Edmonton Leeside Area Action Plan Evidence on Housing and Supporting Infrastructure

**Final Report** 

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Prepared for Enfield Borough Council



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### ABBREVIATIONS

| AAP  | Area Action Plan                          |
|------|-------------------------------------------|
| DfE  | Department of Education                   |
| DfH  | Department of Health                      |
| GLA  | Greater London Authority                  |
| HUDU | NHS London Healthy Urban Development Unit |
| LBE  | London Borough of Enfield                 |
| LBH  | London Borough of Haringey                |
| LBHK | London Borough of Hackney                 |
| LBWF | London Borough of Waltham Forest          |
| SIL  | Strategic Industrial Land                 |



### 1 INTRODUCTION

- 1.1.1 This report provides further evidence on housing and supporting infrastructure to support the Edmonton Leeside Area Action Plan (AAP), by reviewing the impacts of development scenarios for the Meridian Water Masterplan area. It consists of three sections: a baseline assessment of current socio-economic conditions; a review of assumptions; and an assessment of development scenarios.
- 1.1.2 The baseline section reviews the existing provision of affordable housing, education, healthcare, open space, retail and leisure and culture in relevant catchment areas, according to the type of infrastructure, which are of relevance to Meridian Water. The section draws upon the latest available data and policy documents to provide up to date information to inform the impact assessment section.
- 1.1.3 The assumptions section runs through the main set of assumptions that inform the scenario testing. The main set of assumptions includes spatial scenarios, dwelling scenarios, dwelling size mixes, dwelling tenure mixes and dwelling floorspace areas.
- 1.1.4 The assessment section considers the development scenarios and the resulting infrastructure requirements (affordable housing; open space; retail provision; leisure and culture; healthcare; and education).

### 2 BASELINE

#### 2.1 Introduction

2.1.1 This section reviews baseline conditions in relevant catchment areas from the boundary of Meridian Water which is shown in **Figure 2-1**.

Figure 2-1 Meridian Water Boundary



#### Source: LBE, AECOM 2016.

2.1.2 The following baseline conditions are examined:

- Housing
- Early years, primary and secondary education;
- Healthcare;
- Open space;
- Retail provision; and
- Leisure and culture.

#### 2.2 Housing

2.2.1 LBE has a lower amount of social rented housing in comparison to Greater London and England. Of the 123,800 dwellings in LBE, 14.9% are social rented which is proportionally less



than Greater London and England (23.3% and 17.6% respectively)<sup>1</sup>. **Table 2-1** presents a breakdown of housing stock in LBE, Greater London and England.

#### Table 2-1: Housing Stock Breakdown

|                                                                   | LBE   | Greater London | England |
|-------------------------------------------------------------------|-------|----------------|---------|
| Private (Owner Occupied / Privately<br>Rented or Lived Rent Free) | 85.1% | 76.7%          | 82.4%   |
| Social Rented (Council, RSL, Other public sector)                 | 14.9% | 23.3%          | 17.6%   |

Source: Department of Communities and Local Government, (2016); Number of Dwellings by Tenure and district: England; 2015.

2.2.2 The 2011 Census outlines that Upper Edmonton Ward where Meridian Water is located had the second highest proportion of households living in social rented dwellings, out of all LBE Wards (29.8%)<sup>2</sup>. The Ward with the highest proportion in LBE was the Edmonton Green (43.1%), which borders Upper Edmonton to the north. The high proportion of households in the social rented dwellings means that proportionally less people in Upper Edmonton (43.9%) own their homes than in LBE (57.9%) and Greater London (48.3%). A breakdown of households by tenure in Upper Edmonton, LBE, Greater London and England is shown in **Table 2-2**.

i.

| Tenure           | Upper<br>Edmonton | LBE   | Greater<br>London | England |
|------------------|-------------------|-------|-------------------|---------|
| Owned            | 43.9%             | 57.9% | 48.3%             | 63.3%   |
| Shared Ownership | 0.5%              | 0.9%  | 1.3%              | 0.8%    |
| Social Rented    | 29.8%             | 17.6% | 24.1%             | 17.7%   |
| Private Rented   | 24.0%             | 22.2% | 25.1%             | 16.8%   |
| Living Rent Free | 1.9%              | 1.4%  | 1.3%              | 1.3%    |

1

1

#### Table 2-2: Household by Tenure

Source: ONS, (2011); Census 2011.

2.2.3 The Minor Alterations to the London Plan (MALP) (2016)<sup>3</sup> sets minimum housing delivery targets for each London Borough between 2015/16 and 2024/25. LBE's target is to deliver a minimum of 7,980 net additional dwellings over the time period (798 per annum). LBE's Core Strategy (2010) sets a target of delivering 732 new dwellings per annum from 2010 to 2025<sup>4</sup>. Additionally, the Enfield Strategic Housing Market Assessment (SHMA) Update (2015) estimates that LBE will require between 1,695 and 2,400 dwellings per annum with a mid-point of 2,048 dwellings, from 2017 to 2032<sup>5</sup>. The SHMA also estimates a need for an additional 907 affordable dwellings per annum over the same time period.

<sup>&</sup>lt;sup>1</sup> DCLG, (2016); Number of Dwellings by Tenure and district: England; 2015.

<sup>2</sup> Office of National Statistics (ONS), (2011); Census 2011.

<sup>3</sup> Greater London Authority (GLA), (2016); Minor Alterations to the London Plan.

<sup>4</sup> London Borough of Enfield (LBE), (2010); Core Strategy.

<sup>5</sup> LBE, (2015) Strategic Housing Market Assessment Update.

2.2.4 Between 2010 and 2015, LBE met its Core Strategy target of 40% of all new dwellings being affordable in two of the five years (2012/13 (41%) and 2013/14 (43%)).<sup>6</sup> I.

#### 2.3 Education

#### Early Years

2.3.1 The LBE Childcare Sufficiency Assessment Update (2013) states that in 2013 there were 10,811 early years places registered with Ofsted (Office for Standards in Education, Children's Services and Skills)<sup>7</sup>. A breakdown of early years care providers in LBE by typology and number of places is provided in **Table 2-3**.

| Provider Typology                | Number of Providers | Number of Places |
|----------------------------------|---------------------|------------------|
| Nursery Classes                  | -                   | 4,698            |
| Day Nurseries                    | 66                  | 2,755            |
| Pre-School Play Groups           | 44                  | 1,299            |
| Childminders                     | 370                 | 1,659            |
| Independent School Nursery Units | 8                   | 342              |
| Childcare of Domestic Premises   | 4                   | 58               |
| Total                            |                     | 10,811           |

#### Table 2-3: Early Years Places by Provider

Source: LBE, (2013); Childcare Sufficiency Assessment Update.

- 2.3.2 The majority of early years places in 2013 were at nursery classes (4,698), with day nurseries (2,755), childminders (1,659) and pre-school play groups (1,299) also contributing a significant number. Between October 2010 and April 2013 an additional net 545 Ofsted registered places were added in LBE.
- 2.3.3 Based upon searches using the Council's childcare search engine, there are currently two day nurseries, four pre-school playgroups and six childminders within 1km of the Meridian Water Boundary<sup>8</sup>. The search engine does not provide details of the number of places available at the each provider, but provides some details about local providers. The providers are shown in **Table 2-4**.

<sup>&</sup>lt;sup>6</sup> The affordable dwellings built during these years did not meet the other Core Strategy target of the 70% of new affordable dwellings being socially rented and 30% intermediate (57% social rented and 43% intermediate in 2012/13 and 40% social rented and 60% intermediate in 2013/14).

<sup>7</sup> LBE, (2013); Childcare Sufficiency Assessment Update: Summary.

<sup>8</sup> https://publicenquiry.enfield.gov.uk/FISO/PublicEnquiry/SynergyEnglishHome.aspx, accessed July 2016.



| Early Years Care Provider | Provider Typology    |
|---------------------------|----------------------|
| Diamonds Pre-School       | Pre-School Playgroup |
| Tiny Teachers Limited     | Pre-School Playgroup |
| Little Learners Nurseries | Pre-School Playgroup |
| Play Giggle And Grow      | Pre-School Playgroup |
| Willow Nursery@ St Mary's | Day Nursery          |
| Angel Place Nursery       | Day Nursery          |
| Leila Mohammed            | Childminder          |
| Miller, Simone Angia      | Childminder          |
| Sammy, Linda              | Childminder          |
| Ali, Tahmina Begum        | Childminder          |
| Levy, Sarah               | Childminder          |
| Rashid, Umma Ruman        | Childminder          |

#### Table 2-4: Early Years Care Providers within 1km

Source: https://publicenquiry.enfield.gov.uk/FISO/PublicEnquiry/SynergyEnglishHome.aspx, accessed July 2016; AECOM 2016.

#### **Primary Education**

2.3.4 The National Travel Survey 2013/14 states that the average distance travelled to primary school by children in Greater London is 2.0km<sup>9</sup>. This projects a radius which extends from the Meridian Water boundary into the London Borough of Haringey (LBH) and London Borough of Waltham Forest (LBWF). According to data collated by the Department for Education's (DfE) Local Authority Cross Border Movement Survey in 2015, 92.3% of primary school children from LBE attended school in the Borough and 3.7% of children from LBE attended primary school in LBH<sup>10</sup>. Therefore, the baseline considers schools which are located within 2.0km of the Meridian Water boundary in LBE and LBH. **Table 2-5** shows the 16 schools located within 2.0km of the Meridian Water Boundary.

<sup>&</sup>lt;sup>9</sup> Department of Transport (DfT), (2015); The National Travel Survey 2013/14.

<sup>&</sup>lt;sup>10</sup> Department for Education (DfE) (2016); School Cross Border Movements 2015.

| Table 2-5: Primary Schools within 2km           |         |          |                     |                      |                                            |  |
|-------------------------------------------------|---------|----------|---------------------|----------------------|--------------------------------------------|--|
| School Name                                     | Borough | Capacity | Number of<br>Pupils | Surplus /<br>Deficit | Surplus /<br>Deficit at<br>96%<br>Capacity |  |
| Raynham Primary<br>School                       | LBE     | 720      | 745                 | -25                  | -25                                        |  |
| Brettenham Primary<br>School                    | LBE     | 420      | 414                 | 6                    | -11                                        |  |
| Fleecefield Primary<br>School                   | LBE     | 420      | 420                 | -                    | -                                          |  |
| St John and St James<br>CofE Primary School     | LBE     | 420      | 399                 | 21                   | 4                                          |  |
| St Edmunds Catholic<br>Primary School           | LBE     | 420      | 429                 | -9                   | -9                                         |  |
| The Eldon Federation<br>Eldon Infant School     | LBE     | 450      | 445                 | 5                    | -13                                        |  |
| Latymer All Saints CofE<br>Primary School       | LBE     | 630      | 616                 | 14                   | -11                                        |  |
| Hazelbury Infant School                         | LBE     | 450      | 442                 | 8                    | -10                                        |  |
| St Paul's and All Hallows<br>CofE Junior School | LBH     | 240      | 224                 | 16                   | 6                                          |  |
| Lea Valley Primary<br>School                    | LBH     | 420      | 417                 | 3                    | -14                                        |  |
| St Paul's and All Hallows<br>CofE Infant School | LBH     | 180      | 170                 | 10                   | 3                                          |  |
| St Francis de Sales RC<br>Junior School         | LBH     | 360      | 348                 | 12                   | -2                                         |  |
| St Francis de Sales RC<br>Infant School         | LBH     | 270      | 267                 | 3                    | -8                                         |  |
| Lancastrian Primary<br>School                   | LBH     | 435      | 422                 | 13                   | -4                                         |  |
| Mulberry Primary School                         | LBH     | 630      | 632                 | -2                   | -2                                         |  |
| Harris Primary Academy<br>Coleraine Park        | LBH     | 420      | 383                 | 37                   | 20                                         |  |
| Total                                           | -       | 6,885    | 6.773               | 112                  | -76                                        |  |



Source: Department of Education, (DfE) (2016); School Capacity 2014/15.

