

AECOM

EB/008/2/4

NORTH ESSEX GARDEN COMMUNITIES

CONCEPT FEASIBILITY STUDY

VOLUME 1: **PART 2**
BASELINE COMPENDIUM

JUNE 2016

This chapter provides baseline synthesis and key findings associated to the North of Colchester area of investigation and the wider 5km buffer zone.

03 North of Colchester

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3.1 Site Overview and Landuse

The North of Colchester area of investigation is predominantly situated on the site of a former World War II Airfield which has since ceased operations and now comprises predominantly agricultural land. The Colchester / Tendring Local Authority boundary runs adjacent to the area of investigation to the east. The small rural villages of Langham and Langham Moor lie to the north and west of the Site, respectively. The main settlement is formed by the village of Langham. Some other residential properties are scattered throughout the Site, most notably a small cluster of properties in the south east close to the A12. In addition, settlements along Straight Road are scattered but continuous along the entire route.

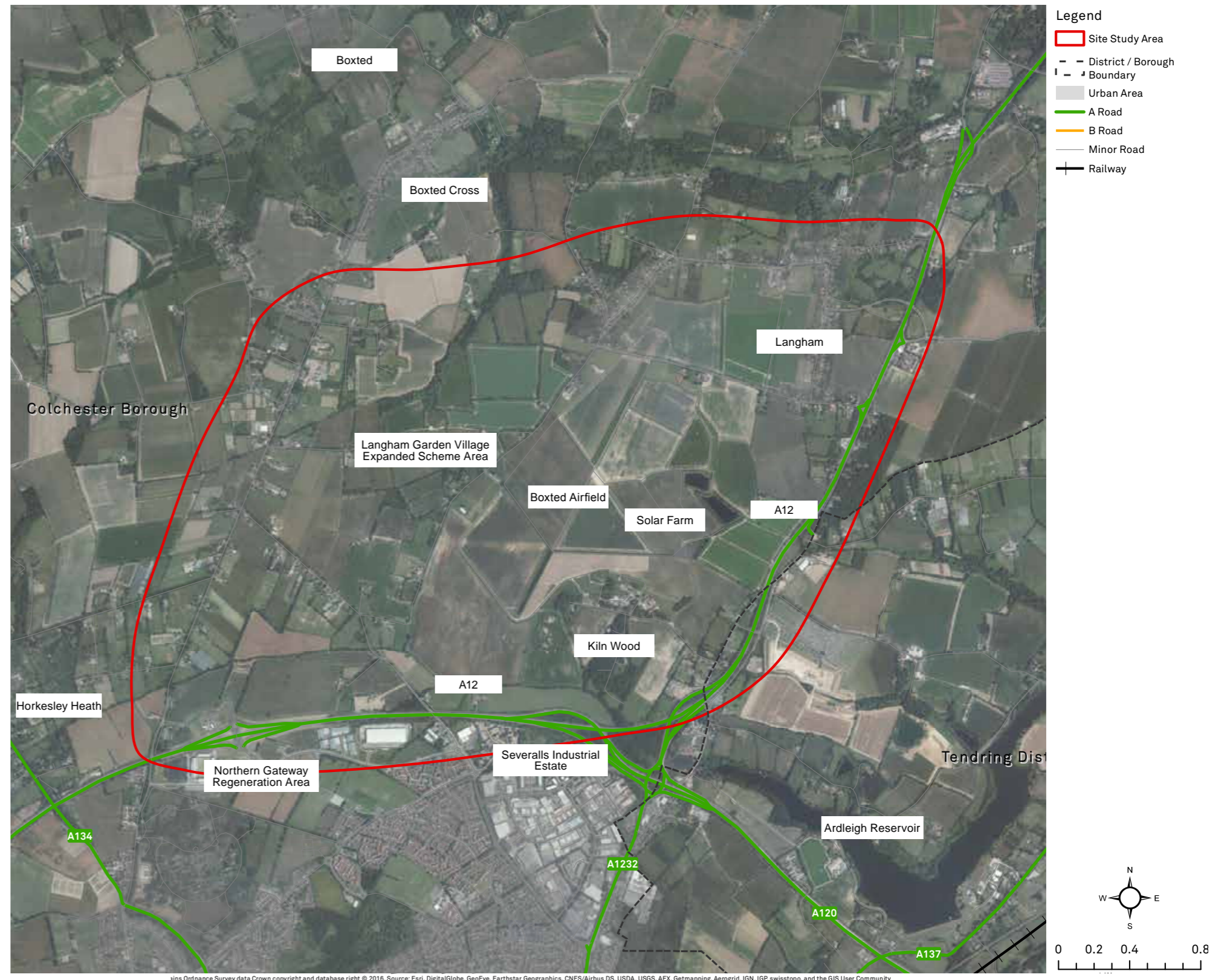


Figure 50: North Colchester Context

3.2 Call for Sites

Key Findings

- The Call for Sites process for Colchester undertaken to support the development of the new Local Plan identified 10 sites associated with the North of Colchester proposed development area which collectively amount to an accumulative 607.4ha of potentially developable land
- The individual site detail submitted for the Call for Sites is shown below in Table 12.
- In late February 2016 the scheme promoters came forward with additional land to west which could be incorporated into a possible Langham Garden Village (1).
- It has been suggested by the providers of Langham Garden Village that 4,000 homes is possible from the main site (221) and a further 2,000 from expansion west.

Call for Sites Reference	Location	Proposed Use	Site Area (ha)
049	School Road, Langham	2.172	Residential
069	Motts Farm, Birchwood Road, Langham	6.586	Residential
096	Land adjacent A12, Langham	8.66	Employment
050	Wick Road, Langham	1.86	Residential
095	Park Road, Langham	38.24	Residential
221	Langham Garden Village	441.4	Mixed
014	Ruskins Farm, Langham Lane, Boxted	6.693	Residential
026	Northern Gateway, North Colchester	101.018	Employment/Leisure
169	Ipswich Road, Langham	0.417	Mixed
220	School Road, Langham	0.363	Employment
Total Site Area: 607.409ha			

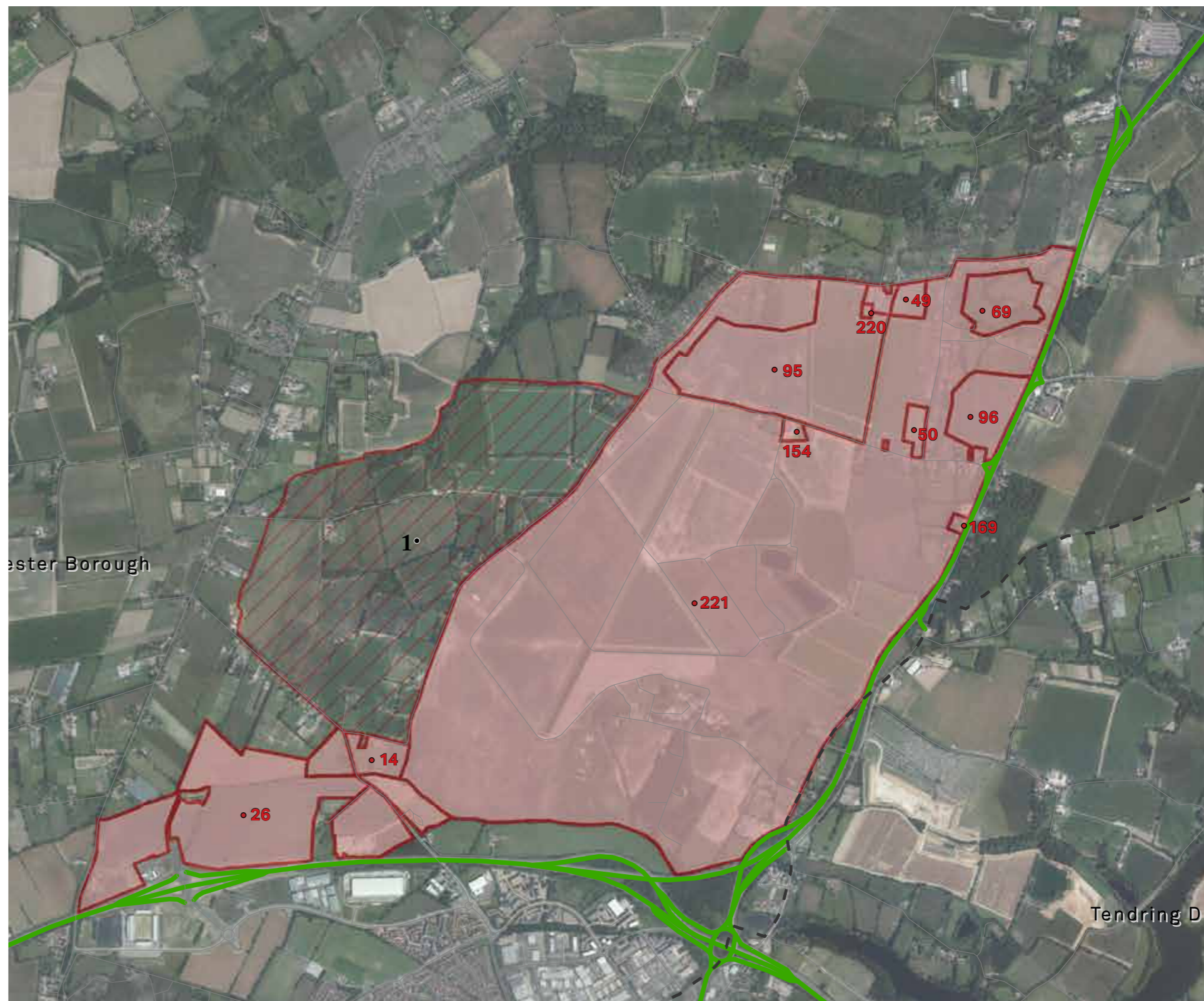


Figure 51: North Colchester Landuse Source: Colchester BC Call for Sites (2014/2015)

Table 12: Colchester BC Call for Sites (2014/2015)

3.3 Land Promoters and Development Agreements

Key Findings

- Ptarmigan Land Ltd. is representing 8 landowners on the main part of the site, with the land to the west (possible expansion area) in the ownership of a further 2 landowners, both known to Ptarmigan.
- A revised scheme brought forward by the land promoters included land to the west of the original site.
- The indicative capacities being considered are dependent on the proposed future of the very recently installed Solar Farm which covers approximately 26ha of land and is situated in the centre of the area of investigation.
- The Solar Farm is understood to have an operating lease of 20 years
- The solar farm could feasibly power a significant new residential development with renewable energy, however it may also present a major constraint to the co-ordinated delivery of residential development due to its prominence at the centre of the area of investigation which may restrict internal connectivity and amenity if it remains.
- At the time of writing this report it is understood that the developer would retain the solar farm up until the expiry of its current operation lease/ landowner agreement for planning permission, and thereafter remove the facilities to allow housing development.

AECOM have not received landownership map for North Colchester

Table 13: Preparation Documents Commissioned by Promoter to Date

Document	Prepared By
Langham Garden Village Vision Document	Ptarmigan Land / Barton Willmore
Environmental Audit	Chris Blandford Associates
Desk Study for Defence Related Contamination and German Air-Dropped UXO	BAE Systems Environmental
Education Briefing Note	Educational Facilities Management Partnership (EFM) Ltd
Archaeological Appraisal	Cotswold Archaeology
Utilities Report	TriConnex Ltd
Phase Environmental Assessment	Delta-Simons
Transport Strategy	i-Transport

3.4 Surrounding Settlement Hierarchy

Key Findings

- Colchester's Northern Gateway Regeneration area is located on the south side of the A12 from the site. This is a major area of development and growth, including leisure uses, employment use and new housing. It would likely provide an important centre of employment, amenity and recreation for development on the north side of the A12 in this location.
- The centre of Colchester urban area around Colchester Town Rail Station is situated approximately 4.5km to the south from the nearest point of the site.
- Colchester has by far the highest concentration of population in the nearby vicinity, with the countryside opening up to rural and more sparsely populated areas to the north. There are a number of scattered villages within this area; Langham Village within the northern section; Boxted Cross and Boxted Villages approximately 1.8km and 2.5km to the north west respectively. Each of these villages is small with very few services and facilities. Both Langham and through Boxted have village primary schools.
- The villages of Great Horkesley - 2.2km to the east (approx) - and Ardleigh - 2.6km to the east (approx) - each accommodate small nearby populations, which offer few services and facilities.

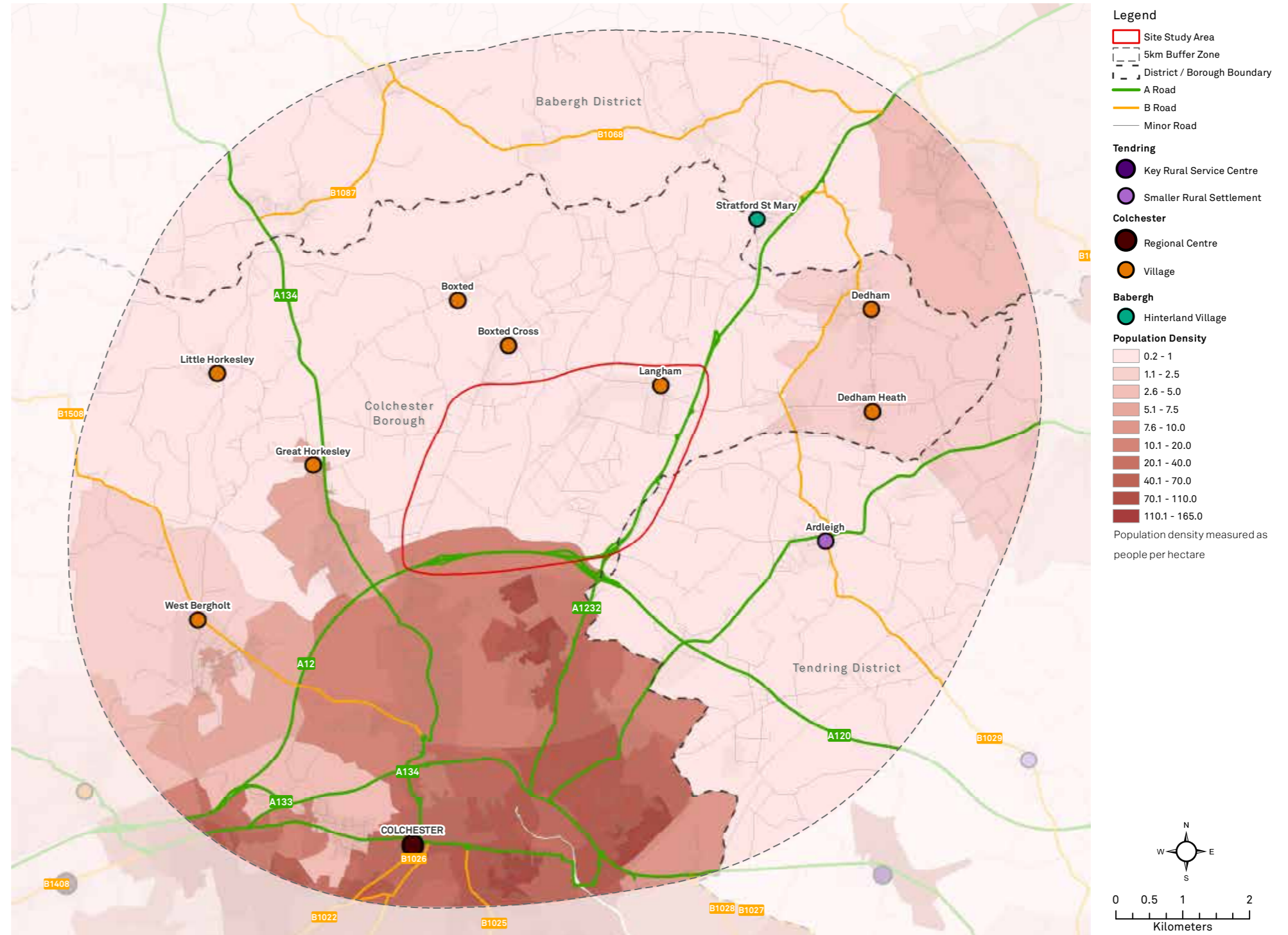


Figure 52: North Colchester Settlement Hierarchy. Source: AECOM

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3.5 Economic Context

Key Findings

- There is an existing commercial area located in the southern part of the Site (Lodge Park), comprising modern offices and light industrial uses within disused aircraft hangars.
- A small area of light industrial buildings to the north of the site on School Road. Both sites are identified employment zones within the existing Local Plan.
- The area of investigation is situated in close proximity to Colchester Northern Gateway which is located across the A12 and is identified as North Colchester Regeneration Area on the map, covering an area of approximately 100ha.
- The Northern Gateway site is subject to outline planning consent (Ref: 0/COL/01/1622) which sets out outline permissions for a health and fitness centre, hotel, pub, cafe and restaurant uses, employment uses, associated parking and landscaping.
- The Council's intention is that the Northern Gateway will deliver a high quality leisure destination alongside retail facilities of a type and quality not currently available in Colchester.
- It is estimated by the Council that North Colchester growth area could accommodate up to 6,200 homes and provide 3,500 new jobs.
- Colchester has aspirations to become the Essex hub for creative industries, and a facility is being developed in the town centre to help achieve this. In addition the town centre provides employment for office and retail services.
- Within 5km of the site area is the University of Essex, and in addition to the academic growth plans it is developing the adjacent Knowledge Centre Business/Science Park

Sources

- <http://www.northerngatewaycolchester.co.uk>
- <http://www.colchester.gov.uk/northerngateway>
- Colchester Economic Development Strategy 2015-2021

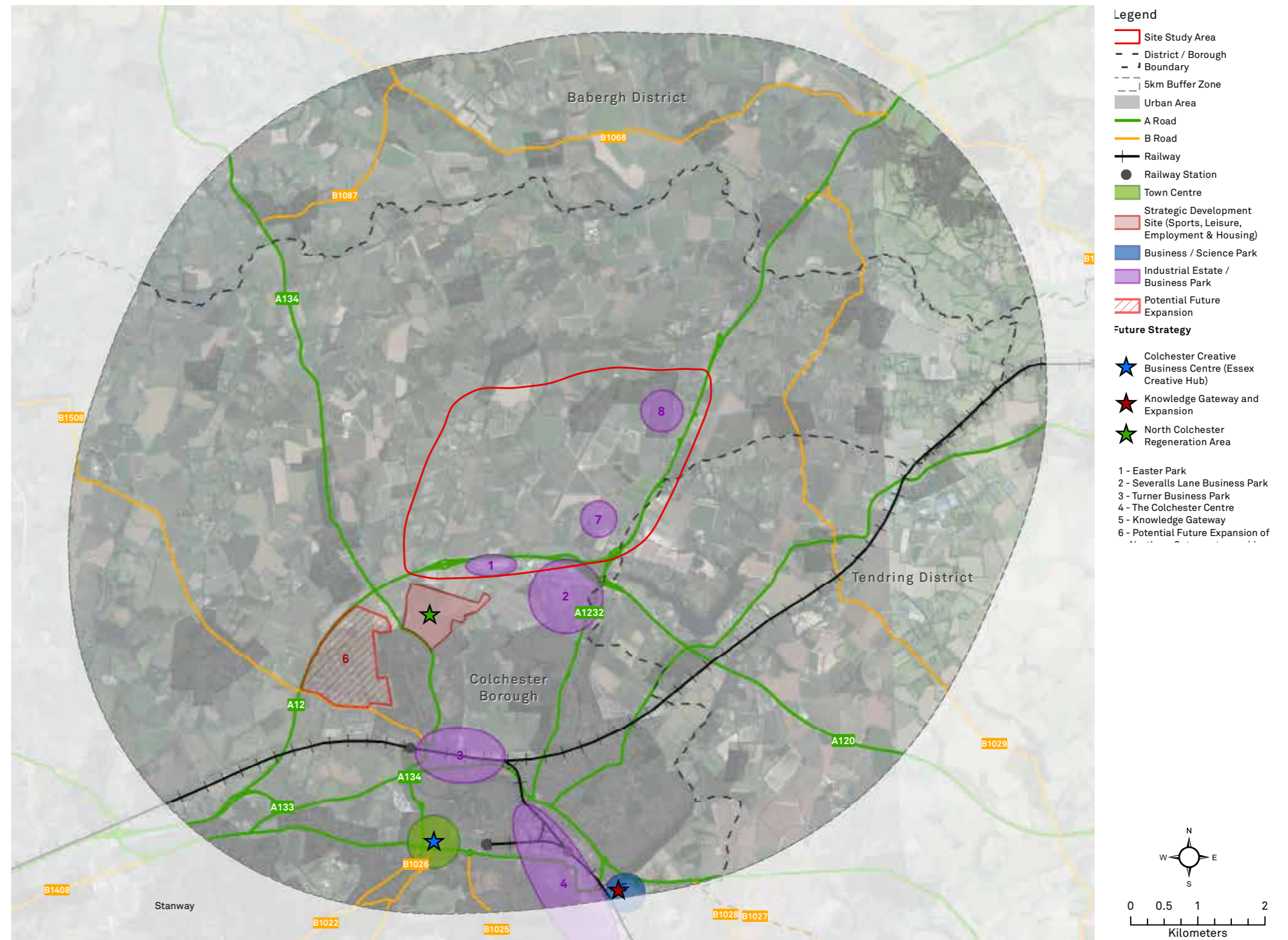


Figure 53: North Colchester Economic Context. Source: AECOM.

3.6 Utilities

Key Findings

Electricity

- A large Solar Farm (Boxted Airfield Solar Farm) covering approximately 26ha of land was installed in March 2015. The Boxted Airfield Solar Farm could have considerable bearing on deemed availability of the site due to its scale. The Solar Farm was only very recently installed in March 2015 and has an installed capacity of 18.8MW generated via 73,728 solar modules.
- UK Power Networks has identified that Langham and Severalls primary substations would likely be available as options to serve the development, subject to expansion/upgrade.

Water supply

- The region east of Colchester (referred to in the Anglian Water development plan as "South Essex") is predicted to be in water deficit condition by 2030 and water will need to be delivered from other areas within the Anglian Water region, or supplemented by neighbouring water companies. This is based on average growth trends. There is no specific information about the proposed development area.
- There are no major supply projects planned during the current review period (to 2020) – the focus is firmly on demand reduction by tackling leakage and installing water meters.
- In a meeting held between AECOM and Anglian Water on 20th May 2016, it was confirmed that water supply should be possible from the Ardleigh Reservoir, immediately north of the A120, subject to new and upgraded existing infrastructure.

Gas

- According to an email from National Grid Gas in September 2014, the medium pressure network is expected to be able to deliver the predicted additional demand from potential development, but the low pressure network will require reinforcement in places.

Waste Water

- The closest existing waste water treatment works in Langham WRC. Located off Greyhound Hill and adjacent to Black Brook and Dedham WRC.
- In a meeting with AECOM on 20th May 2016, Anglian Water advised that they could accept limited inflows from the development in early phases, however before the end of the Plan Period (2032), water would have to be pumped to Colchester WRC at Hythe or a new treatment plant built.

Telecommunications

- Evidence appears limited. Additional investigation required.

Sources

- Anglian Water
- National Grid

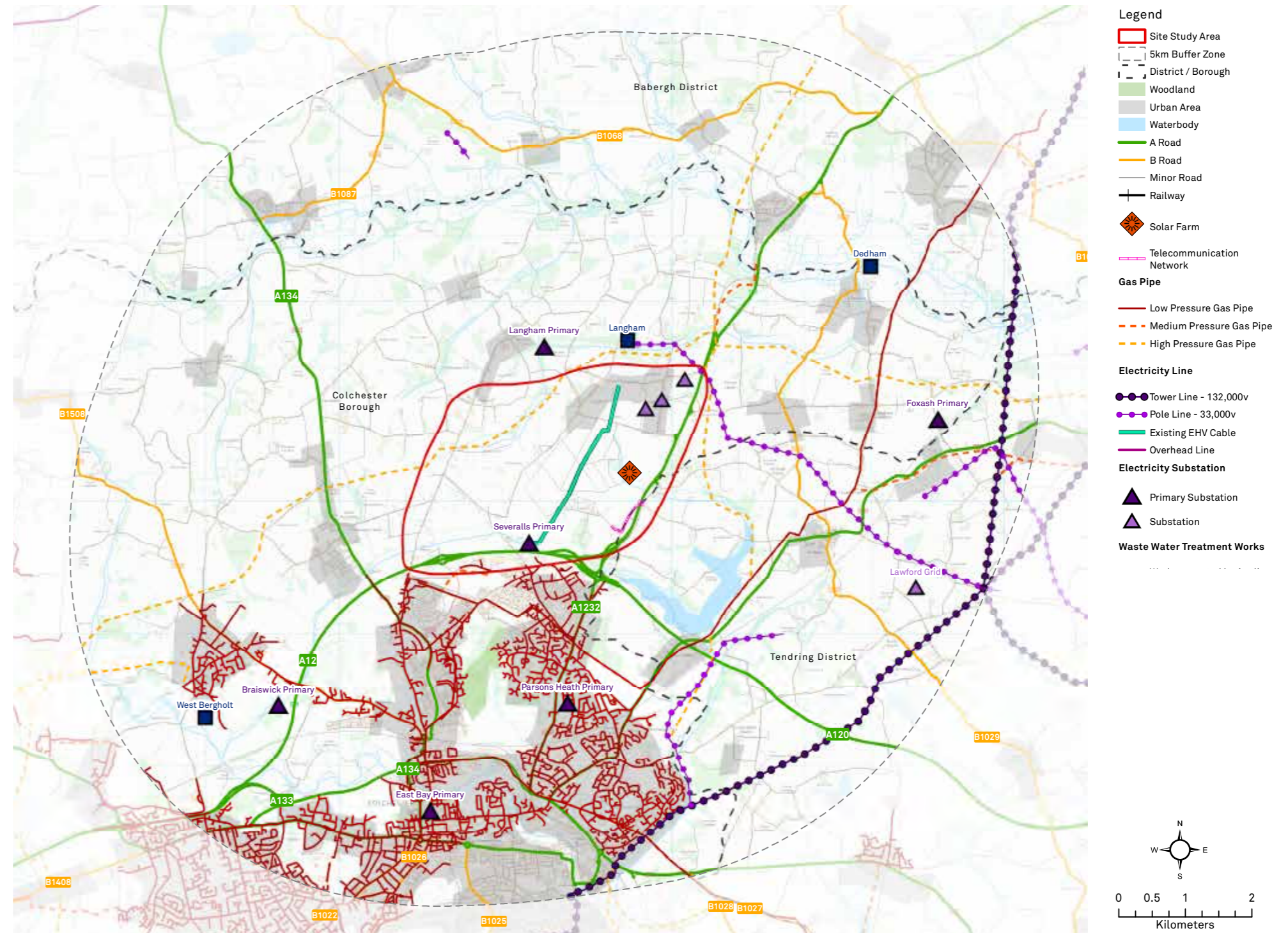


Figure 54: North Colchester Utilities. Source: Anglian Water / National Grid

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3.7 Landscape Character, Sensitivity and Condition

Key Findings

- The Site Study Area sits within what the Colchester Borough and Tendring District Landscape Assessment defines as 'farmland plateau' with a distinctive pattern of medium to large scale, irregular shaped arable fields interspersed with pockets of woodland and scrub.
- The majority of the Site Study Area is generally level, lying between 45 and 50m AOD, falling to around 35m AOD in the far south and south west, where small watercourses drain into Ardleigh Reservoir to the east.
- The Dedham Vale AONB meets north eastern boundary of the Site Study Area. The inter-visibility is however considered to be generally limited due to the change in topography, which falls away to the north, and by the intervening screening vegetation and buildings (North East Colchester Environmental Audit (2015)).
- The adjacent Townscape Character Area of Colchester Urban Area immediately south of the Site Study Area, across the A12, is classified as 20th Century Retail, Commerce and Industry, comprising Severalls Lane and Colchester Business Park **(1)**.
- The Site Study Area includes a comprehensive network of Public Rights of Way that facilitates public access to a large part of the Site.
- Forming the eastern and southern boundaries, the A12 and associated screening restrict views into the site. There are long distance views from the eastern and south-eastern part of the Site Study Area across the open fields due to the intermittent nature of the hedgerow boundaries, as well as the gently falling topography towards the northern edge of Colchester.
- The small rural villages of Langham **(2)** and Langham Moor **(3)** lie to the north and west of the Site Study Area, respectively. They have a distinctive rural village character with residential properties located along country lanes. Many of the properties have open views across the adjacent farmland.
- There is an existing commercial area located in the southern part of the Site Study Area (Lodge Park **(4)**), comprising modern offices and light industrial uses within disused aircraft hangars. There is another light industrial area to the north of the Site Study Area on School Road. Both sites are identified employment zones within the existing Local Plan.
- Some other residential properties are scattered throughout the Site Study Area, most notably a small cluster of properties in the south east near the A12. There are also a few isolated, mostly large detached properties within the Site Study Area.
- A large solar farm **(5)** commissioned in March 2015 and situated on the former Boxted Airfield currently occupies fields in the centre of the Site Study Area covering approximately 26ha. This has considerable bearing on the visual character of the area due to its scale and prominence.

