercial deliverability of a scheme in any particular area must, we submit, be considered as part of that above inclusive definition. Indeed, the legislation clearly provides for **economic considerations** to be part of the decision matrix under Section 42(1)(s)(ii)(I) (re Extension of Durations to Consents) where it states an Authority can consider;

“(I) that there were considerations of a commercial, economic or technical nature beyond the control of the applicant which substantially militated against either the commencement of development or the carrying out of substantial works pursuant to the planning permission”.

The topographical levels in the scheme have been designed, in so far as is deliverable, in a manner that works with the roadway layout and utility wayleaves so that as much green/planted areas are provided as is possible. The design methodology adopted has been to undertake the development of

the zones by cutting formation platforms for the specific units and dealing with the level differences in a local and manageable manner.

The scheme has been allowed to rise and fall as naturally as possible with the levels and trying to minimise large scale retaining structures which prove too costly to undertake but also leave the scheme open to sizeable risk re sections of unusable ground challenging design outcomes, i.e. poor internal and external connectivity, excessive / large retaining walls, poor park design / levels.

There were a number of assessments completed regarding levels of 'cut-and-fill' prior to this layout being completed so as to ensure the site development costs were in line with what was financially viable and that the cut-and-fill was minimised. Level differences, between neighbouring units, are generally restricted to between 250mm to 900mm so that these can be sensitively landscaped locally by way of grass banks on either side of the boundary wall or by small sections of local retaining walls that are blended into the typical boundary treatment. This method of working with the existing levels avoids the need for very large retaining walls that are both visually obtrusive and costly, but also avoids areas of deep fill under certain units, hence driving the need for piled foundations, all of which would make the scheme more costly and unviable.

It is difficult to appreciate the full extent of cost abnormalities in delivering 35+ Units P/Ha Nett on a site such as this one when compared with a flat site, as the levels impact every aspect of construction work up to Damp Proof Course ('DPC') level. From past projects which our construction managers have undertaken a bench mark review of, they have advised that a site with this form of topographical constraint can attach a cost premium of between €12 – €20k + in abnormal cost per unit (nearly 6.5% of the sales price of a typical dwelling), which is a high cost to absorb given the current market sales level. Particularly given the local housing market in this area of the City and the additional direct costs per unit are also likely to occur due to Foul Water Infrastructure and Surface Water costs in excess of €3500 & €1500 per unit respectively. This is considered in Appendix B which provides information on the dual challenge of delivering housing in this area of the City where consistent lower prices are realised in areas where high build costs occur.

5.3.2 Sales Values

Appendix B provides information on house prices in the Cork area and shows that house prices are generally substantially lower in the Northside and Ballyvolane area of the City than elsewhere.

1. Higher value areas such as Glanmire, Rochestown and Model Farm Road provide higher return than other areas for new builds (see Image 10 and Appendix C). Ballyvolane is not a high value location now but can be enhanced over time.
2. Benchmarks have to be taken off existing property sales in the second-hand market which shows that areas such as Ballyvolane have lower sales value, despite proximity to the City and its amenities. This in turn means that higher values cannot be obtained / attributed under market conditions for new build properties, particularly those that are smaller (2- 3 bed terraces or apartments for example).
3. The better returns that may occur from larger units can, to a degree, subsidize additional smaller, higher density units that can be provided to meet design and density challenges. This is challenging to achieve where there are substantial level changes and engineering costs associated with services provisions (roads, new surface water provisions and Irish Water Project Works Service Agreement and Pumping Station) in this case.

4. Apartments can generate higher density at later stages once place making, build and design quality has established value in an area.

This will be a significant high-quality housing development on the Northside in this UEA. As such, it is important that it sets the scene for the lands to the east that it will open-up with new infrastructure. It is an important opportunity to enhance the perception of the perception of the Northside with high-quality housing closer to the City Centre.

In the case of Ballyvolane, this means that to create the value that pays for the new road infrastructure and services, that higher value unit, with lower densities in places, must be developed and as part of the solution. As these units offer higher returns per square foot than apartments, duplex, or other such units that are used to increase density, some of the units can result in marginal returns.

Not all of Cork City's areas are the same and not all sites/development parcels are the same. Ballyvolane is more challenging topography, services needs/costs and existing values/patterns and types of housing. However, the proposal will open up the area for additional development due to services proposed and accesses provided and will change perceptions of the Northside.

While in some specific locations density may be less than the Board's expectations, it is clear that there are positives in this approach in this instance as it:

- Opens up significant additional lands through the provision of both services and access.
- Provides for housing need.
- Opens up community / school lands.
- Reserves lands for public roads / access improvements.
- Provides for foul services infrastructure that will open up a wider area.
- provides for improved connectivity to the areas to the City.
- Increases population within the local catchment of existing education facilities.
- Reserves additional areas / lands for future higher density closer to the proposed Mayfield – Kilbarry Link Road.

In broader strategic terms, supporting the release of these lands will assist in how Cork can address its NPF population targets. If local housing cannot be provided in Cork it will simply drive the development of satellite towns as opposed to the City suburbs and /or it will create unsustainable local housing rental markets.

The recently published Draft RSES (now in its final stages of adoption) reference Ballyvolane UEA as an important part of housing delivery in Cork (up to 3600 units); indeed, if Cork is to meet its initial 2026 population targets it will have to develop over 2500 units per annum in the City and its Suburban Area (see Table 4 overleaf).

This is a very significant number in a local economy where there is a real skills shortage in terms of delivery of both housing and apartments to a standard acceptable for BCARS and ongoing Professional Indemnity requirements / liability for design teams, contractors and developers. The services proposed by this application will immediately service over 1000 units and also create the expansion capacity to open up servicing for 3600-5000+ units in the Ballyvolane UEA subject to density.

Table 4: Southern Regional Authority Population Targets

The Cork MASP population growth targets to 2031 are provided by the DHPLG in the following table:

Location	2016 Base Year	Growth to 2026	Growth to 2031	Population Target 2031
Cork City and Suburbs	208,669	50,000	75,000	283,669
Rest of Cork Met. Area	95,500	20,281	29,657	125,157
Total Metropolitan Area	304,169	70,281	104,657	408,826
Balance of Cork County	238,699	25,739	36,695	275,394

Inflexibility on residential density will have adverse impacts on delivery in that a negative feedback loop would occur which would make City / suburban lands, that are seen as difficult to develop due to policy positions on density, less desirable to develop. This will drive up demand for lands in satellite towns, in turn driving up prices, and driving an affordability/market patterns in outlying towns. It will also have the effect of leaving the Northside as a poorer and less serviced area.

Inflexibility on locally viable densities in housing delivery will either push many families looking for housing further from the City or push them out of the housing market altogether into rental markets. These markets in turn have their own challenges for the creation of sustainable communities, the provision of services (state and otherwise) and the delivery of alternative housing solutions.

6.0 Conclusion

Through a significant level of interaction between stakeholders, statutory bodies, Councils and the multi-disciplinary design team, the Longview development has undergone significant evolution.

The proposal has evolved from a site that for many years had lain idle, (despite its inclusion in plans for Urban Expansion for many years), to the initial layout proposed by Longview Estates Ltd to Cork County Council in early 2017, to subsequent iterations to An Bord Pleanála in late 2017, which in turn have been significantly altered as a consequence of that interaction, to its current layout.

While the core of the approach and process has been to ensure that the proposal is, in so far as it is possible, consistent with the adopted LAP, as well other local and national design and development guidelines, we are also trying to deliver a viable development that can;

- Deliver housing to meet a real and present need over the coming years.
- Develop lands in a sustainable manner that respects existing constraints and opportunities.
- Allow for adjoining lands to be opened up for further development.
- Provide for statutory plan objectives.
- Meet housing needs and Objectives in the Draft RSES.
- Provide and future proofs for the Cork Metropolitan Area Transport Strategy Objectives.
- Supports and is consistent with Irish Water objectives and investment in the area.

Any site layout and design has to have regard to the existing infrastructure and Detailed Topography, 110kV Infrastructure the potential alignment of the Mayfield – Kilbarry Link Road. These have all informed design choices that have led to the proposed layout.

In delivering this layout we are seeking to be consistent with all issues, parameters, opportunities and constraints that are present on site and in the surrounding area. In this respect, we ask the Board to understand that the site layout has sought to reflect feedback of the Council while also seeking to present a proposal that “works” having regard to topography and site arrangement.

It is hoped that this addendum to the application has illustrated some of the changes that have been undertaken in an attempt to create a development that has as wide a consensus as possible with stakeholders, design principles and local/ national guidelines, and one which retains the character of its initial remit of being a high quality, sustainably built and long lasting community in which to live.



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Appendix A URDF Cork City and County Council Joint Application – Part 1 & 2 Application Form Extracts

3. Proposal

Summary of Proposal: A brief outline of the subject proposal (500-600 words/one A4 Page).

This application relates to the delivery of approximately 5km of the North East Orbital Road aimed at unlocking the significant scale of zoned residential lands in the area. The need for this infrastructure has been confirmed by the supporting Local Area Plan and by the current large scale strategic housing applications to An Bord Pleanala.

The road infrastructure will support significant public transportation trips, it will enhance the road network catering for multi modal trips, permitting accessibility and releasing the potential of the Ballyvolane landbank for residential development.

UNLOCKING NORTH CITY ENVIRONS FOR RESIDENTIAL DEVELOPMENT

In line with the ambitions of the National Planning Framework 2040, the draft Cork Metropolitan Transport Strategy (CMATS) has been prepared with its aim of delivering an accessible, integrated transport network that will enable the sustainable growth of the Cork Metropolitan Area as a dynamic, connected and internationally competitive European city region. CMATS identifies the requirement, inter alia, for a locally functioning Cork Northern Distributor Road to provide interconnectivity between the various bus routes serving the northern part of Cork City.