- 2.3.5 In total, 6,773 children attended the 16 schools in the 2014/15 school year, leaving a surplus of 112 places as the schools had a combined capacity of 6,885 places<sup>11</sup>. LBE's Core Strategy specifies that the Council aims to achieve a 4% school capacity buffer. Therefore, a 4% discount has been applied to the total primary school capacity. This leads to the surplus of a 112 places turning into a deficit of -76.
- 2.3.6 In addition to the 16 schools shown in **Table 2-5**, two free schools, Brook House Primary School and Meridian Angel Primary School opened in 2014. These schools do not have a full complement of year groups yet due to how schools add one new form per annum; therefore, the schools will have additional capacity that has not been captured in **Table 2-5**. Meridian Angel Primary School will shortly be relocating to a new site on Ladysmith Road, to an area currently occupied by public open space. The school is currently a one form of entry but with the intention following relocation to become a two form of entry with full occupation expected by 2021.

#### Secondary Education

2.3.7 The National Travel Survey 2013/14 states that the average distance travelled to secondary school by children in Greater London is 5.1km. This projects a radius which extends from the Meridian Water boundary into LBH, LBWF and London Borough of Hackney (LBHK). According to data collated by the DfE Local Authority Cross Border Movement survey in 2015, 82.4% of children from LBE attended secondary school in the borough and a further 3.5% of children from LBE attended secondary school in LBH. Therefore, the baseline considers schools which are located within 5.1km of the Meridian Water boundary in LBE and LBH. Table 2-6 provides details on 13 secondary schools that are located within 5.1km of the Meridian Water boundary.

<sup>&</sup>lt;sup>11</sup> DfE, (2016); School Capacity 2014/15.

| School Name                                 | Borough | Capacity | Number of<br>Pupils | Surplus /<br>Deficit | Surplus /<br>Deficit at<br>96%<br>Capacity |
|---------------------------------------------|---------|----------|---------------------|----------------------|--------------------------------------------|
| Oasis Academy Hadley                        | LBE     | 1,170    | 995                 | 175                  | 128                                        |
| Aylward Academy                             | LBE     | 1,485    | 1,384               | 101                  | 42                                         |
| The Latymer School                          | LBE     | 1,438    | 1,365               | 73                   | 15                                         |
| Edmonton County<br>School                   | LBE     | 1,710    | 1,368               | 342                  | 274                                        |
| Kingsmead School                            | LBE     | 1,465    | 1,467               | -2                   | -2                                         |
| Winchmore School                            | LBE     | 1,460    | 1,531               | -71                  | -71                                        |
| St Anne's Catholic High<br>School for Girls | LBE     | 1,089    | 1,023               | 66                   | 22                                         |
| Nightingale Academy                         | LBE     | 1,115    | 667                 | 448                  | 403                                        |
| Northumberland Park<br>Community School     | LBH     | 1,050    | 1,017               | 33                   | -9                                         |
| St Thomas More<br>Catholic School           | LBH     | 1,140    | 886                 | 254                  | 208                                        |
| Woodside High School                        | LBH     | 810      | 808                 | 2                    | -30                                        |
| Park View                                   | LBH     | 1,080    | 1,041               | 39                   | -4                                         |
| Gladesmore Community<br>School              | LBH     | 1,215    | 1,215               | -24                  | -24                                        |
| Total                                       | -       | 16,227   | 14,791              | 1,436                | 952                                        |

### Table 2-6: Secondary Schools within 5.1km

Source: Department of Education, (DfE) (2016); School Capacity 2014/15.

- 2.3.8 In total, 14,791 children attended the 13 schools in the 2014/15 school year, leaving a surplus of 1,436 surplus places given the schools have a combined capacity of 16,227. Applying the 4% capacity discount to the combined secondary school capacity results in the surplus decreasing from 1,436 to 952 places.
- 2.3.9 In addition to the schools shown in **Table 2-6**, two free schools, Heron Hall Academy and Harris Academy Tottenham have recently opened (2013 and 2014 respectively). The two schools have not been captured in **Table 2-6** as both will have not filled all of their years yet due to how schools introduce one year group at a time.



#### Primary Healthcare 2.4

- LBE is served by the Enfield Clinical Commissioning Groups (CCG). In total LBE has 49 GP 2.4.1 (General Practitioner) practices<sup>12</sup>, 306,891 registered patients<sup>13</sup> and 182 full-time equivalent (FTE) GPs based upon the latest data available<sup>14</sup>. This indicates an average patient list size of 1,624 registered patients per GP in the CCG, which compares favourably with a patient list size of 1,800 patients per GP recommended by the Department for Health (DfH)<sup>15</sup>.
- There are five GP practices within a typical walking distance (1km) of the Meridian Water 2.4.2 boundary. At these five practices there is a total of 17.2 FTE GPs<sup>16</sup>. The average number of patients per GP across the practices (2,192 patients per GP) is worse than the recommended standard of 1,800 patients per GP. Further details are presented in Table 2-7.

| GP Practices                         | Borough | Number of GPs<br>(Headcount) | Patients per GP |
|--------------------------------------|---------|------------------------------|-----------------|
| Angel Surgery                        | LBE     | 1.3                          | 3,468           |
| Edmonton Medical Centre              | LBE     | 2.3                          | 1,883           |
| Lime Tree & Sinnott Healthcare Ltd   | LBE     | 2.5                          | 2,874           |
| Chingway Medical Centre <sup>1</sup> | LBWF    | 9.1                          | 1,570           |
| JS Medical Practice <sup>2</sup>     | LBH     | 3.4                          | 2,213           |
| Total                                | -       | 17.2                         | 2,192           |

#### Table 2-7: GP Practices with 1km

Source: http://www.nhs.uk/pages/home.aspxccessed July 2016, accessed July 2016. AECOM 2016.<sup>1</sup> The statistics for the Chingway Medical Centre include those of its sister branch the Churchill Medical Centre.<sup>2</sup> The statistics for the JS Medical Practice include those for its two other sister branches.

2.4.3 Within a 1km walking distance of the Meridian Water boundary there are two dentist practices, none are located within Meridian Water itself. The two dental practices in total contain five practicing dentists. Further details are shown in Table 2-8.

<sup>&</sup>lt;sup>12</sup> Enfield Care Commissioning Group (CCG), (2016); Annual Report and Accounts 2015-2016.

 <sup>&</sup>lt;sup>13</sup> Enfield CCG, (2016); Sustainability report 2015/16.
 <sup>14</sup> Health and Social Care Information Centre, (HSCIC, (2016); All GPs in each Clinical Commissioning Group: FTE by type, 2014.
 <sup>14</sup> Health and Social Care Information Centre, (HSCIC, (2016); All GPs in each Clinical Commissioning Group: FTE by type, 2014.

<sup>&</sup>lt;sup>15</sup> NHS London Healthy Urban Development Unit (HUDU), (2009); HUDU Planning Contribution Model Guidance Notes.

<sup>&</sup>lt;sup>16</sup> HSCIC, (2016); Practice Level Indicator Tool.

#### Table 2-8: Dentist Practices with 1km

| GP Practices                | Borough | Number of GPs (Headcount) |
|-----------------------------|---------|---------------------------|
| The Angel Dental Practice   | LBH     | 4                         |
| Sterling Way Dental Surgery | LBH     | 1                         |
| Total                       |         | 5                         |

Source: http://www.nhs.uk/pages/home.aspxccessed July 2016, accessed July 2016. AECOM 2016.

2.4.4 There is no information currently available about the practice list sizes or average number of patients per dentist; this information is not published uniformly across dental practices in the same way it is for GPs. As such, it is not possible to determine whether the average ratio of registered patients per dentist across the two practices is in line with the patient list size of 2,000 per dentist recommended by the DfH. It is reasonable to assume however, that dental practices may have patient list sizes which compare favourably with the recommended target level, in line with the current situation for local GP practices.

#### 2.5 Open Space

2.5.1 The LBE Open Space and Sports Assessment Update (2011) outlines that the Borough in 2011 contained 350 open spaces, totalling 2,042ha in size<sup>17</sup>. Of the 2,042ha, 704.8ha was classified as public parks. The remainder of the space consisted of areas such as cemeteries, urban farms and playing fields. A full summary is presented in **Table 2-9**.

| Open Space<br>Typology                        | Number of Spaces | Area (ha) | % of Open Space<br>Area |
|-----------------------------------------------|------------------|-----------|-------------------------|
| Metropolitan Parks                            | 3                | 347.5     | 17                      |
| District Park                                 | 10               | 214.6     | 10.5                    |
| Local Park                                    | 18               | 93.5      | 4.6                     |
| Small local park / open space                 | 17               | 30.8      | 1.5                     |
| Pocket Park                                   | 6                | 3.5       | 0.2                     |
| Linear open space /<br>green corridors        | 15               | 14.9      | 0.7                     |
| Public park Total                             | 69               | 704.8     | 34.5                    |
| Allotments, community gardens and urban farms | 43               | 78        | 3.8                     |

#### Table 2-9: LBE Open Space Summary

<sup>&</sup>lt;sup>17</sup> LBE, (2011); Open Space and Sports Assessment Update.

| Amenity green space                                          | 76  | 39.9     | 2.0  |
|--------------------------------------------------------------|-----|----------|------|
| Cemeteries and church yards                                  | 12  | 74.8     | 3.7  |
| Civic spaces /<br>pedestrianised areas                       | 0   | 0        | 0.0  |
| Greenspaces within grounds of institution                    | 2   | 16       | 0.8  |
| Natural or semi-natural urban greenspaces                    | 23  | 440.3    | 21.6 |
| Outdoor sports<br>facilities / playing fields<br>(education) | 74  | 126      | 6.2  |
| Outdoor sports<br>facilities / playing fields<br>(private)   | 36  | 417.2    | 20.4 |
| Outdoor sports<br>facilities / playing fields<br>(public)    | 11  | 141.4    | 6.9  |
| Other                                                        | 4   | 3.12     | 0.2  |
| Other open space<br>total                                    | 281 | 1,336.9  | 65.5 |
| Total Open Space                                             | 350 | 2,041.73 | 100  |

Source: LBE, (2011); Open Space and Sports Assessment Update.