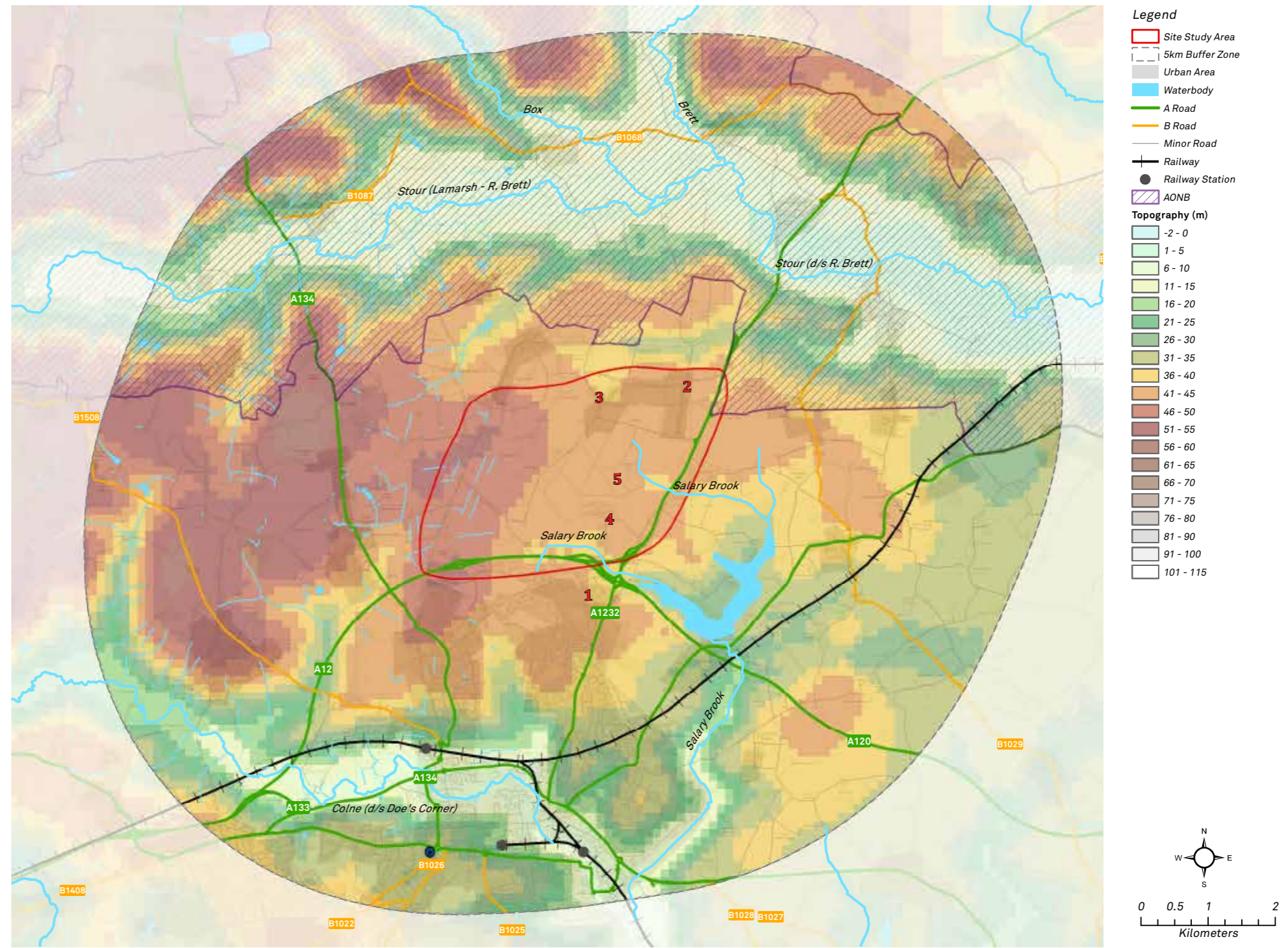


Figure 55: North Colchester Landscape and Topography. Source: Natural England / Environment Agency

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Figure 56: View across south section of the Site Area looking north with Severalls Industrial Estate in the foreground and Northern Gateway in the bottom left corner. Source: Bing Maps Bird's Eye View



Figure 57: View across north section of the Site Area looking south with Langham village in the foreground and the proposed western expansion area to the right. Source: Bing Maps Bird's Eye View

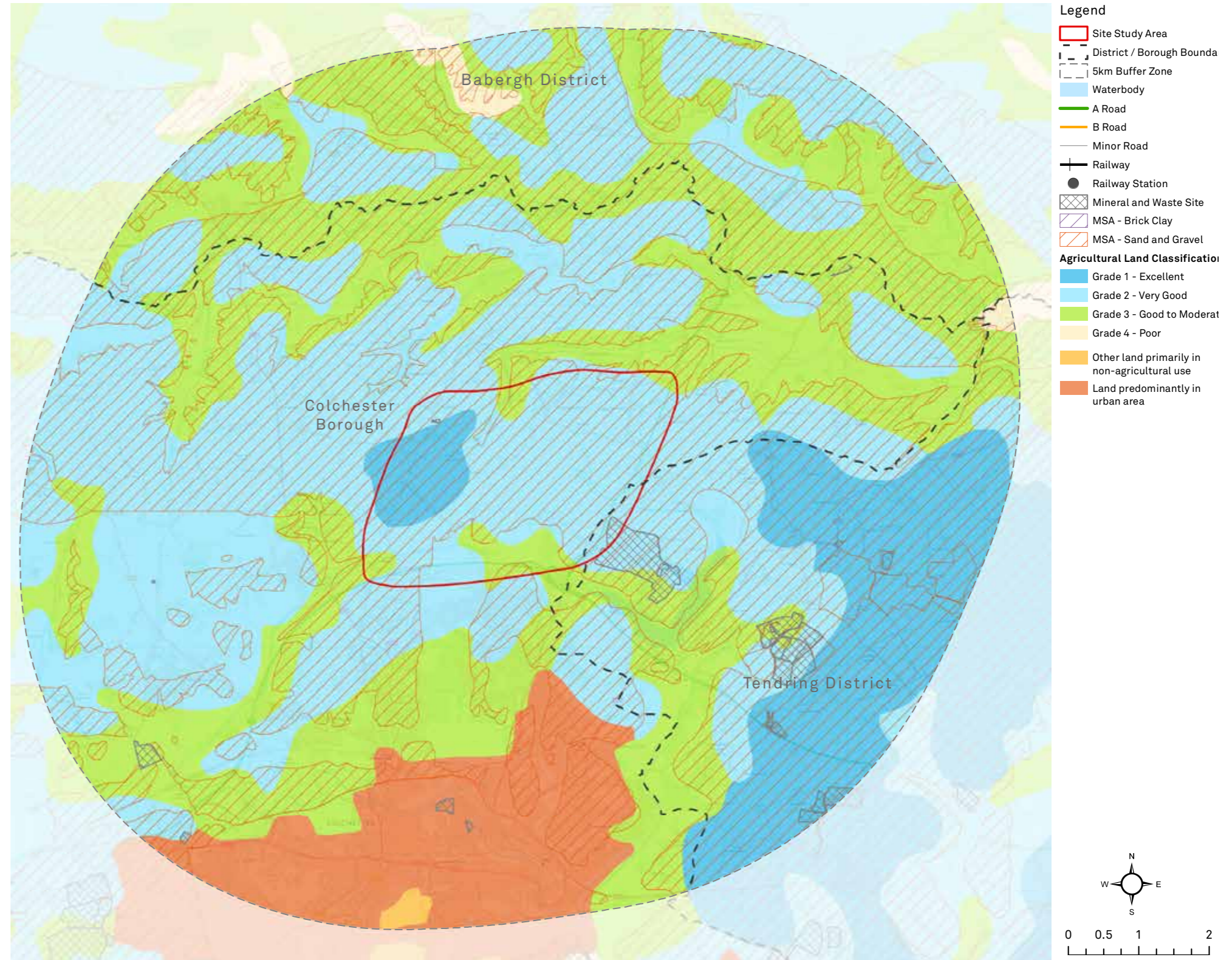
Sources

- Natural England, National Character Areas - GIS Digital Boundary Datasets
- OS Terrain 50
- Natural England GIS Digital Boundary Datasets
- Environment Agency Geostore
- Soilscape, National Soil Resources Institute (accessed through magic.co.uk)
- North East Colchester Environmental Audit (November 2015)

3.8 Agricultural Land Classifications and Mineral Safeguarding Areas

Key Findings

- The quality of agricultural land is predominantly very good or excellent (Grade 1 & 2),
- In addition, sand and gravel Mineral Safeguarding Area covers the majority of the site. This does not prevent future development within North of Colchester, however the designation ensures that mineral resources are considered in making land-use planning decisions.
- To the south west of the Site Study Area is a Mineral and Waste Site, which could require remediation depending on development.



Sources

- Natural England, National Character Areas - GIS Digital Boundary

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Figure 58: North of Colchester Agricultural Land Classifications and Mineral Safeguarding Areas. Source: Natural England / Mineral Safeguarding Zones Received from Essex County Council

3.9 Ecological Designations

Key Findings

- A mosaic of woodland, scrub and grassland is located in the north east of the Site Study Area of habitat importance. Grassland is scattered throughout the Site Study Area, especially around its boundary and beside roads and settlements, however much of the grassland and hedge species have little environmental value
- Some of the mature trees within Langham are protected by Tree Preservation Orders.
- Kiln Wood **(1)** is an Ancient Woodland on the southern boundary with Salary Brook; this is also a Local Wildlife Site with habitats of principal importance.
- Within the 5km buffer zone to the north-east is Stour and Orwell Estuaries RAMSAR site. It is a wetland site of international importance which provides a habitat for wetland birds in non-breeding season and wintering birds, as well as nationally rare plants and invertebrates.
- There are no SSSIs on site but within the 5km buffer zone and to the south of the Site Study Area are two SSSIs; Bullock Wood **(2)** and Ardleigh Gravel Pit **(3)** both of which are in good condition.
- Ardleigh Reservoir **(4)** is a significant and important waterbody.
- There are no locally designated areas on the Site Study Area, but within the 5km buffer zone to the south there are numerous. This includes Welsh Wood **(5)**, Salary Brook **(6)** (which has water voles on site), Bull Meadows **(7)** (which has scarce meadow plants), Hilly fields **(8)**, Spring Lane Meadows (which is an area for bats and otters), and Lexden Park **(9)**.

Sources

- Natural England, National Character Areas - GIS Digital Boundary Datasets
- OS Terrain 50



Figure 59: North Colchester Ecological Designations. Source: Natural England / Environment Agency

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3.10 Parks, Recreation and Historic Environment

Key Findings

- Many places in the Site Study Area, the field pattern reflects the geometric form of the former World War II Boxted RAF Airfield's runways **(1)**. RAF Boxted closed in 1947 and the remains of the airfield are now on private agricultural land.
- There are concentrations of Grade II listed buildings within the villages Langham Moore **(2)** and Langham **(3)** to the north of the Site Study Area. Four further Grade II listed buildings are located along Langham Lane, Old Horse Lane and Lodge Lane.
- To the south of the site and the A12 there is a green finger that extends from the countryside into the town consisting of the playing fields of Colchester Rugby Club **(4)**, the historic gardens of Severalls Hospital **(5)** and the extensive High Woods Country Park **(6)**.

Sources

- Colchester Borough Council Country Parks and LNRs (accessed through <http://www.colchester.gov.uk/article/11794/Country-Parks-and-Local-Nature-Reserves>)
- OS Terrain 50
- Natural England GIS Digital Boundary Datasets
- Historic England

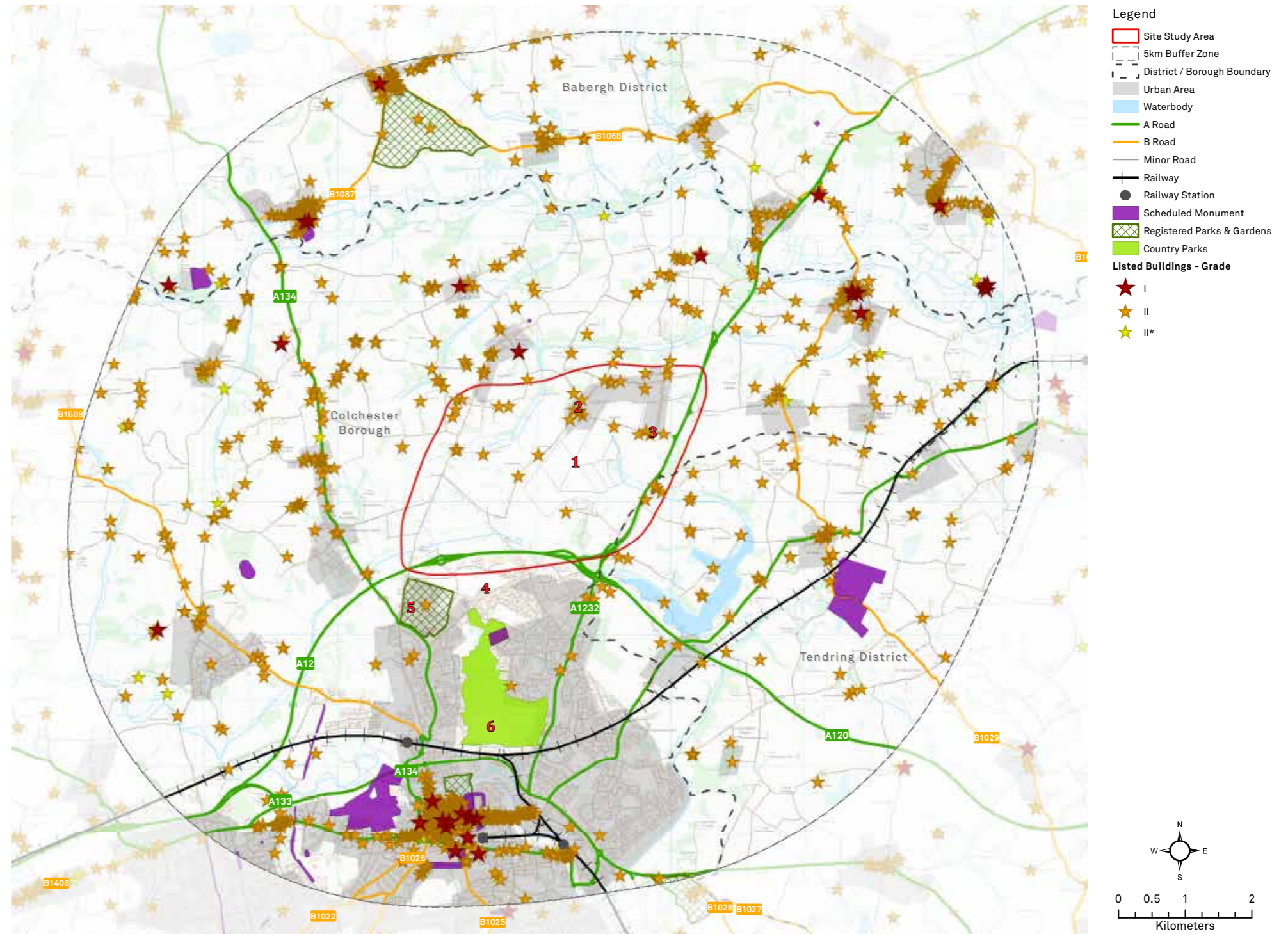


Figure 60: North Colchester Recreational and Heritage Assets. Source: English Heritage / Natural England

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3.11 Water Cycle

Key Findings

- Several surface water features are within the Site Study Area, including two irrigation reservoirs **(1)**, four small ponds in the south-east of the Site Study Area near Lodge Lane, the Salary brook forming the southern boundary and two unnamed streams, one adjacent to the irrigation reservoirs and one to the north-east of the site.
- The Environment Agency's Flood Zone mapping extends along Salary Brook, with a narrow corridor of Flood Zone 3 along the southern boundary of the Site Study Area **(2)**, adjacent to Kiln Wood. The flood risk is however categorised as very low.
- The Salary Brook flows west to east along the southern boundary into Ardleigh Reservoir (outside the Site Study Area). It is a highly modified water course with moderate ecological potential. It has been identified as at risk from further ecological deterioration. Black Brook **(3)** runs 500m to the north of the Site Study Area, a main tributary of the River Stour.
- The entire Site Study Area sits within:
 - Surface and groundwater nitrate vulnerability zones
 - Drinking water protection zone
- Much of the Site Study Area sits on Thames Group bedrock (London Clay) with the majority overlain by glacial till. The clay, silt, sand and gravel have led to the presence of a secondary aquifer beneath the majority of the site.
- Surface water networks are at capacity and potential developments will need to deal with their surface run-off in a way that does not impose any additional load on the system. In practice, this means that surface water cannot be discharged to the existing disposal network. The use of infiltration SuDS may be restricted due to impedance from the soil structure. This could be beneficial for onsite water storage for reuse.

Sources

- Natural England - GIS Digital Boundary Datasets
- OS Terrain 50
- Environment Agency Geostore



Figure 61: North Colchester Ecological Designations. Source: Natural England / Environment Agency

3.12 Movement and Connectivity

Key Findings

- Several existing public rights of ways, footpaths and bridleways cross the southern part of the site. The bridleway links Old Ipswich Road and Langham Lane. The footpaths connect into existing footways on Old Ipswich Road. There is a network of footpaths around the existing village of Langham, linking Park Lane and School Road.
- There are no footways along Langham Lane or on Severalls Lane south of its junction with Langham Lane, but a footway is provided as Severalls Lane approaches the A12 bridge. Just south of the A12, there are footways and a footway/cycleway along Severalls Lane which continue along Axial Way and Severalls Lane, towards the roundabout with Mill Road.
- National Cycle Route NCN 1 runs along Langham Lane to the immediate west of the site. NCN 1 is a long distance cycle route that runs from Cheltenham to Ipswich through Colchester. South of the A12, NCN1 also forms part of the local 'High Woods Route', a cycle route that runs from Axial Way to Colchester town centre, via Highwoods.
- Bus routes 93/93C/ 94/94A/ 94C/X96, 971, 247/247A, 194 and 801 operate within the vicinity of the site.
- The new Park and Ride facility operates from a facility at the J28 on the A12 (opened in April 2015), with capacity for 1,000 cars. Buses leave the Park and Ride site at least every 15 minutes from Monday to Saturday, with bus priority measures along the route and journey times of as little as 8 minutes to Colchester station and 12 minutes to the town centre.
- Within the Colchester Local Plan provision is made for a dedicated bus corridor to support development in North Colchester. This is anticipated to be delivered on the back of the consented 1,500 new dwellings at Severalls Hospital.
- Old Ipswich Road, Langham Lane and Park Lane provide the key points of vehicular access to the site. Due to the nature of the roads, pedestrian footway provision is poor.
- The HA in their A12 / A120 Route Based Strategy March 2013' identify that the section of the A12 at Junctions 28/29 experiences high volumes of congestion. Improvements to the A12 are proposed along this section through DfT funding which will see widening to 3 lanes both directions.

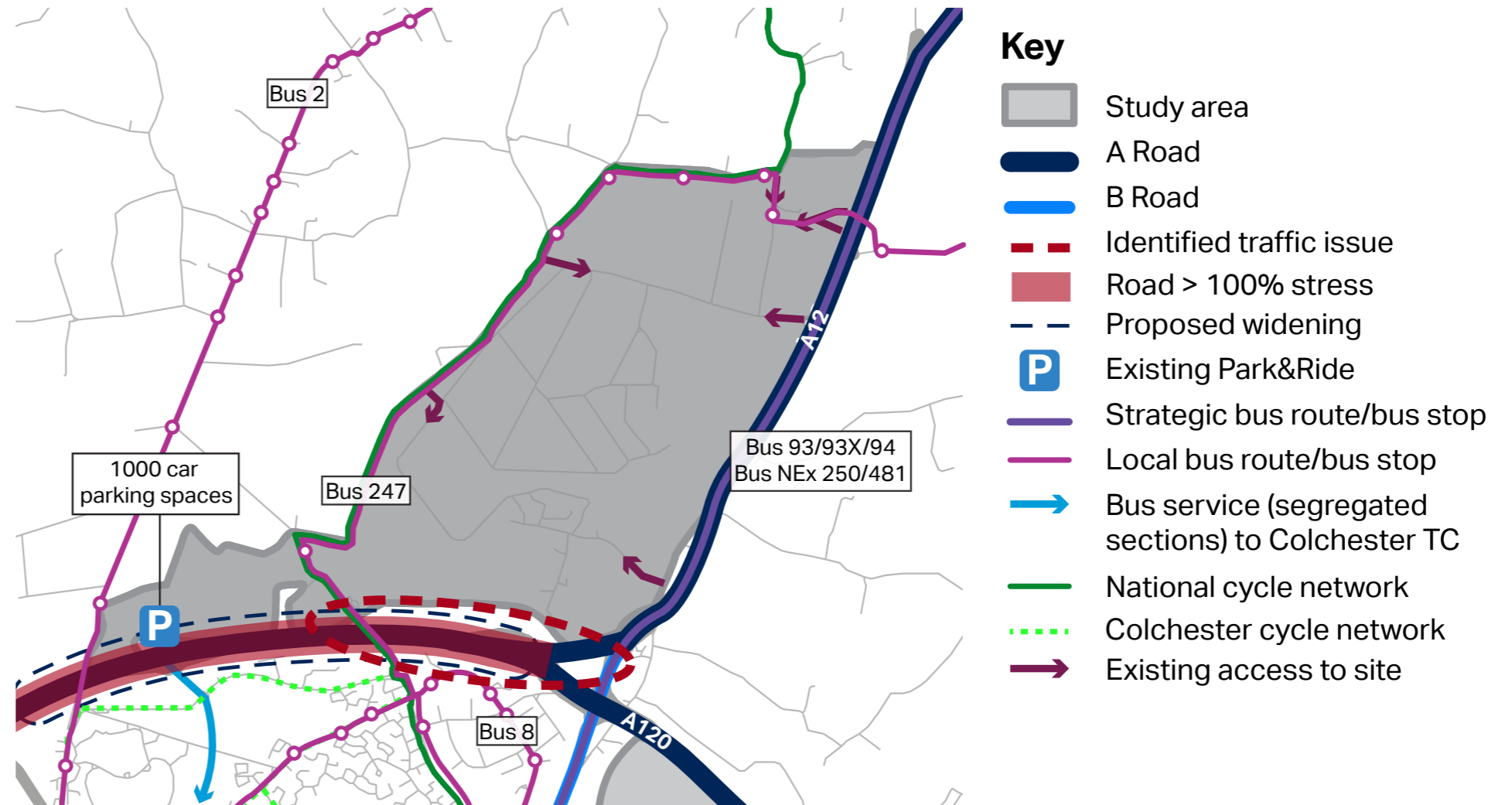


Figure 62: North Colchester Movement Network. AECOM.

SWOT - Strategic network

	Strengths	Weaknesses	Opportunities	Constraints
A12	Direct access to the A12 via J28 south of the site, with likely spare capacity.	Level of noise and pollution from road network. High levels of peak period traffic stress on the A12 and specifically near junction 29 Severance created between the site and employment/leisure zone south of A12	Utilise junction 28 as access to the site Provide high quality crossings for active modes and public transport over the A12 to tackle this severance. Upgrades to the A12 proposed to accommodate growth	Impact on the role of the strategic highway infrastructure
GEML	Direct, quick and frequent service to Chelmsford and London (westbound), Ipswich and Norwich (eastbound). Colchester station accessible via the existing P&R bus service, local buses and the cycle network.	Distance between site and rail station. Requires two-leg journey in order to utilise rail Current and future capacity issues on GEML	Improve connections between public transport and cycle network running through the site which in turn improve connections to the rail station.	Car orientated development to prevail if site isn't connected to a rail network Unlikely that the future capacity of the GEML will accommodate continued demand as establish within the Anglia Route Study
Bus network	Existing P&R ride bus service in close proximity to the site, links Colchester station and the town centre. Provides a frequent service (every 10 to 15minutes) Existing local bus services on Western edge of the site provide potential connectivity.	Bus connectivity across the site as a whole is currently understandably poor, concentrated to the western edge	Increase the number of existing services to provide greater frequency. Integrate bus services within the site - all parts of the development located within walking distance of a stop	A car orientated development will prevail if a bus network through the site and connections to rail based transport
Cycle network	A car orientated development will prevail if a bus network through the site and connections to rail based transport	No viable pedestrian or cycle routes cross the site currently with the exception of NCN51	Develop a comprehensive walking and cycling network within the site Improve linkages between site and existing Colchester cycle network Provide additional/ cycle/pedestrian crossings over the A12	A car orientated development will prevail with short distance trips dominated by car use without clear integration of cycle and pedestrian infrastructure

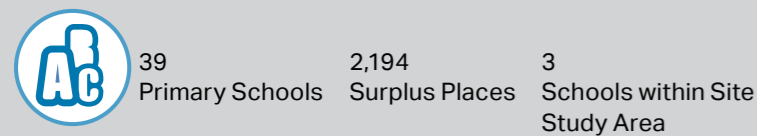
3.13 Social Infrastructure - Education

Essex County Council has developed a Commissioning School Places in Essex 2015-2020, published February 2016. This provides information related to future pupil numbers and where further expansion will be required to meet housing demands.

The 5km boundary of North of Colchester overlaps two local authorities (Colchester and Tendring). For the following social infrastructure review, both local authorities will be considered in assessing the current situation, committed infrastructure and future issues.

Key Findings - Primary

Current Situation within 5km Boundary (May 2016)



Committed Infrastructure within 5km Boundary

- There are 3 Primary Schools either committed or planned within Colchester urban area, with no primary school facilities proposed within the Site Study Area.

FE	Location	Delivery Commitment	Mechanism
2FE (420 pupils)	Severalls Hospital Development Site	Committed (Sept 2016)	S106
-	North Colchester Growth Area	No Commitment	S106
3FE (630 pupils)	Expansion of St John's Green Primary School	No Commitment	S106

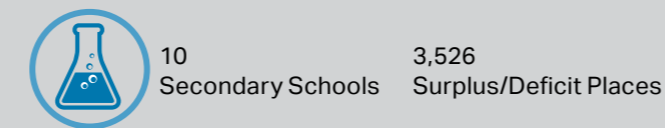
Table 14: Committed Primary Infrastructure. Source: Commissioning School Places in Essex 2015-2016

Future and Wider Issues

- The Commissioning Plan forecasts an increase of 1,369 primary school pupils between 2015-2020 for Colchester, in which there is a forecast surplus of 890 places across the local authority by 2020.
- Proposed growth at North Colchester would create a significant requirement for primary school places, therefore proposals coming forward would need to consider the delivery of future education infrastructure provision.
- Essex County Council are seeking contributions from housing developers towards the cost of providing the additional places required for the pupils generated by new housing.

Key Findings - Secondary

Current Situation within 5km Boundary (May 2016)



Committed Infrastructure within 5km Boundary

- A broad strategic plan for the expansion of secondary provision in Colchester was adopted in 2013 for the period 2015-2019. This has seen the recent expansion of The Gilbert School, using S106 funding. In the longer term, Year 7 intakes in Colchester are forecast to rise from September 2017 onwards and options are being explored in collaboration with the schools in Colchester to provide additional places required.
- There is 1 secondary school committed for Colchester, in which this school does not have an identified capacity
- There are no secondary schools committed within Tendring in the 5km radius of North of Colchester.

Form of Entry	Location	Delivery Commitment	Mechanism
-	North Colchester Growth Area	Committed	S106

Table 15: Committed Secondary Infrastructure. Source: Commissioning School Places in Essex 2015-2016

Future and Wider Issues

- The Commissioning Plan forecasts an increase of 406 secondary school pupils between 2015-2020 for Colchester, in which there is a forecast surplus of 954 places across the local authority by 2020
- Essex County Council are seeking contributions from housing developers towards the cost of providing the additional places required for the pupils generated by new housing.

Key Findings - Further Education

Current Situation within 5km Boundary (May 2016)



Committed Infrastructure within 5km Boundary

- There is no identified Further Education infrastructure identified within the 5km radius of North of Colchester

Future and Wider Issues

- The minimum age at which young people in England can leave learning increased in 2013, requiring young people to continue education or training to the end of the academic year in which they turn 17. This has been followed with a policy beginning in 2015 where all young people must remain in learning to their 18th birthday, This is referred to as Raising the Participation Age (RPA).
- This puts more pressure on the local authorities to ensure and provide options for young people to learn the skills required. Local authorities have the duty to:
 - Promote effective participation in education or training to young people;
 - Ensure that sufficient places are available to meet the reasonable needs of all young people and encourage them to participate; and
 - Make available to young people support that will allow them to participate in education or training.

Sources

- Department of Education, Edubase Portal (May 2016)
- Commissioning School Places in Essex 2015-2020

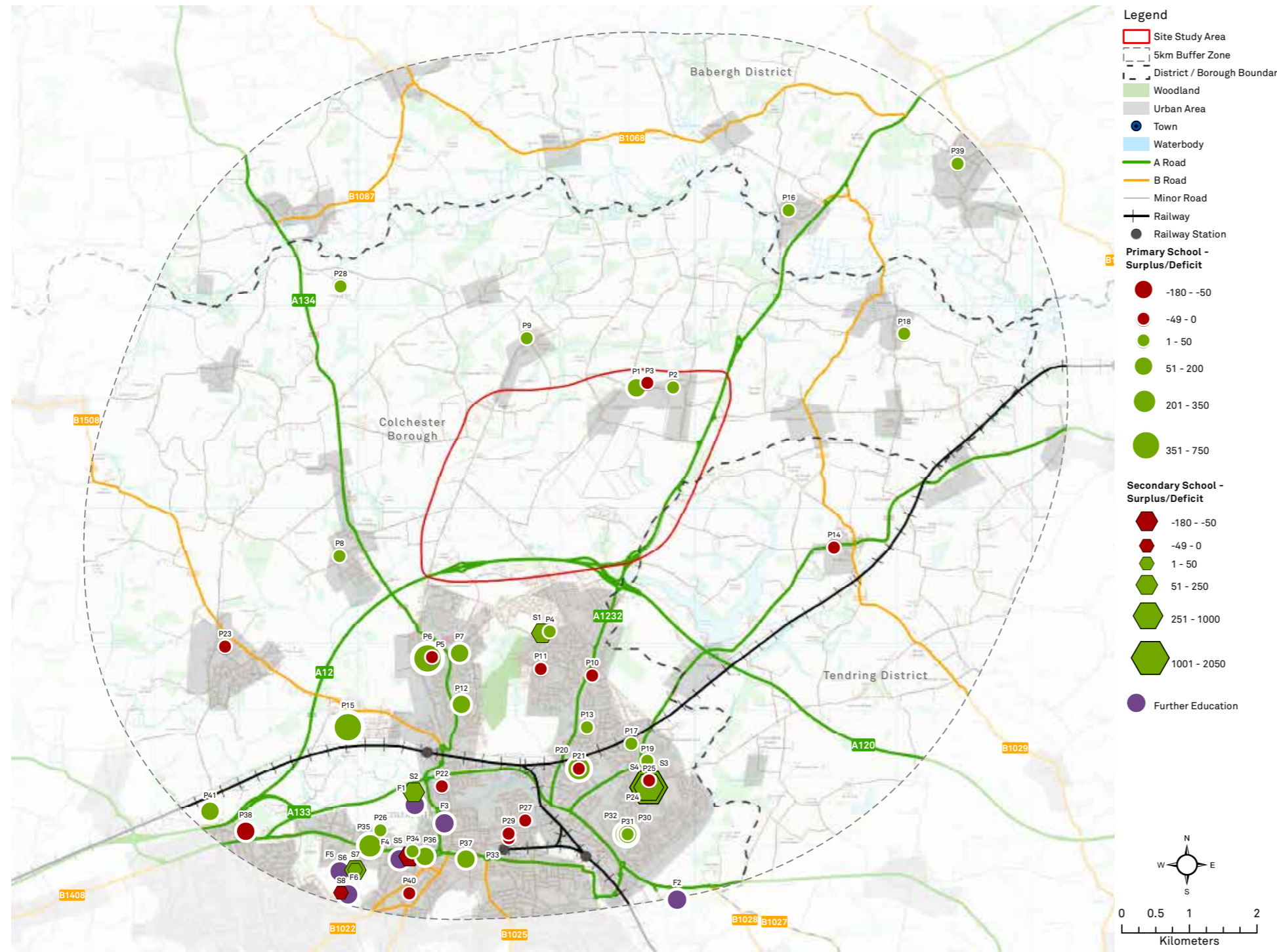


Figure 63: North Colchester Education Context. Source: Edubase (2016)

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Primary School Capacity Analysis			
Primary School Name	Capacity	Surplus / Deficit	Label
Langham Oaks	64	64	P1
Langham Primary School	112	8	P2
Homestead School	0	0	P3
Brinkley Grove Primary School	421	2	P4
Myland Community Primary School	335	-1	P5
Camulos Academy	420	420	P6
North East Essex Additional Provision School	152	108	P7
The Bishop William Ward CofE Primary School	210	14	P8
Boxted St Peter's CofE School	210	46	P9
St John's CofE Voluntary Controlled Primary School, Colchester	210	-31	P10
Highwoods Community Primary School	420	-30	P11
The Queen Boudica Primary School	420	63	P12
Friars Grove Primary School	420	4	P13
St Mary's CofE Voluntary Controlled Primary School, Ardleigh	113	-2	P14
Braiswick Primary School	420	420	P15
Stratford St Mary Primary School	105	35	P16
Parsons Heath CofE Voluntary Controlled Primary School	210	8	P17
Dedham CofE Voluntary Controlled Primary School	209	11	P18
Roach Vale Primary School	210	15	P19
St Anne's Primary School and Nursery	280	280	P20
Willow Brook Primary School and Nursery	210	-31	P21
North Primary School and Nursery	420	-30	P22
Heathlands CofE Primary School, West Bergholt	350	-49	P23
Hazelmere Junior School	240	42	P24
Hazelmere Infant School and Nursery	180	-25	P25
TOTAL	6,341	1,341	

Secondary School Capacity Analysis			
Secondary School Name	Capacity	Surplus / Deficit	Label
The Gilbert School	1,500	157	S1
St Helena School	1,000	176	S2
Sir Charles Lucas Arts College	1,226	1,226	S3
Colchester Academy	1,200	551	S4
Colchester Royal Grammar School	777	-79	S5
St Benedict's Catholic College	840	17	S6
Colchester County High School for Girls	874	65	S7
Philip Morant School and College	1,602	-35	S8
TOTAL	9,019	2,078	

Further Education Facility	Label
Colchester Institute	F1
University of Essex	F2
The Sixth Form College Colchester	F3
Colchester Royal Grammar School (Sixth Form)	F4
Colchester County High School for Girls (Sixth Form)	F5
Philip Morant School and College (Sixth Form)	F6

Social Infrastructure - Health

Key Findings

Current Situation within 5km Boundary (May 2016)



11
GP
Practices



4
Hospitals

GPs

- There are 11 GP practices identified within 5km of North Colchester. These facilities are all located to the south of the development area within Colchester, with no facilities within the redline boundary.
- There is an overall surplus in provision of GPs across the wider 5km buffer zone with 19,556 patient spaces. However, this is a theoretical assessment, and the actual pressures are more pressing. It can be seen that at least 2 of the current facilities have a poor patient to GP ratio, in which further development will put increased pressure on existing capacity.

Hospitals

- There are currently four hospitals identified within 5km of East of Colchester, of which one is located in close proximity to the development

Sources

- NHS England, MyNHS Portal datasets (May 2016)
- Health and Social Care Information Centre (HSCIC) dataset (January 2016)

Key Findings

Committed Infrastructure within 5km Boundary

- A review of the Colchester Community Infrastructure Levy: Evidence Base (2011) identified that all projects in the pipeline related to healthcare infrastructure have been abandoned, so at present there are no identified health infrastructure needs.
- Following a review of the Tendring Infrastructure Delivery Plan (2013), there are no identified healthcare infrastructure projects within a 5km radius of North of Colchester

Sources

- Tendring Infrastructure Delivery Plan (2013)
- Colchester Community Infrastructure Levy (2011)

Key Findings

Future and Wider Issues

- North of Colchester sits within North Essex Clinical Commissioning Group, which is an NHS organisation set up by the Health and Social Care Act 2012 to organise the delivery of NHS services in England.
- The CCGs receives funding and are commissioned by NHS England to provide primary care services (including GPs), in turn the CCGs commission most services in their areas to trusts that include hospital and community healthcare.
- This assessment will review the strategy for North East Essex CCG to understand the future issues facing healthcare in Essex.

North Essex Clinical Commissioning Group

- North Essex CCG 5-year plan will look to put people at the centre by commissioning around the needs of people, rather than the service.
- It is projected that demand for older people's services over the next 5-10 years will increase by roughly 20,000 people (those over the age of 55).
- In addition, the health and social care system faces considerable financial challenges over the coming years. The CCG will look to commission integrated health and social care services, promote prevention and early intervention, and promoting self-care to begin diminishing the burden.

