

**AVISON
YOUNG**

East Norwich Partnership

East Norwich Regeneration Area Delivery Report

May 2022

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Appendices

Appendix I RPS Cost Plan

Report title: East Norwich Partnership

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For and on behalf of Avison Young (UK) Limited

1. Introduction

- 1.1 In March 2021 Avison Young, leading a multidisciplinary team including Allies and Morrison, Hydrock, RPS, Cotswold Archaeology and Tyler Grange were appointed by Norwich City Council on behalf of the East Norwich Partnership to prepare a masterplan for the East Norwich Regeneration area.
- 1.2 The purpose of the masterplan was to explore in detail how the strategic vision for East Norwich could be delivered based on a thorough understanding of the constraints and opportunities within the area, and the city more widely. The masterplan is not intended to present a 'blueprint' for how development will come forward but provide a framework that establishes the key principles for the area that landowners and developers can then develop their own approach to achieving.
- 1.3 This report is intended to set out a 'road map' to move East Norwich into its delivery phase. This Delivery Strategy report brings together the development aspirations set out in the Supplementary Planning Document (SPD) and the infrastructure needs established in the Infrastructure Delivery Plan (IDP) and considers how the East Norwich vision can be achieved.
- 1.4 Like the SPD itself, the Delivery Strategy is not a 'blueprint' for bringing the area forward but rather an evidenced assessment of the options and potential approaches to delivery that the Partnership (either together or individually) may need to consider in order to realise the potential of East Norwich.
- 1.5 Within this report we consider how development and infrastructure could come forward over the next 20 years – testing when infrastructure is required to unlock development capacity and the impact this has on development viability. It establishes a 'base' viability position and considers how interventions can improve this position and, in turn, how these interventions could be achieved through different delivery routes or funding/financing strategies. It culminates in a series of 'next steps' for the Partnership to take to move the project forward.
- 1.6 It is likely that next steps will incorporate a future 'Delivery Plan' which will contain detailed financial modelling and further due diligence around infrastructure requirements and triggers.

Context – The East Norwich Partnership

- 1.7 The East Norwich Partnership is a public-private body established specifically to bring forward the comprehensive and coordinated regeneration of the East Norwich area, ensuring that critical infrastructure is delivered to unlock the sites, to the benefit of the City. The Partnership was established by, and is led by, Norwich City Council. The membership of the Partnership is as follows:
 - Norwich City Council
 - Homes England
 - New Anglia LEP
 - Norfolk County Council
 - Broads Authority
 - South Norfolk Council
 - Broadland District Council
 - Utilities Site Owners (RWE Generation UK Plc and National Grid)

- Deal Ground / May Gurney Owner (Serruys Property Company)
- Carrow Works Owner / Contracted Private Sector Developer (Britvic Unilever /Fuel Properties)
- Carrow House Owner (Norwich City Council)
- Network Rail

Report Structure

1.8 This Delivery Report is structured as follows:

1.9 Section 2 provides

- A summary description of the SPD and IDP outcomes, setting out the potential of East Norwich in terms of scale and nature of development and the associated infrastructure requirements;
- The development trajectory, showing how development could be sequenced in order to deliver all sites in a timely manner.

1.10 Section 3 provides

- A summary of the viability position based on the latest cost data.

1.11 Section 4 provides

- A review of the Delivery Considerations that arise from the viability testing and the nature of development proposed within East Norwich

1.12 Section 5 provides

- An assessment of the potential funding opportunities to help the delivery of key aspects of the East Norwich allocation
- An assessment of the potential investment opportunities that could secure additional financing to support delivery.

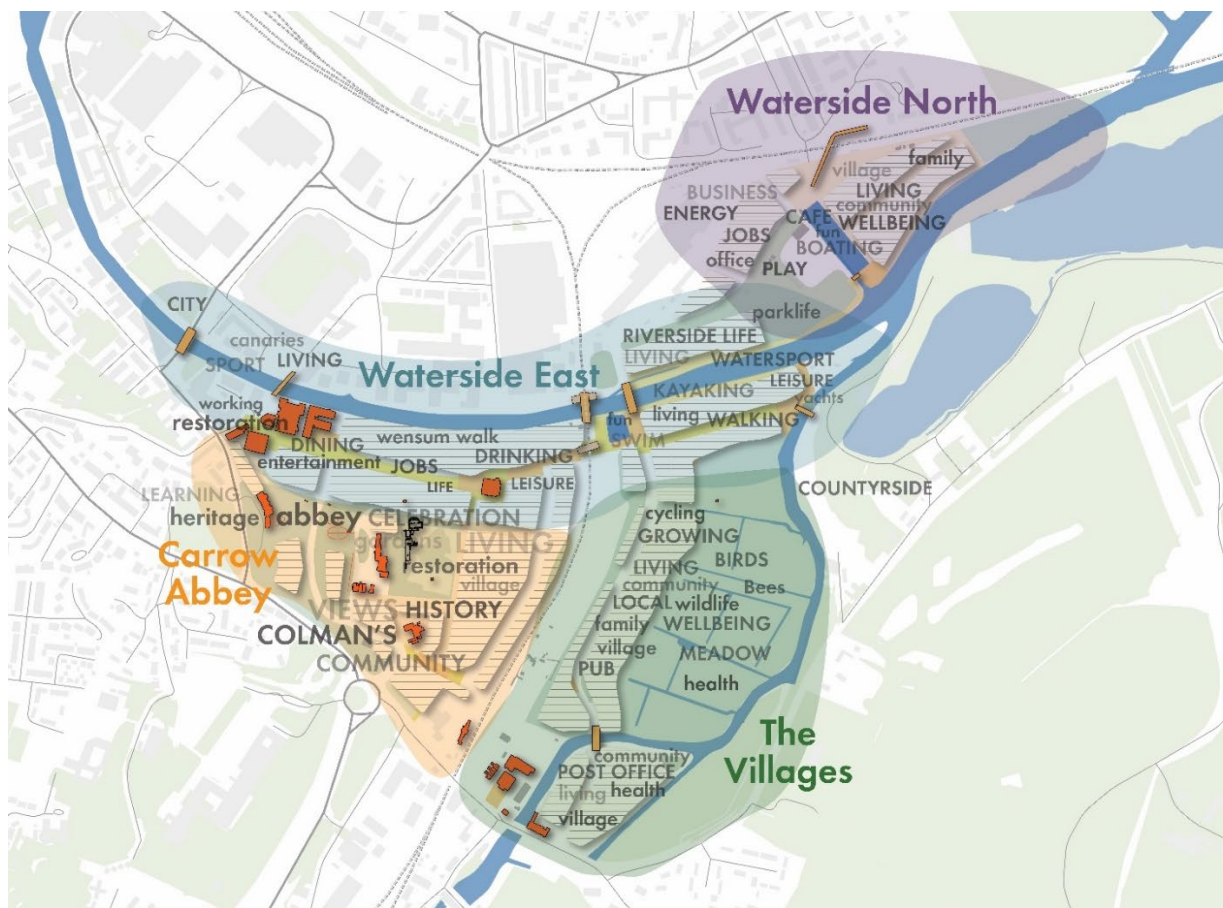
1.13 Section 6 provides

- A series of potential next steps for the Partnership.

2. The East Norwich Proposals

- 2.1 The framework masterplan that underpins the East Norwich SPD has developed a detailed understanding of the opportunities to deliver growth within the allocated sites at East Norwich. Through engagement with landowners, technical stakeholders, community groups and local residents it has been able to interrogate the constraints and opportunities from a site, market and strategic perspective.
- 2.2 Underpinning the masterplan is an assessment of the economy, residential and commercial markets within the City and wider region, this has informed the overall approach to land uses and typologies deployed within the masterplan which, in turn, allows the identification of the development potential of East Norwich.
- 2.3 Based on a wide-ranging assessment of built character, landscape, environmental, townscape, topography, morphology and other considerations the masterplan has developed a series of character areas that define the approach to development within the SPD. As the masterplan has been developed the opportunities to integrate different forms of residential and non-residential uses into the emerging character areas has been considered, these character areas are shown below.

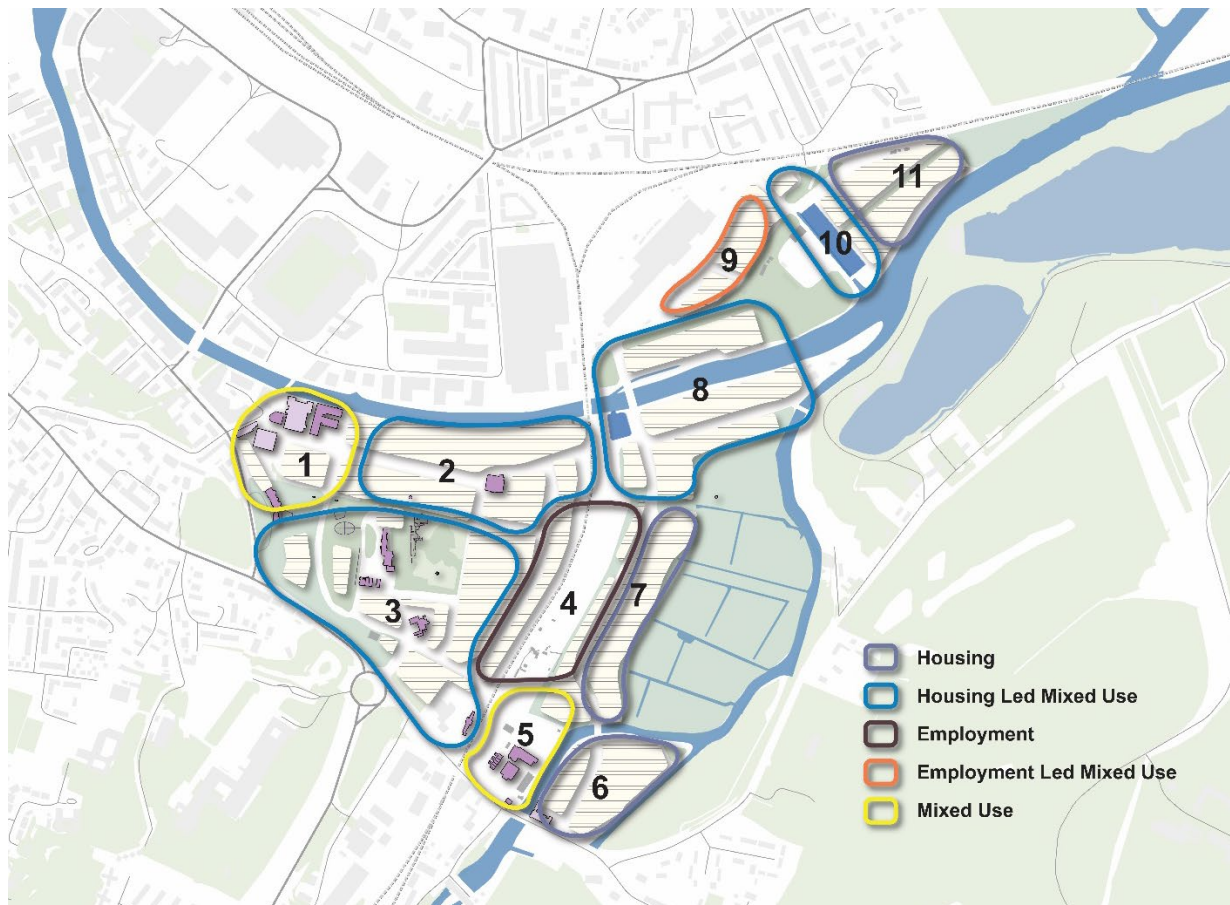
Figure 1 - East Norwich Masterplan Character Areas



- 2.4 This approach allows the distribution of different housing types and tenures across the East Norwich area, optimising market opportunities linked to existing and future character. It also enables the ability to define the form and location for office, workspace, light industrial, leisure, retail, cultural, education and community uses.

- 2.5 This strategy has been discussed with relevant stakeholders who are involved in planning the future of Greater Norwich from a residential and economic perspective, including landowners, local property agents, planning and economic development officers at the City and County Council and the Local Enterprise Partnership. Concepts have also been discussed with other interested parties including neighbouring land owners, Network Rail, Greater Anglia, neighbouring businesses (including the football club), the Broads Authority and other boating stakeholders and local communities.
- 2.6 The plan below shows how the East Norwich area has been considered within the masterplan in terms of the predominant land use mix that sits within the character areas.

Figure 2 - East Norwich Land Use Areas



- 2.7 The areas set out above incorporate the following uses:
- 1 = apartments, office, retail, food and beverage
 - 2 = apartments, houses, workshop/studio, retail, food and beverage, leisure
 - 3 = apartments, houses, school, community
 - 4 = light industrial, workshop/studio, retail, food and beverage
 - 5 = houses, apartments, workshop/studio
 - 6, 7 + 11 = houses, apartments
 - 8 = apartments, retail, food and beverage, leisure, marina uses

- 9 = office, education, retail, food and beverage
- 10 = apartments, retail, food and beverage, marina uses
- 11 = houses, apartments

2.8 A detailed breakdown of the overall development quantum is provided in the following sections of this report, however at the headline level the East Norwich SPD provides for:

- 3,632 new homes
- 63,000sqm of non-residential space, including a new 2 form entry primary school
- The capacity to accommodate 4,100 FTE jobs.

