Planning Committee Agenda

5 September 2023 at 7pm

Council Chamber, Civic Centre, Chelmsford

Membership

Councillor J. Sosin (Chair)

and Councillors

J. Armstrong, S. Dobson, S. Hall, R. Hyland, J. Lardge, R. Lee, V. Pappa, E. Sampson, A. Thompson, A. Thorpe-Apps, C. Tron, and P. Wilson

Local people are welcome to attend this meeting, where your elected Councillors take decisions affecting YOU and your City.
There is also an opportunity to ask your Councillors questions or make a statement. These have to be submitted in advance and details are on the agenda page. If you would like to find out more, please telephone Dan Sharma-Bird in the Democracy Team on Chelmsford (01245) 606523 email dan.sharma-bird@chelmsford.gov.uk

PLANNING COMMITTEE

5 September 2023

AGENDA

1. CHAIR'S ANNOUNCEMENTS

2. APOLOGIES FOR ABSENCE

3. DECLARATIONS OF INTEREST

   All Members are reminded that they must disclose any interests they know they have in items of business on the meeting's agenda and that they must do so at this point on the agenda or as soon as they become aware of the interest. If the interest is a Disclosable Pecuniary Interest they are also obliged to notify the Monitoring Officer within 28 days of the meeting.

4. MINUTES

   To consider the minutes of the meeting on 4 July 2023.

5. PUBLIC QUESTION TIME

   Any member of the public may ask a question or make a statement at this point in the meeting, provided that they have submitted their question or statement in writing in advance. Each person has two minutes and a maximum of 20 minutes is allotted to public questions/statements, which must be about matters for which the Committee is responsible. The Chair may disallow a question if it is offensive, substantially the same as another question or requires disclosure of exempt or confidential information. If the question cannot be answered at the meeting a written response will be provided after the meeting.

   Where an application is returning to the Committee that has been deferred for a site visit, for further information or to consider detailed reasons for refusal, no further public questions or statements may be submitted.

   Any member of the public who wishes to submit a question or statement to this meeting should email it to committees@chelmsford.gov.uk 24 hours before the start time of the meeting. All valid questions and statements will be published with the agenda on the website at least six hours before the start time and will be responded to at the meeting. Those who have submitted a valid question or statement will be entitled to put it in person at the meeting.

6. 22/01877-FUL – Land South of Colam Lane, Little Baddow, Chelmsford, Essex

7. 23/00195/FUL – Garages Rear of 27 Medway Close, Chelmsford, Essex

8. 23/00781/FUL – Garage Block Rear of St Michaels Drive, Roxwell, Chelmsford, Essex, CM1 4NX

9. 23/00834/FUL – Land Rear of Hill Cottage, Colam Lane, Little Baddow, Chelmsford, Essex

10. Planning Appeals

MINUTES

of the

PLANNING COMMITTEE

held on 4 July 2023 at 7:00pm

Present:

Councillor J. Sosin (Chair)
Councillor S. Dobson (Vice Chair)

Councillors J. Armstrong, S. Hall, R. Hyland, J. Lardge, R. Lee, A. Thompson, C. Tron, P. Wilson and N. Walsh

Also Present:
Councillors A. Davidson, J. Hawkins and M. Steel

1. Chair's Announcements

For the benefit of the public, the Chair explained the arrangements for the meeting.

2. Apologies for Absence

Apologies for absence were received from Councillor Sampson, Councillor Walsh substituted for them.

3. Declarations of Interest

All Members were reminded that they must disclose any interests they knew they had in items of business on the meeting's agenda and that they must do so at this point on the agenda or as soon as they became aware of the interest. If the interest was a Disclosable Pecuniary Interest they were also obliged to notify the Monitoring Officer within 28 days of the meeting. Any declarations are recorded in the relevant minute below.

4. Minutes

The minutes of the meeting on 20 June 2023 were confirmed as a correct record and signed by the Chair.

5. Public Question Time

Public questions and statements were asked on Items 6 & 7 and are detailed under the relevant items. The statements submitted in advance can be viewed via this link.

6. 23/00525/FUL – Land Between Peartree Cottage and Daffodil Cottage, North East of Pondside Nursery, Braintree Road, Little Waltham, Chelmsford

The Committee considered an application for the demolition of existing storage buildings and construction of a replacement 3-bedroom chalet bungalow and single cart lodge, to include a new access from the A131 via an existing gateway. It was noted that the application had been referred by a local ward Councillor as the planned Chelmsford North East Bypass should be a material consideration, in highway safety considerations and the impact of the development on the rural area. Officers informed the Committee that the proposals would contribute to the site having a significantly more developed and urbanised appearance than the current situation. It was noted that this would have a harmful visual impact on the simple rustic rural character of the area, in turn harming the intrinsic character and beauty of the countryside. The Committee also heard the site was not in a growth area, therefore conflicting with the Spatial Strategy in the Chelmsford Local Plan. The Committee also heard that occupiers would be reliant on private vehicle movements for day to day needs and therefore the scheme did not represent or constitute sustainable development. The Committee was also informed that the new access would result in an unacceptable degree of hazard for both emerging and approaching vehicles and other highway users. For those reasons, the Committee noted that the application was recommended for refusal.

The Committee heard from the applicants, who raised the following points;

- The large amount of unrestricted outside storage relating to a landscape contractors yard had not been taken into account when comparing the size, scale, spread and visual impact of the proposed dwelling.
- There were local, regular buses nearby.
- The NPPF stated that development should only be prevented if the highways impact would be severe.
- A recently built new access for mineral extraction, allowed 100 more HGV movements daily nearby and this caused vehicles to brake, with no safety measures to mitigate the impact.
- A residential use for cars would be less impactful than one for HGV's.
- The impact of the proposed Chelmsford North Easy Bypass had not been taken into account, and this would have a positive impact on the local road network.
- The nearby Daffodil Cottage which had been developed had not been described as dominating but the new proposal had been.

The Committee also heard from a local ward member, who had called in the application, they raised the following points;

- This was for one property, sitting in a row of four, with close access to Chatham Green, bus stops and a good road network, expanding with the addition of the NE Bypass.
- The development would act as an infill, with three similar houses nearby, the local area would also undergo a considerable amount of change with the planned bypass and access roundabout close to the site.
- The site already benefited from a commercial business use which could intensify, therefore DM8 should consider the impact of the spread of the unrestricted current outside storage on the site.
- The proposal would be smaller than the adjacent cottage.
- Chatham Green nearby, included a pub, shops and a business centre, with nearby bus stops, as there had been very little residential development in the area, it meant many residents had to move elsewhere as there were limited housing opportunities in the area..

- The new bypass would move traffic from the road adjacent to the site and it should be a material consideration as planning permission had been granted.
- Signage for no right turns into the site would be one possible solution to alleviate highway concerns.
- The impact would be small, from a residential dwelling with approximately two to six vehicle movements per day.
- The bus stops and new road, incorporating cycle lanes and footpaths should have been a material consideration.
- A site visit would be beneficial for the Committee, to judge first hand the suitability and highway concerns.

In response to the points raised, by the applicants and local ward Councillor, City Council and Essex Highways officers informed the Committee that;

- The application was for a significantly larger building than the existing sheds, and nearby properties would then be encouraged to also do the same.
- Only part of the site was previously developed land.
- Officers had visited the site and assessed the level of activity and storage.
- Strategic routes such as the A131 were protected and it formed an important function in the route hierarchy.
- The NE bypass had been considered as it had been granted planning permission and it would likely result in the A131 being reclassified, however it would continue to remain an important high speed route.
- The majority of other accesses on the A131 had dedicated right hand turn lanes, leading to a safer way to turn on and off the road.

In response to questions and comments from the Committee, officers noted that;

- There was vehicular access at the rear of the site currently through the applicant's ownership.
- Other properties already had existing access from the A131, despite this only being for one property it was still felt that this would be adding a brand new, potentially dangerous access onto the road.
- The point of damaging the intrinsic beauty, was a subjective one for the Committee to decide upon, officers could only provide their expert view, which was that this application would do so.
- Despite just being for one dwelling, officers had to consider all planning matters and bring them to the Committee's attention, this site was not in the local plan as a housing area and had constraints such as needing the use of a private car for many everyday journeys.
- The proposed access would be 120m before the existing roundabout.
- The NE bypass had planning permission, but officers highlighted similar schemes could often take many years before actually taking place, it was a material consideration but should only be given limited weight, as it was currently just the grant of permission.

RESOLVED that the application be refused, for the reasons detailed in the report.

(7.03pm to 7.43pm)

7. 23/00116/FUL – Land Rear of 17 to 37 Beachs Drive, Chelmsford

The Committee considered an application for the demolition of existing buildings and structures and construction of 18 new dwellings with associated parking, private amenity space, open space, hard and soft landscaping and pedestrian link. It was noted that the application had been called in by a local ward member, for matters including neighbour amenity, scale, design and appearance, safety and security, parking and access. The Committee were informed that the site was allocated for housing within the Council's Local Plan, and was surrounded on all sides by residential developments, however the proposed site was noticeably lower than the surrounding built form with levels of difference ranging from 1 to 2.5m. It was noted that the site lied within flood zones 2 and 3a and therefore no habitable accommodation could be located on the ground floor of the properties. The Committee heard that this had therefore influenced the scale and design of the scheme, with 2-3 storey properties. Officers felt that the site's lowered ground levels, distance between properties and the design of plots meant there would be an acceptable relationship with the surrounding neighbouring properties. It was also noted that parking provision and access was suitable, five affordable housing units would be included along with local open space and the improvement of an existing Public Right of Way via S106 contributions. Therefore, officers had recommended the application for approval, subject to the completion of the S106 agreement.