Sources

- North Essex Clinical Commissioning Group

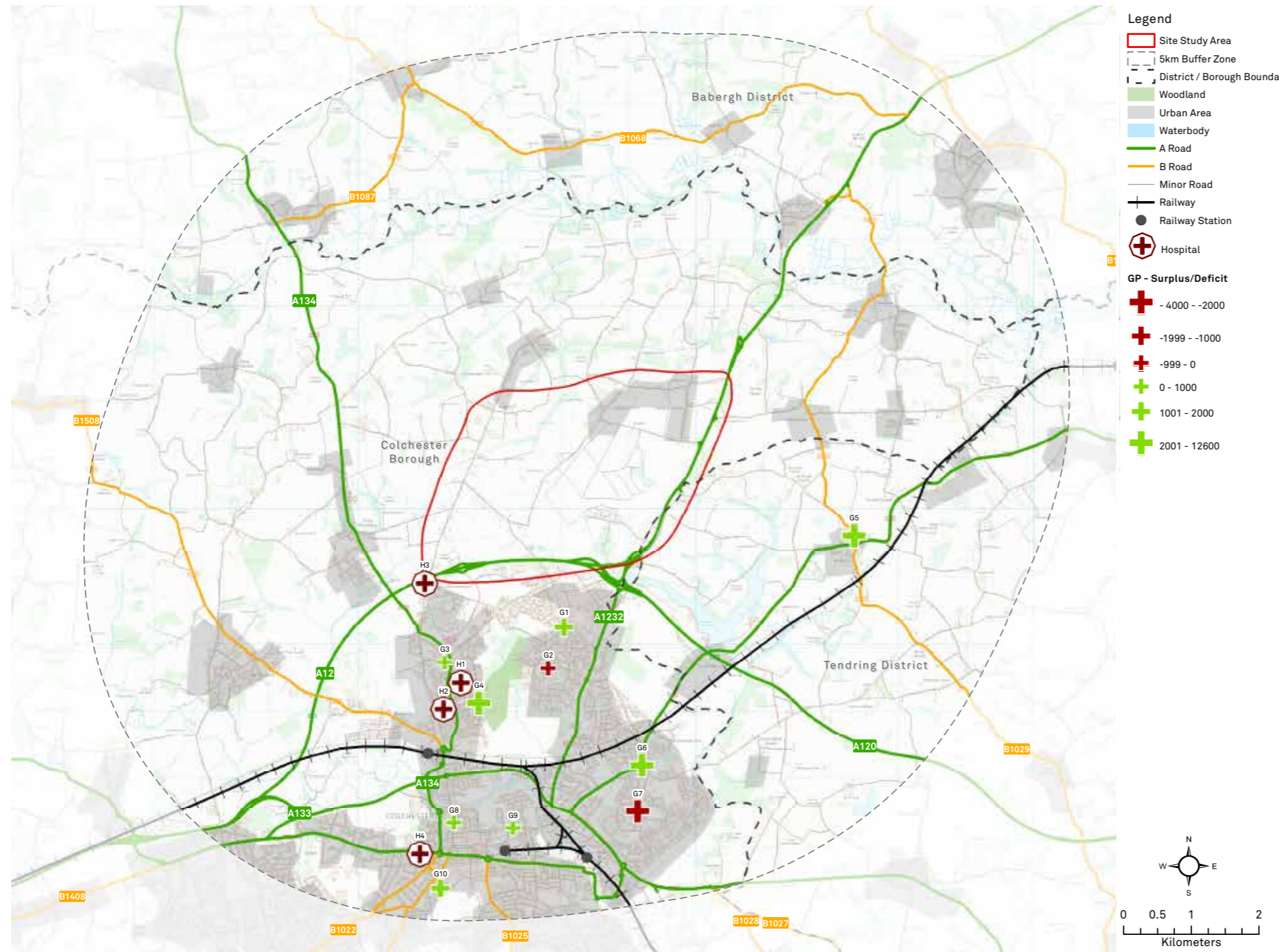


Figure 64: East Colchester / West Tendring Health Infrastructure Context. Source: MyNHS, HSCIC

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GP Capacity Analysis					
Practice Name	Full Time Equivalent GP's	Patients	Capacity	Surplus / Deficit	Label
Bluebell Surgery	3	3,226	4,752	1,526	G1
Highwoods Surgery	3	6,092	5,400	-692	G2
Mill Road Surgery	7	11,792	12,600	808	G3
North Colchester Healthcare Centre	4	4,480	7,200	2,720	G4
The Ardleigh Surgery	5	6,832	9,000	2,168	G5
Parsons Heath Medical Centre	7	4	12,600	12,596	G6
Hawthorn Surgery	2	4,778	2,700	-2,078	G7
North Hill Medical Group	8	13,272	13,950	678	G8
Colchester Medical Practice	5	8,662	9,000	338	G9
Creffield Medical Centre	7	11,446	12,600	1,154	G10
TOTAL	50	70,584	89,802	19,218	

Hospitals	
Hospital Name	Label
Colchester General Hospital	H1
Oaks Hospital	H2
Cambian Fairview Hospital	H3
Essex County Hospital	H4

Social Infrastructure - Community Facilities and Emergency Services

Key Findings

Current Situation within 5km Boundary (May 2016)



– Across the wider 5km buffer zone, the analysis identifies 5 emergency stations comprising two ambulance stations, 2 fire stations and 1 police station.

Libraries

– There are two libraries within Colchester that are within the 5km wider area of the North of Colchester site, both of which are over 4km away.

Youth Centres

– There are two youth centres within 5km of North of Colchester. However, neither youth centres is within close proximity to the development.

Community Centres

– There are at least seven community centres within 5km of the development. These centres range in services provided, but are largely stand alone centres with one room. Two of the community centres are close to the development North of Colchester.

Sources

- East of England Ambulance Services, Essex Police, Essex County Fire & Rescue Services
- Google maps to identify community facilities, libraries and youth centres

Key Findings

Committed Social Infrastructure within 5km Boundary

- A review of Tendring's infrastructure Delivery Plan (2013) has not identified any future projects within the 5km radius of North of Colchester within Tendring as it relates to community facilities and emergency services.
- A review of the Colchester Community Infrastructure Levy Evidence Base (2011) identification of key projects related to community facilities has identified the following within a 5km radius of North of Colchester:

Infrastructure Item	Source	Location	Cost (£m)	Delivery Body
Sports & Recreation Facility	CIL Evidence Base (2011)	North Colchester	6.9	Developer / Colchester BC
Sports & Recreation Facility	CIL Evidence Base (2011)	Wivenhoe and Rowhedge	1.4	Developer / Colchester BC
Sports & Recreation Facility	CIL Evidence Base (2011)	Colchester Town	9.3	Developer / Colchester BC
Community Hall and New Community Centre	CIL Evidence Base (2011)	North Growth Area	1.6	Developer / Colchester BC
Sports & Recreation Facility	CIL Evidence Base (2011)	East Colchester	3	Developer / Colchester BC
Sports & Recreation Facility	CIL Evidence Base (2011)	Stanway	4	Developer / Colchester BC

Table 16: Comitted Social Infrastructure. Source: Colchester Community Infrastructure Levy Evidence Base (2011)

Sources

- Tendring IDP (2013)
- Colchester Community Infrastructure Levy (2011)

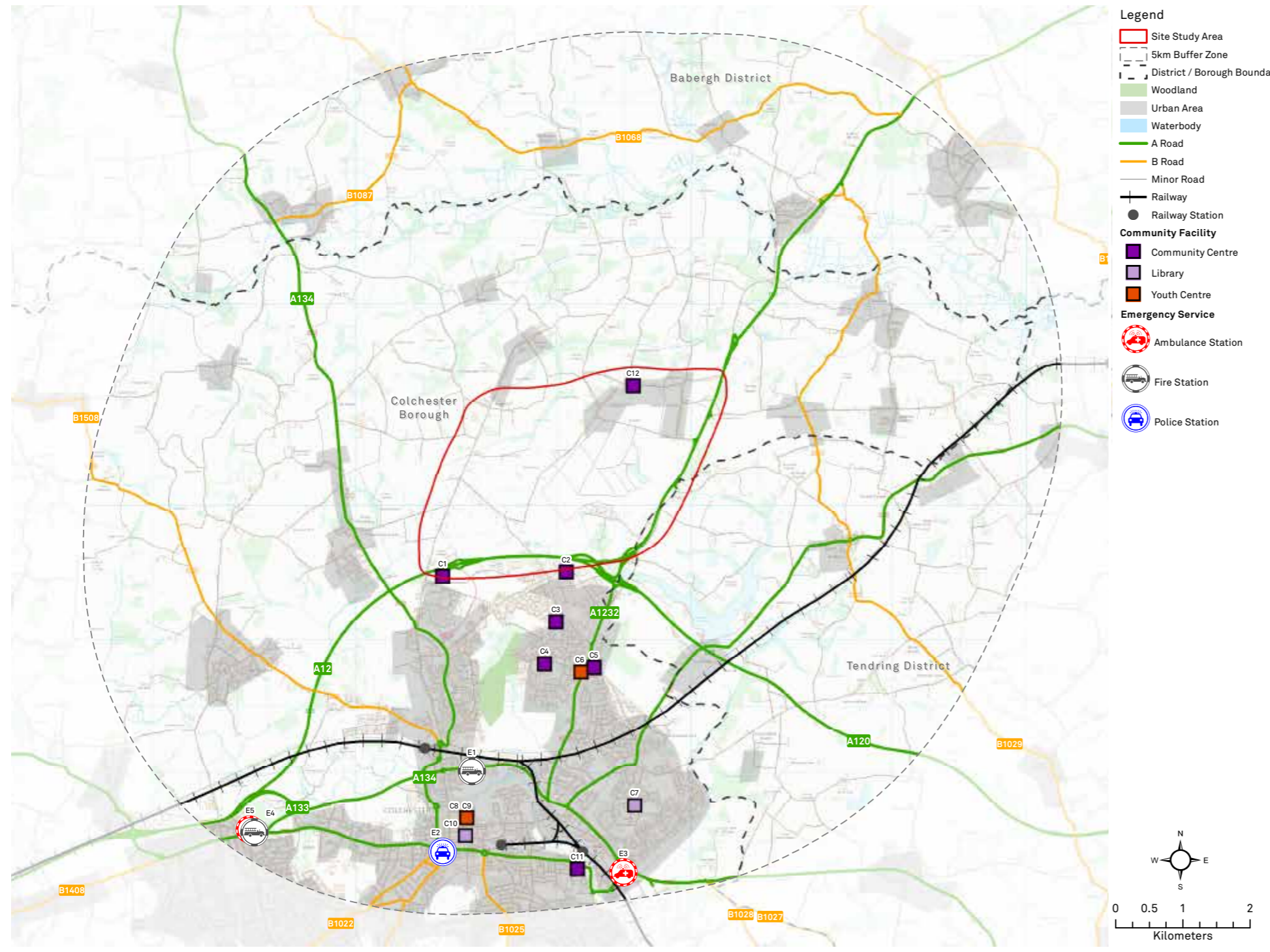
Key Findings

Future and Wider Issues

- A review of ambulance services has identified a change in the future model of ambulance provision by the early 2020s within the East of England's Ambulance Services. This involves a hub and spoke service in order to meet demand from existing population. Traditional ambulance stations act as the main hubs of service, with smaller 24/7 posts acting as the spoke.
- Further work will need to determine whether the capacity of the existing emergency services can cope with the forecast increase in population.
- Further work will need to determine whether the capacity of the existing community facilities can cope with the forecast increase in population. However, it is likely that future development at North of Colchester would need to provide some community offer.

Sources

- East of England Ambulance Services
- Essex Police
- Essex County Fire & Rescue Services



- Legend**
- Site Study Area
 - 5km Buffer Zone
 - District / Borough Boundary
 - Woodland
 - Urban Area
 - Waterbody
 - A Road
 - B Road
 - Minor Road
 - Railway
 - Railway Station
 - Community Facility**
 - Community Centre
 - Library
 - Youth Centre
 - Emergency Service**
 - Ambulance Station
 - Fire Station
 - Police Station

Community Service Facilities		
Name of Facility	Type	Label
Weston Homes Community Stadium	Community Centre	C1
The Centre	Community Centre	C2
Barnardo's Childrens Centre	Community Centre	C3
Highwoods Community Centre	Community Centre	C4
St John's Church Community Centre	Community Centre	C5
Highwoods Youth Centre	Youth Centre	C6
Greenstead Library	Library	C7
North East Area Hub	Youth Centre	C8
Colchester Townhouse	Youth Centre	C9
Colchester Library	Library	C10
Hythe Community Centre Association	Community Centre	C11
Langham Community Centre	Community Centre	C12

Emergency Service Facilities		
Name of Facility	Type	Label
Station 10 Colchester	Fire	E1
Colchester Police Station	Police	E2
Colchester	Ambulance	E3
Urban Search and Rescue (USAR)	Fire	E4
Colchester Ambulance Service	Ambulance	E5

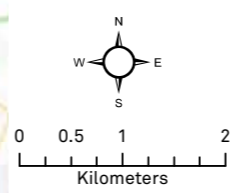


Figure 65: Marks Tey Community Facilities and Emergency Services. Source: East Of England Ambulance Services, Essex Police, Essex County Fire & Rescue Services, Google Maps to Identify Community Facilities, Libraries and Youth Centres

This chapter provides baseline synthesis and key findings associated to the West of Colchester / Marks Tey area of investigation and the wider 5km buffer zone.

04 West of Colchester / Marks Tey

- 4.1 Site Overview and Landuse**
- 4.2 Call for Sites**
- 4.3 Land Ownership and Development Arrangements**
- 4.4 Surrounding Settlement Hierarchy**
- 4.5 Economic Context**
- 4.6 Movement and Connectivity**
- 4.7 Landscape and Strategic Networks**
- 4.8 Agricultural Land Classifications and Mineral Safeguarding Areas**
- 4.9 Ecological Designations**
- 4.10 Parks, Recreation and Historic Environment**
- 4.11 Water Cycle**
- 4.12 Utilities**
- 4.13 Social Infrastructure**

4.1 Site Overview and Landuse

The Marks Tey site is located less than 10km south of West of Colchester and approximately 10km east of Braintree. The majority of the site area is located within the administrative area of Colchester Borough, with the far western section falling in Braintree District. The area can be characterised as being structured by the rail and road infrastructure, with the majority of the land agricultural. The existing settlement of Marks Tey straddles both east and west of the A12, comprising residential uses largely concentrated south of the A120 and some light industry and business uses, particularly around Long Green and towards Copford. The A12 and A120 are both important and strategically significant roads servicing Colchester and the wider North Essex area. Together with the Great Eastern Mainline Railway that follows the the route of the A12 connecting Marks Tey with London, Colchester and beyond. These key transport routes serve to dissect and define the site into three noticeable parcels of land.

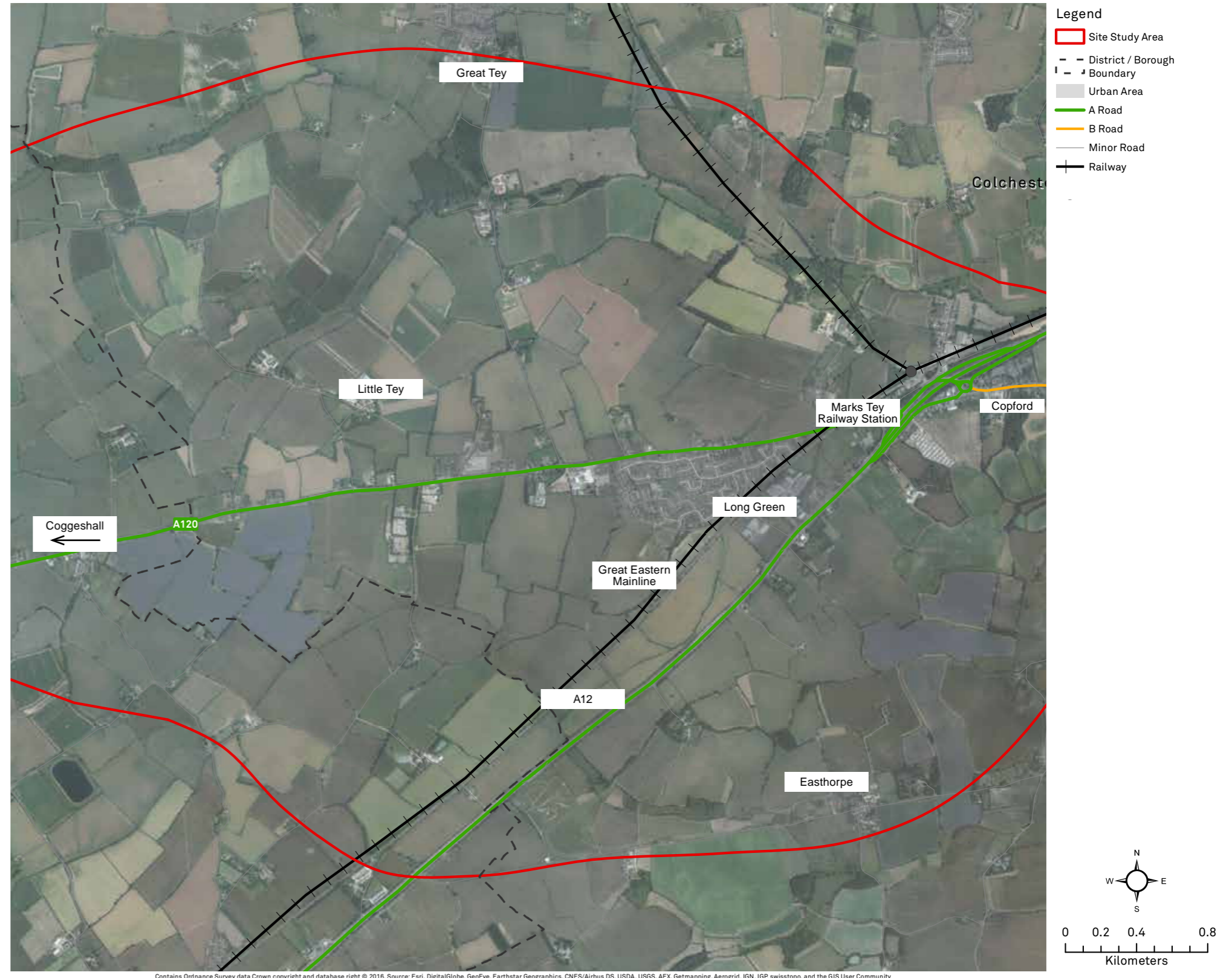


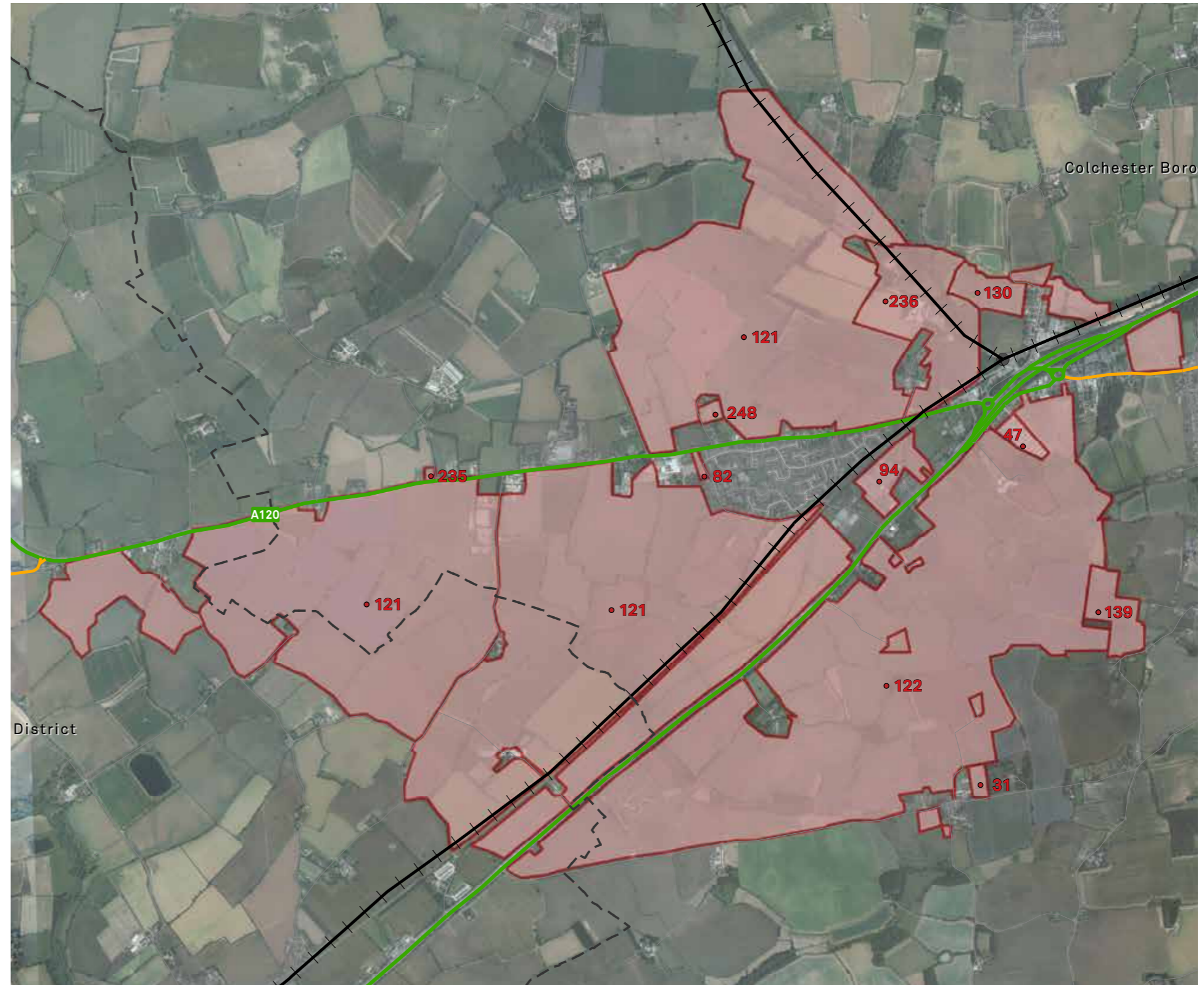
Figure 66: West Colchester / Marks Tey Context

4.2 Call for Sites

Key Findings

- The Call for Sites process for Colchester to support the development of the new Local Plan identified 11 sites associated with the Marks Tey proposed development area, amounting to 1069ha of potentially developable land
- The individual site detail submitted for the Call for Sites is shown below in Table 177
- Aggregated, the individual sites have the capacity in principle (i.e. before site capacity testing) to accommodate at least 10,000 homes, equivalent to an approximate population of 24,000.

Call for Sites Reference	Location	Proposed Use	Site Area (ha)
031	Easthorpe Road	Residential	3.219
047	London Road	Residential	3.095
082	Wilsons Lane	Residential	0.613
094	Old London Road	Residential	8.854
121	Gateway 120	Mixed	666.898
122	Land adjacent to A12	Mixed	323.454
130	North Lane	Residential	13.706
139	Rectory Road, Copford Road	Residential	9.881
235	Salmon's Corner, Great Tey	Residential	0.373
236	Brickworks, Church Lane	Residential	37.99
248	Motts Lane	Residential	1.245
Total Site Area:			1069.328ha



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Figure 67: West Colchester / Marks Tey Landuse Source: Colchester BC Call for Sites (2014/2015)

4.3 Land Promoters and Development Agreements

Key Findings

- Land around Marks Tey is principally being put forward by 2 separate promoters who are each seeking to deliver substantial development areas as described below.
- There are also several areas of land north of the A120 and west of Great Tey Road, which have not been put forward through the Call for Sites process, but which it is understood could be brought forward for development through the Gateway 120 consortium.

RF West Ltd

- RF West Land Ltd are representing themselves and two adjoining owners - one (Livelihoods) and the other a Mr Sherwood (Easthorpe Estate) on land to the east of the A12.

Gateway 120 Consortium

- The land being promoted by Gateway 120 is located north and south of the A120
- The Gateway 120 consortium is composed of about 4 separate ownerships with an agreement in place between all landowners on the promotion and development of the land

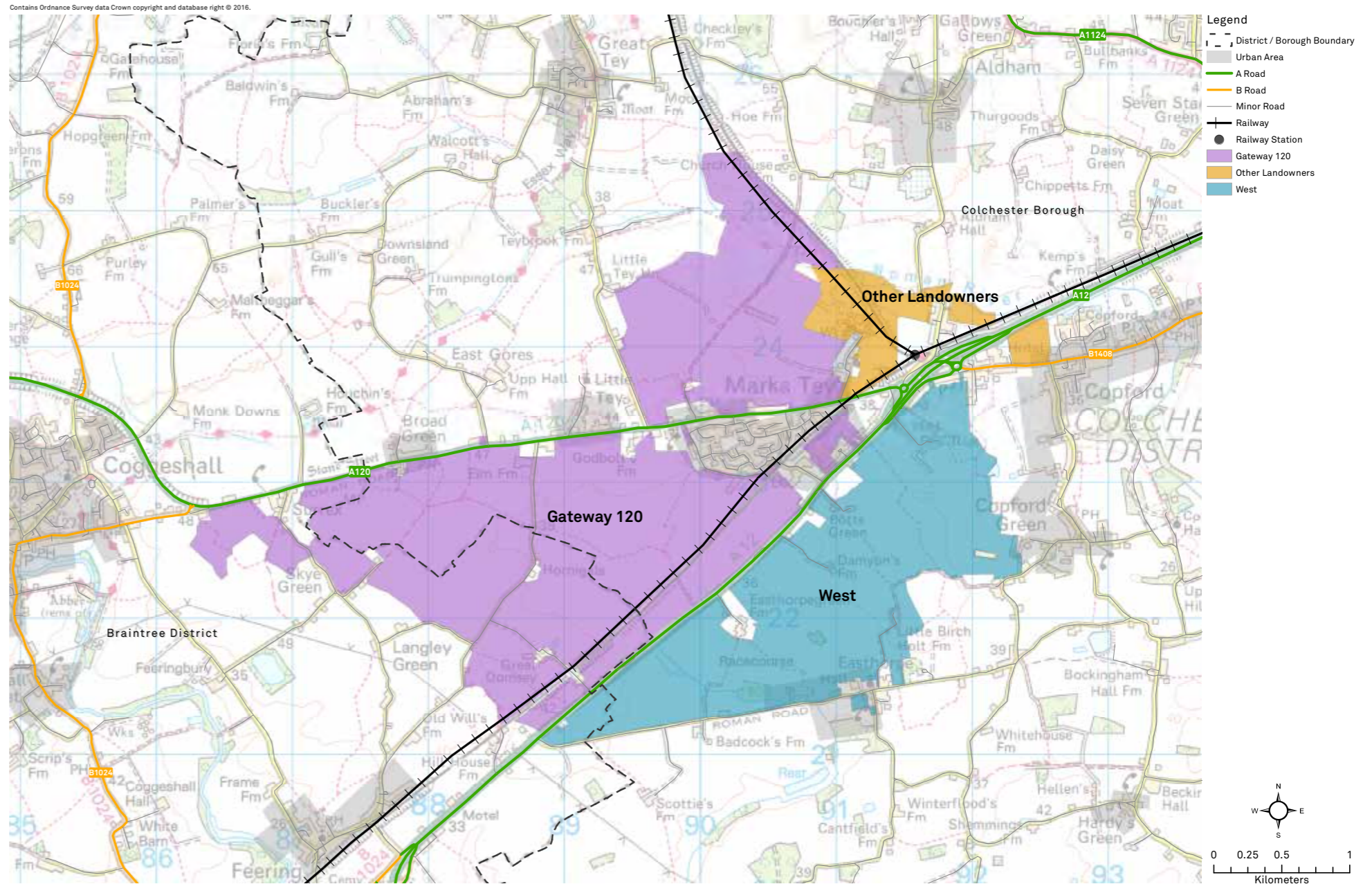


Figure 68: West Colchester / Marks Tey Land Ownership. Source: Provided by Colchester Borough Council

Table 18: Preparation Documents Commissioned by Promoters to Date

Document	Prepared By
RF West Ltd	
Vision Document	Andrew Martin Planning
Flood Risk and Drainage Appraisal	Ardent: Consulting Engineers
Utility Statement	Ardent: Consulting Engineers
Transport Appraisal	Ardent: Consulting Engineers
Archaeology Assessment	Colchester Archaeological Trust
Preliminary Ecological Appraisal	Essex Ecology Services Limited
Gateway 120	
A120 Alignment Study	Peter Brett Associates
Ecology Surveys	L&Q London Housing Association
Archaeology Surveys	L&Q London Housing Association
Landscape Assessment	L&Q London Housing Association
Completion of Opportunities and Constraints	L&Q London Housing Association
Highways Assessment	L&Q London Housing Association
Services Capacity Studies	L&Q London Housing Association
Surface Water and Foul Drainage Solutions	L&Q London Housing Association

4.4 Surrounding Settlement Hierarchy

Key Findings

- The linear settlement of Marks Tey straddles both east and west of the A12 which causes a dissipated provision of services and facilities. Marks Tey is classified by Colchester as a 'Village' within their settlement hierarchy.
- The village of Marks Tey is characterised by the major transit roads of the A12 and A120 it is situated along, which contribute towards giving it a more urbanised disposition than the low density population of Marks Tey would suggest.
- Settlements in the immediate vicinity are predominantly low-density villages with a strong rural character. These include nearby Easthorpe, which straddles the southern boundary of the Site Study Area, and Copford Green 0.8km to the east of the Site Study Area.
- There are also sparsely populated areas with scattered areas to the north and south of the Site Study Area, including Great Tey and Aldham to the north, and Messing to the south.
- The Regional Centre of Stanway is located approximately 2.3km to the east of the Site Study Area. It is second only to Colchester Town Centre itself within Colchester's Settlement Hierarchy. The 2008 adopted Core Strategy identified Stanway as a focus of potential development, both for housing and employment.
- To the west, the next notable settlement is Coggeshall which is approximately 2.1km away and a Service Village offering essential amenities and an attractive place to live.
- To the south west Feering, and Kelvedon further afield, are also both classified as Service Villages.

Sources

- Adopted 2008 Colchester Core Strategy
- Braintree Core Strategy Local Development Document 2011
- Local Plan Issues and Options January 2015

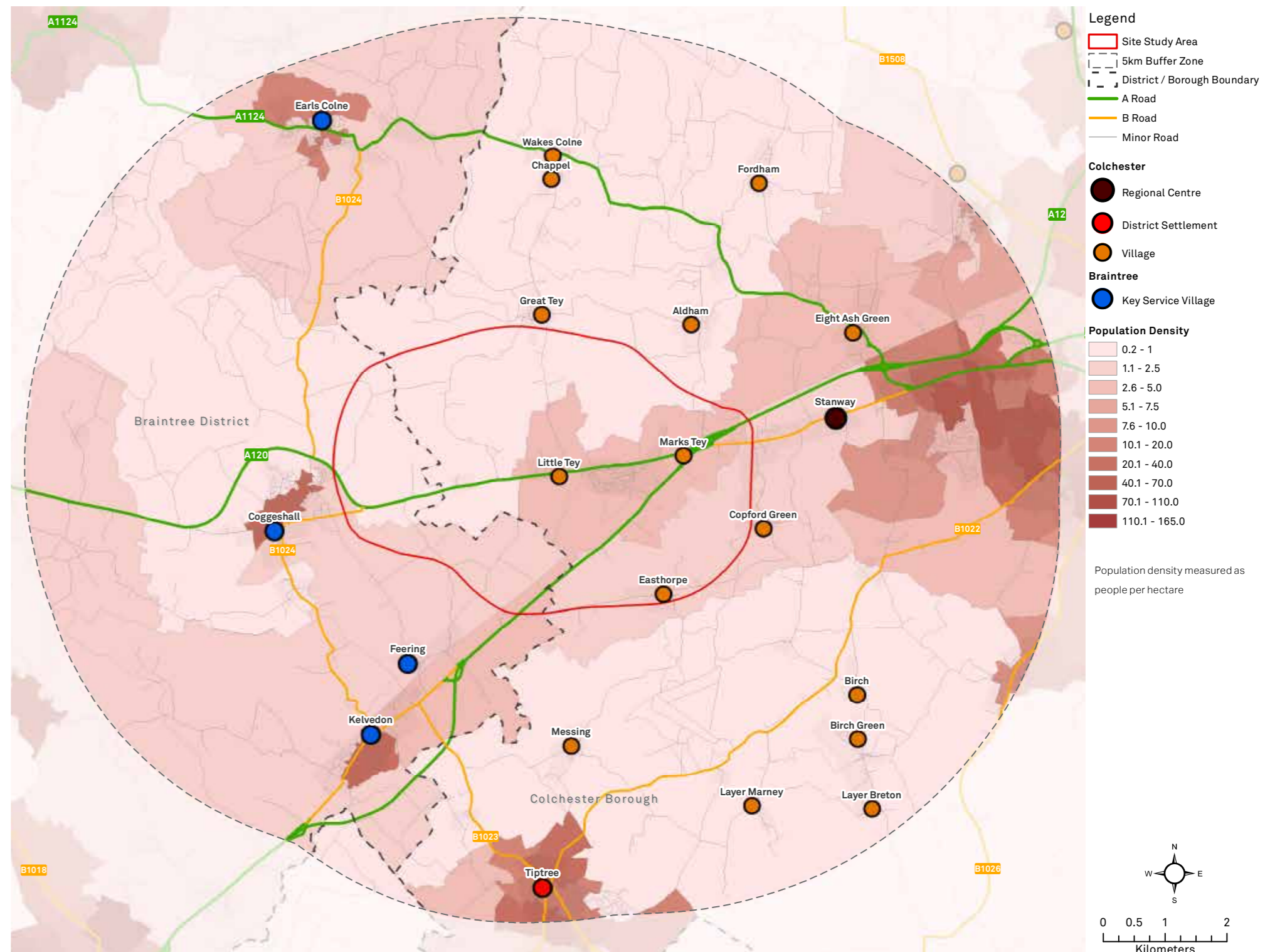


Figure 69: Marks Tey Surrounding Settlement Hierarchy. Source: AECOM.