- 2.5.2 The Open Space and Sports Assessment Update (2011) estimated that Upper Edmonton Ward had 7.68ha of public parks out of 26.53ha of open space. This produces ratios of 0.49ha of public parks and 1.68ha of open space per 1,000 residents, which are significantly lower than equivalent ratios for LBE (2.42ha of public parks and 7.01ha of open space per 1,000 residents).
- 2.5.3 Using MALP open space hierarchy to examine public park supply, Meridian Water is located within close proximity of three small open spaces, one local park and a regional park. These are presented in **Table 2-10**. The Upper Lea Valley regional park is located within 0.4km of Meridian Water and therefore fulfils the role of all open space typologies in the hierarchy, as it is located within all specified accessibility distances and meets all size requirements.

| Open Space<br>Categorisation   | Guidelines in Size of<br>Site (ha) | Guideline<br>Accessibility Distance<br>(km) | Parks                          |
|--------------------------------|------------------------------------|---------------------------------------------|--------------------------------|
|                                |                                    |                                             | Kenninghall Hall Open<br>Space |
| Small Open Spaces              | <2                                 | 0.4                                         | Lady Smith Road Open<br>Space  |
|                                |                                    |                                             | Sayesbury Lane Park            |
| Local Parks and Open<br>Spaces | 2                                  | 0.4                                         | Craig Park                     |
| Regional Parks <sup>18</sup>   | 400                                | 8                                           | Upper Lea Valley               |

#### Table 2-10: Public Parks

Source: GLA, (2016); Minor Alterations to the London Plan; AECOM 2016.

- 2.5.4 The GLA's Shaping Neighbourhoods: Children and Young People's Play and Informal Recreation Supplementary Planning Guidance (SPG) (2012) document contains different accessibility distances for play space dependent upon the age of a child<sup>19</sup>. The maximum walking distances are as follows: 0.1km for children under 5; 0.4km for children aged between 5 and 11, and 0.8km for children aged 12 years and above.
- 2.5.5 **Table 2-11** shows the play spaces that fall within the walking distances from the boundary of Meridian Water. In total there is one play space appropriate to children under 5 and a further four for children aged 12+.

| Tab | le 2-' | 11: | Play  |     | ices |
|-----|--------|-----|-------|-----|------|
| IUN |        |     | i iuy | Opt |      |

| Age Group (yrs)  | Walking Distance from<br>Home (taking barriers<br>into account) (km) | Name of the Space            | Approximate Size (ha) |
|------------------|----------------------------------------------------------------------|------------------------------|-----------------------|
| Under 5          | 0.1                                                                  | 0.1 Rays Road Play Space     |                       |
| Young People 12+ |                                                                      | Sayesbury Lane Park          | 0.07                  |
|                  | 0.8                                                                  | Craig Park                   | 0.04                  |
|                  |                                                                      | Blaydon Walk<br>Playground   | 0.01                  |
|                  |                                                                      | Montagu Recreation<br>Ground | 0.22                  |

Source: GLA, (2012); Shaping Neighbourhoods: Children and Young People's Play and Informal Recreation Supplementary Planning Guidance (SPG).

<sup>18</sup> Given the size of the Upper Lea Valley, the whole park will overlap and go well beyond 8km of the Meridian Water boundary. <sup>19</sup> GLA, (2012); Shaping Neighbourhoods: Children and Young People's Play and Informal Recreation Supplementary Planning Guidance (SPG).



- 2.5.6 Upper Edmonton Ward in 2011 had 4.6ha of allotments, equating to a ratio 0.8ha of allotments per 1,000 households. The Ward also had 2.76ha of playing pitches with a ratio of 0.17ha of pitches per 1,000 residents, lower than the LBE average of 1.31ha per 1,000 residents.
- 2.5.7 For future open space provision, the Open Space and Sports Assessment Update (2011) sets the following targets for the time period up to 2026:
  - Public parks 2.37 ha per 1,000 residents;
  - Site of importance for nature conservation 1.0ha per 1,000 residents;
  - Allotments 0.36ha per 1,000 residents; and
  - Playing pitches 0.7ha per 1,000 residents.
- 2.5.8 The study forecasts that an additional 16ha of public parks and 1.06ha of play space will be required to meet the needs of the Borough's population by 2026. No quantitative targets are set for natural greenspace and allotments. Additionally, no need for additional playing pitches is forecasted.

#### 2.6 Retail

- 2.6.1 LBE's Retail and Town Centre Study (2014) assesses the current supply and future demand for comparison and convenience goods floorspace in the Borough<sup>20</sup>. The closest district centres to Meridian Water as designated by the Study are Upper Edmonton and Lower Edmonton Green. The Study rates Lower Edmonton Green as at the lower end of the retail market, while Upper Edmonton is not assigned a score on what set of consumers the centre is likely to service.
- 2.6.2 In total, LBE during 2014 contained 212,900sqm net of retail floorspace, of which 80,300sqm was dedicated to convenience goods and the other 132,600sqm to comparison goods. Edmonton Green and Upper Edmonton contained net 12,200sqm and 3,800sqm of convenience floorspace, and net 7,700sqm and 5,000sqm of comparison goods floorspace respectively.
- 2.6.3 Convenience goods expenditure in LBE during 2014 is estimated to have been worth £675 million. The total comparison goods spend over the same year is estimated to have been worth £772 million. Revenue in Edmonton Green/Upper Edmonton during 2014 per net square metre of comparison goods floorspace was worth £5,063.
- 2.6.4 The Retail and Town Centre Study (2014) forecasts there is scope to develop an additional 14,400sqm (gross) of A1 convenience goods floorspace. 38,200sqm (gross) of A1 comparison goods floorspace and 13,300sqm (gross) of A3-A5 class floorspace in LBE between 2014 and 2029.

#### 2.7 Culture and Leisure

2.7.1 The draft LBE Leisure and Culture Strategy (2014) outlines that Borough has a number of leisure and culture facilities including: four theatres; seven public leisure centres, 150 sports clubs; and 45 parks and open spaces with outdoor gyms, tennis courts and multi-use games areas (MUGAs)<sup>21</sup>. In the five years before 2014, 386,000 people attended performances at

<sup>&</sup>lt;sup>20</sup> LBE, (2014); Enfield Retail and Town Centre Study: Final Report.

<sup>&</sup>lt;sup>21</sup> LBE, (2014); Enfield Draft Leisure and Culture Strategy.



Millfield Theatre and the Dugdale Centre, leisure centre attendance went from 1.6 million in 2010/11 to 1.9 million in 2013/14, and 13 new outdoor gyms and trim trails were added. LBE currently has 17 libraries<sup>22</sup>. The libraries offer a variety of facilities including access to computers, scanners and printers, as well as community areas and cafes in some locations.

- 2.7.2 LBE's Infrastructure Delivery Plan Review (2014) examines infrastructure supply in the Borough and what additional infrastructure may be needed in the future<sup>23</sup>. The Review outlines there will likely be a need for additional swimming pool capacity in the Borough due to Edmonton leisure centre seeing a reduction in pool size after being re-furbished. A deficit in sports hall supply is expected of 4.25 halls, equivalent to 17 badminton courts. In 2014 there was a lack of strategic cultural facilities in Edmonton Green Town Centre and it is expected that additional library space will be required at Meridian Water.
- 2.7.3 The Retail and Town Centre Study (2014) has a section dedicated to reviewing commercial leisure uses in LBE. As of 2014 there were two full time cinemas within the Borough. The nearest of the two, the Lee Valley Odeon, is located within 2.2km of Meridian Water. There were also four main theatres in the borough (Intimate Theatre, Chickenshed, Skewbald Theatre and Millfield Theatre) and 19 public and private health clubs or gyms.
- 2.7.4 The Retail and Town Centre Study outlines there is scope for an additional 2-3 health and fitness clubs, a 25-30 lane ten pin bowling alley and bingo halls to be built in LBE over the period from 2014 to 2019. Provision of cinema space and theatres is considered as being sufficient to accommodate growth in demand.

<sup>&</sup>lt;sup>22</sup> <u>https://new.enfield.gov.uk/services/libraries/</u>, accessed July 2016.

<sup>&</sup>lt;sup>23</sup> LBE, (2014); Infrastructure Delivery Plan Review.



### **3 ASSUMPTIONS**

#### 3.1 Introduction

- 3.1.1 This section reviews the key assumptions which inform the development scenarios. The following assumptions are reviewed:
  - Spatial scenarios;
  - Dwelling scenarios;
  - Dwelling size mixes;
  - Dwelling tenure mixes; and
  - Dwelling floorspace areas.

#### 3.2 Assumptions

#### **Spatial Scenarios**

3.2.1 The spatial scenarios outline the amount of land which could be available for development within Meridian Water. The four spatial scenarios are presented in **Table 3-1**. The areas of developable land in each spatial scenario were agreed through discussions between LBE, AECOM and KCA and have informed not only this report on housing and supporting infrastructure, but also AECOM's companion report on employment land, industries and jobs.

| Spatial Scenario Number | Scenario Land Usage                                        | Developable Land (ha) |
|-------------------------|------------------------------------------------------------|-----------------------|
| 1                       | 100% Existing Strategic Industrial<br>Land (SIL) Retention | 33.74                 |
| 2                       | 50% SIL Retention, Harbet Road SIL<br>Release              | 38.42                 |
| 3                       | 25% SIL Retention, SIL IBP<br>Released                     | 44.05                 |
| 4                       | 0% existing SIL Retention                                  | 52.05                 |

 Table 3-1: Spatial Scenarios

Source: LBE, KCA and AECOM 2016.

#### **Dwelling Scenarios**

3.2.2 The four dwelling scenarios presented in **Table 3-2** are the second main set of assumptions. The dwelling scenarios feed into generating population yields which determine a number of impacts. The number of dwellings in the four scenarios ranges from 5,000 to 12,000.



#### Table 3-2: Dwelling Scenarios

| Dwelling Scenario Number | Number of Dwellings |  |
|--------------------------|---------------------|--|
| 1                        | 5,000               |  |
| 2                        | 8,000               |  |
| 3                        | 10,000              |  |
| 4                        | 12,000              |  |

Source: LBE, KCA and AECOM 2016.

3.2.3 Social infrastructure demand from the new housing is not assessed by phase and it is assumed all housing identified in each of scenarios will be built out therefore housing delivery timescales are not a factor in this assessment.

#### **Dwelling Size Mixes**

3.2.4 The next main set of assumptions is the dwelling size mixes. These inform the proportion of homes that are 1-2 bedrooms and 3-4 bedrooms when applied to the four dwelling scenarios in **Table 3-2**. The dwelling size mixes are sourced from LBE's Core Strategy (2010), the Strategic Housing Market Assessment (SHMA) Update (2015) and LBE's Development Partner. The mixes are shown in **Table 3-3**.

| Dwelling Size | Core Strategy | Strategic Housing<br>Market Assessment | Development Partner |
|---------------|---------------|----------------------------------------|---------------------|
| 1-2 Bedrooms  | 40%           | 50%                                    | 74%                 |
| 3-4 Bedrooms  | 60%           | 50%                                    | 26%                 |

#### Table 3-3: Dwelling Size Mixes

Source: LBE, (2010); Core Strategy; LBE, (2015); Strategy Housing Market Assessment Update: Final Report; Development Partner preferred Size Mix July 2016.