The applicant addressed the Committee and detailed it was one of the clear examples of a previously developed site, within the urban area of Chelmsford, that could provide for both market and affordable homes and was allocated within the Local Plan. The Committee heard constraints had been overcome, including flood risk, which influenced the design, transport and urban design considerations. It was also noted that the change in level between site and surrounding area, meant the proposals would be lower in height that other nearby properties. The S106 contributions were also highlighted, which would lead to PROW improvements, affordable housing and a high level of energy efficiency and sustainability.

The Committee also heard from a local ward member, who had called in the application, they raised the following points form residents and other ward members;

- Traffic levels and parking arrangements had not been considered in enough detail, where nearby roads had restrictions but the two near the application site did not, this would add to existing issues.
- The impact of the development whilst being built would negatively impact on traffic and parking locally too, would a detailed construction management plan be produced and adhered to?
- The buildings appeared tall, with the three storey design.
- Nearby residents would require reassurances that their boundaries and gardens would not be impacted.
- Plots one and two seemed very close to the shared boundary, with amenity space that would not be in a very usable shape.
- Plot 13 was a lot taller than the nearby 79 Beaches Road.
- It would be preferrable for the City Council to adopt the open spaces
- There was a lack of sustainable features in the development, which was disappointing as the Council had declared a climate emergency.

In response to the points raised by the local ward Councillor, officers noted that;

- Sufficient parking would be provided on the site.

- A construction management plan would be conditioned prior to the commencement of the development, existing issues with parking in the area were not for the developer to mitigate.
- The design was different to other properties nearby but was set back from the street scene due to being a backland plot development.
- Boundary treatments would be conditioned as part of the development.
- Amenity space for plots one and two, was sufficient and officers felt it was of a usable design.
- Plot 13 was higher, but it did have a 15m gap back to the South boundary.
- The internal road could not be adopted, but officers had held conversations with the developer about the Council adopting the open space.
- Some sustainability measures had been proposed by the developer.

In response to questions and comments from the Committee, officers noted that;

- The affordable plots would remain affordable, in perpetuity and were not spread out as on other sites, due to the smaller nature of the site and the appearance of the market and affordable units are not distinguishable. The number of them was also fixed by condition.
- Solar panels could not be conditioned, but an informative on their use could be added to the planning permission if approved.
- The proposals had passed the relevant flood risk tests in the local plan and mitigations had been put in place.
- The specific details of the split between affordable and social housing would be decided through the S106 negotiations.
- There had been wide ranging pre application discussions, due to the unique nature of the site that had led to the unusual design of the site.
- A condition in the decision notice would detail cycle parking requirements at the rear of the properties.
- The £6k for improving the public right of way, had been costed out by the Council's Parks and Green Spaces Manager.
- The road in the development would not be of adoptable standard, therefore a service charge for maintaining it would be required for occupiers of the dwellings – this is a private matter.
- The condition relating to landscaping and boundary treatments would be closely looked at once the site could be inspected further, and various options would be considered.
- Refuse vehicles would be able to use the road in the site and enter and leave in a forward gear.

RESOLVED that the application be approved subject to the completion of a S106 agreement, the conditions and informative detailed in the report.

Also an additional informative "To promote sustainability and energy efficiency, the developer is strongly encouraged to incorporate photovoltaic technology with the roofscape of the development. "

(7.44pm to 8.39pm)

The meeting closed at 8.39pm.

Chair

PLANNING POLICY BACKGROUND INFORMATION

The Chelmsford Local Plan 2013 – 2016 was adopted by Chelmsford City Council on 27th May 2020. The Local Plan guides growth and development across Chelmsford City Council's area as well as containing policies for determining planning applications. The policies are prefixed by 'S' for a Strategic Policy or 'DM' for a Development Management policy and are applied across the whole of the Chelmsford City Council Area where they are relevant. The Chelmsford Local Plan 2013-3036 carries full weight in the consideration of planning applications.

SUMMARY OF POLICIES REFERRED TO IN THIS AGENDA

MPSPD The Making Places Supplementary Planning Document was adopted in January 2021 and sets out detailed guidance for the implementation of the policy requirements set out in the Local Plan. It seeks to promote and secure high-quality sustainable new development. It is aimed at all forms of development, from large strategic developments, public spaces and places, to small extensions to individual homes.

DM8 Policy DM8 - New Build & Structures in the Rural Area - Planning permission will be granted for new buildings in the Rural Area where the development would not adversely impact on the identified intrinsic character and beauty of the countryside and is for one of a number of prescribed developments. Planning permission will be granted for the redevelopment of previously developed land, replacement buildings and residential outbuildings subject to meeting prescribed criteria.

DM16 Policy DM16 - Ecology & Biodiversity - The impact of a development on Internationally Designated Sites, Nationally Designated Sites and Locally Designated Sites will be considered in line with the importance of the site. With National and Local Sites, this will be balanced against the benefits of the development. All development proposals should conserve and enhance the network of habitats, species and sites.

DM17 Policy DM17 - Trees, Woodland & Landscape Features - Planning permission will only be granted for development proposals that do not result in unacceptable harm to the health of a preserved tree, trees in a Conservation Area or Registered Park and Garden, preserved woodlands or ancient woodlands. Development proposals must not result in unacceptable harm to natural landscape features that are important to the character and appearance of the area.

DM18 Policy DM18 - Flooding/Suds - Planning permission for all types of development will only be granted where it can be demonstrated that the site is safe from all types of flooding. All major developments will be required to incorporate water management measures to reduce surface water run off and ensure that it does not increase flood risk elsewhere.

DM23 Policy DM23 - High Quality & Inclusive Design - Planning permission will be granted for development that respects the character and appearance of the area in which it is located. Development must be compatible with its surroundings having regard to scale, siting, form, architecture, materials, boundary treatments and landscape. The design of all new buildings and extensions must be of high quality, well proportioned, have visually coherent elevations, active elevations and create safe, accessible and inclusive environments.

DM25 Policy DM25 - Sustainable Buildings - All new dwellings and non-residential buildings shall incorporate sustainable design features to reduce carbon dioxide and nitrogen dioxide emissions and the use of natural resources. New dwellings and non-residential buildings shall provide convenient access to electric vehicle charging point infrastructure.

DM26 Policy DM26 - Design Specification for Dwellings - All new dwellings (including flats) shall have sufficient privacy, amenity space, open space, refuse and recycling storage and shall adhere to the Nationally Described Space Standards. These must be in accordance with Appendix B. All houses in multiple occupation shall also provide sufficient communal garden space, cycle storage, parking and refuse and waste storage.

DM27 Policy DM27 - Parking Standards - The Council will have regard to the vehicle parking standards set out in the Essex Parking Standards - Design and Good Practice (2009) or as subsequently amended when determining planning applications.

DM29 Policy DM29 - Protecting Living & Working Environments - Development proposals must safeguard the amenities of the occupiers of any nearby residential property by ensuring that development is not overbearing and does not result in unacceptable overlooking or overshadowing. Development must also avoid unacceptable levels of polluting emissions, unless appropriate mitigation measures can be put in place and permanently maintained.

DM30 Policy DM30 - Contamination & Pollution - Permission will only be granted for developments on or near to hazardous land where the Council is satisfied there will be no threat to the health or safety of future users and there will be no adverse impact on the quality of local groundwater or surface water. Developments must also not have an unacceptable impact on air quality and the health and wellbeing of people.

VDS Sets out the local community's view on the character and design of the local area. New development should respect its setting and contribute to its environment.

SPS1 Strategic Policy S1 Spatial Principles - The Spatial Principles will guide how the Strategic Priorities and Vision will be achieved. They will underpin spatial planning decisions and ensure that the Local Plan focuses growth in the most sustainable locations.

SPS7 Strategic Policy S7 The Spatial Strategy - New housing and employment growth will be focussed to the most sustainable locations by making the best use of previously developed land in Chelmsford Urban Area; sustainable urban extensions around Chelmsford and South Woodham Ferrers and development around Key Service Settlements outside of the Green Belt in accordance with the Settlement Hierarchy. New development allocations will be focused on the three Growth Areas of Central and Urban Chelmsford, North Chelmsford, and South and East Chelmsford. Where there are large and established mainly institutional uses within the countryside, Special Policy Area will be used to support their necessary functional and operational requirements.

SPS11 Strategic Policy S11 The Role of the Countryside - The openness and permanence of the Green Belt will be protected. Inappropriate development will not be approved except in very special circumstances. The Green Wedge has an identified intrinsic character and beauty and is a multi-faceted distinctive landscape providing important open green networks. The countryside outside of the Urban Areas and Defined Settlements, not within the Green Belt is designated as the Rural Area. The intrinsic character and beauty of the Rural Area will be recognised, assessed and development will be permitted where it would not adversely impact on its identified character and beauty.

VILLAGE DESIGN STATEMENTS

VDS: Sets out the local community's view on the character and design of the local area. New development should respect its setting and contribute to its environment.

NATIONAL PLANNING POLICY FRAMEWORK

The National Planning Policy Framework (NPPF) was published in February 2019. It replaces the first NPPF published in March 2012 and almost all previous national Planning Policy Statements and Planning Policy Guidance, as well as other documents.

Paragraph 1 of the NPPF sets out the Government's planning policies for England and how these should be applied. Paragraph 2 confirms that planning law requires that applications for planning permission be determined in accordance with the development plan, unless material considerations indicate otherwise. The NPPF is a material consideration in planning decisions and should be read as a whole.

Paragraph 7 says that the purpose of the planning system is to contribute to the achievement of sustainable development. Achieving sustainable development meant that the planning system has three overarching objectives; an economic objective; a social objective; and an environmental objective. A presumption in favour of sustainable development is at the heart of the Framework.

The presumption in favour of sustainable development does not change the statutory status of the development plan as the starting point for decision making. Where a planning application conflicts with an up-to-date development plan, permission should not usually be granted. Local planning authorities may take decisions that depart from an up-to-date development plan, but only if material considerations in a particular case indicate that the plan should not be followed.