3. Viability Assessment

3.1 Allies and Morrison has provided us with an area schedule dated 11 February 2022. We have set out their proposals and detail our proposed phasing for the four parcels of the project below.

Figure 3 - East Norwich Regeneration Area Illustrative Masterplan



Table 1 - Total Development Capacity

Combined Sites	GIA		NIA		Units
	sqm	sqft	sqm	sqft	TOTAL
Residential	318,557	3,428,936	276,346	2,974,589	3,631
Commercial	58,857	633,529	47,085	506,823	
Educational	3,931	42,314	3,538	38,083	-
	381,345	4,104,779	326,969	3,519,495	3,631

Viability Testing

- 3.2 We have undertaken a high level modelling exercise utilising ARGUS Developer Software to ascertain what returns are generated through the proposed scheme.
- 3.3 The methodology uses comparable data to ascertain that value of the site once complete (the Gross Development Value) and then deducts all development costs to provide a surplus amount which is the total of both the 'land value' and the developer's profit allowance.
- 3.4 This is then benchmarked against typical developer profit expectations and the Existing Use Value of the site to determine whether there is sufficient surplus generated for it likely that the scheme will come forward for development in the short/ medium term.
- 3.5 ***It is important to note that appraisals are highly sensitive to changes in values and development costs involved and small changes in the values can alter viability.***
- 3.6 We have detailed our assumptions in the following tables:

Table 2 - Residential / Commercial Inputs

Use	Assumption
Affordable Mix	33% affordable across each phase – preliminary Stage 2 and v1 sensitivity 20% affordable across each phase – v2 to v6 sensitivity analyses (85% Social Rent (SR) / 15% Shared Ownership (SO))
Blended Private GDV	£375 per sq ft - apartments £300 per sq ft - houses
Blended Social Rent GDV	£115 per sq ft - apartments £90 per sq ft – houses
Blended Shared Ownership GDV	£227.50 per sq ft - apartments £195 per sq ft - houses
Blended Build to Rent (BtR) GDV	£300 per sq ft (Carrow Works and Deal Ground only)
Commercial	£230.77 per sq ft (£15.00 per sq ft capitalised @ 6.50%)

Table 3 - Cost Assumptions

Site Abnormal Works and Infrastructure Costs	Assumption
Carrow Works	£86,699,000
Deal Ground	£60,407,000
May Gurney	£23,555,000
Utilities Site	£55,144,000
Total	£225,804,000

- 3.7 We have distributed the site abnormal costs for each site from the start of their respective pre-construction phase to the end of the construction period as this category includes line item 22 from the IDP (site wide low carbon / zero carbon heating and power network). As set out in the SPD the approach to delivering this network is yet to be specified and requires further feasibility testing but would include necessary utilities infrastructure and potentially generation infrastructure, a key 'next step' in the East Norwich process.
- 3.8 As a result to ensure the appraisal makes allowances across the delivery period costs are sequenced to assume it will be implemented over the construction period. We have distributed the infrastructure cost items during the pre-construction phase, with the exception of line item 8c from the IDP (general allowance for sitewide landscaping and public realm) which occurs in the final 3 months of each site's construction phase.
- 3.9 Regarding the remaining costs of development, we have summarised the inputs we have adopted as follows:

Table 4 - Development Cost Assumptions

Cost Item	Description
Developer's Contingency	5% of construction cost
S106	£3,000 per private residential unit
CIL	£96.63 psm – Flats £111.50 psm – Houses £37.16 psm – Other retail and assembly and leisure development
Green Infrastructure and Recreational Impact Avoidance and Mitigation Strategy (GIRAMS)	£185.93 per residential unit
Professional Fees	10% of construction cost
Development Management Fee	2.5% of construction and infrastructure / abnormal costs

Purchaser's Costs	6.8% of the commercial use GDV (broken down as 5% stamp duty, 1% agent fees, 0.5% legal fees + VAT)
Sales Agent Fees and Marketing	2.00% of the private residential and BTR GDV
Sales Legal Fees	0.25% of the residential and BTR GDV
Finance	We have adopted a debt finance rate of 6.00%
Construction Costs	£689,221,808 (RPS Cost Plan 12 April 2022 - inc 20% contingency on residential costs)

- 3.10 It should be noted that the RPS Cost Plan has been prepared at a time of significant uncertainty in construction sector pricing, fuelled by labour and materials supply challenges, ongoing settlement of international trade relationships post Brexit, the continued impact of the COVID-19 pandemic and the Russian invasion of Ukraine.
- 3.11 Throughout 2021 and 2022 price inflation has been severe, and this is expected to continue in the immediate term. Forecasts suggest prices will begin to stabilise in the latter part of 2022, with cost rises returning closer to trend during 2023, some forecasters predict prices may even fall modestly at some point later in this period.
- 3.12 Given the long term nature of the East Norwich programme and the short term price impacts it is prudent to include a contingency to protect the project from any ongoing pricing challenges. However we consider a 10% contingency to be appropriate given our experience of the competitive approach developers are currently adopting in the market to secure new development opportunities.
- 3.13 Consequently the residential construction cost adopted as part of this latest viability appraisal totals **£574,047,657**. It should be noted that we have continued to adopt a further 5% Development Contingency as is standard practice and consistent with our previous viability assumptions.

We summarise these as follows:

- Removing marina costs (items RB1 and RB2 in the IDP, £16.5m assuming these are separately funded) and reducing the site wide low carbon / zero carbon heating and power network allowance (item EOS1, £54.85m), totalling c. £71.35m. Item EOS1 had been calculated by applying a premium of 15% to the base construction costs prepared by RPS and this has been reduced to 5% in this scenario.
- Removing the infrastructure costs relating to the four proposed bridges and Trowse underpass (items A1 – A5 in the IDP), totalling c. £18.72m and assuming that this would be funded by public sector grant.
- Increasing the GDV of the private residential, in addition to the commercial element's Market Rent, by 1% pa over the course of the project to reflect placemaking / regeneration uplift. We have assumed this is a net growth figure ie sales growth is outstripping cost inflation. The GDV increases by a further £58m as a result.

Scenario Testing

- 3.14 We have run a sensitivity analysis to include public sector grant required for the scheme to generate a profit equating to 15% on GDV. We have determined that this could be achieved by funding all of the £153m infrastructure-related costs by public sector grant. As an illustration, we have demonstrated how this apportioned this grant total against the number of residential housing units being delivered. The breakdown is in the following table:

Table 5 - £153m Infrastructure-Related Cost Grant per residential plot

£153m Grant	No. Residential Housing Units	Grant Allocation per plot
Overall	3,632	£42,126

- 3.15 From our experience, this figure of c. £42,000 per residential unit aligns with other Homes England-funded projects and in the context of the wider scheme benefits and jobs created, in addition to bringing a brownfield site back into use.

Affordable Housing

- 3.16 We have ran scenarios for both 33% and 20% affordable housing levels.
- 3.17 For the 33% affordable housing base case, the update to our projected private residential and BTR sales periods for each phase is illustrated in figure 4 below. We have also provided a running sub-total of combined private sales per annum which shows a peak position of 405 sales in 2032 and an overall average of c. 162 units per annum over the course of the project lifecycle.
- 3.18 For the 20% affordable housing sensitivity analysis, the update to our projected private residential and BTR sales periods for each phase is illustrated in figure 5 below. We have also provided a running sub-total of combined private sales per annum which shows a peak position of 491 sales in 2032 and an overall average of c. 193 units per annum over the course of the project lifecycle.

Figure 4 - Residential Sales Trajectory – Revised Base Test – 33% Affordable Housing

		Key														
		Private Sales														
		BTR Sales														
		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Carrow Works																
	BTR															
Residential Apartments	Market Units							185	96	96	96	96	47			
	Social Rent Units															
	Shared Ownership Units															
Residential Houses	Market Units							65	51	51	51					
	Social Rent Units															
	Shared Ownership Units															
Deal Ground																
	BTR															
Residential Apartments	Market Units							185	96	96	52					
	Social Rent Units															
	Shared Ownership Units															
Residential Houses	Market Units								79	48	31					
	Social Rent Units															
	Shared Ownership Units															
May Gurney																
Residential Apartments	Market Units				14	32										
	Social Rent Units															
	Shared Ownership Units															
Residential Houses	Market Units				18	42										
	Social Rent Units															
	Shared Ownership Units															
Utilities Site																
Residential Apartments	Market Units										127	96	40			
	Social Rent Units															
	Shared Ownership Units															
Residential Houses	Market Units									86	48	48	12			
	Social Rent Units															
	Shared Ownership Units															
Sub-total		0	0	0	32	74	0	185	346	322	377	405	191	53	0	0

Figure 5 - Residential Sales Trajectory – Revised Base Test – 20% Affordable Housing

East Norwich – Private Sales & BTR Phasing Chart		Key														
		Private Sales BTR Sales														
		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Carrow Works																
	BTR															
Residential Apartments	Market Units							238	96	96	96	96	96	74		
	Social Rent Units															
	Shared Ownership Units															
Residential Houses	Market Units								78	61	61	61				
	Social Rent Units															
	Shared Ownership Units															
Deal Ground																
	BTR															
Residential Apartments	Market Units								218	96	96	96	35			
	Social Rent Units															
	Shared Ownership Units															
Residential Houses	Market Units									89	48	48	4			
	Social Rent Units															
	Shared Ownership Units															
May Gurney																
Residential Apartments	Market Units				17	39										
	Social Rent Units															
	Shared Ownership Units															
Residential Houses	Market Units				21	50										
	Social Rent Units															
	Shared Ownership Units															
Utilities Site																
Residential Apartments	Market Units										142	96	76			
	Social Rent Units															
	Shared Ownership Units															
Residential Houses	Market Units									98	48	48	33			
	Social Rent Units															
	Shared Ownership Units															
Sub-total		0	0	0	38	89	0	238	392	341	398	491	279	190	0	0

3.19 We have summarised the outputs of the base scenario and sensitivity analyses as follows:

Table 6 - Sensitivity Test Results

Sensitivity Analysis	Total Surplus	Profit on GDV
Version 1 – Stage 2 Cost Plan (with 10% contingency applied to residential element), reduced BTR and AH timings, Reduced infrastructure costs to c. £153m, removal of bridge x 4 and Trowse underpass costs (funded by public sector), and inclusion of residential and commercial GDV 1% pa net growth reflecting placemaking / regen premium	- £39,530,483	- 4.12%
Version 2 – And inclusion of £153m infrastructure-related public sector grant	£152,690,584	15.90%
In order to generate 20% profit on cost a further £40m of savings would be required. <i>Given Version 2 assumes no infrastructure cost this would need to cover wider construction costs/ decontamination which may be unrealistic</i>		
Version 3 – And reduction to 20% affordable housing provision	£243,649,474	22.96%
Version 4 - And reduction to 20% affordable housing provision and target 15% Profit on GDV – requires £84.5m subsidy	£158,806,986	14.97%

- 3.20 As part of our ongoing dialogue with Homes England, we have been asked to consider the existing use value of the East Norwich site as this is typically the benchmark for testing the viability of proposed schemes against. In accordance with National Planning Guidance, an EUV plus 10% approach is typical as it deemed likely that a landowner would require a premium in excess of EUV to bring their site forward for redevelopment.
- 3.21 We have had regard to the viability work which was undertaken to inform the Greater Norwich Local Plan (GNLP) prepared by NPS Group and dated 15 December 2020. Under this the site would likely be categorised under typology 7 – Urban Centre and under the plan assumes this would be brownfield land with a value of £813,008 per acre.
- 3.22 We note that this rate appears high as the typology relates to sites up to 100 units. Given that the capacity of the East Norwich site is considerably larger, we would consider a reduced rate of c. £650,000 per acre appropriate to reflect quantum size adjustments. Applying this figure across the overall East Norwich site area of 123.59 acres would produce a benchmark land value of c. £80m.
- 3.23 Given the mix of uses being delivered a developer may consider a blended profit level of around 15% on GDV is acceptable to account for forward funding deals on the Affordable Housing and PRS elements which would de-risk the scheme. As such, Version 3 could deliver both 15% profit on GDV and the benchmark land value plus 10%.

4. Delivery Considerations

- 4.1 Having established the overall viability position, we now consider how the challenges and opportunities it presents can be addressed in order to support the delivery of the East Norwich vision. This section considers some of the factors that influence the potential approaches to delivery and identifies potential routes to unlocking development across all parts of East Norwich.

