



CHELMSFORD

Infrastructure Delivery Plan Update

Final Report

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1 Introduction

- 1.1 This Infrastructure Delivery Plan (IDP) has been undertaken by Troy Planning + Design and Navigus Planning to inform Chelmsford City Council's ('the Council') Local Plan. IDPs are living documents which will need to be kept under review.
- 1.2 The term 'infrastructure' covers a wide range of services and facilities provided by public and private organisations. The definition of infrastructure is outlined in section 216(2) of the Planning Act 2008 (as amended). The Chelmsford IDP has addressed the following infrastructure types, broken down into the themes of housing, physical infrastructure, green and blue infrastructure and community infrastructure:

Housing

- Affordable housing
- Specialist residential accommodation
- Self and custom build homes

Physical infrastructure

- Highways, access and transport
- Flood protection and water management
- Utilities

Green and Blue infrastructure

- Recreation and leisure facilities
- Environmental mitigation

Community infrastructure

- Early Years, childcare and education
- Health and social wellbeing
- Social and community facilities
- Public realm and public art
- Other community infrastructure

- 1.3 Not all these items have been explicitly addressed in the text within the IDP. Where no specific needs have been identified or are addressed in other parts of the Local Plan, e.g. affordable and specialist housing, they have only been included in the summary tables for completeness and to show how they will be funded and/or delivered.
- 1.4 The requirement is to create an infrastructure plan which will show the following:
- What infrastructure is required and how it will be provided (e.g. co-location, etc).
 - Who is to provide the infrastructure.
 - How will the infrastructure be funded.
 - When the infrastructure could be provided.
 - Help deliver the long-term strategy for Chelmsford's growth.
- 1.5 Discussions have taken place with a variety of infrastructure providers both within the City Council and external organisations in order to ensure a comprehensive understanding of what is needed. This process has enabled these infrastructure providers to think more strategically in terms of future provision and the challenges brought about by significant growth in the long term. This IDP brings all these agencies' plans together in one document. This should encourage inter-relationships between parties and provides an opportunity to share information and possibly infrastructure.

- 1.6 All inputs have been fact-checked with the respective providers prior to inclusion in the IDP document.
- 1.7 This document has been written during a time of significant change, with the Government reforming many of the public services that are responsible for providing and planning infrastructure. This is likely to have an impact on provision, delivery, funding and how the relevant organisations are able to respond in relation to future growth. In addition, it is often difficult to be certain about infrastructure requirements so far into the future, as the detail of many development schemes is not currently known. **The detailed costs for infrastructure will be fully considered at the planning application stage, therefore figures contained within this IDP are generally to be considered as being 'in the region of' and subject to change.** Therefore, this IDP is intended to be a document which is regularly updated given the uncertainty and fluid nature of planning for infrastructure. Where funding sources are known to be secured, this has been indicated. Other possible funding sources are identified but, at this stage, these are only possible sources and no funding has been secured from them. The funding gap therefore identifies the extent of funding required that has not been secured and made available at this point in time.

Status and purpose of IDP

- 1.8 The IDP is a supporting document for the Local Plan which follows previous Issues and Options, Preferred Options, and Pre-Submission stages. The IDP covers the plan period up until 2036 although its content will be annually monitored and periodically reviewed. The document will also form an important part of the evidence base for any updated CIL Charging Schedule. The Council has committed to a review of its CIL charging schedule in 2020.
- 1.9 The document includes details of the infrastructure identified by the Council and other service providers as being needed to support the delivery of the Local Plan. It explains the approach the Council has taken to identifying this infrastructure, how it will be delivered, and an assessment of the potential risks associated with doing so.

Approach

- 1.10 There are certain important principles regarding the approach and issues that the IDP has to recognise.

- 1.11 Not all housing and employment growth planned for individual sites will attract specific additional infrastructure requirements that can be addressed through the development of that site alone. In most cases, the infrastructure needs that have been identified reflect the cumulative impact of growth in a wider area. Within the Local Plan, the Council has used three Growth Areas to direct new growth e.g. Central and Urban Chelmsford, North Chelmsford, South and East Chelmsford.
- 1.12 Where possible, a consistent approach has been adopted to assigning sites to particular areas. However, certain infrastructure providers, such as the Essex County Council Education Authority has a well-established approach to grouping together different areas of the borough that need to be reflected in the IDP but which may differ from the approach to other infrastructure uses. The IDP has sought to be clear, in each case, about which sites sit within which area being referred to for a particular infrastructure type.
- 1.13 Related to this is the fact that the IDP, for most infrastructure items, presents the 'worst case scenario' in terms of needs. In the case of social, community, leisure and green infrastructure needs, this is because the methodology for establishing the scale of need is based on calculations per head of the population. In reality, much of the infrastructure that is provided in most locations will be provided either in the form of improvements to existing facilities or as co-located facilities. In particular the latter will become a growing trend which recognises the limited amount of funding available and, in many more urban locations such as central Chelmsford, a lack of land to provide all the requirements individually.
- 1.14 Co-location is likely to take many forms. Schools are increasingly looking to raise revenue by hiring out sports pitches and other facilities outside of school hours. Equally, the shift in primary healthcare provision to larger health hubs means larger buildings that could share facilities with other health providers – opticians, dentists, physiotherapists, etc – but also equally with a range of other uses, both commercial and community, e.g. retail, community centres, libraries, etc. Indeed, the limited resources available for provision of, for example, library and community services has produced many excellent examples of alternative types of provision with different management structures to those traditionally use.
- 1.15 Whilst it is important to recognise such changing ways of providing services, it is extremely difficult for an IDP to be definitive about what these could be. There are too many options

open as to how this is provided and this could therefore have a significant impact on needs and costs. However, such provision, particularly on larger strategic sites where new health hubs and schools are to be provided, should be recognised as the way such infrastructure needs will be provided over the plan period.

1.16 Troy Planning + Design and Navigus Planning have also undertaken the IDPs for Braintree, Colchester and Tendring. Therefore, the approach taken is the same as that undertaken for the other local authorities in the Housing Market Area.

1.17 The infrastructure detailed within the IDP has been categorised as either:

- **critical** to the delivery of the Local Plan (i.e. must happen to enable growth);
- **essential** and necessary to mitigate the impacts arising from development;
- **policy high priority** as it is required to support wider strategic or site-specific objectives which are set out in planning policy or are subject to a statutory duty but would not necessarily prevent development from occurring; and
- **desirable** for infrastructure that is required for sustainable growth but is unlikely to prevent development in the short to medium term (e.g. projects aligned to place-making objectives).



2 Relevant planning policy and context for growth

National Policy

National Planning Policy Framework

- 2.1 The context for this Infrastructure Delivery Plan (IDP) is provided by the National Planning Policy Framework (NPPF). Paragraph 156 states:

“Local planning authorities should set out the strategic priorities for the area in the Local Plan. This should include strategic policies to deliver:

- the provision of infrastructure for transport, telecommunications, waste management, water supply, wastewater, flood risk and coastal change management, and the provision of minerals and energy (including heat);*
- the provision of health, security, community and cultural infrastructure and other local facilities.”*

- 2.2 Paragraph 162 goes on to state that:

“Local planning authorities should work with other authorities and providers to:

- assess the quality and capacity of infrastructure for transport, water supply, wastewater and its treatment, energy (including heat), telecommunications, utilities,*

waste, health, social care, education, flood risk and coastal change management, and its ability to meet forecast demands; and

- *take account of the need for strategic infrastructure including nationally significant infrastructure within their areas.”*

Local plan context and strategy for growth

- 2.3 Chelmsford City Council has prepared a Local Plan which will cover the plan period up to 2036. Chelmsford's Local Development Scheme (LDS) sets out that Examination in Public is planned for September/October 2018, with adoption expected in late-2018¹.
- 2.4 The current Objectively Assessed Housing Need (OAN)² is 805 dwellings per annum and this is the figure that is planned for in Strategic Policy S8 in the Local Plan. The Government has consulted on a standard methodology for calculating housing need. The Council's strategy can accommodate either the current OAN or the new number currently published for consultation. Growth is proposed at a series of strategic locations, particularly focused around Chelmsford City itself, as well as within the City. These are shown in Table 2.1 and in the subsequent maps.
- 2.5 Table 2.1 also shows that the assessment includes some sites which represent existing commitments but which do not yet have the benefit of planning permission; therefore their infrastructure needs have yet to be secured.

¹ <https://www.chelmsford.gov.uk/planning-and-building-control/planning-policy-and-new-local-plan/new-local-plan/evidence-base/>

² Objectively Assessed Housing Need Study Update, Braintree District Council Chelmsford City Council Colchester Borough Council and Tendring District Council, November 2016

Table 2.1: Levels of residential growth (including non-strategic sites without planning permission)

Local Plan Site ref.	IDP site ref.	Location	Growth in Local Plan (dwgs)	Growth including existing commitments without planning permission (dwgs)
CW1a-f; SGS1b-1h; GS1i-1v; OSA1	1	Urban Chelmsford	1,955	2,105
2	2	West Chelmsford	800	800
3a, c, d	3	Land east of Chelmsford/ north of Great Baddow	400	400
EC2	10	Writtle Telephone Exchange	0	25
Total – Central and Urban Chelmsford			3,155	3,330
4	4	North East Chelmsford	3,000	3,000
5a-c	5	Moulsham Hall/north of Great Leighs	1,100	1,100
6	6	North of Broomfield	450	450
Total – North Chelmsford			4,550	4,550
7	7	North of South Woodham Ferrers	1,000	1,000
8	8	Bicknacre	30	30
9	9	Danbury	100	100
EC5	11	St. Giles	0	32
Total – South and East Chelmsford			1,130	1,162
Grand Total (excl. windfall)			8,835	9,042

2.6 The Local Plan outlines the strategic priorities that need to be addressed. In particular:

- Strategic Policy 3 (Addressing Climate Change and Flood Risk), in particular through reducing the need to travel and sustainable transport modes, as well as minimising the impact of development on flood risk.
- Strategic Policy 6 (Conserving and Enhancing the Natural Environment) seeks to ensure that the Council plans positively in respect of biodiversity networks and green infrastructure.

- Strategic Policy 7 (Protecting and Enhancing Community Assets) recognises the important role that community facilities (health, education, social, sports leisure, parks, green spaces, arts and cultural) play in supporting residential and employment development.

2.7 This addresses the requirements of the NPPF identified earlier in this section.

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LEGEND

SUBMISSION SITES

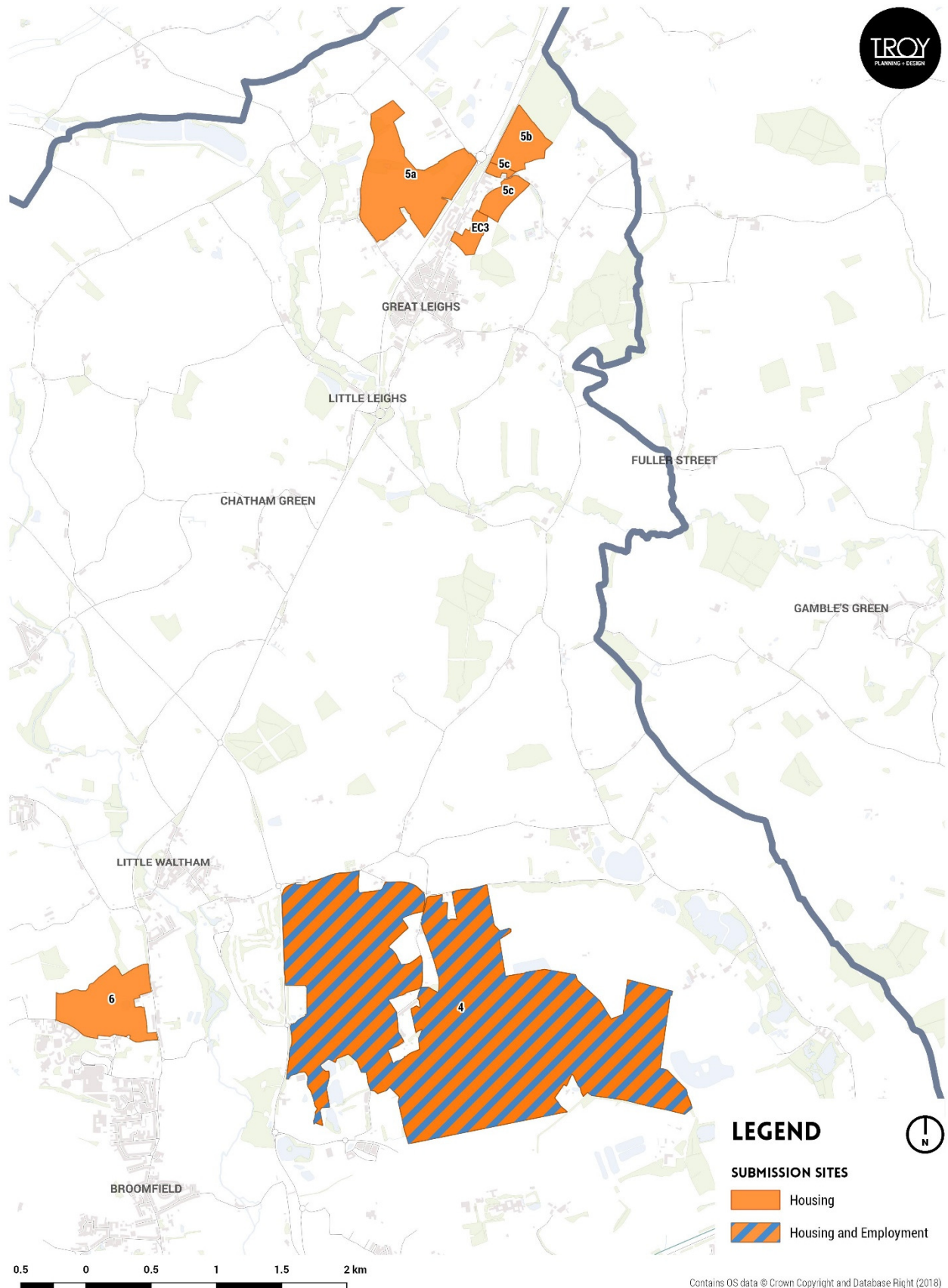
- Employment
- Housing
- Opportunity sites
- Housing and Employment

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CHELMSFORD NORTH - SUBMISSION SITES



CHELMSFORD SOUTH - SUBMISSION SITES





3 Highways, Access and Transport

- 3.1 Transport and movement within and into the Chelmsford City is a critical issue for the delivery of the strategic objectives in the Local Plan. This encompasses private and commercial vehicular movements, buses, trains, walking and cycling.
- 3.2 Due to the nature of transport improvements addressing the needs from multiple sites, this section has been presented by transport mode, rather than by location.

Committed schemes

- 3.3 The existing Local Plan is underpinned by a package of funded measures to support the strategic allocations which will have wider benefits for the delivery of the Local Plan. In particular this includes the following measures:
- A12 Chelmsford to A120 widening scheme:
 - A scheme to widen the A12 to three lanes between Chelmsford (junction 19) and Marks Tey (junction 25) with the aim of reducing congestion and delays, increasing road capacity, improving journey time and safety and supporting growth.
 - Work is expected to commence in 2020. It is being delivered by Highways England and will cost between £100m and £250m.

- A131 Chelmsford to Braintree Route-Based Strategy:
 - A package of works to provide increased highway capacity, passenger transport and safety improvements for the Chelmsford to Braintree Corridor. Work includes:
 - Nabbotts Roundabout (Chelmer Valley Road) – which will assist the delivery of growth in North Chelmsford;
 - Sheepcotes Roundabout junction improvements;
 - Deres Bridge Roundabout (Essex Regiment Way) – which will assist the delivery of growth in North Chelmsford, particularly land north of Great Leighs and Moulsham Hall.
 - This is a three-year programme by Essex County Council (ECC) which commenced in early 2018. The total cost is £7.32m. Match funding has been secured from SELEP.
- Chelmsford City Growth Package:
 - A package of small schemes that should benefit all types of transport to improve the City's transport network, including intelligent transport technology measures, bus measures, road network measures, cycling measures. With the exception of the Baddow Bus Gate proposals, these are supported by the City Council.
 - This is a three-year programme by ECC to be completed by March 2021. The total cost is £15m.
- Station Square Phase 2 / Mill Yard:
 - An enhancement scheme to improve the pedestrian and cycle connections north of Chelmsford's train station, towards key business destinations and the University. It will also tackle congestion and vehicle domination to the rear of the station building.
 - This is being undertaken by CCC and is expected to be completed in Summer 2018. The total cost is £3.9m.

- Army and Navy junction improvements:
 - A programme of improvements to ease congestion at this key gateway to Chelmsford where a number of radial routes meet.
 - Department for Transport (DfT) Pinch Point funding, ECC funding and S106 funding has already been used for initial improvements, including Parkway widening and extended the left turn slip lane from A1060 to A138.
 - Future improvements may include a new access to Chelmer Waterside from Baddow Road and a potential new flyover.
 - ECC has commissioned a study to address possible longer term solutions. Any solution would need to fit with the Chelmsford Future Transport Network objectives.
- Beaulieu rail station:
 - A new railway station directly serving the Beaulieu Park development. The new station will reduce the need to travel to, and alleviate pressure at, the current Chelmsford station.
 - This work will be undertaken by Network Rail and is estimated to be completed in 2025.
 - The expected cost, including risk, contingency and inflation, is £150m, although as the scheme progresses this is expected to reduce. Currently £34m, comprising of SELEP funding and Section 106 monies have been secured.
 - It is expected that development coming forward through the Plan will contribute towards these further costs.
 - In March 2018, ECC was successful in its 'Expression of Interest (EOI)' to the Housing Infrastructure Fund (HIF) from the Forward Funding allocation (projects up to £250 million) for a package regarding the Chelmsford North East Bypass and Beaulieu Park Rail Station. The next stage is defined as the 'Co-Development/Design' stage. This will provide proportionate access to experts

from the Ministry of Housing, Communities & Local Government to help ECC develop more detailed business cases. This will take place in 2018/19.

- Great Eastern Mainline Investment Programme:
 - A scheme comprising of a number of projects to provide railway capacity improvements, including:
 - upgrading overhead cables;
 - Bow Junction reconfiguration;
 - increase of line speeds between London Liverpool Street and Norwich;
 - replacement of existing rolling stock to increase capacity (including on the Southminster Line);
 - increases to track capacity north of Chelmsford.
 - This is being undertaken by Network Rail at a cost of £476m.
- Radial Distributor Road (RDR1) and junction improvements:
 - As part of the approved development at Beaulieu and Channels a new link road (RDR1) is being built between Essex Regiment (A130) and junction 19 of the A12 and is expected to be completed around 2019/2020.
 - As part of the approved development at Beaulieu and Channels, junction improvements are required on the A130 alongside improvements to the slip lands at Junction 19 of the A12 that have already been implemented.
 - As part of the approved development at Beaulieu and Channels, capacity improvements along Colchester Road, between White Hart Lane roundabout and Drivers Way roundabout, are currently being implemented.

Road infrastructure

Strategic road infrastructure

A12 junction improvements

- 3.4 Highways England is planning to undertake improvements to junctions 17 and 19 of the A12. At present any decision on the preferred route has been put on hold, awaiting the outcome

of the North Essex Authorities Part 1 Local Plan Examination as this may have implications for some junctions. Highways England expect to commence works in 2020/21. None of the strategic growth sites individually triggers the need for improvements, including growth at North East Chelmsford and its impact on the Boreham interchange (junction 19).

- 3.5 The full cost of these improvements is yet to be determined, although the improvements to the Boreham Interchange to support a fully dualled Chelmsford North East Bypass are expected to cost £150m. As part of the existing Beaulieu Park committed development, improvements to the junction have been secured. The additional costs are expected to be met by Highways England which will deliver the scheme.
- 3.6 Improvements to junction 19 are considered to be a critical item.

Chelmsford North East Bypass and the Outer Radial Distributor Road

- 3.7 The Chelmsford North East Bypass will provide a key strategic missing link in the Essex road network from south to north, linking south Essex through to Stansted Airport.
- 3.8 It is not expected that the Local Plan will fund the full dual carriageway Chelmsford North East Bypass in its entirety, but the allocated development in the Local Plan will be required to make significant contributions towards the Bypass. The purpose of the IDP is to attribute portions of the overall cost of the Chelmsford North East Bypass to growth sites within the Local Plan which contribute towards the need for the Bypass. These costs are attributed proportionally.
- 3.9 The alignment of the Bypass is in accordance with the safeguarded route established by ECC and its delivery as a comprehensive scheme. However, some sections of the Bypass will come forward in a phased approach, with single carriageway sections being required by some growth sites and further funding secured to dual these sections being secured in the longer term as part of the overall strategy for the delivery of the full Chelmsford North East Bypass.
- 3.10 Along with the Radial Distributor Road 2 (RDR2), the early phases of the scheme are critical to the delivery of growth in North Chelmsford, and in particular at North East Chelmsford. The 3,000 dwellings proposed do not need the full NE Bypass – which would be a dual carriageway route along its entirety – but need the southern sections to link in with the RDR2 which is required in full to support the growth at North East Chelmsford.

3.11 The requirements and indicative costs which can be attributed to growth areas at this point in time are as follows:

- Outer Radial Distributor Road (RDR2), linking the North East Chelmsford site to the A130 Essex Regiment Way: £10.4m - £14.1m, including making provision for a cycleway and footway for pedestrian access. This cost would be borne solely by the developer.
- Chelmsford North East Bypass single carriageway link from Beaulieu Radial Distributor Road to the northern edge of the North East Chelmsford site: £13.2m – £19.6m. This cost would be borne solely by the developer.
- Chelmsford North East Bypass single carriageway section from the North East Chelmsford site to A131: £25.5m - £38.4m. This would also provide improved connectivity benefits for the land north of Great Leighs and Moulsham Hall and north of Broomfield, so the contributions made from development would be shared, pro rata, based on the number of dwellings at each location³.

3.12 The sections of the Bypass which these relate to are set out in Figure 3.1. It should be noted that the purpose of this plan is simply to set out which sections the costs for are justified by the growth sites in the Local Plan rather than being indicative of how the Bypass will necessarily be phased or constructed.

3.13 These costs include:

- design fees of between 6% and 8% depending on whether there is a highway structure element of work;
- Highway Authority fees of between 10% and 12% (again depending on whether there is a highway structure element of work);
- a sum for preliminary items of 10%;
- a contingency of 20% added to the total of all other costs.

³ It is also expected that development coming forward in the south of Braintree district through the emerging Braintree Local Plan will contribute towards these costs, therefore the cost to be borne by sites in Chelmsford will be lower. However, it is not possible at the current time to know what level of growth will come forward in Braintree district, therefore no costs have been assigned to growth here.

Figure 3.1: Chelmsford North East Bypass

3.14 The total costs attributed to growth sites within the Local Plan is therefore between £49.1m and £72.1m. One particular issue which could have an impact on the cost is the need to build the section of the Chelmsford North East Bypass between the Beaulieu Radial Distributor Road and the RDR2 on existing minerals land. This could have a significant impact on the required engineering. A mineral resource assessment is being undertaken at the current time.

3.15 The Chelmsford North East Bypass is considered to be a critical item.

- 3.16 The fully dualled Chelmsford North East Bypass is expected to cost in the region of £330m in total. After deducting the contributions above (not including those attributed to RDR2 as this is not part of the Chelmsford North East Bypass itself) from this total cost this results in a further £272m to £291.3m. These costs are expected to come from other funding sources, including the Housing Infrastructure Funding Bid and pooled Section 106 contributions from Growth Sites 4, 5 and 6, as well as from development sites in Braintree District. For clarity the plan at Figure 3.1 indicates the route of the full dualled North East Bypass. It should be noted that Figure 3.1 does not seek to suggest phasing times or that the dualling of the carriageway will be a separate road or different alignment, it is simply to assist in setting out the funding sources for the full dualled North East Bypass.
- 3.17 As outlined above with regards to the funding of the new Beaulieu railway station, ECC was successful in its 'Expression of Interest (EOI)' to the Housing Infrastructure Fund (HIF) for a £250m package which includes funding towards the Chelmsford North East Bypass. Further work is required to secure this funding.

Local road infrastructure

Broomfield Hospital Access Road

- 3.18 The development of land north of Broomfield necessitates the provision of an additional access road to serve Broomfield Hospital.
- 3.19 At the present time, precise costs are yet to be identified for this scheme. Therefore, a generic cost of delivering a new road (excluding the land) of £1.13m per kilometre has been adopted⁴. The Broomfield Hospital access road is required to be approximately 840m in length, therefore a cost of £950,000 has been assumed. In addition, there may be a requirement to cross a woodland area, for which an allowance of £150,000 has been made. This results in a total cost of £1.1m. The cost of this scheme will continue to evolve as more detailed masterplanning and technical assessments are undertaken.