This road infrastructure will cater for access to development lands, walking and cycling linkages, access to radial public transport routes, orbital public transport provision, and the removal of strategic traffic from Cork City Centre.

Ballyvolane has been identified as one of the nine Urban Expansion Areas (UEAs) for Metropolitan Cork in the Cork County Development Plan 2014. UEAs are strategically located residential land banks in Metropolitan Cork located within and adjacent to Cork City environs. These significant land banks are subject to past, existing and future initiatives between the Local Authorities, landowners and infrastructure agencies to progress master plan lead, infrastructure led and phased development on these lands. The development site of Ballyvolane has a capacity to deliver c. 3,600 residential units and is particularly attractive given its close proximity to Cork City Centre, employment and educational areas etc.

Elements of the proposed route are currently located within Cork County Council administrative area however from June 2019 the entire area will fall within the extended Cork City Council administrative area therefore we believe we must build on the current momentum for significant residential development in close proximity to Cork City Centre.

There are currently two developers, who between them have acquired a substantial proportion of the zoned land bank. Both Developers have expressed an interest in contributing to delivery of the required road network however the full infrastructure cost burden would undermine the viability of the proposed residential developments.

An opportunity exists to achieve the National Planning Framework Objectives which filter into regional and local development plan objectives for sustainable development of places through planning, investment and implementation. This opportunity will come to fruition with the commitment to fund the North East Orbital Road from the Urban Regeneration Development Fund.

Geographic Area

Specify below the area to which the proposal applies (e.g. Region, City, County, Town, District, Village, Street). If the proposal addresses several areas, please list all related areas.

Cork City, Ballyvolane, Northern Environs of Cork City

A map must accompany this application form and detail the area(s) covered under the proposal. The map must be supplied in Image format (JPEG, Bitmap or similar) and if available, a digital map in Shapefile format is also requested.

6. Need for Investment – Rationale for the Proposal

Why this proposal is considered necessary (500-600 words/one A4 page).

In terms of future growth, the Cork Area Strategic Plan (CASP) Update 2008 seeks to prioritise those areas close to the city and located along the suburban rail corridor. The CASP Update policy document which is a framework to enable Cork to become a leading European city region – in terms of being globally competitive, socially inclusive and culturally enriched. For the objectives of CASP to be realised it is crucial that targeted population increase in the Northern Environs of Cork City is accommodated and the creation of this critical mass will permit the promotion of public transport options and also support a new district centre.

The CASP Update specifically identifies Ballyvolane as having the most potential for future population growth, in particular, private sector housing development as it is located adjacent to the strategic employment centres. The retail strategy for Cork County, as set out in the Cork County Development Plan 2014, has also identified Ballyvolane as a potential district centre serving the north east of the city.

The Northern City Environs to play a major role in rebalancing the City in terms of future population, employment growth, socially and also relieving excess development pressure from the City South Environs.

The 2011 Blarney Electoral Local Area Plan and subsequent draft Cobh Municipal District LAP 2017 required the preparation of a master plan to guide development using a brief prepared by Cork County Council. A special policy area objective was identified which provided for a minimum of 2,337 and up to 3,600 dwellings through a phased programme of development. This Local Area Plan provides a framework for the development of the Ballyvolane urban expansion area addressing a number of the particular issues relevant to its future development.

CONSTRAINTS TO DEVELOPMENT - ROAD INFRASTRUCTURE

There are a number of existing roads which traverse the site. The local road which forms the Northern boundary is substandard and unsuitable for extra vehicular movements. Access from lands along this road would need a separate connection having regards to the number of one-off houses on the existing narrow roads. The Ballyhooly Road is a critical route into the City, the creation of additional access points onto the Ballyhooly Road would be unsustainable.

The results of the NTA Regional Transport Model demonstrate that the existing road network as having very limited capacity to accommodate additional development. The routes into the City are narrow with poor pedestrian facilities. It is not possible to further enhance these routes due to the close proximity of the adjoining historic developments. In summary therefore the main constraint to development in the area is the road infrastructure.

In the recent years An Bord Pleanála has refused a large retail development to the south of the residential sites for a number of reasons including the fact that the existing road network could not cope with the resulting traffic generated by significant additional development.

Without the introduction of a North East Orbital Road to service the Ballyvolane landbank, sustainable development will be stifled and the objectives of National, Regional and local development plans will not be achieved in this area. The provision of this infrastructure will enable Cork City Council to rebalance the City in terms of social inequality, economic prosperity, and population growth. Furthermore this route will facilitate the modal shift to public transport and other sustainable travel modes given the dedicated infrastructure and supporting public transport rerouting planned for the area.

1. Compatibility with NPF/NDP Objectives (30% of overall marks)

To evaluate the overall suitability of the proposal and in particular, the extent to which it will be transformational and relevant.

- (i) **Vision (15% of marks):** Information provided must relate to the scope of ambition, scale and impact of the proposal to achieve place-based change. (500-600 words).

The vision for Cork City North Environs, which envelops the Ballyvolane landbank is to reinvigorate the northern suburbs of the City as a significant location for future residential development. This will require a planned major mixed use development at Ballyvolane, coordinated with substantial infrastructure investment, the provision of enhanced community and recreational facilities and public transport accessibility, with the aim of rebalancing the provision of services more equitable throughout the city.

The introduction of the North East Orbital Road through the Ballyvolane landbank will enable the expansion of attractive and sustainable public transport alternatives thereby reducing congestion, emissions and enable the transport sector to cater, in an environmentally sustainable way for the demands associated with longer term population and employment growth envisaged under the National Planning Framework for Cork City.

Furthermore, the provision of safe alternative active travel options such as segregated cycling and walking facilities can also help alleviate congestion and meet climate action objectives by providing viable alternatives and connectivity with existing public transport infrastructure and also green space.

The overall vision for the area is to provide development which is attractive, competitive and sustainable place in which to live, visit and do business, where the quality of its economy, natural and built environment, culture and the strength and vitality of its communities are to the highest standards. This proposal is consistent with this vision.

The proposal will facilitate and enable developers to provide some of the housing to meet the needs of the growing population in this area of the city and rebalance the development of the City.

The current Development Plan states under Core Strategy 4-1 that it will: "(g) Develop the Cork City Environs so that they complement the City as a whole. The North Environs will play a major role in the rebalancing of the City in terms of future population and employment growth. Core Strategy 4-1 (n) states: "In the Cork Gateway, development to provide the homes and jobs that are necessary to serve the planned population will be prioritised in the following locations...North Environs (Ballyvolane)...Details of the proposed development will be set out in Master Plan studies and Local Area Plans as appropriate".

The proposal is consistent with this objective and will assist in rebalancing the population of the City. It will enable developers to apply for the development of significant housing schemes in an area where the development of homes to serve the planned population is prioritised and is therefore consistent with this policy.

The proposal is consistent with the vision for Cork City as set out in the Cork City Development Plan 2015-2021 which is:

"...to be a successful, sustainable regional capital and to achieve a high quality of life for its citizens and a robust local economy, by balancing the relationship between community, economic development and environmental quality. It will have a diverse innovative economy, will maintain its distinctive character and culture, will have a network of attractive neighbourhoods served by good quality transport and amenities and will be a place where people want to live, work, visit and invest in."

The proposal of the introduction of a sustainable travel infrastructure corridor in Ballyvolane will contribute to achieving the Cork City Development Plans strategic goals of:

- Increase population and households to create a compact sustainable city
- Achieve a higher quality of life, promote social inclusion and make the city an attractive and healthy place to live, work, visit and invest in
- Support the Revitalization of the Economy
- Promote sustainable modes of transport and integration of land use and transportation
- Protect and expand the green infrastructure of the city

The proposal is ambitious in terms of its catalyst effect in rebalancing the provision of services more equitably through the City. This is a step change in terms of its contribution and scale to achieving a transformational place based enhancement to the quality of life of citizens in the North of Cork City.

- (ii) **Support for National Planning Framework/National Development Plan National Strategic Outcomes (15% of marks):**
 With particular reference to **National Strategic Outcome No. 1 Compact Growth** to include a focus on enhanced 'liveability', quality of life, and capacity to build on existing assets, but also in relation to other outcomes in support of compact growth. While not necessary to identify relevance to all ten NSOs, it would be advantageous to demonstrably impact on more than one. (500-600 words).

Project Ireland 2040 National Planning Framework (NPF) National Policy Objective 3b provides for at least 50% of new housing to be located within Cork City and suburbs by 2040. The NPF suggests a population growth of 105,000 - 125,000 people for Cork.

The overarching purpose of the Regional Spatial and Economic Strategy (RSES) is to support the implementation of the National Planning Framework (NPF-Project Ireland 2040). Key future planning and development and place-making policy priorities for the Southern Region are set out in the NPF.

A core NPF innovation is securing long-term transformational and rejuvenation-focused city development through the preparation of Metropolitan Strategic Area Plans (MASP) for Cork, Limerick and Waterford. The principles of compact growth and the unlocking of the potential of centrally located sites will be key deliverables of the MASPs. The NPF proposes that the 3 cities will accommodate over 50% of the region's projected population growth.

The preliminary draft Cork Metropolitan Area Strategic Plan (MASP) identifies an additional 75,000 population by 2031 for Cork City and Suburbs. The development of the Ballyvolane Urban Expansion Area (UEA), a contiguous residential development area to the existing city suburbs is supported in the National Planning Framework.

The preliminary draft MASP highlights the new development areas on the northern edge of the city as being an integral part of Metropolitan Cork.

It is an objective of the Cobh Municipal District Local Area Plan, adopted by Cork County Council, to provide for a minimum of 2,337 and up to 3,600 dwellings through a phased programme of development within the Ballyvolane Urban Expansion Area (UEA). The local Area Plan provides a framework for the development of the UEA, including enhanced public transport between the site and the city centre and improved road connectivity in the area.