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4.5 Economic Context

Key Findings

- Two recognised employment clusters exist within Marks Tey. These are small in nature consisting of light industrial, a garden centre and supporting horticultural services. The Marks Tey Brickwork, operational since 1863, is also located off Church Lane.
- The settlement of Stanway to the east, which together with Copford, effectively forms a continual linear development between with Marks Tey along the B1408 (London Road) provides a more established employment area, and accommodates more than a third (35% or 22.5ha) of Colchester' Borough Council's available employment land.
- Notable employment centres at Stanway include Tollgate Business Park (3,250sqm of B1, B2 and B8) and Westside Centre (mix of light industrial, storage and office units)
- Tollgate centre located in Stanway is the largest retail park in the Colchester region.
- The Tollgate Partnership recently resubmitted plans for a major shopping centre on 20 acres of land in Stanway, comprising shops, restaurants and a cinema. The plans were initially refused permission in February, the resubmitted application is fundamentally the same as the original but includes a more robust highways report which details improvements to the surrounding infrastructure including the A12 junction.
- The relationship of the potential Marks Tey Garden Community with Stanway will require careful consideration. The relationship might be informed by how Stanway continues to develop, and the resulting balance of floorspace between employment land, retail and other leisure uses that results, and its related catchment area. Added to this any local desire to maintain some form of separation (physical and/or functional) between Marks Tey, Copford and Stanway.
- Marks Tey further acts as a key commuter link into London, provided by the rail station at Marks Tey. There limited economic activity currently, however the potential to leverage the strategic location of the station.

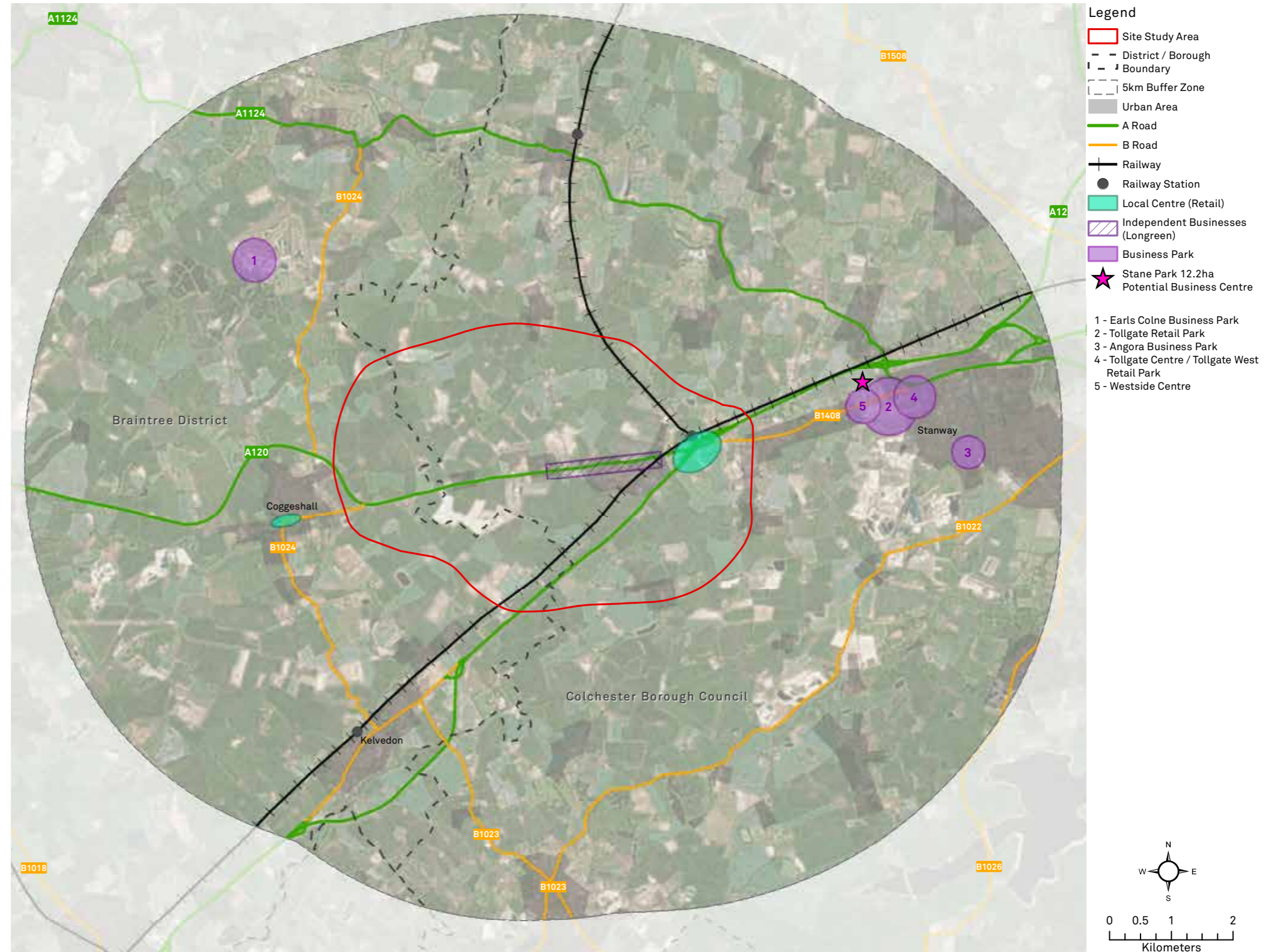


Figure 70: Marks Tey Economic Context. Source: AECOM

4.6 Utilities

Key Findings

Electricity

- There is spare capacity in the electrical network in this area. Any large scale development of new homes would trigger the need for a new primary substation, but there is spare capacity in the new substation at Witham to support the early phases. New distribution infrastructure would be needed.
- Existing substation at Marks Tey, in which UK Power Networks has confirmed that there is spare capacity for early phases of development, but this would not be sufficient to serve full garden communities development in this area and a further new primary substation located north of the A120 would be required. Further detailed assessment required to understand quantum and timings.
- A 33,000V pole line runs through Marks Tey, however this should have limited impact on future development beyond a visual disruption.

Water Supply

- In a meeting with AECOM on 20th May 2016, Anglian Water advised that subject to detailed studies, it should be possible to supply the development with water from existing supply sources to the south, subject to upgrade and new infrastructure.

Gas

- A medium pressure (MP) main that runs along the southern carriageway of the A12, and a low pressure (LP) main that runs along the B1408 London Road. According to an email from National Grid Gas in September 2014, the medium pressure network is expected to deliver predicted additional demand, but the low pressure network will require reinforcement.

Waste Water

- Anglian Water has previously had discussions with a developer for 3000 houses in the area. Marks Tey falls in Copford Water Recycling Centre (SWT) catchment.
- In a meeting held between AECOM and Anglian Water on 20th May 2016, it was confirmed that water supply should be possible from the Ardleigh Reservoir, immediately north of the A120, subject to new and upgraded existing infrastructure.

Telecommunications

- Evidence appears limited. Additional investigation will be required.

Sources

- Anglian Water
- National Grid

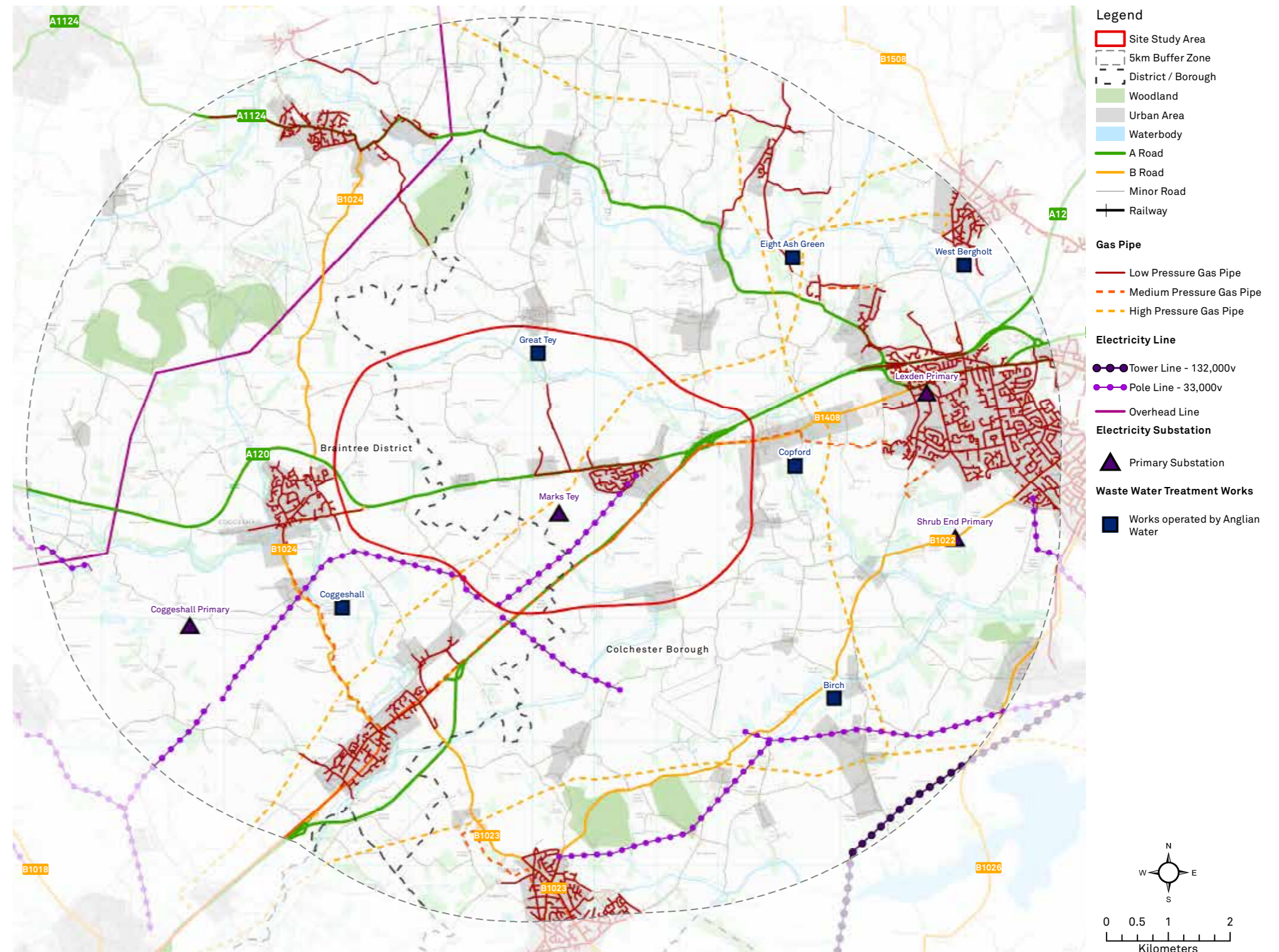


Figure 71: Marks Tey Utilities. Source: Anglian Water / National Grid

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4.7 Landscape Character, Sensitivity and Condition

Key Findings

- The Essex Landscape Character Assessment identifies the majority of the Site Study Area as sitting within the Gosfield Wooded Farmland. Both Colchester Borough and Braintree District Landscape Character Assessments classify the area as Farmland Plateau:
 - It is characterised as a raised farmland plateau with medium to large, irregular shaped, intensive, arable fields with mature hedgerows giving it an enclosed character that is typical of the wider landscape.
 - The site has a largely flat to gently undulating landform lying between 25m and 30m AOD, gradually increasing to 40m and 50m AOD to the west and north. The lower-lying land is associated with watercourses that flow along these eastern and southern boundaries.
- The main settlement of Marks Tey is located towards the centre of the Site Study Area. The structure is defined by the rail and road infrastructure and with a mix of post-1960s suburbs around Ashbury Drive and Godmans Lane, together with small commercial and industrial uses.
- There are a number of smaller settlements around the site, including, Little Tey and Broad Green (to the west), Easthorpe (in the south) and Copford Green (to the east) as well as several isolated farms within the area including Wishingwell Farm, Hammer Farm and Bircholt Farm.
- The wooded Roman River valley provides a boundary to the north and east, while the southern part of the Site Study Area is crossed by the River Blackwater. There are several ponds and irrigation reservoirs dotted across the Site Study Area (Marks Tey Vision Document, 2014).
- Woodland is relatively scarce in the Site Study Area and comprises largely of small scattered woods and plantations. Stands of tall ruderal vegetation are scattered across the Site Study Area. This is often associated with unmanaged areas and spoil heaps.
- The eastern section of the Site Study Area contributes to a rural separation between Colchester and adjacent settlements in the west, including Stanway, Copford and Mark's Tey. This is essential in helping retain the character and identity of these settlements. Away from the A12 towards Easthorpe and Copford Green there is a strong sense of rural tranquillity.
- Extensive views across the majority of the Site Study Area are limited due to intervening woodland and mature and dense vegetated field boundaries.
- The surface geology comprises Brickearths and Loams to the east along the Roman River corridor, overlaying London Clay. The rest of the Site Study Area comprises Claygate and Bagshot Beds (Landscape Character Assessment - Surface Geology, 2005).

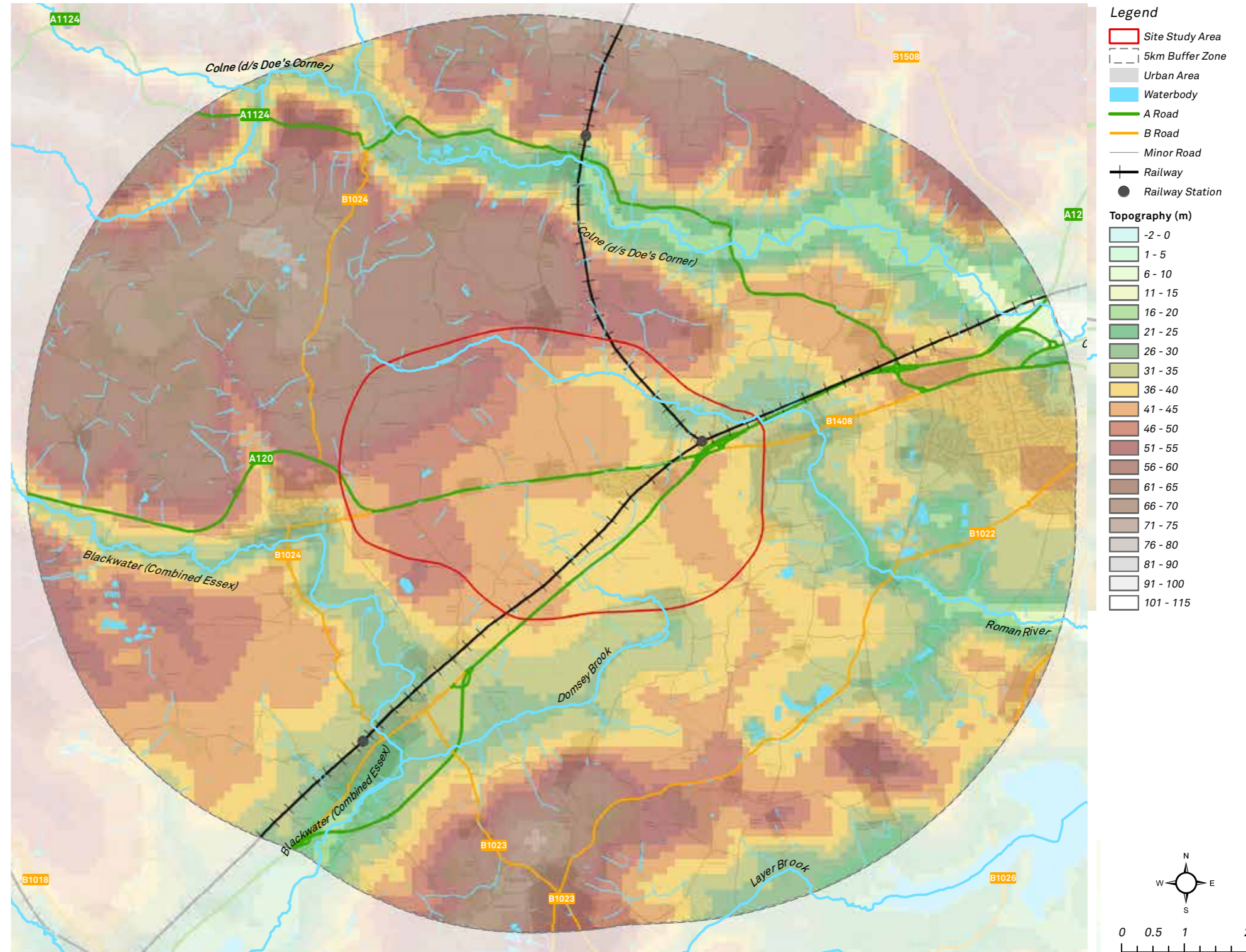


Figure 72: Marks Tey Landscape and Topography. Source: Natural England / Environment Agency

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Figure 73: View across the Mark's Tey Site Area looking north with defined by the major A12 and A120 roads. Source: Bing Maps Bird's Eye View



Figure 74: View towards Marks Tey looking west with the urban edge of Colchester in the foreground. Source: Bing Maps Bird's Eye View

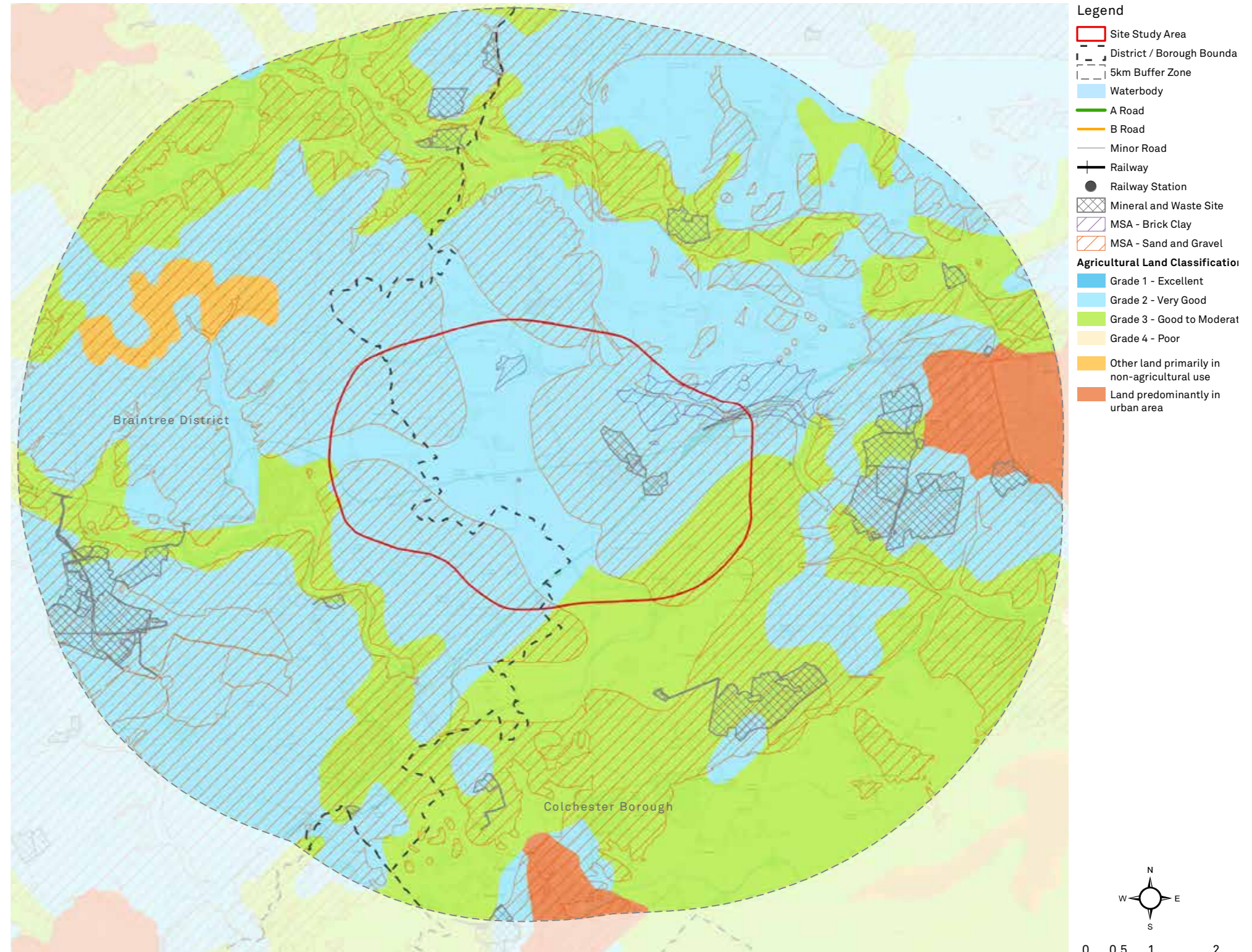
Sources

- Natural England, National Character Areas - GIS Digital Boundary Datasets
- OS Terrain 50
- Environment Agency Geostore
- Natural England, National Character Areas
- Soilscape, National Soil Resources Institute (accessed through magic.co.uk)
- Mark's Tey Flood Risk and Drainage Appraisal (October 2014)
- Landscape Character Assessment (November 2005)
- Mark's Tey Vision Document (October 2014)
- Colchester Borough Landscape Character Assessment (November 2005)
- Surface Geology

4.8 Agricultural Land Classifications and Mineral Safeguarding Areas

Key Findings

- The quality of agricultural land is predominantly very good (Grade 2) with a portion to the south west of the Site Study Area as good to moderate (Grade 3).
- In addition, sand and gravel Mineral Safeguarding Area covers the majority of the site. This does not prevent future development within Marks Tey, however the designation ensures that mineral resources are considered in making land-use planning decisions.
- In addition there is brick and clay Mineral Safeguarding Area and a Mineral and Waste site within the Site Study Area



Sources

- Natural England, National Character Areas - GIS Digital Boundary

Figure 75: Marks Tey Agricultural Land Classifications and Mineral Safeguarding Areas. Source: Natural England / Mineral Safeguarding Zones Received from Essex County Council

4.9 Ecological Designations

Key Findings

- There are no European designations on the Site Study Area or within the 5km buffer zone.
- Marks Tey Brick Pit **(1)** to the north is a designated SSSI, a geological site designated for its exposures of Pleistocene sediments, and is of favourable condition currently. Outside the Site Study Area but within the buffer zone Chalkney Wood **(2)** (north and south sites) is another designated SSSI which is a broadleaved, mixed and yew woodland of favourable condition.
- There are no local nature reserves within the Site Study Area. Lexden Park **(3)** Local Nature Reserve is located to the east of the buffer zone and consists of a combination of species-rich meadow and woodland dominated by oak.
- Two Local Wildlife Sites are located in the north of the site (Marks Tey Brick Pit and Stonefield Strip). Stonefield Strip has features indicating it may be an Ancient Woodland.
- There are concentrations of important habitat along and adjoining the corridors of the Domsey Brook and Roman River.
- There is a more or less intact network of hedgerows throughout the Site Study Area which include moderately species-rich mature and veteran trees. A third of the network of existing hedgerows on and around the Site Study Area are classified as 'important' in terms of their structure and floral composition. Many of the hedges also have associated land drains or ditches (Mark's Tey Vision Document, 2014).
- The shallow sided valley of Domsey Brook, a tributary of the Blackwater River is located to the south west of the site. It is reported that it can seasonally inundate adjoining areas during the winter, and this is reflected in the presence of associated habitats such as a series of cricket bat willow plantations which stand among marsh or marshy grassland.

Sources

- Natural England, National Character Areas - GIS Digital Boundary Datasets
- OS Terrain 50

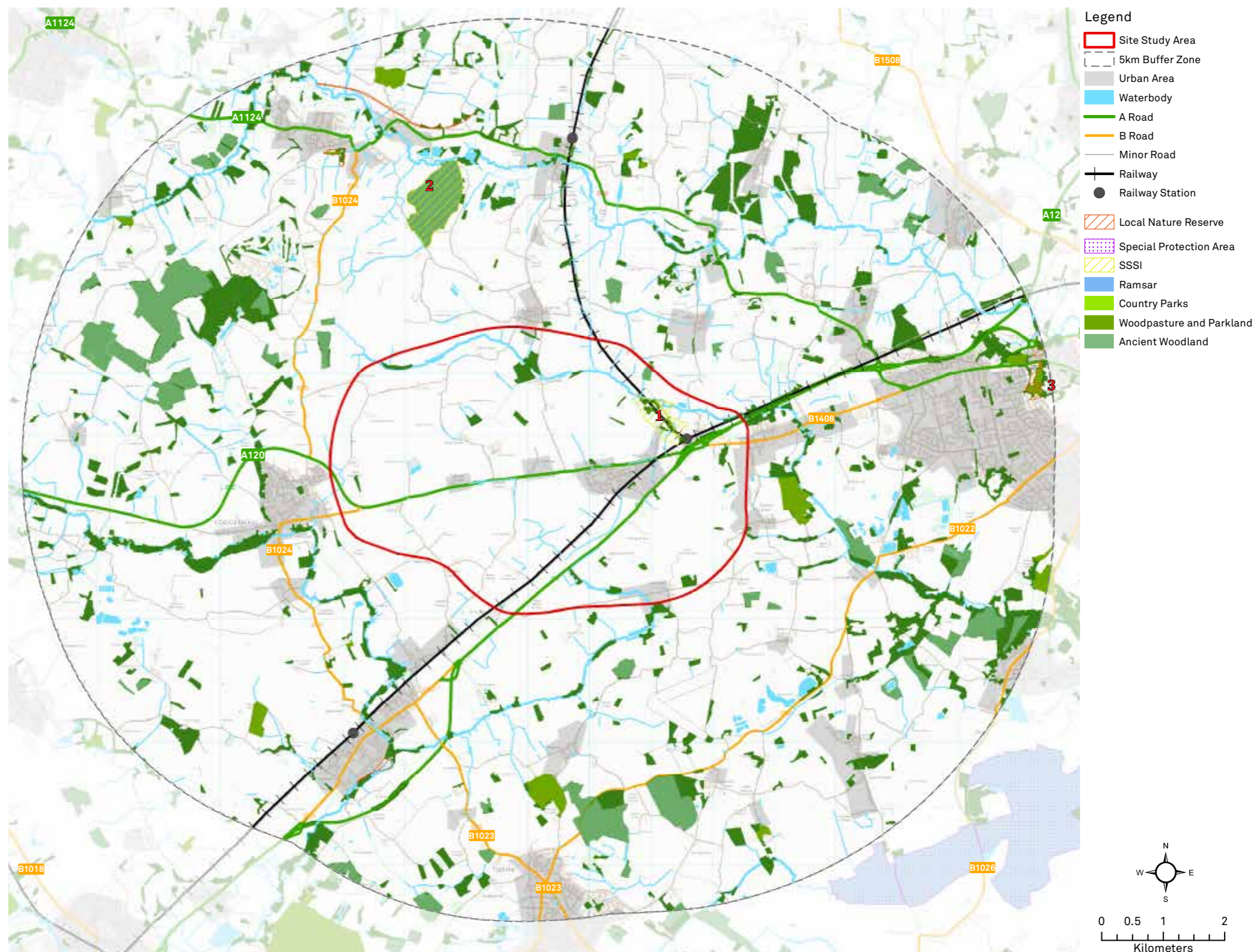


Figure 76: Marks Tey Ecological Designations. Source: Natural England / Environment Agency

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4.10 Parks, Recreation and Historic Environment

Key Findings

- The Grade I listed Marks Tey Hall, Easthorpe Hall Farm and Easthorpe Hall are important historic buildings within and adjacent to the site.
- The two most important individual heritage buildings within the broad site area are:
 - St. Peters Church, Marks Tey
 - St James the Less Church, Little Tey
- There are numerous Grade II listed buildings and a lesser number of Grade II* listed buildings. These are located to the periphery of the site area, and through the wider 5km buffer area. In general there tends to be an agricultural relationship, such as a barn, or farmhouse. As well as their individual architectural importance, their rural setting is likely to be an important part of their listing.

Sources

- Colchester Borough Council Country Parks and LNRs (accessed through <http://www.colchester.gov.uk/article/11794/Country-Parks-and-Local-Nature-Reserves>)
- OS Terrain 50
- Natural England GIS Digital Boundary Datasets
- Historic England

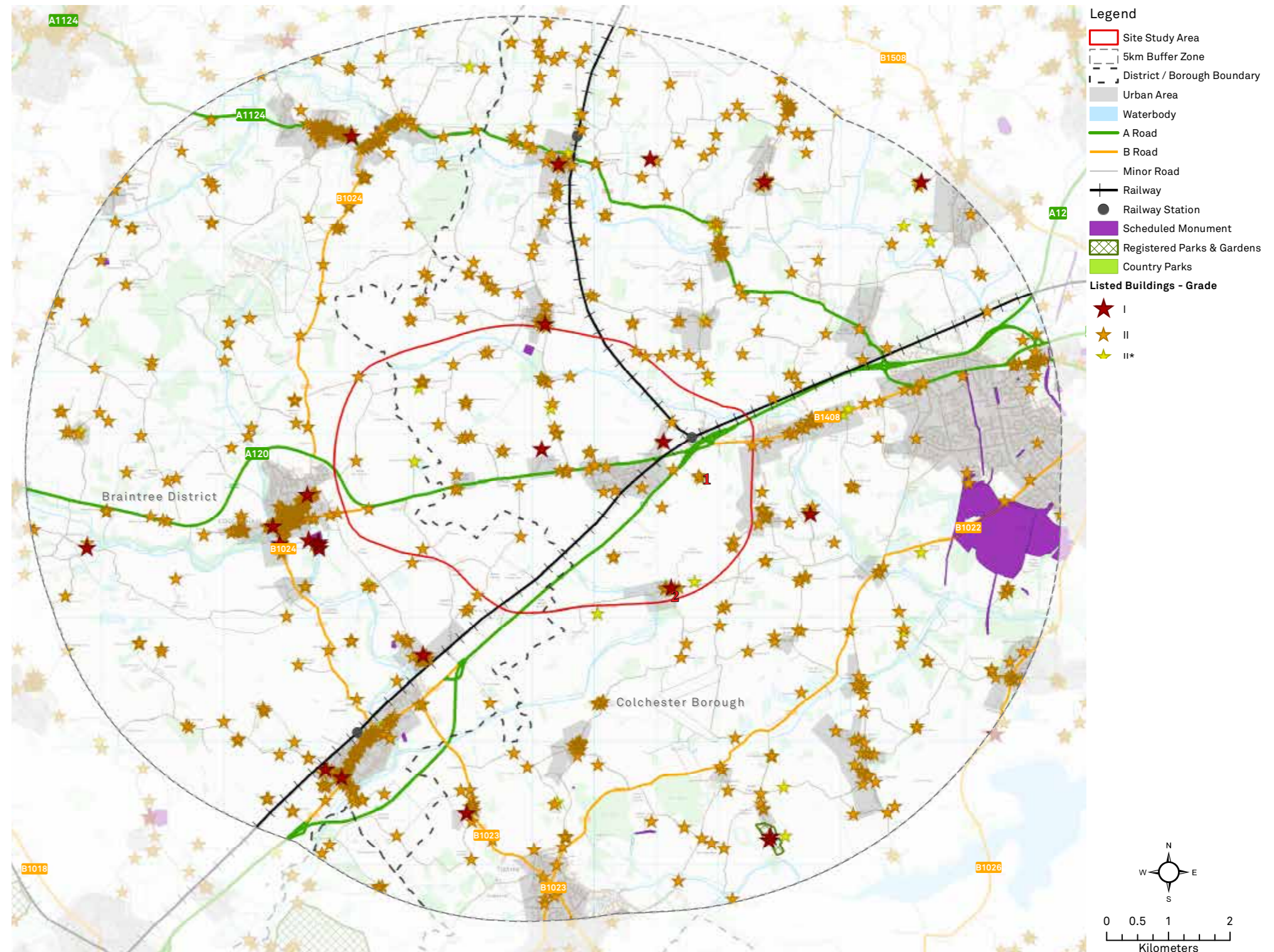


Figure 77: Marks Tey Landscape and Topography. Source: English Heritage / Natural England

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4.11 Water Cycle

Key Findings

- Roman River and its associated shallow valley cut across the northern part of the Site Study Area, before joining the River Colne to the south of Wivenhoe (outside site boundary). In the south of the Site Study Area is Domsey Brook, which flows south west, and joins the River Blackwater to the east of Kelvedon. There are concentrations of important habitat along and adjoining the corridors of the Domsey Brook and Roman River.
- The Roman River is a small watercourse which retains, in parts, relatively natural features such as riffle and pool. The bed is variable, with sand and gravel and silt in different parts. Much of it is shaded by trees and scrub.
- Both the Domsey Brook and Roman River are highly modified water courses. They are low lying and calcareous with only moderate ecological potential. Both are considered to be at risk of further deterioration.
- Flood risk zones 2 and 3 are generally concentrated to the narrow flood plains of the Domsey Brook.
- The Site Study Area is within surface and groundwater nitrate vulnerability zones, and surface water safeguard zone for Nitrate and Pesticides.
- There are a number of drainage ditches and small streams located across the Site Study Area. Within Marks Tey, the surface water networks are at capacity and potential developments will need to deal with their surface run-off in a way that does not impose any additional load on the system.
- The region east of Colchester (referred to in the Anglian Water development plan as "South Essex") is predicted to be in water deficit condition by 2030 and water will need to be delivered from other areas within the Anglian Water region, or by neighbouring water companies. This is based on average growth trends.