⁴ A figure of £0.8m has been adopted, this being taken from research undertaken for the Independent Transport Commission in 2006 by Christopher Archer and Stephen Glaister of Imperial College London entitled, *Investing in Roads: Pricing, Costs and New Capacity*. This figure has been adjusted for inflation to £1.13m per km.

3.20 It is expected that this cost will be addressed as a site-specific cost for the developer of the land north of Broomfield.

3.21 This is considered to be an essential item.

Sandford Mill Access Road

3.22 Development east of Chelmsford provides the opportunity to create a new access road to Sandford Mill as the proximity of additional local residents will place a greater demand on the facilities at Sandford Mill.

3.23 At the present time, precise costs are yet to be identified for this scheme. Therefore, a generic cost of delivering a new road (excluding the land) of £1.13m per kilometre has been adopted. The Sandford Mill access road is required to be approximately 754m in length, therefore a cost of £840,000 has been assumed. In addition, there is a requirement to cross a brook, for which an allowance of £150,000 has been made. This results in a total cost of £0.99m. The cost of this scheme will continue to evolve as more detailed masterplanning and technical assessments are undertaken.

3.24 It is expected that this cost will be addressed by the developers of the sites allocated in the east of Chelmsford area.

3.25 This is considered to be a 'policy high priority' item.

Junction improvements

3.26 Junction modelling work has been undertaken by Essex County Council and is ongoing. At this stage it is not possible to be definitive as to which junctions will need to be upgraded to serve each strategic site and what the precise costs of any upgrades would be. Therefore, ahead of the precise costs being finalised, for the purposes of the IDP, the following costs have been assumed:

- Central and urban Chelmsford:
 - Central Chelmsford - no costs assumed because, whilst junction improvements are likely, it has not been possible to determine the number of junctions likely to require improvements.
 - West Chelmsford - £5.0m

- East of Chelmsford and north of Great Baddow - £5.0m
- North Chelmsford:
 - North East Chelmsford - £10.0m
 - Moulsham Hall/north of Great Leighs - £3.0m
 - North of Broomfield - £3.0m
- South and east Chelmsford
 - North of South Woodham Ferrers - £10.0m

3.27 All these costs include a 20% contingency figure. It will be important to update these costs at the earliest possible opportunity following completion of the work by Essex County Council.

3.28 These are considered to be critical items.

Park and Ride

3.29 A new Park and Ride facility is to be delivered to serve west and south-west Chelmsford, with the most likely location being in Widford.

3.30 The facility is not directly connected to the delivery of any specific site.

3.31 A cost of £9m has been assumed, including bus priority measures. This is higher than the cost of the Chelmer Valley Park and Ride site because it takes into account the need for improvement measures for the bus routes and potential site-related issues. This allows for an approximate 30% contingency figure.

3.32 This is considered to be an essential item.

3.33 At North East Chelmsford and Site 3b respectively, land is to be safeguarded for the future expansion of the Chelmer Valley Park and Ride and Sandon Park and Ride sites. As such, there is no specific need at this time to deliver the expanded provision and so a cost has not been assigned to this. It has the potential to be funded through developer contributions collected via CIL.

3.34 This is considered to be a 'policy high priority' item.

3.35 Land is also safeguarded for additional Park and Ride provision to support the existing Sandon Park and Ride.

Bus and rail infrastructure

Bus provision

Chelmsford Area Bus-Based Rapid Transit (ChART)

- 3.36 To support the growth at North East Chelmsford, an extension to the Chelmsford Area Bus-Based Rapid Transit (ChART) system is required.
- 3.37 To ascertain a cost of this extension, the existing planning permissions for Beaulieu Park and Channels have been used as a benchmark. This was approximately £1,000 per dwelling, therefore the total cost would be £3m. Applying a 20% contingency means the total cost would be £3.6m. This cost would be borne solely by the developer.
- 3.38 This is considered to be an essential item.

New bus services and bus priority

- 3.39 In South Woodham Ferrers, the development of the land to the north of the town is expected to require the provision of an additional bus service. Development at the former Runwell Hospital reached viability for a new service at 550 dwellings, therefore it is considered that development here would be expected to reach commercial viability.
- 3.40 This could either be a standard bus service running from the development, through the surrounding areas to Wickford Station. An alternative could be a shuttle bus which could even run simply as a dedicated commuter service, at a much lower cost.
- 3.41 This service would probably be introduced once between 150 and 300 dwellings were completed. One option would be to start with a commuter service and then move this up to a fuller public bus service once a larger number of dwellings had been completed.
- 3.42 The Runwell Hospital development for 550 dwellings secured a new service with a £570,000 contribution. Given the range of options, it is expected that provision will cost between £400,000 and £800,000.
- 3.43 At the west of Chelmsford site, development would be expected to support the procurement of additional bus services to supplement existing services, both to the City Centre and to Broomfield Hospital. The cost of such provision is not known at the present time.
- 3.44 These are considered to be essential items.

- 3.45 Separately for the west of Chelmsford site, priority for public transport along with walking and cycling is key. This will include a new bus link from Avon Road and bus priority measures within the site. A further study to determine the most appropriate way to deliver further improvements to bus priority into the City Centre is required. Therefore, at the present time no specific cost of provision can be identified. Such bus priority measures into the City Centre would utilise contributions from development collected via CIL. Priority measures within the site would be considered to be part of a development's secondary infrastructure.
- 3.46 These are considered to be essential items.
- 3.47 For development north of Great Leighs and at Moulsham Hall, existing bus routes are already in place therefore the main issue is providing bus access into the sites, especially the land at Moulsham Hall. The development may require an extension to existing services or a new service but the preferred option has yet to be identified. For the purposes of the IDP, an extension to existing services is assumed and a cost of £250,000 has been assumed. This figure should be revisited at an early stage as the increased frequency of buses required is likely to result in a higher total cost.
- 3.48 This is considered to be an essential item.
- 3.49 In all other areas, a package of bus improvement measures will be required to support growth in a sustainable way. Funding from development will be collected via site-specific S106. These are considered to be essential items.

Walking and cycling

- 3.50 All sites will be expected to provide high quality walking and cycling infrastructure within their sites. This cost would be part of a developer's secondary infrastructure provision.
- 3.51 A new pedestrian and cycle bridge across Essex Regiment Way is required to improve access most directly for the sites north of Broomfield and at North East Chelmsford into the City Centre and to other important destinations. Its cost is therefore assumed to be met in full by contributions from these two developments, pro rated, based on the number of dwellings at each development.

- 3.52 No specific scheme and therefore cost has been identified for this bridge. Based on work undertaken by ECC, the likely cost of a grade separated crossing with sufficient space to provide level access is £3m. This includes a contingency of 60%.
- 3.53 The following new pedestrian/cycle bridge connections are required to support development in Central and Urban Chelmsford:
- Across the Chelmer and Blackwater Navigation near to the Essex Record Office
 - To the Anglia Ruskin University site
 - To the Springfield Hall Park
- 3.54 Again, none of these schemes have been costed to date so an allowance of £1m is made for each. For such structures, ECC has advised that a contingency of 60% should be applied, making the total cost £1.6m per bridge. Funding will be secured is through pooled S106 contributions. This pooled approach would be on the basis of the proposed changes to the CIL Regulations to remove the restriction of five contributions. If the restriction is not removed, contributions would be collected through CIL.
- 3.55 Along with this, there is a need for increased levels of bicycle parking across the City Centre, reflecting the fact that much of the existing bicycle parking, particularly at Chelmsford railway station, is at capacity. At the current time there are no specific costs identified for this but it is considered to be a critical item.
- 3.56 To deliver the land north of South Woodham Ferrers, a comprehensive package of improvements is required to link the site to the town across the B1012. The main items are:
- At the main junction with the B1012 and Hullbridge Road, a toucan crossing is required which will cost £250,000.
 - Access from the south-east corner of the site will either be via a cycle/pedestrian bridge or, as a secondary option, a toucan crossing (which would cost £250,000). The provision of a bridge is preferred but can only come forward if it can be suitably designed to address the difficulties with the topography on the south side. Whilst this has yet to be costed, and given the difficulties in providing the bridge, a cost of £1.5m has been assumed.

- A pedestrian crossing point approximately 200m to the east of Woodville Primary School. At this stage it is not known whether this will be required or what form the crossing will take. An allowance of £250,000 is therefore assumed.

3.57 All these items are to be funded directly by the developer.

3.58 In East Chelmsford, improvements will be required to existing cycleways and footpaths providing access into the City Centre and other key locations. No specific routes have been identified as required, but improvements are likely to be required to:

- The route no. 1 cycleway/footpath running into the City (via Chelmer Village) and also eastbound to Danbury.
- The route no. 13 cycleway/footpath which starts near Sandon School and runs into the City.

3.59 The cost of improvements to these routes is not known. Contributions from development towards specific schemes would most appropriately be collected through CIL.

3.60 All other sites are likely to require improvements to existing pedestrian and cycling links. These may be partially addressed by the schemes being delivered through the Chelmsford City Growth Package, which include:

- North Chelmsford:
 - Great Waltham to City Centre cycle route - connecting Great Waltham with the City Centre via the Broomfield Road corridor, linking in with existing cycle routes.
 - Essex Regiment Way Pegasus Crossing – a signalised crossing to connect the new communities of Beaulieu Park and Channels to Broomfield, and in turn improving non-motorised connections to the city centre.
- West Chelmsford:
 - Writtle to City Centre Cycle Route Improvements – improvements to the existing route along National Cycle Network route 1 by widening and upgrading the existing route and introducing lighting along the section to Writtle after Admirals Park.

- Admirals Park Bridge Improvements – replacement of the existing footbridge with a wider bridge to be used by both cyclists and pedestrians as a shared, segregated bridge.
- Chelmsford City Centre:
 - Tindal Square will be closed to motorised traffic and will form part of the City Centre cycle network.
 - Chelmsford City Centre Cycling Connectivity – provision of a two-way cycle route from Bellmead Park and along the existing footpath to the west of the Market multi-storey car park. Upgrading of the existing zebra crossing on Victoria Road south to a tiger crossing.
 - New Street Cycle Route – introduction of hybrid cycle tracks on both sides of New Street, between Rectory Lane and Victoria Road. Also a proposed developer-funded toucan crossing just to the north of the Network Rail bridge on New Street.
- Parkway Corridor:
 - Manor Road Cycling Improvements – Installation of new, directional cycle signage, realign kerbs and construct a central refuge on Manor Road.
- South and East Chelmsford:
 - Great Baddow to City Centre Cycle Route – provision of a dedicated signed route between Great Baddow and Chelmsford city centre. Upgrading of the footway along Parkway and immediately south of the Army and Navy junction to suitable shared use facilities.
 - Chelmer Village Way Cycling Route – connection of the existing cycle routes between Kingsford Drive, Henniker Gate and Chelmer Village Way roundabout and the Chelmer Village Way/Howard Drive junction, and improvement of the signage along National Cycle Network route 1.

3.61 Contributions from development towards specific schemes would most appropriately be collected through CIL.

3.62 All cycling and walking infrastructure is considered to be essential.

Rail

3.63 As explained earlier in this section, a new station serving the Beaulieu Park development is proposed. This will have wider benefits for a number of other developments in the Local Plan, including growth in North Chelmsford in particular. This is considered to be an essential item.

Summary

3.64 Table 3.1 shows a summary of the infrastructure requirements, where possible by location.

3.65 It should be made clear that these are the needs to address growth in the strategic locations. Other sites not listed in the table will be expected to make contributions towards either this or other new infrastructure in respect of the additional needs they create.

3.66 In addition, the following items are expected to be part- or fully-funded using contributions from CIL:

- Bus services and infrastructure, including bus priority
- Bus priority/Chelmsford Rapid Bus Transit (ChART)
- Cycle and footway improvements and network expansion
- New Park and Ride in SW Chelmsford
- Expansion of existing Chelmer Valley Park and Ride and Sandon Park and Ride
- Beaulieu Park Railway Station (depending on outcome of HIF bid)

3.67 Bids have been made to the Housing Infrastructure Fund (HIF) this includes an application for up to £250m to the Forward Funding pot by Essex County Council for a package for the Chelmsford North East Bypass and Beaulieu Park Rail Station. In addition, the City Council has made an application to the Marginal Viability pot of the HIF for £5.7m contribution towards a new bridge to serve Chelmer Waterside.

3.68 Full details of the expected funding sources are found in Table 11.1

Table 3.1: Summary of transport needs to address strategic growth needs

	Road	Bus & Rail	Walking & Cycling
Central and Urban Chelmsford			
Urban Chelmsford	No specific items identified	No specific items identified	Bridges - £4.8m
West Chelmsford	Road jcts - £5.0m		No specific items identified
E. of Chelmsford/ N. of Great Baddow	Sandford road - £1.0m Road jcts - £5.0m		
Total – Central & Urban Chelmsford	£11.0m	£0.0m	£4.8m
North Chelmsford			
NE Chelmsford	NE Bypass/RDR2 - £40.4m Road jcts - £10.0m	ChART - £3.6m	Bridge - £2.6m
N. of Broomfield	NE Bypass - £2.5m Hospital road - £1.1m Road jcts - £3.0m	No specific items identified	Bridge - £0.4m
Moulsham Hall/ N. of Great Leighs	NE Bypass - £6.2m Road jcts - £3.0m	Bus services - £0.3m	No specific items identified
Total – North Chelmsford	£66.2m	£3.9m	£3.0m
South and East Chelmsford			
N. of South Woodham Ferrers	Road jcts - £10.0m	Bus service - £0.6m	Crossings - £2.0m
Total – South & East Chelmsford	£10.0m	£0.6m	£2.0m
Strategic infrastructure			
A12 widening and junction improvements	£100.0m - £150.0m plus junctions	N/a	N/a
Beaulieu Park Railway Station	N/a	£150.0m	N/a
Great Eastern Mainline	N/a	£476.0m	N/a
A131 Route-Based Strategy	£7.3m*		
Chelmsford City Growth Package/ Station Square Phase 2	£18.9m*		
Total - strategic infrastructure	£126.2m - £176.2m (£100.0m - £150.0m funding secured)	£630.5m (£34.0m secured)	£0.0m
Grand Total	£213.4m - £263.4m (£100.0m - £150.0m funding secured)	£629.9m (£34.0m funding secured)	£9.8m (no funding secured)

* Schemes will have benefits across modes, not just road transport



4 Flood Protection and Water Management

- 4.1 The Environment Agency is responsible for the management of flooding from main rivers, Essex County Council is responsible for the management of flooding from ordinary watercourses, surface water and ground water, Anglian Water is responsible for managing sewer flooding and highway flooding is the responsibility of Essex Highways.
- 4.2 Furthermore, as the Lead Local Flood Authority, Essex County Council is a statutory consultee on surface water for major developments (SuDS). As part of this role site specific drainage strategies are reviewed to ensure that surface water flood risk is not increased on or off site up to the 1 in 100 inclusive of climate change storm event. Unlike many other infrastructure items, the need for new or improved defences against water intrusion is not necessarily directly related to development. The development strategy in Chelmsford deliberately seeks to avoid development in areas which are prone to flooding. Equally however, additional activity – particularly related to tourism - brings more people and activity to these areas, which therefore increases the need to ensure that defences are adequate.
- 4.3 Essex County Council is responsible for the management of surface water flooding. It has established critical drainage areas (CDAs) within which certain development locations sit.

Needs

- 4.4 The Environment Agency has stated that all flood risk infrastructure (such as flood defences) has an operational lifetime and so improvements to this infrastructure will be needed in the future. Chelmsford City Council needs to consider how to address these needs which are considerable given the potential impact of flooding in the city.
- 4.5 A flood alleviation scheme for Chelmsford City Centre has been funded⁵ and is being delivered by the Environment Agency and the City Council. Whilst the timescales to complete this work are yet to be confirmed, it was approved in February 2013 and works have commenced.
- 4.6 A Critical Drainage Area (CDA) in Broomfield Central has been identified by ECC as having potential issues in respect of surface water flooding. This is shown in Figure 4.1 and is relevant for the land north of Broomfield, although the site is not within the CDA. The CDA will require a particular mitigation scheme that would need to be individually designed. Initial assessments have been undertaken and the benefit-cost ratio is currently unfavorable therefore, at the present time, there no plans for the delivery of a flood alleviation scheme in the area. However, this situation could change if external funding such as developer contributions could be accessed.

⁵ By the Environment Agency, Chelmsford City Council and South East Local Enterprise Partnership

Figure 4.1: Location of Broomfield Critical Drainage Area

Costs and Funding

- 4.7 The level of funding that the Environment Agency can allocate towards flood defence improvements is currently evaluated through the requirements of the EA Outcome Measures, schemes that do not meet the Raw Partnership Funding threshold of 100% would require contributions from external partners. Any identified shortfalls in scheme funding would require partnership funding contributions from other sources such as S106 developer contributions or CIL, EA Local Levy and contributions from Anglian Water. Therefore, when determining the safety of proposed developments, the local authority must take this uncertainty over the future flood management and level of flood protection into account. This may require consideration of whether obtaining the funds necessary to enable flood management to be raised in line with climate change is achievable.

- 4.8 In addition, rules applying to the Central Government Flood Defence Grant in Aid funding mechanisms (FDGiA) means that any significant regeneration that results in either new development or the re-build of existing development will have the impact of reducing the future FDGiA benefit to support future flood defence schemes. This is because any property (including rebuilds) built after 2011 will not qualify for benefit consideration in applying FDGiA.
- 4.9 The ability to deliver a scheme that addresses the identified flooding problem at the Broomfield CDA will therefore depend on the source of funding. If a scheme is delivered using ECC funds, then it is possible, with the additional growth proposed in this area, to top up the necessary funding with developer contributions. However, at this stage there is no high level cost available for this scheme. The Council will therefore need to keep under review the precise impact and/or requirements of any CDA scheme on the land north of Broomfield.

Timing of provision

- 4.10 Delivery of infrastructure for coastal and flood defence is ongoing, with projects falling within the short, medium and long term.
- 4.11 In respect of the identified surface water flooding scheme at Broomfield, it is assumed to be required early on in the development of land to the north of Broomfield. However, this will depend on the detailed modelling undertaken as part of a planning application and the precise trigger points for provision, which will be linked to a Section 106 agreement.
- 4.12 This is considered to be a 'policy high priority' item.

Summary

- 4.13 No specific needs were identified at this stage. However, the delivery of a scheme in the Broomfield CDA (yet to be identified and costed) could require developer contributions from the land north of Broomfield to support its delivery.



5 Utilities

Water – Used water

- 5.1 The provider of waste water services to Chelmsford City is Anglian Water Services Limited (AWS).
- 5.2 The requirements for used water provision relate to the network for delivering used water (i.e. the sewerage pipes) and the facility at which it is treated, i.e. the Water Recycling Centre (WRC). There are eight WRCs serving the Chelmsford area. The WRC's which would serve the proposed future development are at Great Leighs, Chelmsford (to the east of the urban area) and South Woodham Ferrers.
- 5.3 For used water treatment, two of the key facets to consider are flow consent and process treatment capacity.
- 5.4 The assessment by AWS has identified needs using a 'RAG' (Red-Amber-Green) approach:
 - 'Red' sites have major constraints to provision of infrastructure and/or treatment to serve proposed growth.
 - 'Amber' sites require infrastructure and/or treatment upgrades to serve the proposed growth; alternatively, diversion of assets may be required.
 - 'Green' sites have capacity available to serve the proposed growth.

- 5.5 The information and RAG status for each proposed site has been assessed on an individual site basis. The cumulative impact from all the proposed sites on the allocated treatment or network resource is not indicated by the RAG status. It should be noted therefore that the cumulative effect of all the proposed sites may require enhancement to capacity depending on their phasing.

Needs

- 5.6 The WRC at Great Leighs has been identified as 'red' and will require enhancement to treatment capacity and/or site related mitigation measures. This will impact on development at Great Leighs/Moulsham Hall in north Chelmsford.
- 5.7 AWS does not expect that there will be a requirement for further investment within the next asset management plan period (2020 to 2025) at Chelmsford WRC in order to accommodate the scale and timing of housing growth in the Central and Urban Chelmsford area or at South Woodham Ferrers WRC to accommodate growth at South and East Chelmsford. However this will continue to be reviewed as part of its investment planning process.
- 5.8 In terms of foul sewerage, AWS makes the assumption that all developments of greater than 10 properties will require some form of network enhancement. Therefore all sites are considered to be 'amber' and improvements will be needed. Ultimately the available capacity in the foul water network will need to be determined by more detailed analysis.
- 5.9 For all sites, the surface water network capacity has been assessed as a constraint to provision. Urban run-off needs to be controlled on site to ensure no increase in run-off to the local river system. The use of sustainable drainage systems (SuDS) to provide water quality, amenity and ecological benefits in addition to the flood risk management benefits, will be expected. This will also ensure that:
- new development does not cause a deterioration in Water Framework Directive (WFD) status to any waterbody;
 - a package of mitigation works to enhance the WFD status of relevant waterbodies are undertaken; and
 - development does not prevent the future achievement of Good Ecological Status/Potential in any waterbody.

- 5.10 AWS would expect applicants to follow the hierarchy as set out below for the disposal of surface water:
- 1) Discharge by infiltration to the ground
 - 2) Discharge to an open surface water body
 - 3) Discharge to a surface water sewer
 - 4) Discharge to a combined sewer
 - 5) Discharge to a foul sewer
- 5.11 Only if a SUDS solution is not possible should surface water be planned to enter the used water network. In such cases, AWS would expect applicants to have demonstrated that there are no feasible alternatives, having worked with the Local Lead Flood Authority and followed the surface water hierarchy outlined in Part H of the Building Regulations. This would include providing appropriate evidence, for example percolation tests.
- 5.12 All sites will therefore need to address surface water matters appropriately but this will need to be done on a site-by-site basis. Surface water flooding is considered in more detail in Section 7.

Costs

- 5.13 AWS has stated that it is not possible to provide costs for the additional used water infrastructure to serve growth. This will need to be determined when particular schemes are assessed. However, it has been confirmed that technical solutions are feasible.

Funding

- 5.14 In general, used water treatment infrastructure upgrades to provide for residential growth are wholly funded by AWS through its Asset Management Plan (AMP). AWS is currently within the five-year AMP period 2015 to 2020 (AMP6). This does include schemes to address growth capacity at the Chelmsford WRC but this is not sufficient to fully accommodate the needs arising from growth in other parts of the administrative area. Therefore, in order for AWS to fund specific upgrades, it will be necessary to put forward growth schemes for inclusion within the next AMP periods (post-2021) and for these to be approved, planned and funded, as well as signed off by the regulator, OFWAT. The only other alternative is that developers

forward fund this work; however, given the potential costs involved, this is unlikely for all but the largest schemes.

Delivery and timing

- 5.15 For development at Great Leighs/Moulsham Hall in North Chelmsford, the need to upgrade provision at Great Leighs WRC and to provide strategic sewer solutions means that it will be difficult for any significant growth to come forward before 2024. The exact technical specification of the upgrades required should be determined by AWS for the AMP7 (2020-2025) and AMP8 (2025-2030) asset planning periods. Once funding has been confirmed, there will be a lead-in time for the necessary upgrades to be completed. This is therefore a critical item.
- 5.16 The alternative is that it will be developer funded. AWS has confirmed that there is sufficient time before development comes forward within the WRC catchment to plan its investment and to deliver the necessary upgrades.