Planning Committee
5th September 2023

Application No	:	22/01877/FUL Full Application
Location	:	Land South Of Colam Lane Little Baddow Chelmsford Essex
Proposal	:	**Change of use of agricultural land to use as equestrian land. Construction of a barn and riding arena. Formation of access. Associated area of hardstanding.**
Applicant	:	Mr & Mrs S. Gunn
Agent	:	Mr Marc Willis
Date Valid	:	31st October 2022

Contents

Appendices:

Appendix 1 Consultations
Appendix 2 Policy Summary
Appendix 3 Drawings

1. Executive summary

1.1. The application is referred to the Planning Committee at the request of a local ward member so that the impacts of the proposal on the character and beauty of the countryside can be considered by the Planning Committee.

1.2. The site lies the Rural Area beyond the Metropolitan Green Belt. Scattered development is present in the area intercepted by large verdant fields. It is bordered by a public footpath along the western site boundary. The site is accessed from Colam Lane.

1.3. The site is in use for the keeping and breeding of alpacas and also for the keeping of horses and poultry. It is a mixed-use site with some agricultural uses and some uses which do not fall within the definition of agriculture but are uses appropriate to the rural area.

1.4. The proposal consists of the change of use of agricultural land to use as equestrian land, the construction of a barn, formation of a riding arena and an area of hardstanding ancillary to the proposed development. The proposed access from Colam Lane is retrospective as the access has been created already.

1.5. The proposed barn is intended for use in association with the existing alpaca breeding business. It would have dimensions of 11m x 11m, with eaves height at 3.6m and a ridge height of 5m. It would be a multipurpose building which could be used for the storage of hay, fodder and machinery but it would also be suitable for housing livestock in an emergency. The proposed building would have a functional, utilitarian appearance which reflects its intended purposes and would be appropriate for the rural context of the site.

1.6. The proposed riding arena would be 40m by 20m and would be set against southern and eastern boundaries of the application site. It would be an appropriate facility for outdoor recreation. A condition regarding the installation of lighting to the menage is recommended to ensure a minimal visual impact of this development on the rural character of the surrounding area.

1.7. The vehicular access to the site from Colam Lane has been created without the benefit of planning permission and this application seeks to regularise this. There are no objections to the access from the Local Highway Authority. They have confirmed that the existing visibility splays are well in excess of the minimum requirements. The impact on the character of the rural area is also minimal and would not require removal of further planting along the lane.

1.8. The proposals comply with the requirements of Chelmsford Local Plan Policies S1, S11 and DM8 in respect of new development in the Rural Area.

1.9. Approval is recommended subject to conditions.

2. Description of site

2.1. The application site is located in the Rural Area beyond the Metropolitan Green Belt. Scattered development is present in the area intercepted by large verdant fields. The site is bordered by an existing footpath along the western site boundary.

2.2. The application site is accessed from Colam Lane, which is a narrow lane with passing places lined with trees and well-established hedgerow.

2.3. A timber prefabricated building in use as temporary residential accommodation is located on the site. The site is used of keeping horses, alpacas and poultry.

3. Details of the proposal

3.1. This planning application seek planning permission for:

- The change of use of agricultural land to use as equestrian land;
- The construction of a barn and riding arena;
- The formation of an access from Colam Lane.
- The creation of an area of hardstanding ancillary to the proposed development.

4. Other relevant applications

4.1. 22/00841/FUL - Refused 15th July 2022
Change of use of agricultural land to use as equestrian land. Construction of a barn and riding arena. Formation of access. Car park with provision for 3 vehicles

4.2. 22/01650/FUL - Approved 20th June 2023
Erection of rural workers dwelling for a temporary period of up to 3 years

5. Summary of consultations

- Little Baddow Parish Council - Strongly objects to the proposal. Council maintains the following reasons for objecting. Council feels that the application does not meet the requirements of Policy DM8 in the Chelmsford Local Plan in that the development will adversely impact the intrinsic character of the area as an open rural landscape; both in terms of the proposed building and of vehicles parked on site. There is a public footpath close to the development and so the proposed building will be clearly visible to walkers enjoying the rural scenery. In addition, Colam Lane is narrow and in places a single track road with poor sight lines at its junctions creating traffic issues from any increase in vehicle numbers

- Essex County Council Highways - From a highway and transportation perspective the impact of the proposal is acceptable to the Highway Authority.

- Ramblers Association – no comments

- Public Health & Protection Services – no comments

- Local residents - Four objections received. Main points raised:
  - The proposals would be harmful to the character and beauty of the Rural Area
  - The site would have a harmful, developed and urbanised appearance
  - Prior to any planning permission being granted, various structures have been placed on the land and the access from Colam Lane has been created
  - There has been a change in the character and appearance of the site from the previous undeveloped grassland
  - The proposals are contrary to planning policy and would lead to urbanisation of the rural area
  - The development will result in congestion of Colam Lane

6. Planning considerations

Main Issues

6.1. The main issue:

- Whether the proposed development would have an adverse impact on the intrinsic character and beauty of the Rural Area.

Relevant Policy Summary

6.2. Chelmsford Local Plan Policy S1 sets out the spatial principles within the Local Plan and identifies that the Council will require all new development to accord with the stated spatial principles. This includes a requirement to "respect the character and appearance of landscapes and the built environment and preserve or enhance the historic environment and biodiversity".

6.3. Policy S11 states that when determining planning applications, the Council will carefully balance the requirement for new development within the countryside to meet identified development needs in accordance with the Spatial Strategy, and to support thriving rural communities whilst ensuring that development does not have an adverse impact on the different roles and character of the countryside.

6.4. Part C of this policy specifically relates to the Rural Area:

"The countryside outside of the Urban Areas and Defined Settlements, not within the Green Belt, is designated as the Rural Area. The intrinsic character and beauty of the Rural Area outside of the Green Belt, and not designated as the Green Wedge, will be recognised, assessed and development will be permitted where it would not adversely impact on its identified character and beauty."

6.5. Policy DM8 relates to new buildings and structures in the rural area; planning permission will be granted for new buildings and structures where the development will not adversely impact on the identified intrinsic character and beauty of the countryside and where the development is for one of a specified type of development set out in the policy.

6.6. Two exceptions in the policy which would be relevant to the proposals are points ii. and iv. which allow for development for:

ii. agriculture and forestry or the sustainable growth and expansion of an existing, authorised and viable business where it can be justified that there is a justified need;
iv. appropriate facilities for outdoor sport, outdoor recreation and cemeteries;

Discussions

6.7. The site is in use for the keeping and breeding of alpacas and the keeping of horses and poultry. It is a mixed-use site with some agricultural uses and some uses which do not fall within the definition of agriculture but are nonetheless appropriate to the rural area.

6.8. The proposed barn is intended for use in association with the alpaca breeding business which is run from the site, in addition to the equestrian activities and the poultry rearing. The building would have dimensions of 11m x 11m, with eaves height at 3.6m and a ridge height of 5m. It would be

located adjacent to the southern site boundary which comprises mature native species vegetation. The roof would be clad with profiled steel sheeting with black timber cladding to the walls.

6.9. The proposed building is of a size which is commensurate with the needs of the different uses which have been established on the site. It would be a multipurpose building which could be used for the storage of hay, fodder and machinery but it would also be suitable for housing livestock in an emergency. The proposed building would have a functional, utilitarian appearance which reflects its intended purposes.

6.10. The proposed location of the building, close to the existing vegetation, would minimise its visual impact when viewed from public footpaths positioned to the north of the site. Glimpsed views of the building would be possible from the access onto Colam Lane however the building would be seen in the context of the existing authorised agricultural development on the site, grouped in the southern corner of the site.

6.11. The proposed menage would be located further to the southeast of the barn and would be set against southern and eastern boundaries which comprise mature vegetation. Subject to the imposition of a condition regarding the installation of lighting to the menage, it would have a minimal visual impact on the rural character of the surrounding area. It would be an appropriate facility for outdoor recreation.

6.12. In addition to a lighting condition, it would also be necessary to impose a condition that the use of the manage is restricted to the landowner. The commercial use of the facility would introduce a level of activity and vehicle movements which would not be appropriate for this rural location.

6.13. The vehicular access to the site from Colam Lane has been created without the benefit of planning permission and this application seeks to regularise this. The position of the access is in the southeast corner of the site, adjacent to existing development. Although vegetation has been removed to create the access, the gap created is not excessive and no further planting is required to be removed as adequate visibility splays currently exist.

6.14. There are no objections to the access from the Local Highway Authority. They have confirmed that the existing visibility splays are well in excess of the minimum requirements. As such there are no concerns regarding highway safety, either in respect of vehicles and pedestrians entering or leaving the site, or in relation to passing traffic.

6.15. A previous planning application for the barn, riding area were not supported because of concern about the impact of that development on the rural area particularly in the absence of any need or residency at the site. Since that decision, following a robust assessment of the applicant's agricultural business plans, the site now benefits from a planning permission for a temporary rural worker's dwelling (see planning history). The Council has accepted in granting that planning permission, that there is a rural business operating from the site. The proposed barn is required in part in association with that rural business but also for the equestrian and agricultural activity on the site. Although at this time it is not known whether the alpaca breeding business will be viable in the longer term, there is nothing to prevent the applicant or any other future owner of the site from keeping animals on the land or cropping hay from it.

6.16. It is therefore acceptable for planning permission to now be granted for this development. It would be unreasonable to only grant a temporary planning permission for development which is permanent in nature, such as the barn, access and menage which are applied for as part of this application.

Other Matters

6.17. There are no close neighbouring properties which would be impacted by the proposed development.

6.18. It is noted that the access element of this application has already been constructed. Notwithstanding this, the Local Planning Authority is required to assess each proposal on its own merits, in accordance with relevant National and Local Planning Policies in force at the time of the application. The fact that development has been undertaken without the benefit of planning permission is not justification for refusal of an application and a reason for refusal on this basis could not be substantiated in the event of an appeal against any refusal.