3.2.5 **Table 3-4** provides an example (using Scenario 2: 8,000 dwellings and the Core Strategy dwelling size mix) of how dwelling size mixes are applied to the dwelling scenarios.

#### Table 3-4: Dwelling Size Mix Application

| Dwellings Scenario          | Dwelling Size Mix (Core<br>Strategy) | Number of Dwellings by Size |
|-----------------------------|--------------------------------------|-----------------------------|
| Scopario 2: 8 000 Dwellings | 40% 1-2 Bedroom Dwellings            | 3,200 1-2 Bedroom Dwellings |
| Scenario 2. 0,000 Dwellings | 60% 3-4 Bedroom Dwellings            | 4,800 3-4 Bedroom Dwellings |

Source: AECOM 2016



### **Dwelling Tenure Mixes**

3.2.6 The next set of assumptions is the dwelling tenure mix. This is the proportion of dwellings which will be private, intermediate or social rented. Dwelling tenure is provided by LBE's Core Strategy (2010) and is presented in **Table 3-5**.

#### Table 3-5: Dwelling Tenure Mix

| Private | Intermediate | Social Rented |
|---------|--------------|---------------|
| 60%     | 12%          | 28%           |

Source: LB Enfield, (2010); Core Strategy.

3.2.7 **Table 3-6** shows how the dwelling tenure mix is applied to a dwelling size mix. The application provides an accommodation schedule which provides the number of dwellings by size and tenure type.

| Number of Dwellings by Size | Dwelling Tenure Mix         | Number of Dwellings by Size<br>and Tenure    |
|-----------------------------|-----------------------------|----------------------------------------------|
|                             | 60% Private Dwellings       | 1,920 1-2 Bedroom Private<br>Dwellings       |
| 3,200 1-2 Bedroom Dwellings | 12% Intermediate Dwellings  | 384 1-2 Bedroom Intermediate<br>Dwellings    |
|                             | 28% Social Rented Dwellings | 896 1-2 Bedroom Social Rented<br>Dwellings   |
|                             | 60% Private Dwellings       | 2,880 3-4 Bedroom Private<br>Dwellings       |
| 4,800 3-4 Bedroom Dwellings | 12% Intermediate Dwellings  | 576 3-4 Bedroom Intermediate<br>Dwellings    |
|                             | 28% Social Rented Dwellings | 1,344 3-4 Bedroom Social Rented<br>Dwellings |

#### Table 3-6: Dwelling Tenure Mix Application

Source: AECOM 2016

#### **Dwelling Floorspace**

3.2.8 **Table 3-7** presents the assumed floorspace area of dwellings which is based on the number of bedrooms.

#### Table 3-7: Dwelling Floorspace

| Number of Bedrooms | Floorspace (sqm) |  |
|--------------------|------------------|--|
| 1-2 Bedrooms       | 66               |  |
| 3-4 Bedrooms       | 105.6            |  |

Source: LBE, AECOM and KCA 2016.

### 4 ASSESSMENT

#### 4.1 Baseline Spatial Implications

4.1.1 **Table 4-1** presents average housing densities required to build sufficient residential units on the land available according to different combinations of spatial scenarios and dwelling scenarios. Densities were calculated by dividing the number of dwellings with the total area of developable land.

| Total Number<br>of Dwellings | Spatial Scenario<br>1 (dwellings per<br>ha) | Spatial Scenario<br>2 (dwellings per<br>ha) | Spatial Scenario<br>3 (dwellings per<br>ha) | Spatial Scenario<br>4 (dwellings per<br>ha) |
|------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|
| 5,000                        | 148                                         | 130                                         | 114                                         | 96                                          |
| 8,000                        | 237                                         | 208                                         | 218                                         | 154                                         |
| 10,000                       | 296                                         | 260                                         | 227                                         | 192                                         |
| 12,000                       | 356                                         | 312                                         | 272                                         | 231                                         |

#### Table 4-1: Housing Densities by Spatial Scenario

Source: AECOM 2016.

4.1.2 Housing densities are highest for scenario 1 given 100% SIL retention means this scenario has the lowest amount of developable land (33.74ha). The housing densities for scenario 1 range from 148 to 356 dwellings per hectare across the four dwelling scenarios. Within the context of the GLA housing density matrix, these densities can fall into either of the urban (35-260 dwellings per ha) or central (35-405 dwellings per ha) character typologies<sup>24</sup>. Spatial scenario 4 has the lowest dwelling densities of all the scenarios due to having the highest amount of developable land. Releasing all of the existing SIL will lead to a total of 52.05ha of land being available for development in scenario 4; a 54.3% increase over spatial scenario 1. This results in dwelling densities of between 96 and 231 dwellings per hectare.

### 4.2 Dwelling Size Mixes Impacts

### **Population Yields**

4.2.1 This part of the assessment section reviews the impact of the dwelling size mixes (Core Strategy, SHMA and Development Partner) on population sizes and population densities. Population sizes have been calculated by applying the different combinations of dwelling mixes by size and tenure to population yields from the Wandsworth New Housing Survey (2004)<sup>25</sup>. The GLA Population Yield Calculator<sup>26</sup> assumes the population yield for private and intermediate dwellings are the same, while the New Housing Survey separates the two as per the approach in the Core Strategy tenure mix. Therefore, the New Housing Survey population yields have been used for ease of applying the Core Strategy tenure mix.

<sup>26</sup> GLA, (2014); GLA Population Yield Calculator.

<sup>&</sup>lt;sup>24</sup> GLA, (2012); Housing Supplementary Planning Guidance.

<sup>&</sup>lt;sup>25</sup> London Borough of Wandsworth (LB Wandsworth), (2004); New Housing Survey. The Wandsworth Housing new Housing Survey 2004 yields have been used rather than the Re-survey 2007, due to the Re-survey having a limited sample size as well as a number of gaps in the yields for certain dwelling typologies.



4.2.2 To apply the New Housing Survey yields, one to two bedroom dwellings are assumed to represent two bedrooms and three to four bedroom dwellings are assumed to represent four bedrooms to represents a 'maximum' case'<sup>27</sup>.

#### Core Strategy

4.2.3 The Core Strategy dwelling size mix was applied to all four dwelling scenarios using the method outlined in **Table 3-6**. These were then combined with the New Housing Survey (2004) population yields to estimate the number of residents generated by each dwelling scenario. The results are presented in **Table 4-2**.

| Total Number of Dwellings | Private | Intermediate | Social Rented | Total  |
|---------------------------|---------|--------------|---------------|--------|
| 5,000                     | 7,050   | 1,410        | 4,743         | 13,203 |
| 8,000                     | 11,280  | 2,256        | 7,589         | 21,125 |
| 10,000                    | 14,100  | 2,820        | 9,486         | 26,406 |
| 12,000                    | 16,920  | 3,384        | 11,384        | 31,688 |

#### Table 4-2: Population Core Strategy Mix

- 4.2.4 Depending upon the dwelling scenario, the population sizes range from 13,203 to 31,688 residents. The population yields from the New Housing Survey estimate that more people will occupy a social rented dwelling than an intermediate or market unit. This means that 35.9% of all residents are estimated to live in the social rented units, despite only 28% of dwellings being social rented in the Core Strategy tenure mix.
- 4.2.5 The total population results from **Table 4-2** when divided by the area of developable land for the different spatial scenarios result in the population densities shown in **Table 4-3**.

<sup>&</sup>lt;sup>27</sup> The maximum case represents the highest possible number of residents in order to generate the highest possible social infrastructure demand from the development scenarios.



| Total Number<br>of Dwellings | Spatial Scenario<br>1 (residents per<br>ha) | Spatial Scenario<br>2 (residents per<br>ha) | Spatial Scenario<br>3 (residents per<br>ha) | Spatial Scenario<br>4 (residents per<br>ha) |
|------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|
| 5,000                        | 391                                         | 344                                         | 300                                         | 254                                         |
| 8,000                        | 626                                         | 550                                         | 480                                         | 406                                         |
| 10,000                       | 783                                         | 687                                         | 599                                         | 507                                         |
| 12,000                       | 939                                         | 825                                         | 719                                         | 609                                         |

#### Table 4-3: Population Density Core Strategy Mix by Spatial Scenario

Source: AECOM 2016.

4.2.6 For scenario 1, densities range between 391 and 939 residents per hectare of developable land. These densities are highest of the four spatial scenarios and three dwelling size mixes as scenario 1 has the lowest amount of developable land, and the Core Strategy dwelling size mix has the highest proportion of 3-4 bed dwellings. The lowest population densities are for spatial scenario 4 which range from 254 to 609 residents per hectare.

#### **SHMA**

4.2.7 The SHMA dwelling size mix was applied to all four dwelling scenarios using the process shown in **Table 3-6**Error! Reference source not found. The New House Survey (2004) population yields were then applied to estimate the number of residents generated by each dwelling scenario. The results are shown in **Table 4-4**.

#### Table 4-4: Population SHMA Mix

| Total Number of Dwellings | Private | Intermediate | Social Rented | Total  |
|---------------------------|---------|--------------|---------------|--------|
| 5,000                     | 6,780   | 1,356        | 4,508         | 12,644 |
| 8,000                     | 10,848  | 2,170        | 7,213         | 20,230 |
| 10,000                    | 13,560  | 2,712        | 9,016         | 25,288 |
| 12,000                    | 16,272  | 3,254        | 10,819        | 30,346 |

- 4.2.8 The SHMA dwelling size mix population yields vary between 12,644 and 30,346 residents, depending on which dwelling scenario is used. The population estimates are lower than those calculated using the Core Strategy dwelling size mix.
- 4.2.9 The SHMA population results when divided by the area of developable land in spatial scenario 1 generate population densities of between 375 and 899 residents per hectare. The population densities for the SHMA mix and by spatial scenario are shown in **Table 4-5**.

| Total Number of Dwellings | Spatial<br>Scenario 1<br>(residents per<br>ha) | Spatial<br>Scenario 2<br>(residents<br>per ha) | Spatial<br>Scenario 3<br>(residents per<br>ha) | Spatial<br>Scenario 4<br>(residents per<br>ha) |
|---------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| 5,000                     | 375                                            | 329                                            | 287                                            | 243                                            |
| 8,000                     | 600                                            | 527                                            | 459                                            | 389                                            |
| 10,000                    | 749                                            | 658                                            | 574                                            | 486                                            |
| 12,000                    | 899                                            | 790                                            | 689                                            | 583                                            |

#### Table 4-5: Population Density: SHMA Mix by Spatial Scenario

Source: AECOM 2016.

#### **Development Partner**

4.2.10 The Development Partner dwelling size mix was applied to all four dwelling scenarios using the method outlined in **Table 3-6**Error! Reference source not found. The New House Survey (2004) population yields were then applied to estimate the number of residents related to each dwelling scenario. The results are shown in **Table 4-6**.