Current Ownership and Site Status

- 4.2 The sites forming the East Norwich masterplan are under a mix of land ownerships detailed as follows:
- Unilever / Britvic own the majority of the Carrow Works site which has been vacated. Fuel / ZMLC have a conditional contract to acquire the site on a subject to planning basis. Fuel has confirmed that under the stipulations of the contract, they must submit a planning application by July 2022. We note that they have an established track record of delivering large brownfield sites across the UK / SE England.
 - Serruys Property Company owns the freehold interest in the Deal Ground and May Gurney sites. They have an existing planning consent (Ref 12/OO875/O) and have undertaken works to clear the site. We understand that they are considering a reserved matters application to be submitted by July 2023.
 - The Utilities Site is under a mix of public sector ownership including the National Grid and Network Rail Infrastructure, in addition to RWE Generation UK Plc. The site has largely been decommissioned and the development status is less advanced than Carrow Works and Deal Ground / May Gurney.
 - Norwich City Council own Carrow House and its adjoining car park, which was formerly part of the Carrow Works site. They are currently safeguarding the heritage and upgrading it so it is capable of being let as Office Space to third party occupiers for temporary and short term office use, along with future improvements to the Conservatory. It is understood any third party leases will be entered into on a basis which does not fetter the Council's longer term development aspirations across the site.

Opportunity / Barriers to Delivery

4.3 Opportunities to delivery include the following:

- Strategically important location in East Norwich with the opportunity to open up the wider area with new infrastructure linking the Norfolk Broads to the City Centre;
- Norwich is becoming an increasingly sought-after destination post-Covid. This has partly been driven by more hybrid working arrangements whereby office workers are able to work from home more often and as a result, live further from their workplace;
- An abundance of high quality blue / green infrastructure running both through and adjacent to the site;
- Opportunity of scale to enable significant placemaking and regeneration;
- Attractive listed buildings on site and desirable riverside settings for potential residential-led and mixed use development.

4.4 Barriers to delivery include the following:

- Large-scale regeneration scheme with high capital requirements to unlock sites particularly in relation to new infrastructure spend;
- Listed buildings / heritage constraints on potential redevelopment which can drive up base construction costs;
- Macroeconomic uncertainty having a detrimental impact on viability matters such as rising construction costs;
- Risk to placemaking should the individual sites come forward on a piecemeal basis owing to individual landowner aspirations.

Delivery Timings and Sequencing

4.5 The Greater Norwich Local Plan is due to be adopted in early 2023 with the East Norwich SPD adoption to follow thereafter.

4.6 Under the terms of its contract with Unilever / Britvic, Fuel / ZMLC is under obligation to submit a planning application on the Carrow Works site by July 2022 and we would anticipate a determination in Q2 2023. We understand that Serruys is considering submitting a reserved matters application by July 2023.

4.7 The timings and sequencing within the viability assessment have been outlined in paragraph 3.18. We would highlight that there are a number of ways in which the scheme phasing could manifest as linked to landholder aspirations and planning timings.

- 4.8 We have illustrated one route which could work practically taking account of the infrastructure requirements and market absorption rates for residential sales. Clearly where landowners are seeking to deliver a wide range of housing typologies and mix across their sites there may be scope to accelerate this delivery programme which would be welcomed.

Potential Delivery Routes

- 4.9 There are a range of potential routes available to deliver the East Norwich Masterplan which must be considered by each landowner in the context of their appetite for risk, target return metrics and timing constraints. Each route may be unique across the different landholders, which is why the SPD will form a critical document to ensure comprehensiveness across the whole.
- 4.10 Fuel / ZMLC is a private UK property development company focusing on acquiring unconsented brownfield sites and securing planning permissions. They have entered into a contract to acquire Carrow Works from Unilever / Britvic, subject to planning and have the expertise to self-deliver this large-scale brownfield site. It is likely that they will seek to deliver the site in isolation taking all of the development and sales risk.
- 4.11 Serruys Property Company have a 'live' planning consent on their site and have already undertaken works to clear the site in part. They have engaged in a number of property ventures and have indicated that they would seek to bring the site forward for delivery themselves. We are not aware of any direct experience of redeveloping a brownfield site of this size.
- 4.12 The 'Utilities Site' is under multiple public sector ownerships including National Grid and Network Rail, in addition to RWE Generation UK Plc. We understand that site will soon be surplus operationally and that the landowners will seek to get third party expertise onboard to deliver the site. This may be through a disposal or a partnership type arrangement.
- 4.13 All parties have actively engaged within the Masterplanning and SPD process as part of the East Norwich Partnership and recognise the value that a coherent vision for the whole area brings.
- 4.14 It will be important following adoption of the Masterplan that a strategy for delivery across the whole is agreed to ensure that the engagement and close working relationships across the Partnership are not lost.
- 4.15 Of note the following will need to be considered across the Partnership:
- Timing and sequencing of delivery to ensure that the market is not 'flooded' with a similar residential product which will create an oversupply in the market and reduces sales values impacting viability
 - Agreement across landowners where infrastructure is required to unlock/ benefit the whole. Examples of this would be the proposed school and the works and or future maintenance contributions to the Whitlingham Country Park
 - Long term management and stewardship strategy to ensure this is consistent across the whole for public open space/ green areas and access routes, for example, and standards/ adoptions for road/ access routes are established at an early stage.
 - How the benefits of 'placemaking' can be fully harnessed across all sites

Scope for Intervention and Role of the Public Sector

GRANT/ FUNDING

- 4.16 The high level of requisite abnormals / infrastructure cost items outlined in the IDP have been flagged as a particular challenge from a viability perspective. Not only are these items costly they are also often required early in the development cycle, so create an additional funding burden.
- 4.17 The sensitivity analyses run as part of the Stage 2 viability assessment has demonstrated the positive impact on viability that public sector grant can have and we consider this will be critical to unlocking the overall scheme.
- 4.18 We have tested the scheme at grant levels considered to be commensurate to a large-scale regeneration scheme of this nature, however, dialogue with public sector bodies is critical to ascertain whether these levels are realistic and achievable in the current climate.
- 4.19 We would highlight the following precedent for intervention in major housing/ mixed use sites across the UK which compare favourably to the likely funding ask at East Norwich given the scale of development proposed:
- York Central - £77m from Homes England and Network Rail to unlock 3,705 homes and 1.2m sq of commercial space through infrastructure funding
 - Ebbsfleet Development Corporation - £170m from Treasury to unlock 1,300 homes and 1m sq of commercial space through infrastructure funding
 - Milton Keynes East - £94.6m, HIF funding to unlock 5,000 homes through infrastructure funding.
 - Biggleswade Urban Extension - £69.6m HIF funding to unlock 3,000 homes through infrastructure funding
- 4.20 There has been significant engagement with Homes England throughout this master planning process to keep them well-informed as the project has progressed. More detailed work will be required as the project evolves to better understand Homes England's role such as in relation to matters including Subsidy Control and land position.
- 4.21 In the next section we consider potential opportunities for public sector funding in more detail. We would observe that to understand the full role and focus of such funding further financial modelling and optioneering work should be undertaken as a notional 'Stage 3' to follow after this commission.

AS A DELIVERY PARTNER

- 4.22 Where individual parties may struggle to deliver in isolation there may be scope for both the Council and/ or Homes England to take on a role as joint delivery partner or to purchase land interests in whole or part. This would help to share the development risk and could alleviate any Subsidy Control issues
- 4.23 Local or Central Government could also consider scope to establish a Regeneration Company which would have a number of powers which could support infrastructure delivery and provide a coherent approach to the development of the whole and to the long term management of the 'place'.

LONG TERM MANAGEMENT

- 4.24 As part of the East Norwich masterplan a large quantity of high-quality public realm is being proposed such as new cycle routes to and from Whitlingham Country Park to the east.

- 4.25 It will be essential to establish a long term, consistent management strategy and understand how this will be planned and agreed between the different stakeholders. For example, Register Providers will be mindful of levying service charges at affordable levels, as would PRS operators, managed by funds, looking to interface with outside space.
- 4.26 Service charge levels for the commercial space would also need to be set at sustainable levels in order to mitigate the risk of reduced demand for space and associated void periods.
- 4.27 Given the scale of development proposed at East Norwich, we would recommend that all members of the Partnership formally engage in a Long Term Asset Management strategy which will ensure a consistent and high quality approach to the maintenance of public spaces and infrastructure. This may take the form of:
- A Fixed Estate Charge, this model has been adopted across the Olympic Park
 - Transfer of open space to a charitable body such as the Lands Trust
 - A 'Garden Community' type model such as the Letchworth Garden City Heritage Foundation or more recently at Ebbsfleet Garden City Trust where the income from certain commercial assets is ring fenced to maintain and enhance the public realm in the long term.
- 4.28 Key considerations when setting up the long term management and stewardship arrangements are:
- Fixing long term objectives for quality of place and embedding these within policy and vision documents
 - Governance arrangements and interface with local authority, landowners and residents
 - Financial structures looking at projected long term income and expenditure
 - Engagement with existing community in respect of wider blue and green assets and empowering individuals in stewardship
 - The role of embedded technology and smart monitoring systems

5. Funding + Investment Considerations

- 5.1 As established in the previous section the scale and nature of infrastructure required to unlock the delivery of East Norwich is significant, presenting significant challenges to the viability of the sites when considered on solely market terms.
- 5.2 The viability assessment has examined how the sharing of the infrastructure costs between public and private sector partners could provide a route to viability and enable the significant potential of the East Norwich sites to be realised.
- 5.3 With the need for public investment clearly evidenced and demonstrated by the viability challenge and the areas where intervention may make the most impact on viability identified it is important to consider how such interventions could be funded.
- 5.4 The starting point for this is to consider the IDP and the assessment it has made in terms of costs, timing of delivery, driver of the infrastructure requirement and the extent to which benefits are likely to be experienced. From here it is possible to identify the most appropriate opportunities for funding

Infrastructure Investment Needs

- 5.5 The development of the SPD has led to a number of key infrastructure items being identified as required to be delivered in order to deliver a sustainable new community in East Norwich.
- 5.6 The IDP brings these needs together under the following themes:
- Accessibility – which captures river crossings, upgraded and new pedestrian cycle routes, sustainable transport, highway improvements and public transport;
 - Education + Community – a new two form entry primary school and considerations for healthcare requirements;
 - Flood Management
 - Environment + Open Space – which captures low carbon energy, open space, play space, landscaping, biodiversity gain and ecology;
 - River + Broads – facilities for pleasure boats; and
 - Other Enabling Works – which captures demolition, reclamation and site services.
- 5.7 The IDP focuses on solely on infrastructure that is specific to the delivery of the East Norwich vision, however it is recognised there are a wider set of infrastructure requirements across physical, social, health and community activity that will also need to form part of the East Norwich delivery. It is assumed development will be liable for both Section 106 and Community Infrastructure Levy in order to fund these both locally and across the wider Greater Norwich area.
- 5.8 A number of interventions could be funded through this approach, such as:
- Highways adoption and maintenance
 - Improvements to the County Wildlife Site

- Contributions for any increase in emergency services provision
 - Contributions to social services, adult education, libraires etc
- 5.9 Further, the GNLPS is supported by a Green Infrastructure Recreational Avoidance and Mitigation Study (GI RAMS), which has led to a specific contribution mechanism being adopted to fund compensatory investment in Greater Norwich's sensitive green spaces. This will apply to development at East Norwich and has been included in the viability assessment.
- 5.10 Outside of these arrangements costs for the delivery of physical spaces for the likes of healthcare, community facilities, early years provision etc are incorporated within the SPD's viability assessment via the development build costs.