Given that the existing city boundary cannot accommodate the full population target, infrastructural led development of an appropriate density within the contiguous areas to the city suburbs facilitating a natural expansion of the city is a sustainable form of development. It will support and enhance the existing social & economic infrastructure including education and healthcare facilities. Its close proximity to the city will support the natural extension of public transport routes and will encourage patronage.

It is considered that the proposed North East Orbital Road aligns with the following National Strategic Outcomes in particular:

- Compact Growth, achieving a greater proportion of residential development within existing built-up areas of our cities, towns and villages; and
- Sustainable Mobility, supporting the development of quality public transport route (via Bus Connects) to ensure a cleaner, quieter environment.
- Transition to Sustainable Energy, supporting public transport and sustainable modes and connecting development sites contiguous to the existing city and suburbs as opposed to outer satellite settlements should minimise consequent fossil fuel emissions.
- Sustainable Management of Water and other Environmental Resources by aligning Irish Water's Capital Investment Programme with the National Planning Framework to deliver strategic development sites will safeguard water supply and improve water quality and so address our obligations under EU Water Framework Directive.
- Access to Quality Childcare, Education and Health Services, through better physical connections to serve the new population.

2. Commitment to Implementation (15% of overall marks)

To evaluate financial and human resource inputs and in particular, the extent to which they will be catalysts for change and will ensure implementation.

- (i) **Leveraged Co-Funding (7.5% of marks):** The extent and nature (including source) of leveraged co-funding (which must be at least 25% of the value of the bid proposal) and in particular how this proposal will enable investment in urban development that might not otherwise occur within the proposal timeframe (500 – 600 words).

Longview Estates Limited/Temporis Capital own a substantial land bank in Ballyvolane, approximately 196 Acres of zoned and serviceable lands. These lands are serviceable as Longview Estates Limited/Temporis Capital have entered into a Project Works Services Agreement (PWSA) which Irish Water are progressing towards construction in Q1 2019.

The infrastructure associated with this PWSA has the capacity to deliver over 3000 units, consistent with the housing yield identified in the Cobh Municipal District LAP for Ballyvolane.

In July 2018 Longview Estates Limited /Temporis Capital committed to a ration of 30.2 residential units p/ha at a Section 247 Pre Planning Consultation meeting with a total of 742 units to be delivered. The current proposal has the capacity to deliver 100,600 + sq. m of floorspace.

Additional lands were also secured during 2018 which now sees the Longview Estates Limited/Temporis Capital landholding include a portion of the proposed North East Orbital Road alignment, this is within the 196 Ha landholding. The overall Longview Estates Limited/Temporis Capital landholding now includes; residential, educational, park and business zoned lands. The land holding also provides linkage corridors and space for improving / widening the Ballyhooly Road south (and north) from the Lower Dublin Hill (Kilbarry Road) Junction. Longview Estates Limited/Temporis Capital is committed to submitting an application to An Bord Pleanála in Q1/ 2019 for a 10 year consent for at least 742 Units, a Neighbourhood Centre, Crèche and Community Park lands which all form part of the new District Park.

Longview Estates Limited/Temporis Capital are committed to contributing towards the unlocking of the landbank with the proposal of the North East Orbital Road as demonstrated by their commitment to the PWSA with Irish Water.

3. Collaboration (15% of overall marks)

To evaluate joint working between bodies/sectors and/or areas/networks that will add value, ensure efficiency and broaden impact.

- (i) **Inter-Organisational (7.5% of marks):** The extent of collaboration between public bodies and/or between public bodies with the private sector and/or the community/voluntary sector, specifically through co-ordinated investment and decision-making across multiple stakeholders that will add value and contribute to efficient delivery, as well as promote replicability and learning (500-600 words).

The proposal will involve close collaboration and coordination with:

Developers: Longview Estates Limited/Temporis Capital and Miata
State Agencies: NTA, TII, Irish Water, Cork County Council

Longview Estates Limited/Temporis Capital are the key and critical stakeholder for the commencement of development in the Ballyvolane landbank. Their contribution to the provision of the land necessary for the North East Orbital Road will encourage further release of lands in the area. They have a track record of engagement with the Local Authority and it is anticipated that this level of coordinated and collaborative decision making will continue when the lands are transfer into Cork City Councils administrative area in 2019.

- (ii) **Geographic/Networked (7.5% of marks):** The extent of collaboration between different geographically-based bodies for this proposal, particularly where there is potential to jointly address common/complementary issues and/or to operate on a networked basis, specifically through complementary investment and decision-making that will broaden impact and avoid duplication as well as promote replicability and learning (500-600 words).

Cork City Council and Cork County Councils have a proven track record for strategic planning, consensus building and capacity to deliver development, dating back to the Cork LUTS Plan in 1978, and the Cork Area Strategic Plan 2001. More recently, Cork City and County Councils came together in 2017 to prepare Cork 2050, a joint submission to the National Planning Framework. This document was built on a platform of participation and engagement with key stakeholders, and offers a clear consensual vision for Cork's long-term development.

Much of the vision and strategy in Cork 2050 has been incorporated into the National Planning Framework and into the Southern Regional Assembly's preliminary draft of RSES and Cork MASP and the draft Cork Metropolitan Area Transport Strategy. Cork 2050 focuses growth on Cork City and the wider Metropolitan area and promotes compact development in the city centre, brownfield docklands locations and along public transport corridors. The projects which are the subject of Cork City Council's applications for funding under URDF are all linked to the strategy and detailed objectives of Cork 2050, demonstrating geographic collaboration with Cork County Council in the City's development Strategy and Projects.

It is envisaged that this project will involve collaboration with other local authorities progressing similar projects.

It is also proposed that the project will attempt to take learning from the significant international developments and national case studies to achieve its goals.

The proposal of a new road network infrastructure corridor is not a new initiative with various Local Authorities in collaboration with the NTA having delivered similar schemes in recent times. In particular, there presents an opportunity for Cork City Council to liaise with their colleagues in Dún Laoghaire Rathdown County Council who introduced various sections of new road network infrastructure with an emphasis on sustainable travel modes in collaboration with both developers and the NTA for the unlocking of the Cherrywood residential development.

It is envisaged that through a collaborative learning environment, Cork City Council together with other Local Authorities can learn from each other's projects as the projects progress and work on a networked basis to maximise impact.

4. Innovation and Integration (20% of overall marks)

To evaluate the level of innovation and quality of regeneration and scope for co-ordinated local and regional development.

- (i) **Tailored Innovation (10% of marks):** The extent to which proposals address, in an innovative and qualitative manner, specific urban issues, such as social disadvantage, economic change, physical and/or environmental degradation, sustainable mobility and/or the legacy of rapid or unplanned growth (500-600 words).

The proposal provides the required infrastructure to unlock a site capable of accommodating up to 3,000 residential dwellings within 3km of Cork City Centre. The area can be easily served by public transportation with the likely extension of the 207 bus service which is currently operating on a 10min frequency. The Longview Estates Limited/Temporis Capital site provides for two new schools sites and parkland provision that will be transformational in terms of the mix of uses in the area with their current Strategic Housing application of 742 residential units. The provision of modern housing stock in the area will also be transformational providing additional conventional housing and social and affordable housing. High quality open spaces will be released for community use and the built form of the City will be rebalanced (away from the predominant sprawl pattern on the Southside and Satellite Towns) with new housing areas developed close to the City and existing District Centres of Ballyvolane and Blackpool.

Housing will also be developed in close proximity to the IDA Facilities in Kilbarry, also creating a core of new housing close to employment lands.

In essence, the proposal is consistent with the provisions of the following initiatives and objectives outlined in various policy documents:

- Support the initiatives of Cork City Council and Cork County Council to re-invigorate the north suburbs through sustainable development of mixed use development in Ballyvolane, complementing the Cork City Council North Blackpool Local Area Plan, serviced by infrastructure, community, recreation facilities.
- Support improved access and connectivity to the area, unlocked through the North Ring Road, new rail station at Kilbarry, bus services and pedestrian/cycle connectivity.
- Build upon the economic potential of the area by supporting the IT sector and Apple at Hollyhill, improve public transport accessibility, realise the potential of industrial and enterprise lands at Kilbarry through the sustainable development of infrastructure.
- Support investment in infrastructure to support the sustainable development of residential units and supporting community, open space, sports and recreation facilities in the Ballyvolane Urban Expansion Area (up to 3,600 units over a phased programme) as a strategic residential location in the MASP.

- (ii) **Local and Regional Development (10% of marks):** The extent to which proposals fulfil the overall objectives of plan-led development, and/or co-ordinate with and/or contribute to evidence-based strategies for social, economic and physical/environmental development, for example the Regional Social and Economic Strategies and City/County Development Plans (500-600 words).

The overarching purpose of the Regional Spatial and Economic Strategy (RSES) is to support the implementation of the National Planning Framework (NPF-Project Ireland 2040). The long-term transformational and rejuvenation strategy for Cork City will be set out in the Metropolitan Strategic Area Plan (MASP).

The preliminary draft Cork Metropolitan Area Strategic Plan (MASP) identifies an additional 75,000 population by 2031 for Cork City and Suburbs and highlights the new development areas on the northern edge of the city as being an integral part of Metropolitan Cork.

It is an objective of the Cobh Municipal District Local Area Plan, adopted by Cork County Council, to provide 2,337 - 3,600 dwellings through a phased programme of development within the Ballyvolane Urban Expansion Area (UEA). The Local Area Plan provides a framework for the development of the UEA, including enhanced public transport between the site and the city centre and improved road connectivity in the area. The proposed North East Orbital Road will facilitate the delivery of a significant level of housing development in the short term, on lands adjoining the existing built up area of the city and suburbs.

The development of the Ballyvolane Urban Expansion Area (UEA), a contiguous residential development area to the existing city suburbs is supported in the National Planning Framework.