#### 4.2.11 Table 4-6: Population Development Partner Mix

| Total Number of Dwellings | Private | Intermediate | Social Rented | Total  |
|---------------------------|---------|--------------|---------------|--------|
| 5,000                     | 6,132   | 1,226        | 3,944         | 11,302 |
| 8,000                     | 9,811   | 1,962        | 6,310         | 18,083 |
| 10,000                    | 12,264  | 2,453        | 7,887         | 22,604 |
| 12,000                    | 14,717  | 2,943        | 9,464         | 27,125 |

- 4.2.12 The Development Partner dwelling size mix produces the lowest population yields for each dwelling scenario as the mix has the lowest proportion of 3-4 bed homes. The population yields range between 11,302 and 27,125 residents in total.
- 4.2.13 As with the population yields, the Development Partner dwelling mix produces the lowest population densities of the three development size mixes. The population densities for the Development Partner mix and by spatial scenario are presented in **Table 4-7**.



#### Table 4-7: Population Density Development Partner Mix by Spatial Scenario

| Source  | AFCOM | 20. | 16 |
|---------|-------|-----|----|
| Source. | ALCON | 20  | 10 |

| Total Number<br>of Dwellings | Spatial Scenario<br>1 (residents per<br>ha) | Spatial Scenario<br>2 (residents per<br>ha) | Spatial Scenario<br>2 (residents per<br>ha) | Spatial Scenario<br>4 (Residents per<br>ha) |
|------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|
| 5,000                        | 335                                         | 294                                         | 257                                         | 217                                         |
| 8,000                        | 536                                         | 471                                         | 411                                         | 347                                         |
| 10,000                       | 670                                         | 588                                         | 513                                         | 434                                         |
| 12,000                       | 804                                         | 706                                         | 616                                         | 521                                         |

Source: AECOM 2016.

#### 4.3 Affordable Housing

4.3.1 The Core Strategy tenure mix applied to each dwelling scenario produces from 600-1,440 intermediate dwellings and 1,400-3,360 social rented dwellings. The full ranges are presented in **Table 4-8**.

| Total Number of Dwellings | Intermediate | Social Rented | Total |
|---------------------------|--------------|---------------|-------|
| 5,000                     | 600          | 1,400         | 2,000 |
| 8,000                     | 960          | 2,240         | 3,200 |
| 10,000                    | 1,200        | 2,800         | 4,000 |
| 12,000                    | 1,440        | 3,360         | 4,800 |

#### Table 4-8: Number of Affordable Homes by Dwelling Scenario

Source: AECOM 2016.

4.3.2 To benchmark the number of social rented and intermediate dwellings from **Table 4-8** in the context of LBE. The annual dwelling targets from the Core Strategy (732 dwellings) and MALP (798 dwellings), and annual affordable dwelling target from the SHMA (906 dwellings) have had the Core Strategy tenure mix applied to create targets for the provision of social rented and intermediate dwellings. The targets are shown in **Table 4-9**.



| Target        | Core Strategy (No of dwellings) | London Plan (No of<br>dwellings) | SHMA (No of dwellings) |
|---------------|---------------------------------|----------------------------------|------------------------|
| Social Rented | 205                             | 219                              | 635                    |
| Intermediate  | 88                              | 94                               | 271                    |
| Total         | 293                             | 313                              | 906                    |

#### Table 4-9: Annual Social Rented and Intermediate Housing Targets

Source: LBE, (2010); Core Strategy; GLA, (2016); Minor Alterations to the London Plan; AECOM 2016.

4.3.3 **Figure 4-1** shows the numbers of social rented and intermediate dwellings from **Table 4-8** and annual affordable dwelling targets from **Table 4-9**. If the largest total number of affordable dwellings (4,800) from **Table 4-8** were built, it would fulfil the equivalent of 5.3 years of the number of total affordable dwellings as set out in the SHMA and over 10 years as set out in the MALP and Core Strategy documents.



#### Figure 4-1: Social Rented and Intermediate Housing

4.3.4 The affordable dwelling numbers shown in **Table 4-8** when divided by the area of developable land in spatial scenario 1 results in densities of between 41 and 100 social rented dwellings per hectare, and between 18 and 43 intermediate dwellings per hectare. Spatial scenario 4

Source: AECOM 2016.

generates densities of between 27 to 65 social rented dwellings per hectare, and between 12 and 28 intermediate dwellings per hectare. Further details are provided in **Table 4-10**.

| Spatial Scenario | Total Number of<br>Dwellings | Social Rented<br>(Dwellings per ha) | Intermediate (Dwellings per ha) |
|------------------|------------------------------|-------------------------------------|---------------------------------|
|                  | 5,000                        | 41                                  | 18                              |
| 4                | 8,000                        | 66                                  | 28                              |
| I                | 10,000                       | 83                                  | 36                              |
|                  | 12,000                       | 100                                 | 43                              |
|                  | 5,000                        | 36                                  | 16                              |
| 0                | 8,000                        | 58                                  | 25                              |
| 2                | 10,000                       | 73                                  | 31                              |
|                  | 12,000                       | 87                                  | 37                              |
|                  | 5,000                        | 32                                  | 14                              |
| 2                | 8,000                        | 51                                  | 22                              |
| 3                | 10,000                       | 64                                  | 27                              |
|                  | 12,000                       | 76                                  | 33                              |
| 4                | 5,000                        | 27                                  | 12                              |
|                  | 8,000                        | 43                                  | 18                              |
|                  | 10,000                       | 54                                  | 23                              |
|                  | 12,000                       | 65                                  | 28                              |

Table 4-10: Affordable Dwelling Densities by Spatial Scenario

Source: AECOM 2016.

#### 4.4 **Open Space**

4.4.1 The LBE Open Space and Sports Assessment Update (2011) suggests a ratio of 2.37ha of public parks per 1,000 Enfield residents. This ratio takes into account open spaces classified in line with the MALP open space hierarchy (metropolitan parks, district parks, local parks, small local parks and open spaces, pocket parks and linear open spaces), so is consistent with current planning policy. The population estimates from Table 4-2, Table 4-4 and Table 4-6 have been applied to the ratio to calculate the amount of open space that would be required assuming a ratio of 2.37ha. Table 4-11 presents the open space provision by dwelling scenario and development mix.



#### Table 4-11: Open Space Provision

| Total Number of<br>Dwellings | Core Strategy Mix<br>(ha) | SHMA Mix (ha) | Development Partner<br>Mix (ha) |
|------------------------------|---------------------------|---------------|---------------------------------|
| 5,000                        | 31.3                      | 30.0          | 26.8                            |
| 8,000                        | 50.1                      | 47.9          | 42.9                            |
| 10,000                       | 62.6                      | 59.9          | 53.6                            |
| 12,000                       | 75.1                      | 71.9          | 64.3                            |

Source: AECOM 2016.

4.4.2 Open space provision presented in **Table 4-11** ranges from 26.8ha to 75.1ha. These areas should be considered as a 'maximum' scenario. As shown in **Section 2**, there is a supply of local open space that could potentially absorb some of the demand created by new residents within Meridian Water. **Figure 4-2** shows the open space areas from **Table 4-11**.



Figure 4-2: Open Space Provision



#### Play Space

4.4.3 The amount of child play space yielded by development in Meridian Water by dwelling scenario and size mix is shown in **Table 4-12.** The play space areas are based upon the GLA's Children and Young People's Play and Informal Recreation SPG (2012) recommended standard of a minimum of 10sqm dedicated play space per child. The recommended areas of play space range from 2.5ha (Development Partner Mix, 5,000 dwelling scenario) to 8.3ha (Core Strategy mix, 12,000 dwelling scenario).

#### Table 4-12: Play Space Provision

| Number of Dwellings | Core Strategy Mix<br>Play Space (ha) | SHMA Mix Play Space<br>(ha) | Development Partner<br>Mix Play Space (ha) |
|---------------------|--------------------------------------|-----------------------------|--------------------------------------------|
| 5,000               | 3.5                                  | 3.2                         | 2.5                                        |
| 8,000               | 5.6                                  | 5.1                         | 4.0                                        |
| 10,000              | 6.9                                  | 6.4                         | 5.0                                        |
| 12,000              | 8.3                                  | 7.7                         | 6.0                                        |

Source: AECOM 2016.

4.4.4 The baseline (**Section 2**) shows there are several play spaces within 0.8km of the Meridian Water boundary. These existing play spaces could potentially absorb some of the play space demand created by the development within the Meridian Water boundary.

#### 4.5 Retail

- 4.5.1 To calculate gross retail floorspace demand, leakage rates and expenditure per area of floorspace assumptions have been sourced from the LBE's Retail and Town Centre Study (2014). We have used expenditure per type of good figures from the GLA's Consumer Expenditure and Comparison Goods Floorspace Need in London Summary Report (2013)<sup>28</sup> (convenience goods £2,267, comparison goods £4,844 and food and beverages £1,565)<sup>29</sup> which analyses expenditure at a London wide level as we believe this provides a stronger representation of future Meridian Water residents.
- 4.5.2 The expenditure figures are multiplied using the population yields to get total gross expenditure figures by goods type. Leakage rates (convenience goods 70%, comparison goods 90% and food and beverages 70% respectively) are then applied to estimate how much of the gross expenditure will remain within Meridian Water, generating figures for net total expenditure. Expenditure per sqm of floorspace types (convenience goods £13,000 per sqm, comparison goods £8,690 per sqm and food and beverages £5,523 per sqm respectively) is then applied to the net total expenditure figures to calculate the total areas of retail floorspace required. The results are shown in **Table 4-13**.

<sup>&</sup>lt;sup>28</sup> GLA, (2013); Consumer Expenditure and Comparison Goods Floorspace Need in London: Summary Report.

<sup>&</sup>lt;sup>29</sup> The expenditure figures taken from the Consumer Expenditure and Comparison Goods Floorspace Need in London (2013) are from the very high expenditure scenario for 2031. The very high scenario was chosen to take into account the growth potential of Meridian Water due to being located in the Upper Lea Valley and a Crossrail 2 station being located within it.

| Goods Typology    | Total Number<br>of Dwellings | Core Strategy<br>Mix (sqm) | SH MA Mix<br>(sqm) | Development<br>Partner Mix<br>(sqm) |
|-------------------|------------------------------|----------------------------|--------------------|-------------------------------------|
|                   | 5,000                        | 987                        | 946                | 845                                 |
| Convenience Coode | 8,000                        | 1,580                      | 1,513              | 1,352                               |
| Convenience Goods | 10,000                       | 1,975                      | 1,891              | 1,690                               |
|                   | 12,000                       | 2,370                      | 2,269              | 2,028                               |
|                   | 5,000                        | 981                        | 939                | 840                                 |
| Comparison Goods  | 8,000                        | 1,569                      | 1,503              | 1,343                               |
|                   | 10,000                       | 1,962                      | 1,879              | 1,679                               |
|                   | 12,000                       | 2,354                      | 2,254              | 2,015                               |
|                   | 5,000                        | 1,122                      | 1,075              | 961                                 |
|                   | 8,000                        | 1,796                      | 1,720              | 1,537                               |
| Fudu and beverage | 10,000                       | 2,245                      | 2,150              | 1,922                               |
|                   | 12,000                       | 2,694                      | 2,580              | 2,306                               |
|                   | 5,000                        | 3,091                      | 2,960              | 2,646                               |
|                   | 8,000                        | 4,945                      | 4,736              | 4,233                               |
| iotai             | 10,000                       | 6,181                      | 5,920              | 5,291                               |
|                   | 12,000                       | 7,418                      | 7,103              | 6,349                               |

#### Table 4-13: Retail (Gross) Floorspace

- 4.5.3 The amount of gross external area (GEA) floorspace required to absorb convenience and comparison goods expenditure is of a similar amount, while food and beverage floorspace is estimated to be a significantly higher amount. This is due to food and beverages having the lowest leakage rate and expenditure per square metre of floorspace. The highest total floorspace requirement is for the 12,000 dwelling scenario combined with the Core Strategy dwelling size mix (7,418sqm gross). The lowest floorspace area is for the 5,000 dwelling scenario with the Development Partner size mix applied (2,646sqm gross).
- 4.5.4 The Retail and Town Centre Study's (2014) generated gross floorspace requirements of: convenience goods floorspace 746sqm, comparison goods floorspace 813sqm; and food and beverages floorspace 860sqm. The calculations assume a scenario where 5,000 dwellings are built and 2.4 people reside in each dwelling, giving a total population of 12,000 people.