THE IDP LIST

- 5.11 The IDP includes the following key pieces of infrastructure

Table 7 - Infrastructure List

Item No	Item	Purpose
ACCESSIBILITY		
A1	New all modes bridge for vehicles, pedestrians and cycles across the River Wensum	Provide access to/from the Utilities site from the Deal Ground and new connections to other areas north of the Wensum.
A2	New pedestrian / cycle bridge across the River Wensum	Provide connections between Geoffrey Watling Way/Football Ground and East Norwich sites
A3	New all modes bridge for cars, pedestrians and cycles across the River Yare	Provide access to/from the Deal Ground and Utilities site
A4	New pedestrian / cycle bridge across the River Yare	Provide access to/from Whitlingham Country Park and the Broads and create new high quality strategic cycle route
A5	Improvement to existing underpass for pedestrians and cycles	Provide connection between Carrow Works and Deal Ground under the railway line and create new high quality strategic walk/cycle route
A6	Upgrades to existing pedestrian / cycle routes within Carrow Works	Provide cycle/pedestrian access to/from all parts of the Carrow Works site that link to strategic route
A7	Provision of pedestrian and cycle routes through the May Gurney, Deal Ground and Utilities	Provide cycle/pedestrian access to/from all parts of the these sites that link to strategic route
A8	Contributions to support bus services through the Carrow Works site	To provide bus stops and associated infrastructure to promote public transport usage
A9	Infrastructure to support e-bike hire, e-car-hire scheme and e-car charging	To provide infrastructure to promote low carbon transport modes
A10	Upgrading of primary route through Carrow Works	To provide vehicular access to all development plots within the site

Item No	Item	Purpose
A11	New vehicular routes within the May Gurney, Deal Ground and Utilities Sites	To provide vehicular access to all development plots within the site
A12	Remodelling of existing vehicular access from A147/A1054 roundabout to Carrow Works	Allowance for improvement to 'County Hall' roundabout to improve access to Carrow Works for all modes
A13	New vehicular access at point of existing access from A147 into Carrow Works	To provide secondary access to Carrow Works for all modes
A14	Remodelling existing vehicular access from Bracondale into the May Gurney site	To provide primary access point for May Gurney, Deal Ground and Utilities Sites
A15	Allowance for other works to estate roads within the sites	To provide improved estate roads inc. drainage, planting, lighting
A16	Offsite Highways & Associated Works	Allowance for upgrades to the wider road network to manage any transport impacts
A17	Upgraded Cremorne Pedestrian and Cycle Bridge	To provide connection to/from north of Utilities Site to Thorpe Road - onward benefit for residents to access Whitlingham
EDUCATION + COMMUNITY		
EC1	2FE Primary School	Provision of land to provide new primary education facilities to meet the needs generated by the development at East Norwich.
FLOOD MANAGEMENT		
FM1	Low level riverside walk along banks of the River Wensum	To provide flood mitigation for Deal Ground, May Gurney and Utilities sites
ENVIRONMENT + OPEN SPACE		
EOS1	Site wide low carbon/zero carbon heating and power network.	To provide net zero energy and utilities provision within East Norwich within new developments
EOS2	Local public open and child play space as required	To provide appropriate levels of open and play space for residents within East Norwich
EOS3	Ecology and Archaeology	Allowance for provision of specific interventions that may be needed to address archaeological/ecological issues on site
EOS4	Sitewide landscaping and public realm	Allowance for public realm treatment to deliver a high quality environment
RIVER + BROADS		

Item No	Item	Purpose
RB1	Deal Basin (small marina)	To provide small basin for day boats, canoes, SUP etc
RB2	Crown Marina (large marina)	To provide large boating marina for overnight stays, boat hire etc
OTHER ENABLING WORKS		
OEW1	Demolition and Alteration Works	Allowances for utilities disconnection, asbestos removal, building demolition and removal of hard standings etc
OEW2	Reclamation and Earthworks	Allowance to cover remediation, decontamination etc
OEW3	Offsite and Onsite Services	Allowance to cover utilities connection costs and for bringing services into the site to a fixed point
OEW4	Other Offsite and Onsite Drainage	Allowance to cater for surface water management, including SUDS, within development plots etc

REQUIREMENTS + BENEFITS

5.12 The IDP provides an assessment of both the driver of need for each piece of infrastructure and the scale at which any benefit from its delivery would be experienced. A specific assessment has been made for each infrastructure item, but broadly the balance is:

5.13 Strategic Infrastructure

- Items that deliver the integrated and sustainable vision set out in the GNLP
- These items tend to have the widest benefit, creating positive impacts for individual sites in East Norwich, East Norwich as a whole and the wider city/sub-region.
- Example interventions include:
 - Pedestrian/cycle crossings to Whitlingham and Geoffrey Watling Way
 - E-Cycle/E-Vehicle hire infrastructure
 - Lowered riverside walk areas
 - Zero carbon utilities
 - Boating marinas

5.14 Site Infrastructure

- Items that deliver key infrastructure to unlock development delivery.
- These items tend to have primary benefits within specific sites and East Norwich as a whole, with lower benefits for the wider area.

- Example interventions include:
 - All modes bridges across the Wensum and Yare
 - Bus servicing
 - Junction upgrades
 - Primary school

5.15 Enabling Works

- Items that are part of the development process but, given the nature of the sites, are likely to be of a higher order than 'standard' development sites in the city.
- These items have a main benefit for a specific site, with limited wider benefit created.
- Examples include:
 - Public open and child play space
 - Demolition works
 - Onsite and offsite services

5.16 It is this assessment of requirement drivers and benefits that informs the approach potential approaches to funding and investment.

Potential Funding Opportunities

- 5.17 The viability testing has identified a need for alternative funding approaches to be deployed across East Norwich in order to unlock delivery as it is clear that, whilst the scheme can deliver a return the scale of profit is not sufficient to allow the sites to come forward in a policy compliant manner using solely private sector resources.
- 5.18 At present there is no direct commitment from any public sector agency to intervene in East Norwich and no funds have been committed to the delivery of infrastructure at this point. As such it is critical to consider what elements of the East Norwich proposals may be suitable for public sector support either through grant or repayable loan at this point to provide comfort that the strategy set out is achievable.
- 5.19 Homes England have been a central Partner to the progression of the Masterplanning work throughout Stage 1 and 2; the New Anglia LEP have also been a Partner at Board level, although the role of LEP's in being able to fund Infrastructure for such schemes appears to be changing.
- 5.20 This section of the report considers public sector funding opportunities in light of the nature of the intervention needed and the scale and nature of benefit it delivers. It also draws on knowledge and research of previous project funding awards in order to identify the likely sources of funding in the future.
- 5.21 In considering where funding could come from, we have considered both strategic sources (such as government departments), topic specific sources (such as amenity societies, government agencies), devolved funding (such as LEP and local authority) and others (such as caused based funding like the

National Lottery). There is the potential to ‘mix’ funding across programmes and we would expect any future funding to require some form of leveraged or matched investment from other sources, which could include other grant pots, private sector, developer contributions for example.

- 5.22 It should be noted that specific funding opportunities and sources change over time and funding available now may not be available in the future. As such this analysis is provided as a general guide to both the types of fundable projects and the types of agencies that the outputs of each intervention would align with in terms of funding criteria. Clearly, specific business cases will be required at the time of bidding to demonstrate how any project meets the criteria of the specific fund.
- 5.23 The potential sources are not considered to be exhaustive as there are significant numbers of public sector, interest group and altruistic funding opportunities available, however the below does identify the most common sources.
- 5.24 A generalised assessment of the level of benefit felt at different scales has been undertaken to seek to identify those interventions that have the more significant strategic benefits and therefore are likely to be strong candidates for external funding. In the following tables an assessment at the site specific, East Norwich, City-Wide and Sub-regional scale is made, presented as follows:

Table 8 – Relative Assessment of Benefit

Relative assessment of significance	
High	
Medium	
Low	

STRATEGIC INFRASTRUCTURE

- 5.25 At the general level (i.e. outside of issue specific funding) it is likely that funding will be most readily available for interventions that achieve a number of objectives insofar as they both unlock the development of East Norwich but also deliver much wider value and benefit beyond any individual site.
- 5.26 Within the IDP these are readily identified as those categorised as “Strategic Infrastructure”, which are defined as interventions that contribute to the strategic vision for East Norwich, raising the bar in terms of placemaking and the areas role within the city and wider Broads area.
- 5.27 The projects under this categorisation are shown in Table 9, along with the potential extent of the benefits created – which shows clearly the predominance of wider benefits being unlocked.

Table 9 –Strategic Infrastructure Project Benefits

Item No	Item	Relative assessment of benefits			
		Site(s) specific	East Norwich	City wide	Sub regional
A2	New pedestrian / cycle bridge across the River Wensum				
A4	New pedestrian / cycle bridge across the River Yare				
A5	Improvement to existing underpass for pedestrians and cycles				
A9	Infrastructure to support e-bike hire, e-car-hire scheme and e-car charging				
FM1	Low level riverside walk along banks of the River Wensum				
EOS1	Site wide low carbon/zero carbon heating and power network.				
EOS4	Sitewide landscaping and public realm				
RB1	Deal Basin				
RB2	Crown Marina				

5.28 Even within this group there would be differing funding opportunities and reasons for funding each, we consider these in turn in Table 10.

SITE INFRASTRUCTURE

5.29 The next focus for funding is to consider items that are essential to unlock the development at East Norwich but, given the nature of sites, lead to higher costs than may be experienced in other types of site (for example greenfield development).

5.30 This key infrastructure is vital to ensure the city is able to grow sustainably, delivering new job and homes by reusing brownfield land, this approach to growth aligns with key government objectives and would therefore be likely to attract funding which other greenfield propositions could not.

5.31 Further, whilst many of the interventions have a primarily ‘East Norwich’ benefit they do also deliver wider benefits through relieving pressure on wider infrastructure, enhancing strategic connectivity and supporting an improved relationship between the city and the Broads.

Table 10 - Site Infrastructure Project Benefits

Item No	Item	Relative assessment of benefits			
		Site(s) specific	East Norwich	City wide	Sub regional
A1	New all modes bridge for cars, pedestrians and cycles across the River Wensum				
A3	New all modes bridge for cars, pedestrians and cycles across the River Yare				
A6	Upgrades to existing pedestrian / cycle routes within Carrow Works				
A7	Provision of pedestrian and cycle routes through the May Gurney, Deal Ground and Utilities				
A8	Contributions to support bus services through the Carrow Works site				
A10	Upgrading of primary route through Carrow Works				
A11	New vehicular routes within the May Gurney, Deal Ground and Utilities Sites				
A12	Remodelling of existing vehicular access from A147/A1054 roundabout to Carrow Works				
A13	New vehicular access at point of existing access from A147 into Carrow Works				
A14	Remodelling existing vehicular access from Bracondale into the May Gurney site				
A15	Allowance for other works to estate roads within the sites				
A16	Offsite Highways & Associated Works				
EC1	2FE Primary School				

5.32 We consider funding opportunities for these in Table 11, noting that the “Crossings” in Table 10 (Items A1 and A3) fall under the same opportunities identified in Table 11 as those described in Table 9.

ENABLING WORKS

5.33 In the main, the ability to secure funding for what are usually considered typical development costs is limited with funders typically expecting private developers to cover these costs unless they are unusually significant and therefore place a particular barrier on delivery.

5.34 However, past funding mechanisms have provided the opportunity for developers to access funding to help overcome high abnormal costs linked to the re-use of brownfield sites. Often this funding has been made available to help the transition of former industrial sites into new uses by supporting costs for contamination and land remediation.

5.35 Other unusual costs may be considered when linked to a specific topic or interest. For example a range of grant programmes are available to support the restoration and re-use of heritage structures

and/or historic landscapes. A number have a particular focus on industrial heritage, which could provide a significant opportunity for East Norwich.

Table 11 – Enabling Works Project Benefits

Item No	Item	Relative assessment of benefits			
		Site(s) specific	East Norwich	City wide	Sub regional
EOS2	Local public open and child play space as required	Dark Green	Dark Green	Light Green	Very Light Green
EOS3	Ecology and Archaeology	Dark Green	Dark Green	Light Green	Very Light Green
OEW1	Demolition and Alteration Works	Dark Green	Light Green	Very Light Green	Very Light Green
OEW2	Reclamation and Earthworks	Dark Green	Light Green	Very Light Green	Very Light Green
OEW3	Offsite and Onsite Services	Dark Green	Dark Green	Light Green	Very Light Green
OEW4	Other Offsite and Onsite Drainage	Dark Green	Dark Green	Light Green	Very Light Green

5.36 As shown in Table 11 the majority these Enabling Works have limited benefits beyond a specific site, however there may be some potential to secure funding for particular elements of OEW1 and OEW2, as considered in Table 12.

POTENTIAL SOURCES OF FUNDING

5.37 As noted earlier in this section, there are multiple potential sources of funding for each of the interventions noted above and included in the IDP. Table 12 on the following page sets out the key funding opportunities for each of the interventions.

Table 12 - Potential Funding Sources

		Projects	Funding Rationale	Central Government						Agencies						Sub-Regional Bodies				Others					
				DLUHC	DfT	DBEIS	DfE	DEFRA	DCMS	Homes England	Highways England	Canal + Rivers Trust	Environment Agency	Historic England	Natural England	NHS England	GNDP	LEP	Transport East	LCWIP	UKGBC	National Lottery	Sustrans	National Lottery Heritage Fund	Architectural Heritage Fund
Strategic Infrastructure	Crossings	A2, A4, A4 + A1, A3	Creation of sustainable links between the city and Broads; reduction of reliance on private car																						
	Flood Management	FM1	Improve resilience to climate change, enhanced access to rivers																						
	Sustainability	EOS1, EOS4	Reduction of reliance on private car, resilience to climate change, improved air quality																						
	Marinas	RB1, RB2	Increase city-roads relationship, Boost visitor economy, Improve resilience to climate change																						
Site Infrastructure	Sustainable Transport	A6, A7, A8	Creation of sustainable links between the city and Broads; reduction of reliance on private car																						
	Highways	A10-A16	Reduce impact of development on city road network																						
	Primary School	EC1	Enhanced education outcomes, reduced pressure on other education facilities, deliver																						
Enabling Works	Open + Play Space	EOS2, EOS3	Improve engagement with sport, health and well-being outcomes, enhance access to open space and nature																						
	Decontamination + Earthworks	OEW1, OEW2	Address legacy issues within ground and buildings, overcome abnormalities associated with former use																						
	Heritage	OEW1, OEW2	Enhance and protect heritage structures and return to active use, Improve interpretation of industrial legacy																						

- 5.38 Whilst Table 12 considers individual interventions in their own right, there is the potential to bring together projects across sites as part of future funding opportunities for enabling infrastructure. This approach was common in the Housing Infrastructure Fund (for example) where there were opportunities in the full fund to present a combination of interventions including decontamination, accessibility infrastructure and utilities infrastructure for example.
- 5.39 Looking ahead potential brownfield development funds, that are currently under discussion, may similarly focus on packaged measures needed to unlock transformational regeneration opportunities. In this light the case for East Norwich would be strong given the housing, employment, sustainability and connectivity opportunities it presents.
- 5.40 Outside of these infrastructure interventions there may be other opportunities to secure funding to support delivery linked to specific uses or activities within East Norwich. For example funding for capital works via Innovate UK, UK Research and Innovation or Higher Education Funding Council for England (HEFCE) to support business activity and education within East Norwich. At present these cannot be considered in detail as more definition would be needed about the potential types of commercial space coming forward, the activities that would occur within them and the partners involved in their delivery.
- 5.41 Similarly there may be external funding opportunities linked to the approach to construction. Multiple sources have sought to provide catalyst funding for the mass deployment of modern methods of construction, or the piloting of low carbon development. Across East Norwich these could have a positive role to play in future delivery.
- 5.42 There other funding approaches would need to be considered on a case by case basis at later stages when development proposals are more detailed.