The proposed North East Orbital Road will enable the delivery of a significant number of houses and align with the following National Strategic Outcomes:

- Compact Growth
- Sustainable Mobility
- Transition to Sustainable Energy
- Sustainable Management of Water and other Environmental Resources
- Access to Quality Childcare, Education and Health Services

Appendix B Report of McCarthy McGrath Surveyors on Local House Prices and Mac Construction Consultants on Cost Abnormals

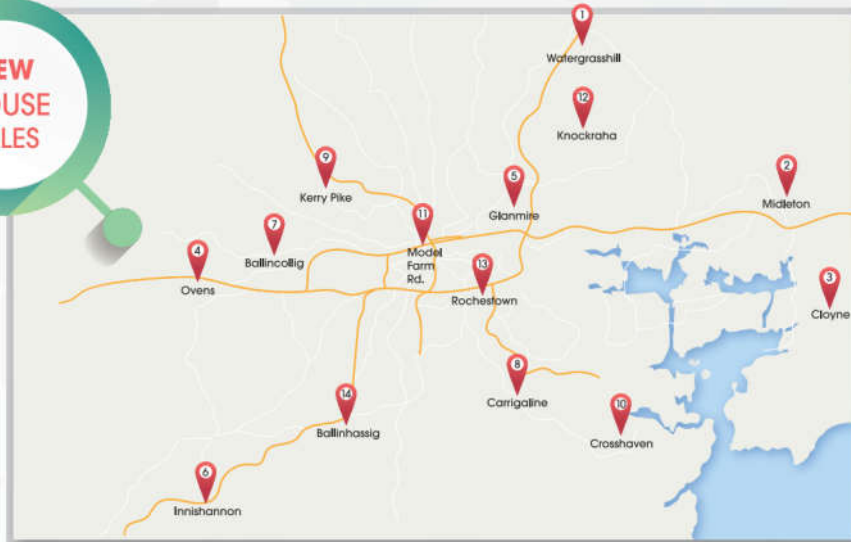


LONGVIEW ESTATES LTD
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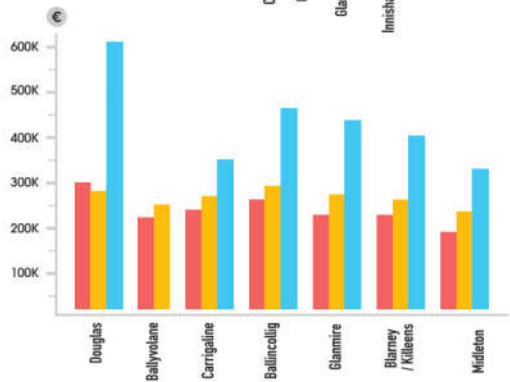
CORK Residential Property OVERVIEW 2018



**NEW
HOUSE
SALES**



**NEW
HOUSE
SALES**



**SECOND
HAND
HOUSE
SALES**

■ 3 bed terraced / townhouse ■ 3 bed semi-detached
■ 4 bed semi-detached ■ 4 bed detached

LOCATION	3 BED TERRACED	3 BED SEMI-D	4 BED DET
Douglas	298,900	289,041	619,500
Ballyvolane	218,500	248,900	
Carrigaline	236,000	267,443	353,650
Ballincollig	260,333	291,727	465,100
Glanmire	225,000	271,889	446,500
Blarney/Killeens	225,000	262,143	414,000
Midleton	195,261	234,500	337,500

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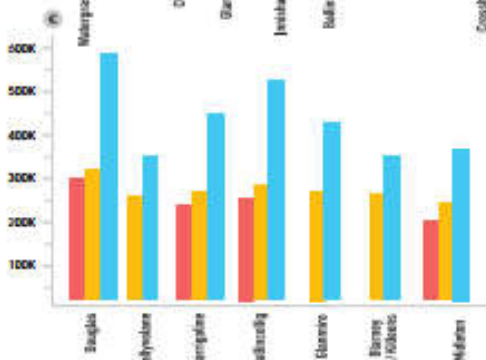
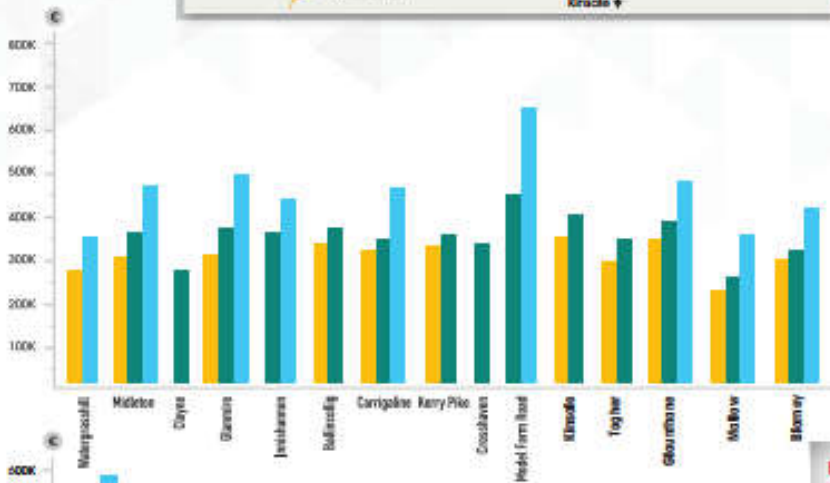
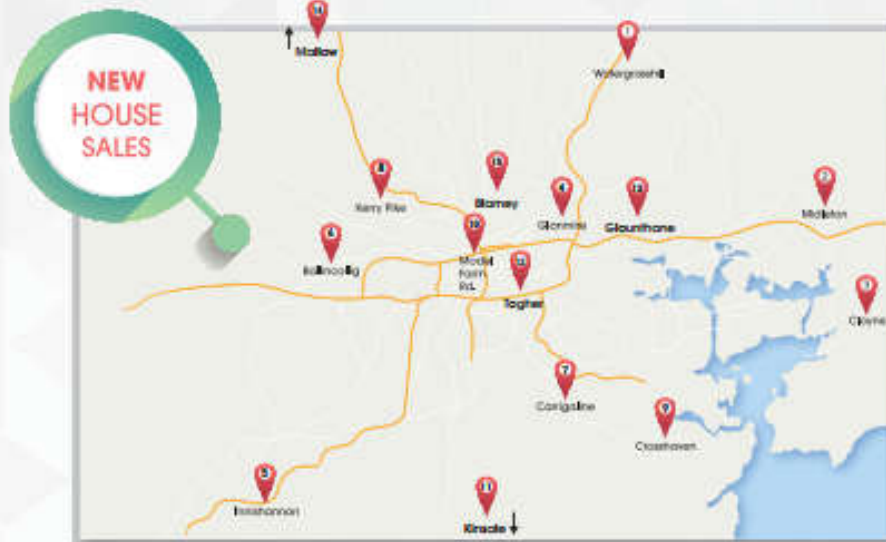


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CORK Residential Property OVERVIEW 2019



LOCATION	3 BED TERRACED	3 BED SEMI-D	4 BED DET
Doonbeg	290,000	321,000	594,000
Ballyvolane	255,000	255,000	350,000
Carrigaline	236,000	295,000	450,000
Ballincellig	250,500	280,000	520,000
Glannara	261,000	261,000	433,000
Blarney/Killybegs	262,143	262,143	350,000
Midleton	204,000	246,000	367,500



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LONGVIEW ESTATES LTD
 MULTI-UNIT RESIDENTIAL DEVELOPMENT, BALLYVOLANE, CORK



12th April 2019

Mr John Crean
Longview Estates Ltd
Unit 74, Penrose Wharf
Penrose Quay
Cork, T23 HF51

Dear John,

Re: Summary Report Relating to Construction Advice on Proposed Scheme at Ballyvolane / Ballincolla for Long View Estates Ltd.

Please find attached the report which highlights the specific cost advice / commentary as provided for the proposed scheme at Ballyvolane / Ballincolla Co. Cork

The report deals with various scheme issues such extensive site restrictions, balancing unit design and cost-effective construction, scheme density and its impact on design choices and costs as well as the market issues relating to the construction of apartments.

The report reflects the current market conditions and restrictions relating to the varied issues associated with a scheme of this scale, location, density and longevity. It concludes that the scheme as currently proposed has been optimized as best possible to suit the site and its issues as well as the current market that exists.

If you require us to complete any additional work in relation to this please contact the undersigned.

Yours sincerely



Glenn Mac Carthy **MRICS MSCS**
MAC Construction Consultants

Quantity Surveying ■ Whole Cost Management ■ Procurement Advice ■ Value Management ■ Dispute Resolution ■ Feasibility Assessments

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Company Registration No. 480972



LONGVIEW ESTATES LTD
MULTI-UNIT RESIDENTIAL DEVELOPMENT, BALLYVOLANE, CORK

1.0 Introduction

The following report has been prepared by Mac Construction Consultants.

MAC Construction Consultants are a Cork based practice, headed up by Mr Glenn Mac Carthy who has over 20 years of experience of cost consultancy and construction management in Cork City. The practice has provided construction cost management and consultancy services to over €180m euro of projects, and in the last 12 months has managed the delivery of over €32m euro of projects in the Cork Region alone.

The practice is currently involved in over 10 No. residential schemes in Cork City and County which aim to provide over 350 traditional housing units in total. These schemes are at varied stages of delivery with most aiming to be completed within the following 18 months. The practice is also providing services to 5 No. planned private apartment schemes which have been granted planning, but none of these have commenced onsite due to market conditions re sales prices and funding requirements of pre sales.

We have been retained by Long View Estates Ltd to provide construction advice on the proposed scheme at Laherdane/Ballyvolane to review design proposals, advise on house type internal design and external facades, advise on cost issues and potential savings in design up to Damp Proof Course ("DPC") Level and create viability and minimise cost risks insofar as is possible in the proposal given the fact that the development "breaks ground" in this UEA in the delivery of housing, essentially infrastructure (services) and roads all of which add to the cost challenges present in developing in areas with rising topography and lower market returns due to historic perceptions of the area and under investment over recent decades by the private and public sector.