4.5.5 **Table 4-14** shows the different retail typologies from **Table 4-13** converted to net internal area (NIA)<sup>30</sup>. The total areas of floorspace converted to NIA range between 2,037m<sup>2</sup> and 5,712m<sup>2</sup>, depending on the dwelling scenario and dwelling size mix combination.

| Goods Typology    | Total Number<br>of Dwellings | Core Strategy<br>Mix (sqm) | SH MA Mix<br>(sqm) | Development<br>Partner Mix<br>(sqm) |
|-------------------|------------------------------|----------------------------|--------------------|-------------------------------------|
|                   | 5,000                        | 760                        | 728                | 651                                 |
| Convenience Coode | 8,000                        | 1,216                      | 1,165              | 1,041                               |
| Convenience Goods | 10,000                       | 1,521                      | 1,456              | 1,302                               |
|                   | 12,000                       | 1,825                      | 1,747              | 1,562                               |
|                   | 5,000                        | 755                        | 723                | 647                                 |
| Comparison Goods  | 8,000                        | 1,208                      | 1,157              | 1,034                               |
|                   | 10,000                       | 1,511                      | 1,447              | 1,293                               |
|                   | 12,000                       | 1,813                      | 1,736              | 1,552                               |
|                   | 5,000                        | 864                        | 828                | 740                                 |
|                   | 8,000                        | 1,383                      | 1,324              | 1,184                               |
| Food and beverage | 10,000                       | 1,728                      | 1,655              | 1,480                               |
|                   | 12,000                       | 2,074                      | 1,986              | 1,775                               |
|                   | 5,000                        | 2,380                      | 2,279              | 2,037                               |
| Total             | 8,000                        | 3,808                      | 3,646              | 3,259                               |
|                   | 10,000                       | 4,760                      | 4,558              | 4,074                               |
|                   | 12,000                       | 5,712                      | 5,470              | 4,889                               |

#### Table 4-14: Retail Floorspace (NIA)

4.5.6 **Table 4-15** presents the total gross retail floorspace requirements for each dwelling scenario and size mix combination divided by the developable land area in each spatial scenario. The areas of floorspace vary between 78sqm per hectare to 220sqm per hectare. Spatial scenario 4 produces lower densities than scenario 1, the densities range from 51sqm to 143sqm per hectare of developable land.

<sup>&</sup>lt;sup>30</sup> Conversion ratio (a 23% increase from gross external area to net internal area) derived from Housing and Communities Agency (2015) Employment Densities Guide.

| Spatial<br>Scenario | Total Number of<br>Dwellings | Core Strategy Mix<br>(sqm per ha) | SHMA Mix (sqm<br>per ha) | Development<br>Partner Mix (sqm<br>per ha) |
|---------------------|------------------------------|-----------------------------------|--------------------------|--------------------------------------------|
|                     | 5,000                        | 92                                | 88                       | 78                                         |
| 1                   | 8,000                        | 147                               | 140                      | 125                                        |
| I                   | 10,000                       | 183                               | 175                      | 157                                        |
|                     | 12,000                       | 220                               | 211                      | 188                                        |
|                     | 5,000                        | 80                                | 77                       | 69                                         |
| 2                   | 8,000                        | 129                               | 123                      | 110                                        |
| 2                   | 10,000                       | 161                               | 154                      | 138                                        |
|                     | 12,000                       | 193                               | 185                      | 165                                        |
|                     | 5,000                        | 70                                | 67                       | 60                                         |
|                     | 8,000                        | 112                               | 108                      | 96                                         |
| 5                   | 10,000                       | 140                               | 134                      | 120                                        |
|                     | 12,000                       | 168                               | 161                      | 144                                        |
|                     | 5,000                        | 59                                | 57                       | 51                                         |
| 4                   | 8,000                        | 95                                | 91                       | 81                                         |
|                     | 10,000                       | 119                               | 114                      | 102                                        |
|                     | 12,000                       | 143                               | 136                      | 122                                        |

#### Table 4-15: Gross Floorspace per Hectare of Developable Land by Spatial Scenario

Source: AECOM 2016.

4.5.7 **Table 4-16** presents the total NIA retail floorspace requirements for each dwelling scenario and size mix combination divided by the developable land area in each spatial scenario. The floorspace ranges range between 39sqm and 169sqm per hectare of developable land. Of the four spatial scenarios scenario one produces the largest range of 60sqm to 169sqm per hectare, while scenario 4 produces the lowest of 39sqm to 110sqm per hectare.

| Spatial<br>Scenario | Total Number of<br>Dwellings | Core Strategy Mix<br>(sqm per ha) | SHMA Mix (sqm<br>per ha) | Development<br>Partner Mix (sqm<br>per ha) |
|---------------------|------------------------------|-----------------------------------|--------------------------|--------------------------------------------|
|                     | 5,000                        | 71                                | 68                       | 60                                         |
| 4                   | 8,000                        | 113                               | 108                      | 97                                         |
| I                   | 10,000                       | 141                               | 135                      | 121                                        |
|                     | 12,000                       | 169                               | 162                      | 145                                        |
|                     | 5,000                        | 62                                | 59                       | 53                                         |
| 2                   | 8,000                        | 99                                | 95                       | 85                                         |
| 2                   | 10,000                       | 124                               | 119                      | 106                                        |
|                     | 12,000                       | 149                               | 142                      | 127                                        |
|                     | 5,000                        | 54                                | 52                       | 46                                         |
| 2                   | 8,000                        | 86                                | 83                       | 74                                         |
| 3                   | 10,000                       | 108                               | 103                      | 92                                         |
|                     | 12,000                       | 130                               | 124                      | 111                                        |
| 4                   | 5,000                        | 46                                | 44                       | 39                                         |
|                     | 8,000                        | 73                                | 70                       | 63                                         |
|                     | 10,000                       | 91                                | 88                       | 78                                         |
|                     | 12,000                       | 110                               | 105                      | 94                                         |

Table 4-16: Floorspace (Net Internal Area) per Hectare of Developable Land by Spatial **Scenario** 

Source: AECOM 2016.

#### 4.6 Leisure and Culture

4.6.1 Additional residents in Meridian Water could lead to a need for an increased provision of particular types of leisure and cultural infrastructure. The following assumptions have been applied to the population yields from Table 4-2, Table 4-4 and Table 4-6 to estimate potential provision for different types of leisure and cultural infrastructure based on the following benchmarks: 5,000 residents per pool lane; 3,550 residents per sports court<sup>31</sup>; 1,000 residents per 30sqm of library floorspace<sup>32</sup>; and 1,000 residents per 45sqm of arts and culture floorspace<sup>33</sup>. Different types of infrastructure have been included in this section to illustrate potential leisure and cultural provision depending on if this specific infrastructure is actually

<sup>&</sup>lt;sup>31</sup> Sport England, (2014); Sports Facility Calculator.

 <sup>&</sup>lt;sup>32</sup> London Legacy Development Corporation (LLDC), (2012); Infrastructure Delivery Plan.
 <sup>33</sup> Museums, Libraries and Archives Council. (2010); Arts, Museums and New Development: A Standard Charge Approach.



required. It is not envisaged that all of this infrastructure would be required. The results are shown in **Table 4-17**. Potential levels of leisure and culture infrastructure need vary depending upon the dwelling scenario and dwelling size mix (Core Strategy, SHMA and Development Partner) combination. For example, comparing the 12,000 dwelling scenario and Core Strategy dwelling size mix with the benchmarks referred to above produces 6.3 swimming pool lanes and 951sqm of library floorspace. In comparison, the SHMA dwelling size mix combined with the same dwelling scenario generates 6.1 swimming pool lanes and 910sqm of library floorspace.

| Infrastructure Typology         | Total Number<br>of Dwellings | Core Strategy<br>Mix | SHMA Mix | Development<br>Partner Mix |
|---------------------------------|------------------------------|----------------------|----------|----------------------------|
|                                 | 5,000                        | 2.6                  | 2.5      | 2.3                        |
| Swimming Pools (No of Lanes)    | 8,000                        | 4.2                  | 4.0      | 3.6                        |
| Swithining 1 0013 (NO OF Lanes) | 10,000                       | 5.3                  | 5.1      | 4.5                        |
|                                 | 12,000                       | 6.3                  | 6.1      | 5.4                        |
|                                 | 5,000                        | 3.7                  | 3.6      | 3.2                        |
| Sports Courts (No of Courts)    | 8,000                        | 6.0                  | 5.7      | 5.1                        |
| Sports Courts (No of Courts)    | 10,000                       | 7.4                  | 7.1      | 6.4                        |
|                                 | 12,000                       | 8.9                  | 8.5      | 7.6                        |
|                                 | 5,000                        | 396                  | 379      | 339                        |
| Librarios (com)                 | 8,000                        | 634                  | 607      | 542                        |
|                                 | 10,000                       | 792                  | 759      | 678                        |
|                                 | 12,000                       | 951                  | 910      | 814                        |
| Arts and Culture (sqm)          | 5,000                        | 594                  | 569      | 509                        |
|                                 | 8,000                        | 951                  | 910      | 814                        |
|                                 | 10,000                       | 1,188                | 1,138    | 1,017                      |
|                                 | 12,000                       | 1,426                | 1,366    | 1,221                      |

#### Table 4-17: Leisure and Culture Infrastructure Provision

- 4.6.2 The results in **Table 4-17** should be considered as a 'maximum' scenario. Existing leisure and culture infrastructure should be able to absorb some of the demand from development at Meridian Water.
- 4.6.3 **Table 4-18**, **Table 4-19**, **Table 4-20** and **Table 4-21** show the recommended amounts of each infrastructure typology per hectare of developable land for each spatial scenario. In scenario 1 number of sports courts per hectare of developable land ranges from 0.09-0.26, depending on



the dwelling scenario and dwelling size mix combination. The area of arts and culture floorspace varies between 15.1sqm and 42.3sqm per hectare. In scenario 4 the densities decrease to from 0.06 - 0.17 sports courts per hectare, and from 9.8sqm to 27.4sqm of arts and culture floorspace per hectare.