Potential Investment Opportunities

- 5.43 The preceding analysis focussed on the opportunity for public sector intervention, which is likely to be the core source of support for delivery at East Norwich. However, increasingly, there are particular elements of a development proposition that can attract other forms of funding, often from private sector sources.
- 5.44 These are unlikely to have the scale of impact that the viability assessment has modelled they can contribute to reducing the overall cost burden placed on the development by attracting upfront investment to deliver infrastructure based on the long term income it can provide.
- 5.45 In many largescale regeneration projects the opportunity to secure upfront private investment in infrastructure has been realised based on a scheme that over its lifespan would deliver profit, this investment has come from a range of sources including utilities providers, investment and pension funds and registered providers who all identify an opportunity to realise value in the future.
- 5.46 Based on the current analysis this type of investment would be challenging to realise given the overall viability position, however within the SPD proposals there are some elements which, subject to more detailed testing, could present opportunities.

Energy / Utilities

- 5.47 The provision of sustainable onsite energy provides the most readily identifiable opportunity for infrastructure to be funded from outside of the development itself. The scale and range of development types presents opportunities for a decentralised energy network of some form to be delivered with the opportunity to 'sell' the resultant energy to residents and the grid more broadly.

- 5.48 This could be linked to a battery storage facility in order to smooth energy provision and increase income by selling to the grid at times of peak demand. It may also enable the delivery of an onsite Energy Centre, subject to further feasibility testing.
- 5.49 Ultimately, whilst the detailed technology solutions are yet to be determined, there is the opportunity (subject to feasibility) to form an ESCo that delivers an onsite energy centre and site-wide connection infrastructure early on to allow each phase to 'connect' and build a self-sustaining network over the long term.

eVehicle / Car Clubs

- 5.50 The SPD includes facilities for the provision of eVehicle charging and (separately) car club facilities, each could provide an income generating business for specific operators.
- 5.51 From a charging perspective a number of companies such as Connected Kerb and Pod Point are actively seeking to grow their network by providing on-street, domestic and commercial charging points across the UK. Potentially, a strategic partnership across East Norwich could be considered to deliver this infrastructure with the provider paying for installation and then receiving income from users.
- 5.52 From the car club perspective whilst there is likely to be some requirement for funding from the development many operators will significantly reduce this if there is perceived to be a high level of demand. With the focus across East Norwich on prioritising sustainable transport this could help drive demand and therefore reduce the upfront cost of provision – however this would need direct testing with providers.

Commercial Space

- 5.53 In many locations the delivery of commercial space, and the infrastructure needed to unlock it, is supported by an underlying investment from a pension fund (or similar) which is reliant on a long term and stable income stream.
- 5.54 This type of investment relies upon the ability to secure a strong, long term, covenant on the space to guarantee income. Often, in less proven commercial locations, this covenant is provided by a major institution such as a university, government department or other public sector agency in order to reduce the risk to the investor.
- 5.55 The major commercial opportunity within the Utilities Site could provide such an opportunity, although given the overall viability position this would need careful testing based on a more detailed proposition for the site.

Conclusions

- 5.56 Overall, based on the IDP and SPD principles, there are a significant number of opportunities to seek funding support and strong initial basis for business case preparation to justify the nature of support needed, both from a needs basis (i.e. the viability challenge) but also from a benefit perspective (i.e. the positive impacts the investment could have on the city as a whole).
- 5.57 Whilst no single clear funding source can be identified and confirmed at this point in the process the analysis presented here provides a good deal of confidence that opportunities to address the viability challenge will be forthcoming both from public and private sources (this could be both developers and Institutional Investors).
- 5.58 As noted earlier it is likely that East Norwich will require a mixed approach to funding to enable delivery, bringing together developer contributions, direct developer delivery, public grant/loan

funding and private sector development. The strength for East Norwich in this context is the active participation of key partners within the process, ranging from Homes England and the LEP (both of which provide a route to government and acknowledging the changing role of LEPs), landowners and their development partners (who have access to partner investment) and the Greater Norwich Growth board (who can leverage its own funds and provide links to other bodies).

- 5.59 If future funding is to be secured, this partnership approach will be vital, ensuring cross-site opportunities are realised and brought forward for funding in a coordinated way in order to demonstrate greater value for money from any investment.

6. Next Steps

- 6.1 This Delivery Report has been prepared based on the level of detail/information within the SPD, IDP and Cost Plan – which in turn have informed a series of viability assessments that help identify both the challenges and opportunities to bring forward the regeneration of East Norwich.
- 6.2 As is discussed throughout the Report, the nature of work undertaken to inform the SPD is both wide-ranging and technically robust, making it appropriate to provide a sound basis for planning guidance and also assess routes to viability and delivery.
- 6.3 However, it is important to recognise that this also means the ability to provide certainty around delivery is limited by the point in the process which East Norwich is at. The observations and considerations presented in this Delivery Report should therefore be seen as setting out a road map to unlocking the potential of East Norwich, rather than being regarded as a definitive guide to delivery.
- 6.4 Determining the specific delivery interventions and approaches will need to be informed and shaped by the evolution of the SPD concepts into more defined proposals, which can in turn provide more detailed inputs to enable feasibility testing and modelling to set a clear course of action for partners.
- 6.5 To move East Norwich into its delivery phase a key series of next steps have been identified which the Partnership can take forward together.

Detailed financial modelling

- 6.6 The initial viability assessment and scenario testing provides a solid foundation for understanding the financial parameters for delivering East Norwich, however it provides a somewhat static view of how costs and returns interact.
- 6.7 To better understand investment and support requirements a more detailed cashflow model would be beneficial, enabling flexible testing of phasing, delivery mechanisms, investment and funding support and policy choices at both the East Norwich and site specific level.
- 6.8 From this base specific intervention approaches can be identified and taken forward.

Further design/feasibility work

- 6.9 The key issue for unlocking the whole of East Norwich is the timely provision of infrastructure that will open up the sites for development. The SPD identifies the broad form, specification and location for these based on initial technical investigation and an appreciation of how best these could be delivered to optimise development and place-making.
- 6.10 With the broad principles agreed the next step will be to undertake more technical due diligence and design work to develop detailed specifications and enable the preparation of more precise cost estimates for their delivery.
- 6.11 The initial focus should be placed on those key pieces of infrastructure that will directly unlock development, namely:
- **The lowered riverside walk** – which is required to manage flood risk across the Deal Ground in particular and will need addressing in order to deliver the spine access road through the site, which in turn unlocks the opportunity to bridge the Wensum and develop the Utilities site. The

flood modelling assessment has set out the initial parameters of the mitigation works, which should be progressed to the next level of detail.

- **All modes bridges across the Yare and Wensum** – these are critical for the delivery of both the Deal Ground and Utilities site, but are yet to be designed and costed in detail. This will be required to gain detailed consent for both bridges and enable the identified delivery trajectory to be met.
- **Site access** – remodelling of site access is required to provide access to all sites in East Norwich, however this still requires further investigation. Working with landowners and County Highways teams will be vital to address this issue and detailed transport assessments will be needed at planning application stage.
- **Utilities provision** – the delivery of low carbon, sustainable heat and power in East Norwich is central to the vision. The SPD identifies some key opportunities to achieve this, but technical feasibility has not been tested to understand which provides the optimal solution. As design develops for the area further feasibility will be possible to design an approach – a particular focus should be on the need for/nature of an onsite Energy Centre.
- **Underpass** – whilst not a key dependency for development per se the delivery of a high quality link through the underpass is critical. The initial feasibility study defines what is desirable, but work in partnership with Network Rail is now required to move this into a more detailed feasibility assessment.
- **Design Guide** – the SPD sets out a number of key design principles that support the delivery of the East Norwich vision, these could be evolved to establish an area specific design guide to help achieve design quality.

6.12 The above actions are important to unlock development, however there are wider elements within the East Norwich vision which require further investigation and testing to provide greater definition and certainty in the delivery process.

6.13 One such element should be further development of the major employment opportunity presented on the Utilities site. Whilst the SPD identifies a number of conceptual approaches to this area none have been tested in detail with commercial and institutional occupiers/operators to understand what is possible in this location.

6.14 Working with the landowners the next step could be to undertake more focussed testing of the concept with relevant stakeholders such as universities, the LEP, UKTI and commercial providers to evolve the 'brief' for the site and establish a clearer proposition that can be taken to market.

Project business cases

6.15 It is clear that the delivery of East Norwich will require some form of public sector intervention which, in turn, will require the preparation of Green Book compliant business cases to demonstrate the Value for Money of the interventions proposed.

- 6.16 The detailed financial modelling will shape the priorities in terms of investment asks and should form the starting point for business case development for the overall delivery approach and model to be deployed.
- 6.17 However, in parallel, and to respond to more immediate funding opportunities that are likely to arise in the next 12 months there would be benefit in focussing some effort now on developing Outline Business Cases (OBCs) for a small number of key interventions, building on the SPD and any other feasibility work.
- 6.18 It would appear, given their importance to overall delivery and the achievement of the East Norwich vision, the early business cases could focus on:
- The funding needed for the package of crossings – either individually or separately; and
 - The timing and funding of the marina's given these are less directly linked to development delivery but linked to other priorities for Greater Norwich such as future rail upgrades.
- 6.19 The work on these OBCs would position East Norwich well to respond to any calls for projects, allowing a robust bid to be put together swiftly even if short timeframes are set out by government – as was the case for the Get Building Fund in 2020.

Further engagement with landowners/ stakeholders

- 6.20 As noted throughout this report, whilst viability is challenged, East Norwich benefits from having all key parties engaged from the outset in finding a delivery solution. It is vitally important there continues to be a joined up approach between the public sector and the landowners in order for delivery challenges to be overcome.
- 6.21 Whilst individual planning application processes will need to take their own course, continued engagement through the Partnership should continue to steer and shape all of the next steps identified above and ensure they both confirm support requirements and identify opportunities for shared investment.
- 6.22 Beyond this continued partnership working, some specific engagement will be required in order to facilitate delivery, including:
- Working with neighbouring landowners to secure secondary access points and crossing landing points where necessary;
 - Ongoing conversations with Network Rail and its tenants to understand the future of key rail related infrastructure and plan for any changes that may occur;
 - The continuation of lobbying for a decision on the Trowse Rail Bridge improvements and to ensure improved underpasses are part of any future intervention to the rail infrastructure;
 - Discussions with landowners to develop an area-wide stewardship model that maintains the quality of environment and place in the future.