2.0 Design Choice and Cost Implications

The Northside of Cork City and in particular this site presents challenging topographical and infrastructural constraints in areas due to the level changes, wayleaves relating to the existing power lines (110 & 38 kv lines) that traverse the site and the general Ballyvolane UEA area, as well as the need for a Distributor / Service Road that traverses the site.

In these circumstances, in particular the topographical changes, the requirement of designing a layout that provides for the 35 units per hectare (nett) density has been very challenging to achieve, while still ensuring the scheme is commercially viable based upon current market sales values.

The architectural design brief for the project was to deliver a high quality design with focused neighbourhood layout giving particular relevance to the unit design and topography of the site and minimising the overall scale / bulk of the scheme.

Higher density areas were identified closer to the Ballyhooley Road; Neighbourhood 6. This was chosen for the apartment location of the development as it worked best with the existing levels and provided a natural tiering arrangement for the units and a natural screening against the rising topography behind. In this respect, higher density is proposed in areas closest to the main body of public transport infrastructure while the proposal to "tier" the block and the majority of car parking to the rear and to a podium level assists with the design layout of the units and reduces cost exposure / risk from ground works.

The remaining zones have been designed as a mix of detached, semi-detached, terrace and duplex units, that are interweaved along the undulating roadway infrastructure in a manner that seeks to try minimise the amount of cost prohibitive, large civil works.

The scheme has a total of 753 No. Units over the 6 neighbourhoods with a variety of house / dwelling types and formats. It is important in a scheme of this size to have a varied number of unit types to add to visual design. Design types, while varied, have maintained similar typologies and core features so as to, from a cost perspective, facilitate economy of scale and affordability when building; particularly important where off site manufacturing such as timber frame construction may be utilised as part of delivery. The design and dispersal of the unit types has been proposed at between 6 to 8 different housing types per zone hence ensuring each zone has enough of a mix of units to give a varied visual appearance and appeal to the sales market while still ensuring that each zone has enough design commonalities (construction) to make the units commercially viable to deliver.

The topographical levels on site have been reengineered in a manner that works with the roadway layout and utility wayleaves while also ensuring that green / planted areas are provided and buffer areas created / established. The design methodology adopted has been to undertake the development of the zones by creating formation platforms for the specific units and dealing with the level differences in a local and manageable manner.

The scheme has been allowed to rise and fall as naturally as possible with the levels while seeking to minimise large scale retaining structures which prove both extremely costly to undertake but also leave the scheme open to sizeable risk re sections of unusable ground.

There were several assessments completed re retaining elements, impact on design and unit numbers and balancing levels re 'cut and fill' calculations prior to this layout being completed so as to ensure the site development costs were inline with what was financially viable for this locality.

The topography of the site has resulted in some areas of large level changes that are dealt with by grassed & planted banks and some local civil retaining solutions. There are a number of units which are expected to have level differences between neighbouring units which are generally restricted to between 250mm to 900mm. This allows the level difference will be handled locally by way of grass banks on either side of the boundary wall or by small sections of local retaining walls that are blended into the typical boundary treatment. This method of working with the existing levels avoids the need for very large retaining walls that are both visually obtrusive and costly, but also avoids areas of deep fill under below ground in making up levels hence driving the need for piled foundations, all of which would make the scheme more costly and unviable.

It's hard to appreciate the full extent of cost abnormal's in delivering 35 Units per Ha on a site such as this one when compared with a flat site, as the levels impact every aspect of construction work up to Damp Proof Course ("DPC") level. From past projects which we have undertaken a bench mark review of, we can advise that a site with these sorts of topographical issues can attach a cost premium of between €12 – 20k and above in abnormal cost per unit, which is a very high cost to absorb given the current market sales level. In our opinion the layout, mix of housing units and apartments has been designed to offer an affordable solution to a very difficult site while still providing a scheme of high design quality with varied units to suit the market needs.

3.0 Deliver Challenges and Considerations

3.1 Building and Delivering Apartments

The scheme has a total of 154 No. apartments provided for, primarily in Neighbourhood 6. As noted the apartments are generally contained in areas of the site that are too steep for traditional housing units and in this way the scheme works with local topography and access opportunities / solutions.

The number of apartment units under construction for the private market outside of Dublin, which are not associated with student accommodation or housing associations, has been close to zero over the past decade. There are a number of key issues which relate to apartments which do not principally affect traditional housing type units as highlighted below:

- **Market reluctance:** In comparison to 2/3 bed housing units, city centre apartments are viewed by private buyers as offering lower quality living opportunities, a short term housing solution, a higher risk purchase re future value and a more costly solution re management charges. Regardless of the quality of the apartment design the market views them as a lower quality solution.
- **Costs V's Sales:** the actual cost of delivering a 2/3 bed apartment is c. 30% higher than a traditional 2/3 bed house. Apartments by their nature are costly due to their requirement of service cores, lifts, dual staircase, communal spaces, large shared parking areas, fire compartment design, dual aspect design etc. Unless the scheme is city centre and the purchaser is willing to pay a premium for city centre living, then the forecast sales price of a 2/3 bed apartment is below that of a 2/3 bed house, but the apartment costs more to deliver. Hence apartments based upon current market sales values don't provide any meaningful return for a developer.
- **Finance:** apart from student schemes or Dublin City scheme's nearly all of the financial institutions view apartments as a high-risk funding areas and hence will typically not provide funding. From start to on site to completion a developer is likely to be 16 – 24 months by the time the scheme will be completed and signed off and any contracts can be closed re sales. The developer must complete the scheme nearly to 100% before any sale can complete. They are fully exposed for a very extended period of time and open to the market risk with no way of stopping in the event of a market financial shock / contraction as is current occurring across Ireland due to Brexit.
- Housing by its nature as being single units or small terraces with a build time of 5 – 8 months on a rolling program, allow for greater control of construction costs on site and closing pre sales and sales thus delivering funds back to source to reduce borrowings early and de risking the project. But more importantly housing allows for greater control of stopping / pausing the development in the event of a market shock and being left with an asset that can be completed out albeit on a reduced scale or a longer phased development hence avoiding the ghost estates of the past.
- This flexibility is of key importance to financial institutes; hence apartments as high cost and high-risk developments drive a cost premium on their development, which makes them generally unviable at current market sales rates.

That said, the proposal does include apartments as part of the housing mix and design solution. It is expected that the proposal will advance these apartments and that they will be more viable towards the latter stages of site delivery as cost exposure will be reduced at that point due to the completion of Neighbourhoods 1- 5. In addition, the applicant will be engaging with AHB's and other institutional residential providers with a view to delivery of the units.

3.2 Financial Planning and Balancing

The proposal for phasing the works and commencing with the roads infrastructure and Zone 1 & 3, and then rolling onto the remaining zones with zone 6 as the last is a balanced buildout strategy that has reviewed all expenditure re the large civils works on the roadways, dealing with the topographical issues and balancing construction costs V's the current housing market and forecast returns.

The cost of providing the apartment aspect of the development initially coupled with the main infrastructure roadway to service opening the site is not viewed as viable as the return period on funds as well as the risk re having to develop 127 apartments (Neighbourhood 6) for private sale initially is not fundable in any way.

The strategy for developing Zone 1 & 3 initially is a far less risky proposal as it delivers the main roadway and opens the site, but the mix on the units being provided is delivering a market ready solution to the highly sought after 2/3 bed first time buyer units as well as 4 bed trader up units.

It is these units that deliver the main development return, hence providing a cash positive phasing to the initial start of the project and thus funding the sizeable capital infrastructure costs for the project.

We note that (Appendix A), Ballyvolane, for second hand sales, demonstrates lower returns than almost all other areas in Cork and its extended suburbs. Appendix A also shows that no new house sales are evident in the area due to the lack of investment.

3.3 Labour Availability

The industry is suffering from a skilled workforce shortage which coupled with material cost increases is inflating construction costs at a rate of approximately 8% per annum and rising. This is at a level that has not been seen since 2003/4/5 which was at the very peak of the industry.

The construction and effective delivery of an apartments in particular requires far more intensive input of skilled tradesman due to an apartments complex form of construction (lifts, dual stair cores, district heating systems, fire containment strategy's) than an equivalent housing unit. The level of current fire and regulatory issues with boom time built apartment schemes is a testimony to how complex they are to build properly when compared to a traditional house type unit.

The industry is suffering from an extended period of low construction activity that has resulted in a workforce shortage. The level of construction activity in Cork is expected to increase significantly in the coming years based upon the number of proposed developments within the city boundaries and beyond. The availability of a suitable skilled workforce is a key concern for any developers and a risk that needs to be assessed when agreeing the phasing of the project.

4.0 Conclusion

The application site in Laherdane/Ballyvolane presents all the design challenges (with some particular site additions such as Service / Distributor Roads, 110 kv and 38 KV Wayleaves and infrastructure) that are commonly associated with development in areas of rising topography.

These challenges are exacerbated by delivery challenges in terms of;

- Market returns that can be expected from housing and apartment developments in the area due to historic perceptions of the area which has been earmarked as a development location by Cork County Council for many plan "cycles".
- Build costs.
- Labour supply.
- Finance for large schemes and
- Infrastructure provision.

The mix of units proposed, and the layout proposed, with levels to accommodate access and gradient demands / design standards along with design measures to accommodate cut and fill has meant that the overall development has been carefully planned so as to present both a commercially viable design solution that is also a positive design solution to the provision of necessary housing.