| Infrastructure Typology               | Total<br>Number of<br>Dwellings | Core<br>Strategy Mix | SH MA Mix | Development<br>Partner Mix |
|---------------------------------------|---------------------------------|----------------------|-----------|----------------------------|
|                                       | 5,000                           | 0.08                 | 0.07      | 0.07                       |
| Swimming Pools (No of Lanes per ba)   | 8,000                           | 0.13                 | 0.12      | 0.11                       |
| Swithining Fools (No of Lanes per ha) | 10,000                          | 0.16                 | 0.15      | 0.13                       |
|                                       | 12,000                          | 0.19                 | 0.18      | 0.16                       |
|                                       | 5,000                           | 0.11                 | 0.11      | 0.09                       |
| Sports Courts (No of Courts por ba)   | 8,000                           | 0.18                 | 0.17      | 0.15                       |
| Sports Courts (No or Courts per ha)   | 10,000                          | 0.22                 | 0.21      | 0.19                       |
|                                       | 12,000                          | 0.26                 | 0.25      | 0.23                       |
|                                       | 5,000                           | 11.7                 | 11.2      | 10.0                       |
| Librarios (com por ba)                | 8,000                           | 18.8                 | 18.0      | 16.1                       |
|                                       | 10,000                          | 23.5                 | 22.5      | 20.1                       |
|                                       | 12,000                          | 28.2                 | 27.0      | 24.1                       |
|                                       | 5,000                           | 17.6                 | 16.9      | 15.1                       |
| Arts and Culture (sqm per ha)         | 8,000                           | 28.2                 | 27.0      | 24.1                       |
|                                       | 10,000                          | 35.2                 | 33.7      | 30.1                       |
|                                       | 12,000                          | 42.3                 | 40.5      | 36.2                       |

### Table 4-18: Spatial Scenario 1 Leisure and Culture Infrastructure Densities

| Infrastructure Typology             | Total<br>Number of<br>Dwellings | Core<br>Strategy Mix | SH MA Mix | Development<br>Partner Mix |
|-------------------------------------|---------------------------------|----------------------|-----------|----------------------------|
|                                     | 5,000                           | 0.07                 | 0.07      | 0.06                       |
| Swimming Pools (No of Langs por ba) | 8,000                           | 0.11                 | 0.11      | 0.09                       |
| Swimming Pools (No of Lanes per na) | 10,000                          | 0.14                 | 0.13      | 0.12                       |
|                                     | 12,000                          | 0.16                 | 0.16      | 0.14                       |
|                                     | 5,000                           | 0.10                 | 0.09      | 0.08                       |
| Sports Courts (No of Courts per ha) | 8,000                           | 0.15                 | 0.15      | 0.13                       |
|                                     | 10,000                          | 0.19                 | 0.19      | 0.17                       |
|                                     | 12,000                          | 0.23                 | 0.22      | 0.20                       |
|                                     | 5,000                           | 10.3                 | 9.9       | 8.8                        |
| Librarios (com por ba)              | 8,000                           | 16.5                 | 15.8      | 14.1                       |
|                                     | 10,000                          | 20.6                 | 19.7      | 17.7                       |
|                                     | 12,000                          | 24.7                 | 23.7      | 21.2                       |
|                                     | 5,000                           | 15.5                 | 14.8      | 13.2                       |
| Arts and Culture (sqm per ha)       | 8,000                           | 24.7                 | 23.7      | 21.2                       |
|                                     | 10,000                          | 30.9                 | 29.6      | 26.5                       |
|                                     | 12,000                          | 37.1                 | 35.5      | 31.8                       |

### Table 4-19: Spatial Scenario 2 Leisure and Culture Infrastructure Densities

| Infrastructure Typology             | Total<br>Number of<br>Dwellings | Core<br>Strategy Mix | SH MA Mix | Developmen<br>t Partner Mix |
|-------------------------------------|---------------------------------|----------------------|-----------|-----------------------------|
|                                     | 5,000                           | 0.06                 | 0.06      | 0.05                        |
| Swimming Pools (No of Langs por ba) | 8,000                           | 0.10                 | 0.09      | 0.08                        |
| Swimming Pools (No of Lanes per na) | 10,000                          | 0.12                 | 0.11      | 0.10                        |
|                                     | 12,000                          | 0.14                 | 0.14      | 0.12                        |
|                                     | 5,000                           | 0.08                 | 0.08      | 0.07                        |
| Sports Courts (No of Courts por ba) | 8,000                           | 0.14                 | 0.13      | 0.12                        |
| Sports Courts (No of Courts per ha) | 10,000                          | 0.17                 | 0.16      | 0.14                        |
|                                     | 12,000                          | 0.20                 | 0.19      | 0.17                        |
|                                     | 5,000                           | 9.0                  | 8.6       | 7.7                         |
| Librarias (com par ba)              | 8,000                           | 14.4                 | 13.8      | 12.3                        |
| Libraries (sqiff per fia)           | 10,000                          | 18.0                 | 17.2      | 15.4                        |
|                                     | 12,000                          | 21.6                 | 20.7      | 18.5                        |
|                                     | 5,000                           | 13.5                 | 12.9      | 11.5                        |
| Arts and Culture (sqm per ha)       | 8,000                           | 21.6                 | 20.7      | 18.5                        |
|                                     | 10,000                          | 27.0                 | 25.8      | 23.1                        |
|                                     | 12,000                          | 32.4                 | 31.0      | 27.7                        |

### Table 4-20: Spatial Scenario 3 Leisure and Culture Infrastructure Densities

| Infrastructure Typology             | Total<br>Number of<br>Dwellings | Core<br>Strategy Mix | SH MA Mix | Developmen<br>t Partner Mix |
|-------------------------------------|---------------------------------|----------------------|-----------|-----------------------------|
|                                     | 5,000                           | 0.05                 | 0.05      | 0.04                        |
| Swimming Pools (No of Langs por ba) | 8,000                           | 0.08                 | 0.08      | 0.07                        |
| Swimming Pools (No of Lanes per na) | 10,000                          | 0.10                 | 0.10      | 0.09                        |
|                                     | 12,000                          | 0.12                 | 0.12      | 0.10                        |
|                                     | 5,000                           | 0.07                 | 0.07      | 0.06                        |
| Sports Courts (No of Courts por ba) | 8,000                           | 0.11                 | 0.11      | 0.10                        |
| Sports Courts (No or Courts per ha) | 10,000                          | 0.14                 | 0.14      | 0.12                        |
|                                     | 12,000                          | 0.17                 | 0.16      | 0.15                        |
|                                     | 5,000                           | 7.6                  | 7.3       | 6.5                         |
| Librarios (com por ba)              | 8,000                           | 12.2                 | 11.7      | 10.4                        |
|                                     | 10,000                          | 15.2                 | 14.6      | 13.0                        |
|                                     | 12,000                          | 18.3                 | 17.5      | 15.6                        |
|                                     | 5,000                           | 11.4                 | 10.9      | 9.8                         |
| Arts and Culture (sqm per ha)       | 8,000                           | 18.3                 | 17.5      | 15.6                        |
|                                     | 10,000                          | 22.8                 | 21.9      | 19.5                        |
|                                     | 12,000                          | 27.4                 | 26.2      | 23.5                        |

### Table 4-21: Spatial Scenario 4 Leisure and Culture Infrastructure Densities



### 4.7 Health

4.7.1 To estimate the potential number of GPs and dentists required to service the health of new residents in Meridian Water, the population yields from **Table 4-2**, **Table 4-4** and **Table 4-6** have been applied to the following ratios: 1,800 registered patients per GP; and 2,000 registered patients per dentist<sup>34</sup>. The results are shown in **Table 4-22**.

| Medical Professional | Total Number<br>of Dwellings | Core Strategy<br>Mix (no of) | SHMA Mix (no<br>of) | Development<br>Partner Mix (no<br>of) |
|----------------------|------------------------------|------------------------------|---------------------|---------------------------------------|
|                      | 5,000                        | 7.3                          | 7.0                 | 6.3                                   |
| GPs                  | 8,000                        | 11.7                         | 11.2                | 10.0                                  |
| Grs                  | 10,000                       | 14.7                         | 14.0                | 12.6                                  |
|                      | 12,000                       | 17.6                         | 16.9                | 15.1                                  |
|                      | 5,000                        | 6.6                          | 6.3                 | 5.7                                   |
| Dentists             | 8,000                        | 10.6                         | 10.1                | 9.0                                   |
|                      | 10,000                       | 13.2                         | 12.6                | 11.3                                  |
|                      | 12,000                       | 15.8                         | 15.2                | 13.6                                  |

#### Table 4-22: Number of GPs and Dentists

- 4.7.2 The estimated number of GPs ranges from 6.3 to 17.6, while the number of dentists varies between 5.7 and 15.8.
- 4.7.3 Based upon HUDU guidance, the area of floorspace each GP is estimated to take up is 165sqm<sup>35</sup>. The 165sqm includes the space required for a GP and additional space to take into account the evolving model of primary healthcare, which includes more health-related services including dental are being provided alongside the ability to see a GP. Therefore, dentists are assumed to locate within the floorspace areas calculated using the corresponding number of GPs. **Table 4-23** presents the total amounts of floorspace recommended for the GPs and dentists shown in **Table 4-22**.

<sup>&</sup>lt;sup>34</sup> NHS London Healthy Urban Development Unit (HUDU), (2009); HUDU Planning Contribution Model Guidance Notes.

<sup>&</sup>lt;sup>35</sup> The ratio includes space to deliver a wider range of services including: GPs; district nursing; health visiting; women's services; diagnostic services; school nurses; dental surgery; optometry; and pharmacy.

#### Table 4-23: GP and other Health-related Floorspace

| Total Number of<br>Dwellings | Core Strategy Mix<br>(sqm) | SH MA Mix (sqm) | Development Partner<br>Mix (sqm) |
|------------------------------|----------------------------|-----------------|----------------------------------|
| 5,000                        | 1,210                      | 1,159           | 1,036                            |
| 8,000                        | 1,936                      | 1,854           | 1,658                            |
| 10,000                       | 2,421                      | 2,318           | 2,072                            |
| 12,000                       | 2,905                      | 2,782           | 2,486                            |

Source: AECOM 2016.

4.7.4 The recommended floorspace areas for additional GPs and dentists ranges from 1,036sqm to 2,905sqm, **Table 4-24** shows ratios of the floorspace areas from **Table 4-23** per hectare of developable land in each spatial scenario.



| Spatial<br>Scenarios | Total Number of<br>Dwellings | Core Strategy<br>Mix (sqm per ha) | SHMA Mix (sqm<br>per ha) | Development<br>Partner Mix (sqm<br>per ha) |
|----------------------|------------------------------|-----------------------------------|--------------------------|--------------------------------------------|
| 1 -                  | 5,000                        | 36                                | 34                       | 31                                         |
|                      | 8,000                        | 57                                | 55                       | 49                                         |
|                      | 10,000                       | 72                                | 69                       | 61                                         |
|                      | 12,000                       | 86                                | 82                       | 74                                         |
|                      | 5,000                        | 32                                | 30                       | 27                                         |
| 2                    | 8,000                        | 50                                | 48                       | 43                                         |
|                      | 10,000                       | 63                                | 60                       | 54                                         |
|                      | 12,000                       | 76                                | 72                       | 65                                         |
| 3                    | 5,000                        | 27                                | 26                       | 24                                         |
|                      | 8,000                        | 44                                | 42                       | 38                                         |
|                      | 10,000                       | 55                                | 53                       | 47                                         |
|                      | 12,000                       | 66                                | 63                       | 56                                         |
| 4                    | 5,000                        | 23                                | 22                       | 20                                         |
|                      | 8,000                        | 37                                | 36                       | 32                                         |
|                      | 10,000                       | 47                                | 45                       | 40                                         |
|                      | 12,000                       | 56                                | 53                       | 48                                         |

# Table 4-24: GP and other Health-related Floorspace per Hectare of Developable Land by Spatial Scenario

Source: AECOM 2016.