7. Community Infrastructure Levy (CIL)

7.1. This application is not CIL liable.

8. Recommendation

The Application be APPROVED subject to the following conditions:-

Condition 1
The development hereby permitted shall be carried out in accordance with the approved plans and conditions listed on this decision notice.

Reason:
In order to achieve satisfactory development of the site.

Condition 2
Prior to their installation details of any means of external lighting to serve the manège shall be submitted to and approved in writing by the local planning authority. The lighting shall then be installed in accordance with the approved details.

Reason:
To ensure that the development would not result in unacceptable light pollution within the rural area in accordance with Policy DM8 of the Chelmsford Local Plan.

Condition 3
The manège hereby permitted shall not be used for commercial purposes and shall remain for the personal use of the landowner.

Reason:
The use of the site for commercial equestrian uses would result in increased vehicle movements and activity which would need to be assessed in respect of impact on the local highway network and the intrinsic character and beauty of the countryside in accordance with Chelmsford Local Plan Policy DM8.

Condition 4
Prior to their use, details of the materials to be used in the construction of the barn hereby permitted shall be submitted to and approved in writing by the local planning authority. The development shall then be carried out in accordance with the approved details.

Reason:
To ensure that the development is visually acceptable in accordance with Policy DM23 of the Chelmsford Local Plan.

Notes to Applicant

1 This permission is subject to conditions, which require details to be submitted and approved by the local planning authority. Please note that applications to discharge planning conditions can take up to eight weeks to determine.

2 This planning permission is subject to planning condition(s) that need to be formally discharged by the Council. Applications to discharge planning conditions need to be made in writing to the local planning authority. Forms and information about fees are available on the Council's website.

Positive and Proactive Statement

During the life of the application the Local Planning Authority suggested amendments to the proposal in order to improve the development. The Local Planning Authority has assessed the proposal against all material considerations including planning policies and any comments that may have been received. The planning application has been approved in accordance with the objectives of the National Planning Policy Framework to promote the delivery of sustainable development and to approach decision taking in a positive way.

Little Baddow Parish Council

Comments
14.12.2022 - Little Baddow Parish Council considered this application at its meeting on December13, 2022 and strongly objects to the proposal. Council feels that the application does not meet the requirements of Policy DM8 in the Chelmsford Local Plan in that the development will adversely impact the intrinsic character of the area as an open rural landscape; both in terms of the proposed building and of vehicles parked on site. There is a public footpath close to the development and so the proposed building will be clearly visible to walkers enjoying the rural scenery. In addition Colam Lane is narrow and in places a single track road with poor sight lines at its junctions creating traffic issues from any increase in vehicle numbers 03.02.2023 - Little Baddow Parish Council re-considered this application at the Council meeting held on February 2, 2023 and strongly objects to the proposal. Council maintains the following reasons for objecting. Council feels that the application does not meet the requirements of Policy DM8 in the Chelmsford Local Plan in that the development will adversely impact the intrinsic character of the area as an open rural landscape; both in terms of the proposed building and of vehicles parked on site. There is a public footpath close to the development and so the proposed building will be clearly visible to walkers enjoying the rural scenery. In addition Colam Lane is narrow and in places a single track road with poor sight lines at its junctions creating traffic issues from any increase in vehicle numbers

Essex County Council Highways

Comments
A new gated vehicular access has been constructed, however: I. It does not benefit from hardened construction in accord with current Highway Authority standard. The Highway 'Confirm' System Record System has been examined and it is confirmed that there has been no application made to the Highway Authority for permission to construct the access. It has therefore been constructed without the necessary permissions from the Highway Authority. It has therefore not been legally constructed. II. It is not perpendicular to the Colam Lane carriageway ' it approaches at 15 degrees and is not acceptable. The vehicular access must be made perpendicular to the Colam Lane carriageway as shown in principle in the Site Plan, drawing no. SG-JH-02. III. Width measured at 6 metres. IV. Gate set back measured at 8 metres. V. Not located in the position as proposed and supported by the Highway Authority in the Highways and Transportation CO/EGD/SD/RM/CHL/52405/Pre App January 2022 - FS393845271 ' ColamLane,LtBaddow,NewAccessOppCranleyCottage. The position shown was located 39 metres south of

the Rectory Wood Cottage Access. It is 58 meters south, issued 18 February 2022 to COTTEE ' Andrew Firmin for Mr Gunn.

VI. Colam Lane is subject to a de-restricted or 60mph speed limit. However, the measured 85th percentile vehicle speeds by ATC (Automatic Traffic Counter) were:

o North-bound 33.3mph

o South-bound 33.4mph

VII. Manual for Streets visibility standard is therefore required for the 85th percentile vehicle speeds above. This is 2.4 metres by 35 metres. The visibility splays measured at X distance 2.4m were well in excess of this distance in both directions:

o To the north; 49 metres (beyond the Rectory Wood Cottage access).

o To the south; in excess of 49 metres.

o Appropriate visibility is therefore provided to the vehicular access, in both directions.

VIII. However, the vehicular access has not been authorised or constructed lawfully. The applicant is therefore vulnerable to enforcement action by the Highway Authority to remedy the situation. This must be addressed by the applicant by making an application to the Highway Authority, for construction of the vehicular access. Appropriate conditions have been included in the conditional recommendation for approval below.

From a highway and transportation perspective the impact of the proposal is acceptable to the Highway Authority subject to the following conditions:

1. Areas within the curtilage of the site for the purpose of loading / unloading / reception and storage of building materials and manoeuvring of all vehicles, including construction traffic shall be provided clear of the highway.

Reason: To ensure that appropriate loading / unloading facilities are available to ensure that the highway is not obstructed during the construction period in the interest of highway safety in accordance with policy DM1.

Note - MUD / DEBRIS ON HIGHWAY - Under Section 148 of the Highways Act 1980 it is an offence to deposit mud, detritus etc. on the highway. In addition, under Section 161 any person, depositing anything on a highway which results in a user of the highway being injured or endangered is guilty of an offence. Therefore, the applicant must ensure that no mud or detritus is taken onto the highway, such measures include provision of wheel cleaning facilities and sweeping/cleaning of the highway.

2. The public's rights and ease of passage over public footpaths no.21 and no.22 (Little Baddow Parish 224)

shall be maintained free and unobstructed at all times.

Reason: To ensure the continued safe passage of the public on the definitive right of way and accessibility in accordance with Policies DM1 and DM11.

3. The vehicular access shown in the Site Plan, drawing no. SG-JH-02, at its centre line shall be provided with a visibility splay with dimensions of 2.4 metres by 49 metres to the north and 2.4 metres by 35 metres to the south, as measured from and along the nearside edge of the carriageway. The visibility splays shall be provided before the vehicular access is first used by vehicular traffic and retained free of obstruction clear to ground at all times.

Reason: To provide adequate inter-visibility between vehicles using the vehicular access and those in the existing public highway in the interest of highway safety in accordance with policy DM1.

4. The vehicular access shall be constructed at right angles to the highway boundary and to the existing carriageway as shown in the Site Plan, drawing no. SG-JH-02. The width of the access at its junction with the highway shall be 6 metres and shall be provided with an appropriate vehicular crossing of the highway verge.

Reason: To ensure that vehicles can enter and leave the highway in a controlled manner in the interest of highway safety in accordance with policy DM1.

5. No unbound material shall be used in the surface treatment of the vehicular access within 15 metres of the highway boundary.

Reason: To avoid displacement of loose material onto the highway in the interests of highway safety in accordance with policy DM1.

6. There shall be no discharge of surface water from the development onto the Highway.

Reason: To prevent hazards caused by water flowing onto the highway and to avoid the formation of ice on the highway in the interest of highway safety to ensure accordance with policy DM1.

7. The gates provided at the vehicular access shall be inward opening only and shall be set back a minimum of 8 metres from the back edge of the metalled carriageway.

Reason: To enable vehicles using the access to stand clear of the carriageway whilst gates are being opened and closed and to allow parking off street and clear from obstructing the adjacent carriageway in the interest of highway safety in accordance with policy DM1.

8. Notwithstanding the details shown in the Site Plan, drawing no. SG-JH-02, prior to occupation of the development a vehicular turning facility of a design to be approved in writing by the Local Planning Authority, shall be constructed, surfaced and maintained free from obstruction within the site at all times for that sole purpose.

Reason: To ensure that vehicles can enter and leave the highway in a forward gear in the interest of highway safety in accordance with policy DM1.

9. The proposed development shall not be occupied until such time as the 3no. vehicle parking with turning area shown in principle in the Site Plan, drawing no. SG-JH-02, has been constructed appropriately hard surfaced ready for use. The vehicle parking area and associated turning area shall be retained in this form at all times. The vehicle parking shall not be used for any purpose other than the parking and turning of vehicles that are related to the use of the development.

Reason: To ensure that on street parking of vehicles in the adjoining streets does not occur in the interests of highway safety and that appropriate parking is provided in accordance with Policy DM8.

10. Cycle parking shall be provided in accordance with the EPOA Parking Standards. The approved facility shall be secure, convenient, covered and provided prior to occupation and retained at all times.

Reason: To ensure appropriate cycle parking is provided in the interest of highway safety and amenity in accordance with Policy DM8.

The above conditions are to ensure that the proposal conforms to the relevant policies contained within the County Highway Authority's Development Management Policies, adopted as County Council Supplementary Guidance in February 2011.

Please include the informative:

All work within or affecting the highway is to be laid out and constructed by prior arrangement with, and to the requirements and satisfaction of, the Highway Authority, details to be agreed before the commencement of works.