Appendix C Extract from Linesight Average Irish Construction Costs 2018

Table Exec 1: Extract from Linesight Average Irish Construction Costs 2018

Linesight					Main and sub-contractors' turnover				
75% open plan, limited catering	€770	€1,050	per sq.m.	20-30%	* Irish main contractors' turnover				
60% open plan, full catering	€1,050	€1,610	per sq.m.	25-35%	* Irish services sub-contractors' turnover				
Corporate HQ	€1,680	€2,100	per sq.m.	25-35%	Wage rates and charges				
Open plan work station	€1,260	€3,570	each	-	Basic hourly wage rates				
High Tech Industrial					Basic hourly wage rates – mechanical				
Shell and core	€1,050	€1,680	per sq.m.	20-25%	Basic hourly wage rates – electrical				
Developer standard	€910	€1,680	per sq.m.	25-45%	Planning charges 2018				
Residential					Fire certificate charges 2018				
Estate house (approx. 100m2)	€1,260	€1,610	per sq.m.	10-20%	Housing				
Developer standard apartments	€1,610	€2,380	per sq.m.	10-20%	* Annual housing completions 2011-2018				
Individual house rebuilding costs	(see chart - house rebuilding costs per sq.m.)				* New housing completions by type 2011-2017				
Purpose built student accommodation**	€1,850	€2,690	per sq.m.	10-20%	House construction cost index				
					* SCSI house rebuilding costs 2018				
					* Updated September 2018				

Appendix D Project Evolution

D.1 Density and Delivery

The *Sustainable Residential Development in Urban Areas 2009* advocates Nett Densities of 35-50 P/Ha Nett and no less than 30 P/Ha Nett.

This Site has to deal with both topography and economics and, as described in Section 4.0 Sequencing and Phasing, the development of the project necessarily begins with Phase 1, a lower density area of 75 units to bring the Longview Estate into the Cork home buyers perspective. Phase 1 is envisaged as being completed in the Q3 of 2021. Site works will commence progressively on other units in phases through ground works, enabling works and site preparation with unit progressively being built out to occupation stage. This will see units in Neighbourhood 2, 3, 4, 5 and 6 complete in a progressive fashion with site density changing as different parcels of the site come on stream.

Table D.1 below shows the ongoing average density at around 30 + per Ha in the early stages of delivery with 35+ per Ha being delivered at the later stages of the proposal.

Table D.1. Density Evolution³¹

Neighbourhood	Neighbourhood Density	On-going Average Density	Number of units delivered							Total
			2021	2022	2023	2024	2025	2026	2027-2029	
Neighbourhood 1	25.9	25.9	75							75
Neighbourhood 2	37.6	33.69		100	118					218
Neighbourhood 3	27.6	32.43			9	54				63
Neighbourhood 4	25.9	30.83				46	47			93
Neighbourhood 5	33.5	31.55					53	125		178
Neighbourhood 6	103.5	35.70							126	126
TOTAL			75	100	127	100	100	125	126	753

With respect to topography in only one location do the State's guidelines refer to topography, referring to it as an "opportunity". It is, we submit, also a challenge in that more ground works are needed than on shallow or flat sites. It is important to note that the State's Guidelines, in referring to 35-50 Units P/Ha Nett being desirable, and certainly no less than 30 units P/Ha Nett make reference to unspecified studies³⁵ as saying the greatest efficiency in land development is at 30-50 P/Ha Nett.

We ask the Board to consider the bibliography references for *Sustainable Residential Development in Urban Areas 2009* refer to "DELIVERING QUALITY PLACES, URBAN DESIGN COMPENDIUM, SECOND EDITION" by the UK HOMES AND COMMUNITIES AGENCY. This document³² states that one must take a longer-term view with respect to delivery. In Section 3.3.4 of Volume 2, 3.3.4 *density and time*, it states that one should;

"Take a long term view, Overall urban form aspirations are not always possible immediately. However, thoughtful positioning of buildings will enable early

³¹ Allows for Apartments in N2 to be delivered early in phasing. Units may also be delivered in later phases subject to market demands. That phasing is set out in submitted response to the Opinion of ABP.

³² "Delivering Quality Places, Urban Design Compendium, Second Edition" by the UK Homes and Communities Agency

developments to set the context for the future and provide the framework to enable further intensification as the project builds out. This requires that buildings be positioned close to the street, with parking in interior courts – establishing a positive relationship between public and private realms. Although there may be insufficient buildings to generate a perimeter block immediately (see 3.7.1), if considered from the outset this approach can enable the level of development to increase as the project matures”.

The proposed scheme provides for this approach, allowing:

1. Lesser densities on hilly, rising lands on the site’s western limits, where additional costs and ground conditions, mitigate against viable delivery of higher density formats.
2. Committing to high density development closer to public transport routes by the built-up area of the City.
3. Providing for rising densities, around or in excess of 35 units per Ha Nett, as one progresses into Phase 2 and Phase 5 which are “flatter” and more amenable to development.
4. Delivering on apartments in Phase 6 that will be close to the City once infrastructure and bus routes are completed.
5. Reserving future lands for higher density infill/expansion development.
6. Opening up the lands in the overall Urban Expansion Area for future housing development.

While, the range and mix of guidance referenced in Irish Residential Density Guidance is diverse in origin, it is always pointing towards:

- a) Higher densities than conventionally applied in Ireland.
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- b) Creating attractive places.
- c) Good design.
- d) Good connectivity.
- e) Encouraging public transport and sustainable modes of transport.

The above is reflected in the new Building Height Guidelines Dec 2018. These state that:

“Building height in suburban/edge locations (City and Town)
3.4 Newer housing developments outside city and town centres and inner suburbs, i.e. the suburban edges of towns and cities, typically now include town-houses (2-3 storeys), duplexes (3-4 storeys) and apartments (4 storeys upwards). Such developments deliver medium densities, in the range of 35-50 dwellings per hectare net. Such developments also address the need for more 1 and 2 bedroom units in line with wider demographic and household formation trends, while at the same time providing for the larger 3, 4 or more bedroom homes across a variety of building typology and tenure options, enabling households to meet changing accommodation requirements over longer periods of time

without necessitating relocation. These forms of developments set out above also benefit from using traditional construction methods, which can enhance viability as compared to larger apartment-only type projects.

3.5 The forms of development set out above can, where well designed and integrated, also facilitate the development of an attractive street-based traditional town environment with a good sense of enclosure, legible streets, squares and parks and a strong sense of urban neighbourhood, passive surveillance and community as in the case of the award winning Adamstown Strategic Development Zone in South Dublin County Council.

3.6 Development should include an effective mix of 2, 3 and 4-storey development which integrates well into existing and historical neighbourhoods and 4 storeys or more can be accommodated alongside existing larger buildings, trees and parkland, river/sea frontage or along wider streets.

3.7 Such development patterns are generally appropriate outside city centres and inner suburbs, i.e. the suburban edges of towns and cities, for both infill and greenfield development and should not be subject to specific height restrictions. Linked to the connective street pattern required under the Design Manual for Urban Roads and Streets (DMURS), planning policies and consideration of development proposals must move away from a 2-storey, cul-de-sac dominated approach, returning to traditional compact urban forms which created our finest town and city environments.

SPPR 4

It is a specific planning policy requirement that in planning the future development of greenfield or edge of city/town locations for housing purposes, planning authorities must secure:

- 1. the minimum densities for such locations set out in the Guidelines issued by the Minister under Section 28 of the Planning and Development Act 2000 (as amended), titled "Sustainable Residential Development in Urban Areas (2007 - sic)" or any amending or replacement Guidelines;**
- 2. a greater mix of building heights and typologies in planning for the future development of suburban locations; and**
- 3. avoid mono-type building typologies (e.g. two storey or own-door houses only), particularly, but not exclusively so in any one development of 100 units or more."**

3.8 Where the relevant planning authority or An Bord Pleanála considers that such criteria are appropriately incorporated into development proposals, the relevant authority shall apply the following Strategic Planning Policy Requirement under Section 28 (1C) of the Planning and Development Act 2000 (as amended).

We submit that Paragraphs 3.4 to 3.8 are addressed by the proposed design. We can say this as:

- the site is located in what the Guidelines define as the suburban edge of the City.
- The density overall is above 35 unit Per Ha.

In summary, while density and good design are positive considerations in driving urban formats, they are only part of the local formula that, amongst others, includes commercial issues, local topography, what people will pay in particular areas and affordability.

D.2 Density and Housing Mix

Density, amenity and open space areas were designed, under PL04.300557 – the previous proposal to ABP, so as to reflect Council ED/LAP standards and a smaller more constrained site. We recognise that higher densities, in accordance with National Guidance, are important. The design of the individual neighbourhoods and phasing associated with these was then iterated to try to maximise density in a sustainable manner. While it may be preferable to try to achieve higher densities from a policy viewpoint, the difficult topography realistically dictates an effective upper limit on viable density.

Moreover, the revised road layout now proposed and additional lands included in the development area, means that the proposal is consistent with National Guidance under Section 5.12 of the 2009 “Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas” which states;

“To facilitate a choice of housing types within areas, limited provision may be made for lower density schemes provided that, within a neighbourhood or district as a whole, average densities achieve and minimum standards recommended above”.

And the associated “Sustainable Residential Development in Urban Areas Urban Design Manual” which re-emphasises good design and density in the region of 35-50 P/Ha Nett in stating;

“Well-designed homes in the right locations are fundamental to building strong, sustainable communities. Such communities will ensure Ireland’s continued success in attracting and generating investment and improving the quality of life for its residents.

This Guide provides best practice advice on the practical implementation of the policies contained in the guidelines. Using both real and illustrative examples, it focuses on creating well-designed sustainable neighbourhoods that will stand the test of time. The Guide will focus on the issues presented in housing schemes in the 30-50 P/Ha Nett density range but will also address some of the specific issues generated by higher and lower density schemes in urban areas.

The examples shown are by no means the only solutions possible or an exhaustive list - there are a number of ways of dealing with any issue, depending on circumstances. Further examples and guidance can be found in other publications, such as the UK Urban Design Compendium for example.