Water – Potable supply

- 5.17 The provider of potable water services to Chelmsford is Essex and Suffolk Water (ESW).
- 5.18 Chelmsford forms part of the Essex Water Resource Zone (WRZ). This WRZ has sufficient surplus supply over forecast demand until at least 2040, accounting for growth defined in 2013. Therefore, water resource development is not required as a result of the growth forecast within these areas. There may need to be some local infrastructure enhancement (new or enlarged pipes) but this is within the expected activities of ESW. Specifically, in respect of the growth at North East Chelmsford, these enhancements will cost up to £1m.
- 5.19 Water companies have a funding mechanism whereby the developer pays directly to the water company for enhancement needed for a development, and an infrastructure charge for each new dwelling. Therefore, it is not necessary for additional funding to be identified in the IDP. However, the provision of potable water is considered to be a critical item

Gas

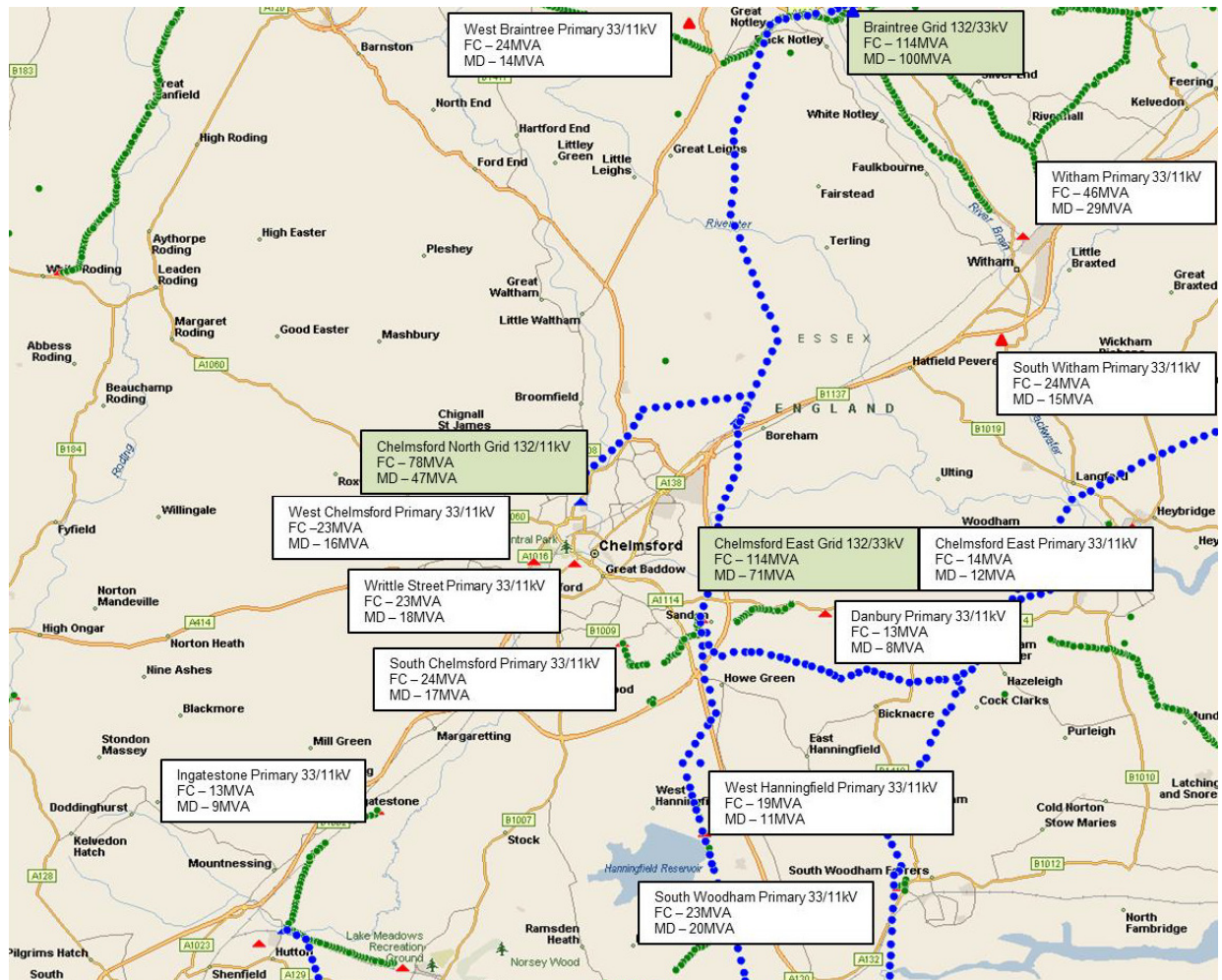
- 5.20 Gas is delivered through seven reception points into the United Kingdom and distributed through a National Transmission System (NTS). Cadent (formerly called National Grid) is responsible for the NTS which covers the whole of Great Britain.
- 5.21 National Grid has reported that, at present, there are no areas of Chelmsford City that are likely to require additional gas infrastructure to accommodate the proposed levels of growth. However, as the Cadent connections process works on a first-come, first-served basis, there is no guarantee that this capacity will still be available at the time an official connections request is sent in.
- 5.22 Gas supplies are funded by developers and Cadent. When a request for a supply is received, developers are quoted a Connection Charge. If the connection requires reinforcement of the network then a Reinforcement Charge may also be applied. The apportioning of reinforcement costs are split between the developer and Cadent, depending on the results of a costing exercise internally. These are site-specific costs so there would be no call on external funding sources. Therefore, it is not necessary for additional funding to be identified in the IDP. However, the provision of gas services is considered to be a critical item.

Electricity

- 5.23 Electricity is generated from power stations and transmitted through a national network of electricity lines operating at 275kV and 400kV before connecting to local networks owned by distribution companies. UK Power Networks (UKPN) is the appointed distribution company for Chelmsford City.
- 5.24 Electricity in Chelmsford is supplied from the National Grid transmission system to UK Power Networks at 132kV. Their Grid and Primary sub-stations supply the towns and villages at 33kV and within the catchments via smaller sub-stations and a network of underground cables at 11kV.
- 5.25 The area is served by three 132/33kV (Grid) substations and one 132/11kV substation, one at Chelmsford North (132/11kV) supplying the Chelmsford urban area and areas to the west, one at Chelmsford East (132/33kV) also serving the Chelmsford urban area as well as areas to the east and south and one at Braintree (132/33kV) serving the areas in the north. Each

132/33kV Grid substation supplies several 33/11kV substations that finally provide the 11kV distribution network to meet the local requirements.

Figure 5.1: Existing electricity substations serving Chelmsford City



Source: UK Power Networks 2017

Needs

- 5.26 For growth during the plan period, there is adequate capacity at the various primary substations and Grid substations. None of the residential sites will create any capacity issues.
- 5.27 For all larger sites - over 50 dwellings - there is likely to be a need for a new secondary sub-station provided on site. This would be on a 5m x 4m plot and would contain an 11,000/400 volt transformer plus a switch or switches. Such sub-stations are required where an existing sub-station is either too far from the new development or does not have sufficient capacity to supply it. The new sub-station would normally just supply the new development but could

also connect to the surrounding electricity network to provide an alternative means of supply in the event of a fault on the network.

- 5.28 For the employment development, without an idea of loadings or demand required (based on the types of users by use class), it is not possible to assess the capacity constraints within the network.

Costs and funding

- 5.29 The allocation of costs for future reinforcement is a complicated mechanism as UKPN is not permitted by its license conditions to invest ahead of need or for speculative developments. When reinforcement is required the cost for reinforcement and possibly connections is passed to the developer making the request for the new demand. They may receive some funding from the regulatory income UKPN has from OfGEM where existing assets are reinforced/replaced on a proportional basis.
- 5.30 Estimation of works more than a few years ahead are also likely to be inaccurate and unreliable as the network evolves and changes as a matter of course. Costs and estimates for connections and reinforcement would need to go through UKPN's commercial department having received an application first.
- 5.31 In 2015, the cost of providing for these needs has been estimated at approximately £1,000 per dwelling, plus the cost of the 11kV network extension or diversion. The cost of providing an on-site substation to serve the larger sites would also be extra, with the total cost estimated in 2015 to be in the region of £50,000, depending on the load requested by the developer. Such costs would be covered solely by the developer. Therefore, it is not necessary for additional funding to be identified in the IDP.
- 5.32 It should be noted that schemes coming forward after 2020 may have different charging strategies and policies as directed by OfGEM.

Delivery and timing

- 5.33 Site specific connections and the necessary supporting infrastructure must be provided as part of the early construction phases. This will be the responsibility of the developer to provide in conjunction with UKPN.
- 5.34 The provision of electricity services is considered to be a critical item.

Summary

5.35 Table 5.1 summarises the utilities needed for each of the three growth areas:

Table 5.1: Summary of utilities needs to address strategic growth

	Used Water	Potable Water	Gas	Electricity
Central and Urban Chelmsford				
Urban Chelmsford	Network enhancement	None	Standard site cost	Standard site cost
West Chelmsford	Network enhancement	None	Standard site cost	Standard site cost
E. of Chelmsford/N. of Great Baddow	Network enhancement	None	Standard site cost	Standard site cost
Total – Central & Urban Chelmsford	£N/k	£0.0m	Standard site costs	Standard site costs
North Chelmsford				
NE Chelmsford	Network enhancement	Local enhancement £1.0m	Standard site cost	Standard site cost
Moulsham Hall/N. of Great Leighs	Gt Leighs WRC enhancement Network enhancement	None	Standard site cost	Standard site cost
N. of Broomfield	Network enhancement	None	Standard site cost	Standard site cost
Total – North Chelmsford	£N/k	£1.0m	Standard site costs	Standard site costs
South and East Chelmsford				
N. of South Woodham Ferrers	Network enhancement	None	Standard site cost	Standard site cost
Total – South & East Chelmsford	£N/k	£0.0m	Standard site costs	Standard site costs
Grand Total	£N/k	£1.0m	Standard site costs	Standard site costs

5.36 It should be made clear that these are the needs to address growth in the strategic locations. Other sites not listed in the table will be expected to make contributions towards either this or other new infrastructure in respect of the additional needs they create.



6 Recreation and Leisure

- 6.1 Leisure and recreation infrastructure helps to create, sustain and enliven communities. Leisure and recreation infrastructure ranges from purpose built leisure facilities, indoor and outdoor sport facilities and play space. Together these places support the activities which are required to help build community, foster a sense of place, meet the cultural and recreational needs of communities and promote community wellbeing.
- 6.2 The population of the local authority area is expected to increase. This can be attributed both to planned housing growth and an ageing population. The leisure and recreation needs of Chelmsford will therefore have to continue to accommodate for current day needs whilst also supporting and encouraging activity amongst a higher proportion of older persons.
- 6.3 Provision has historically been provided within the larger settlements where demand is highest. Development must ensure that, where appropriate it meets the needs of the immediate development and address any existing under provision. New facilities should seek to offer flexible uses and combine facilities/ services which may have historically been provided on separate basis.
- 6.4 In particular, the opening up of school facilities to the wider public outside of school opening hours can provide specialist facilities in new developments with reduced costs. Essex County Council has advised that most academies would, in principle, be amenable to renting their pitches to local sports clubs or rooms for community interest activities, e.g. adult education, where possible as an income generator. In practice this is easier to achieve with new schools as this can be stipulated when looking for an academy sponsor and included in the lease, or

if an additional facility is required this can be designed in if other funding sources are available for it.

- 6.5 However, this will need to be considered on a case-by-case basis for both new and existing school facilities and therefore the IDP does not assume that this will happen in all cases. The assessment of leisure and recreation needs therefore reflects the overall need and cost which may ultimately be reduced if facilities can be shared.
- 6.6 All items identified would be desirable items.

Allotments

- 6.7 Allotment provision is not commonly undertaken by one specific body. Many allotments were provided several decades ago when funding and provision regimes were very different. Today it is more reasonable to expect developers to provide allotments as part of large developments. The maintenance and upkeep of allotments is commonly undertaken by parish councils.

Existing provision

- 6.8 The Chelmsford Open Space Study for Chelmsford City Council (2017) identified provision of 43.22 hectares of allotments and community gardens in the areas assessed across the City. This represents a range of provision from 0.03 hectares per 1,000 population in South Woodham Ferrers to 0.52 hectares per 1,000 population in the rural west of the City area. For the urban area of Chelmsford a total of 0.37 hectares per 1,000 persons was available.

Needs and costs

- 6.9 The Chelmsford Open Space Study 2017 recommends provision of 0.3 hectares of allotment space per 1,000 people at a capital cost of £30 per square metre. It should be noted that the Submission Local Plan includes allotment space as part of a more general requirement for 'Accessible Local Open Space' at 19 per square metre per dwelling for developments of 30 dwellings or more. In order to provide likely costs of just allotment provision, it is necessary to apply the standard in the Open Space Study 2017.

- 6.10 Table 6.1 summarises the needs and costs. This excludes any development at Bicknacre and Danbury because the scale of growth is too small to create needs which would justify additional provision.

Table 6.1: Need for allotment space arising from growth

	Dwellings	Population	Allotment needs (ha)	Allotment costs
Central & Urban Chelmsford	1,955	4,692	1.41	£422,280
West Chelmsford	800	1,920	0.58	£172,800
Land E. of Chelmsford/N. of Great Baddow	400	960	0.29	£86,400
NE Chelmsford/Boreham	3,000	7,200	2.16	£648,000
Moulsham Hall/N. of Great Leighs	1,100	2,640	0.79	£237,600
N. of Broomfield	450	1,080	0.32	£97,200
N. of South Woodham Ferrers	1,000	2,400	0.72	£216,000
Total	8,705	20,892	6.27	£1,880,280

Population figures have been based on the average household size of 2.4 persons per dwelling from the 2011 Census

- 6.11 In total there is a need for nearly 6.3 hectares of allotment space, with a total cost of £1.88m.

Funding

- 6.12 Outside of local authority budgets, there is no known source of funding available for the provision of additional facilities as would be required by the development options. It is assumed that these would be funded solely through developer contributions.

Delivery and timing

- 6.13 Provision of allotment facilities would mostly be on-site as part of developments coming forward. It will be for the masterplanning process to establish when and where they are delivered, so this should be agreed between Chelmsford City Council and the developer. Ultimately it could be the developer that delivers such facilities or the land could simply be provided by the developer. Commonly this is to the parish/town council in question.

- 6.14 Increasingly, alternative models of growing provision are being adopted in developments. In particular the use of community growing spaces is becoming increasingly popular, whereby growing space is made directly outside residential properties and is shared by the community. This means that less space is required because it can be provided more flexibly and allows communities to grow exactly what they need. Such alternative models are much cheaper and may be preferably particularly in built-up areas.

Children's Play Facilities and Youth Facilities

- 6.15 Children's play space is provided on Local Areas for Play (LAPs), Local Equipped Areas for Play (LEAPs) and Neighbourhood Areas for Play (NEAPs). LAPS are small play areas and are normally provided as on-site infrastructure on most larger residential developments. The need for such facilities is therefore not included in this assessment.
- 6.16 Youth needs can come in a variety of forms. The most common form of provision is multi-use games areas (MUGAs) which are included in this assessment.

Existing capacity

- 6.17 The Chelmsford Open Space Study 2017 identified that there was a total of 8.2 hectares of play space for children and 1.4 hectares of youth provision. Across the different study areas within the City Council area, play space provision ranged from 0.04 hectares per 1,000 population in Chelmsford urban area and South Woodham Ferrers to 0.11 hectares per 1,000 population in the rural west. For youth provision, all areas provided between 0.01 and 0.02 hectares per 1,000 population.

Needs and costs

- 6.18 The Chelmsford Open Space Study 2017 recommended a standard of 0.05 hectares per 1,000 population for both play and youth provision and a capital cost of provision of £170 per square metre.
- 6.19 Table 6.2 shows the needs by location. This excludes any development at Bicknacre and Danbury because the scale of growth is too small to create needs which would justify additional provision.

Table 6.2: Need for play and youth facilities arising from growth

	Dwellings	Population	Play space needs – LEAPs and NEAPs (ha)	Youth needs - MUGAs (ha)	Play space and youth needs - costs
Central & Urban Chelmsford	1,955	4,692	0.23	0.47	£1,196,460
West Chelmsford	800	1,920	0.10	0.19	£489,600
Land E. of Chelmsford/N. of Great Baddow	400	960	0.05	0.10	£244,800
NE Chelmsford/ Boreham	3,000	7,200	0.36	0.72	£1,836,000
Moulsham Hall/N. of Great Leighs	1,100	2,640	0.13	0.26	£673,200
N. of Broomfield	450	1,080	0.05	0.11	£275,400
N. of South Woodham Ferrers	1,000	2,400	0.12	0.24	£612,000
Total	8,705	20,892	1.04	2.09	£5,327,460

Population figures have been derived from DCLG 2014 household projections

- 6.20 Where an area creates a need significantly less than one LEAP, NEAP or MUGA, it is excluded. The table shows that there is a need for approximately 1.04 hectares of play space (LEAPs and NEAPs) and 2.09 hectares of youth provision (MUGAs).
- 6.21 Based on the capital cost of provision (which excludes the ongoing maintenance of such facilities, as this would be a revenue cost), the total cost of provision to address the needs arising from growth for children's play and youth facilities is £5.33m.

Funding

- 6.22 Outside of local authority budgets, there is no known source of funding available for the provision of additional play space as would be required by the development options. It is assumed that these would be funded solely through developer contributions.

Delivery and timing

- 6.23 Provision of children's play facilities would mostly be on-site as part of developments coming forward. It will be for the masterplanning process to establish when and where they are delivered, so this should be agreed between Chelmsford City Council and the developer.

Ultimately it will be the developer that delivers such facilities. The potential on larger sites to co-locate community, sports and play facilities will help to maximise efficiency.

- 6.24 Provision of facilities in other locations could be the responsibility of either the City Council or the parish/town council in question.

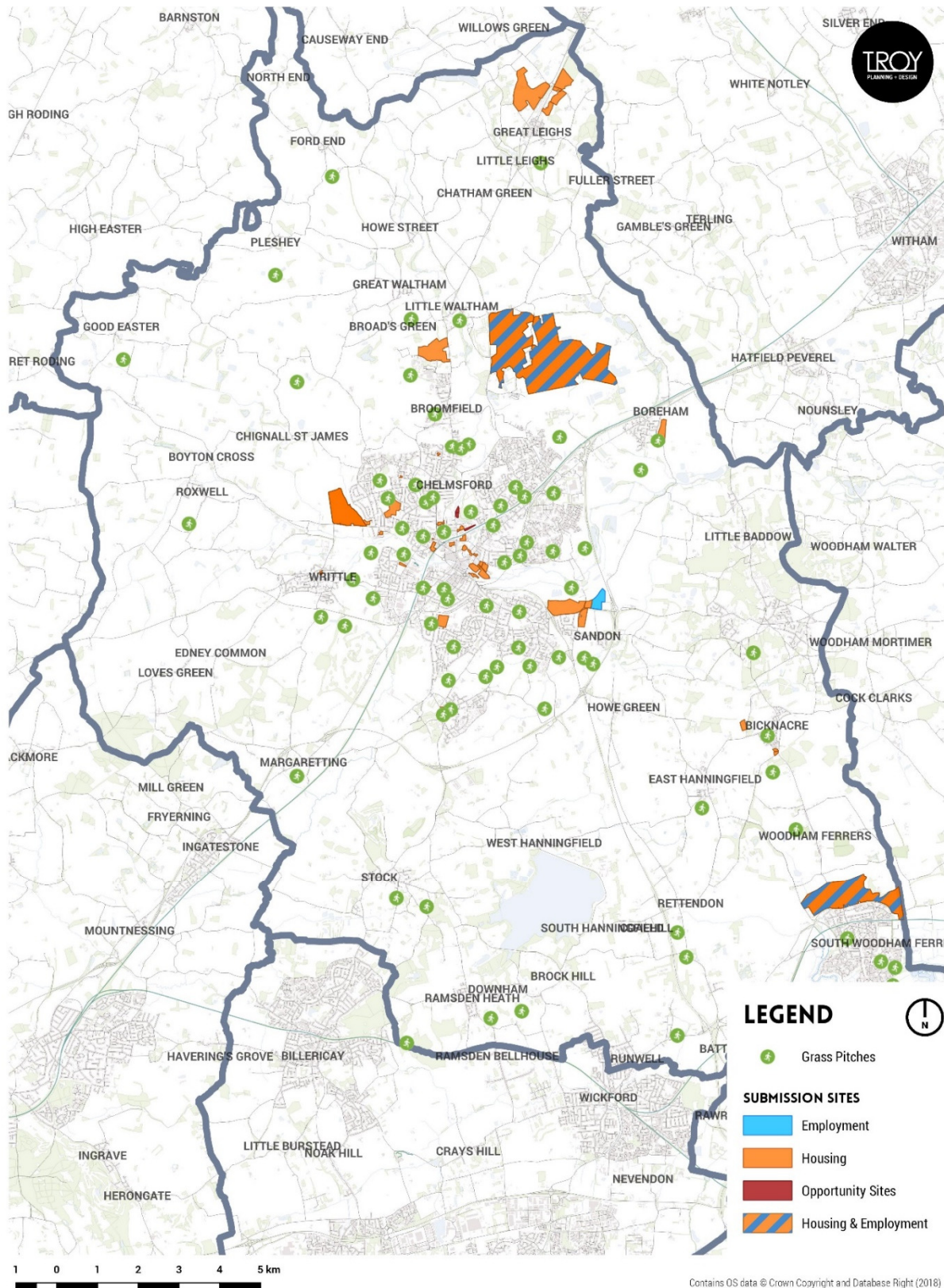
Outdoor sports pitches

- 6.25 Pitches for football and rugby are required for both adults and children. Junior football pitches are generally half the size of adult pitches, although in the case of mini-football, they are smaller than this. This assessment provides an overall assessment of the needs arising from growth for adult pitches, assuming that all needs are for adult provision; clearly this will not be the case and there will be a need for a mix of adult, junior and mini provision. The detailed breakdown of these needs is most appropriately considered at the masterplanning or pre-application stage.

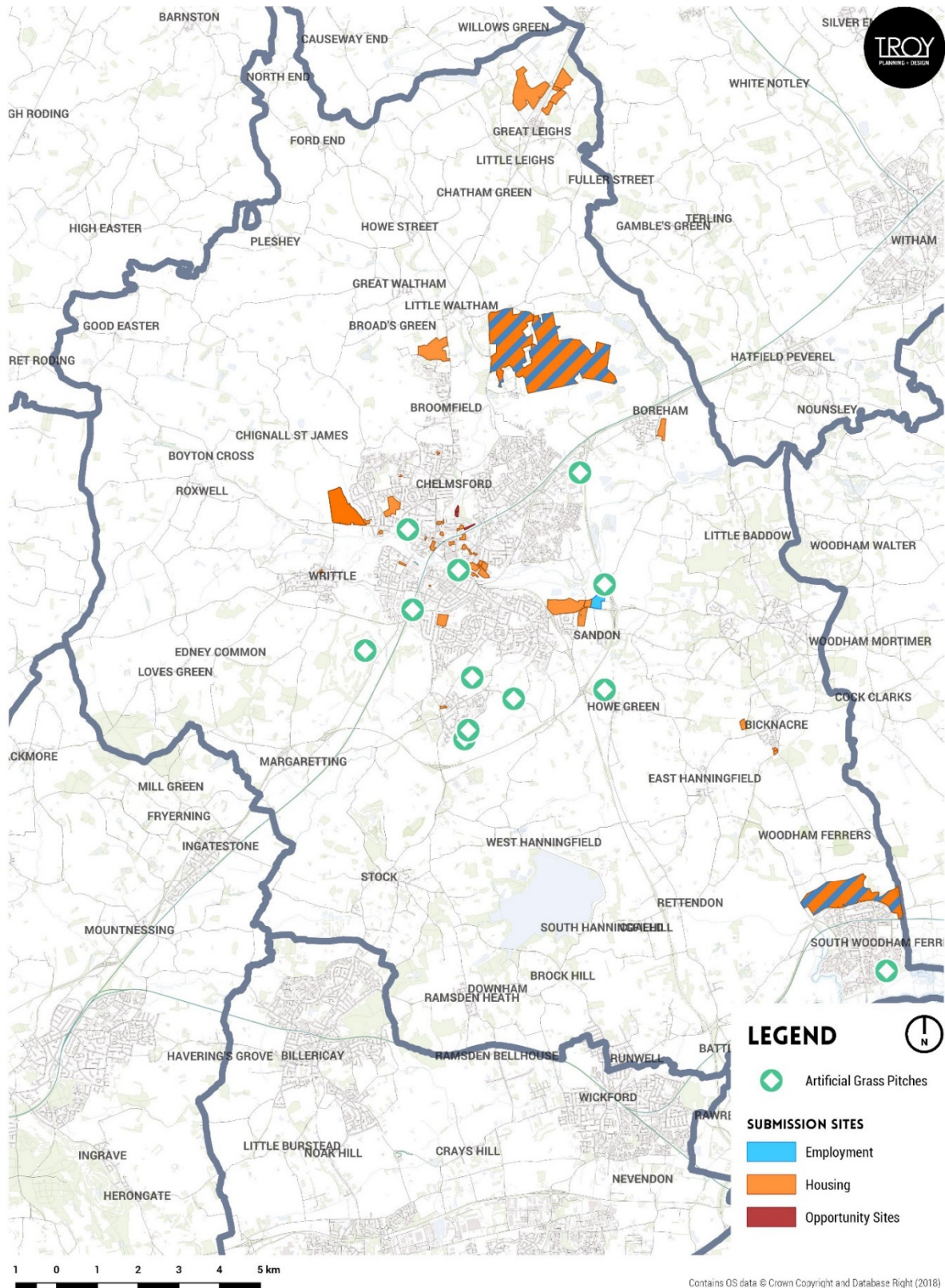
Existing provision

- 6.26 Active Places Power sets out that there are 270 playing pitches in Chelmsford City⁶. These provide facilities to support cricket, adult and junior football, mini soccer, rugby, rounder's, hockey and rugby. Of these 40 spaces are private and 230 are public. Of these, 42 have not been refurbished since 2000.
- 6.27 The location of these pitches is shown in Figures 6.1 and 6.2.