The applicants should be advised to contact the Development Management Team by email at development.management@essexhighways.org

Ramblers Association

Comments
No Comments

Public Health & Protection Services

Comments
No PH&PS comments with regard to this application

Local Residents

Comments
Representations received: - The proposals would be harmful to the character and beauty of the Rural Area - The site would have a harmful, developed and urbanised appearance - Prior to any planning permission being granted, various structures have been placed on the land and the access from Colam Lane has been created - There has been a change in the character and appearance of the site from the previous undeveloped grassland - The proposals are contrary to planning policy and would lead to urbanisation of the rural area - The development will result in congestion of Colam Lane

Appendix 2 – Policy Summary

SUMMARY OF RELEVANT ADOPTED PLANNING POLICIES:

SPS1

Strategic Policy S1 Spatial Principles - The Spatial Principles will guide how the Strategic Priorities and Vision will be achieved. They will underpin spatial planning decisions and ensure that the Local Plan focuses growth in the most sustainable locations.

SPS11

Strategic Policy S11 The Role of the Countryside - The openness and permanence of the Green Belt will be protected. Inappropriate development will not be approved except in very special circumstances. The Green Wedge has an identified intrinsic character and beauty and is a multi-faceted distinctive landscape providing important open green networks. The countryside outside of the Urban Areas and Defined Settlements, not within the Green Belt is designated as the Rural Area. The intrinsic character and beauty of the Rural Area will be recognised, assessed and development will be permitted where it would not adversely impact on its identified character and beauty.

DM8

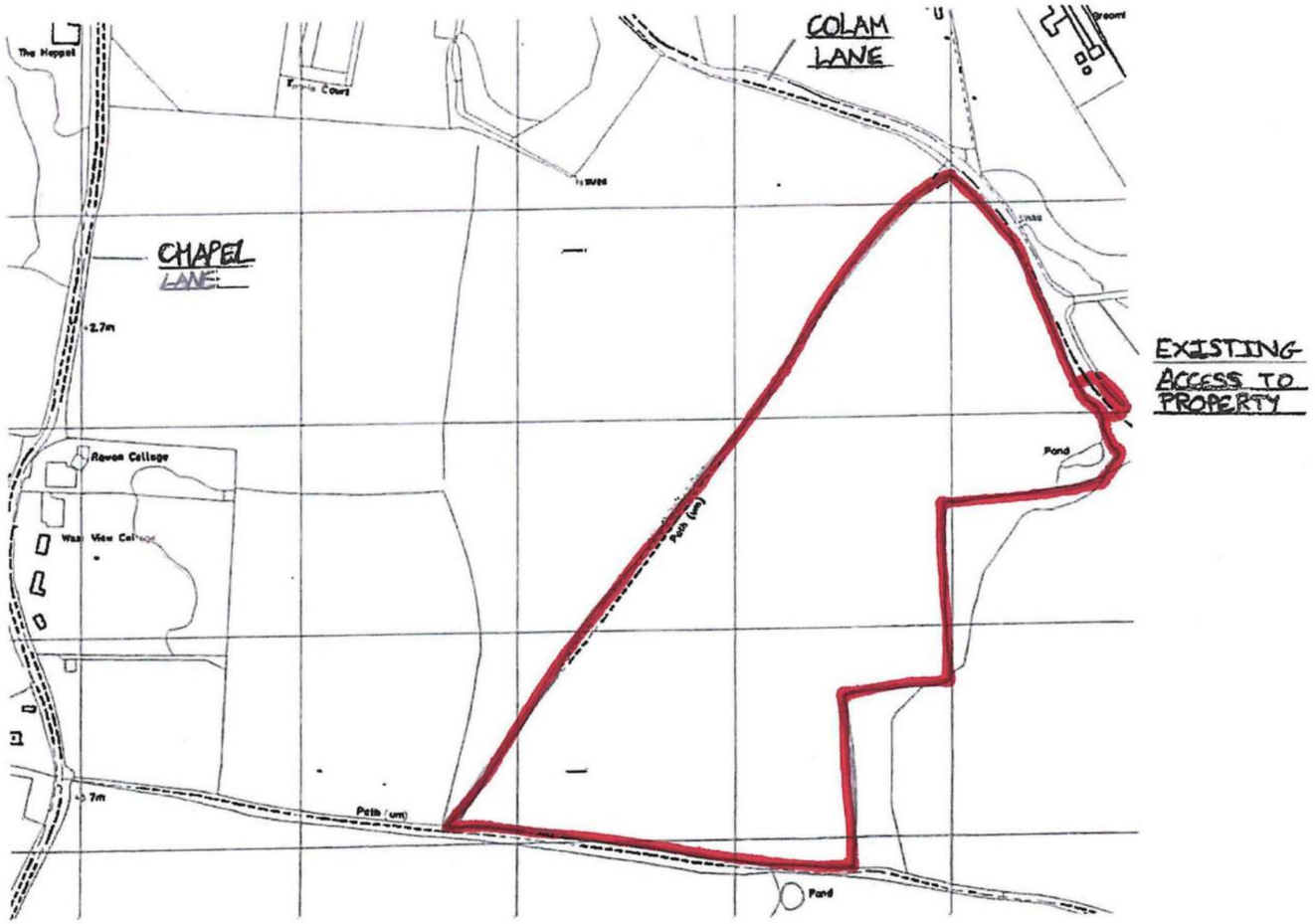
Policy DM8 - New Build & Structures in the Rural Area - Planning permission will be granted for new buildings in the Rural Area where the development would not adversely impact on the identified intrinsic character and beauty of the countryside and is for one of a number of prescribed developments. Planning permission will be granted for the redevelopment of previously developed land, replacement buildings and residential outbuildings subject to meeting prescribed criteria.

DM23

Policy DM23 - High Quality & Inclusive Design - Planning permission will be granted for development that respects the character and appearance of the area in which it is located. Development must be compatible with its surroundings having regard to scale, siting, form, architecture, materials, boundary treatments and landscape. The design of all new buildings and extensions must be of high quality, well proportioned, have visually coherent elevations, active elevations and create safe, accessible and inclusive environments.

Appendix 3 – Drawings

NORTH

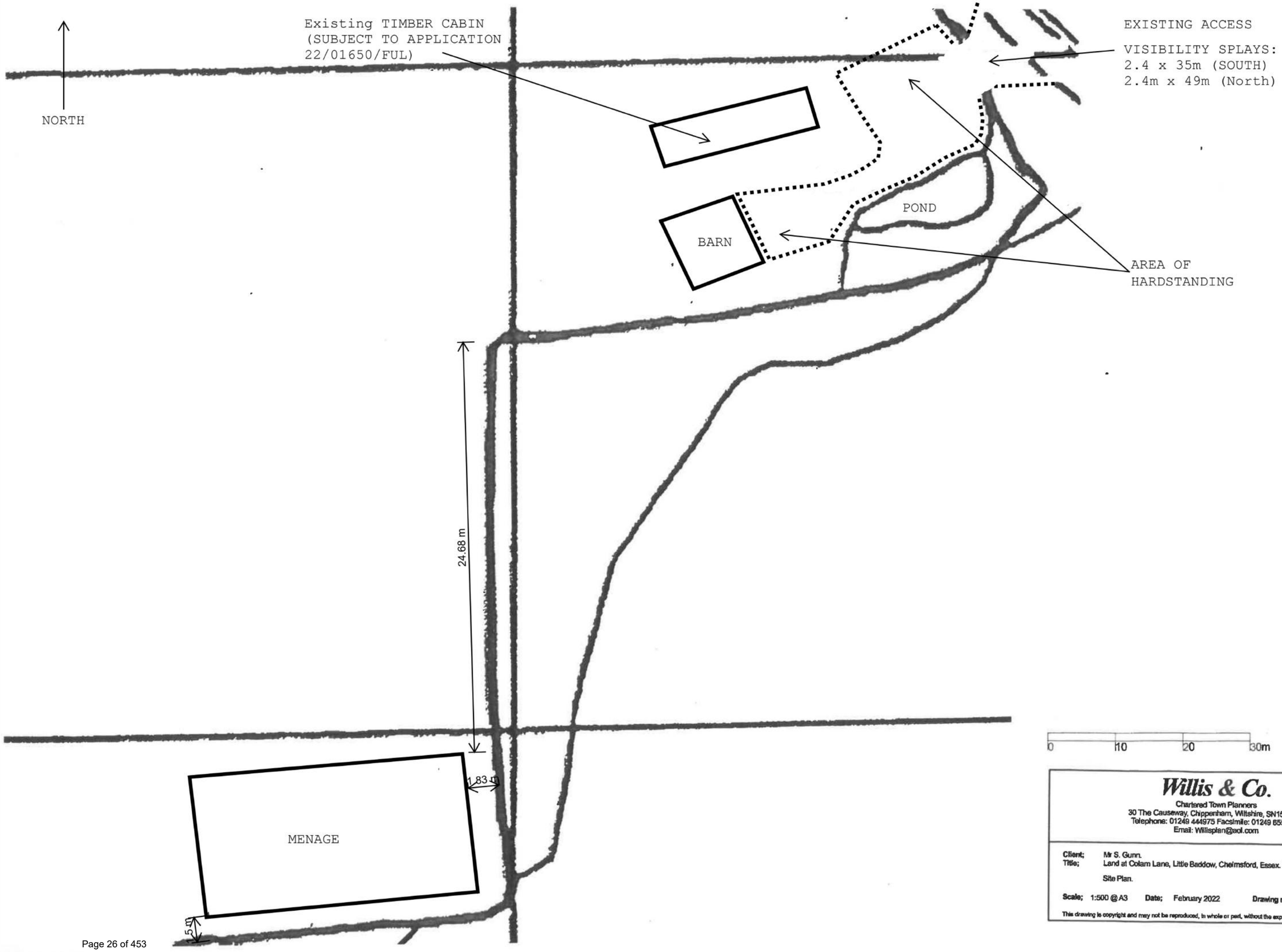


0 25m 50m

Willis & Co.
Chartered Town Planners
30 The Causeway, Chippenham, Wiltshire, SN15 3DB.
Telephone: 01249 444975 Facsimile: 01249 655558
Email: Willisplan@aol.com

Client; Mr S. Gunn.
Title; Land at Colam Lane, Little Baddow, Chelmsford, Essex.
Location Plan.