Sources

- Natural England - GIS Digital Boundary Datasets
- OS Terrain 50
- Environment Agency Geostore

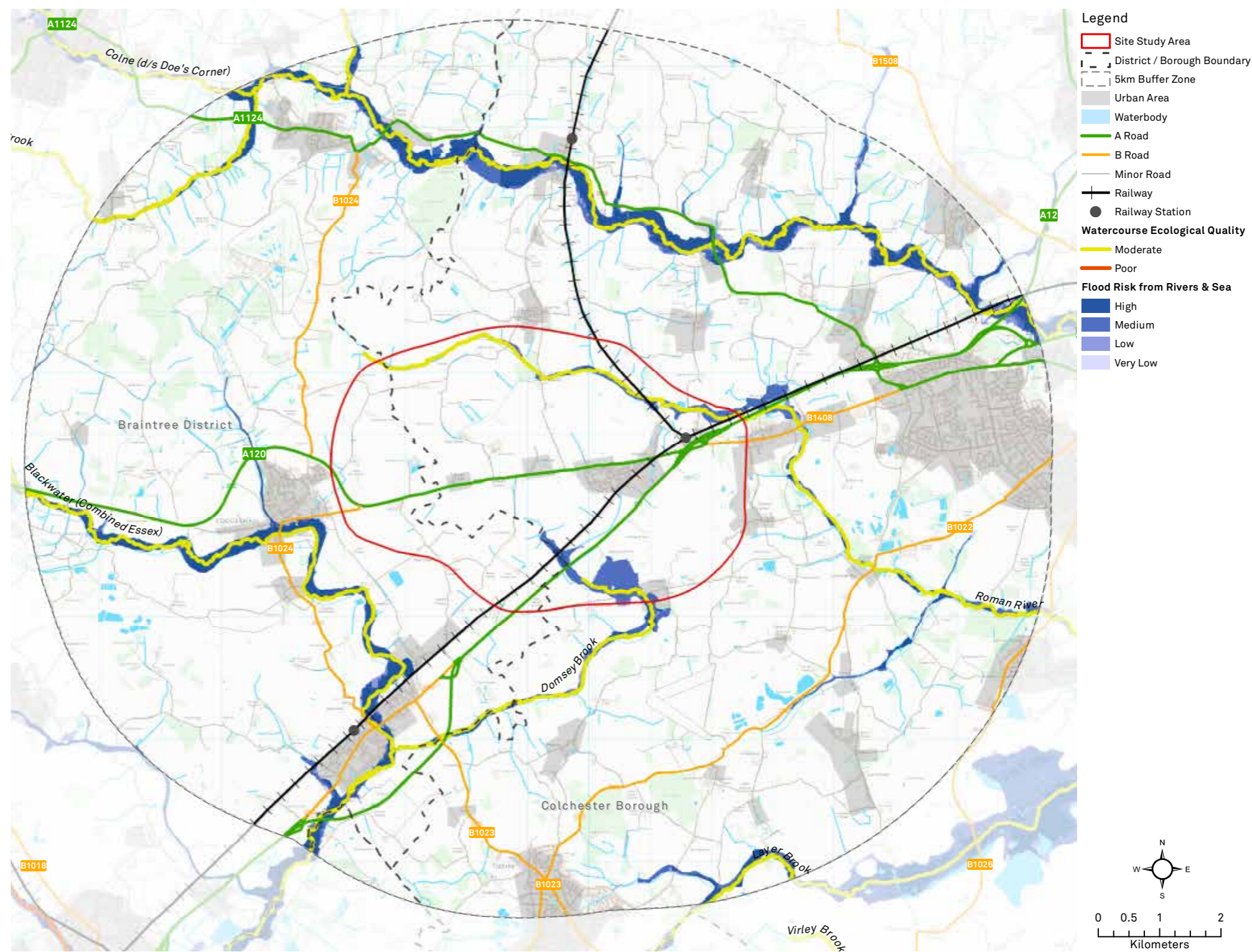


Figure 78: Marks Tey Water Cycle. Source: Environment Agency

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4.12 Movement and Connectivity

Key Findings

- The site predominantly south of Marks Tey Station (operated by Abellio Greater Anglia) which provides 5 tph towards London & 4tph to Colchester during the weekday peak hour. The rail line runs in a north-south at-grade alignment through the site. A new station building and 'kiss & drop' facility was instated in 2012, at a cost of approx. £2 million.
- The station provides for up to 257 car parking and 60 cycle parking spaces, observations would suggest parking.
- The location of the station with reference to 400m and 800m walk distances, provides accessibility to the northern fringes of the site only, accessibility levels within the remaining areas of the site could be classed as 'poor'
- The Marks Tey interchange, at grade separated double roundabout connecting the A120 with the A12 via 'slip' access is located at the northern edge of the site. Highways England in their A12 / A120 Route Based Strategy March 2013' identify sections of carriageway north around Witham (junction 23) and Junction 25 (Marks Tey) as key constraints on the A12. ECC identified the A120 as a 'weak link' in the strategic trunk road network, with localised constraints at Marks Farm Roundabout, A120 junction with Station Road (Marks Tey) and the A120 east of Coggeshall to the A12 Link (delay is caused by closely spaces junctions within Marks Tey). Options for improvements to the A120 corridor and its interchange with the A12 are currently being considered by ECC and Highways England.
- The A12 strategic trunk road runs in a north-south direction running through the site.
- The B1408 London Road connects Colchester with the Marks Tey interchange, running along the northern periphery of the site.
- A number of points of access exists all of which are small access roads formed with the main highway infrastructure.
- Pedestrian footways are limited to main roads providing limited connectivity
- No National Cycle Network (NCN) routes of note in close proximity to the site
- An existing pedestrian grade separated connection over the A12 between London Road and the A120 exists, providing step free access to north and southbound bus stops on the A120 (National Express 481 and 484, Routes 71,71c, 71x, Route SX 133, Route 70).

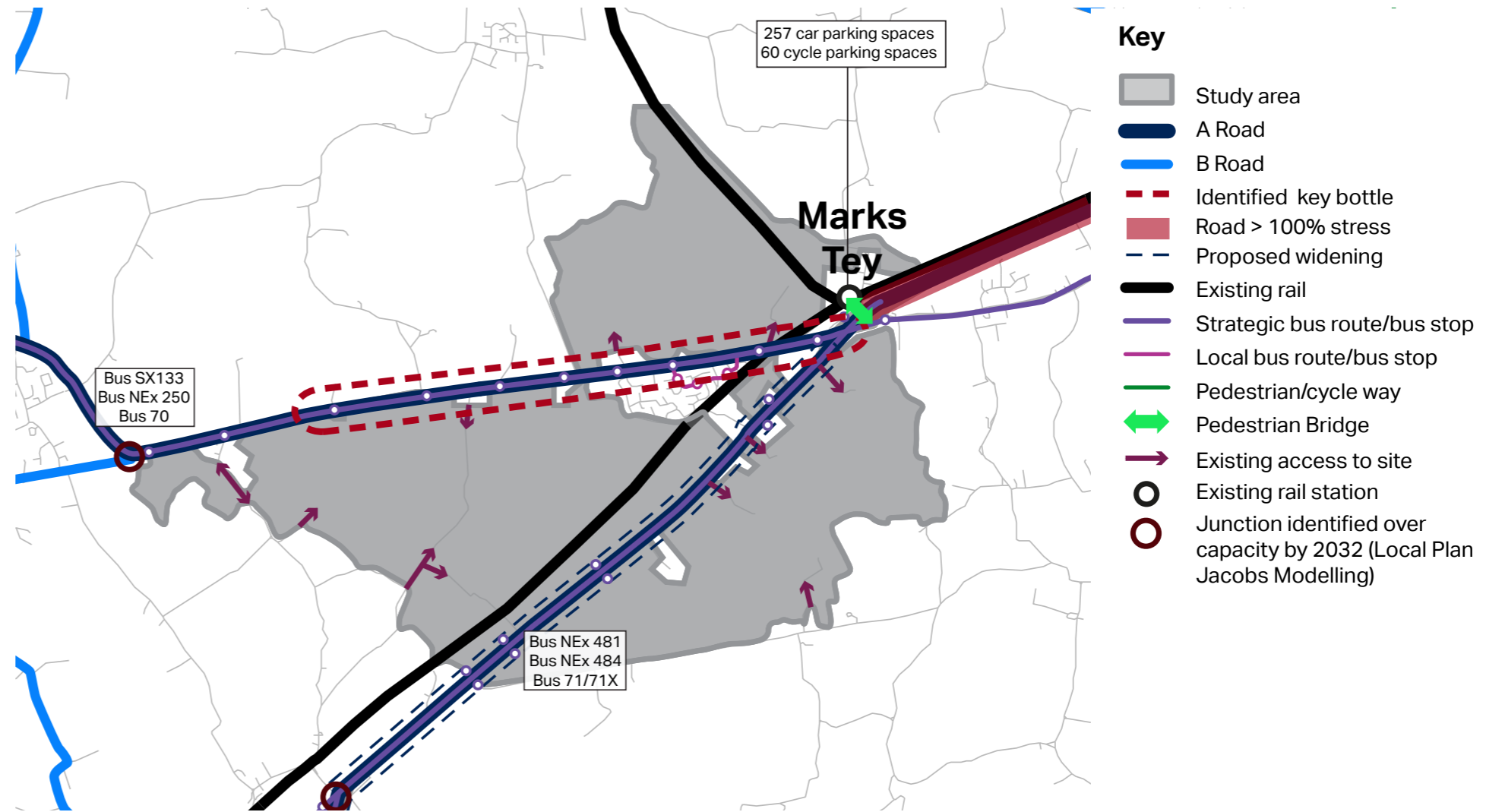


Figure 79: Marks Tey Movement Network. AECOM.

SWOT - Strategic network

	Strengths	Weaknesses	Opportunities	Constraints
A12	Direct access to the A12	Level of noise and pollution from road network. Road corridor creates barrier of movement between different parts of the site Junction 25 currently experiences high levels of traffic congestion	Upgrade to junction 25 Potential to consider access to A12 and relationship with A120 in context of a possible new Garden Community in and around Marks Tey.	Impact on the role of the strategic highway infrastructure
A120	Direct access to the A120	Level of noise and pollution from road network. Sections of the A120 currently subject to high levels of congestion	Possible A120 alignment could create a new junction on the A120 to provide access to the site Downgrade the existing A120 alignment through Marks Tey to a local access road on which public transport could operate	Car orientated development to prevail if site isn't connected to a rail network Unlikely that the future capacity of the GEML will accommodate continued demand as establish within the Anglia Route Study
GEML	Station located within the boundary of the site Direct, quick and frequent service to Chelmsford and London (westbound), Colchester, Ipswich and Norwich (eastbound)	Due to several barriers to movement (rail line, A12), the existing station location is constrained Capacity constraints on the GEML	Improve connections to the station via the different of the site through both cycle/pedestrian routes and public transport network	A car orientated development will prevail if a bus network through the site and connections to rail based transport
Bus network	Interurban and local bus services currently operate on both the A12 and the A120 and stopping at Marks Tey Rail Station	Low frequency interurban services	Increase the number of existing services to provide greater frequency. Integrate bus services within the site - all parts of the development located within walking distance of a stop	A car orientated development will prevail with short distance trips dominated by car use without clear integration of cycle and pedestrian infrastructure .
Cycle network	Existing pedestrian and cycle bridge over the A12 providing access to station	No existing pedestrian or cycle network of note in close proximity to the site. No viable existing pedestrian or cycle routes cross the site	Develop a comprehensive walking and cycling network within the site Improve linkages between the different parts of the site and the station Provide additional/ cycle/pedestrian crossings over the A12 and the GEML.	Impact on the role of the strategic highway infrastructure

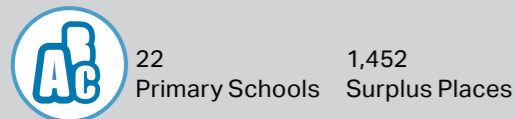
4.13 Social Infrastructure - Education

Essex County Council has developed a Commissioning School Places in Essex 2015-2020, published February 2016. Its role as Commissioner of school places provides information related to future pupil numbers and where further expansion will be required to meet housing demands.

The 5km boundary of Site Study Area overlaps two local authorities (Colchester and Braintree). For the following social infrastructure review, both local authorities have been considered in assessing the current situation, committed infrastructure and future issues.

Key Findings - Primary

Current Situation within 5km Boundary (May 2016)



Committed Infrastructure within 5km Boundary

- There are no plans for immediate expansion within 5km of Marks Tey within Braintree District.
- There is 1 Primary School planned within the 5km buffer located within Colchester, however this has not received formal commitment nor has there been an identified location other than being in the Stanway Area.

Infrastructure Item	Form of Entry	Location	Delivery Commitment	Mechanism
Primary School	-	Stanway Area	No Commitment	S106

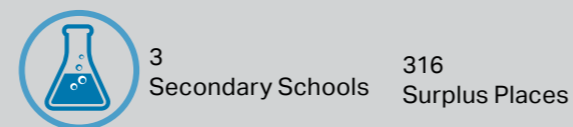
Table 19: Committed Primary Infrastructure. Source: Commissioning School Places in Essex 2015-2016

Future and Wider Issues

- The Commissioning Plan forecasts an increase of 1,369 primary school pupils between 2015-2020 for Colchester Borough, in which there is a forecast surplus of 890 places across the local authority
- The Commissioning Plan forecasts an increase of 76 primary school pupils between 2015-2020 for Braintree District, in which there is a forecast surplus of 1,333 places across the local authority
- Proposed growth at Marks Tey would create a significant requirement for primary school places, therefore proposals coming forward would need to consider the delivery of future education infrastructure provision.

Key Findings - Secondary

Current Situation within 5km Boundary (May 2016)



Committed Infrastructure within 5km Boundary

- There are no planned secondary school developments or expansions within 5km of Marks Tey within Colchester Borough

Future and Wider Issues

- The Commissioning Plan forecasts an increase of 406 secondary school pupils between 2015-2020 for Colchester Borough, in which there is a forecast surplus of 954 places across the local authority by 2020
- The Commissioning Plan forecasts an increase of 306 secondary school pupils between 2015-2020 for Braintree District, in which there is a forecast surplus of 1,158 places across the local authority.
- Essex County Council are seeking contributions from housing developers towards the cost of providing the additional places required for the pupils generated by new housing.

Key Findings - Further Education

Current Situation within 5km Boundary (May 2016)



Committed Infrastructure within 5km Boundary

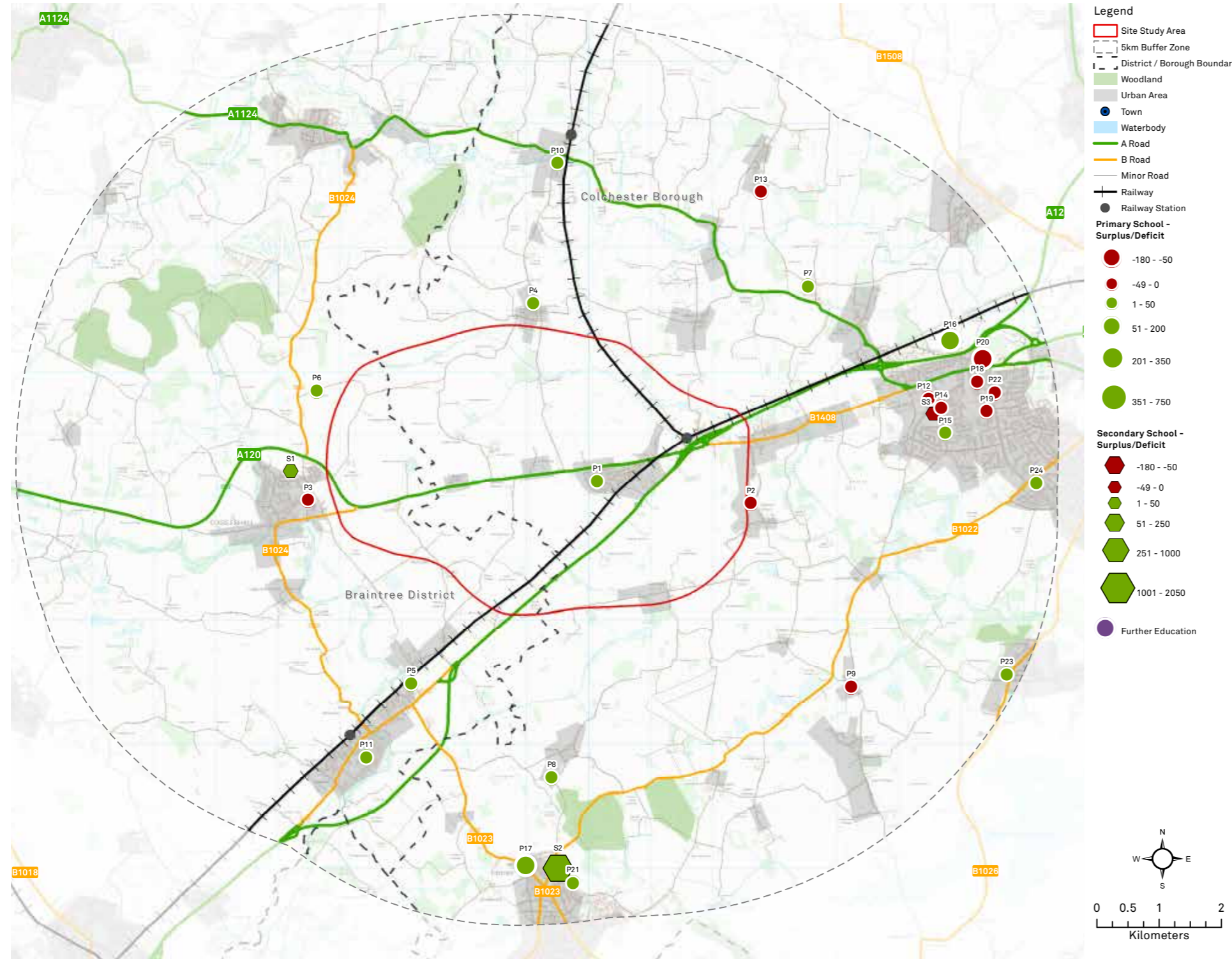
- Committed or planned infrastructure for Post-16 Education is not known at this time.

Future and Wider Issues

- The minimum age at which young people in England can leave learning increased in 2013, requiring young people to continue education or training to the end of the academic year in which they turn 17.
- This has been followed with a policy beginning in 2015 where all young people must remain in learning to their 18th birthday. This is referred to as Raising the Participation Age (RPA).
- This puts more pressure on the local authorities to ensure and provide options for young people to learn the skills required. Local authorities have the duty to:
 - Promote effective participation in education or training to young people;
 - Ensure that sufficient places are available to meet the reasonable needs of all young people and encourage them to participate; and
 - Make available to young people support that will allow them to participate in education or training.

Sources

- Department of Education, Edubase Portal (May 2016)
- Commissioning School Places in Essex 2015-2020



Primary School Capacity Analysis			
Primary School Name	Capacity	Surplus / Deficit	Label
St Andrew's CofE Primary School, Marks Tey	210	29	P1
Copford CofE Primary School	207	-3	P2
St Peter's CofE Primary School, Coggeshall	312	-16	P3
Great Tey CofE Primary School	84	40	P4
Feering CofE Primary School	172	2	P5
Soaring High Montessori School	70	25	P6
Holy Trinity CofE Primary School, Eight Ash Green and Aldham	140	16	P7
Messing Primary School	84	23	P8
Birch CofE Primary School	140	-2	P9
Chappel CofE Controlled Primary School	105	6	P10
Kelvedon St Mary's CofE Primary Academy	406	11	P11
Stanway Primary School	280	-1	P12
Fordham All Saints CofE Primary School	135	-1	P13
The Heath School	0	0	P14
Stanway Fiveways Primary School	315	6	P15
Holmwood House School	450	165	P16
Baynards Primary School	210	100	P17
Lexden Primary School with Unit for Hearing Impaired Pupils	210	-22	P18
St Teresa's Catholic Primary School, Colchester	218	0	P19
Lexden Springs School	0	-129	P20
Milldene Primary School	210	25	P21
Home Farm Primary School	210	-1	P22
Layer-de-la-Haye CofE Primary School	210	2	P23
Gosbecks Primary School	315	9	P24
TOTAL	4,693	284	

Secondary School Capacity Analysis			
Secondary School Name	Capacity	Surplus / Deficit	Label
The Honywood Community Science School	1,050	11	S1
Thurstable School Sports College and Sixth Form Centre	1,275	252	S2
The Stanway School	1,115	-38	S3
TOTAL	3,440	225	

Further Education Facility
Thurstable School Sports College and Sixth Form Centre

Figure 80: West Colchester / Marks Tey Education Context. Source: Edubase (2016)

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Social Infrastructure - Health

Key Findings

Current Situation within 5km Boundary (May 2016)



GPs

- There are 6 GP practices identified within 5km of Marks Tey. These facilities are equally located to the east and west of the development area, in which there are no facilities in the Site Study Area.
- There is an overall deficit in provision of GPs across the wider 5km buffer zone with -6,513 patient spaces. However, this is a theoretical assessment, and the actual pressures are potentially more pressing. There is only one facility with a strong GP to patient ratio.

Hospitals

- There are currently zero hospitals identified within 5km of Marks Tey.

Sources

- NHS England, MyNHS Portal dataset (May 2016)
- Health and Social Care Information Centre (HSCIC) dataset (January 2016)

Key Findings

Committed Infrastructure within 5km Boundary

- A review of the Colchester Community Infrastructure Levy: Evidence Base (2011) identified that all projects in the pipeline related to healthcare infrastructure have been abandoned, so at present there are no identified health infrastructure needs.
- Within Braintree District, there are no committed or planned infrastructure projects within the 5km buffer related to healthcare that are known at this time.

Sources

- Colchester Community Infrastructure Levy (2011)

Key Findings

Future and Wider Issues

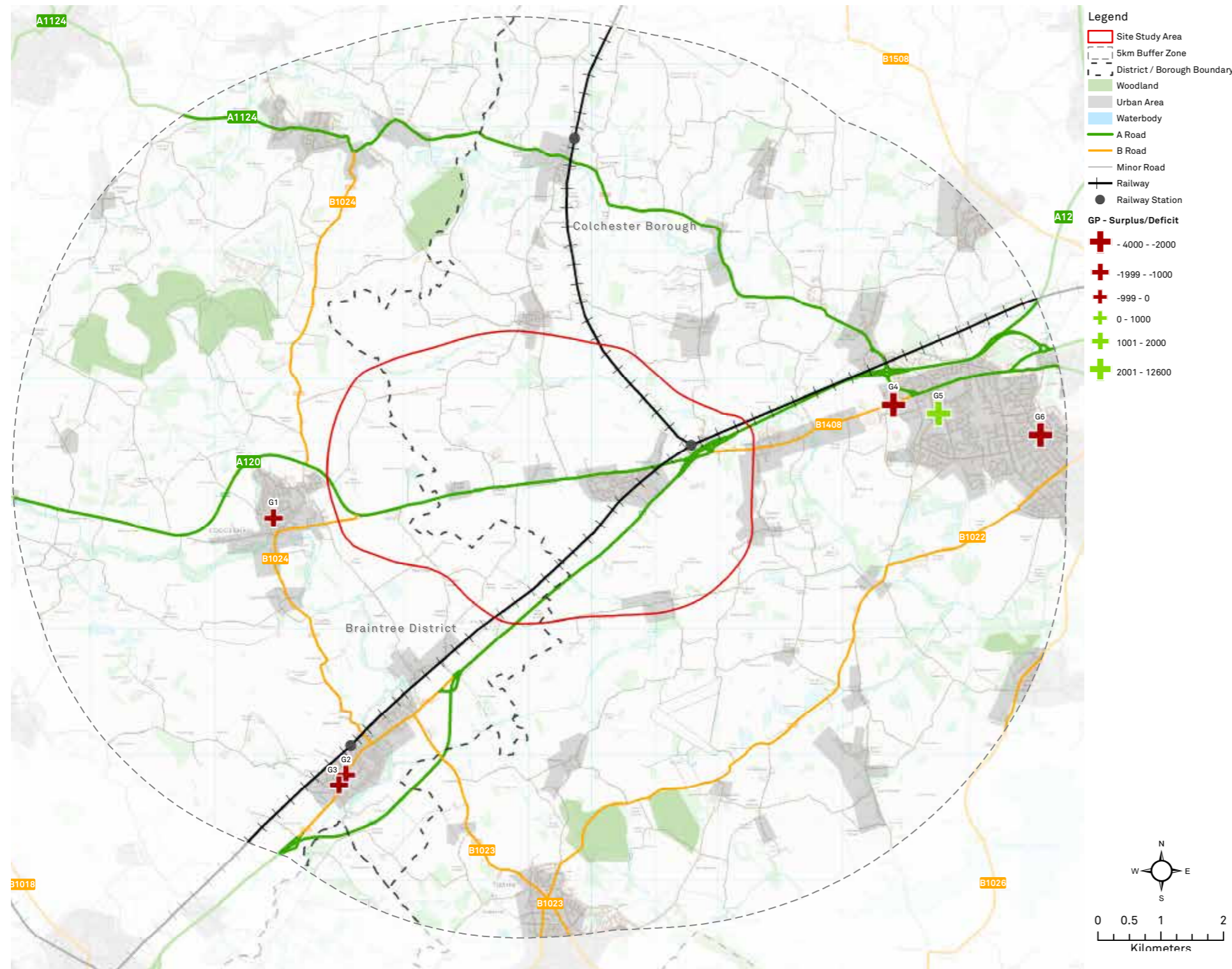
- Marks Tey sits within North Essex Clinical Commissioning Group, which is an NHS organisation set up by the Health and Social Care Act 2012 to organise the delivery of NHS services in England.
- The CCGs receives funding and are commissioned by NHS England to provide primary care services (including GPs), in turn the CCGs commission most services in their areas to trusts that include hospital and community healthcare.
- This assessment will review the strategy for North East Essex CCG to understand the future issues facing healthcare in Essex.

North Essex Clinical Commissioning Group

- North Essex CCG 5-year plan will look to put people at the centre by commissioning around the needs of people, rather than the service. Currently residents receive fragmented care, therefore future commissioning will provide services that are joined up and based around need of the individual.
- It is projected that demand for older people's services over the next 5-10 years will increase by roughly 20,000 people (those over the age of 55).
- In addition, the health and social care system faces considerable financial challenges over the coming years. The CCG will look to commission integrated health and social care services, promote prevention and early intervention, and promoting self-care to begin diminishing the burden.

Sources

- North Essex Clinical Commissioning Group



GP Capacity Analysis					
Practice Name	Full Time Equivalent GP's	Patients	Capacity	Surplus / Deficit	Label
The Coggeshall Surgery	2	5,452	3,600	-1,852	G1
Brimpton House	1	2,839	1,800	-1,039	G2
Kelvedon & Feering Health Centre	2	4,915	3,600	-1,315	G3
Tollgate Health Centre	7	14,853	12,600	-2,253	G4
Winstree Medical Practice	5	6,801	9,000	2,199	G5
Ambrose Avenue Group Practice	7	14,853	12,600	-2,253	G6
TOTAL	24	49,713	43,200	-6,513	

Figure 81: Marks Tey Health Infrastructure Context. Source: MyNHS, HSCIC

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Social Infrastructure - Community Facilities and Emergency Services

Key Findings

Current Situation (May 2016)



Emergency Services

- Across the wider 5km boundary, the analysis identified 1 ambulance station, 0 police station and 2 fire stations.
- 1 fire-station is located within the urban area of Braintree and 1 within the urban area of Colchester where the ambulance station is also located.
- Further work will need to determine whether the capacity of the existing emergency services can cope with the forecast increase in population

Libraries

- There is one library within the 5km wider area of Marks Tey.

Youth Centres

- There is one youth centre within 5km of Marks Tey.

Community Centres

- There are at least two community centres/village halls within 5km of the development.

Sources

- East of England Ambulance Services, Essex Police, Essex County Fire & Rescue Services
- Google maps to identify community facilities, libraries and youth centres

Key Findings

Planned Community Facilities and Emergency Services

- In the absence of an Infrastructure Delivery Plan in Colchester, a review of the Community Infrastructure Levy Evidence Base (2011) did not identify any planned emergency service provision, however key projects related to community facilities has been proposed with 5km of the Site Study Area:

Infrastructure Item	Source	Location	Cost (£m)	Delivery Body
Sports & Recreation Facility	CIL Evidence Base (2011)	Stanway	4	Developer / Colchester BC

Table 20: Committed Social Infrastructure. Source: Colchester Community Infrastructure Levy Evidence Base (2011)

- Within Braintree, no information related to future projects related to community facilities or emergency services could be identified within 5km of the boundary

Sources

- Colchester Community Infrastructure Levy (2011)

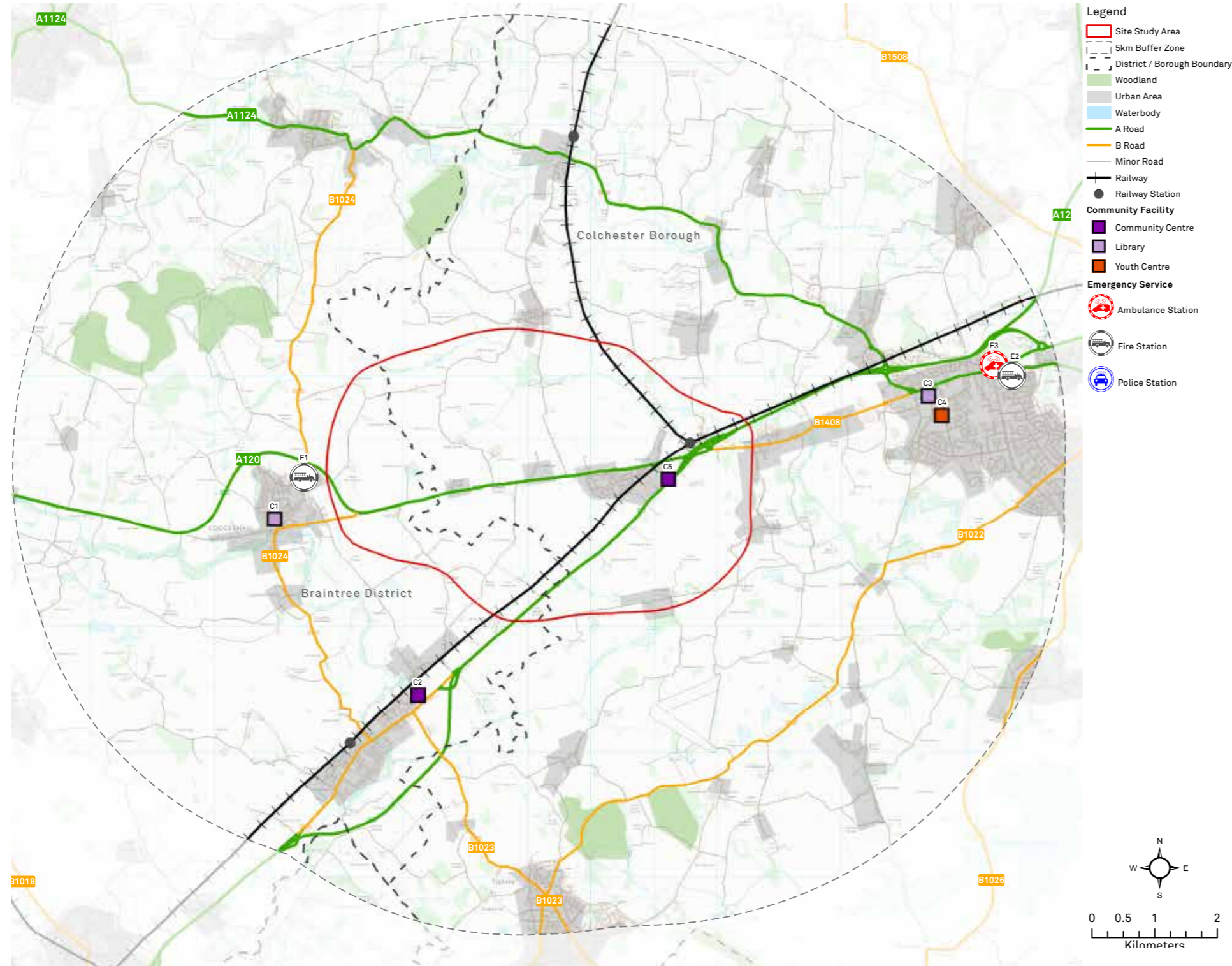
Key Findings

Future and Wider Issues

- A review of ambulance services has identified a change in the future model of ambulance provision by the early 2020s within the East of England's Ambulance Services. This involves a hub and spoke service in order to meet demand from existing population. Traditional ambulance stations act as the main hubs of service, with smaller 24/7 posts acting as the spoke.
- Further work will need to determine whether the capacity of the existing emergency services can cope with the forecast increase in population.
- Further work will need to determine whether the capacity of the existing community facilities can cope with the forecast increase in population. However, it is likely that future development at Marks Tey would need to provide some community offer.