⁶ <https://www.activeplacespower.com/reports/local-sport-profiles>

Figure 6.1: Location of grass pitches in Chelmsford

Source: <https://www.activeplacespower.com>

Figure 6.2: Location of artificial grass pitches in Chelmsford

Source: <https://www.activeplacespower.com>

- 6.28 The Chelmsford Outdoor Sport Pitch and Facility Strategy 2018⁷ undertook a full review of existing demand and supply of both grass pitches (for adult football, junior football, mini soccer, rugby and cricket) and artificial grass pitches (AGPs, covering football and hockey).

Needs and costs

- 6.29 The Chelmsford Outdoor Sport Pitch and Facility Strategy 2018 identified the needs as shown in Table 6.3. Guidance on costs from Sport England⁸, shows that the cost of providing these facilities are as follows:

- | | |
|-----------------------------|-----------------------|
| • Adult football pitches | £85,000 |
| • Junior football pitches | £70,000 |
| • Mini football pitches | £20,000 |
| • Adult rugby pitches | £115,000 |
| • Cricket pitches | £270,000 |
| • 3G (Football) | £900,000 |
| • Netball courts (8 courts) | £400,000 ⁹ |

⁷ Chelmsford City Council (2018) *Chelmsford City Council Outdoor Sport Pitch and Facility Strategy and Action Plan – Future Growth Supplement 2018*

⁸ <https://www.sportengland.org/media/11748/facility-costs-2q17.pdf>

⁹ No cost is given for this by Sport England so it is assumed that the cost of 4 netball courts is equivalent to the cost of two macadam tennis courts, which Sport England lists as £200,000.

Table 6.3: Summary of outdoor pitch needs and costs

Pitch	Central and urban Chelmsford	North Chelmsford	South and east Chelmsford	TOTAL
Adult football	4	4	1	9
Youth football	4	4	1	9
Mini football	3	3	1	7
Rugby	1	1	0	2
Hockey (artificial grass)	0	0	0	0
Cricket	1	1	1	3
Tennis courts	0	0	0	0
3G (Football)	0	1	0	1
Netball courts	0	8	0	8
Total	13	13	4	30
Costs	£1,065,000	£2,365,000	£445,000	£3,875,000

Source: Chelmsford City Council Outdoor Sport Pitch and Facility Strategy and Action Plan 2018

Numbers have been rounded to the nearest whole pitch

- 6.30 As shown in Table 6.3, the total cost of provision of the pitches is approximately £3,875,000. In addition will be the cost of the changing facilities but this will depend on the specification which will be established on a case-by-case basis.

Funding

- 6.31 Outside of local authority budgets, the only known source of potential funding available for the provision of additional pitches as would be required by the development options is from Sport England. Certain criteria would have to be met and it cannot be stated with any degree of certainty that such funding would come forward. For the purposes of this assessment, it is assumed that these would be funded solely through developer contributions.

Delivery and timing

- 6.32 Provision of football pitches would mostly be on-site as part of developments coming forward. It will be for the masterplanning process to establish when and where they are delivered, so this should be agreed between Chelmsford City Council and the developer. Ultimately it will be the developer that delivers such facilities. The potential on larger sites to co-locate community and sports facilities will help to maximise efficiency.

- 6.33 Provision of facilities in other locations could be the responsibility of either the City Council or the parish/town council in question.
- 6.34 There may be needs for other types of reasonably specialist provision, e.g. tennis, bowls, golf etc. However, these are specialist requirements that are often provided by the private sector and are not included as part of this assessment. It should also be noted that many of the requirements for additional tennis and hockey will be addressed through the provision of multi-use games areas (MUGAs). These are considered in the earlier section on youth facilities.

Other outdoor sports facilities

- 6.35 The Chelmsford Outdoor Sport Pitch and Facility Strategy 2018 also assessed the need for outdoor tennis, bowls and netball as well as golf. However, this did not identify any specific needs. Wider factors influence such provision, including the quality of existing facilities and the types of provision (specifically public versus private). So for tennis provision, it was identified that many public courts are under-used but also in a poor state of repair. However, it is not clear whether re-provision of such facilities would be an effective use of funds. This also does not take into account the wider plans of the Lawn Tennis Association which has identified Chelmsford as an area of focus for investment. There are similar issues for outdoor bowls and netball provision.
- 6.36 The Strategy identified a need for new golf facilities but this did not total sufficient demand to warrant provision of a new golf course. It was also acknowledged that new provision is usually provided commercially as a private members club.

Indoor Sports Facilities and Swimming Pools

- 6.37 Sports halls can accommodate a diverse range of sports and recreational activities offering space for team sports, gymnastics, martial arts, group exercise classes, conditioning and training. The flexibility of sports halls can also offer space for non-sporting activities for wider community use when designed and managed well.
- 6.38 The provision of indoor sports halls is high within the local authority area but the size, function and use of these spaces varies greatly. Provision is offered directly by the local authority and through facilities which cater for education with community access. Fee paying

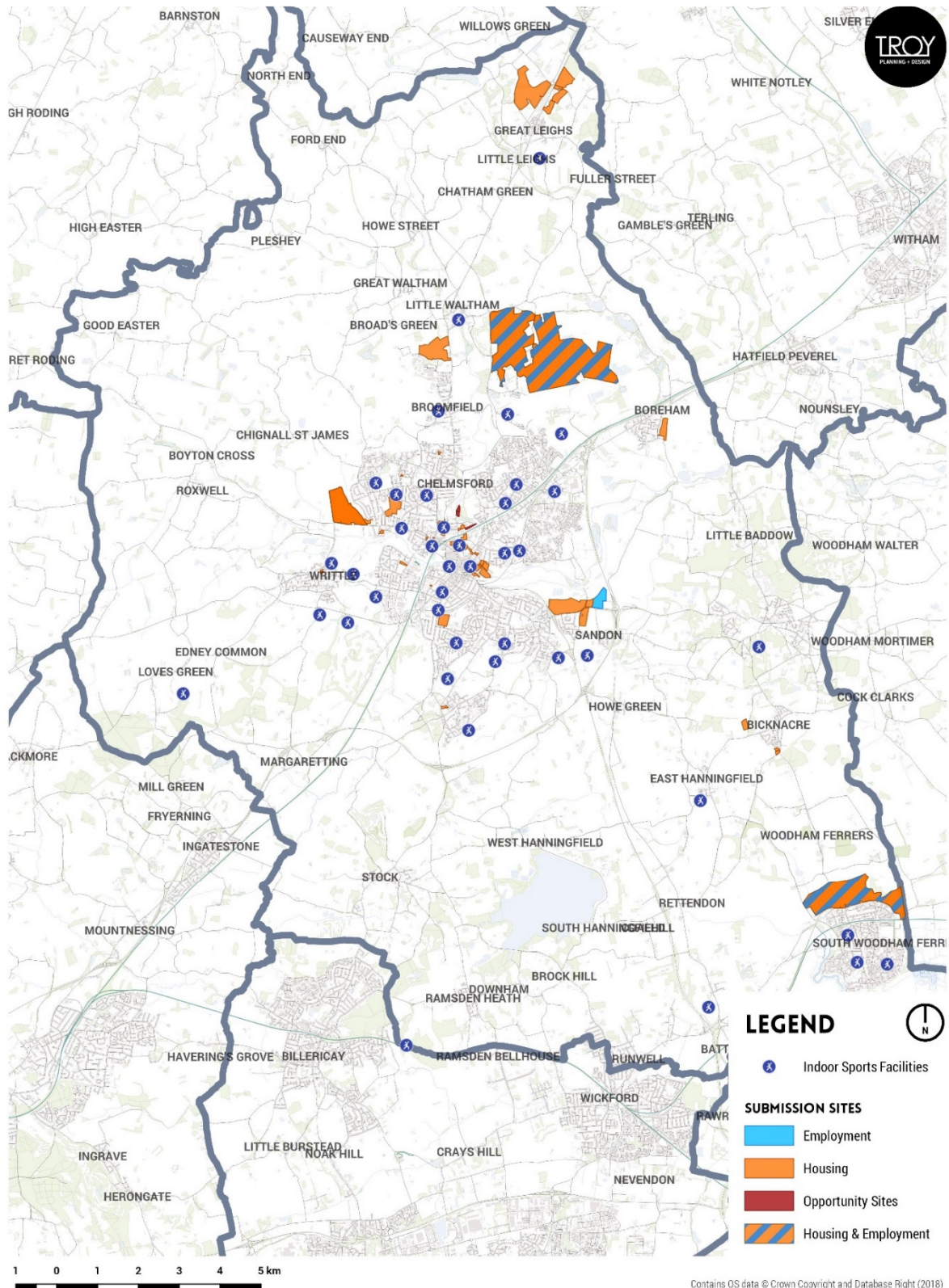
commercial facilities are also available across the area. For the purposes of this assessment, and based on the significant call on developer contributions meaning that provision should be made as efficiently as possible, it is assumed that new sports halls required will also provide for wider, non-sporting community activities in the same building.

- 6.39 Population growth through the number of strategic-scale growth locations proposed will generate additional demand, where new facilities or the expansion of existing facilities will need to accommodate to ensure that demand is met. Providing greater access to existing schools and new schools should be considered to aid with the cost-effective delivery of new sports halls and improving accessibility.

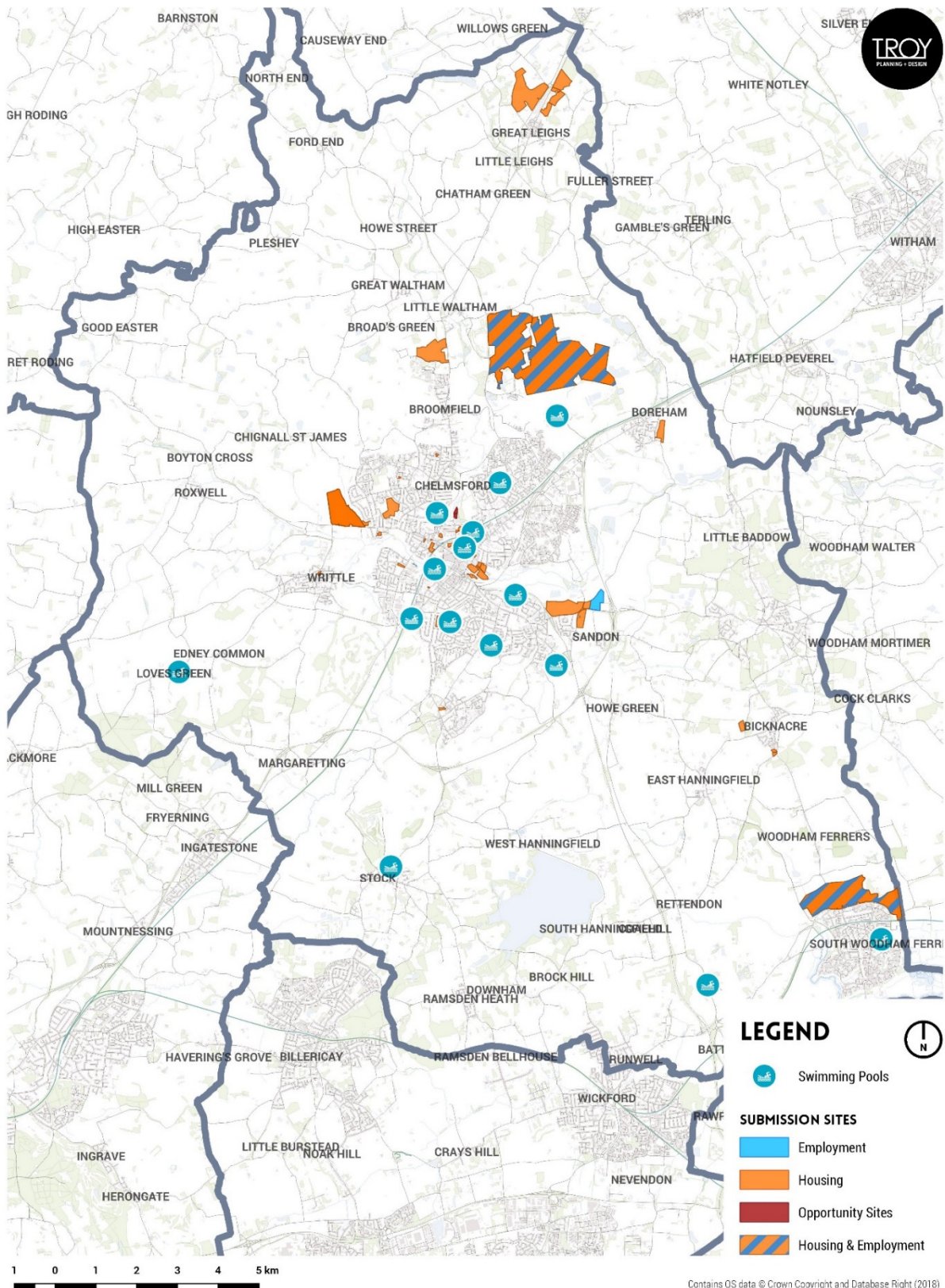
Existing provision

- 6.40 There is a total of 54 sports halls in Chelmsford City according to Active Places Power¹⁰. Of these, 11 are private and 43 are publicly accessible. Their location is shown in Figure 6.3.
- 6.41 One of these halls has not been refurbished since the 1990s. The Chelmsford Indoor/Built Sports Facility Needs Assessment 2017 identified that within the local authority area there is the following demand for access to the main indoor sports facilities:
- Sports halls – there is a small unmet demand but this is spread over a large geographical area. Quality of facilities is generally quite poor.
 - Indoor swimming pools – generally there is sufficient provision to meet existing demand although the existing stock of pools is ageing. However, the main Riverside Leisure Centre in Chelmsford is currently being redeveloped with the provision of a new 25m x 10 lane pool, learner pool and upgraded associated leisure facilities. This has been funded by the City Council through a combination of funding sources, including developer contributions collected from CIL.
 - Health and fitness – generally there is sufficient provision to meet existing demand and quality is good.
 - Indoor tennis – there is currently no provision but there is identified demand.

¹⁰ <https://www.activeplacespower.com/reports/local-sport-profiles>

Figure 6.3: Location of indoor sports facilities in Chelmsford

Source: <https://www.activeplacespower.com>

Figure 6.4: Location of swimming pools in Chelmsford

Source: <https://www.activeplacespower.com>

Needs and costs

6.42 The Chelmsford Indoor/Built Sports Facility Needs Assessment 2017 recommended the following provision:

- Indoor swimming pools – 251m² of provision, equivalent to a 25m x 4-lane pool. This need is being met by the redevelopment of the Riverside Ice and Leisure Centre which includes a new pool.
- Sports halls – 1.6 x 4-court facilities (6.6 courts). This would cost £3,544,000. The existing commitment at North Chelmsford makes provision for a 'dry' sports centre which can be offset against this requirement, therefore it is assumed that just one 4-court facility would be required.
- Indoor tennis – a 3-4 court facility. This would cost £2,350,000 for a 3-court facility and £3,115,000 for a 4-court facility.
- Health and fitness – between 23 and 24 health and fitness stations spread over one or more centres. It is not possible to determine a cost for this provision, with much being delivered through the private sector.

6.43 This totals £6.7m.

6.44 The Assessment recommended that co-location of facilities would be advisable in order to maximise use. If this was provided together then a wet and dry leisure centre including 4-lane pool, 4-court hall, and 50- unit health and fitness plus studio would, for example, cost £7,165,000. However, given the range of locations it is likely that provision may be spread.

Funding

6.45 Outside of local authority budgets, there is no known source of funding available for the provision of additional facilities as would be required by the development options. It is assumed that these would be funded solely through developer contributions.

6.46 It should also be noted that some of these needs may be addressed through private facilities which would be funded by the developer.

Delivery and timing

- 6.47 Provision of indoor sports facilities would mostly be through improvements to existing facilities. Therefore, this would be the responsibility of Chelmsford Council. Private facilities coming forward will clearly be the responsibility of the developer in question.

Open Space

- 6.48 Green infrastructure refers to a 'strategically planned and delivered network...of high quality green spaces and other environmental features' (Natural England). There are a range of different types of open space that could be considered to be green infrastructure. However, for the purposes of this study which looks at infrastructure needs, this is confined to the requirement for green spaces to support new populations resulting from the needs set out in local guidance. In particular this focuses on the natural areas used for informal and semi-formal recreational social value. This mainly consists of:

- Natural and semi-natural green space – mainly country parks
- Parks, gardens and amenity space

Overview of the area

- 6.49 There are two Country Parks in or close to Chelmsford City, at Danbury and Marsh Farm.
- 6.50 Based on standards promoted by Natural England and the Essex Wildlife Trust, people should have access to:
- 2ha+ of accessible natural greenspace (ANG) within 300m of home - this has been termed the Neighbourhood Level
 - 20ha+ of ANG within 1.2km of home - the District Level
 - 60ha+ of ANG within 3.2km of home - the Sub-regional Level
 - 500ha+ of ANG within 10km of home - the Regional Level
- 6.51 An assessment of the provision of ANG against these standards (referred to as 'ANGSt') in Chelmsford was undertaken by through the 2017 Chelmsford Green Infrastructure Strategic

Plan¹¹. This showed that there are deficiencies in City-wide access to open space, particularly in remoter countryside areas, although access to larger open spaces shows a clear southern bias. Table 6.4 summarises the accessibility to different levels of provision.

Table 6.4: ANGSt analysis of provision

ANGSt standard	Meeting of standards
At least one accessible 20ha site within 2km of home	Standard met across approximately half the study areas with the largest gaps in the rural north, west and south and the eastern part of the urban area.
One accessible 100ha site within 5km of home	Standard met across half the study area with gaps largely in the north and east and part of the west.
One accessible 500ha site within 10km of home	Provision met across Chelmsford, rural south and South Woodham Ferrers. No provision in the rural north and gaps in rural west and urban areas.
At least one hectare of Local Nature Reserve per 1,000 population	Very limited provision – 3 LNRs (Chelmer Valley, Galleywood Common and Frankland Fields)

Source: Chelmsford Green Infrastructure Strategic Plan 2017

Local Open Space and Country Parks

Needs

- 6.52 The Chelmsford Open Space Study 2017¹² proposes the following standards for provision of green space:
- Parks and gardens – 1.65 hectares per 1,000 population
 - Natural and semi-natural green spaces – 1.0 hectare per 1,000 population
 - Amenity green space – 0.4 hectares per 1,000 population
- 6.53 The Local Plan distinguishes between ‘accessible local open space’ and ‘strategic open space’. For the former it requires provision of 19m² per dwelling on developments of 30 dwellings or more and for the latter, 40m² per dwelling.
- 6.54 Table 6.5 applies these standards to the growth proposed across the whole City Council area. In total, over 52 hectares of green space is required to address the needs arising from growth.

¹¹ Amec Foster Wheeler (2017) *Chelmsford Green Infrastructure Strategic Plan*, for Chelmsford City Council

¹² Ethos Environmental Planning (2017) *Chelmsford Open Space Study, 2016-2036*, for Chelmsford City Council

Table 6.5: Green space requirements to support growth

	Dwellings	Population	Accessible local open space (ha)	Strategic open space (ha)
Central & Urban Chelmsford	1,955	4,692	3.71	7.82
West Chelmsford	800	1,920	1.52	3.20
Land E. of Chelmsford/N. of Great Baddow	400	960	0.76	1.60
NE Chelmsford/Boreham	3,000	7,200	5.70	12.00
Moulsham Hall/N. of Great Leighs	1,100	2,640	2.09	4.40
N. of Broomfield	450	1,080	0.86	1.80
N. of South Woodham Ferrers/Bicknacre/Danbury	1,130	2,712	2.15	4.52
Total	8,835	21,204	16.79	35.34

Population derived from DCLG 2014 household projections

- 6.55 Not all developments will necessarily be expected to provide green space at these standards, particularly higher density development within the urban areas, e.g. Central Chelmsford.
- 6.56 In addition, ECC reports that that it will be more cost-efficient to provide local parks for more than local need, i.e. providing a wider visitor experience which can help to create a revenue stream that will otherwise address what are relatively high costs of provision. For country parks, the scale of provision is key; such provision should be at least 40 hectares in order to make it a 'destination'. However, it is not clear whether, as part of any of the strategic growth locations, such a facility could be provided. Two 'country park' schemes are proposed, one of 67 hectares in East Chelmsford and the other of 108 hectares in North East Chelmsford.
- 6.57 It should be noted that, in respect of the sites making up the strategic allocation east of Chelmsford/north of Great Baddow, there is the potential for additional recreational pressure on nearby Danbury's protected sites (Blake's Wood and Lingwood Common SSSI, Danbury Common SSSI, Woodham Walter Common SSSI). It will be important that new provision of accessible local open space and strategic open space not only ensures that recreational disturbance of these protected sites is not increased but is located and designed in such a

way that it actively encourages existing users of the protected sites to use the new green areas provided for their recreation activities.

Costs and funding

- 6.58 It is not possible to assign costs the provision. This will depend on a number of factors, not least the availability of greenfield land to make such provision.
- 6.59 The two proposed country parks would be provided as part of the strategic growth in East Chelmsford and North East Chelmsford respectively.
- 6.60 It is expected that developers will make land available for local green infrastructure provision as part of comprehensive masterplanning and the application/Section 106 process, i.e. it is delivered as secondary infrastructure. On smaller sites, the expected approach would be to pool S106 contributions to deliver local open space off-site.
- 6.61 ECC reports that ongoing revenue funding is the greatest challenge for maintain green infrastructure. Larger scale provision, particularly country parks, is preferred because of the greater ability to create multiple revenue streams through, for example, car parking, visitor attractions, cafes and restaurants and corporate activities. Great Notley Country Park, for example, provides all of these facilities and attracts 150,000 visitors per year. However, at the present time, ECC would not intend taking on the management of the two country parks proposed.

Timing of provision

- 6.62 Provision will come forward as part of the comprehensive masterplanning of development sites.
- 6.63 All items identified would be desirable items.

Strategic landscaping

Needs, costs and funding

- 6.64 Specific strategic landscaping items will contribute towards environmental mitigation and ensure high quality developments at a strategic scale.

- 6.65 It is expected that developers will deliver strategic landscaping as part of comprehensive masterplanning and the application/Section 106 process, i.e. it is delivered as secondary infrastructure (this is explained further in paragraph 13.9).

Timing of provision

- 6.66 Provision will be made as sites are brought forward for development.

Summary

- 6.67 Table 6.6 summarises the leisure and recreation needs for each of the three growth areas.
- 6.68 In addition, nearly 54 hectares of green space is required to address the needs arising from growth. Two proposed country parks would be provided as part of the strategic growth in East Chelmsford and North East Chelmsford. Precise costs of provision are not known. However, it is expected that developers will make land available for green infrastructure and other relevant provision as part of comprehensive masterplanning and the application/Section 106 process.

Table 6.6: Summary of leisure and recreation needs

	Allotments	Play and youth	Outdoor sports pitches	Indoor sports facilities
Central and Urban Chelmsford				
Urban Chelmsford	1.41ha £0.42m	0.70ha £1.20m	13 pitches £1.07m	
West Chelmsford	0.58ha £0.17m	0.29ha £0.49m		
E. of Chelmsford/N. of Great Baddow	0.29ha £0.09m	0.15ha £0.24m		
Total – Central & Urban Chelmsford	2.28ha £0.68m	1.14ha £1.93m		
North Chelmsford				
NE Chelmsford	2.16ha £0.65m	1.08ha £1.84m	22 pitches £2.37m	
Moulsham Hall/N. of Great Leighs	0.79ha £0.24m	0.39ha £0.67m		
N. of Broomfield	0.32ha £0.10m	0.16ha £0.28m		
Total – North Chelmsford	3.27ha £0.99m	1.63ha £2.79m		
South and East Chelmsford				
N. of South Woodham Ferrers	0.72ha £0.22m	0.36ha £0.61m	4 pitches £0.45m	
Total – South & East Chelmsford	0.72ha £0.22m	0.36ha £0.61m		
Grand Total	6.27ha £1.89m	3.13ha £5.33m	30 pitches £3.88m	Various £6.7m



7 Environmental Mitigation

Needs

- 7.1 The principal form of environmental mitigation is the Recreation Disturbance and Avoidance Mitigation Strategy (RAMS) for European designated sites. This mostly relates to the need to mitigate potential disturbance from new residents of sites east of Chelmsford/north of Great Baddow, in South Woodham Ferrers and in Danbury. All these sites are within the zone of influence.
- 7.2 A RAMS strategy is being developed by Essex County Council and the necessary mitigation will be delivered through the adoption of a Supplementary Planning Document.