Appendix I

RPS Cost Plan

COST PLAN Nr 2 Rev B DRAFT

FOR:

AVISON YOUNG

AT:

EAST NORWICH MASTERPLAN

JOB NR. LODI2347

12/04/2022





SECTION I - COST PLAN

COST PLAN Nr 2 Rev B DRAFT

SUMMARY

DESCRIPTION	TOTAL	CARROW WORKS	DEAL GROUND	MAY GURNEY	UTILITIES SITE
A DEMOLITION AND ALTERATION WORKS	£ 13,420,000	£ 8,250,000	£ 1,292,500	£ 2,557,500	£ 1,320,000
B RECLAMATION AND EARTHWORKS	£ 23,430,000	£ 8,800,000	£ 8,140,000	£ 1,320,000	£ 5,170,000
C OFF SITE HIGHWAYS & ASSOCIATED WORKS	£ 10,450,000	£ 3,300,000	£ 2,750,000	£ 1,650,000	£ 2,750,000
D ON SITE HIGHWAYS & ASSOCIATED WORKS	£ 46,949,125	£ 19,671,000	£ 8,491,250	£ 5,927,375	£ 12,859,500
E OFF SITE & ON SITE SERVICES	£ 3,850,000	£ 1,100,000	£ 1,100,000	£ 550,000	£ 1,100,000
F OTHER OFF SITE & ON SITE DRAINAGE	£ 10,450,000	£ 3,300,000	£ 3,300,000	£ 1,650,000	£ 2,200,000
G ECOLOGY & ARCHAEOLOGY	£ 1,100,000	£ 275,000	£ 275,000	£ 275,000	£ 275,000
H SITEWIDE LANDSCAPING	£ 16,280,000	£ 8,800,000	£ 2,915,000	£ 1,100,000	£ 3,465,000
I MARINA DEVELOPMENT	£ 18,000,000	£ -	£ 6,000,000	£ -	£ 12,000,000
J PLANNING OBLIGATIONS (WORKS TO BE DONE)	£ -	£ -	£ -	£ -	£ -
K SECTION 106 / CIL PAYMENTS	£ -	£ -	£ -	£ -	£ -
L CONTINGENCY (SEE ALLOWANCE IN SEPARATE SECTIONS)	£ -	£ -	£ -	£ -	£ -
M FEES	£ -	£ -	£ -	£ -	£ -
TOTAL SITE INFRASTRUCTURE COST	£ 143,929,125	£ 53,496,000	£ 34,263,750	£ 15,029,875	£ 41,139,500
N RESIDENTIAL LAND DEVELOPMENT	£ 626,233,806	£ 284,801,355	£ 183,912,210	£ 30,292,718	£ 127,227,523
O EMPLOYMENT LAND DEVELOPMENT	£ 62,988,002	£ 29,182,879	£ 11,899,102	£ -	£ 21,906,022
P EDUCATION LAND DEVELOPMENT	£ 9,350,000	£ 9,350,000	£ -	£ -	£ -
TOTAL SITE DEVELOPMENT COST	£ 698,571,808	£ 323,334,234	£ 195,811,312	£ 30,292,718	£ 149,133,544
COMBINED TOTAL	£ 842,500,933				

COST PLAN Nr 2 Rev B DRAFT

BREAKDOWN

DESCRIPTION	TOTAL	CARROW WORKS		DEAL GROUND		MAY GURNEY		UTILITIES SITE		
<u>Utility Disconnections & Decommissioning Works</u> Generally over site area (Provisional Sum)	£ 200,000	1 item	£ 100,000	£ 100,000	1 item	£ 25,000	£ 25,000	1 item	£ 50,000	£ 50,000
<u>Asbestos Removal</u> Allowance (Asbestos surveys of existing buildings to be completed)	£ -		£ -			£ -			£ -	
<u>Demolition Works</u> Demolition & Removal of items 1-44	£ 11,500,000	1 item	£ 6,900,000	£ 6,900,000	1 item	£ 1,150,000	£ 1,150,000	1 item	£ 1,150,000	£ 1,150,000
Removal of Hard Standings and Existing Roads	£ 500,000	1 item	£ 500,000	£ 500,000						
Sub - Total	£ 12,200,000		£ 7,500,000			£ 1,175,000		£ 2,325,000		£ 1,200,000
Contingency	£ 1,220,000	10%	£ 750,000		10%	£ 117,500		£ 232,500	10%	£ 120,000
Total Demolition and Alteration Works to Summary	£ 13,420,000		£ 8,250,000			£ 1,292,500		£ 2,557,500		£ 1,320,000
B RECLAMATION AND EARTHWORKS										
General allowance for site preparation, reclamation, retaining structures, remediation etc. Note; subject to receiving information from Design Team	£ 21,300,000	1 item	£ 8,000,000	£ 8,000,000	1 item	£ 7,400,000	£ 7,400,000	1 item	£ 4,700,000	£ 4,700,000
Sub - Total	£ 21,300,000		£ 8,000,000			£ 7,400,000		£ 1,200,000		£ 4,700,000
Contingency	£ 2,130,000	10%	£ 800,000		10%	£ 740,000		£ 120,000	10%	£ 470,000
Total Reclamation and Earthworks to Summary	£ 23,430,000		£ 8,800,000			£ 8,140,000		£ 1,320,000		£ 5,170,000
C OFF SITE HIGHWAYS & ASSOCIATED WORKS										
General allowance for S278 Works & other Miscellaneous Utilities (offsite) Note; subject to receiving information from Design Team	£ 9,500,000	1 item	£ 3,000,000	£ 3,000,000	1 item	£ 2,500,000	£ 2,500,000	1 item	£ 2,500,000	£ 2,500,000
Sub - Total	£ 9,500,000		£ 3,000,000			£ 2,500,000		£ 1,500,000		£ 2,500,000
Contingency	£ 950,000	10%	£ 300,000		10%	£ 250,000		£ 150,000	10%	£ 250,000
Total Off Site Highways & Associated Works to Summary	£ 10,450,000		£ 3,300,000			£ 2,750,000		£ 1,650,000		£ 2,750,000

COST PLAN Nr 2 Rev B DRAFT

BREAKDOWN

DESCRIPTION	TOTAL	CARROW WORKS		DEAL GROUND		MAY GURNEY		UTILITIES SITE	
D ON SITE HIGHWAYS & ASSOCIATED WORKS									
<u>Pedestrian / Cycle Routes</u>									
D1 Existing Pedestrian / Cycle Routes to be upgrade / converted	£ 700,000	1400 m	£ 500	£ 700,000					
D2 New Pedestrian / Cycle Routes	£ 1,608,750		Incl. Above		770 m	£ 750	£ 577,500	175 m	£ 750 £ 131,250
<u>Vehicular Routes</u>									
D3 Existing Vehicular Routes to be Upgraded	£ 1,350,000	1500 m	£ 900	£ 1,350,000					
D4 New Vehicular Routes	£ 4,625,000	1000 m	£ 1,250	£ 1,250,000	1000 m	£ 1,250	£ 1,250,000	400 m	£ 1,250 £ 500,000
<u>Site Access</u>									
D5 Remodelling of existing vehicular access from A147/A1054 roundabout (south of Carrow Works)	£ 500,000	1 item	£ 500,000	£ 500,000					
D6 New vehicular access at point of existing access form A147 (west of Carrow Works)	£ 750,000	1 item	£ 750,000	£ 750,000					
D7 Remodelling existing vehicular access from Bracondale (south of May Gurney)	£ 300,000						1 item	£ 300,000 £ 300,000	
<u>Bridges / Underpass</u>									
D8 New vehicular bridge for cars, peds and cycles (across River Yare, north of May Gurney, south of Deal Ground)	£ 2,500,000						1 item	£ 2,500,000 £ 2,500,000	1 item incl.
D9 New vehicular bridge for cars, peds and cycles (Fixed) (across River Wensum, south of Utilities Site)	£ 4,800,000								1 item £ 4,800,000 £ 4,800,000
D10 Improvement to existing underpass for peds and cycles (close to Trowse Bridge, between Carrow Works and Deal Ground)	£ 2,300,000	1 item	£ 2,300,000	£ 2,300,000	1 item	incl.		1 item	incl.
D11 New bridge across the River Wensum for peds and cycles on site of historic bridge alignment (north of Carrow Works)	£ 4,000,000	1 item	£ 4,000,000	£ 4,000,000					
D12 New bridge for Peds and Cycles across the River Yare (north-east of Deal Ground)	£ 2,000,000				1 item	£ 2,000,000	£ 2,000,000		
D13 Upgraded Cremorne Pedestrian and Cycle Bridge	£ 1,000,000								1 item 1,000,000 £ 1,000,000
<u>General Allowance</u>									
D14 General allowance for estate roads, other works, carrier drainage, road drainage, landscaping, land for sale costs, miscellaneous, etc Note; subject to receiving information from Design Team	£ 11,500,000	1 item	£ 4,500,000	£ 4,500,000	1 item	£ 3,000,000	£ 3,000,000	1 item	£ 1,500,000 £ 1,500,000
<u>Additional Items</u>									
Infrastructure to support Bus Services	£ 800,000	1 item	£ 800,000	£ 800,000					
Infrastructure to suport Electric Bike Hire	£ 600,000	1 item	£ 220,000	£ 220,000	1 item	£ 150,000	£ 150,000	1 item	£ 150,000 £ 150,000
Infrastructure to suport Electric Car Charging	£ 2,020,000	1 item	£ 940,000	£ 940,000	1 item	£ 560,000	£ 560,000	1 item	£ 80,000 £ 80,000
Sub - Total	£ 41,353,750			£ 17,310,000			£ 7,537,500		£ 5,161,250
Contingency	£ 2,475,375	10%	£ 1,101,000	£ 1,101,000	10%	£ 553,750	£ 553,750	10%	£ 266,125
Contingency (Bridges / Underpass)	£ 3,120,000	20%	£ 1,260,000	£ 1,260,000	20%	£ 400,000	£ 400,000	20%	£ 500,000
Total On Site Highways & Associated Works to Summary	£ 46,949,125		£ 19,671,000	£ 19,671,000		£ 8,491,250	£ 8,491,250	£ 5,927,375	£ 12,859,500
E OFF SITE & ON SITE SERVICES									
Development-Wide Energy Centre Note; subject to receiving information from Design Team	TBC								
General allowance for Utilities Costs (electric, water, gas, etc.) Note; subject to receiving information from Design Team	£ 3,500,000	1 item	£ 1,000,000	£ 1,000,000	1 item	£ 1,000,000	£ 1,000,000	1 item	£ 500,000 £ 500,000
Sub - Total	£ 3,500,000			£ 1,000,000			£ 1,000,000		£ 500,000
Contingency	£ 350,000	10%	£ 100,000	£ 100,000	10%	£ 100,000	£ 100,000	10%	£ 50,000
Total Off Site & On Site Services to Summary	£ 3,850,000		£ 1,100,000	£ 1,100,000		£ 1,100,000	£ 1,100,000	£ 550,000	£ 1,100,000
F OTHER OFF SITE & ON SITE DRAINAGE									
General Allowance for surface water, land drainage, foul water, etc. Note; subject to receiving information from Design Team	£ 9,500,000	1 item	£ 3,000,000	£ 3,000,000	1 item	£ 3,000,000	£ 3,000,000	1 item	£ 1,500,000 £ 1,500,000
Sub - Total	£ 9,500,000			£ 3,000,000			£ 3,000,000		£ 1,500,000
Contingency	£ 950,000	10%	£ 300,000	£ 300,000	10%	£ 300,000	£ 300,000	10%	£ 150,000
Total Other Off Site & On Site Drainage to Summary	£ 10,450,000		£ 3,300,000	£ 3,300,000		£ 3,300,000	£ 3,300,000	£ 1,650,000	£ 2,200,000

COST PLAN Nr 2 Rev B DRAFT

BREAKDOWN

DESCRIPTION	TOTAL	CARROW WORKS		DEAL GROUND		MAY GURNEY		UTILITIES SITE			
G ECOLOGY & ARCHAEOLOGY											
General allowance for ecology and archaeology issues Note; subject to receiving information from Design Team	£ 1,000,000	1 item	£ 250,000	£ 250,000	1 item	£ 250,000	£ 250,000	1 item	£ 250,000	£ 250,000	
Sub - Total	£ 1,000,000			£ 250,000		£ 250,000	£ 250,000		£ 250,000	£ 250,000	
Contingency	£ 100,000	10%		£ 25,000	10%		£ 25,000	10%		£ 25,000	
Total Ecology & Archaeology to Summary	£ 1,100,000			£ 275,000		£ 275,000	£ 275,000		£ 275,000	£ 275,000	
H SITEWIDE LANDSCAPING											
Open Space Area		355,655 m2			282,849 m2			38,784 m2		183,993 m2	
General allowance for sitewide landscaping and public realm Note; subject to receiving information from Design Team	£ 6,500,000	1 item	£ 2,000,000	£ 2,000,000	1 item	£ 1,500,000	£ 1,500,000	1 item	£ 1,000,000	£ 1,000,000	
Low level riverside walk along banks of Wensum (Part of Flood Mitigation) Note; subject to receiving information from Design Team	£ 2,300,000				1 item	£ 1,150,000	£ 1,150,000	1 item	£ 1,150,000	£ 1,150,000	
Local public open and child play space as required Note; subject to receiving information from Design Team	£ 6,000,000	1 item	£ 6,000,000	£ 6,000,000	1 item	£ -	£ -	1 item	£ -	£ -	
Sub - Total	£ 14,800,000			£ 8,000,000		£ 2,650,000	£ 1,000,000		£ 3,150,000	£ 3,150,000	
Contingency	£ 1,480,000	10%		£ 800,000	10%		£ 100,000	10%		£ 315,000	
Total Sitewide Landscaping to Summary	£ 16,280,000			£ 8,800,000		£ 2,915,000	£ 1,100,000		£ 3,465,000	£ 3,465,000	
I MARINA DEVELOPMENT											
<u>Functional Construction</u>											
Excavation/disposal	£ 3,930,000				8460 m3	£125	£1,060,000		22925 m3	£125	£2,870,000
Sheet piling	£ 1,620,000				830 m2	£650	£540,000		1660 m2	£650	£1,080,000
Additional waterproofing to sheet piled walls	£ 405,000				25%		£135,000		25%		£270,000
Capping beam	£ 600,000				166 m	£1,200	£200,000		332 m	£1,200	£400,000
							£1,935,000				£4,620,000
<u>FF&Equipment</u>											
Jetties, lifting equipment, boat racking, etc	£ 3,000,000				1 item	£1,000,000	£1,000,000		1 item	£2,000,000	£2,000,000
<u>Buildings</u>											
Operational buildings (excl restaurants, retail, etc)	£ 4,000,000				1 item	£1,500,000	£1,500,000		1 item	£2,500,000	£2,500,000
Ground risk / Design development Contingency	£ 1,350,000				10%		£440,000		10%		£910,000
Sub - Total	£ 15,000,000			£ -			£ 5,000,000		£ -	£ 10,000,000	
Contingency	£ 3,000,000	20%		£ -	20%		£ 1,000,000	20%		£ 2,000,000	
Total Marina Development to Summary	£ 18,000,000			£ -			£ 6,000,000		£ -	£ 12,000,000	