Sources

- East of England Ambulance Services
- Essex Police Website
- Essex County Fire & Rescue Services



- Legend**
- Site Study Area
 - 5km Buffer Zone
 - District / Borough Boundary
 - Woodland
 - Urban Area
 - Waterbody
 - A Road
 - B Road
 - Minor Road
 - Railway
 - Railway Station
 - Community Facility**
 - Community Centre
 - Library
 - Youth Centre
 - Emergency Service**
 - Ambulance Station
 - Fire Station
 - Police Station

Community Service Facilities		
Name of Facility	Type	Label
Coggeshall Library	Library	C1
Feering Community Centre	Community Centre	C2
Stanway Library	Library	C3
Stanway Youth Centre	Youth Centre	C4
Marks Tey Village Hall	Community Centre/ Village Hall	C5

Emergency Service Facilities		
Name of Facility	Type	Label
Station 24 Coggeshall	Fire	E1
Urban Search and Rescue (USAR)	Fire	E2
Colchester Ambulance Service	Ambulance	E3

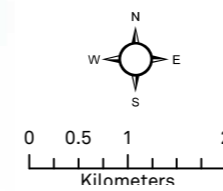


Figure 82: Marks Tey Community Facilities and Emergency Services. Source: East Of England Ambulance Services, Essex Police, Essex County Fire & Rescue Services, Google Maps to Identify Community Facilities, Libraries and Youth Centres

This chapter provides baseline synthesis and key findings associated to the West of Braintree area of investigation and the wider 5km buffer zone.

05 West of Braintree

- 5.1 Site Overview and Landuse**
- 5.2 Call for Sites**
- 5.3 Land Ownership and Development Arrangements**
- 5.4 Surrounding Settlement Hierarchy**
- 5.5 Economic Context**
- 5.6 Movement and Connectivity**
- 5.7 Landscape and Strategic Networks**
- 5.8 Agricultural Land Classifications and Mineral Safeguarding Areas**
- 5.9 Ecological Designations**
- 5.10 Parks, Recreation and Historic Environment**
- 5.11 Water Cycle**
- 5.12 Utilities**
- 5.13 Social Infrastructure**

5.1 Site Overview and Landuse

The West of Braintree area of investigation comprises predominantly open agricultural land and is situated between the urban area of Braintree and the market town of Great Dunmow to the West, both connected by the A120. The district boundary of Braintree and Uttlesford dissects through the site. The land is predominantly Grade 2 class agricultural land with patches of Grade 3 class land, primarily in the north west corner. It is also worth noting there is an existing 10 year mining and mineral extraction zone within the south-east corner of the area of investigation, adjacent to nearby Rayne.

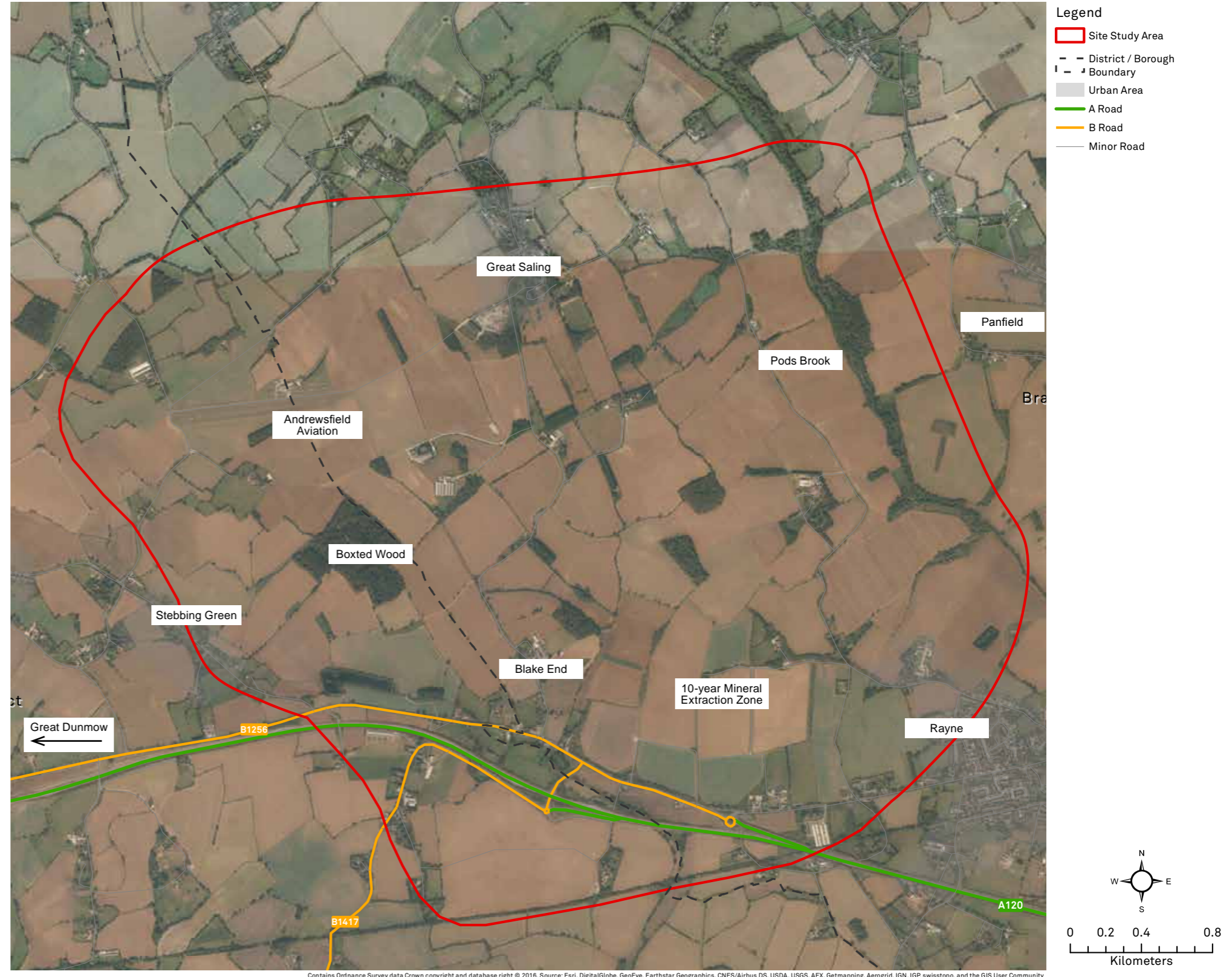
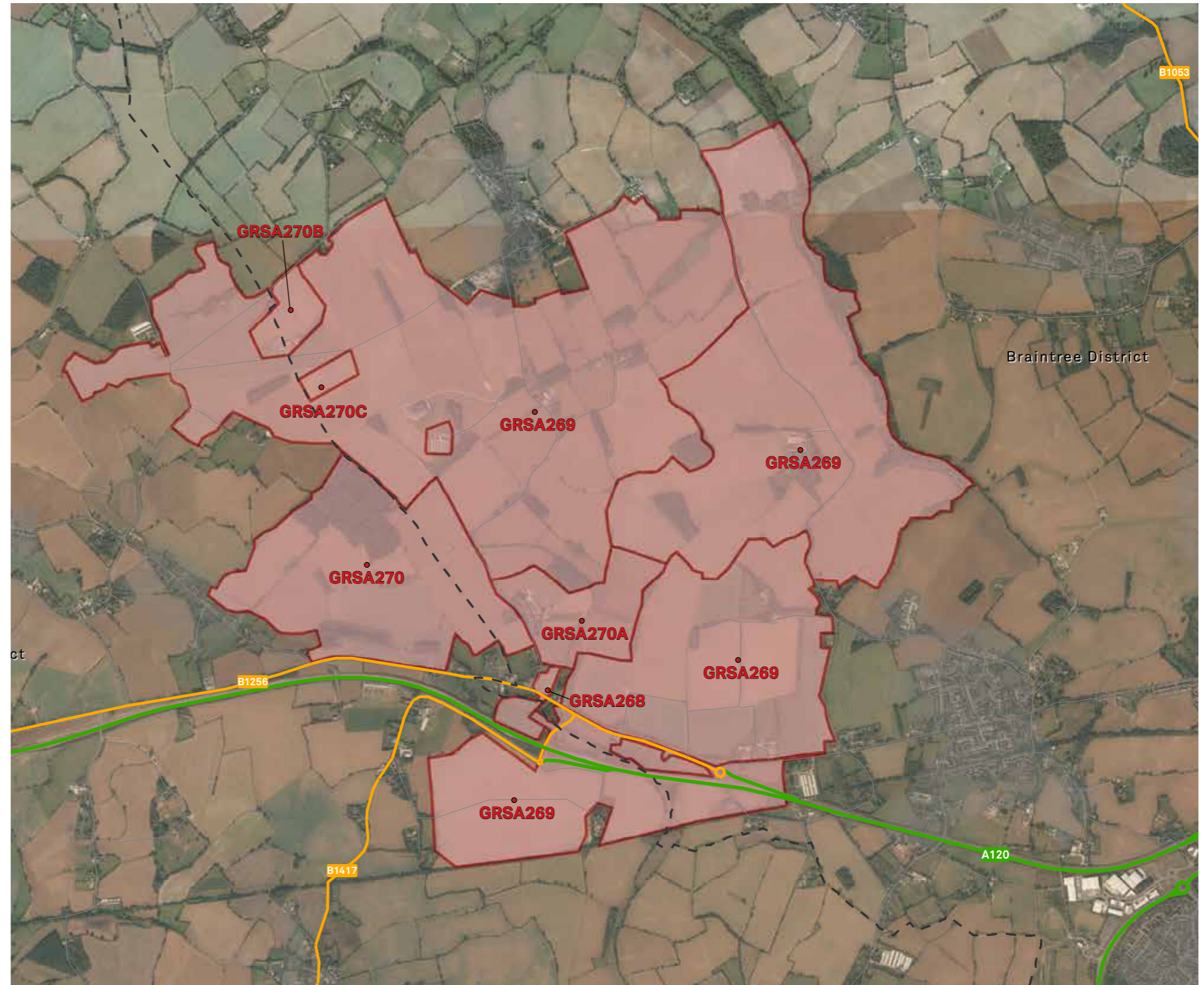


Figure 83: West Braintree Context

5.2 Call for Sites

Key Findings

- The Call for Sites process for Colchester and Braintree undertaken to support the development of their new Local Plans identified 7 sites associated with the West of Braintree Garden Communities option.
- The aggregated call for sites area totals 1096.51ha with proposed uses comprising a Garden Village with employment Class B8 uses.
- The individual site details are shown below in Table 21.
- Aggregated, the individual sites have the capacity in principle (i.e. before site capacity testing) to accommodate at least 10,000 homes, equivalent to an approximate population of 24,000.



Call for Sites Reference	Location	Proposed Use	Site Area (ha)
GRSA269	Land centred on Saling Airfield between Stebbing and Rayne, Braintree	Garden Village	909.014
GRSA270	Boxted Wood	Residential	127.135
GRSA270A	Boxted Wood	Null	35.564
GRSA270B	Boxted Wood	Null	13.22
GRSA270C	Boxted Wood	Null	5.422
GRSA268	Land adjacent to Oak View, Blake End, Rayne	Residential *note flood boundary change	1.521
RAYN512	Out Of District South Of Dunmow Road, Blake End	Employment B8	4.634
Total Site Area: 1096.51ha			

Table 21: Call for Sites - West of Braintree

Figure 84: West Braintree Source: Braintree DC Call for Sites

5.3 Land Promoters and Development Agreements

Key Findings

Andrewsfield New Settlement

- Andrewsfield New Settlement Consortium has been set up comprising four major landowners with holdings in Braintree District and adjoining land within Uttlesford on a 910ha site.
- This consortium is being led by the Bucknell Family, however the ownership structure is unclear.

Boxted Wood Development

- The Boxted Wood development is currently being promoted by Galliard Homes with potential to deliver approximately 7,500 new homes. Previous to this in 2008 an EIA Screening opinion was sought for the development of up to 4,500 homes and other uses listed below in this located, within Uttlesford District (Ref: UTT/0262/08/50), but no planning application was subsequently submitted.
- An outline application lodged in February 2010, prepared in collaboration with AR Urbanism, comprised the following:
 - 4500 new houses and flats
 - 50,000sqm retail uses
 - A civic centre
 - 50,000sqm employment uses
 - 4 new schools
 - Major areas of public open space, and leisure and recreation facilities.

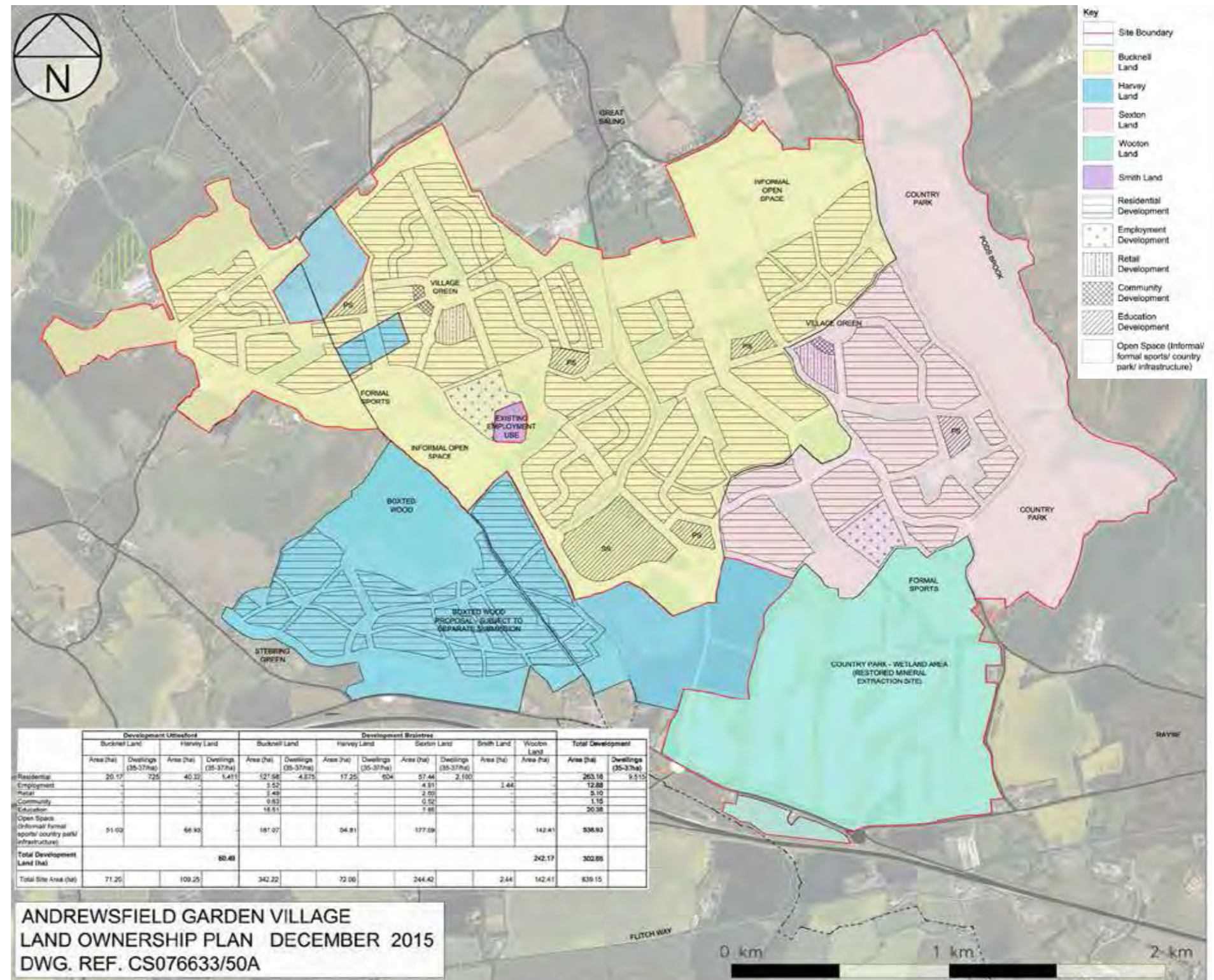


Table 22: Preparation Documents Commissioned by Promoters to Date

Document	Prepared By
Andrewsfield Garden Village	
Garden Communities Feasibility Study	CAPITA
Development Vision and Masterplan	CAPITA - Call for Sites, June 2015
Landscape Assessment	CAPITA - Call for Sites, June 2015
Ecology Assessment	CAPITA - Call for Sites, June 2015
Geoenvironmental Assessment	CAPITA - Call for Sites, June 2015
Transport Assessment	CAPITA - Call for Sites, June 2015
Flood Risk & Drainage Strategy	CAPITA - Call for Sites, June 2015
Viability Assessment	CAPITA - Call for Sites, June 2015
Boxted Wood	
Strategic Masterplan plus Galliard Land	Galliard Homes / AECOM
Capacity Testing	Galliard Homes / AECOM

Figure 85: West Braintree / Andrewsfield Garden Village Land Ownership. Source: Received from Braintree District Council

5.4 Surrounding Settlement Hierarchy

Key Findings

- The area of investigation West of Braintree has a strong rural character, synonymous with the predominantly agricultural area.
- Surrounding populations are sparse although there is a minor concentration in the village of Rayne, situated approximately 0.8km to the east of the site along Dunmow Road, north of the A120.
- Further east, the urban area of Braintree has the highest concentration of population and economic activity in the surrounding area and is approximately 3.7km away from the area of investigation.
- The market town of Great Dunmow is located approximately 6km to the west of the area of investigation (just outside the 5km buffer zone) and has a modest population with some key service provision.
- The area of investigation would struggle to connect to any notable urban settlements to the north and south which both open up to further agriculture and open countryside with very low and sparse populations.

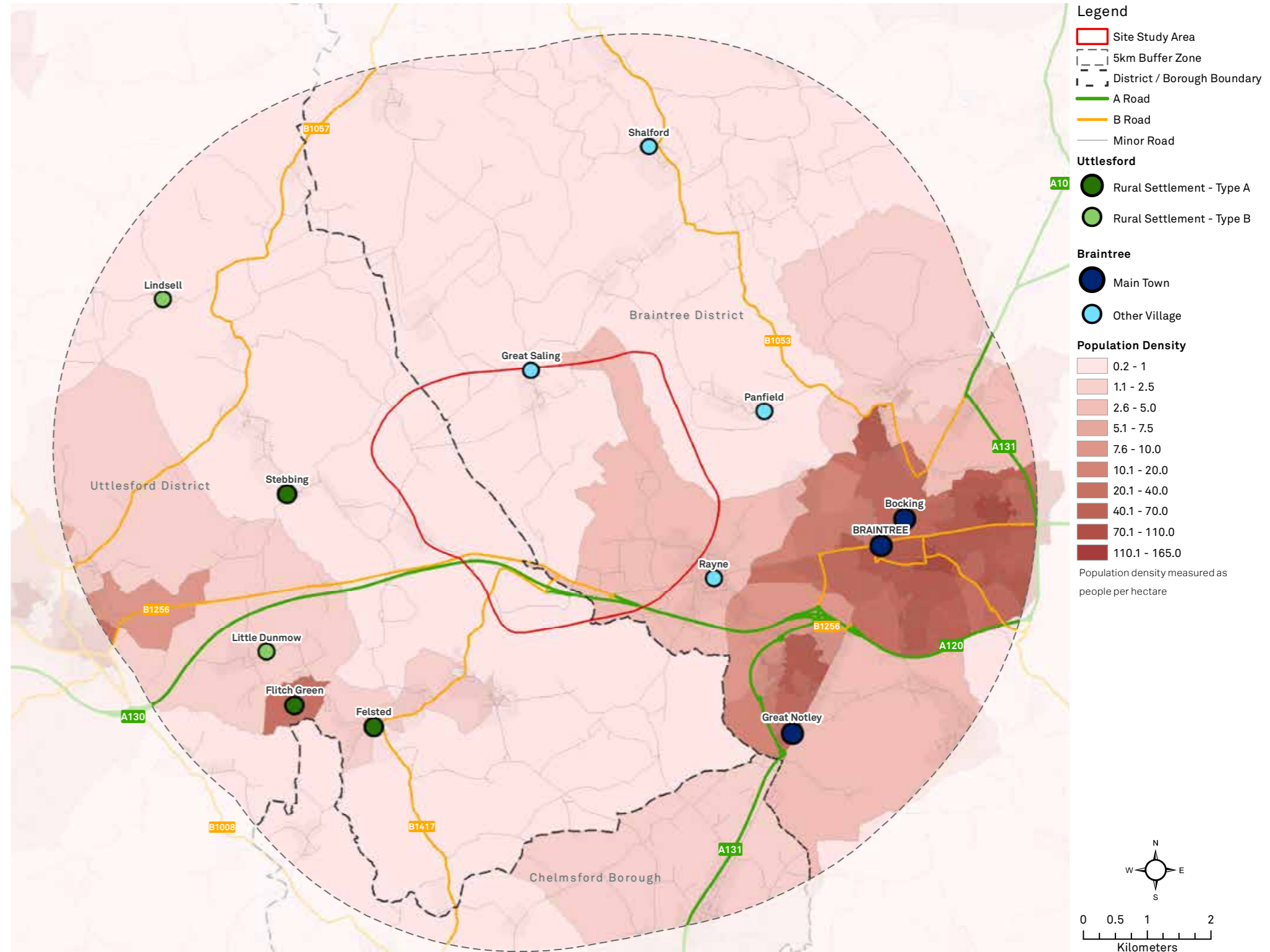


Figure 86: West Braintree Settlement Hierarchy. Source: AECOM

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5.5 Economic Context

Key Findings

- The existing business parks and office space within Braintree district exhibit high levels of occupation and a requirement for more employment space to be provided, especially B1 (office) and space suitable for SMEs.
- The closest existing business park to the potential Garden Community site is Skyline 120 Business Park, located on the south side of the A120. In the same vicinity as this site, developers countryside has recently submitted a planning application to provide an additional 18.5ha of employment space, potentially providing up to 2,000 net additional jobs (part of the Great Notley strategic Employment site).
- A further 15ha of land off Panfield Lane is identified for a mix of employment and residential development.
- With reference to Braintree District Employment Land Needs Assessment 2015 and Call-for Sites evidence, it looks possible that a large proportion of Braintree's employment land requirements in the period to 2033 can be met by sites linked to existing established employment clusters with demonstrable need for space.
- The Garden Community would sit within the Braintree Town Centre and Freeport retail Zone 1 catchment area. Therefore both would, under normal conditions (i.e. a standard development approach), encapsulate the immediate existing retail provision for the Garden Community.
- A planning application for an Aldi store (1,533 sq m) on part of the Skyline 120 Business Park is currently being considered by the council.
- Evidence indicates significant comparison retail expenditure leakage from Braintree Zone 1 catchment to competing centres, with Chelmsford specifically identified.
- To attract future business flexible and highly accessible employment space most likely to be in demand.
- Relative proximity (accessibility) to the major economic drivers of the region (M11 – London/Stansted/Cambridge Corridor) and Stansted Airport help create the conditions to drive a residential market and opportunity within the Garden Community.
- Evidence shows that clustering is key to the types of B1 office occupiers that might be attracted to this region. Therefore opportunity to establish strong links with the existing Skyline 120 Business Park and enable further clustering of business will likely be an important consideration.

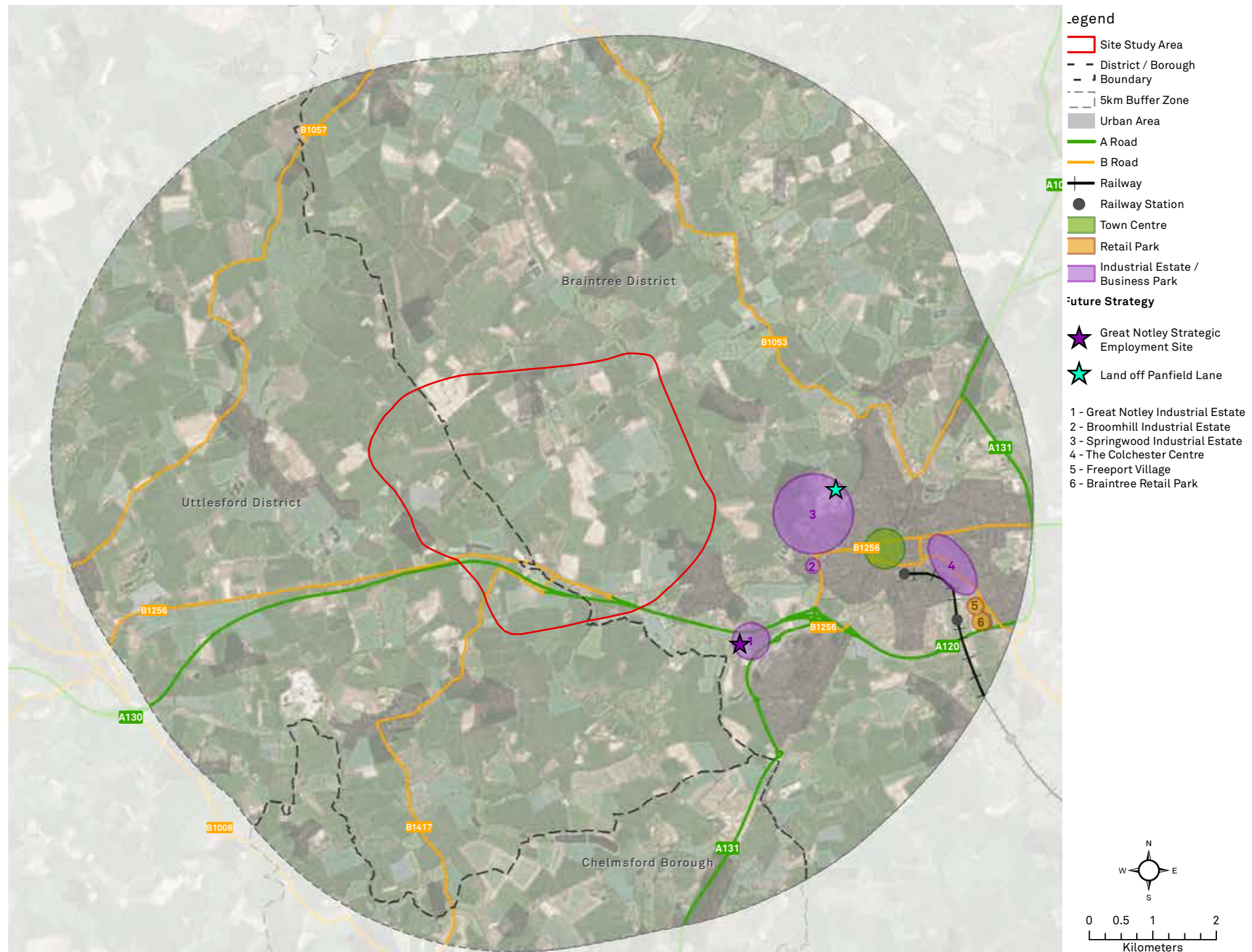


Figure 87: West Braintree Economic Context. Source: AECOM.

5.6 Utilities

Key Findings

Electricity

- In a meeting with AECOM on 19th May 2016, UK Power Networks advised All the networks west of Braintree are 11kV rural supplies, mainly overhead lines. These would have limited capacity to supply new development and overhead lines are inherently less reliable than underground cables, as they are more susceptible to storm damage. The nearest primary substation is east on Braintree. Supplying areas west of Braintree will require long underground 11kV cable routes. These routes would have to go through Braintree, causing significant disruption.
- Therefore a new primary substation would have to be established early in the development phase. It is expected that there will be high costs for the 33kV infrastructure to supply the new primary substation, as well as the costs of the substation itself.

Water Supply

- In a meeting with AECOM on 20th May 2016, Anglian Water confirmed that in principle water supply should be possible, subject to further assessment of need and anticipated new and upgraded infrastructure.

Gas

- There is no specific information of gas in this area, but the general advice from National Grid, as for the other areas, is that there is capacity in the medium pressure network in the region, but local low pressure upgrades will be required.

Waste Water

- At a meeting with AECOM on 20th May 2016, Anglian Water advised that the The water recycling centre (WRC) at Bocking would be able to accept waste water for development capacities up to 2032, but thereafter a new recycling plant will be required. The plant is a long way (approximate 6 kms) from the proposed development area and infrastructure and pumping costs would be high. A better alternative would be to establish a new plant near the development.

Telecommunications

- Evidence appears limited. Additional investigation required.

Sources

- Anglian Water
- National Grid

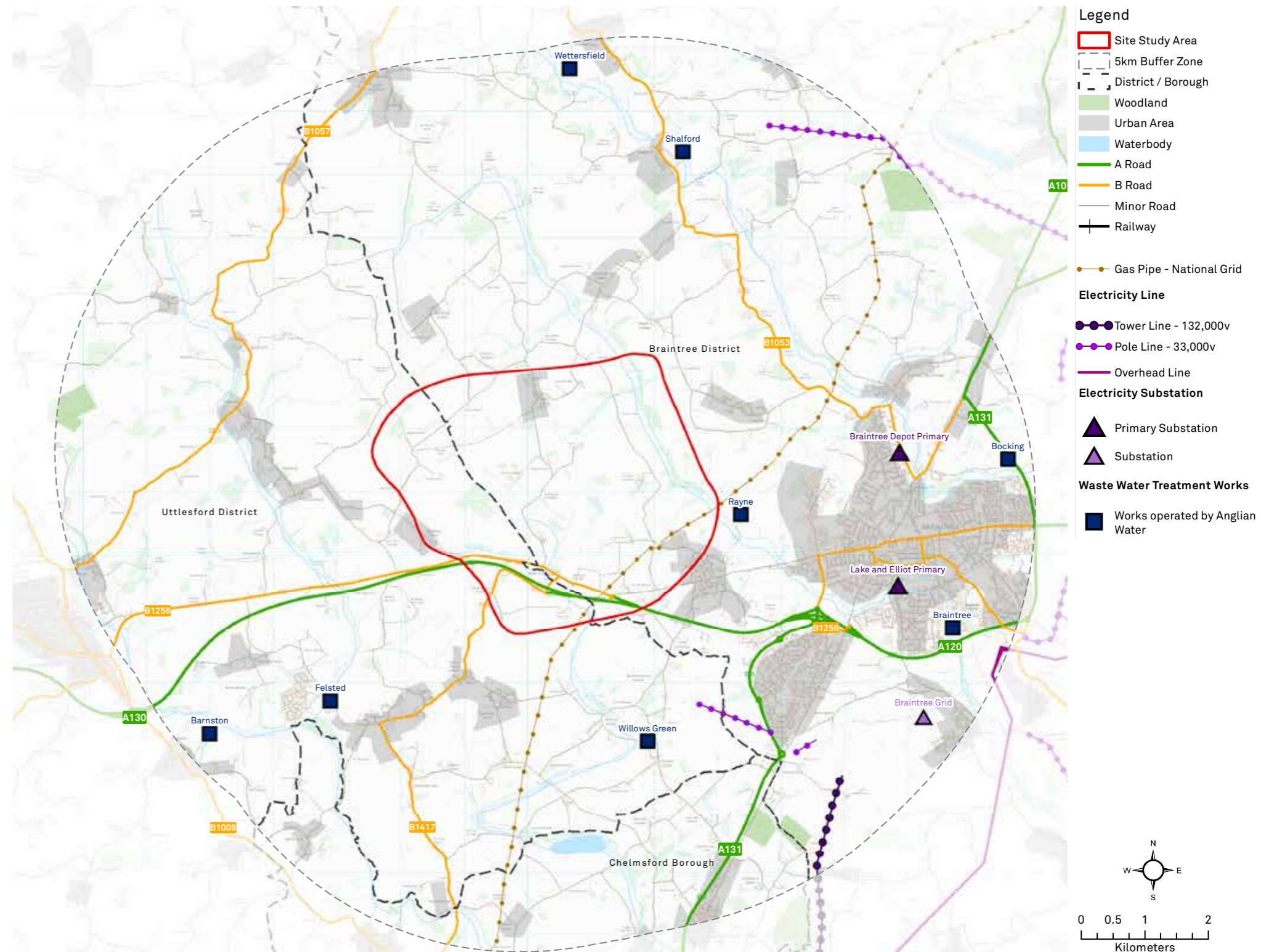


Figure 88: West Braintree Utilities. Source: Anglian Water / National Grid

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5.7 Landscape Character, Sensitivity and Condition

Key Findings

- The site sits on the 'Rayne Farmland Plateau', with a 'River Valley' running along the southern boundary, as defined by the Braintree and Uttlesford Landscape Character Assessments. The gently undulating topography is dominated by an irregular field pattern of mainly medium to large arable fields, interspersed with small grass paddocks and pasture and marked by fragmented hedgerows and ditches.
- The topography, slopes gently from north to south. The eastern and southern parts of the site lie between 60m and 70m AOD, increasing to 100m AOD to the west and north.
- The site is bounded to the south by the A12 and B1256 and the River Ter corridor. The eastern boundary skirts around the western edge of the settlement of Rayne and follows the valley of Pod's Brook as far north as the settlement of Great Saling. The site is bounded on the west by Stebbing Green in the south and Mouslin Wood and Cannon Wood in the north. Andrewsfield Aerodrome is located in the north-west corner of the site. Isolated farmsteads are scattered across the site, connected by a comprehensive network of rural lanes, two of which are protected.
- Several small, often linear settlements are scattered across the landscape dominated by 20th Century properties, including local vernacular buildings with timber-frames and thatched roofs
- The open plateau landscape is fairly exposed allowing long distance views across the site. On the gentle valley slope, the fields are smaller and the views more channelled by the topography of the land and higher density of trees. In the North West corner of the site, is Andrew's Fields Aerodrome with a large hangar and several light aircraft adjacent to a grass runway. This area provides open long distance views across flat open plateaus.
- Many small woods and copses provide structure and edges in the landscape (Braintree, Brentwood, Chelmsford, Maldon and Uttlesford Landscape Character Assessments, September 2006).
- The geology is predominately chalky Boulder Clay at higher ground with sands and gravels and patches of London Clay bedrock at lower levels (Braintree Historic Environment Characterisation, 2010).