Costs and funding

- 7.3 The precise cost of any mitigation schemes is not known. Funding is expected to be delivered through the pooling of S106 contributions from these sites and any other sites which come forward within the zone of influence. This pooled approach would be on the basis of the proposed changes to the CIL Regulations to remove the restriction of five contributions. In the event that such proposals are not put in place, funding would come through the CIL charge.
- 7.4 There is unlikely to be funding coming from other sources.
- 7.5 In total, 11 out of 14 Essex districts have signed up to the RAMS strategy so the issue is being addressed at a wider level. With the total costs of provision and location not known, the contribution from each authority area is also unknown.

Timing of provision

- 7.6 The mitigation will be needed as development comes forward. Wider strategic mitigation will be brought forward once the strategy has been finalised and funding secured.

Archaeology***Needs, costs and funding***

- 7.7 There is the potential for archeological findings on sites across the district but the likely nature of any archaeological findings is yet to be identified.
- 7.8 It is expected that developers will address any requirements in respect of archaeology as part of comprehensive masterplanning and the application/Section 106 process, i.e. it is delivered as secondary infrastructure (this is explained further in paragraph 13.9).

Timing of provision

- 7.9 Issues relating to archaeological matters will be addressed as sites are brought forward for development.



8 Early years, childcare and Education

- 8.1 Essex County Council (ECC) has statutory duties as the Education Authority to facilitate Early Years and Childcare (EY&C) provision within the area and ensure sufficient primary and secondary school places are available. This section seeks to simplify what is a very complicated subject, based on information provided by ECC and our own research. All cost estimates has been provided by ECC, and will be subject to review moving forward.
- 8.2 We have included the following education services within our assessment:
- Early Years and Childcare (EY&C);
 - Primary education;
 - Secondary education;
 - Sixth form education; and
 - Further education.
- 8.3 Once the Local Planning Authority has agreed its preferred spatial strategy setting out the level of development needed and the specific sites that will deliver it, the cumulative impact of the Plan on education is assessed. ECC, as Education Authority, assesses the pupil product arising from those sites that are permitted but unoccupied and all proposed development in the preferred spatial strategy. Any homes already occupied are excluded to ensure pupils

that are already on school rolls are not double counted. This approach is laid out in the ECC document 'Commissioning School Places in Essex 2017-2022'.

- 8.4 The schedule of sites, set out in section 2, is then matched to the relevant local schools; anticipated pupil numbers calculated; the additional demand checked against current capacity; deficits in provision identified that will likely occur and potential solutions for accommodating additional demand identified (i.e. new schools or expansions).
- 8.5 Based on the projected phasing of development, an indication is provided as to when it is likely to need to open new, or expand existing, schools. Given that the need for such provision will largely be determined by actual build rates, the dates provided should be regarded as indicative. The Infrastructure Delivery Plan is therefore based on a very specific set of assumptions from the best available evidence at a point in time. Benchmark costs for the infrastructure identified is also provided to inform plan preparation and viability.
- 8.6 The costs of provision in this section are quoted at April 2016 prices. All contributions must be index linked to this date. A contingency of 10% on all costs excluding fees has been included. The base costings for school expansions have been informed by multipliers originally put forward by the Department for Education. The additional 10% figure is considered to reflect a reasonable contingency for what are commonly developed schemes.
- 8.7 ECC delivers EY&C through a commissioning approach, with a responsibility for providing targeted support and Government funded Free Early Education Entitlement (FEEE) for vulnerable 2-year olds and FEEE for all 3- and 4-year olds, which are commissioned from the private, voluntary and independent sectors. ECC advises on the requirement for new facilities based on the places generated by the new development.
- 8.8 The Government doubled the amount of free childcare from 15 to 30 hours a week for working parents of 3- and 4-year olds from September 2017. This is being delivered through local authorities, as it does for the existing 15 hours.
- 8.9 The impact of this requirement is being analysed by ECC through the applications received, and its impact will need to be factored into future requirements once known. Existing estimates do not presently consider its implications.

- 8.10 Free Schools and Academy Schools are outside local authority control but it is still necessary to consider them in pupil place planning. Of relevance to infrastructure planning is that, if there is insufficient capacity in existing schools, the Education Authority still has a duty to ensure sufficient places but is not able to force Free Schools or Academies to take additional children without the prior approval of these schools or intervention by the Department for Education.
- 8.11 Most dwellings, irrespective of size or type are assumed to be qualifying houses, except specialist residential accommodation, thereby providing a 'worst case' scenario. The capacity of sites have also discounted 1-bed properties in accordance with Local Plan Policy HO1, Table 5. It is likely that the numbers of pupils generated by individual developments may be lower than indicated but is dependent on the housing mix of individual schemes.
- 8.12 As part of the provision of new schools and associated sports facilities (indoor and outdoor), it is expected that such spaces will increasingly need to be available for use by the community outside of school hours. However, this will need to be considered on a case-by-case basis for both new and existing school facilities and therefore the IDP does not assume that this will happen in all cases. The assessment of leisure and recreation needs in later sections therefore reflects the overall need and cost which may ultimately be reduced if facilities can be shared.
- 8.13 Figures 8.1 and 8.2 show the locations of the schools within Chelmsford City administrative area.

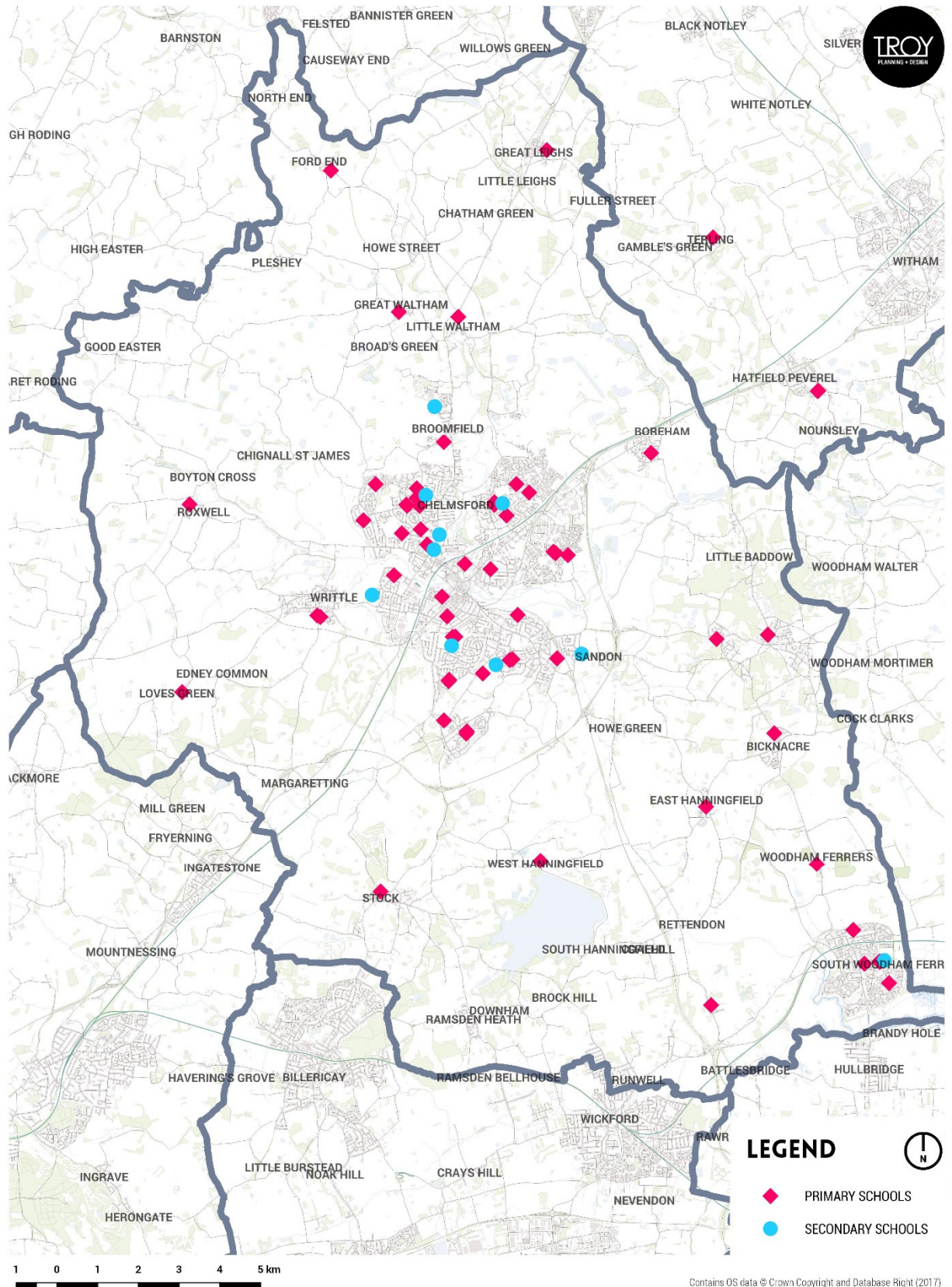
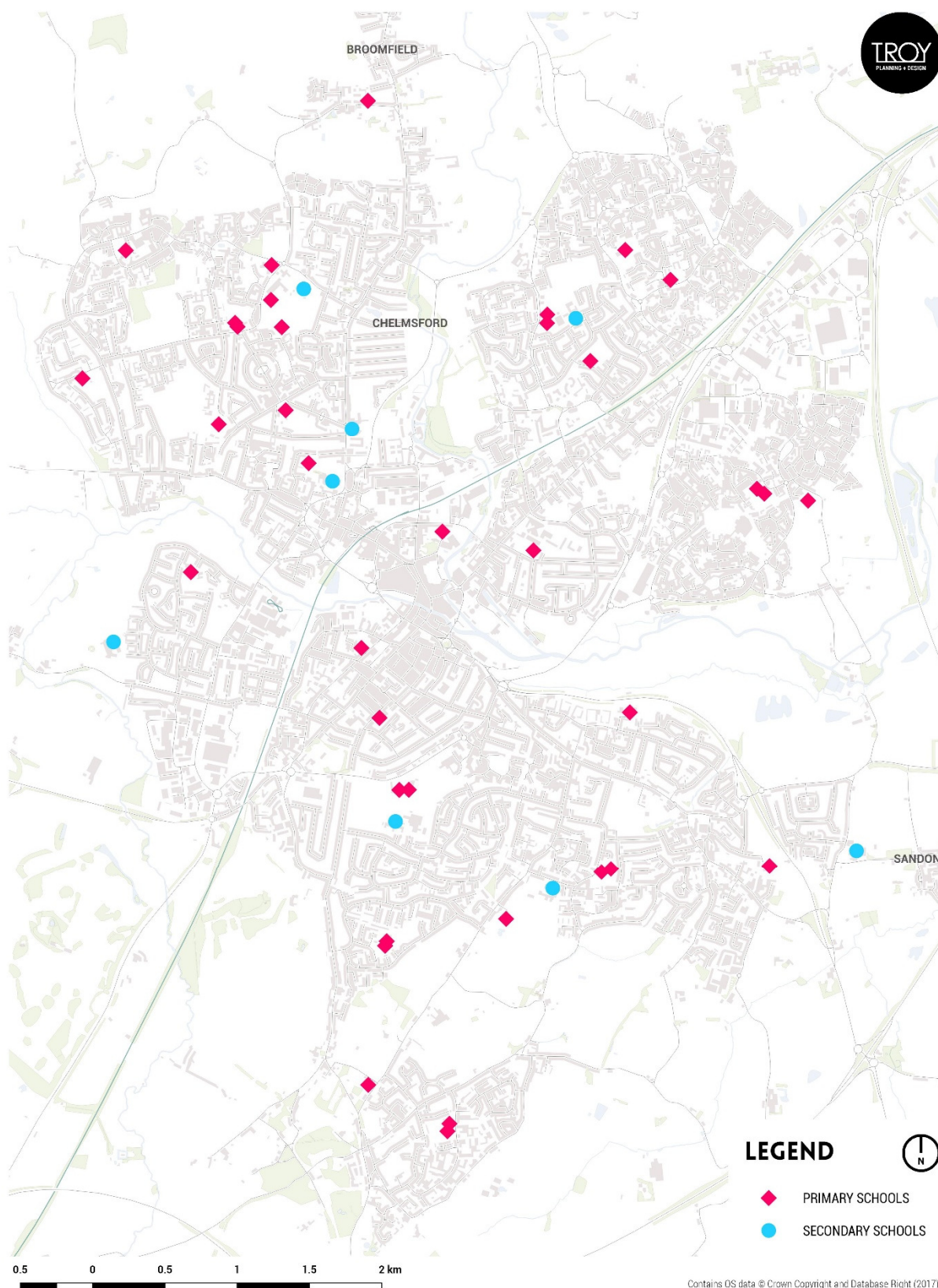
Figure 8.1: Primary and secondary schools in Chelmsford City

Figure 8.2: Primary and secondary schools in Central and Urban Chelmsford

Early Years and Childcare

- 8.14 The section on Primary Education identifies where new primary schools are required. In such circumstances, this provision will also include a 56-place nursery unless otherwise stated.
- 8.15 The cost of providing a co-located EY&C facility would be included in the overall £7.3m cost of providing the new primary school. It would be misleading to separate out this cost. The cost of providing a stand-alone facility on 0.13 hectares of land would be £1.18m.

Central and Urban Chelmsford

- 8.16 Growth identified in Central and Urban Chelmsford will generate some 281 additional EY&C places, of which 68 will be generated by the West of Chelmsford allocation. Some 213 places will be generated by the other sites in the urban area.
- 8.17 One new 56-place facility as part of new primary school provision and five stand-alone 56-place facilities are required at the following locations:
- West of Chelmsford – one co-located facility with primary school and one stand-alone facility. Whilst the allocation itself would generate some 68 places, the lack of potential sites for a new facility in the urban area means an additional stand-alone facility is required, with developer contributions required from other allocations in the Chelmsford urban area.
 - Land east of Chelmsford/north of Maldon Road (site 3b) - one stand-alone facility.
 - Other sites in Urban Chelmsford – three stand-alone facilities are required and preferred locations have been identified in the plan at:
 - Lockside, Chelmer Waterside (site CW1c)
 - North of Gloucester Avenue (John Shennan) (site 1c)
 - The former Royal Mail premises, Victoria Road (site 1e).
- 8.18 In all cases, the developer will provide the land (0.13 ha) or provision within the built form at the development and a proportion of the build cost generated from the need for places. The remainder of the cost will potentially be covered through pooled Section 106 contributions.
- 8.19 The total cost of provision for the stand alone facilities would be £5.90m.

North Chelmsford

- 8.20 A new primary school co-located with a new 56-place facility (2.1 ha) is currently under construction, being an outstanding commitment at Beaulieu Park/Channels as identified in the adopted North Chelmsford Area Action Plan (NCAAP). It will accommodate some demand from the new allocation at NE Chelmsford. In addition, three new 56-place facilities as part of new primary school provision and three stand-alone 56-place facilities are required, as described below.
- 8.21 As part of the development at North East Chelmsford (Policy SGS4), there is a requirement for two co-located 56-place facilities and two stand-alone facilities.
- 8.22 One of the stand-alone facilities should be located within the 45,000m² new office/high tech business park zone. It is presently difficult to accurately identify the number of places generated by the employment allocation, as demand for places is dependent on the type of employment mix, and hence job density, arising from those use types. However, it is considered reasonable to plan for a single 56-place facility.
- 8.23 At Moulsham Hall and north of Great Leighs, a co-located 56-place facility is sought as part of the required new primary school provision. This reflects the fact that the land at Moulsham Hall creates a requirement for 63 places. At the land north of Great Leighs only 18 places will be generated, hence a 56-place stand-alone facility is not required, although developer contributions will be sought.
- 8.24 On land north of Broomfield, a 56-place stand-alone facility would be required.
- 8.25 The total cost of provision would be £3.54m.

South and East Chelmsford

- 8.26 The development north of South Woodham Ferrers will generate some 84 places, which is less than the 112 required for two new 56-place facilities. The additional places are expected to be filled by the places generated by the additional '30 hour' offer for working families.
- 8.27 As is noted in the Primary Education section below, there is not yet the justification for a new primary school but the need is maintained on a precautionary basis, in which case the provision of one of the 56-place facilities would be as part of any co-location.

8.28 Provision would therefore either be in the form of two stand-alone 56-place facilities or one stand-alone and one co-located facility. For the purposes of the assessment, it is assumed that two stand-alone facilities are provided.

8.29 The total cost of provision would be £2.36m.

Primary Education

8.30 The following principles have been used by ECC to determine the overall needs and costs:

- New primary schools are assumed to be two forms of entry (2fe) with a 56-place nursery unless otherwise stated. The cost of such provision is approximately £7.3m.
- Expansions are costed at £12,218 per primary school place. All costs in this section are quoted at April 2016 prices and all contributions must be index linked to this date.
- Land and site preparation costs are excluded. As per the 2016 ECC Developers' Guide to Infrastructure Contributions¹³, it is expected that the developer will provide free, fit-for-purpose sites that are fully serviced and remediated.
- Contributions from development should be secured through s106 agreements and CIL.
- Where the need for new schools are identified against a site, other sites that benefit may be required to contribute towards both land and build costs.
- Where school facilities are to be used outside school hours by local communities, e.g. sports facilities, the education authority is not expected to bear any of these additional costs and fees would apply to their use.
- The Local Plan specifically identifies education land as Class D1 use to avoid projects becoming unviable over the lifetime of the development due to attributing residential land values.

¹³ <http://www.essex.gov.uk/Environment%20Planning/Development-in-Essex/Documents/Developers-guide.pdf>

Central and Urban Chelmsford

Urban Chelmsford

- 8.31 With the exception of Cathedral Primary School, which has faith-based admission criteria, there are no primary schools located within Chelmsford City Centre. There are a number of schools that are all slightly outside the City Centre but have priority admission areas that include parts of the centre. Based purely on site area (approximately 2.8ha each), Kings Road and Meadgate schools both have expansion potential. Westlands was expanded to 3fe utilising an artificial pitch. Moulsham Infant and Junior School, along with Oaklands, already operate as a 6fe provision. Trinity Road operates out of Victorian age buildings that would be expensive to expand and also has a detached field. Maltese Road was recently opened on a restricted site formally occupied by a special school. Depending on the unit mix of development, suitable expansion projects to meet the estimated 4fe of need would be problematic.
- 8.32 Following consultation on the Pre-Submission Local Plan (January 2018), the Essex Police HQ site (250 homes) was withdrawn from the Local Plan. ECC has commissioned a Viability Study to assess the potential for other schools in the Chelmsford Urban Area to expand and accommodate the pupil product arising from growth. Preliminary assessments indicate that this is feasible and can be achieved.
- 8.33 Other expansion projects to existing schools will also be required. These are expected to total approximately £5.3m.

West Chelmsford

- 8.34 This location would form an urban extension to Chelmsford and sit within the priority admissions area of Lawford Mead School. A deficit of Reception places within this Group is forecast by 2021/22.
- 8.35 A new primary school site should be secured, requiring 2.1ha of land and a build cost in the region of £7.3m. ECC has advised that a contribution of around £4.2m should be secured from development, with the remainder of the cost secured via contributions from other non-strategic sites.

East Chelmsford

- 8.36 The priority admissions area for sites in East Chelmsford is Baddow Hall School. Both the infant and junior schools operate at planned admission numbers above 2fe, which requires mixed age teaching. There is the site area to expand the school to a 3fe school.
- 8.37 The cost of expansion would be approximately £1.5m.

North Chelmsford***North of Broomfield***

- 8.38 Development in this location is expected to sit within the priority admissions area of Broomfield Primary School. There is already pressure on places within this group although this scale of growth is considered capable of being accommodated within existing schools, with some expansion.
- 8.39 For the purposes of the IDP, a contribution from development of £1.3m is assumed. However, this will depend on the final mix, size and scale of the development.

Moulsham Hall and North of Great Leighs

- 8.40 Great Leighs School is full and is forecast to remain so. Depending on the precise location of early phases, the cost of bussing pupils and temporary expansions may need to be met. This site should be planned within the context of Braintree District Council's proposals for the Notley area and the existing schools being delivered as part of the Beaulieu development. A new primary school site should be secured, requiring 2.1ha of land and a build cost in the region of £7.3m.

North East Chelmsford

- 8.41 In addition to provision at Beaulieu and Notley, two new primary school sites each of 2.1ha are required. The build cost for these would be in the region of £14.6m.

South and East Chelmsford***North of South Woodham Ferrers***

- 8.42 There is around 1fe of surplus capacity within the group. Only Collingwood School has the site area to expand significantly (by 0.5fe), potentially leaving a new school as the best option to meet demand in excess of the current surplus.

- 8.43 A site for a new primary school site should be secured on a precautionary basis. This would require 2.1ha of land and a build cost in the region of £7.3m. If this is not required, then there will be a need to expand an existing school site, i.e. Collingwood School.

Secondary Education

- 8.44 The principles for secondary education are the same as those for primary education. The only amendments and additions are:
- Expansions are costed at £18,561 per secondary school place. This is index linked to April 2016 prices.
 - Sufficient land has been allowed at proposed secondary schools for sixth forms but build costs for post-16 provision are excluded.

Central and Urban Chelmsford

- 8.45 Expansion of Moulsham High School and a new school at Beaulieu Park are planned to accommodate development in the planning pipeline. Additional expansion projects will be required to support the proposed growth in the wider urban Chelmsford area. At present, approximately 5fe are required to provide this support but there are no specific proposals for how this could be achieved. ECC has advised that such expansion would require approximately £11.4m from development.

North Chelmsford

- 8.46 Growth at Moulsham Hall and north of Great Leighs needs to be considered in conjunction with Braintree District Council's plans for Great Notley. It is understood that Notley High School is to be expanded to accommodate growth in Braintree district and this expansion could also accommodate the growth at Moulsham Hall and north of Great Leighs. This growth requires 1.3fe.
- 8.47 ECC has advised that a contribution of £4.3m would be required to support the expansion of Notley High School (including sixth form), with £3.6m of this for age 11-16 education. The exact expansion plans for the school are not yet known, and will be subject to agreement by the Academy.

- 8.48 Given the information presently available, ECC has advised that it is not expected there will be any additional capacity at Notley High School in addition to the 1,100 homes proposed. The High School can be expanded potentially by 4fe to make it a 12fe school. Planned growth in Braintree urban area, together with the planned growth at Great Leighs, does not allow any further capacity at the school.
- 8.49 The growth at North East Chelmsford and north of Broomfield justifies the need for a new secondary school. A site of 8ha is required (although a larger site would be beneficial to provide for potential future needs beyond the plan period) and should be provided in the NE Chelmsford growth location. The total build cost will be around £30m.

South and East Chelmsford

- 8.50 There is sufficient capacity at William de Ferrers School to accommodate the level of growth at the land north of South Woodham Ferrers.

Funding of Early Years and Childcare, primary and secondary education

- 8.51 Funding will predominantly come from developer contributions. Where the expansion of specific school/EY&C sites are identified appropriate levels of contribution may be secured through the pooling of S106 contributions, this approach may be used if the restriction on pooling in the CIL Regulations is lifted. If it is not lifted, then contributions will come from CIL.
- 8.52 Some limited funding will also come from Central Government Basic Need funding. Although this funding is only expected to address population growth rather than new development, in many cases where existing schools are expanded it will be difficult to distinguish between the two in terms of additional provision.
- 8.53 It should be noted that the level of contributions from development in the City Centre may reduce if a significant proportion of housing is flatted development.

Timing and delivery of Early Years and Childcare, primary and secondary education

- 8.54 All items are seen as critical to the sustainability of the developments proposed.
- 8.55 Land should be transferred to ECC prior to first occupation, with other sites in the area only being commenced once it is certain that the new facility will be ready to meet the need generated. There may be some flexibility to bring forward modest development earlier depending on build and birth rate fluctuations. Smaller projects will be timed once precise unit mix and development phasing is known.
- 8.56 ECC will take the lead but delivery of schools may be in partnership with an Academy and EY&C with a private provider. Where new sites are required the developer will be responsible for delivery of suitable land.
- 8.57 ECC has indicated that its requirements would need to be kept under review if these developments did not come forward in the first 10 years of the plan period. This is particularly relevant for the major strategic sites where longer timescales are expected to be the case.