COST PLAN Nr 2 Rev B DRAFT

BREAKDOWN

DESCRIPTION	TOTAL	CARROW WORKS	DEAL GROUND	MAY GURNEY	UTILITIES SITE
J PLANNING OBLIGATIONS (WORKS TO BE DONE)					
Excluded - Advised by others		Excluded	Excluded	Excluded	Excluded
Sub - Total	£ -	£ -	£ -	£ -	£ -
Contingency	£ -	10% £ -	10% £ -	10% £ -	10% £ -
Total Planning Obligations to Summary	£ -	£ -	£ -	£ -	£ -
K SECTION 106 / CIL PAYMENTS					
Excluded - Advised by others		Excluded	Excluded	Excluded	Excluded
Sub - Total	£ -	£ -	£ -	£ -	£ -
Contingency	£ -	10% £ -	10% £ -	10% £ -	10% £ -
Total Section 106 / CIL Payments to Summary	£ -	£ -	£ -	£ -	£ -
L CONTINGENCY (SEE ALLOWANCE IN SEPARATE SECTIONS)					
Included within sections		Included	Included	Included	Included
Sub - Total	£ -	£ -	£ -	£ -	£ -
Contingency	£ -	10% £ -	10% £ -	10% £ -	10% £ -
Total Contingency to Summary	£ -	£ -	£ -	£ -	£ -
M FEES					
Excluded - Advised by others		Excluded	Excluded	Excluded	Excluded
Sub - Total	£ -	£ -	£ -	£ -	£ -
Contingency	£ -	10% £ -	10% £ -	10% £ -	10% £ -
Total Fees to Summary	£ -	£ -	£ -	£ -	£ -

COST PLAN Nr 2 Rev B DRAFT

BREAKDOWN

DESCRIPTION	TOTAL	CARROW WORKS				DEAL GROUND				MAY GURNEY				UTILITIES SITE							
O RESIDENTIAL LAND DEVELOPMENT																					
<i>Apartments</i>																					
1 Bed		54,093 m2	£	1,500	£	81,140,213	33,887 m2	£	1,500	£	50,830,463	2,713 m2	£	1,500	£	4,069,800	15,414 m2	£	1,500	£	23,120,625
2 Bed		48,684 m2	£	1,500	£	73,026,191	30,498 m2	£	1,500	£	45,747,416	2,442 m2	£	1,500	£	3,662,820	13,872 m2	£	1,500	£	20,808,563
3 Bed		5,409 m2	£	1,500	£	8,114,021	3,389 m2	£	1,500	£	5,083,046	271 m2	£	1,500	£	406,980	1,541 m2	£	1,500	£	2,312,063
Total	£				£	162,280,425				£	101,660,925				£	8,139,600				£	46,241,250
<i>Houses</i>																					
2 Bed		1,782 m2	£	1,750	£	3,119,266	1,340 m2	£	1,750	£	2,344,125	509 m2	£	1,750	£	890,851	1,664 m2	£	1,750	£	2,912,534
3 Bed		19,607 m2	£	1,700	£	33,331,581	14,735 m2	£	1,700	£	25,048,650	5,600 m2	£	1,700	£	9,519,375	18,307 m2	£	1,700	£	31,122,504
4 Bed		12,477 m2	£	1,650	£	20,587,153	9,377 m2	£	1,650	£	15,471,225	3,563 m2	£	1,650	£	5,879,614	11,650 m2	£	1,650	£	19,222,723
5 Bed		1,782 m2	£	1,600	£	2,851,900	1,340 m2	£	1,600	£	2,143,200	509 m2	£	1,600	£	814,492	1,664 m2	£	1,600	£	2,662,888
Total	£				£	59,889,900				£	45,007,200				£	17,104,332				£	55,920,648
<i>(The rates above include a ~15% allowance for achieving sitewide low / net zero carbon production)</i>																					
<i>Podiums</i>																					
Residential Podiums		20,219 m2	£	750.00	£	15,164,138	8,789 m2	£	750.00	£	6,592,050	- m2	£	750.00	£	-	5,148 m2	£	750.00	£	3,861,038
Total	£				£	15,164,138				£	6,592,050				£	-				£	3,861,038
Residential Land Development Abnormals																					
Sub - Total	£				£	237,334,463				£	153,260,175				£	25,243,932				£	106,022,936
Contingency	£	104,372,301		20%	£	47,466,893		20%	£	30,652,035		20%	£	5,048,786		20%			£	21,204,587	
Total Residential Land Development to Summary	£	626,233,806			£	284,801,355			£	183,912,210			£	30,292,718					£	127,227,523	
O EMPLOYMENT LAND DEVELOPMENT																					
<i>Employment Development</i>																					
General Employment Use		27,926 m2	£	950	£	26,529,890	11,387 m2	£	950	£	10,817,365	- m2	£	-	£	-	20,963 m2	£	950	£	19,914,565
Total	£				£	26,529,890				£	10,817,365				£	-				£	19,914,565
Employment Land Development Abnormals																					
Sub - Total	£				£	26,529,890				£	10,817,365				£	-				£	19,914,565
Contingency	£	5,726,182		10%	£	2,652,989		10%	£	1,081,737		10%	£	-		10%			£	1,991,457	
Total Employment Land Development to Summary	£	62,988,002			£	29,182,879			£	11,899,102			£	-					£	21,906,022	
P EDUCATION LAND DEVELOPMENT																					
<i>Education Development</i>																					
2FE Primary School		2,245 m2	£	3,750	£	8,500,000	- m2	£	-	£	-	- m2	£	-	£	-	- m2	£	-	£	-
Use - TBC		- m2	£	-	£	-	- m2	£	-	£	-	- m2	£	-	£	-	- m2	£	-	£	-
Total	£				£	8,500,000				£	-				£	-				£	-
Education Land Development Abnormals																					
Sub - Total	£				£	8,500,000				£	-				£	-				£	-
Contingency	£	850,000		10%	£	850,000		10%	£	-		10%	£	-		10%			£	-	
Total Employment Land Development to Summary	£	9,350,000			£	9,350,000			£	-			£	-					£	-	

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ASSUMPTIONS

DESCRIPTION	COMMENT
A DEMOLITION AND ALTERATION WORKS	
<p><u>Utility Disconnections & Decommissioning Works</u> Generally over site area (Provisional Sum)</p>	
<p><u>Asbestos Removal</u> Allowance (Asbestos surveys of existing buildings to be completed)</p>	<p>Asbestos Surveys of site and existing structures yet to be completed. Assumption made from the information available.</p>
<p><u>Demolition Works</u> Demolition & Removal of items 1-44</p>	<p>Items 1-44 of document '211012_Existing Building Areas Schedule_Retained' provided by A&M identifies existing buildings to be demolished and the estimated floor area of these structures.</p>
<p>Removal of Hard Standings and Existing Roads</p>	<p>Demolition estimates are based on an estimated demolition area of approximately 96,300m² which has been split as follows: Carrow Works = 60% Deal Ground = 10% May Gurney = 20% Utilities Site = 10%</p>
B RECLAMATION AND EARTHWORKS	
<p>General allowance for site preparation, reclamation, retaining structures, remediation etc. Note; To be reviewed and refined as part of future design work</p>	<p>Allowance for pre-construction works based on an estimated cost of £400,000/ha over the total areas of each site.</p>
C OFF SITE HIGHWAYS & ASSOCIATED WORKS	
<p>General allowance for S278 Works & other Miscellaneous Utilities (offsite) Note; To be reviewed and refined as part of future design work</p>	<p>Allowance for additional crossings and provisions to assist with pedestrian and vehicular movement around site. Additional items may be included within future Masterplan revisions to allow for the management of additional traffic due to the introduction of this development.</p>

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ASSUMPTIONS

DESCRIPTION	COMMENT
D ON SITE HIGHWAYS & ASSOCIATED WORKS	
<u>Pedestrian / Cycle Routes</u>	
D1 Existing Pedestrian / Cycle Routes to be upgrade / converted	Rates based on benchmark provided from previous similar projects. Route lengths measured from Masterplan Site Layout provided by A&M.
D2 New Pedestrian / Cycle Routes	Rates based on benchmark provided from previous similar projects. Route lengths measured from Masterplan Site Layout provided by A&M.
<u>Vehicular Routes</u>	
D3 Existing Vehicular Routes to be Upgraded	Rates based on benchmark provided from previous similar projects. Route lengths measured from Masterplan Site Layout provided by A&M.
D4 New Vehicular Routes	Rates based on benchmark provided from previous similar projects. Route lengths measured from Masterplan Site Layout provided by A&M.
<u>Site Access</u>	
D5 Remodelling of existing vehicular access from A147/A1054 roundabout (south of Carrow Works)	
D6 New vehicular access at point of existing access form A147 (west of Carrow Works)	
D7 Remodelling existing vehicular access from Bracondale (south of May Gurney)	
<u>Bridges / Underpass</u>	
D8 New vehicular bridge for cars, peds and cycles (across River Yare, north of May Gurney, south of Deal Ground)	Estimated dimensions: Span = 16m, Width = 13.3m. Assumed steel construction with concrete infills.
D9 New vehicular bridge for cars, peds and cycles (Fixed) (across River Wensum, south of Utilities Site)	Estimated dimensions: Span = 29m, Width = 13.3m. Assumed steel construction with concrete infills.
D10 Improvement to existing underpass for peds and cycles (close to Trowse Bridge, between Carrow Works and Deal Ground)	Assumed Option 2 of 'R_220211_Underpass Feasibility Study_draft_FINAL_220218'
D11 New bridge across the River Wensum for peds and cycles on site of historic bridge alignment (north of Carrow Works)	Estimated dimensions: Span = 30m, Width = 6.8m. Assumed steel construction with concrete infills.
D12 New bridge for Peds and Cycles across the River Yare (north-east of Deal Ground)	Estimated dimensions: Span = 20m, Width = 2.4m. Assumed steel construction.
D13 Upgraded Cremorne Pedestrian and Cycle Bridge	Assumed resurfacing and structural reinforcement works to existing bridge. No allowance for upgrade to provide vehicular access.
<u>General Allowance</u>	
D14 General allowance for estate roads, other works, carrier drainage, road drainage, landscaping, land for sale costs, miscellaneous, etc Note; To be reviewed and refined as part of future design work	Includes estate roads from main access routes throughout the sites to residential plots. Also includes allowance for driveways and routes to individual plots and associated drainage. Blended rate applied to allow for landscaping and development across remaining areas of the site.
<u>Additional Items</u>	
Infrastructure to support Bus Services	Assumed total 6nr Bus stops and associated infrastructure incl. signage, road widening, additional kerbs and bus shelters as required.
Infrastructure to support Electric Bike Hire	Provision of 64nr electric bikes (£1,000 per bike) and 32nr charging points (£300 per stand) at 8nr locations (£50,000 per location) spread across sites as designed by A&M. Additional allowance of approximately 20% included for design development.
Infrastructure to support Electric Car Charging	Assumed approximately 1,000nr EV Charging Points (£2,000 per point) across all sites and associated supporting infrastructure. Electric vehicle charging provided for Residential, Employment and Public use.
E OFF SITE & ON SITE SERVICES	
General allowance for Utilities Costs (electric, water, gas, etc.) Note; To be reviewed and refined as part of future design work	Allowance for the connection of utilities throughout the sites to developments.
F OTHER OFF SITE & ON SITE DRAINAGE	
General Allowance for surface water, land drainage, foul water, etc. Note; To be reviewed and refined as part of future design work	Allowance for drainage solutions across all sites to all buildings, public spaces and main vehicular / cycle / pedestrian routes.
G ECOLOGY & ARCHAEOLOGY	
General allowance for ecology and archaeology issues Note; To be reviewed and refined as part of future design work	General allowance for the resolution of any ecological / archaeological issues which may be identified after relevant surveys have been conducted across the sites.