Scale; 1:2500 @ A3 Date; February 2022 Drawing no; SG-JH-01

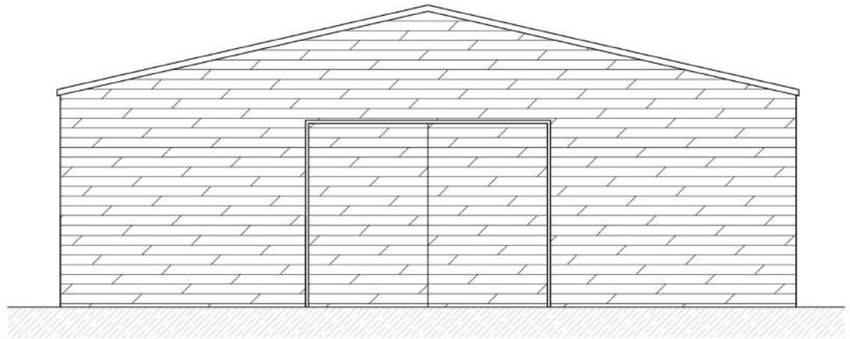


Willis & Co.
Chartered Town Planners
30 The Causeway, Chippenham, Wiltshire, SN15 3DB.
Telephone: 01249 444975 Facsimile: 01249 655556
Email: Willisplan@aol.com

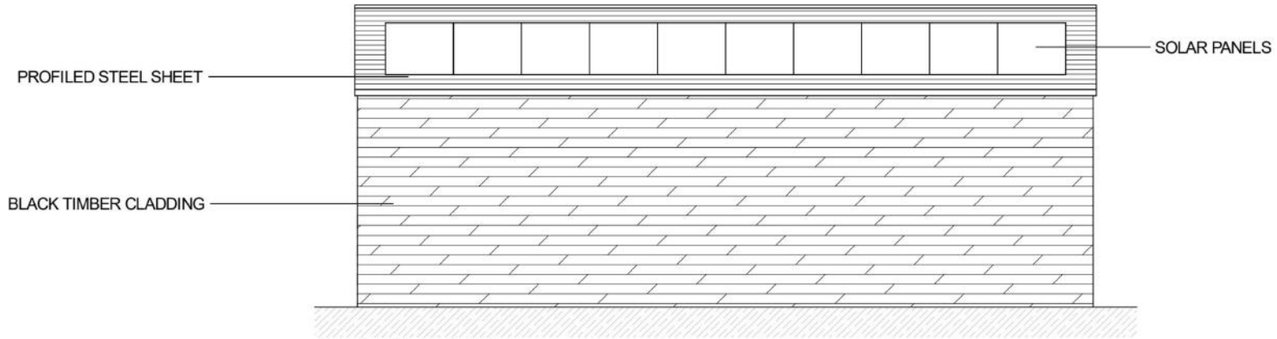
Client; Mr S. Gunn.
Title; Land at Colam Lane, Little Baddow, Chelmsford, Essex.

Site Plan.

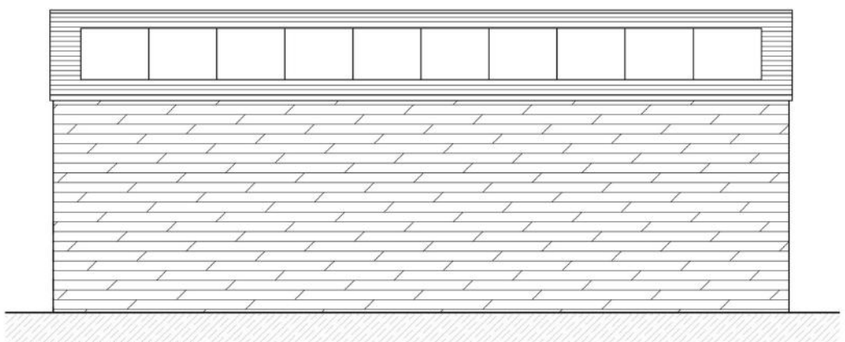
Scale; 1:500 @ A3 **Date;** February 2022 **Drawing no;** SG-JH-02



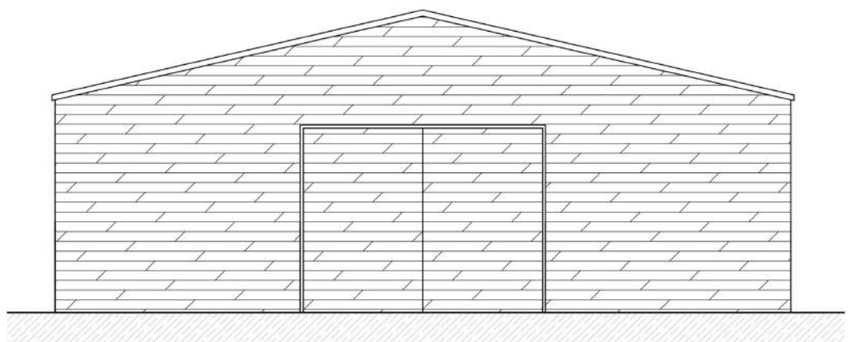
FRONT (EAST) ELEVATION



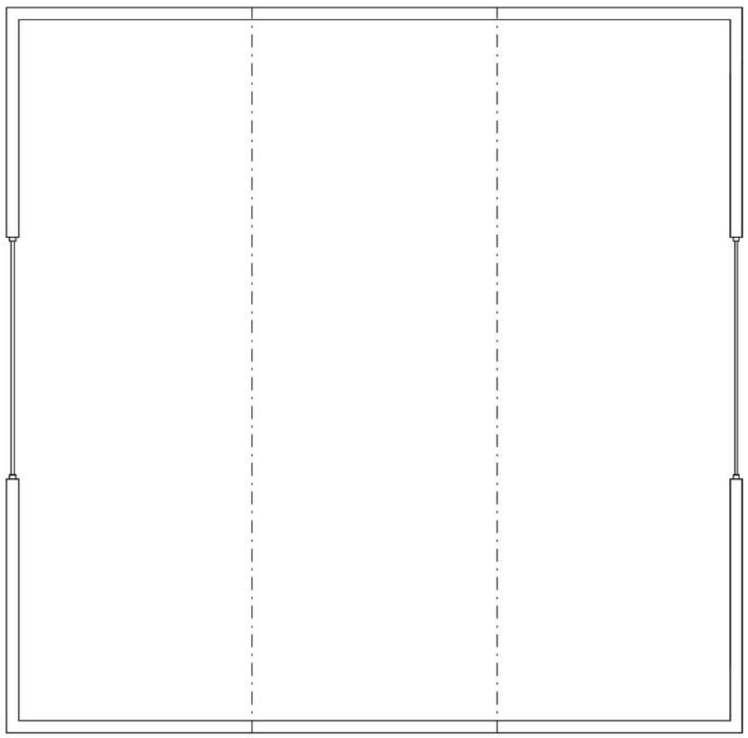
SIDE (NORTH) ELEVATION



SIDE (SOUTH) ELEVATION



REAR (WEST) ELEVATION



LAYOUT

0 1 2 3 4 5m

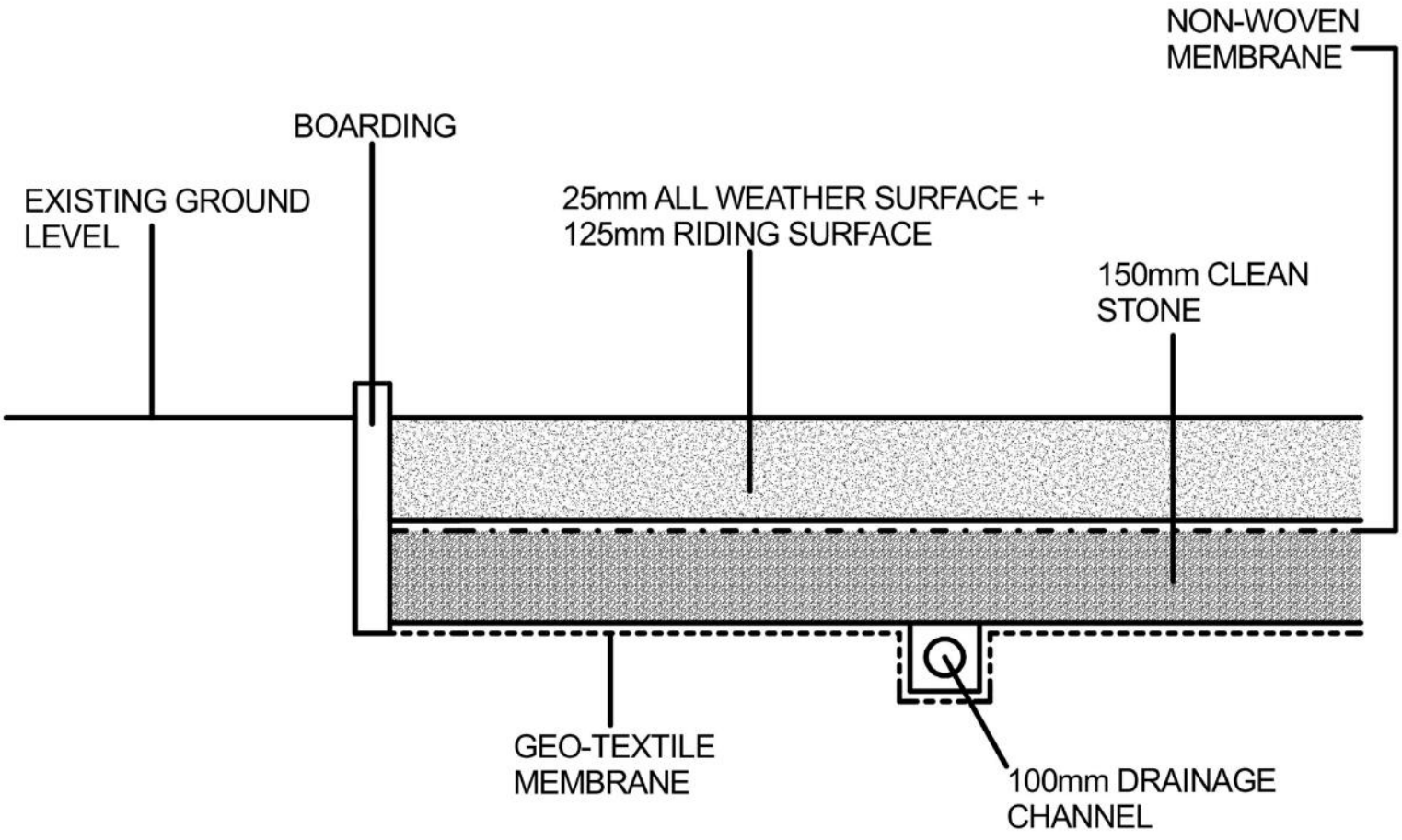
Willis & Co.
Chartered Town Planners
30 The Causeway, Chippenham, Wiltshire, SN15 3DB.
Telephone: 01249 444975 Facsimile: 01249 655556
Email: Willisplan@aol.com