Post-16 Education

Sixth Form Education

- 8.58 Sixth form education is distinct from Further Education (FE) which is mainly, if not exclusively, provided by the private sector.
- 8.59 Currently, every secondary school in Chelmsford has sixth form provision, most of which have capacity to expand, so there is no foreseeable need for additional capacity in the district over the plan period.

Further Education

- 8.60 Further Education (FE) addresses vocational post-16 education needs, i.e. people being educated in a setting other than a sixth form. It is provided by the private sector.
- 8.61 There are a number of providers delivering Post-16 learning in the district, including Chelmsford College, Essex County Council, Writtle University College, A4E Ltd and Ixion

Holdings Ltd. In addition, a number of learners attend post-16 providers based outside of the district.

- 8.62 No specific needs have been identified over the Plan period.

Costs and funding

- 8.63 Sufficient land has been allowed by ECC at proposed secondary schools for sixth form provision. Build costs for sixth form provision have also been included in the cost of secondary school provision/expansion, with 20% of the total cost relating to sixth form provision. For the purposes of simplicity, these costs have been separated out.
- 8.64 These costs do not cover other types of post-16 education (apprenticeships, training and colleges) which have increased since the requirement for post-school education moved to 18 years. There is ongoing work at ECC to create a model for securing contributions towards these needs.
- 8.65 It is important to be cautious in estimating needs over the plan period. One of the main reasons is that, over the plan period, there are likely to be significant changes in post-16 education provision and demands. In particular there is likely to be increased rigour in academic and vocational Level 3 programmes and the Apprenticeship Levy which is expected to have an impact on the number of young people in post-16 education and the split between sixth form and further education. In addition, it is forecast that students will travel increasing distances to learn, making predictions about demand for places very difficult.
- 8.66 The same applies to costing, as this depends on the types of courses sought and the setting.

Summary

- 8.67 Table 8.1 summarises the education needs for each of the three growth areas. It should be made clear that these are the needs to address growth in the strategic locations. Other sites not listed in the table will be expected to make contributions towards either this or other new infrastructure in respect of the additional needs they create.

Table 8.1: Summary of education needs at strategic locations

	Early Years & Childcare	Primary	Secondary and Sixth Form	Other Post-16 education
Central and Urban Chelmsford				
Urban Chelmsford	3x 56-pl £3.54m	1x PS Expansion £5.3m*	Expansion £11.4m	No current need identified
West Chelmsford	1x PS 1x 56-pl £1.18m	1x PS £4.2m		No current need identified
E. of Chelmsford/ N. of Great Baddow	1x 56-pl £1.18m	Expansion £1.5m		No current need identified
Total – Central & Urban Chelmsford	£5.90m	£11.0m	£11.4m	No current need identified
North Chelmsford				
NE Chelmsford	2x PS 2x 56-pl £2.36m	2x PS £14.6m	New school (8fe) £30.0m	No current need identified
N. of Broomfield	1x 56-pl £1.18m	Expansion £1.3m		No current need identified
Moulsham Hall/ N. of Great Leighs	1x PS £0	1x 2fe £7.3m	Expansion £4.3m	No current need identified
Total – North Chelmsford	£3.54m	£23.2m	£34.3m	No current need identified
South and East Chelmsford				
N. of South Woodham Ferrers	2x 56-pl £2.36m	1x PS (precautionary) £7.3m	None	No current need identified
Total – South & East Chelmsford	£2.36m	£7.3m	£0.0m	No current need identified
Grand Total	£11.8m	£41.5m	£45.7m	No current need identified

PS = Co-located 56-place facility as part of primary school provision (cost accounted for in primary school figures)

56-pl = stand alone 56-place facility

2fe = new 2-form entry school

* Work is being undertaken by ECC which could require further expansion of existing primary schools



9 Health and Social Wellbeing

- 9.1 Health and care services and the way they are organised both from a commissioner and provider perspective will change over the life of this plan. It is therefore practical at this stage to describe the additional demand that the population growth will require into the different traditional sectors that we currently have and recognise. However, a range of constraints means that this current model cannot be sustained and will transition over the life span of this IDP
- 9.2 The complexity and level of demand will mean that for health and care services, to meet those needs, a much more integrated approach will need to be taken with the blurring of lines between different sectors within health and those across health and social care and between physical and mental health. This will include those agencies who manage the wider determinants of health including housing, employment and environment. It is expected that new modes of care for our communities over the life span of the IDP, combined with technological advances will lead to greater integrated and technologically advanced models of care for our local population.
- 9.3 This approach will have an impact on not only on estate, infrastructure and digital planning but the way the system will need to plan its workforce requirements in the future.
- 9.4 In future, public sector planning will need to continue moving towards considering demand as a system, rather than individual organisations, and plan for the delivery of these services

accordingly. This should make the most of the advances that are available to maximise the provision of care to our changing population.

9.5 For the purposes of the IDP, health and social wellbeing consists of the following:

- General Practitioner (GP) services
- Hospitals
- Social care
- Public health

9.6 This analysis does not take into account specific wider primary care service needs such as dentists, pharmacies, opticians, community health (health visiting, school nursing, midwifery, district nursing, etc). All of these services will be impacted by demand from growth. (The NHS remains the commissioning body for these services and requirements must be judged by the commissioning intentions of the appropriate NHS body.)

9.7 The Health and Social Care Act 2012 has radically changed the way in which health care services are planned and organised. These are primarily provided by the Clinical Commissioning Groups (CCGs). The CCG is responsible for planning and buying ('commissioning') local health care services with exception of GP Services, which are commissioned by NHS England.

9.8 Sustainability and Transformation Plans (STPs) are being prepared for wider areas that incorporate several CCG areas. Draft STP's were published in October 2016, summarising the work to date and outlining how system-wide plans can be delivered across organisations. This is an iterative document and will be reviewed periodically.

9.9 Public health services are provided by Essex County Council in partnership with the respective local authorities. These services are focused on prevention and early intervention, specifically developing measures that help to reduce illness and to tackle the causes of poor health at source. This includes initiatives to increase activity and healthy living, such as cycling and walking, as well as provision of green space within developments. The strategic overview of the STPs includes consideration of these issues.

- 9.10 Priorities for Public Health within spatial planning include supporting access to quality open and green/blue space, healthy diets including improving access to local and fresh food, improving community cohesion and reducing social isolation, supporting air quality, increasing active living through movement and play across all ages and supporting good quality housing design across the life course. Reducing health inequalities underpins our work.
- 9.11 Local data on Public Health is published annually by a number of national organisations including Public Health England and the NHS. This includes the local Health Profiles and the Public Health Outcomes Framework.
- 9.12 Assessment of Public Health and Wellbeing need will be supported by the Health Impact Assessment processes, local evidence base and current Public Health Policy.

Primary Care Services

- 9.13 The Primary Care Strategies of the CCG's focus on the following key areas:
- General Practice to be provided at scale aligned to defined neighbourhoods.
 - The creation of a neighbourhood multi-disciplinary primary care workforce embedded in the Care Closer to Home model of care. This will provide General Practice that is fully integrated including the local authority and voluntary sectors.
 - Improved use of technology in General Practice.
 - Improved quality of care and safety of General Practice.
 - Increased patient access Fit for purpose estate for the delivery of modern General Practice.
 - Supporting the development of a resilient General Practice workforce.
 - Improved GP training facilities.
- 9.14 A particular focus of the STPs is bringing simple diagnostics into communities. The CCGs are also looking at more prevention-based and integrated service provision with social care.
- 9.15 This growing focus on bringing care provision into the community may see the creation of health care 'hubs'/networks.

- 9.16 In addition there may be a need to increase estate, or invest in buildings and infrastructure to make them fit for purpose. New facilities do not have to be stand-alone buildings.
- 9.17 There are also STP priorities related to increased use of technology including, but not limited to:
- Our patients and citizens can receive the care and support they need to live healthier, happier lives.
 - We provide the information and tools to allow our population to take responsibility for their own health and wellbeing.
 - Our professionals are supported in delivering that care; digital capability must enhance our working lives, not add unnecessary challenge, duplication or distraction.
 - Our respective organisations have the technology solutions to operate in an efficient and cost effective way which supports continued high performance and future sustainability.
 - We work as a system to provide joined up health and care to our populations.
- 9.18 This in turn will provide alternative methods for patients and the wider community to receive and contribute to care using technologies that most appropriately meet their needs.

Hospitals

- 9.19 The STPs envisage that, hospital services will be reconfigured and transformed, with new models of care meaning more care will be provided as close to people's homes as possible.
- 9.20 In line with Primary Care Strategies and shifting care closer to home where possible, it is envisaged that the impact on the acute sector will culminate in the greater complexity and health needs of patients presenting in the acute sector. Hospitals will need to be redesigned to treat the patients of the future, with specific redesign based upon:
- Greater community based care for less acute patients.
 - Ageing population.
 - Hospital facilities which maximise the potential to treat the most needy in the most efficient manner possible, centralising services and maximising economies of scale.

- Greater treat and discharge models of care, linking to increased community and social care provision.
- Move to designated day-case and ambulatory models of care and settings.
- Increased health needs/acuity of those patients presenting in the Acute sector.
- Provision of the transfer of patients to less acute settings as soon as clinically appropriate, providing patients with care closer to home as soon as possible.
- The centralisation of support functions and services, such as Pharmacy, enabling the greater provision of community healthcare whilst maintaining the most acute patient care within the acute setting.
- Repatriation of tertiary services where practically possible.

Social care

- 9.21 Social care for both adults and children is provided by Essex County Council (ECC). This covers a range of functions and services and is provided by a range of different providers.
- 9.22 ECC can make specific provision of built infrastructure for care services, e.g. extra care housing for older people.

Public health

- 9.23 Responsibility for public health was moved out of the NHS into local government in April 2013. Health and Wellbeing Boards (HWBs) promote co-operation from leaders in the health and social care system to improve the health and wellbeing of their local population and reduce health inequalities.
- 9.24 HWBs are responsible for producing a Joint Health & Wellbeing Strategies (JHWS), Joint Strategic Needs Assessments (JSNA) and Pharmaceutical Needs Assessments (PNA) for the Chelmsford City area.

Existing provision

- 9.25 Figure 9.1 shows the location of existing General Practitioner (GP) surgeries.

[illegible]

Needs

- 9.26 Generally the NHS policy locally is to attempt to accommodate growth wherever possible within current premises envelope, though this is likely to require capital works to adapt facilities over time, and only to seek new premises where this is demonstrably necessary.
- 9.27 It is not possible to accurately determine the build cost or size of new health facilities at this stage. This will depend on a large number of complex and inter-related factors that can only be resolved at a more advanced stage in the planning process. It will not be the case that each new health facility would be a fixed size or would have a fixed range of services.
- 9.28 Clinically there are circumstances where co location of GP and other NHS or social care functions are desirable and would be considered or sought.
- 9.29 The Chelmsford Local Plan identifies the need for masterplanning on several key localities and neighbourhoods and the NHS would wish to be an active participant in all of these, at least at the early stages.
- 9.30 At this stage the plan is not specific on timing of developments which will make understanding the detail of any emerging plans in a timely manner essential to managing the provision of the additional healthcare resource needed.
- 9.31 In Central and Urban Chelmsford the current healthcare estate is limited in growth potential and at, or above, capacity. While there are changes that can be productively made to the existing estate it is likely that additional space will be required in this area.
- 9.32 Growth along the whole of the A130/A131 corridor between Chelmsford and Braintree is planned at North East Chelmsford, Broomfield and Great Leighs in the Chelmsford City area and at Great Notley in the Braintree District area. This is largely greenfield with limited existing primary and community care facilities and none conveniently placed to the new developments.
- 9.33 There is a third party healthcare development planned at South Woodham Ferrers which would address planned growth. The approval process is ongoing, but if it is not delivered then there will be a significant shortfall in space at this location over the plan period.

- 9.34 Additionally there have been significant extra care and nursing home developments in Chelmsford City. Whilst necessary, these have a very significant impact on local services and this impact needs to be understood by the planning process and suitable mitigations sought.
- 9.35 Table 9.1 below indicates the level of mitigation that may be sought from current development sites identified within the Local Plan. This is an indication based on current information and need and may be subject to change.

Table 9.1: Mitigation required to address health needs of development

Location	Anticipated mitigation
Central and Urban Chelmsford	Contribution towards increasing capacity for local Primary Care facilities through a number of projects, by means of reconfiguration, extension or possible relocation of one or more existing practices. In line with CCG strategies.
North Chelmsford	Contribution towards increasing capacity for local Primary Care facilities through a number of projects, by means of reconfiguration, extension or possible relocation of one or more existing practices. In line with CCG strategies. A new build facility is planned in this area at Beaulieu Park, anticipated completion around late 2019.
Moulsham Hall/ North of Great Leighs	Mitigation required for potential new build in the area.
NE Chelmsford/ North of Broomfield	Mitigation required for potential new build in the area.
South and East Chelmsford	Contribution towards increasing capacity for local Primary Care facilities through a number of projects, by means of reconfiguration and/or extension. In line with CCG Strategies.
North of South Woodham Ferrers	Delivery of existing proposed healthcare development and/or contribution towards a new build facility for the area.

Funding

- 9.36 NHS capital funding is extremely limited and is mainly to facilitate small improvement works. For the provision of new healthcare facilities there are various non-NHS capital funding options, for which the NHS would be responsible for the revenue consequences.
- 9.37 Revenue consequences of any infrastructure works would need to be carefully considered and subject the NHS approval process.

- 9.38 Shared facilities may necessitate the need for individually leased spaces and separate revenue funding streams.
- 9.39 Delivery of, or contributions to, new health care facilities may be sought from developers as part of mitigation and is normally a prerequisite to delivery of sustainable development.

Timing and nature of future provision

- 9.40 The provision of appropriate primary healthcare facilities to support growth is a critical item. The necessary provision should be delivered as new growth comes forward to ensure that health care impacts are appropriately mitigated.
- 9.41 Where any on-site provision is required this may need to be phased to reflect the time period over which growth is expected or to accommodate any sui generis issues. The IDP identifies a series of infrastructure requirements, either in the form of expansion or improvement of existing facilities or new health care facilities. The exact quantum of space and the nature of the requirement will need to be discussed at the point of the development of specific proposals.
- 9.42 The reason for this is that healthcare services and models of care are under review and are likely to change significantly.
- 9.43 Over the plan period, health care provision will need investment. It is likely it will be in very different forms than the buildings that have traditionally been developed. It will be important that requirements are reviewed regularly as part of the IDP iterative process. It is important that local authorities and developers liaise with health commissioners at the earliest possible stage in order to understand what type of provision will fit most appropriately with local needs.



10 Social and Community Facilities

- 10.1 Social and community infrastructure helps to create, sustain and enliven communities. It ranges from purpose-built community facilities such as libraries, to allotments and community centres. Together these places support the activities which are required to help build community, foster a sense of place, meet the cultural and recreational needs of communities and promote community wellbeing.
- 10.2 All items identified would be desirable items.

Libraries

- 10.3 Library services are provided by Essex County Council.
- 10.4 Libraries and their provision is changing significantly. Partly this is due to reducing budgets but also due to the growth of information technology and the population's needs of a core community information service.
- 10.5 A 2013 report by the Arts Council and Local Government Association¹⁴ set out the changing ways in which local residents use library facilities. The report drew upon best practice experience to outline ways in which communities are supporting and managing local library

¹⁴ Locality (2013) *Community libraries: learning from experience: guiding principles for local authorities*, for Arts Council England and the Local Government Association

services. Library facilities in the district are also used for community-run events and activities, and are increasingly becoming spaces where the public can come together.

- 10.6 In Chelmsford City there are libraries in Broomfield, Chelmsford, Danbury, Galleywood, Great Baddow, North Melbourne, Stock, South Woodham Ferrers, Springfield and Writtle. Mobile vehicles serve more remote areas.
- 10.7 Given that the libraries are based within settlements, they are less accessible to more rural areas of the district. However, there are no distance standards relating to libraries. For this reason, it has to be assumed that there is no existing deficit in library provision.
- 10.8 In terms of future provision, opportunities for the co-location of services and maximising the use of existing buildings will be encouraged, to respond to the increasingly integrated models of service provision and provision for multi-purpose facilities. There is increasing emphasis on the integration of other form of community infrastructure, such as libraries and community spaces.
- 10.9 New provision is therefore likely to be in the form of a co-located community hub/library. This will be dependent on the level of population growth and the demographic of that population, along with the service requirements of future library provision. It is therefore likely that new provision could be made at some of the larger growth locations, particularly if there is a need for other community facilities, e.g. health centres, community halls etc. However, at this stage it is not possible to identify specific needs or costs of provision.
- 10.10 Funding will need to come from developer contributions and will be delivered through the masterplanning of new development sites.

Community Centres

Existing provision

- 10.11 Historically, community halls were established as the community expanded to serve an identified community need - identified by the local authority or by the local community - or as an act of altruism by local landowners. Recently, such facilities have been managed by local authorities.

- 10.12 The Chelmsford Indoor/Built Sports Facility Needs Assessment 2017¹⁵ assessed that there is a good geographic and quantitative spread of community halls within the local authority, and they serve an important sports function where more centrally-placed leisure centres are difficult to reach. Most of the existing village/community halls appear to be in a good state of repair and maintenance, although of varying age and fitness for contemporary needs. In some locations their upgrading might help to meet community needs where access to more centrally placed leisure centres is difficult.

Needs and costs

- 10.13 The Chelmsford Indoor/Built Sports Facility Needs Assessment 2017 assessed that over the plan period to 2036 there is a need for an extra 4.5 small hall venues or equivalent. It is noted that the existing committed development at North Chelmsford makes provision for a 'community centre' and this can be offset against the above figure. Therefore for the purposes of this assessment, there is a need for 3 small hall venues.
- 10.14 It may be preferable in the larger growth locations to provide community facilities as part of one large, multi-use facility. Community centres are often used for sporting activities. However, if such sporting facilities are already to be provided (either as a stand-alone facility or through use, for example, of secondary school facilities) then it is not necessary for such a large centre to be provided.
- 10.15 The capital unit cost of a small community centre in the Chelmsford Indoor/Built Sports Facility Needs Assessment 2017 was £750,000. This gives a total cost of £2,250,000.

Funding

- 10.16 New community facilities are either provided from local authority capital expenditure budgets or through developer contributions. In certain circumstances, funding can be sought from Sport England if the facility is to provide a significant level of sports facilities. Contributions from development are expected at this time to be secured through a CIL charge.

¹⁵ Leisure & Environment/Ethos Environmental Planning (2017) *Chelmsford Indoor/Built Sports Facility Needs Assessment 2016-2036*, for Chelmsford City Council

- 10.17 Commonly as part of major developments such land is provided as free land in lieu of other charges, so a developer may offer either the land and a capital contribution towards the construction of a community building, or the identification of a site and construction of the building with subsequent transfer to a parish council if there is one, or another community body or trust.

Timing of provision

- 10.18 There is no particular need for community centres to be provided at a certain time although they should be provided by the time that a reasonable proportion of the population of a new strategic development has been established.

Summary

- 10.19 Table 10.1 summarises the community needs for each of the three growth areas:

Table 10.1: Summary of community needs

Community Centres		Libraries
Central and Urban Chelmsford		
Urban Chelmsford	1 centre - £0.75m	
West Chelmsford	1 centre - £0.75m	
E. of Chelmsford/N. of Great Baddow		
Total – Central & Urban Chelmsford	2 centres - £1.50m	
North Chelmsford		
NE Chelmsford	1 centre - £0.75m	
Moulsham Hall/N. of Great Leighs		
N. of Broomfield		
Total – North Chelmsford	1 centre - £0.75m	
South and East Chelmsford		
N. of South Woodham Ferrers/ Bicknacre/Danbury	1 centre - £0.75m	
Total – South & East Chelmsford	1 centre - £0.75m	
Grand Total	3 centres £2.25m	N/k £N/K



11 Other community infrastructure

Emergency services

Police

- 11.1 Essex Police is responsible for delivering services to address community safety, tackle the fear of crime and seek to achieve a reduction in crime in Essex through a number of methodologies including the detection of offenders. The primary roles of the police service are: protection of life and property; prevention and detection of crime; and, maintenance of 'The Queens Peace' ('The Peace').
- 11.2 The delivery of growth and planned new development in the City would impose additional pressure on the Essex Police existing infrastructure bases, which are critical to the delivery of effective policing and securing safe and sustainable communities.
- 11.3 Essex Police has confirmed that it does not require any site-specific new infrastructure to address the needs arising from growth. Rather, it requires the replacement of the existing police estate from which police staff can operate. The specific nature of any requirements will need to be assessed on a case-by-case basis.
- 11.4 The cost of provision is estimated at £29.5m. An element of this is County-specific provision, therefore is required to address strategic needs for the whole of Essex as opposed to just Chelmsford City.
- 11.5 Essex Police has reported that there is no existing funding source for the Police service to support the required growth in infrastructure from central or local taxation. The Police service

does not receive sufficient central capital funding for new growth-related development. The funding allocated to the Police and Crime Commission via Home Office grants, Council Tax precept and other specific limited grants is generally insufficient to fund requests for capital expenditure whilst there is a time lag associated with the Police receiving operational funding.

- 11.6 Some funding will therefore have to come from capital reserves (disposal of assets), with any shortfall in funding coming from developer contributions.
- 11.7 Essex Police has stated that it would wish to see the replacement of the existing police estate early in the Plan period although no specific priorities have been identified.
- 11.8 This is considered to be a desirable item.

Fire Service

- 11.9 Essex Fire and Rescue Service has not yet stated that it has any needs arising from growth.

Ambulance

- 11.10 The East of England Ambulance Service NHS Trust (EEAST) operates ambulance services in Chelmsford City. The summary position of its Estates Strategy (2017-2022) is outlined below:
 - A range of national initiatives are underway aimed at improving performance and sustainability within the NHS. There is widespread agreement from the stakeholders sponsoring these initiatives about the changes required within ambulance services and across the wider urgent and emergency system.
 - Addressing these changes requires the Trust to develop revised operating models and strategies for all aspects of its services, including operational support services such as the Estates Service. A key component of this process has been to establish the Trust's future Operating Model and to commence planning for the resulting transformation of support services.
 - It is proposed that transformation of estate takes place in accordance with the following strategy:
 - Configuration of the estate as necessary to meet a vision to provide cost effective and efficient premises of the right size, location and condition to support the delivery of clinical care to the community served by the Trust.

- A resulting estate configuration which consists of:
 - A network of 18 ambulance 'hubs'.
 - Each 'hub' will support a 'cluster' of community ambulance stations, tailored to meet service delivery and patient response specific to their local area.
 - Each 'hub' will incorporate:
 - A make ready centre from which the Make Ready Service for the 'cluster' is delivered.
 - Workshop facilities providing service, maintenance and repair services for operations vehicles within the 'cluster', including Patient Transport Service (PTS) vehicles.
 - Consumable product stores, with stock-levels maintained on a just-in-time basis by direct supplier delivery.
 - Six of the 'hubs' sized as 'super hubs', to operate additionally as the bases for certain corporate, administrative and support services.
- Two Hazardous Area Response Team bases, located to best support the major airports within the Trust's region.
- PTS facilities incorporated into the operational estate, primarily at the 'hubs'.
- A Trust HQ co-located within operational premises.
- A regional training school providing staff professional training, co-located with driver training and supported by up to two satellite professional training locations plus general training facilities at each of the 'hubs'.
- A fleet logistics centre at one of the 'super hubs', incorporating a 24-hour fleet logistics call-centre.

11.11 In reference to Mid Essex, Chelmsford forms part of the 18 Make Ready Hubs across the region and the Trust is currently in the process of identifying potential new sites that would meet the requirements to support the operational delivery. Each Hub supports a cluster of

community ambulance stations, as mentioned above, which respond to the local health care needs of the population.

- 11.12 EEST Estates & Development plans take into account growth in demographics of population changes and therefore any increase in requirements to meet these changes will require modelling to account for the required increased workforce. EEST are currently participating in an independent service review commissioned by healthcare regulators to better understand what resources are needed to meet patient demand.