*As well as showcasing best practice, this Guide addresses the practical aspects of creating successful neighbourhoods. As many schemes fail because of structural or strategic problems as on matters of layout or detailed design. A successful scheme requires the right decisions to be taken at the right time”.*³³

³³ Page 6, Sustainable Residential Development in Urban Areas Urban Design Manual

In August, 2018, Longview Estates Ltd, acquired an additional contiguous tract of land, (32 hectares) in Lahardane/Ballyvolane to the south. This purchase resulted in the decision to incorporate six further hectares in the Longview development/proposal. This land, being flat and less visible, provides an opportunity to increase density without creating significant road and cut/fill issues. The overall application area is 35.7 units P/Ha Nett.

D.3 Density Evolution

Initially, the design strategy was based on an understanding that scheme design was located in an area that is zoned residential but approaches a rural area. The creation of a high-density scheme in this area was initially thought undesirable as it would create a severe transition in building scale and typography from urban-to-rural. Design used guidance from Section 3.4.85 of the MD/LAP for the area which states that:

“The pockets of existing one-off houses will necessitate a buffer of low density housing to protect their residential amenity. The areas concerned are along the existing roads. The higher densities should be concentrated on the Western and Southern sections of the site’

The site is located within 2-3 kilometres of the City Centre and is in an area that will be transferred to the City Council. The overall site redesign involved the inclusion of a significant number of apartments, rising from 20 up to 153 units (excluding 69 Duplex units), with the main cluster being at the south and west of the site, with an increase in terraced units from 25 to 186 units.

The development has gone from a density of 19 units P/Ha Nett to 35.7 units P/Ha Nett currently (and a figure of approx. 40 units P/Ha Nett on an equivalency basis if measured against rooms p/Ha guidance in the UK).

D.4 Neighbourhood Layout Evolution

The originally submitted proposal, reflected a desire to closely match the Council LAP approach of lower density and an assumed road alignment for the distributor/service Road. This was obviously incompatible with views with respect to urban growth that had developed post adoption of the Cobh MD LAP.

This has required the design to evolve led by the design team and engineers and based awareness of site constraints and challenges. This has been tempered by local community feedback and facilitated by Council officers in their formal and informal consultations, meetings and feedback.

With the design of the Longview development, our goal was threefold;

- Effective design of roads.
- Managing and minimising cut & fill.
- Meeting density objectives in a viable manner.

In the initial proposal, the development proposed was a scheme of 457 high quality residential units, predominantly aimed towards the higher end of the market with 3, 4 and 5 bed units on generous plots. The Board’s request to redesign the proposal and reconsider density has been heeded although

it has demanded more rigor, a commercial review of the proposal and the costs of developing an engineered solution to access, site levels, cut-and-fill and services.

The current housing mix provides more flexibility in terms of dwelling size, affordability, (includes 2 & 3 bed terraces, detached and semi-detached units and a range of apartments), and demographic need, (older persons or single adults).

D.5 Ground Conditions (Roads and Cut & Fill Evolution)

The proposed access/service road is a service road within the UEA and will access what will become a Primary and Secondary School Campus within the landholding. It is clear that this is a significant design consideration. "Cut-and-fill" and gradients are also important influences on design outcomes. The distributor/service road gradients mandated by DMURS, and the road turning radii dictated by DMRB Guidance, all define the lower areas of the site and the development parcels that are formed by the road. These development parcels in turn can only be accessed via local estate roads with layout and road gradients that are again dictated DMURS gradients and servicing constraints, i.e. the need to have drainage runs located in public areas that will be taken in charge rather than located in areas that are in private ownership.

This will all necessitate ground works to both build the distributor/service Road and open up the development areas framed by that road. A comprehensive site investigation has been carried out, consisting of 9 rotary core holes to measure the depth and strength of rock, 24 trial pits to measure the depth of soil and rock and 7 infiltration pits to measure the on-site infiltration rate.

It was found that the rock varied from that of a moderately strong sandstone to a weak mudstone and that much of the rock and subsoil could be used for general fill across the site. Finally, there were several samples of rock taken from the trial pits and crushed to determine its grading capability. Additional testing has been carried out by Priority Geotechnical which has found that the material on site can be used in the site development with additional management measures, stabilisation and compacting techniques.

To obtain quantities and form an initial earthworks plan, there have been a number of assumptions adopted based on the site investigations. The layers have been broken into three categories; Topsoil, Subsoil and Rock. An assumed bulking factor of 120% has been adopted when grossing up the cut as it is being reused for structural fill purposes. It is also assumed that the first 30cm of subsoil will not pass as structural fill quality, however this can only be finalised as the work is ongoing due to the nature of earthworks.

Across the site, noting that this project is working on a 10-year planning consent across 30+ Hectares, it is anticipated that the below overall figures will be needed;

- Total Cut – 181,461 m³ (Topsoil – 42,098 m³, Subsoil – 89,831 m³, Rock – 49,532 m³)
- Structural Fill Needed – 159,400 m³
- Usable Structural Fill Retrievable from Site – 89,714 m³ (Reinforced Subsoil – 30,276 m³, Rock – 59,438 m³)
- Excess Cut to be used in Landscaping – 113,564 m³ (Topsoil 42,098 m³, Subsoil – 71,466 m³)

The estimated "cut" and required structural fill for the Road and Neighbourhoods 1,2 & 4 almost net themselves off without the need to import structural fill from offsite. This will naturally allow for the

structural fill required in Neighbourhood's 3, 5 and 6 to be imported onto the site as the contours are structured on the steeper part of the hill. As the site "flattens" off in Neighbourhood 5 and 6, the majority of this excess fill needed is required in this area.

The earthworks will result in excess unusable cut in the form of topsoil and subsoil, amounting to 113,564 m³, which will be used to reprofile the site both in aesthetic landscaping, green areas and gardens. Approximately 4.47 Ha of the site is comprised of private gardens, so will take a significant proportion of this residual cut. The balance will be relocated to lands within the landholding, currently envisaged to be the lands zoned as school lands or adjacent lands.

These ground conditions, which are considered in detail in accompanying engineering reports prepared by MHL, and the general alignment and gradient of the distributor road, which has been agreed with the County Council and dictated by DMURS, generate design challenges, costs and opportunities.

No material is envisaged as being required to be relocated off site.

D.6 Design and Cut & Fill - Implications and Evolution

Previously, under PL04.300557, we had, as a result of excavation, an excess of 300,000 m³ of material to dispose of. Now all material can be accommodated on site with reprofiling of undeveloped areas.

Initial 2017 sketch layouts, which ultimately formed the basis of the proposal submitted under PL04.300557, were dictated by the zonings and objectives identified for the area in the MD Plan, as published at that stage, and by the available topographical survey also provided to the Council as part of the initial documentation.

This layout/design was then progressed and refined by our internal design team and reviewed prior to submission to Cork County Council under a Section 247 request on the 25th August 2017. That layout is shown in Image 13 (following). This led to a proposed design solution that worked against the contours and led to a less than desirable design solution with high quantities of cut.

A consultation meeting occurred on the 1st September 2017 and all relevant staff members of Cork County Council attended. Those that did not attend offered feedback by way of email.

At this point in the design evolution of the scheme the proposed NE-U-03 alignment allowed for a relatively consistent road gradient of less than 8.3% gradient. The Council Housing Delivery Unit and Roads Department suggested a design standard in the region of 5% gradient, or at least no long section of road with slope exceeding 8% and asked that the alignment be altered at its eastern end to accommodate the Council's submission to the NTA which seeks to take traffic off the local rural road bounding the site to the north.

A further Section 247 Consultation meeting took place on 14th December 2017 following a request of the Council on 16th November 2017. City and County Councillors were invited to a full presentation held on 27th September 2017 at the Silversprings Hotel, and the applicant's team also organised a public meeting for local residents on 4th October 2017, also at the Silversprings Hotel, at which the proposed scheme was presented.

At this meeting, and several subsequent meetings with a residents' representative group, the applicant committed to explore means of addressing the residents' concerns with respect to aspects of the development. The concerns primarily revolved around local access and specifically the inclusion of an exit from the proposed site onto the service/distributor road in the north. As such the design was modified to eliminate this road linkage and at the Section 247 meeting of the 14th December 2017 the Council Area Engineer agreed that vehicular access to the local rural road to the north was not desirable. That design is in Image 12 (following)

IMAGE 12: Initial Road and Development Layout – for Section 247 meeting - ABP Ref PL04.300557



IMAGE 13: Road and development— post Section 247 and resident consultation- ABP Ref PL04.300557



Other options were considered. On the 30th August 2017, in advance of a formal Section 247 meeting, there was a meeting between Mr Peter O'Donoghue (Roads Dept – Cork County Council), Mr Donald Cronin (Cork County Council Housing Implementation Team), Mr Ken Manley of MHL Consulting Engineers and Mr John Crean of Cunnane Stratton Reynolds Town Planners and Landscape Architects.

In this meeting it was suggested that the applicant evaluate a different design solution, shown in Image 14 (overleaf) which had not been part of the LAP process and deviates from the adopted alignment in the LAP. The applicant's design team Engineers committed to undertake the analysis and consider alternative layouts. The cut/fill (over engineering and significant embankments with potential for severance of pedestrian linkages to the south west and constrained linkages to the areas to the south west) and density implications were shown to be negatively impacted by this potential design. As a result, it was determined, to advance with a proposal closer to the layout in Image 18.

An additional meeting occurred on the 11th October 2017 between Mr Peter O'Donoghue (Roads Dept Cork County Council) and Mr Donald Cronin (CCC HDU) of CCC, Ross Palmer (CCC HDU), Andrew Hind (CCC HDU), Mr Ken Manley of MHL Consulting Engineers and Mr David Watson of Long View Estates Ltd. Further modifications were discussed, and these included, but were not limited to, an increased curvature of the road to provide natural traffic calming as well as sections of slope of 5 degrees at intersections of the estate roads with the distributor road. This resulted in the final arrangement in Image 16 (following), which was thought to provide the best solution when measured across all parameters.