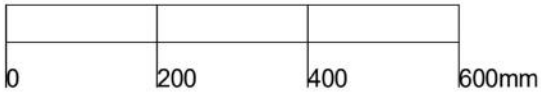
Client; Mr S. Gunn.
Title; Land at Colam Lane, Little Baddow, Chelmsford, Essex.

Elevations and floor plan of proposed barn.

Scale; 1:100 @ A3 **Date;** February 2022 **Drawing no;** SG-JH-03

Revised Plan A, May 2023 : SG-JH-03/1





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Email: Willisplan@aol.com

Client; Mr S. Gunn.
Title; Land at Colam Lane, Little Baddow, Chelmsford, Essex.

Section through menage.

Scale; 1:10 @ A4 **Date;** February 2022 **Drawing no;** SG-JH-04

Our Ref: CP/Gunn

25th May 2023

Willis & Co.
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Wiltshire
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Chelmsford City Council,
Civic Centre,
Duke Street,
Chelmsford,
CM1 1JE

Dear Sir/Madam,

Town and Country Planning Act 1990
Change in use of land to equestrian: erection of American barn; riding arena; new vehicular access and yard (resubmission) at Land at Colam Lane, Little Baddow, Chelmsford, Essex, CM3 4BL.

Introduction

1. We have been asked by the planning Officer via an email dated 22nd May 2023 for further information regarding the sited application at the above address under application reference 22/01877/FUL.

2. For reference, the following documents have been included:
   a) A covering letter to address the points raised; and,
   b) Elevations and floor plan of proposed barn (Revised Plan A, May 2023, SG-JH-03/1)

The Equestrian development

Menage

3. The applicants remain wanting an arena which measures 40m x 20m (800sqm). This menage is for personal use only, where the applicants are expecting this to be conditioned.

4. The menage will also provide fencing and a structure to provide halter training for alpacas which the applicants will be required to do.

Agricultural building

5. The applicant seeks the erection of a agricultural building. Please see the revised plan titled (Elevations and floor plan of proposed barn (SG-JH-03) revised May 2023 attached). The barn will have black timber cladding on the walls down to the ground. There will be a profiled steel sheet roof above. There will be solar panels placed on the roof as well. Please see the revised plan which show these details.

6. The agricultural barn is to be black in line with the proposed timber cabin (as proposed under reference 22/1650/FUL).

7. I also turn to the appeal made at Ashdale Barn, Dalwood, Axminister, Devon, EX13 7HS under reference APP/U1105/A/08/2093012 for the refused siting of an agricultural barn. I refer you to paragraph 8 of the

appeal which responds to the concerns raised about the size of the proposed barn.

I note a particular concern of the Council is the height of the proposed barn, with some question about the need for a barn of this overall size. However, in my experience it would not be unduly high in terms of modern agricultural buildings and requirements. Also the height reduction, indicated by the Council at the hearing that would apparently make it more acceptable, would not make that much difference. It does seem, however, that there would be some scope to cut the building into the sloping ground and this could be controlled by a planning condition. In terms of the barn's size I consider that it would be fairly modest. I also have nothing of any substance to cause me to find that the barn would be out of scale with the needs of the enterprise bearing in mind the larger building that has been accepted by the Council on another alpacas breeding venture elsewhere.

8. In the case of the applicant's proposal, the size of the barn is 11m x 11m, totalling a footprint of 121m^2. This barn is appropriately sized for the needs of the proposed equestrian and agricultural enterprises consisting of alpacas primarily and 2 or 3 horses for the applicants own personal use (per the proposals under reference 22/1877/FUL & 22/1650/FUL).

9. The barn will be used for the storage of hay, fodder and machinery. In addition, in accordance with The Town and Country Planning (General Permitted Development) Order 2015, Schedule 2, Part 6: Agriculture and Forestry, the building is suitable for livestock in an emergency (such as a visit from the vet or in an event of severe weather). The horses are not going to be housed in the barn and will remain on the clients land outside. The horses will only be in the barn in an emergency.

9. I also turn to the appeal at Holly Tree Farm, Northleigh, Colyton, Devon (EX24 6DA) (under reference APP/U1105/A/05/1194/074) which showed a 14m x 14m (196m^2) agricultural building. The agricultural building in the appeal had a larger proposed footprint compared to our applicant's proposal of agricultural building of 11m x 11m (121m^2). The appeal at Holly Tree Farm discussed the appropriate size of the agricultural building in Paragraph 11:

In any event I note that a barn has already been erected here which is smaller and in a less prominent position, being dug into the land. In this respect it is far less intrusive in the landscape and although it provides a reduced floor area it seems to me that it is perfectly adequate for the

needs of the farm in terms of providing storage space for machinery and animal foodstuffs etc and the provisions of pens for those animals that are having difficulty giving with. Bearing this in mind I see no justification for the erection of the proposed barn the subject of this appeal on the basis of an agricultural need.

10. Likewise to the appeal (under reference APP/U1105/A/05/1194/074), the building of this type and scale is appropraite for the proposed enterprise, as set out by the agricultural appraisal by Reading Agricultural Consultant's as part of the application for the temporary rural workers dwelling under reference 22/1650/FUL at the same site.

Concluding Remarks

11. Please let me know if you require any further points in addition to the council's queries connected to the application. Please find this covering letter along with the plan of the revised materials for the proposed barn for your consideration. I look forward to hearing from you regarding the determination of the application.

Yours faithfully,

[redacted]

Chris Popkin

greenwillows associates ltd

Green Willows Farm, First Turf Fen Drove, Warboys, Cambs PE28 2TZ
Tel: 01487 823198 / 01487 801638 Email: info@greenwillowsassociates.co.uk
www.greenwillowsassociates.co.uk

Ecological Surveys • Habitat Management • Arboricultural Surveys • Vegetation Clearance

Ecological Impact Assessment

Colam Lane, Little Baddow
[NGR: TL 77109 07590]

Project Manager: Hannah Bushnell BA (Hons)
Prepared by: Emma Watson BSc (Hons) and Hannah Bushnell BA (Hons)

On behalf of: Steve Gunn

(GWA_Little_Baddow_EcIA_20210528)

June 2021

Registered in England & Wales 5153730 Greenwillows Associates Ltd VAT Registration No: 8345691 07

Registered Office: Green Willows Farm, First Turf Fen Drove, Warboys, Cambs, PE28 2TZ

DOCUMENT CONTROL SHEET

Document Reference: GWA_Little Baddow_EcIA_20210528_001					
Version	**Purpose of Issue**	**Author(s)**	**Reviewed**	**Approved**	**Date**
001	Ecological Impact Assessment	Emma Watson BSc (Hons) Hannah Bushnell BA (Hons)	Emma Parnwell BA (Hons) MSc MCIEEM	Emma Parnwell BA (Hons) MSc MCIEEM	04/06/21

Contents

Tables

Appendices

1.0 Executive Summary

1.1 Rationale

Greenwillows Associates Ltd. was commissioned to conduct an ecological appraisal of a parcel of land at Little Baddow. The area surveyed is referred to as 'the site' for the purposes of this report.

The aim of the ecological appraisal was to provide *inter alia*, an assessment of the likely impacts a proposed scheme might have upon notable and/or protected species and habitats and where such features might be affected to identify the need for any follow up detailed/specialist surveys and/or mitigation to ameliorate the potential impacts.

The construction proposals relate to the construction of a new stable building.

1.2 Essential Evidence, Conclusions and Recommendations

1.2.1 General Site Description

The site comprises predominantly improved grassland with a boundary species-rich hedgerow along the north-east, extending south-east of the site. Adjacent to the hedgerow is a small area of woodland and pond is also situated in the north-east corner within the woodland.