Burial space

- 11.13 Chelmsford City Council is the Burial and Cremation Authority for the borough of Chelmsford. Over the period 2013/14 to 2016/17 an average of 2,200 cremations, 41 burials in new graves and 41 burials in existing burial plots have been undertaken per annum.
- 11.14 Based on the ONS 2014 population projections and taking into account forecasts of local population increase, it is anticipated that the averages will rise to 2,300 cremations and 47 burials in new graves per annum by 2024.
- 11.15 The current land provision for burials is located at Chelmsford Cemetery. Burial space here is expected to run out by 2026 and replacement crematoriums will be required by 2028. Future provision will require a new burial ground which would be able to accommodate new crematorium buildings and associated facilities.
- 11.16 Based on current provision and to provide land for burials for 99 years, a site of between four and six hectares is required. This must be serviced with good highway access and appropriate utilities services. To satisfy Environment Agency requirements and for general burial purposes, this must not be located in close proximity to any water courses (brooks, rivers, large drainage ditches, large ponds, etc) and the prevailing water table level must be appropriate.
- 11.17 A green burial space in North End was granted planning permission in 2016, which has now been completed and is in operation. This provides 14.5 ha of burial space which contributes to meeting the identified needs. This provides an alternative option for burial with a memorial building and where funeral services can take place. Although this makes some provision it is not the same as more traditional burial space which will be required as it does not make provision for headstones etc.

- 11.18 At the current time, a site has yet to be identified for traditional burial space. The likely cost of provision is being ascertained at the present time.
- 11.19 It should be noted that the identified growth needs exclude churches. Whilst some churches could have growth needs, the wish to have this as an extension to an existing churchyard, the cost of purchasing land and matters relating to consecration of this land means it is often difficult to address this need.

Waste

- 11.20 Management of municipal waste is a UK-wide challenge as both European and national legislation and policy seeks to deal with waste more sustainably and to reduce the amounts of waste being deposited into landfill. Waste is also increasingly seen as a resource that through recycling and treatment processes can be utilised.
- 11.21 Essex County Council is the Waste Disposal Authority (WDA) covering Chelmsford borough and provides waste disposal infrastructure to ensure waste generated by households, and other wastes collected by Councils in Essex, is effectively managed. Chelmsford City Council is the Waste Collection Authority and is responsible for the collection of this municipal waste. Municipal waste includes household waste and any other wastes collected by, or on behalf, of councils.
- 11.22 The delivery of local plans which increase residential development, through both infilling and major developments, will impact on waste management systems on a number of levels as the resultant population growth will lead to an increase in waste arisings which require handling and disposal.
- 11.23 The Essex Waste Partnership (consisting of Essex County Council, the twelve district and borough councils and the unitary authority of Southend-on-Sea Borough Council) has adopted the Joint Municipal Waste Management Strategy¹⁶ (JMWMS) which sets out how the Partnership will tackle municipal waste. Within the JMWMS there is the identification of an integrated network of new waste facilities needed to manage waste over the next 25 years.

¹⁶ Essex Waste Partnership, Joint Municipal Waste Management Strategy for Essex (2007 to 2032) adopted July 2008

This includes provision of a small number of large processing and treatment facilities across the County. In order to minimise the transportation distances and its associated costs and environmental impacts a network of Waste Transfer Stations (WTS) was also identified in the JMWMS.

Needs

- 11.24 The major waste treatment infrastructure currently in place for managing Local Authority Collected Municipal Waste has been equipped to accommodate the anticipated waste growth levels resulting from the proposed Local Plan growth. However, it is likely that pressure will be placed on the ancillary smaller scale infrastructure, such as waste transfer stations, waste operational depots and the public-facing Recycling Centres for Household Waste (RCHW). These facilities, which provide, local communities access to waste disposal options for household generated bulky waste are, by their very nature, required to be close to population centres and are therefore particularly vulnerable to medium and large scale developments.
- 11.25 The Municipal Waste Strategy is in the process of being updated and ECC is in consultation with the Essex districts, including Chelmsford. The Strategy will review current sites (smaller waste facilities and recycling centres for household waste) and may result in changes to their location, rationalisation, and/or increased capacity.
- 11.26 A review of existing and potential facilities will be taking place during the first five-year Local Plan period to determine requirements in the 10-15 year period. This is likely to result in a need to extend or expand this infrastructure offer to meet local needs. However, at this stage it is not possible to determine what these needs are.
- 11.27 Any needs identified would be 'policy high priority' items.

Summary

- 11.28 Table 11.1 shows a summary of the infrastructure requirements.

Table 11.1: Summary of emergency services needs

	Police	Fire	Ambulance	Burial space
Grand Total	Proportion of £29,500,000	£0	Specific needs to be identified	4-6ha site £N/k

11.29 Whilst it is likely that additional waste infrastructure will be required - waste transfer stations, waste operational depots and RCHWs - to address the needs arising from growth, no specific needs (or costs) have yet been identified.



12 Overall infrastructure costs, funding and implementation

- 12.1 The funding and implementation of the infrastructure needs are, in many cases, directly linked because the funding of an item of infrastructure might be dependent on who delivers it, and vice versa.
- 12.2 One of the major examples is healthcare provision. There are several ways that the provision of capital healthcare facilities can be funded and delivered (assuming that the facilities are being provided on-site). A developer may:
- build a required healthcare facility themselves;
 - contract to a healthcare company to build the facility for them; or
 - provide the land and a contribution for the facility to be built by the CCG or a group of GPs that will then occupy the facility.
- 12.3 At the level of the Local Plan it is not appropriate to definitively say how this will be done. This will be part of negotiations undertaken within the framework of a planning application. Rather, the most reasonable assumption is made and explicitly stated. The implications of any alternative approaches are then also then considered.

Funding

- 12.4 Infrastructure needs can be split into three categories:

- Site-related infrastructure needed to mitigate and support new development
- Infrastructure addressing wider needs, further split into:
 - specific infrastructure which addresses the needs arising on a small number of large sites and is most appropriately funded through pooled Section 106 contributions; and
 - infrastructure which addresses the needs arising from a large number of sites and is most appropriately funded through the Community Infrastructure Levy.
- Secondary infrastructure - items paid for by the developer but considered as 'standard' so are factored into their secondary development allowances.

12.5 In a lot of cases there are a range of options available for the delivery of some types of infrastructure. As such, a particular need may come into more than one category. Where necessary, the study has made an assumption about the most likely way that an item of infrastructure is to be delivered.

12.6 It should also be noted that the Government has proposed amendments to the Community Infrastructure Levy Regulations which would remove the limit on pooling of Section 106 contributions. For the purposes of the IDP and the review of the existing Chelmsford CIL charging regime, it has been assumed that this will be put in place. Therefore certain items have been assumed to pool more than five Section 106 contributions. If the Government's proposals are not put in place, then it assumed that these contributions would instead come through the CIL charge.

12.7 The way each infrastructure item is to be funded is shown in Table 12.1 below.

12.8 Table 12.1 shows a column called 'other funding sources'. This principally refers to funding from Government agencies such as Highways England for strategic trunk road schemes, or possibly through bids for funding from Central Government, including the current HIF bid for funding of Beaulieu Park railway station and the Chelmsford North East Bypass.

12.9 Secondary infrastructure development allowances are still a cost to the developer but, for the purposes of the assessment, are expenses that are already assumed to have been covered. Therefore they are not expected to be funded by direct developer contributions.

Table 12.1: Funding of infrastructure required to support growth (see key below Table 12.1 for site number referencing)**HOUSING**

Item	Infrastructure theme	Infrastructure type	Site related 1*	Site related 2	Site related 3	Site related 4	Site related 5	Site related 6	Site related 7	Site related 8	Site related 9	Pooled S106 – specific items 1	Pooled S106 – specific items 2	Pooled S106 – specific items 3	Pooled S106 – specific items 4	Pooled S106 – specific items 5	Pooled S106 – specific items 6	Pooled S106 – specific items 7	Pooled S106 – specific items 8	Pooled S106 – specific items 9	Pooled S106 – specific items - other sites	Other developer contributions CIL	Items covered by secondary infrastructure	Other funding sources	No specific infrastructure requirement	Policy reference
Self and Custom Build Homes	Housing	Self and Custom Build Homes																					Yes ¹			S8; HO1
Specialist Residential Accommodation	Housing	Specialist Residential Accommodation																					Yes ¹			S8; HO1
Affordable Housing	Housing	Affordable Housing																					Yes ¹			S8; HO2

PHYSICAL

Item	Infrastructure theme	Infrastructure type	Site related 1*	Site related 2	Site related 3	Site related 4	Site related 5	Site related 6	Site related 7	Site related 8	Site related 9	Pooled S106 – specific items 1	Pooled S106 – specific items 2	Pooled S106 – specific items 3	Pooled S106 – specific items 4	Pooled S106 – specific items 5	Pooled S106 – specific items 6	Pooled S106 – specific items 7	Pooled S106 – specific items 8	Pooled S106 – specific items 9	Pooled S106 – specific items - other sites	Other developer contributions CIL	Items covered by secondary infrastructure	Other funding sources	No specific infrastructure requirement	Policy reference
A12 Chelmsford to A120 widening scheme	Physical	Highways, Access and Transport																						Yes		S11; S12
A131 Chelmsford to Braintree route-based improvements	Physical	Highways, Access and Transport																						Yes		S11; S12
Beaulieu Railway Station	Physical	Highways, Access and Transport				4																		Yes		S11; S12
Broomfield Hospital Access Road	Physical	Highways, Access and Transport															6				SPA1					S11; S12; SPA1
Bus Priority/Chelmsford Rapid Bus Transit (ChART)	Physical	Highways, Access and Transport				4																				S11; S12
Bus Services and Infrastructure	Physical	Highways, Access and Transport		2	3	4	5	6	7										8				Yes			S7; S11; S12; CF1
A12 J19 Boreham Interchange Improvements	Physical	Highways, Access and Transport																						Yes		S11; S12
Cycle and Footway Links/ Improvements/ Crossings	Physical	Highways, Access and Transport		2	3	4	5	6	7			1	2	3	4	5	6									S11; S12
Cycle/footbridge over Essex Regiment Way	Physical	Highways, Access and Transport													4		6									S11; S12
Cycle/footbridge over B1012	Physical	Highways, Access and Transport							7																	S11; S12
Cycle/footbridge over Chelmer and Blackwater (Mallard Bridge)	Physical	Highways, Access and Transport	1f																							S11; S12
Cycle/footbridge to ARU site and Springfield Hall Park	Physical	Highways, Access and Transport	OS1																							S11; S12

Item	Infrastructure theme	Infrastructure type	Site related 1*	Site related 2	Site related 3	Site related 4	Site related 5	Site related 6	Site related 7	Site related 8	Site related 9	Pooled S106 – specific items 1	Pooled S106 – specific items 2	Pooled S106 – specific items 3	Pooled S106 – specific items 4	Pooled S106 – specific items 5	Pooled S106 – specific items 6	Pooled S106 – specific items 7	Pooled S106 – specific items 8	Pooled S106 – specific items 9	Pooled S106 – specific items - other sites	Other developer contributions CIL	Items covered by secondary infrastructure	Other funding sources	No specific infrastructure requirement	Policy reference
Estate/Link Roads and Internal Cycle and Footways	Physical	Highways, Access and Transport																					Yes			S11; S12
Chelmsford North East Bypass – single carriageway section	Physical	Highways, Access and Transport				4																				S11; S12
Chelmsford North East Bypass – NE Chelmsford to Deres Bridge single carriageway section	Physical	Highways, Access and Transport													4	5	6				Dev't in south of Braintree District			Yes		S11; S12
Chelmsford North East Bypass – full dual carriageway	Physical	Highways, Access and Transport													4	5	6				Dev't in south of Braintree District			Yes		S11; S12
Outer Radial Distributor Road (RDR2)	Physical	Highways, Access and Transport				4																				S11; S12
Park and Ride – NE Chelmsford	Physical	Highways, Access and Transport				4																Yes				S11; S12
Park and Ride – Widford Area	Physical	Highways, Access and Transport																				Yes				S11; S12
Park and Ride – Sandon Area	Physical	Highways, Access and Transport			3b																	Yes				S11; S12
Road junction improvements	Physical	Highways, Access and Transport	1	2	3	4	5	6	7	8	9															S11; S12
Sandford Mill Access Road	Physical	Highways, Access and Transport			3a																					S11; S12

Item	Infrastructure theme	Infrastructure type	Site related 1*	Site related 2	Site related 3	Site related 4	Site related 5	Site related 6	Site related 7	Site related 8	Site related 9	Pooled S106 – specific items 1	Pooled S106 – specific items 2	Pooled S106 – specific items 3	Pooled S106 – specific items 4	Pooled S106 – specific items 5	Pooled S106 – specific items 6	Pooled S106 – specific items 7	Pooled S106 – specific items 8	Pooled S106 – specific items 9	Pooled S106 – specific items - other sites	Other developer contributions CIL	Items covered by secondary infrastructure	Other funding sources	No specific infrastructure requirement	Policy reference
Flood Protection and Water Management	Physical	Flood Protection and Water Management																					Yes ¹			S3; S6; S11; S12; NE3
Undergrounding Electricity Pylons	Physical	Utilities																					3a; 3c			S11; S12
Electricity Supply	Physical	Utilities																					Yes			S11; S12
Gas Supply	Physical	Utilities																					Yes			S11; S12
Potable Water Supply	Physical	Utilities																					Yes			S11; S12
Waste Water Supply	Physical	Utilities					5																Yes	Yes		S11; S12

GREEN AND BLUE

Item	Infrastructure theme	Infrastructure type	Site related 1*	Site related 2	Site related 3	Site related 4	Site related 5	Site related 6	Site related 7	Site related 8	Site related 9	Pooled S106 – specific items 1	Pooled S106 – specific items 2	Pooled S106 – specific items 3	Pooled S106 – specific items 4	Pooled S106 – specific items 5	Pooled S106 – specific items 6	Pooled S106 – specific items 7	Pooled S106 – specific items 8	Pooled S106 – specific items 9	Pooled S106 – specific items - other sites	Other developer contributions CIL	Items covered by secondary infrastructure	Other funding sources	No specific infrastructure requirement	Policy reference
Allotments and Community Gardens	Green and Blue	Recreation and Leisure Facilities		2		4			7			1		3		5	6					Yes				S11; S12; MP4
Children's Play and Youth Facilities	Green and Blue	Recreation and Leisure Facilities	1	2	3	4	5	6	7			1														S7; S11; S12; CF1
Indoor Sports Facilities	Green and Blue	Recreation and Leisure Facilities				4																Yes				S7; S11; S12; CF1
Outdoor sports and changing facilities	Green and Blue	Recreation and Leisure Facilities		2		4			7			1		3		5	6									S7; S11; S12; CF1
Local Open Space	Green and Blue	Recreation and Leisure Facilities																					Yes ¹			S7; S11; S12; CF1, MP2; MP4
Country Park	Green and Blue	Recreation and Leisure Facilities			3	4																				S7; S11; S12; CF1; MP2
Strategic Landscaping	Green and Blue	Recreation and Leisure Facilities																					Yes			S11; S12
Environmental Mitigation	Green and Blue	Environmental Mitigation																					Yes ¹			S3; S5; S6; S11; S12; MP3; PA1; PA2
RAMs	Green and Blue	Environmental Mitigation												3				7	8	9						S11; S12
Archaeology	Green and Blue	Environmental Mitigation																					Yes			S5, S11; S12; HE3
Waterways	Green and Blue	Environmental Mitigation																					Yes ¹			S11; S12

¹ Items assumed to be funded as secondary infrastructure but possibly secured as a site related or pooled s106 obligation

COMMUNITY

Item	Infrastructure theme	Infrastructure type	Site related 1*	Site related 2	Site related 3	Site related 4	Site related 5	Site related 6	Site related 7	Site related 8	Site related 9	Pooled S106 – specific items 1	Pooled S106 – specific items 2	Pooled S106 – specific items 3	Pooled S106 – specific items 4	Pooled S106 – specific items 5	Pooled S106 – specific items 6	Pooled S106 – specific items 7	Pooled S106 – specific items 8	Pooled S106 – specific items 9	Pooled S106 – specific items - other sites	Other developer contributions CIL	Items covered by secondary infrastructure	Other funding sources	No specific infrastructure requirement	Policy reference
Early Years and Childcare – stand alone provision	Community	Early Years, Childcare and Education Facilities		2	3b	4		6	7			1c; 1e										Yes				S7; S11; S12; CF1
Primary Education (incl. shared EY&C provision)	Community	Early Years, Childcare and Education Facilities				4	5a		7				2									Yes				S7; S11; S12; CF1
Primary Education – expansion of existing provision	Community	Early Years, Childcare and Education Facilities										1		3			6	7				Yes				S7; S11; S12; CF1
Secondary education – new provision	Community	Early Years, Childcare and Education Facilities				4											6									S7; S11; S12; CF1
Secondary education – expansion of existing provision	Community	Early Years, Childcare and Education Facilities														5						Yes				S7; S11; S12; CF1
Health and Social Wellbeing	Community	Health and Social Wellbeing										1	2	3	4	5	6	7	8			Yes				S7; S11; S12; CF1, MP2

Item	Infrastructure theme	Infrastructure type	Site related 1*	Site related 2	Site related 3	Site related 4	Site related 5	Site related 6	Site related 7	Site related 8	Site related 9	Pooled \$106 – specific items 1	Pooled \$106 – specific items 2	Pooled \$106 – specific items 3	Pooled \$106 – specific items 4	Pooled \$106 – specific items 5	Pooled \$106 – specific items 6	Pooled \$106 – specific items 7	Pooled \$106 – specific items 8	Pooled \$106 – specific items 9	Pooled \$106 – specific items - other sites	Other developer contributions CIL	Items covered by secondary infrastructure	Other funding sources	No specific infrastructure requirement	Policy reference
Community Centres	Community	Social and Community Facilities							7				2	3	4	5	6					Yes				S7; S11; S12; CF1; MP4
Libraries	Community	Social and Community Facilities																				Yes				S7; S11; S12; CF1
Public Realm and Public Art	Community	Public Realm and Public Art																					Yes ¹			S7; S11; S12; CF1; MP2
Ambulance	Community	Other community infrastructure																							Yes	S11; S12
Fire	Community	Other community infrastructure																							Yes	S11; S12
Police	Community	Other community infrastructure																				Yes				S11; S12
Burial Space	Community	Other community infrastructure																				Yes				S7; S11; S12; CF1
Municipal Waste	Community	Other community infrastructure																				Yes				S11; S12
Broadband	Community	Other community infrastructure																					Yes			S11; S12; MP7

12.10 In Table 12.1, the numbers represent the following sites/strategic locations:

Site/location	Site/location ref.
Central and Urban Chelmsford	1
West Chelmsford	2
Land E. of Chelmsford/N. of Gt Baddow	3
NE Chelmsford	4
Moulsham Hall/N. of Great Leighs	5
N. of Broomfield	6
N. of S. Woodham Ferrers	7
South of Bicknacre	8
Danbury	9

12.11 In Table 12.1, it should be noted that location 1 (Central and Urban Chelmsford) is made up of a number of sites. Where reference is made only to location 1, this refers to all sites in location 1; where a particular site within location 1 is referenced (with a letter suffix), it only relates to this site.

Infrastructure costs by site

12.12 For the purposes of implementing a Community Infrastructure Levy (CIL) regime to support the delivery of the Local Plan, it is firstly necessary to determine whether there is an infrastructure funding gap.

12.13 The analysis in Sections 3 to 11 has ascertained that the infrastructure required to support the delivery of the Local Plan has a cost of £923.6m, with known funding of £307.3m. This leaves an infrastructure funding gap of £616.3m as shown in Table 12.2:

Table 12.2: Summary of known infrastructure costs and funding to demonstrate funding gap

Item	Known infrastructure costs	Known funding	Funding gap
A12 Chelmsford to A120 widening scheme (inc. j19 improvements)	£250,000,000	£250,000,000	£0
A131 Chelmsford to Braintree Route-Based Strategy	£7,320,000	£7,320,000	£0
Allotments	£1,880,280	£0	£1,880,280
Beaulieu Park railway station	£150,000,000	£34,000,000	£116,000,000
Broomfield Hospital access road	£1,100,000	£0	£1,100,000
Bus priority/Chelmsford Rapid Bus Transit (ChART)	£3,600,000	£0	£3,600,000
Bus services and infrastructure	£850,000	£0	£850,000
Chelmsford Growth Package	£15,000,000	£15,000,000	£0
Children's play and youth facilities	£5,327,460	£0	£5,327,460
Community centres	£2,250,000	£0	£2,250,000
Cycle and footway links/improvements/crossings	£2,391,304	£0	£2,391,304
Cycle/foot bridge over Essex Regiment Way	£3,000,000	£0	£3,000,000
Cycle/foot bridges to ARU site and Springfield Hall Park	£3,200,000	£0	£3,200,000
Early Years and Childcare - stand alone provision	£11,800,000	£0	£11,800,000
Indoor sports facilities	£6,700,000	£0	£6,700,000
Chelmsford North East Bypass – single carriageway section	£13,200,000	£0	£13,200,000
Chelmsford North East Bypass – NE Chelmsford to A131 single carriageway section	£25,500,000	£0	£25,500,000
Outer Radial Distributor Road (RDR2)	£10,400,000	£0	£10,400,000
Chelmsford North East Bypass - full dual carriageway	£272,000,000	£0	£272,000,000
Outdoor sports and changing facilities	£3,875,000	£0	£3,875,000
Park and Ride - Widford area	£9,000,000	£0	£9,000,000
Potable water - local enhancement	£1,000,000	£1,000,000	£0
Primary education	£41,500,000	£0	£41,500,000
Road junction improvements ¹	£36,000,000	£0	£36,000,000
Sandford Mill Access Road	£1,000,000	£0	£1,000,000
Secondary/6th form education	£45,700,000	£0	£45,700,000
Total cost	£923,594,044	£307,320,000	£616,274,044

¹ This figure includes an estimate for unknown junction improvements

12.14 It should be noted that, for a number of infrastructure items, it was not possible to ascertain a precise need or cost. Therefore the true cost will be higher than this figure although the identification of specific needs may also release other forms of funding. Equally, with the HIF bid ongoing, it is not know the extent of funding that will come from this source towards Beaulieu Park Station and the North Eastern Bypass. The funding gap for these two items will be reduced if the HIF bid is ultimately successful.

12.15 This demonstrates that there is a funding gap and that it is appropriate to implement a CIL charge. It should be noted that this funding gap will predominantly be addressed through a range of developer contributions and provision, including CIL and the remainder of the report addresses this in more detail. On this basis it is considered that there are robust mechanisms to ensure the required infrastructure can be funded to mitigate and support the Council's Local Plan Spatial Strategy.



13 Phasing

Site related costs

- 13.1 The assessment seeks to establish the costs that each new dwelling is capable of addressing in respect of site-specific infrastructure items and strategic infrastructure that is directly related to the development of the strategic sites. It is important that, in ascertaining these costs, an appropriate balance is struck between an assessment of the overall deliverability of a strategic site being led by its infrastructure needs and the importance of the overall scale of development (and its infrastructure needs) in a local plan remaining deliverable.
- 13.2 The assessment has been undertaken for three main clusters of development which reflects site specific infrastructure costs and the potential pooling of Section 106 for certain specific infrastructure items:
- **Central and Urban Chelmsford:** Urban Chelmsford; West Chelmsford; Land east of Chelmsford/north of Great Baddow¹⁷
 - **North:** North East Chelmsford/Boreham; Moulsham Hall/north of Great Leighs; north of Broomfield
 - **South and East:** North of South Woodham Ferrers.

¹⁷ The land east of Chelmsford/north of Great Baddow is not a strategic site. However, the nature of its provision means that it is of strategic importance to the overall Local Plan strategy and meeting the identified needs in Central and Urban Chelmsford, therefore it has been included in the assessment.

13.3 This is shown in Tables 13.1 to 13.7.

13.4 It should be noted that Beaulieu Park railway station and Park and Ride – NE Chelmsford are not currently on the CIL Regulation 123 list. Their inclusion is subject to future review.