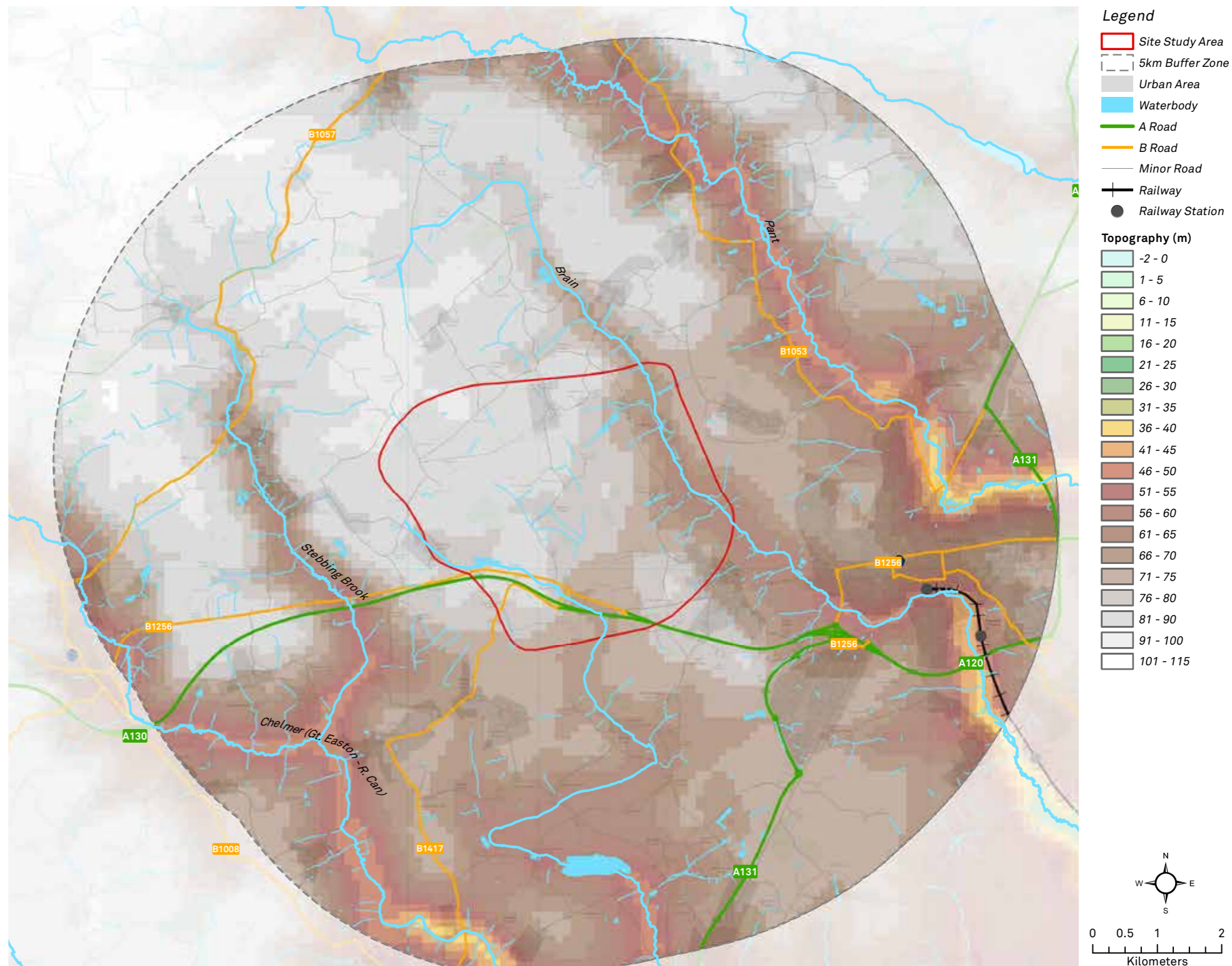


Figure 89: West Braintree Landscape and Topography. Source: Natural England / Environment Agency

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Figure 90: View across the open fields of the the Site Area West of Braintree looking north with the settlements of Rayne and Braintree on the right to the east. Source: Bing Maps Bird's Eye View



Figure 91: View towards the site looking east from Great Dunmow. Source: Bing Maps Bird's Eye View

Sources

- Natural England, National Character Areas - GIS Digital Boundary Datasets
- OS Terrain 50
- Environment Agency Geostore
- Natural England, National Character Areas
- Soilscape, National Soil Resources Institute (accessed through magic.co.uk)
- Braintree, Brentwood, Chelmsford, Maldon and Uttlesford landscape character assessments (September 2006)
- Braintree, Brentwood, Chelmsford, Maldon And Uttlesford Landscape Character Assessments (September 2006)
- Braintree District Protected Lanes Assessment (July 2013)

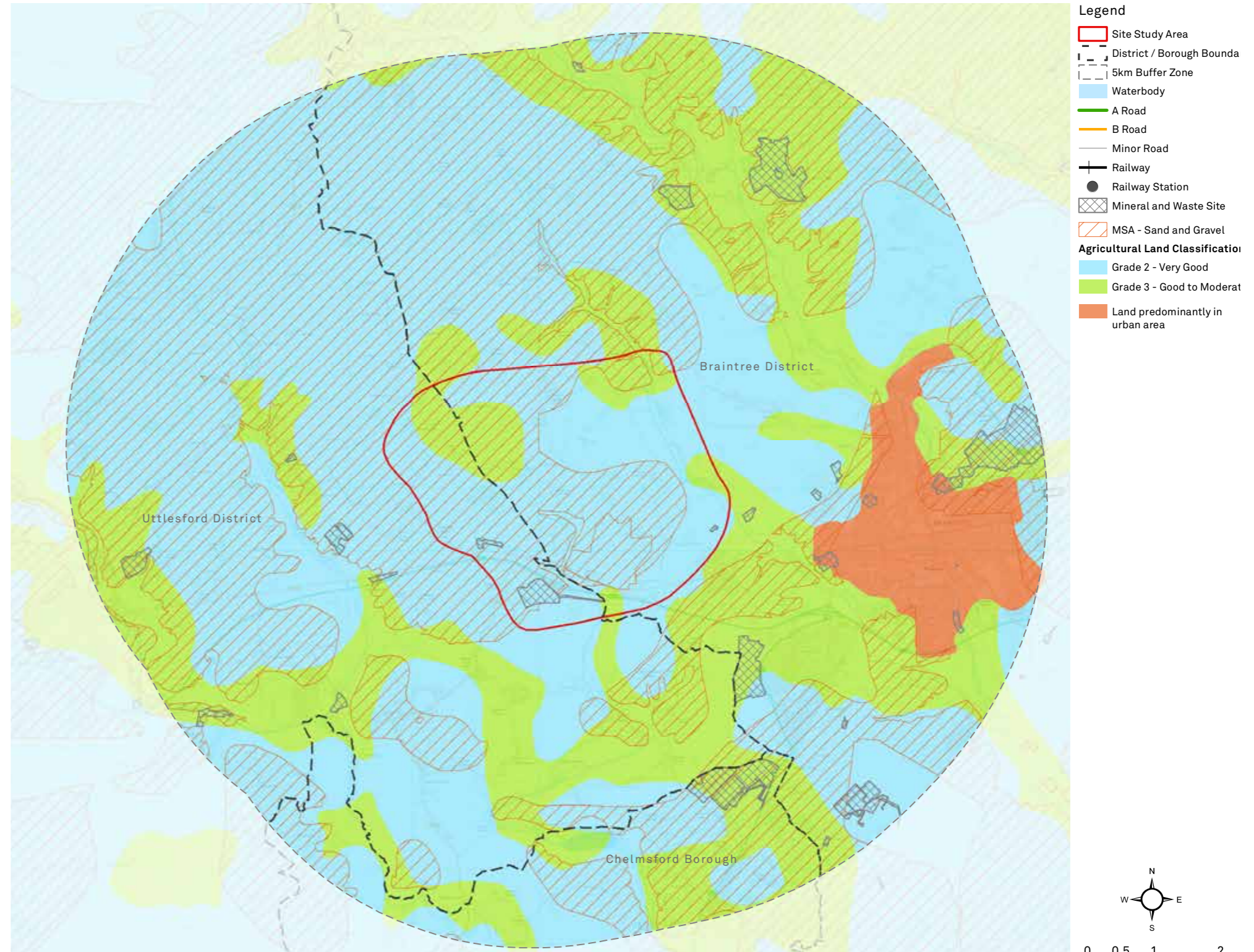
5.8 Agricultural Land Classifications and Mineral Safeguarding Areas

Key Findings

- The quality of agricultural land is predominantly very good (Grade 2) with an area to the north east and north west within Site Development that is good to moderate
- Sand and gravel Mineral Safeguarding Area covers the majority of the site. This does not prevent future development within West of Braintree, however the designation ensures that mineral resources are considered in making land-use planning decisions. The area to the south and east of the Site Study Area is not covered by a Mineral Safeguarding Area.
- There are several mineral and waste sites, with the largest to the south west of the Site Study Area.

Sources

- Natural England, National Character Areas - GIS Digital Boundary



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Figure 92: West of Braintree Agricultural Land Classifications and Mineral Safeguarding Areas. Source: Natural England / Mineral Safeguarding Zones Received from Essex County Council

5.9 Ecological Designations

Key Findings

- There are no European designations on site or within the buffer zone.
- There are no SSSIs within the site, but in 5km the buffer zone towards the north there are a series of SSSI units associated with Bovingdon Hall Woods **(1)**.
- While there are no local nature reserves within the site there are a number to the east of the site. Cuckoo Wood **(2)** is a designated local nature reserve with an array of habitats which contains rare species and an abundance of fungi meaning it is not open to the public but is used as an educational resource. Hoppit Mead Local Nature Reserve **(3)** is one of a number of open spaces being marked as the "John Ray Park" after the local naturalist and has significant social and ecological value. Bocking Blackwater Local Nature Reserve **(4)** has a variety of habitats, amenity features and contains a range of flora including veteran trees.
- The area of investigation contains various sites of nature conservation value, including ancient and semi-natural woodland habitats including Boxted Wood **(5)**, Blackbush Wood **(6)**, and Golden Grove **(7)**.
- Pods Brook **(8)** is a complex habitat site comprising a variety of scrub, wetland and grassland habitats. Several ponds are associated with both key watercourses, and several unnamed streams run across the site.

Sources

- Natural England, National Character Areas - GIS Digital Boundary Datasets
- OS Terrain 50

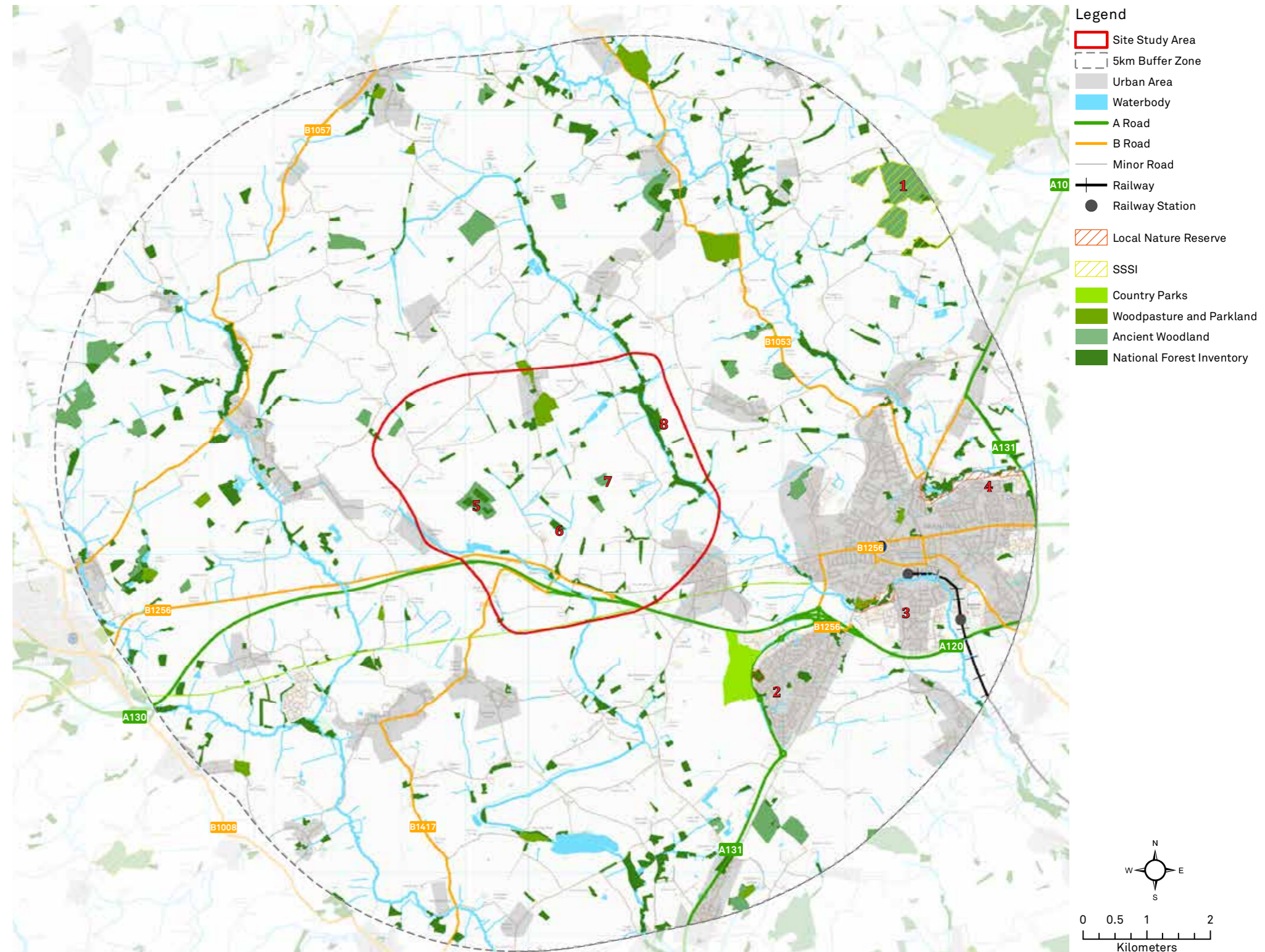


Figure 93: West Braintree Ecological Designations. Source: Natural England / Environment Agency.

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5.10 Parks, Recreation and Historic Environment

Key Findings

- There are a number of listed buildings scattered across the site, and small clusters within the linear settlements surrounding the site. In particular the area around Great Saling Hall is classified as a Conservation Area.
- The grounds of the hall along with the cemetery of St James' Church are registered as historic parks and gardens.

Sources

- Colchester Borough Council Country Parks and LNRs (accessed through <http://www.colchester.gov.uk/article/11794/Country-Parks-and-Local-Nature-Reserves>)
- Braintree Historic Environment Characterisation (2010)
- OS Terrain 50
- Natural England GIS Digital Boundary Datasets
- Historic England

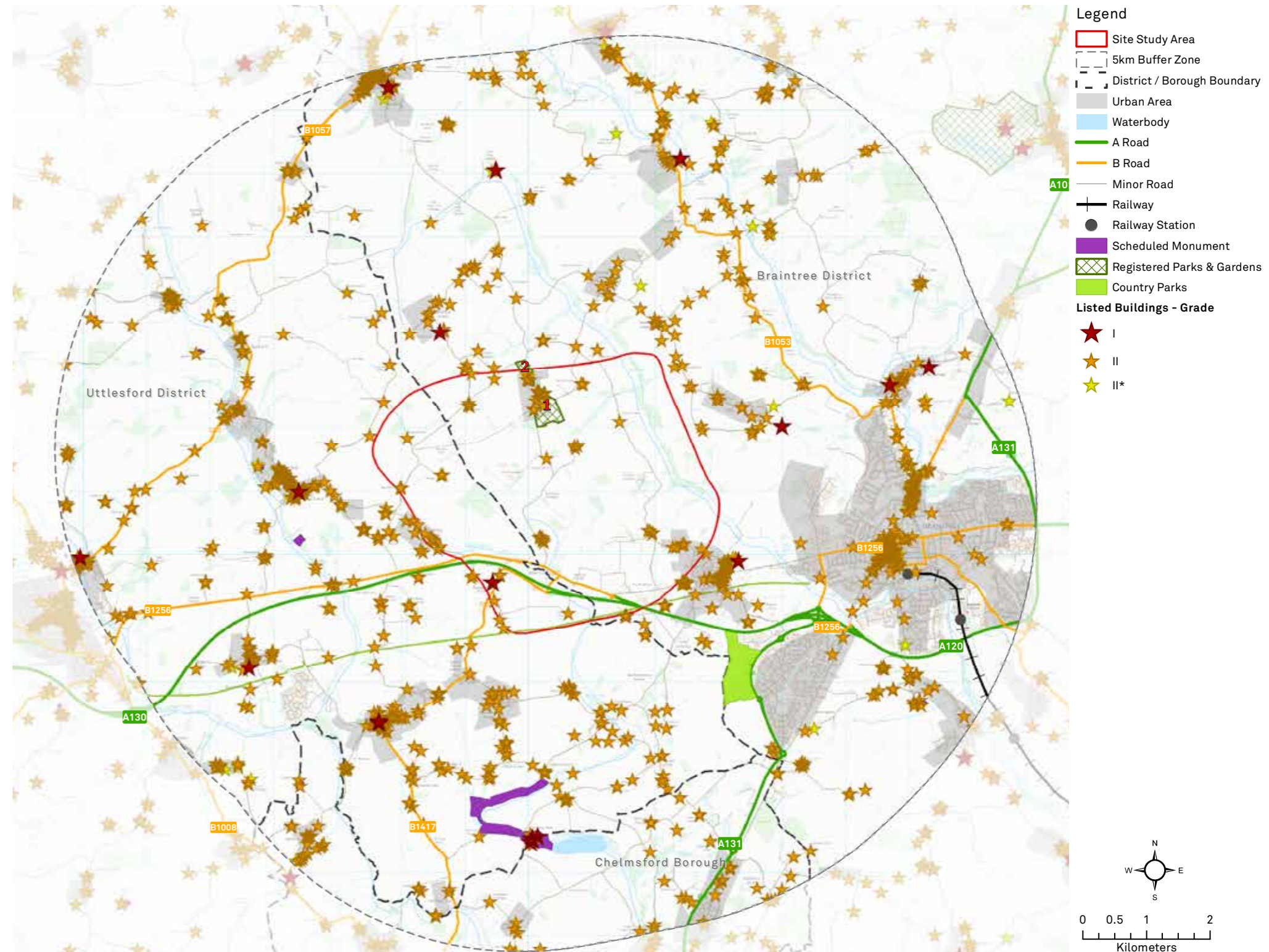


Figure 94: West Braintree Recreational and Heritage Assets. Source: English Heritage / Natural England

5.11 Water Cycle

Key Findings

- The open plateau landscape is dissected and drained by a number of small meandering streams and ditches that cut across the site. Pods Brook, forms the eastern boundary of the site, is a heavily modified water course. It is considered to be in poor condition with low ecological potential in its current condition and is at risk of further deterioration. River Ter flows along the southern boundary is in slightly better condition with moderate ecological potential but is also considered to be at risk.
- Site Study Area is within surface and groundwater nitrate vulnerability zones and drinking water surface water safeguard zone for Nitrate and Pesticides.
- The open plateau landscape is dissected and drained by a number of small meandering streams and ditches that cut across the site.
- The region east of Colchester (referred to in the Anglian Water development plan as "South Essex") is predicted to be in water deficit condition by 2030 and water will need to be delivered from other areas within the Anglian Water region, or supplemented by neighbouring water companies. This is based on average growth trends. There is no specific information about the proposed development area.
- There are no major supply projects planned during the current review period (to 2020) – the focus is firmly on demand reduction by tackling leakage and installing water meters.
- The Colchester Water Recycling Centre (WRC), is near capacity. There is a high level strategy to expand the plant, but expenditure will only be committed in response to developer demand. Expansion will have a fairly long lead-in time, so there may be some constraint on early development.
- Most sewers are running with limited spare capacity, and the infrastructure upgrades will be needed to support potential development
- There is no information on flood risk. However surface water networks are at capacity and potential developments will need to deal with their surface run-off in a way that does not impose any additional load on the system. In practice, this means that surface water cannot be discharged to the existing disposal network.

Sources

- Natural England - GIS Digital Boundary Datasets
- OS Terrain 50
- Environment Agency Geostore

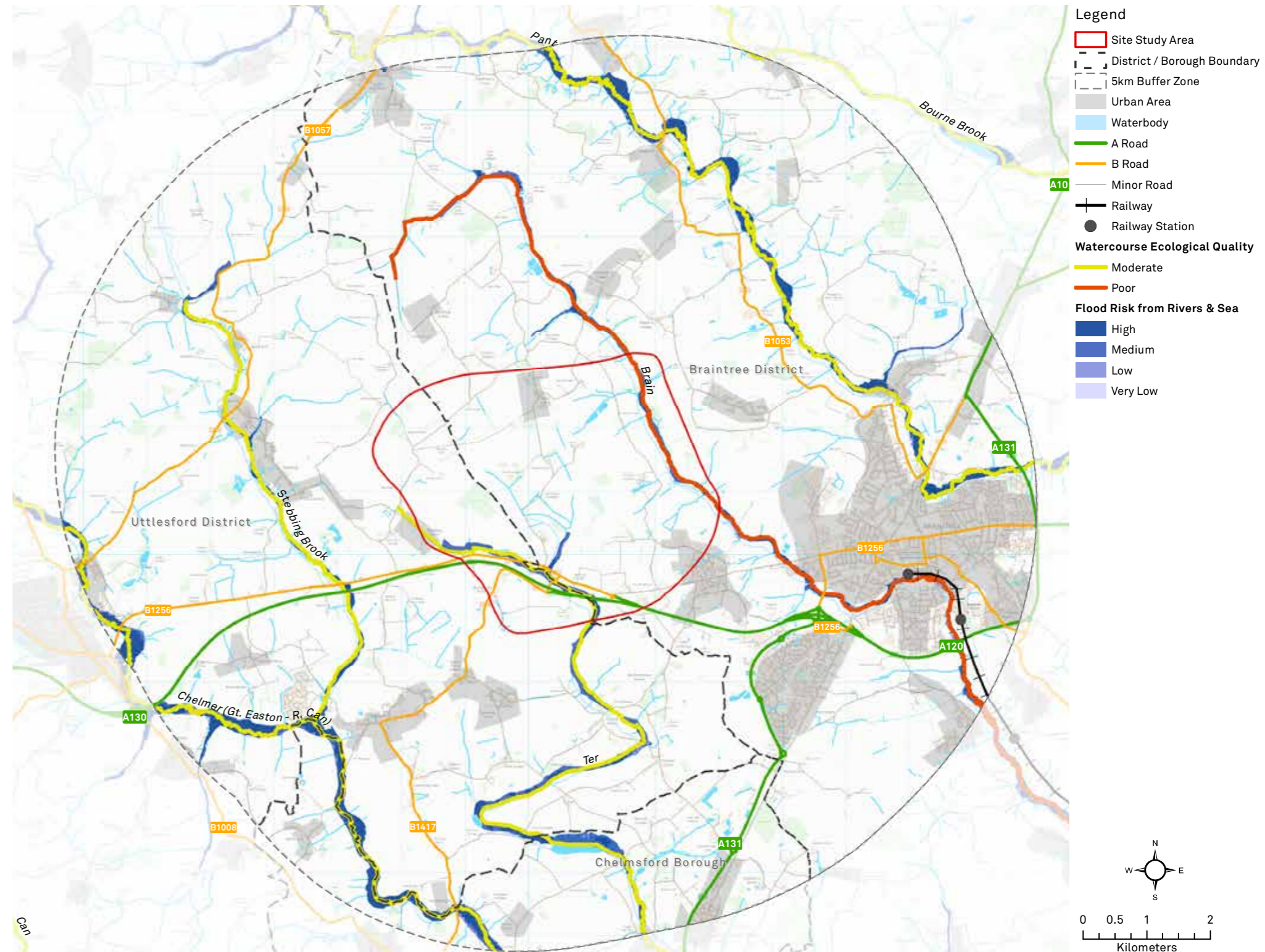


Figure 95: West Braintree Water Cycle. Source: Environment Agency.

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5.12 Movement and Connectivity

Key Findings

- London Stansted Airport lies approximately 20km west, accessed via the A120.
- Braintree mainline station and Braintree Freeport station, both operated by Abellio Greater Anglia, provide access to the Braintree branch line operating between Witham, part of the wider GEML. This line provides a frequency of 1 tph in both directions.
- The stations are located to the east of the site, outside of walking distances, but potentially on the edge of acceptable maximum cycle distances - it's generally accepted two kilometers (km) and five km represent reasonable distances to replace short car trips by walking and cycling respectively.
- Inter urban bus route NEx250 and NEx484 along with local services (route SX133) run on the A120 along the southern periphery of the site providing links with Colchester and west Essex. Yet, these routes only provide a low frequency of service.
- National Cycle Network NCN 16 begins at the intersection with Route 13 at Birchanger near Stansted. The route heads south-east on bridle paths from the village of Birchanger near Stansted to join a traffic-free railway path known as the Flich Way.
 - the first section of the route connects Route 13 near Stansted via Great Dunmow, Braintree and Witham and continues to the intersection of Route 1 near Great Totham.
 - the second section of NCN16 will eventually connect Basildon with Shoeburyness, near Southend-on-Sea.
- Flich way runs in an in an east-west direction providing a pedestrian connection between Braintree Rail station and Dunmow. The route crosses the A120 over an elevated bridge section close to the south east boundary of the site.
- Numerous roads (predominantly B-roads, country lanes and farm tracks) currently run through the site, providing vehicular access to the area. The nature of the roads mean pedestrian footway connections are limited - in many cases to one side of the carriageway or not present in the case of the country lanes.

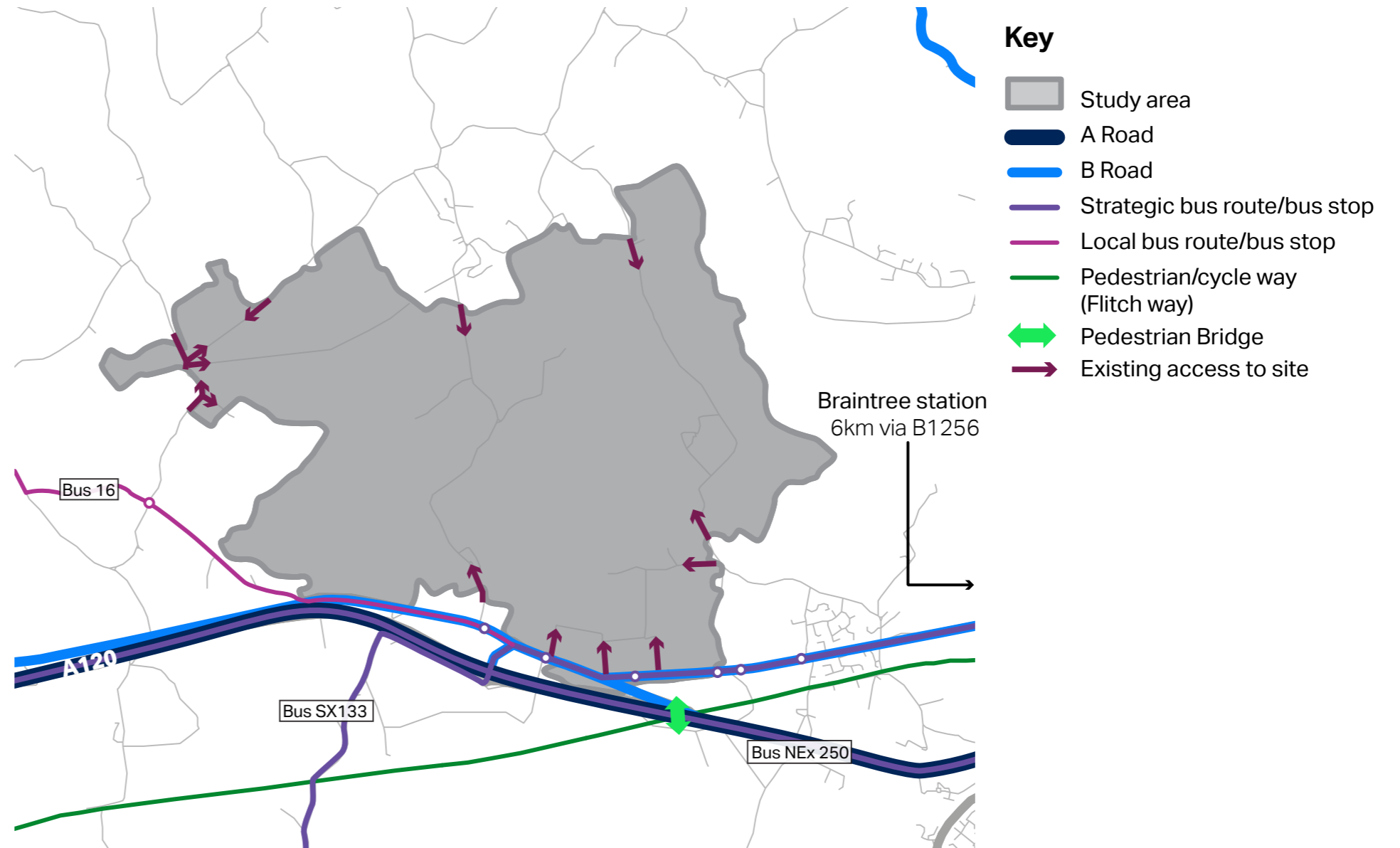


Figure 96: West of Braintree Movement Network. AECOM.

SWOT - Strategic network

	Strengths	Weaknesses	Opportunities	Constraints
A12	Direct access to the A120 via existing B1417/A120 and B1256/A120 junctions. Free flowing traffic / high quality road connection on this section of the A120.	Level of noise and pollution from road network. Road corridor creates barrier of movement between different parts of the site	Upgrade the existing access to the A120 to accommodate growth on site.	Impact on the role of the strategic highway infrastructure
Braintree branch line	Through service to Chelmsford, London, and Witham (interchange) via station at Braintree Town Accessible by active modes using the existing Flitch Way trail.	Low frequency: 1tph in either directions. Located at more than 5km from the site, the station is difficult to access via active modes	Improve service frequency: loop at Cressing, tram-train or guided bus. Provide an efficient public transport link from the site to Braintree/Braintree Freeport stations and upgrade existing Flitch Way.	Car orientated development to prevail if site isn't connected to a rail network
Bus network	Interurban and local bus network connections to Stansted, Braintree, Colchester etc. via the A120 and A130.	Low service frequency	Increase the number of existing services to provide greater frequency. Integrate bus services within the site - all parts of the development located within walking distance of a stop	A car orientated development will prevail if a bus network through the site and connections to rail based transport
Cycle network	Flitch way (located south of the A120), cycle and pedestrian only path connecting directly to Braintree town centre and station. Access to Flitch way from the site via existing crossings of the A120 (East and West). Pods lane protected lane running East of the site.	No viable pedestrian or cycle routes of note exist within the site. Flitch Way currently configured for leisure activity rather than a direct route	Develop a comprehensive walking and cycling network within the site Improve linkages between this network Flitch way Upgrade Flitch Way provide a viable commuting option for short trips. Connection to the Skyline 120 is imperative	A car orientated development will prevail with short distance trips dominated by car use without clear integration of cycle and pedestrian infrastructure .