COST PLAN Nr 2 Rev B DRAFT

ASSUMPTIONS

DESCRIPTION	COMMENT
H SITEWIDE LANDSCAPING	
<p>General allowance for sitewide landscaping and public realm</p> <p>Note; To be reviewed and refined as part of future design work</p> <p>Low level riverside walk along banks of Wensum (Part of Flood Mitigation)</p> <p>Note; To be reviewed and refined as part of future design work</p> <p>Local public open and child play space as required</p> <p>Note; To be reviewed and refined as part of future design work</p>	<p>General Landscaping across areas as provided by A&M within SPD. Rates based on recently completed comparable projects.</p> <p>Assumed 8m width for riverside walk and any necessary flood mitigation measures included. Allowance split between sites as measured from Masterplan drawings. Actual location of riverside walk TBC. Rates based on recently completed comparable projects.</p> <p>Allowance for 9nr play spaces and any associated equipment and furniture across all sites as designed by A&M. Rates based on recently completed comparable projects.</p>
I MARINA DEVELOPMENT	
<p>General allowance for the construction of Marina areas</p> <p>Note; To be reviewed and refined as part of future design work</p>	<p>Items included as identified within the cost plan. Surrounding buildings and Car Parking excluded.</p>
J PLANNING OBLIGATIONS (WORKS TO BE DONE)	
<p>Excluded - Advised by others</p>	<p>Rates and allowances to be confirmed by others. Estimates provided within IDP.</p>
K SECTION 106 / CIL PAYMENTS	
<p>Excluded - Advised by others</p>	<p>Rates and allowances to be confirmed by others. Estimates provided within IDP.</p>
L CONTINGENCY (SEE ALLOWANCE IN SEPARATE SECTIONS)	
<p>Included within sections</p>	
M FEES	
<p>Excluded - Advised by others</p>	<p>Rates and allowances to be confirmed by others. Estimates provided within IDP.</p>

COST PLAN Nr 2 Rev B DRAFT

ASSUMPTIONS

DESCRIPTION	COMMENT
O RESIDENTIAL LAND DEVELOPMENT	
<u>Apartments</u> 1 Bed 2 Bed 3 Bed	53m2 75m2 98m2 Rates Reviewed and updated where necessary. To be reviewed further against viability assessment and detailed specification.
<u>Houses</u> 2 Bed 3 Bed 4 Bed 5 Bed	86m2 111m2 124m2 130m2 Rates Reviewed and updated where necessary. To be reviewed further against viability assessment and detailed specification.
<i>(The rates above include a ~15% allowance for achieving sitewide low / net zero carbon production)</i>	Assumed provision of net zero carbon achievement throughout. No allowance for on-site energy centre included.
<u>Podiums</u> Residential Podiums	Provision of some basement/Ground Level parking, bicycle stores and bin stores. Grilles for acceptable street frontage where necessary. Design Team to provide outline plans for residential Podiums across sites and what may be included.
O EMPLOYMENT LAND DEVELOPMENT	
<u>Employment Development</u> General Employment Use	Types of employment use TBC. Blended rate provided to reflect varying uses across Employment areas provided. Industrial (circa £550/m2) up to Shell and Core Office Space (circa £1,500/m2)
P EDUCATION LAND DEVELOPMENT	
<u>Education Development</u> 2FE Primary School Use - TBC	Rate based on previous project experience. Land cost excluded.



SECTION 2 - A&M SCHEDULE OF AREAS (P06 DRAFT)

(DATED 18.02.2022)
(RECIEVED 29.03.2022)

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project name **EAST NORWICH**
 project number 20118

doc. name **AREA SCHEDULE - SUMMARY**
 doc. number 20118_2QA_001

doc. revision **P06** | 18.02.2022 | Draft Option

Disclaimer Note:

1. Areas provided in this schedule represent design intent only and are to be confirmed by others. These figures are interim measures, they are subject to change as the design develops and should not be taken as final.
2. This schedule is not to be used for sales or marketing purposes.
3. GEA "mass footprints" are measured. Balconies are not defined.
4. Balconies are quoted separately and not included within the unit NIA.
5. Net areas are calculated from GEA areas, not measured (VARYING EFFICIENCIES BASED ON USE).
6. Does not include existing buildings area.

Ratio's

GEA:GIA	0.95
GIA:NIA (Apartments)	0.80
GIA:NIA (Houses)	1.00
GIA:NIA (Podium)	1.00
<hr/>	
GIA:NIA (School)	0.90
GIA:NIA (Employment)	0.80

Zone/Use	GEA sqm	GIA sqm	NIA sqm
Carrow Works	204,448	194,226	166,778
Residential Apartments	113,881	108,187	86,550
Residential Houses	37,525	35,649	35,649
Residential Podium	21,283	20,219	20,219
School	2,363	2,245	2,020
Employment	29,396	27,926	22,341
Deal Ground	120,779	114,740	98,908
Residential Apartments	71,341	67,774	54,219
Residential Houses	28,200	26,790	26,790
Residential Podium	9,252	8,789	8,789
Employment	11,986	11,387	9,109
May Gurney	16,429	15,608	14,522
Residential Apartments	5,712	5,426	4,341
Residential Houses	10,717	10,181	10,181
Utilities Site	94,973	90,224	79,866
Residential Apartments	32,450	30,828	24,662
Residential Houses	35,038	33,286	33,286
Residential Podium	5,419	5,148	5,148
Employment	22,066	20,963	16,770
Grand Total	436,629	414,798	360,075

RPS Calcs
47%
28%
4%
22%

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project name **EAST NORWICH**
 project number 20118

doc. name **AREA SCHEDULE - RESIDENTIAL SUMMARY**
 doc. number 20118_2QA_003

doc. revision **P06 | 18.02.2022 | Draft Option**

Disclaimer Note:

1. Areas provided in this schedule represent design intent only and are to be confirmed by others. These figures are interim measures, they are subject to change as the design develops and should not be taken as final.
2. This schedule is not to be used for sales or marketing purposes.
3. GEA "mass footprints" are measured. Balconies are not defined.
3. Balconies are quoted separately and not included within the unit NIA.
4. Net areas are calculated from GEA areas, not measured (VARYING EFFICIENCIES BASED ON USE).

Use	NIA sqm	Percentage
Residential Apartments	169,772	61.58%
Residential Houses	105,906	38.42%
Grand Total	275,678	100.00%

Zone/Use	NIA sqm	Percentage	Units
Carrow Works			
Residential Apartments	86,550	71%	1380
Residential Houses	35,649	29%	312
			1692
Deal Ground			
Residential Apartments	54,219	67%	864
Residential Houses	26,790	33%	234
			1099
May Gurney			
Residential Apartments	4,341	30%	69
Residential Houses	10,181	70%	89
			158
Utilities Site			
Residential Apartments	24,662	43%	393
Residential Houses	33,286	57%	291
			684
Grand Total	275,678	100%	3633

Site Wide Estimates

Apartments

No. Bedrooms	No. People	sqm	%	Units Total
1 BED	2	53	50.00%	1602
Apartments	4	75	45.00%	1019
3 BED	6	98	5.00%	87
				2707

Houses

No. Bedrooms	No. People	sqm	%	Units Total
2 BED	4	86	5.00%	62
3 BED	5	111	55.00%	525
4 BED	6	124	35.00%	299
5 BED	7	130	5.00%	41
				926

Total Units **3633**

RPS Calcs for GIA

(based on on 0.8:1 ratio)

Total NIA (m2)	Total GIA (m2)
84,886	106,107
76,397	95,497
8,489	10,611
169,772	212,215

(based on on 1:1 ratio)

Total NIA (m2)	Total GIA (m2)
5,295	5,295
58,248	58,248
37,067	37,067
5,295	5,295
105,906	132,383

Carrow Works Estimates

Apartments

No. Bedrooms	No. People	sqm	%	Units Total
1 BED	2	53	50.00%	817
2 BED	4	75	45.00%	519
3 BED	6	98	5.00%	44
				1380

Houses

No. Bedrooms	No. People	sqm	%	Units Total
2 BED	4	86	5.00%	21
3 BED	5	111	55.00%	177
4 BED	6	124	35.00%	101
5 BED	7	130	5.00%	14
				312

Total Units **1692**

RPS Calcs for GIA

(based on on 0.8:1 ratio)

Total NIA (m2)	Total GIA (m2)
43,275	54,093
38,947	48,684
4,327	5,409
86,550	108,187

(based on on 1:1 ratio)

Total NIA (m2)	Total GIA (m2)
1,782	1,782
19,607	19,607
12,477	12,477
1,782	1,782
35,649	44,561

Deal Ground Estimates

Apartments

No. Bedrooms	No. People	sqm	%	Units Total
1 BED	2	53	50.00%	512
2 BED	4	75	45.00%	325
3 BED	6	98	5.00%	28
				864

Houses

No. Bedrooms	No. People	sqm	%	Units Total
2 BED	4	86	5.00%	16
3 BED	5	111	55.00%	133
4 BED	6	124	35.00%	76
5 BED	7	130	5.00%	10
				234

Total Units **1099**

RPS Calcs for GIA

(based on on 0.8:1 ratio)

Total NIA (m2)	Total GIA (m2)
27,110	33,887
24,399	30,498
2,711	3,389
54,219	67,774

(based on on 1:1 ratio)

Total NIA (m2)	Total GIA (m2)
1,340	1,340
14,735	14,735
9,377	9,377
1,340	1,340
26,790	33,488

May Gurney Estimates

Apartments

No. Bedrooms	No. People	sqm	%	Units Total
1 BED	2	53	50.00%	41
2 BED	4	75	45.00%	26
3 BED	6	98	5.00%	2
				69

Houses

No. Bedrooms	No. People	sqm	%	Units Total
2 BED	4	86	5.00%	6
3 BED	5	111	55.00%	50
4 BED	6	124	35.00%	29
5 BED	7	130	5.00%	4
				89

Total Units **158**

RPS Calcs for GIA

(based on on 0.8:1 ratio)

Total NIA (m2)	Total GIA (m2)
2,171	2,713
1,954	2,442
217	271
4,341	5,426

(based on on 1:1 ratio)

Total NIA (m2)	Total GIA (m2)
509	509
5,600	5,600
3,563	3,563
509	509
10,181	12,726

Utilities Site Estimates

Apartments

No. Bedrooms	No. People	sqm	%	Units Total
1 BED	2	53	50.00%	233
2 BED	4	75	45.00%	148
3 BED	6	98	5.00%	13
				393

Houses

No. Bedrooms	No. People	sqm	%	Units Total
2 BED	4	86	5.00%	19
3 BED	5	111	55.00%	165
4 BED	6	124	35.00%	94
5 BED	7	130	5.00%	13
				291

Total Units **684**

RPS Calcs for GIA

(based on on 0.8:1 ratio)

Total NIA (m2)	Total GIA (m2)
12,331	15,414
11,098	13,872
1,233	1,541
24,662	30,828

(based on on 1:1 ratio)

Total NIA (m2)	Total GIA (m2)
1,664	1,664
18,307	18,307
11,650	11,650
1,664	1,664
33,286	41,608



SECTION 3 - MASTERPLAN DRAWING (DRAFT)



DRAFT - 11.02.2022

REV	DATE	DESCRIPTION	CKD
P1	06/09/21	Final Draft	IP
P2	12/10/21	Draft	IP
P3	27/10/21	Draft	IP
P4	10.02.22	Draft	IP

Do not scale from this drawing. Use figured dimensions only. Figured dimensions are in millimetres unless noted otherwise. All dimensions and levels shall be verified on site before proceeding with works. Detailed site survey to be carried out to verify positions and level relationships with site features and ordnance survey. The Architect must be notified of any discrepancy. Boundaries are indicative only and are to be verified by others. Where building components are described in the specification as Descriptive Specification (Contractor Design) elements shown on this drawing pertaining to those components are to be read as "Issued for Design Intent only". Allies & Morrison LLP is not responsible for any errors caused by the transmission, translation, software or computer systems. Allies & Morrison LLP is not responsible for any errors caused by the consequences of any use made of the drawings or models other than that for which they were produced by Allies & Morrison LLP for the Client. All Intellectual Property Rights reserved.

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East Norwich
Illustrative Site Plan
 SKETCH DRAWINGS
 20118-AAM-SK-001

P4
 Revision

A&M JOB No: 20118 SCALE 1 : 2500 @A1 1 : 5000 @A3



SECTION 4 - INFORMATION USED

Information Used

DRAFT Final_East Norwich_SPD_lowest res

Allies and Morrison

20118_AAM_SK_001 - Illustrative Site Plan	P4
20118_AAM_SK_027 - Illustrative Ground Floor Land Use Plan	P1
20118_AAM_SK_028 - Illustrative Upper Floor Land Use Plan	P1
20118_Schedule_Area Schedule_220318	P06
R_220211_Underpass Feasibility Study_draft_FINAL_220218	Feb-22
211012_Existing Building Areas Schedule_Retained	
20118_DemoPlan_211012	
R_220211_Underpass Feasibility Study_draft_FINAL_220218	

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