Central and Urban Chelmsford

Table 13.1: Infrastructure costs and source of contribution - Central Chelmsford

Item	Site related items	S106 contributions - specific item	Other developer contributions - CIL
Allotments		£420,000	
Beaulieu Park railway station			Yes
Burial space			Yes
Bus priority/Chelmsford Rapid Bus Transit (ChART)			Yes
Children's play and youth facilities		£1,200,000	
Community centres			Yes
Cycle and footway links/improvements/crossings		Yes	
Cycle/foot bridge over Chelmer and Blackwater		£1,600,000	
Bridges to ARU site and Springfield Hall Park		£3,200,000	
Early Years and Childcare - stand alone provision		£3,540,000	
Health			Yes
Indoor sports facilities			Yes
Libraries			Yes
Municipal waste			Yes
Outdoor sports and changing facilities		£858,563	
Park and Ride - NE Chelmsford			Yes
Park and Ride - Widford area			Yes
Police			Yes
Primary education - expansion of existing provision		£5,300,000	
Road junction improvements	Yes	Yes	
Secondary education - expansion of existing provision			Yes
Total cost	£0	£16,118,563	
Cost per unit	£0	£8,245	
Total cost per unit	£8,245		

13.5 Table 13.1 shows that a significant number of the identified infrastructure requirements (apart from site-related items) to serve the sites in Central Chelmsford will be delivered through the CIL charge. The exceptions will be secured through a pooled Section 106 approach; if the current pooling restrictions remain in place then these will instead be funded through CIL. In total, these site-related and Section 106 costs equate to £8,245 per dwelling.

Table 13.2: Infrastructure costs and source of contribution - West Chelmsford

Item	Site related items	S106 contributions - specific item	Other developer contributions - CIL
Allotments		£170,000	
Beaulieu Park railway station			Yes
Burial space			Yes
Bus services and infrastructure		Yes	Yes
Children's play and youth facilities		£490,000	
Community centres		£500,000	
Cycle and footway links/improvements/crossings	Yes		
Early Years and Childcare - stand alone provision	£1,180,000		
Health		Yes	
Indoor sports facilities			Yes
Libraries			Yes
Municipal waste			Yes
Outdoor sports and changing facilities		£351,330	
Park and Ride - NE Chelmsford			Yes
Park and Ride - Widford area			Yes
Police			Yes
Primary education (incl. shared EY&C provision) ¹		£4,200,000	
Road junction improvements (including A1060)	£5,000,000		
Secondary education - expansion of existing provision			Yes
Total cost	£6,180,000	£5,711,330	
Cost per unit	7,725	7,139	
Total cost per unit	£14,864		

¹ The remaining cost of the new school provision would be secured through contributions from other non-strategic sites

13.6 Table 13.2 shows that, for West Chelmsford, the site-related and Section 106 costs equate to £14,864 per dwelling.

Table 13.3: Infrastructure costs and source of contribution – East of Chelmsford/North of Great Baddow

Item	Site related items	S106 contributions - specific item	Other developer contributions - CIL
Allotments		£90,000	
Beaulieu Park railway station			Yes
Burial space			Yes
Bus services and infrastructure		Yes	
Children's play and youth facilities		£240,000	Yes
Community centres		£250,000	
Country Park	Yes		
Cycle and footway links/improvements/crossings	Yes	Yes	
Early Years and Childcare - stand alone provision	£1,180,000		
Health		Yes	
Indoor sports facilities			Yes
Libraries			Yes
Municipal waste			Yes
Outdoor sports and changing facilities		£175,665	
Park and Ride - NE Chelmsford			Yes
Park and Ride - Widford area			Yes
Park and Ride - Sandon area	Yes		Yes
Police			Yes
Primary education - expansion of existing provision		£1,500,000	
Road junction improvements	£5,000,000		
Sandford Mill Access Road		£1,000,000	
Secondary education - expansion of existing provision			Yes
Total cost	£6,180,000	£3,165,665	
Cost per unit	£15,450	£7,914	
Total cost per unit	£23,364		

- 13.7 Table 13.3 shows that, for east of Chelmsford and north of Great Baddow, the site-related and Section 106 costs equate to £23,364 per dwelling.

North Chelmsford

Table 13.4: Infrastructure costs and source of contribution – North East Chelmsford

Item	Site related items	S106 contributions - specific item	Other developer contributions - CIL
Allotments		£650,000	
Beaulieu Park railway station		Yes	
Burial space			Yes
Bus priority/Chelmsford Rapid Bus Transit (ChART)		£3,600,000	
Bus services and infrastructure		Yes	
Children's play and youth facilities		£1,840,000	
Community centres		£494,505	
Country Park	Yes		
Cycle and footway links/improvements/crossings	Yes	Yes	
Cycle/foot bridge over Essex Regiment Way		£2,608,696	
Early Years and Childcare - stand alone provision	£2,360,000		
Health		Yes	
Indoor sports facilities		Yes	
Libraries			Yes
Municipal waste			Yes
Chelmsford North East Bypass – single carriageway section	£13,200,000		
Chelmsford North East Bypass – NE Chelmsford to A131 single carriageway section		£16,813,187	
Chelmsford North East Bypass – full dual carriageway		Yes	
Outer Radial Distributor Road (RDR2)	£10,400,000		
Outdoor sports and changing facilities	£1,317,487		
Park and Ride - NE Chelmsford			Yes
Park and Ride - Widford area			Yes
Police			Yes
Primary education (incl. shared EY&C provision)	£14,600,000		
Road junction improvements	£10,000,000		
Secondary education - new provision	£26,086,957		
Total cost	£77,964,444	£26,006,387	
Cost per unit	£25,988	£8,669	
Total cost per unit	£34,657		

13.8 Table 13.4 shows that, for North East Chelmsford, the site-related and Section 106 costs equate to £34,657 per dwelling.

Table 13.5: Infrastructure costs and source of contribution – Moulsham Hall/north of Great Leighs

Item	Site related items	S106 contributions - specific item	Other developer contributions - CIL
Allotments		£240,000	
Beaulieu Park railway station		Yes	Yes
Burial space			Yes
Bus services and infrastructure		£250,000	
Children's play and youth facilities		£670,000	
Community centres		£181,319	
Cycle and footway links/improvements/crossings	Yes	Yes	
Health		Yes	
Indoor sports facilities			Yes
Libraries			Yes
Municipal waste			Yes
Chelmsford North East Bypass – NE Chelmsford to A131 single carriageway section		£6,164,835	
Chelmsford North East Bypass – full dual carriageway		Yes	
Outdoor sports and changing facilities		£483,079	
Park and Ride - NE Chelmsford			Yes
Park and Ride - Widford area			Yes
Police			Yes
Primary education (incl. shared EY&C provision)	£7,300,000		
Road junction improvements	£3,000,000		
Secondary education - expansion of existing provision		£4,300,000	
Total cost	£10,300,000	£12,289,233	
Cost per unit	£9,364	£11,172	
Total cost per unit	£20,536		

13.9 Table 13.5 shows that, for Moulsham Hall/north of Great Leighs, the site-related and Section 106 costs equate to £20,536 per dwelling.

Table 13.6: Infrastructure costs and source of contribution – north of Broomfield

Item	Site related items	S106 contributions - specific item	Other developer contributions - CIL
Allotments		£100,000	
Beaulieu Park railway station			Yes
Broomfield Hospital access road		£1,100,000	
Burial space			Yes
Bus services and infrastructure	Yes	Yes	
Children's play and youth facilities		£280,000	
Community centres		£74,176	
Cycle and footway links/improvements/crossings (inc.cycle/foot bridge over Essex Regiment Way)	Yes	£391,304	
Early Years and Childcare - stand alone provision	£1,180,000		
Health		Yes	
Indoor sports facilities			Yes
Libraries			Yes
Municipal waste			Yes
Chelmsford North East Bypass – NE Chelmsford to A131 single carriageway section		£2,521,978	
Chelmsford North East Bypass – full dual carriageway		Yes	
Outdoor sports and changing facilities	£197,623		
Park and Ride - NE Chelmsford			Yes
Park and Ride - Widford area			Yes
Police			Yes
Primary education - expansion of existing provision	£1,300,000		
Road junction improvements	£3,000,000		
Secondary education - expansion of existing provision		£3,913,043	
Total cost	£5,677,623	£8,380,502	
Cost per unit	£12,617	£18,623	
Total cost per unit	£31,240		

13.10 Table 13.6 shows that, for north of Broomfield, the site-related and Section 106 costs equate to £31,240 per dwelling.

South and east Chelmsford

Table 13.7: Infrastructure costs and source of contribution – north of South Woodham

Ferrers

Item	Site related items	S106 contributions - specific item	Other developer contributions - CIL
Allotments		£220,000	
Beaulieu Park railway station			Yes
Burial space			Yes
Bus services and infrastructure	Yes	£600,000	
Children's play and youth facilities		£610,000	
Community centres	£750,000		
Cycle and footway links/improvements/crossings	£2,000,000		
Early Years and Childcare - stand alone provision	£2,360,000		
Health		Yes	
Indoor sports facilities			Yes
Libraries			Yes
Municipal waste			Yes
Outdoor sports and changing facilities	£496,254		
Park and Ride - NE Chelmsford			Yes
Park and Ride - Widford area			Yes
Police			Yes
Primary education (incl. shared EY&C provision)	£7,300,000		
Road junction improvements (including A132, B1012 and B1418)	£10,000,000		
Total cost	£22,906,254	£1,430,000	
Cost per unit	£20,271	£1,265	
Total cost per unit	£21,537		

13.11 Table 13.7 shows that, for north of South Woodham Ferrers, the site-related and Section 106 costs equate to £21,537 per dwelling.

Summary

13.12 The analysis in Tables 13.1 to 13.7 shows a range of site-related and pooled Section 106 costs for each of the strategic sites. The highest costs are for the North East Chelmsford site, at £34,657 per dwelling. For all other sites, the costs are lower, at between £8,245 and £31,240 per unit. These figures have informed the plan viability work undertaken separately.

Other infrastructure costs

- 13.13 Table 13.8 shows the other infrastructure costs that could be funded, either fully or partially, by CIL.

Table 13.8: Infrastructure items and costs to potentially be funded through CIL

Item	Other developer contributions - CIL
Allotments	N/k
Burial space	N/k
Community centres	N/k
Country Park	N/k
Cycle and footway links/improvements/crossings	N/k
Early Years and Childcare – further provision	N/k
Health	N/k
Indoor sports facilities	£6,700,000
Libraries	N/k
Municipal waste	N/k
Park and Ride - NE Chelmsford	N/k
Park and Ride - Widford area	£9,000,000
Park and Ride - Sandon area	N/k
Police	N/k
Primary Education (incl. shared EY&C provision)	N/k
Primary Education – expansion of existing provision	N/k
Secondary education - expansion of existing provision	£11,400,000
Total cost	£27,100,000
Cost per unit	£3,067
Cost per square metre	£34

- 13.14 Table 13.8 shows that, for the CIL items where costs have been identified, these total £27.1m. It should be noted that certain items such as allotments also appear as Section 106 items for each of the strategic sites. This does not mean that such items are to be funding through both Section 106 and CIL as this is not permissible. Rather, the requirement for allotment provision identified in Table 13.8 relates to provision elsewhere across the district outside the strategic sites.
- 13.15 It should be noted that, as the assessment in Table 13.8 shows, there are a number of infrastructure items for which costs are not known at this stage. Therefore the level of contributions required are likely to increase the burden placed upon CIL substantially. Given the scale of the infrastructure funding gap identified in Table 12.2, it is expected that the

funds secured through the existing CIL charge of £150/m² will be required in order to deliver all the infrastructure required to support the Local Plan.

- 13.16 It should also be noted that this assessment only considers the strategic sites. CIL contributions will be collected from all types of development across the City administrative area on which CIL is chargeable.

Phasing

- 13.17 The phasing of any of the strategic developments will be critical, both to their deliverability and to how successfully they function in the early phases. In particular, this must align with the ability to secure developer contributions because these will represent a significant proportion of the funding required to deliver the supporting infrastructure.
- 13.18 What is critical is that each strategic development retains a generally positive cashflow whilst funding the provision of infrastructure when it is needed.
- 13.19 At this stage it is difficult to be precise about the timing of much of the strategic infrastructure required. This will depend on a number of factors which may not become clear until after development has commenced. Therefore, a high level assessment has been undertaken of the infrastructure needs in five-year periods compared with the contributions that will have been secured from development, based on housing completions.
- 13.20 Tables 13.9 to 13.15 show the phasing and cashflow implications based on contributions towards infrastructure costs of £30,000 per dwelling (excluding payment of any CIL charge).

Central and Urban Chelmsford

Table 13.9: Infrastructure phasing and cashflow - Central Chelmsford

	Central Chelmsford				Total
	2018/19-22/23	2023/24-27/28	2028/29-32/33	2033/34-35/36	
<i>Dwelling trajectory</i>	<i>281</i>	<i>625</i>	<i>859</i>	<i>190</i>	<i>1,955</i>
Early Years and Childcare - stand alone provision		£1,770,000	£1,770,000		£3,540,000
Cycle/foot bridge over Chelmer and Blackwater		£1,600,000			£1,600,000
Bridges to ARU site and Springfield Hall Park		£1,600,000	£1,600,000		£3,200,000
Primary education - expansion of existing provision		£2,650,000	£2,650,000		£5,300,000
Allotments		£210,000	£210,000		£420,000
Childrens' play and youth facilities	£107,801	£239,770	£329,540	£72,890	£750,000
Outdoor sports and changing facilities	£123,405	£274,477	£377,241	£83,441	£858,563
Total cost of infrastructure items (cumulative)	£231,205	£8,575,451	£15,512,232	£15,668,563	£15,668,563
Contributions secured from development (cumulative)	£8,430,000	£27,180,000	£52,950,000	£58,650,000	£58,650,000

13.21 Table 13.9 shows that, based on the expected trajectory and timing of infrastructure requirements, development in urban Chelmsford will be clearly cashflow positive.

Table 13.10: Infrastructure phasing and cashflow - West Chelmsford

	West Chelmsford			Total
	2018/19-22/23	2023/24-27/28	2028/29-32/33	
<i>Dwelling trajectory</i>	<i>240</i>	<i>560</i>	<i>0</i>	<i>800</i>
Early Years and Childcare - stand alone provision	£1,180,000			£1,180,000
Primary education (incl. shared EY&C provision)		£4,200,000		£4,200,000
Road junction improvements (including A1060)	£1,000,000	£2,500,000	£1,500,000	£5,000,000
Childrens' play and youth facilities	£147,000	£343,000		£490,000
Community centres	£150,000	£350,000		£500,000
Outdoor sports and changing facilities	£105,399	£245,931		£351,330
Allotments	£51,000	£51,000		£102,000
Total cost of infrastructure items (cumulative)	£2,633,399	£10,323,330	£11,823,330	£11,823,330
Contributions secured from development (cumulative)	£7,200,000	£24,000,000	£24,000,000	£24,000,000

13.22 Table 13.10 shows that, based on the expected trajectory and timing of infrastructure requirements, development west of Chelmsford will be clearly cashflow positive.

Table 13.11: Infrastructure phasing and cashflow – East of Chelmsford/North of Great Baddow

<i>Dwelling trajectory</i>	Land E. of Chelmsford/N. of Gt. Baddow			Total
	2018/19-22/23	2023/24-27/28	2028/29-32/33	
	250	150	0	400
Early Years and Childcare - stand alone provision		£1,180,000		£1,180,000
Primary education - expansion of existing provision		£1,500,000		£1,500,000
Road junction improvements	£1,000,000	£2,000,000	£2,000,000	£5,000,000
Sandford Mill Access Road		£1,000,000		£1,000,000
Allotments	£45,000	£45,000		£90,000
Childrens' play and youth facilities	£150,000	£90,000		£240,000
Community centres	£156,250	£93,750		£250,000
Outdoor sports and changing facilities	£109,791	£65,874		£175,665
Total cost of infrastructure items (cumulative)	£1,461,041	£7,435,665	£9,435,665	£9,435,665
Contributions secured from development (cumulative)	£7,500,000	£12,000,000	£12,000,000	£12,000,000

13.23 Table 13.11 shows that, based on the expected trajectory and timing of infrastructure requirements, development east of Chelmsford/north of Great Baddow will be clearly cashflow positive.

North Chelmsford

Table 13.12: Infrastructure phasing and cashflow – North East Chelmsford

Dwelling trajectory	NE Chelmsford				Total
	2018/19-22/23 100	2023/24-27/28 450	2028/29-32/33 1,225	2033/34-35/36 1,225	
EY&C - stand-alone 56-place facility		£1,180,000		£1,180,000	£2,360,000
Primary education - 2fe school		£7,300,000		£7,300,000	£14,600,000
Secondary education - 6fe school			£13,043,479	£13,043,479	£26,086,957
Bus priority/Chelmsford Rapid Bus Transit (ChART)			£3,600,000		£3,600,000
Chelmsford North East Bypass – NE Chelmsford to A131 single carriageway section			£16,813,187		£16,813,187
Chelmsford North East Bypass – single carriageway section				£13,200,000	£13,200,000
Outer Radial Distributor Road (RDR2)		£3,432,000	£6,968,000		£10,400,000
Road junction improvements		£2,500,000	£4,000,000	£3,500,000	£10,000,000
Cycle/foot bridge over Essex Regiment Way			£2,608,696		£2,608,696
Allotments			£650,000		£650,000
Childrens' play and youth facilities			£920,000	£920,000	£1,840,000
Community centres			£247,253	£247,253	£494,505
Outdoor sports and changing facilities			£658,744	£658,744	£1,317,487
Total cost of infrastructure items (cumulative)	£0	£14,412,000	£63,921,357	£103,970,831	£103,970,831
Contributions secured from development (cumulative)	£1,000,000	£14,500,000	£51,250,000	£88,000,000	£88,000,000

13.24 Table 13.12 shows that, based on the expected trajectory and timing of infrastructure requirements, development at North East Chelmsford will be cashflow positive until the second half of the plan period. At this point there is a potential cashflow issue but the scale of the issue is considered capable of mitigation. There are a number of actions which could be taken to address this, including:

- Using CIL contributions to address any funding shortfall – as the analysis in Table 13.8 identified, the CIL charge creates the potential to collect contributions from development in excess of the requirements of the items that are expected at this stage to

be funded through CIL. Any additional items would need to be added to the City Council's CIL Regulation 123 list which can be updated at any stage and should be reviewed regularly as a matter of good practice.

- Exploring new funding sources as they are made available. Related to this is the fact that if the HIF forward funding bid is successful then this will make a significant contribution towards the overall funding of the Beaulieu Park Station and the Chelmsford North East Bypass. This is not currently reflected in the assessment because the bid process has not been concluded.
- Exploring the potential for further strategic scale growth in this location which will be able to benefit from the significant amount of infrastructure already provided to deliver the 3,000 dwellings in the Local Plan.

Table 13.13: Infrastructure phasing and cashflow – Moulsham Hall/north of Great Leighs

	Moulsham Hall/N. of Gt. Leighs				Total
<i>Dwelling trajectory</i>	2018/19-22/23 170	2023/24-27/28 322	2028/29-32/33 356	2033/34-35/36 252	1,100
Chelmsford North East Bypass – NE Chelmsford to A131 single carriageway section			£6,164,835		£6,164,835
Primary education (incl. shared EY&C provision)		£3,650,000	£3,650,000		£7,300,000
Road junction improvements		£1,500,000	£1,500,000		£3,000,000
Secondary education - expansion of existing provision		£2,150,000	£2,150,000		£4,300,000
Improvements to existing bus services	£250,000				£250,000
Allotments		£120,000	£120,000		£240,000
Childrens' play and youth facilities	£103,545	£196,127	£216,836	£153,491	£670,000
Community centres	£28,022	£53,077	£58,681	£41,538	£181,319
Outdoor sports and changing facilities	£74,658	£141,410	£156,342	£110,669	£483,079
Total cost of infrastructure items (cumulative)	£456,225	£8,266,840	£22,283,534	£22,589,233	£22,589,233
Contributions secured from development (cumulative)	£5,100,000	£14,760,000	£25,440,000	£33,000,000	£33,000,000

13.25 Table 13.13 shows that, based on the expected trajectory and timing of infrastructure requirements, development at Moulsham Hall/north of Great Leighs will be clearly cashflow positive.

Table 13.14: Infrastructure phasing and cashflow – north of Broomfield

	N. of Broomfield		Total
	2018/19-22/23	2023/24-27/28	
<i>Dwelling trajectory</i>	90	360	450
Broomfield Hospital access road		£1,100,000	£1,100,000
Cycle/foot bridge over Essex Regiment Way	£391,304		£391,304
Early Years and Childcare - stand alone provision		£1,180,000	£1,180,000
Chelmsford North East Bypass – NE Chelmsford to A131 single carriageway section		£2,521,978	£2,521,978
Primary education - expansion of existing provision		£1,300,000	£1,300,000
Road junction improvements		£3,000,000	£3,000,000
Secondary education - expansion of existing provision		£3,913,043	£3,913,043
Allotments		£100,000	£100,000
Childrens' play and youth facilities	£56,000	£224,000	£280,000
Community centres	£14,835	£59,341	£74,176
Outdoor sports and changing facilities	£39,525	£158,098	£197,623
Total cost of infrastructure items (cumulative)	£501,664	£14,058,124	£14,058,124
Contributions secured from development (cumulative)	£2,700,000	£13,500,000	£13,500,000

13.26 Table 13.14 shows that, based on the expected trajectory and timing of infrastructure requirements, development north of Broomfield will show a very slight cashflow deficit. Such a deficit can easily be overcome through minor revisions to provision of any infrastructure item listed.

South and east Chelmsford

Table 13.15: Infrastructure phasing and cashflow – north of South Woodham Ferrers

	N. of S. Woodham Ferrers			Total
	2018/19-22/23	2023/24-27/28	2028/29-32/33	
<i>Dwelling trajectory</i>	230	500	400	1,130
EY&C - stand-alone 56-place facility			£2,360,000	£2,360,000
Primary education (incl. shared EY&C provision)		£0	£7,300,000	£7,300,000
Bus services and infrastructure		£600,000		£600,000
Cycle and footway links/improvements/crossings		£2,000,000		£2,000,000
Road junction improvements (including A132, B1012 and B1418)		£7,000,000	£3,000,000	£10,000,000
Community centre		£750,000		£750,000
Allotments		£220,000		£220,000
Childrens' play and youth facilities	£124,159	£269,912	£215,929	£610,000
Outdoor sports and changing facilities	£101,007	£219,581	£175,665	£496,254
Total cost of infrastructure items (cumulative)	£225,167	£11,284,659	£24,336,254	£24,336,254
Contributions secured from development (cumulative)	£6,900,000	£21,900,000	£33,900,000	£33,900,000

13.27 Table 13.15 shows that, based on the expected trajectory and timing of infrastructure requirements, development north of South Woodham Ferrers will be clearly cashflow positive.



14 Summary

- 14.1 This Infrastructure Delivery Plan (IDP) underpins the delivery of the Chelmsford Local Plan. In respect of the strategic sites identified in the Plan, it identifies the required infrastructure.
- 14.2 In summary, the IDP identifies total infrastructure costs for items that have been costed of £923.6m, with secured funding totaling £307.3m. This leaves a funding gap of £616.3m. Given this funding gap – which is likely to increase once currently uncostered/unspecified needs have been identified and costed – it is appropriate and necessary to have a Community Infrastructure Levy (CIL) charge in place.
- 14.3 The IDP has identified that the infrastructure will be funded in three main ways:
- As a site-specific infrastructure item (as distinct from ‘standard development’ items which most developments would be expected to provide, e.g. estate roads, landscaping, utilities connections, etc).
 - As a Section 106 contribution (assuming that the pooling limit of five contributions towards any single infrastructure item will be lifted; if it is not then those items that breach the pooling limit would be funded through CIL).
 - Through the CIL charging regime, which the Council will review in 2020.
- 14.4 In order to understand the general deliverability of the infrastructure required to support the growth of the strategic sites, a high level cashflow assessment was undertaken. This established the following:

- Costs per dwelling to provide the identified infrastructure items mainly ranged from between £8,245 and £31,240 per dwelling. Only in the case of the North East Chelmsford site does the cost increase, to approximately £34,657 per dwelling.

14.5 Based on the trajectory of the strategic sites and a contribution towards infrastructure costs of £30,000 per dwelling (excluding CIL), all show a positive cashflow throughout their development. The only exception is the second half of the period of development of North East Chelmsford which shows a shortfall. There are a number of actions which could be taken to address this shortfall, including:

- using CIL contributions to address any funding shortfall;
- exploring new funding sources as they are made available.
- Exploring the potential for further strategic scale growth in this location.

14.6 On this basis it is considered that the Strategy in the Local Plan is a sound basis for securing the infrastructure necessary to support the identified growth. Whilst there are funding gaps there are no insurmountable issues which cannot be addressed through different funding sources. The information set out within this IDP will be used to feed into the Local Plan Viability Testing which will assess if the sites identified for growth are financially viable and can be delivered based on the assumptions set out in the IDP.

14.7 It will be important to review the IDP at regular intervals; it is a 'live' document which requires regular updating in order to accurately reflect emerging information in respect of infrastructure needs, costs, funding and phasing.



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