#### 4.8 Education

4.8.1 The number of education places for children aged 5-10 and 11-15 potentially needed due to development within the Meridian Water have been estimated using the child yields from LBE's Planning Obligations Supplementary Planning Document (SPD)<sup>3637</sup> Places for children aged 0-4 have been calculated using yields from the GLA Play Space Calculator as the SPD does not have yields for the age group. **Table 4-25** presents the number of children yielded in each age group by applying the child yields to the each dwelling scenario and dwelling size mix (Core Strategy, SHMA and Development Partner) combination.

<sup>&</sup>lt;sup>36</sup>LBE, (2011); Planning Obligations Supplementary Planning Document (SPD).

<sup>37</sup> The child yields are used in the SPD to calculate the size of section 106 (s106) contributions from new developments towards education.

| Age Group (yrs) | Number of<br>Dwellings | Core Strategy<br>Mix (no of<br>children) | SHMA Mix (no of<br>children) | Development<br>Partner Mix (no<br>of children) |
|-----------------|------------------------|------------------------------------------|------------------------------|------------------------------------------------|
|                 | 5,000                  | 642                                      | 688                          | 798                                            |
|                 | 8,000                  | 1,028                                    | 1,101                        | 1,277                                          |
| 0-4             | 10,000                 | 1,284                                    | 1,376                        | 1,596                                          |
|                 | 12,000                 | 1,541                                    | 1,651                        | 1,915                                          |
|                 | 5,000                  | 1,272                                    | 1,135                        | 806                                            |
| 5-10            | 8,000                  | 2,035                                    | 1,816                        | 1,290                                          |
|                 | 10,000                 | 2,544                                    | 2,270                        | 1,612                                          |
|                 | 12,000                 | 3,053                                    | 2,724                        | 1,935                                          |
| 11-15           | 5,000                  | 990                                      | 850                          | 514                                            |
|                 | 8,000                  | 1,584                                    | 1,360                        | 822                                            |
|                 | 10,000                 | 1,980                                    | 1,700                        | 1,028                                          |
|                 | 12,000                 | 2,376                                    | 2,040                        | 1,234                                          |
| Total           | 5,000                  | 2,904                                    | 2,673                        | 2,118                                          |
|                 | 8,000                  | 4,647                                    | 4,277                        | 3,389                                          |
|                 | 10,000                 | 5,808                                    | 5,346                        | 4,236                                          |
|                 | 12,000                 | 6,970                                    | 6,415                        | 5,083                                          |

#### Table 4-25: Education Place Yields

- 4.8.2 The Core Strategy dwelling size mix produces the largest numbers of school places across all dwelling scenarios. The combination of the 12,000 dwelling scenario and Core Strategy dwelling size mix results in a total yield of 6,970 children. In comparison, the lowest yield of 2,118 children is generated by combining the 5,000 dwelling scenario and Development Partner dwelling size mix.
- 4.8.3 The number of classes needed to house the 0-4 age group and number of schools for the 5-10 and 11-15 age groups is based on the following assumptions: each nursery class has capacity for 26 children<sup>38</sup>; each primary school has a capacity of 420 pupils; and each secondary school has a capacity of 900 pupils<sup>39</sup>. If an early years facility or school is not completely filled by development scenario child yields, a full school is assumed to be required. The findings are

<sup>&</sup>lt;sup>38</sup> Department for Children, Schools and Families, (2008); Practice Guidance for Early Years Foundation Stage. <sup>39</sup> Each primary school is assumed to have seven year groups, two forms of entry in each year and class sizes of 30 pupils. Each secondary school is assumed to have five year groups, six forms of entry and class sizes of 30 pupils.



presented in **Table 4-26**. With regards to primary school provision, the relocation of the existing Meridian Angel Primary School will serve the local area and provide some of the education provision required for primary school children living at the Meridian Water development<sup>40</sup>.

| Age Group (yrs)      | Number of<br>Dwellings | Core Strategy<br>Mix | SHMA Mix) | Development<br>Partner Mix |
|----------------------|------------------------|----------------------|-----------|----------------------------|
| 0-4 (no of classes)  | 5,000                  | 25                   | 27        | 31                         |
|                      | 8,000                  | 40                   | 43        | 50                         |
|                      | 10,000                 | 50                   | 53        | 62                         |
|                      | 12,000                 | 60                   | 64        | 74                         |
| 5-10 (no of schools) | 5,000                  | 4                    | 3         | 2                          |
|                      | 8,000                  | 5                    | 5         | 4                          |
|                      | 10,000                 | 7                    | 6         | 4                          |
|                      | 12,000                 | 8                    | 7         | 5                          |
| 11-15 (no of schools | 5,000                  | 2                    | 1         | 1                          |
|                      | 8,000                  | 2                    | 2         | 1                          |
|                      | 10,000                 | 3                    | 2         | 2                          |
|                      | 12,000                 | 3                    | 3         | 2                          |

#### Table 4-26: Number of Early Years Classes, Primary Schools and Secondary Schools

- 4.8.4 **Table 4-27** presents the estimated areas of floorspace required to support the additional school places generated by the development scenarios. Floorspace requirements for the primary and secondary school groups have been calculated by using DfE's Area Guidelines for Mainstream Schools (2014) guide<sup>41</sup>. The guide specifies that a new primary school should have a base floor area of 350sqm (Gross Internal Area (GIA)) with an additional 4.1sqm (GIA) of floorspace per pupil. A new primary school would therefore measure approximately 2072sqm (GIA), assuming 420 children went to the primary school. The guide also outlines that a new secondary school should have a base floor area of 1,050sqm (GIA) and an additional 6.3sqm (GIA) of floorspace per pupil. Floorspace requirements are based on these benchmarks applied to the number of schools presented in **Table 4-26**.
- 4.8.5 Floorspace needed for children aged 0-4 has been estimated using the DfE's Statutory Framework for the Early Years Foundation Stage (2014) guide<sup>42</sup>. A standard of 3.5sqm (Net

<sup>&</sup>lt;sup>40</sup> Meridian Water Phase One Application, Planning Statement (March 2016), LBE.

<sup>&</sup>lt;sup>41</sup> DfE, (2014); Area Guidelines for Mainstream Schools: Building Bulletin 103.

<sup>&</sup>lt;sup>42</sup> DfE, (2014); Statutory Framework for the Early Years Foundation Stage: Setting the Standards for Learning, Development and Care for Children from Birth to Five.



Internal Area (NIA)) per early years place has been assumed as a 'maximum' scenario<sup>43</sup>. This is up-converted to GIA to allow for comparison with the 5-10 and 11-15 floorspace areas<sup>44</sup>. The floorspace requirements shown in **Table 4-27** are based on this benchmark applied to the number of nursery classes shown in **Table 4-26**.

| Age Group (yrs) | Number of<br>Dwellings | Core Strategy<br>Mix | SHMA Mix) | Development<br>Partner Mix |
|-----------------|------------------------|----------------------|-----------|----------------------------|
| 0-4 (sqm GIA)   | 5,000                  | 3,371                | 2,936     | 2,718                      |
|                 | 8,000                  | 5,436                | 4,675     | 4,349                      |
|                 | 10,000                 | 6,741                | 5,763     | 5,436                      |
|                 | 12,000                 | 8,046                | 6,959     | 6,524                      |
|                 | 5,000                  | 8,288                | 6,216     | 4,144                      |
| 5 10 (com CIA)  | 8,000                  | 10,360               | 10,360    | 8,288                      |
| 5-10 (sqm GIA)  | 10,000                 | 14,504               | 12,432    | 8,288                      |
|                 | 12,000                 | 16,576               | 14,504    | 10,360                     |
| 11-15 (sqm GIA) | 5,000                  | 13,440               | 6,720     | 6,720                      |
|                 | 8,000                  | 13,440               | 13,440    | 6,720                      |
|                 | 10,000                 | 20,160               | 13,440    | 13,440                     |
|                 | 12,000                 | 20,160               | 20,160    | 13,440                     |

#### **Table 4-27: Education Floorspace Requirements**

<sup>&</sup>lt;sup>43</sup> These standards are based upon the net or useable areas of the rooms used by children and do not include storage areas, thoroughfares, dedicated staff areas, cloakrooms, utility rooms, kitchens and toilets.

<sup>&</sup>lt;sup>44</sup> Conversion ratio (a 19.5% increase from NIA to GIA) derived from Housing and Communities Agency (2015) Employment Densities Guide.



| Age Group (yrs) | Number of<br>Dwellings | Core Strategy<br>Mix (ha) | SHMA Mix (ha) | Development<br>Partner Mix (ha) |
|-----------------|------------------------|---------------------------|---------------|---------------------------------|
| 5-10            | 5,000                  | 6.4                       | 4.8           | 3.2                             |
|                 | 8,000                  | 8.0                       | 8.0           | 6.4                             |
|                 | 10,000                 | 11.2                      | 9.6           | 6.4                             |
|                 | 12,000                 | 12.8                      | 11.2          | 8.0                             |
| 11-15           | 5,000                  | 10.8                      | 5.4           | 5.4                             |
|                 | 8,000                  | 10.8                      | 10.8          | 5.4                             |
|                 | 10,000                 | 16.2                      | 10.8          | 10.8                            |
|                 | 12,000                 | 16.2                      | 16.2          | 10.8                            |

#### **Table 4-28: Education Land Requirements**

- 4.8.6 Land area requirements for the primary and secondary groups have been calculated using standards from the DfE's Area Guidelines for Mainstream Schools (2014) guide. The land area guidance includes land allocated for hard and soft physical education space, hard and soft social areas and habitat zones. The guide advises that a primary school offer a minimum base site area of 0.2ha and an additional 33.3sqm of space per pupil. A new primary school would take 1.6ha, assuming that a maximum capacity 420 children.
- 4.8.7 The guide advises that a secondary school have a minimum base site area of 0.9ha and an additional 50sqm of space per pupil. These site area specifications have been applied to the school numbers from Table 4 25, producing the land areas in Table 4 28. It is recognised that the DfE benchmarks are mainly for guidance and that several new primary and secondary schools across London have been delivered with significantly smaller site areas, in line with the London Plan approach for making efficient use of land.
- 4.8.8 In the case of Meridian Water, there is likely to be potential for schools to share outdoor space while there will also be opportunities for schools to make use of the large quantum of open space located outside the red line area. Therefore it is realistic to assume that site area requirements for primary and secondary schools are likely to be lower than those recommended by the DfE guidance. Land area requirements for children aged 0-4 have not been estimated due to the wide variety of providers who will use different types of facilities.