In that proposal for 457 houses, the Distributor/service Road proposed was designed to provide and reflect the following:

- The Council's submission to the NTA which sought to take traffic off the local rural road bounding the site to the north. This saw the proposed road turn in a south easterly direction
- This "turn" in the road also reflects the desire of local residents on the rural road to the north, and with whom the design team has engaged, to ensure that the main link road for the scheme does not connect with the local rural road to the north.
- The potential for the NE-U-O3 road to be developed in the future along the western boundary to the school's site.
- Road gradients have been designed at a mix of gradients to reflect DMURS guidance with gradients of between 5% and 8.3%.
- Minimum horizontal radii of 56m, maximum vertical gradient of 8.3%.
- Tie-in to Ballyhooly Road using a 3% vertical gradient over 25m.
- Distance of 770m from Ballyhooly Road to proposed school campus.
- No houses accessing directly onto the distributor road, preferable from a cycle/bus route point of view.

IMAGE 14: Design Exercise prepared by MHL Consulting Engineers Illustrating Design Solution Proposed by Council Housing Delivery Unit (and the potential cut / fill implications of some)



IMAGE 15: ABP PL04.300557 Layout Initial Longview Design



Subsequent to the meeting with An Bord Pleanála on the 1st, February 2018, and largely prompted by feedback on density, the County Hall County Architects concern over design and layout and “cut-and-fill” – the degree of excavation, it was determined that the scheme should be redesigned around a new road layout that would facilitate the reduction of cut-and-fill and the maximal use of the topography, as well as incorporating more split level housing into the design. It would also have to include an ability to provide transport linkage throughout the site, (bus and cycle lanes).

A significant and detailed exercise in this was undertaken by MHL Consulting Engineers in conjunction with HC Architects and the subsequent design basis for submission to ABP emerged as per Image 16. The iterations in this design exercise provided a significant reduction in the volumes of cut-and-fill, (note fill in brown as per above and green in cut). For clarity, the original cut-and-fill visualisation has been included in Image 17.

IMAGE 16: Evolving updated Cut & Fill layout post ABP PL04.300557 Tripartite meeting

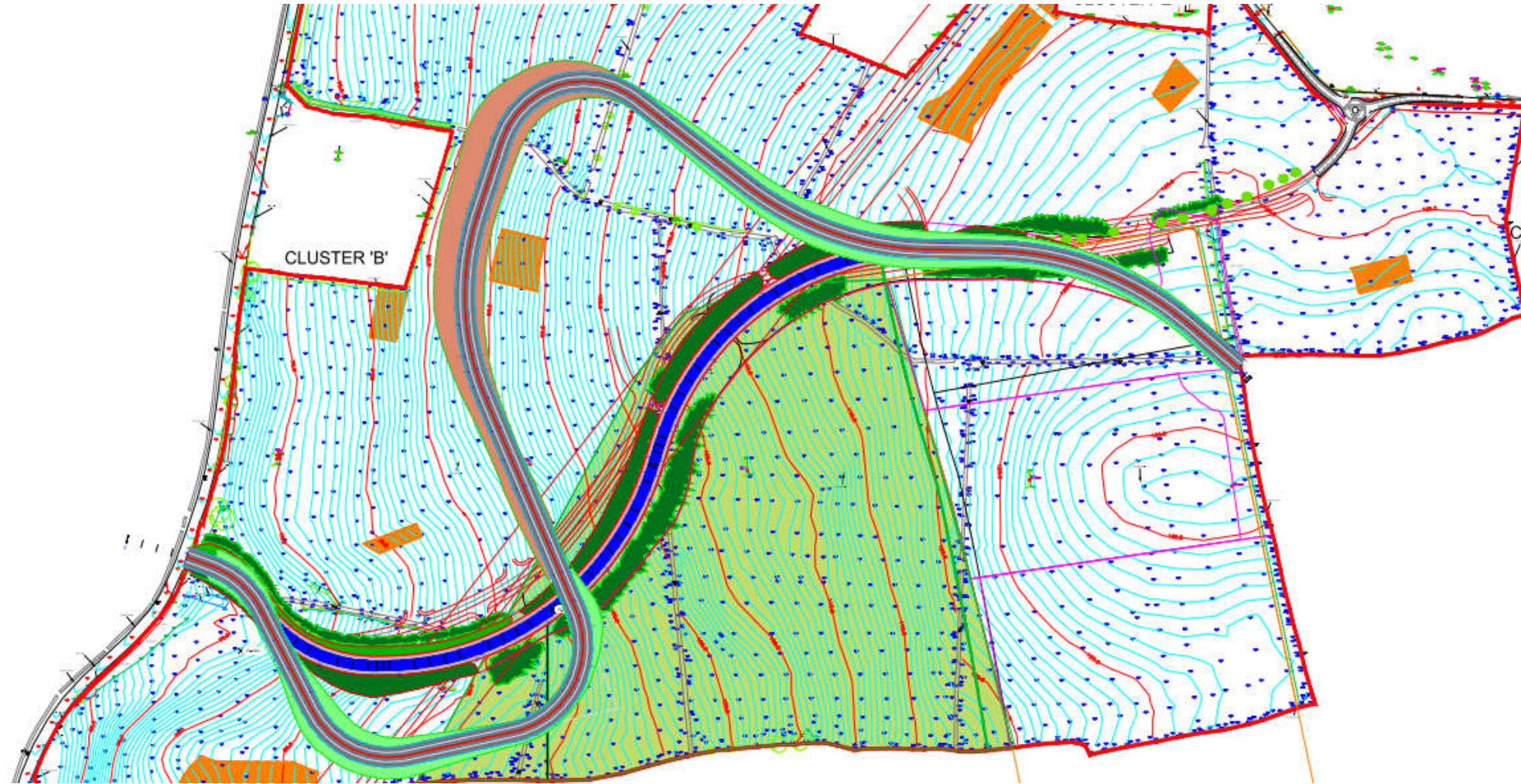


IMAGE 17: Early Stage Cut & Fill layout (basis of Image 16 Concept)

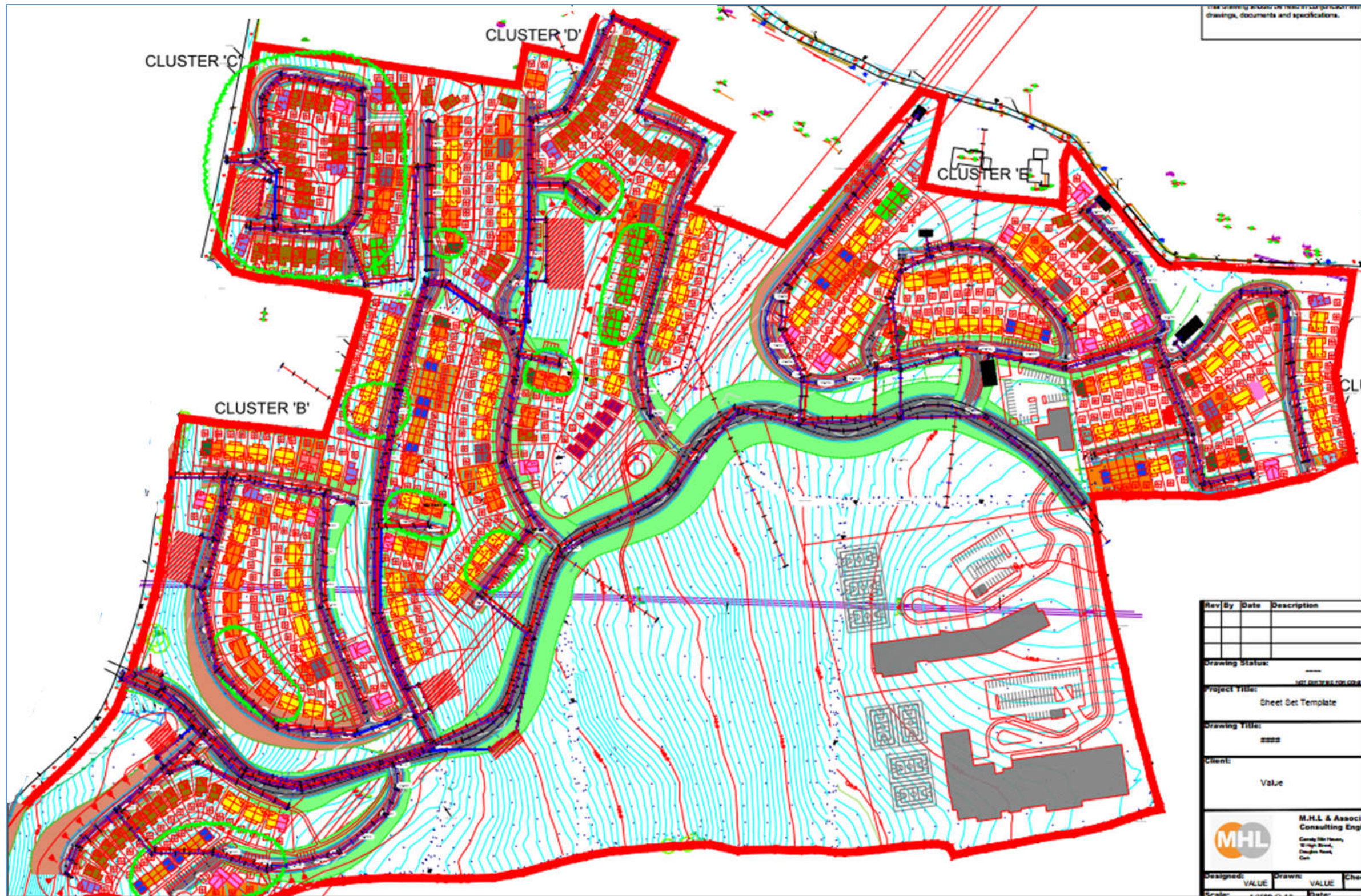


IMAGE 18: Pre App Layout 2018 / 2019



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Appendix E Pre Application TTA



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