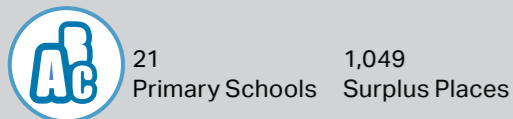
5.13 Social Infrastructure - Education

Essex County Council has developed a Commissioning School Places in Essex 2015-2020, published February 2016. Its role as Commissioner of school places, provides information related to future pupil numbers and where further expansion will be required to meet housing demands.

The 5km boundary of West of Braintree overlaps two local authorities (Braintree and Uttlesford). For the following social infrastructure review, both local authorities will be considered in assessing the current situation, committed infrastructure and future issues.

Key Findings - Primary

Current Situation within 5km Boundary (May 2016)



Committed Infrastructure within 5km Boundary

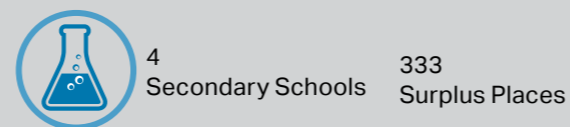
- There are no plans for a new or expansion of a primary school within Braintree in the 5km radius of the site

Future and Wider Issues

- The Commissioning Plan forecasts an increase of 76 primary school pupils between 2015-2020 for Braintree, in which there is a forecast surplus of 1,333 places across the local authority
- Within Uttlesford, the Commissioning Plan forecast an increase of 239 primary school pupils between 2015-2020, in which there is a forecast surplus of 1,119 places across the local authority
- Proposed growth West of Braintree would create a significant requirement for primary school places, therefore proposals coming forward would need to consider the delivery of future education infrastructure provision.
- Essex County Council are seeking contributions from housing developers towards the cost of providing the additional places required for the pupils generated by new housing.

Key Findings - Secondary

Current Situation within 5km Boundary (May 2016)



Committed Infrastructure within 5km Boundary

- A review of the Essex Commissioning School Places 2015-2020 identifies no committed secondary school provision, assessment may be needed to identify whether a new school(s) is required given the quantum of development which might be delivered.

Future and Wider Issues

- The Commissioning Plan forecasts an increase of 306 secondary school pupils between 2015-2020 for Braintree, in which there is a forecast surplus of 1,158 places across the local authority.
- Within Uttlesford, the Commissioning Plan forecast an increase of 254 primary school pupils between 2015-2020, in which there is a forecast surplus of 616 places across the local authority
- Essex County Council are seeking contributions from housing developers towards the cost of providing the additional places required for the pupils generated by new housing.

Key Findings - Further Education

Current Situation within 5km Boundary (May 2016)



Committed Infrastructure within 5km Boundary

- Committed or planned infrastructure for Post-16 Education is not known at this time.

Future and Wider Issues

- The minimum age at which young people in England can leave learning increased in 2013, requiring young people to continue education or training to the end of the academic year in which they turn 17.
- This has been followed with a policy beginning in 2015 where all young people must remain in learning to their 18th birthday. This is referred to as Raising the Participation Age (RPA).
- This puts more pressure on the local authorities to ensure and provide options for young people to learn the skills required. Local authorities have the duty to:
 - Promote effective participation in education or training to young people;
 - Ensure that sufficient places are available to meet the reasonable needs of all young people and encourage them to participate; and
 - Make available to young people support that will allow them to participate in education or training.

Sources

- Department of Education, Edubase Portal (May 2016)
- Commissioning School Places in Essex 2015-2020

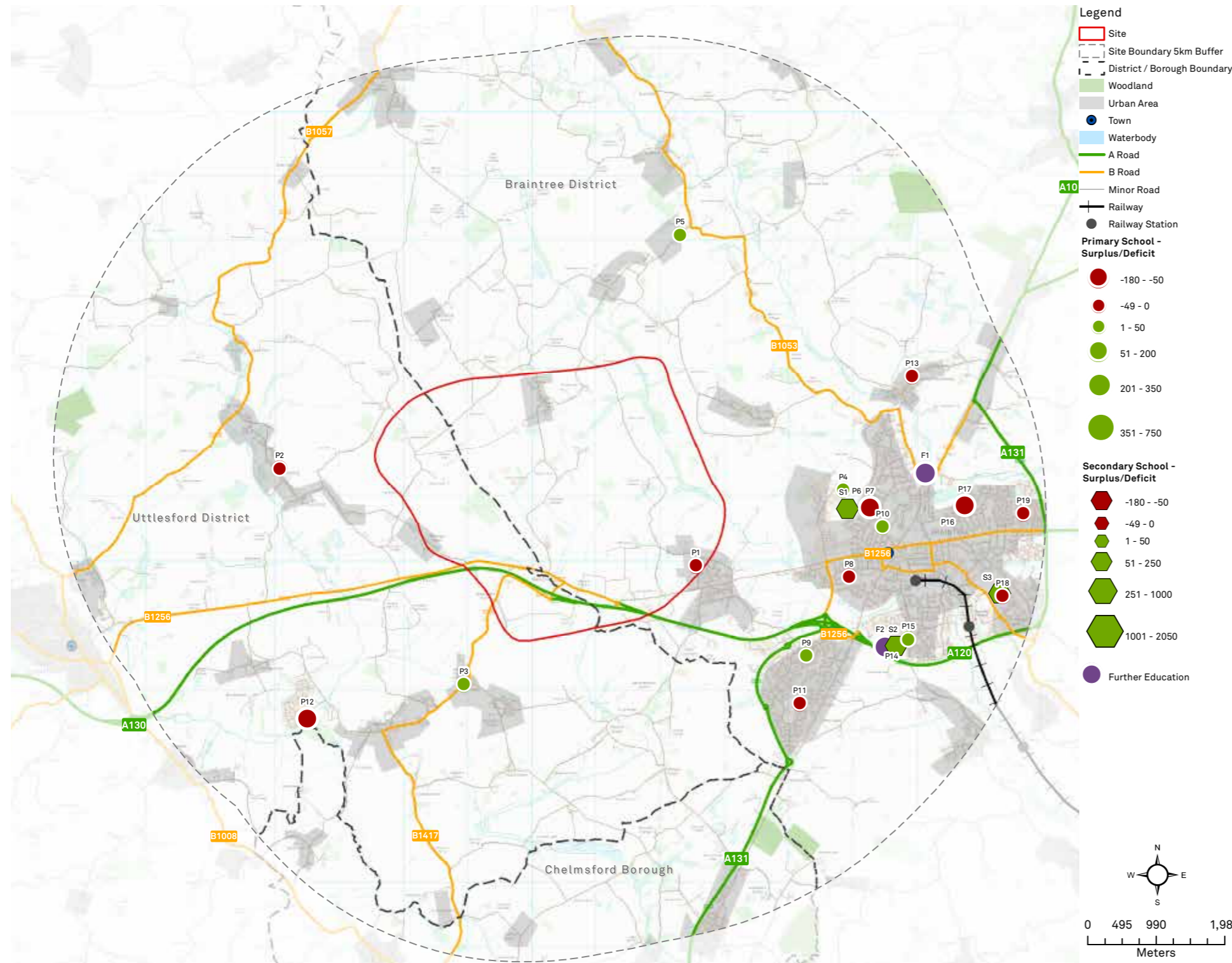


Figure 97: West Braintree Education Context. Source: Edubase (2016)

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Primary School Capacity Analysis			
Primary School Name	Capacity	Surplus / Deficit	Label
Rayne Primary and Nursery School	256	-31	P1
Stebbing Primary School	105	-22	P2
Felsted Primary School	262	50	P3
The Edith Borthwick School	200	4	P4
Shalford Primary School	105	9	P5
John Bunyan Primary School and Nursery	210	-94	P6
John Bunyan Junior School	300	60	P7
St Michael's CofE Primary School	404	-10	P8
Notley Green Primary School	420	12	P9
St Francis Catholic Primary School, Braintree	210	3	P10
White Court School	597	-6	P11
The Flitch Green Academy	210	-54	P12
Bocking Church Street Primary School	193	-43	P13
John Ray Infant School	360	35	P14
John Ray Junior School	383	3	P15
Great Bradfords Junior School	351	-4	P16
Great Bradfords Infant and Nursery School	265	-73	P17
Central Essex PRU C.O. Alec Hunter High School	n/a	n/a	P18
Lyons Hall School	432	-15	P19
TOTAL	6,553	-7	

Secondary School Capacity Analysis			
Secondary School Name	Capacity	Surplus / Deficit	Label
Tabor Academy	1,050	62	S1
Notley High School and Braintree Sixth Form	1,500	53	S2
Alec Hunter Academy	1,142	218	S3
TOTAL	3,692	333	

Further Education Facility	Label
Braintree College	F1
Notley High School and Braintree Sixth Form	F2

Social Infrastructure - Health

Key Findings

Current Situation within 5km Boundary (May 2016)



- There are 4 GP practices identified within 5km of West of Braintree. These facilities are all located to the east of the development with Braintree. There are no facilities within the development area.
- There is an overall deficit in provision of GPs across the wider 5km buffer zone with -9,899 patient spaces. However, this is a theoretical assessment, and the actual pressures are potentially more pressing. There are no facilities with a strong GP to patient ratio.
- There is currently one hospital, Braintree Community Hospital, identified within 5km of West of Braintree.

Key Findings

Committed Infrastructure within 5km Boundary

- A review of Uttlesford Infrastructure Delivery Plan (2014) has not demonstrated any specific healthcare related projects within the 5km buffer.
- In absence of a Infrastructure Delivery Plan for Braintree, this analysis has not identified any committed or planned infrastructure for healthcare within 5km of West of Braintree within Braintree District

Key Findings

Future and Wider Issues

- West of Braintree sits within Mid Essex Clinical Commissioning Group, which is an NHS organisation set up by the Health and Social Care Act 2012 to organise the delivery of NHS services in England.
- The CCGs receives funding and are commissioned by NHS England to provide primary care services (including GPs), in turn the CCGs commission most services in their areas to trusts that include hospital and community healthcare.
- This assessment will review the strategy for North East Essex CCG to understand the future issues facing healthcare in Essex.

Mid Essex Clinical Commissioning Group

- Mid Essex CCG has identified that demand will continue to increase due to population growth, ageing and an increase in people with multiple long-term conditions.
- However, despite the growth in future patients projected, Mid Essex is one of the 11 most financially challenged health economies in the county.
- To address these issues, the CCG is looking to improve the integration of multiple aspects of the health and care system including hospital teams, community staff, primary care and social care. The CCG is therefore putting greater focus on responding to the needs of local people, using stages of life model.

Sources

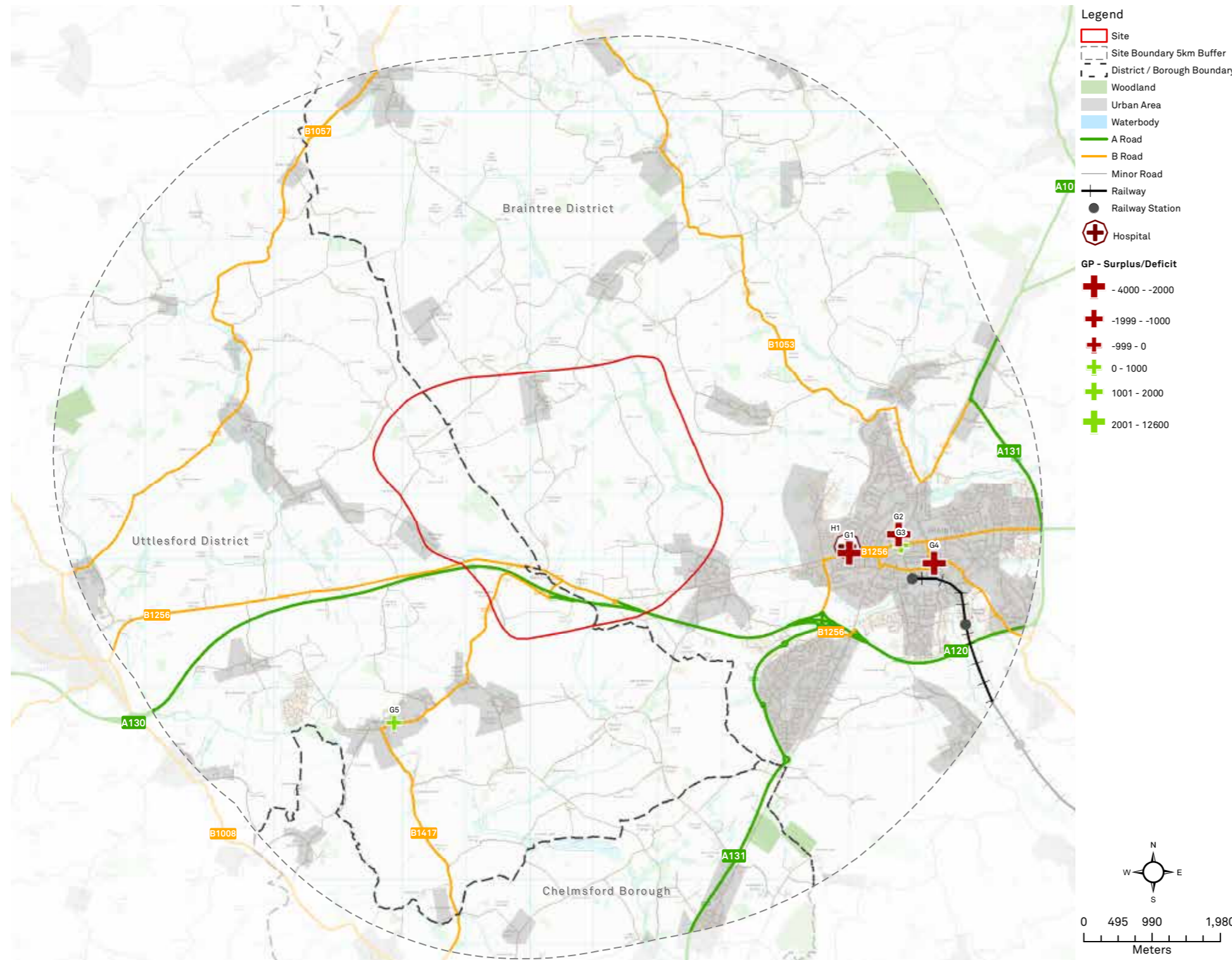
- NHS England, MyNHS Portal dataset (May 2016)
- Health and Social Care Information Centre (HSCIC) dataset (January 2016)

Sources

- Uttlesford Infrastructure Delivery Plan (2014)

Sources

- Mid Essex Clinical Commissioning Group



GP Capacity Analysis					
Practice Name	Full Time Equivalent GP's	Patients	Capacity	Surplus / Deficit	Label
Blandford Medical Centre	8	17,779	14,400	-3,379	G1
St. Lawrence Medical Practice	7	15,884	11,952	-3,932	G2
Mount Chambers Medical Practice	8	12,968	13,500	532	G3
Blyth's Meadow Surgery	4	10,320	7,200	-3,120	G4
The Surgery, Felsted	8.5	13,796	-	-	G5
TOTAL	26	56,951	47,052	-9,899	

Hospitals	
Hospital Name	Label
Braintree Community Hospital	H1

Figure 98: West Braintree Health Infrastructure Context. Source: MyNHS, HSCIC

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Social Infrastructure - Community Facilities and Emergency Services

Key Findings

Current Situation (May 2016)



Emergency Services

- Across the wider 5km buffer zone, the analysis identified 1 ambulance station, 1 police station and 1 fire stations. Distribution is shown in Table 21
- These facilities are all located within Braintree.
- Further work will need to determine whether the capacity of the existing emergency services can cope with the forecast increase in population

Libraries

- There is one library within Braintree District that is within the 5km wider area of West of Braintree.

Youth Centres

- There is one youth centres within 5km of West of Braintree.

Community Centres

- There are at least nine community centres/village halls within 5km of the development.
- These community facilities are all located within Braintree and therefore have poor accessibility to the development West of Braintree.

Sources

- East of England Ambulance Services, Essex Police, Essex County Fire & Rescue Services
- Google maps to identify community facilities, libraries and youth centres

Key Findings

Committed Emergency Infrastructure

- Following a review of Uttlesford Infrastructure Delivery Plan (2014) and in absence of a Infrastructure Delivery Plan for Braintree there are no identified emergency facilities, libraries, youth centres or community centres within 5 km of the West of Braintree site.

Sources

- Uttlesford Infrastructure Delivery Plan (2014)

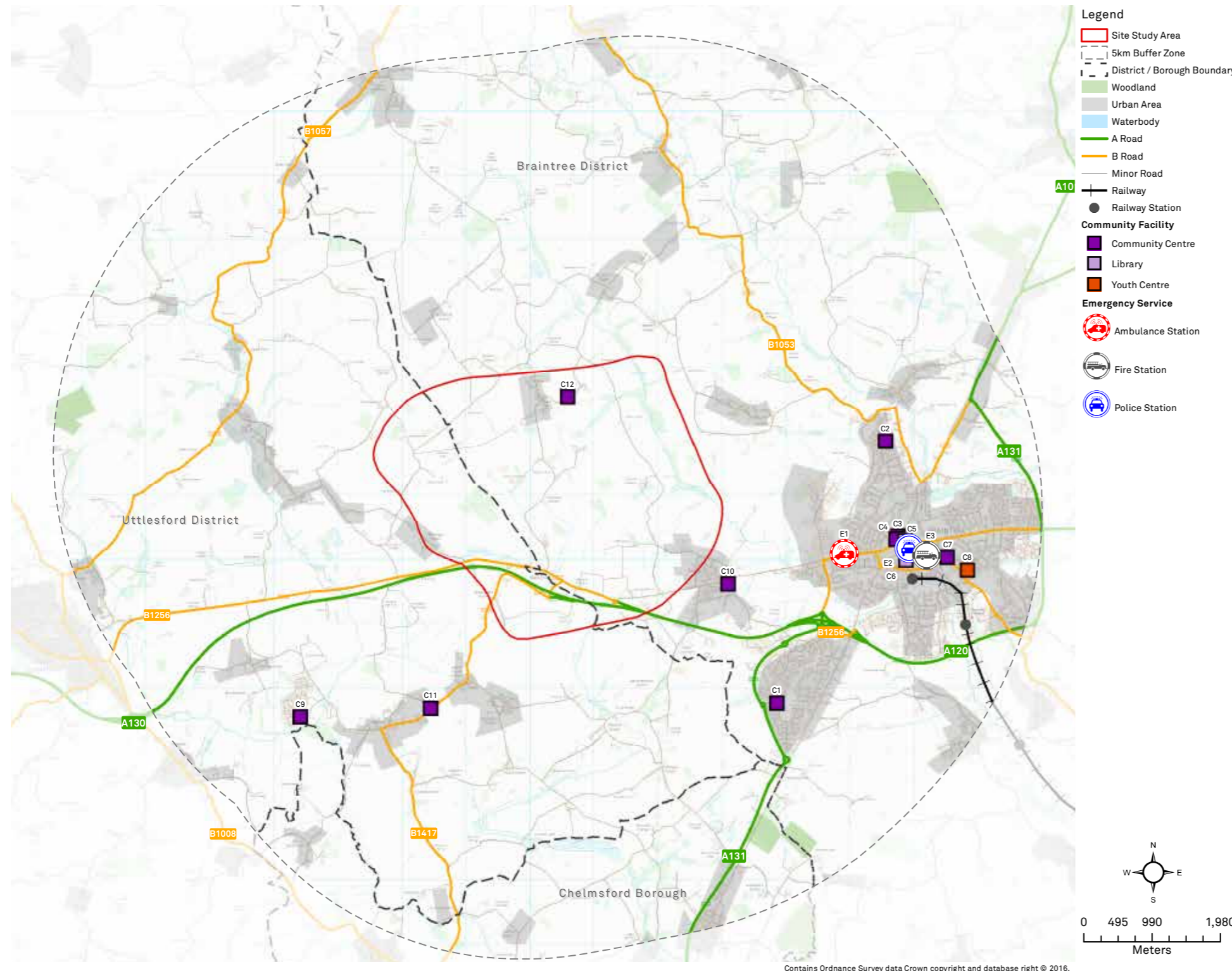
Key Findings

Future and Wider Issues

- A review of ambulance services has identified a change in the future model of ambulance provision by the early 2020s within the East of England's Ambulance Services. This involves a hub and spoke service in order to meet demand from existing population. Traditional ambulance stations act as the main hubs of service, with smaller 24/7 posts acting as the spoke.
- Further work will need to determine whether the capacity of the existing emergency services can cope with the forecast increase in population.
- Further work will need to determine whether the capacity of the existing community facilities can cope with the forecast increase in population. However, it is likely that future development at West of Braintree would need to provide some community offer.

Sources

- East of England Ambulance Services
- Essex Police
- Essex County Fire & Rescue Services



- Legend**
- Site Study Area
 - 5km Buffer Zone
 - District / Borough Boundary
 - Woodland
 - Urban Area
 - Waterbody
 - A Road
 - B Road
 - Minor Road
 - Railway
 - Railway Station
 - Community Facility**
 - Community Centre
 - Library
 - Youth Centre
 - Emergency Service**
 - ★ Ambulance Station
 - 🚒 Fire Station
 - 🚓 Police Station

Community Service Facilities		
Name of Facility	Type	Label
Notley Green Community Association	Community Centre	C1
Glebe Community Hall	Community Centre	C2
The Bocking Arts Centre	Community Centre	C3
Braintree and Bocking Community Centre	Community Centre	C4
Braintree Library	Library	C5
The Archer Community Centre	Community Centre	C7
Carousel Children's Centre	Youth Centre	C8
Fitch Green Community Centre	Community Centre	C9
Rayne Village Hall	Village Hall	C10
Felsted Village Hall	Village Hall	C11
Sailings Millenium Village Hall	Village Hall	C12

Emergency Service Facilities		
Name of Facility	Type	Label
Braintree Ambulance Service	Ambulance	E1
Braintree Police Station	Police	E2
Station 78 Braintree	Fire	E3

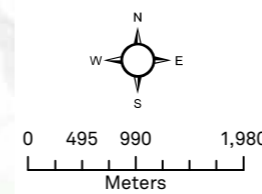


Figure 99: West Braintree Community Facilities and Emergency Services. Source: East Of England Ambulance Services, Essex Police, Essex County Fire & Rescue Services, Google Maps to Identify Community Facilities, Libraries and Youth Centres

APPENDIX 1

Local Plan Transport Modelling Summary Table and Further Assessment Requirements

Summary Table

Relevant Local Plan Modelling (Jacobs)	Relevant Site	Growth assumed (Local Plan)		Junctions identified with capacity issues (Local Plan)		Junctions/Improvements identified/proposed (Local Plan)		Relevant strategic highway network improvements in the area	Quantum of development identified for site under AECOM study	Developer proposals (call for sites)	
		Total	Associated with site	By 2032	By 2047	Location	Improvement			Quantum of development identified for site under TA assessments	Proposed associated improvements to facilitate development
Tendring Local plan modelling support 10.12.15 (Junctions 8 (Arcady/Picady) and LinSig)	East Colchester	25,720	6,000	A133 Clacton Road/Bromley Road A133 Clacton road/A133 Colchester Road/Church Road/School Road A133 Main Road/B1029 Great Bentley Road/B1029 Bromley Road A133 Colchester Road/Heckford's Road A133 Main Road/Colchester Road/A133 to A120 A133 Colchester Road/B1033 Colchester Road A137 Cox's Hill/A137 Wignall Street/B1352 Long Road B1027 Clacton Road/B1029 Station Road/B1027 Tenpenney Hill/B1029 Brightlingsea Road B1027 St John's Road/Cloes Lane/Woodrows Lane B1027 St John's Road/Little Clacton Road B1027 St John's Road/Jaywick Lane B1027 St John's Road/B1027 Valley Road/B1369 Old Road B1027 St John's Road/B1369 North Road B1033 Frinton Road/Halstead Road B1033 Frinton road/B1033 Thorpe Road/B1032 Kirby Road B1033 Frinton Road/Elm Tree Avenue/B1336 Walton Road/B1033 Connaught Avenue B1352 Long Road/B1035 Clacton Road/B1352 New Road/Trinity Road Oakley Road/B1352 Main road/B1352 Ramsey Road B1033 High Street/B1414 Landemere Road B1033 High Street/B1414 Station Road	A133/B1027 St John's Road/A133 London Road B1442 Centenary Way/B1441 London Road/B1442 Progress Way B1369 Thorpe Road/Stephenson Road West/Thorpe Road/B1442 Centenary Way B1352 Church Hill/A120 Tinker Street/B1352 Wrabness Road A137 Cox's Hill/B1352 Station Road/Cotman Avenue	B1033 Frinton Road/B1033 Thorpe Road/B1032 Kirby Road B1033 Frinton Road/Halstead Road A137 Cox's Hill/A137 Wignall Street/B1352 Long Road Main Road/Colchester Road/A133 to A120	New site access 1 New site access 1 Non specified improvements 1 Non specified improvements 2	A12 widened to 3 lanes both ways A12 technology upgrades A12 J26 improvements	10,000	-	-
Colchester Local plan modelling support 06.01.16 (SATURN (CAS) model and Arcady 8)	East Colchester North Colchester	34,000	7,000 4,000	A133 Colne Bank Roundabout A133 St Andrew's Avenue/Avon Way A134 Essex Hall Roundabout Ipswich Road/East Street	-	-	-	A12 widened to 3 lanes both ways A12 technology upgrades A12 J26 improvements	10,000	4,000	- widening of Axial way/Severalls lane roundabout entry lanes - Improvement of Langham Lane/Severalls Lane Junction - Signal control on Old Ipswich Road/A120/A12 slips (after 2000du occupied) - traffic calming measures on School Road, Birchwood Road and Wick Road (through existing villages) Promotion of a BRT route connecting the site with the town centre and the three rail stations. Potential new walk and cycle link to Severalls Lane
Braintree Options Assessment 02.02.16 (Junctions 9 (Arcady/Picady))	Marks Tey	14,000	3,100	A131 Head St / A1124 Hedingham Road / A1124 Colchester Road - Halstead B1024 Colne Road / A120 / Colne Road - Coggeshall Rye Mill Lane / B1024 / B1023 - Kelvedon B1018 Cressing Road / Rickstones Road / B1018 Braintree Road - Witham Chipping Hill / Avenue Road / The Avenue / Collingwood Road - Witham Collingwood Road / B1389 / Maldon Road - Witham B1389 / Gershwin Blvd / B1389 Hatfield Road - Witham B1137 The Street / B1019 Maldon Road / The Street - Hatfield Peverel A131 / London Road / B1053 London Road / A131 - Great Notley	-	Rayne Road / Springwood Drive / B1256 Rayne Road / Pods Brook Road - Braintree Rayne Road / Aetheric Road / Pierrefitte Way - Braintree B1389 / Gershwin Blvd / B1389 Hatfield Road - Witham B1018 Cressing Road / Rickstones Road / B1018 Braintree Road - Witham A131 / Broad Road / A131 - Braintree B1053 Church Street / Bradford Street / B1053 Bradford Street - Braintree B1256 Coggeshall Road / A131 / A120 / A131 - Braintree (Marks Farm) A131 / A120 / Pods Brook Road / A120 - Great Notley/Braintree (panners interchange) B1024 Colne Road / A120 / Colne Road - Coggeshall	Widening of approaches, increasing size of roundabout 3,4,5 Optimised traffic signal controls 3,4,5 Mitigation measures 1 Conversion of southern mini-roundabout into priority junction 1 Larger ICD roundabout 3 Traffic signals 3,5 Larger ICD roundabout 3 Partial signalisation, larger ICD roundabout, increased capacity on slips 3 Traffic signal control option, larger ICD roundabout, grade separated A120 through traffic 3,6 Partial signalisation, larger ICD roundabout 3	A12 3 lanes widening A12 technology upgrade A12 J26 improvement J25 Marks Tey Roundabout improvement Realignment of the A120 + new junction with the A12	10,000	900	- new connection on the Prince of Wales roundabout (A120/B1048 London Road) and improved junction capacity - capacity improvements to Marks Tey Roundabout - New roundabout formed with London Road, A12 westbound on-slip and the site New bus to connect the site internally with wider local area.
	West of Braintree	14,000	3,100	A131 / Cuckoo Way - Great Notley A131 / A120 / Pods Brook Road / A120 - Great Notley/Braintree Rayne Road / Springwood Drive / B1256 Rayne Road / Pods Brook Road - Braintree Rayne Road / Aetheric Road / Pierrefitte Way - Braintree B1053 Church Street / Bradford Street / B1053 Bradford Street - Braintree Panfield Road / Panfield Lane / Deanery Hill - Braintree A131 / Broad Road / A131 - Braintree B1256 Coggeshall Road / A131 / A120 / A131 - Braintree A120 / B1018 / Long Green / A120* - Braintree Millennium Way / B1018 / Braintree Road* - Braintree A12 / B1024 Off-slip (Kelvedon) A12 / London Road Off-slip (Kelvedon) A12 / B1389 Off-slip (Witham)	-	A131 / London Road / B1053 London Road / A131 - Great Notley A131 Head St / A1124 Hedingham Road / A1124 Colchester Road - Halstead B1137 The Street / B1019 Maldon Road / The Street - Hatfield Peverel Rye Mill Lane / B1024 / B1023 - Kelvedon Chipping Hill / Avenue Road / The Avenue / Collingwood Road - Witham B1389 Newland Street/ B1018 Collingwood Road - Witham A12 J24 on&off slips - North Kelvedon A12 J23 on&off slips - South Kelvedon A12 J22 on&off slips - North Witham A12 J21 on&off slips - South Witham A12 J20B on&off slips - Hatfield Peverel A12 J20A off slip - Hatfield Peverel A12 J20A on slip - Hatfield Peverel	Optimised traffic signal control 3,5 Strategic solution such as bypass 3,5 Traffic signal control 3 Optimised traffic signal, larger ICD roundabout 3 Optimised existing signal control 3,5 Increased capacity of the slips 3,7 Increased capacity of the slips 3,7 Increased capacity of the slips 3,7 Increased capacity of the slips 3,7 Increased capacity of the slips 3,7 Increased capacity of the slips 3,7 Increased capacity of the slips 3,7 Increased capacity of the slips 3,7	A130 bypass Boreham interchange upgrade	10,000	-	-

- 1- Proposed by developer
- 2- ECC feasibility work
- 3- Proposed by Jacobs (potential options for capacity improvement)
- 4- 2010 Core Strategy Mitigation Measures Review
- 5- Capacity improvements via mode-shift measures
- 6- currently under study by Highways England
- 7- Capacity is likely to be limited by the link capacity of local junctions before this Junction reaches capacity.

Local Plan Transport Modelling Further Assessment Requirements

East Colchester / West Tendring (Tendring Local Plan)

- Total growth for the area assumed to be approximately 25,000 homes.
- Jacobs modelling only assesses 6,000 homes specifically on the site:
 - The additional projected potential total homes for the site (up to 10,000 homes) could already be accounted for in the wider area growth however.
 - ECC will need to clarify position in terms of the current modelling. Jacobs may need to address this and assess localised impact of increasing development on the site and a reduction in development in other areas of the Local authority boundary.
- Identified junction upgrades currently do not cover all identified junction capacity issues. Where junctions have been identified for mitigation, the Local Plan modelling at this stage stops short of providing clear proposals for junction improvements.
- The Colchester Local plan modelling also assesses development on the East Colchester / West Tendring site (7,000 homes):
 - ECC / Jacobs would need to confirm how potential double counting of the identified impact associated with growth is being addressed within the context of the region.
 - Or has the impact of development associated with the site been over assessed i.e. a total of 13,000 homes (6,000 + 7,000).
 - No junction improvements are identified.

North Colchester (Colchester Local Plan)

- Jacobs modelling assesses 4,000 homes on site:
 - Projected potential for a further 6,000 homes on site will need to be further investing by ECC / Jacobs
- The Local Plan modelling at this stage stops short of providing clear proposals for junction improvements associated with the capacity issues identified.
- Developers, within their call for sites study assessed 4,000 homes within their land holding only (within site). Their work concentrates on mitigation measures required for this land holding only.

Marks Tey (Braintree Local Plan)

- Jacobs modelling assesses 3,100 homes on site within the context of 14,000 homes in total in the area
 - Projected potential for a further of 6,000 homes on site will need to be further investing by ECC / Jacobs
- Jacobs may need to address the allocation of development and assess localised impact of increasing development on the site and a reduction in development in other areas of the Local authority boundary
- Developers, within their call for sites study assessed 900 homes on their land holding only (within site). Their work concentrates on mitigation measures required for this land holding only. Any further development is likely however to require the A120 mitigation measures both from an access and capacity point of view.

West of Braintree (Braintree Local Plan)

- Jacobs modelling assesses 3,100 homes on site within the context of 14,000 homes in total in the area
 - Projected potential for a further of 6,000 homes on site will need to be further investing. Possibly, homes sit within Uttlesfords allocation – ECC to provide direction on how the Braintree Local Plan addresses this / could address this
 - Jacobs may need to address the allocation of development and assess localised impact of increasing development on the site and a reduction in development in other areas of the Local authority boundary
 - Or the impact of increasing development on site to 10,000 in addition / reduction to the 14,000 homes in the wider area

Total projected potential for total homes associated with both the West of Braintree and Marks Tey sites will require further study / assessment when assuming cumulative impact (20,000 homes (10,000 on both sites) v's 6,200 homes (3,100 + 3,100).