Table One: Conclusions and Recommendations

Potential Receptor	Conclusions	Recommendations
Designated Sites and Species-Rich Hedgerows	There is a Special Road Verge (Colam Lane Verges) that runs immediately adjacent to the north-eastern boundary. Rectory Wood, a Local Wildlife Site (LWS), also lies 10m to the north-east. A species-rich hedgerow forms part of the north-eastern and south-eastern boundaries. Proposed works are not anticipated to impact on the road verge, adjacent woodland or any hedgerows.	As per the current proposals impacts on hedgerows and the road verge is not anticipated, however, if these change and impacts could occur the Local Planning Authority (LPA) must be consulted for further guidance prior to any works.
Nesting Birds	There is potential for nesting birds within the hedgerows and trees around the site and wider site. The proposals are not anticipated to impact on any hedgerows or	It is recommended that mitigation procedures are followed to avoid impacting on nesting birds. See Section 8 for more details.

	trees. If nests are disturbed during the process of incubation and rearing, then mortality of chicks could occur.	
Bats	The linear features of the hedgerows/tree lines provide good foraging and commuting habitat for bats. Some trees within the site were noted as having potential to support roosting bats, however, direct impact on trees is not anticipated. Any increase in lighting could adversely impact suitability of adjacent habitats for commuting/foraging bats. If trees used as roosting habitat are removed/worked on without mitigation, there is a risk of killing/injuring bats and destroying roosting habitat.	Although current proposed plans show no impacts to hedgerows or trees, if plans alter and impacts to either could occur, further surveys will be required. The final design for the stables have not yet been issued, if the plans contain any lighting these will need to avoid impacting on the surrounding hedgerows and trees. See Section 8 for more details.
Badgers	The site is potentially suitable to support foraging and commuting badgers and sett creation, although no immediate evidence of badgers was recorded and it is considered unlikely that the proposed working areas would support a badger sett. If badgers are using the site during the works, there is risk they could become trapped in open pits/trenches.	Any trenches/pits created over the course of the works should be covered nightly to prevent badgers from becoming trapped. Alternatively, ramps should be installed in any such pits/trenches to allow badgers to exit freely. See section 8 for more details.
Great Crested Newts	There is one pond (P1) onsite that was assessed as having some potential to support great crested newts. An eDNA survey carried out on this pond returned negative results of great crested newt presence.	Mitigation measures should be followed to avoid impact on great crested newts using the site. See Section 8 for more details.

	The terrestrial habitats within the working areas have minimal potential in supporting this species.	
Hedgehog	There is potential for hedgehogs to use the site, particularly the boundary hedgerows, for use as shelter, foraging and commuting habitat. The proposed plans indicate no impacts to hedgerows/woodland. Hedgehogs may become trapped in any open pits/trenches left open at night.	Badger recommendations above regarding trenches/pits apply to hedgehogs too. Mitigation measures to avoid causing harm to hedgehogs are recommended. See Section 8 for more details.

2.0 Introduction and Terms of Reference

2.1 This report was commissioned to provide *inter alia*:

- An assessment of the likely impacts the proposed scheme might have upon notable and/or protected species and habitats and where such features might be affected to identify the need for any follow up detailed/specialist surveys.
- Recommendations to avoid potential adverse impacts upon notable and/or protected species and habitats identified as potential receptors within the construction footprint or the relevant zones of influence associated with each receptor.
- An informative document for use by the Local Planning Authority as part of the planning process.

2.2 Based on the JNCC (2010) guidelines an Extended Phase 1 Habitat Survey was undertaken by means of a walkover of the site and its immediate environs, including the licensable impact zone relative to the individual species.

2.3 Phase 2 surveys relating to great crested newts were also undertaken.

2.4 The surveys were based on and proposed plans provided by the client and aerial photographs (See Appendix Two).

2.5 This report outlines the methodology employed to undertake the surveys, results obtained and a discussion of the implications arising there from.

2.6 The areas surveyed are referred to as the 'site'. Anything beyond the site boundary, but within the same land ownership is referred to as 'the wider site'. Anything beyond this is referred to as 'neighbouring habitat'.

3.0 Site Location

3.1 The site is situated on Colam Lane, Little Baddow, Chelmsford, Essex, CM3 4BL [NGR: TL 77109 07590] (see Appendix One).

4.0 Legislation and Policy

4.1 Statutory Legislation

The Conservation of Habitats and Species Regulations 2017, or the 'Habitats Regulations 2017', transposes European Directives into English and Welsh legislation. This has recently been amended to the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) which continues the same provision for European Protected Species after Brexit. Under these regulations, wild animals of a European Protected Species and their breeding sites or resting places are protected. It is an offence to deliberately capture, injure or kill any such wild animal and, in the case of great crested newts, deliberately take or destroy their eggs. It is also an offence to deliberately damage or destroy a breeding site or resting place of any such wild animal.

Wild animals of a European Protected Species are protected from disturbance. Disturbance of such wild animals includes in particular any disturbance which is likely:

(a) To impair their ability:

- *to survive, to breed or reproduce, or to rear or nurture their young; or*
- *in the case of animals of a hibernating or migratory species, to hibernate or migrate, or*

(b) To affect significantly the local distribution or abundance of the species to which they belong.

The Wildlife and Countryside Act 1981 (as amended) adds further protection to wildlife in England and Wales under Part 1. It is unlawful to intentionally kill, injure or take any wild bird or take, damage or destroy the nest of any wild bird whilst the nest is in use or being built. If the bird is included on the Schedule 1 list, it is additionally an offence to intentionally disturb its nest during the breeding season.

Certain species of animal are protected under the Wildlife and Countryside Act 1981 (as amended) by being included in Schedule 5 in respect of certain offences under Section 9. Such offences include:

9(1) Intentional killing, injuring or taking of a Schedule 5 animal,

9(4a) Damage to, destruction of, obstruction of access to any structure or place used by a Schedule 5 animal for shelter or protection,

9(4b) Disturbance of a Schedule 5 animal occupying such a structure or place.

Badgers are primarily protected by the Protection of Badgers Act 1992, under which it is a criminal offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so and to intentionally or recklessly interfere with a sett.

Under the Hedgerows Regulations 1997 it is an offence to remove most hedgerows without permission from the Local Planning Authority. Permission for the removal of hedgerows may

be refused if the Local Planning Authority determines any hedgerow to be 'important' under criteria listed in Part II of Schedule 1 of the Regulations.

4.2 Planning Policy

The National Planning Policy Framework relating to biodiversity (NPPF) is both guidance for local governing authorities on the content of their Local Plans and material consideration in determining planning applications. The NPPF has replaced much existing planning policy guidance, including Planning Policy Statement 9: Biological and Geological Conservation. However, the government circular 06/05: 'Biodiversity and Geological Conservation-Statutory Obligations and their impact within the Planning System', which accompanied PPS9, remains valid.

The NPPF places much emphasis on sustainable development and the need for the planning system to perform a number of roles including 'improving biodiversity' by protection of designated sites, priority habitats and priority species, ancient woodland and veteran trees.

The NPPF places more emphasis on ecological networks and their creation and states that the planning system should:

- Avoid, mitigate and compensate for significant harm to biodiversity and protect Sites of Special Scientific Interest and irreplaceable habitats such as ancient woodland.
- Provide a net gain for biodiversity wherever possible and contribute to the Government's commitment to halt the loss of biodiversity.

4.3 Notable Species and Habitats

4.3.1 The UK Biodiversity Action Plan (UK BAP) was drafted for 'Priority' species and habitats in which specific conservation targets were set and are regularly reviewed. UK BAP features do not receive any legal protection *per se*, but have biodiversity value within a national context. The UK BAP also serves as a framework for local biodiversity conservation efforts. UK BAP priority species and habitats were those that were identified as being the most threatened and requiring conservation action under the UK BAP. The original lists of UK BAP priority species and habitats were created between 1995 and 1999, and were subsequently updated in 2007, following a 2-year review of UK BAP processes and priorities, which included a review of the UK priority species and habitats lists. As a result of new drivers and requirements, the 'UK Post-2010 Biodiversity Framework', published in July 2012, has now succeeded the UK BAP. The UK BAP lists of priority species and habitats remain, however, important and valuable reference sources. Notably, they have been used to help draw up statutory lists of priorities in England and BAP species and habitats are still referred to at a local level (JNCC, 2013).

4.3.2 The Natural Environment and Rural Communities (NERC) Act 2006: Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list has been

drawn up in consultation with Natural England, as required by the Act.

4.3.3 The Section 41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

4.3.4 Section 17 of The Crime and Disorder Act (1998) places a duty on the local authority to *inter alia* "exercise its various functions with due regard to the likely effect of the exercise of those functions on, and the need to do all that it reasonably can to prevent, crime in its area"; this includes prevention of wildlife crime.

4.3.5 The Chelmsford, Essex local Plan (2020) states:

"The policy provides a framework for conserving and enhancing biodiversity assets. The Council will support the creation, restoration, retention and enhancement of biodiversity interests. Where opportunities allow, the design of a development should incorporate beneficial biodiversity features, such as swift boxes, bat or bird boxes, bat bricks, green roofs or the creation and connection of wildlife corridors through landscaping or other means. New water features such as attenuation ponds that can provide new wetland areas, and removal of redundant in-channel structures and culverts, can also create and restore wildlife habitats. Developments adjacent to main rivers should take opportunities to improve water related biodiversity though a variety of initiatives including buffer strips, riparian tree planting, alien species removal and increasing in-channel morphology diversity.

The NPPF seeks to protect and enhance the natural environment. All development proposals should aim to secure opportunities for enhancing biodiversity. This will be assessed on a proportionate basis taking into account the size and type of development and its location.

Biodiversity enhancements in and around development should have regard to the Council's Green Infrastructure Strategic Plan and be led by an understanding of ecological networks such as:

- Improved links between existing sites
- Buffering of existing important sites
- Habitat restoration, recreation and expansion
- New biodiversity features within development
- Securing management for long term enhancement.

Trees and woodland provide a vital benefit, and help to improve the wellbeing of the public and the environment. Some of their many benefits include the provision of shelter and shade stabilisation of soil, filtering air pollution, reducing noise, improving and softening the landscape, an creating and connecting wildlife habitats.

Planning permission will only be granted where the development proposal would not conflict with the purposes of the preservation order of the tree or woodland unless there is a substantiate justification. Harm to protected trees may include, but is not limited to, excessive

pruning, incursion in the root protection area, alterations to ground levels or complete removal of the tree."

5.0 Methodology

5.1 Desktop Study

A search of the Multi-Agency Geographic Information for the Countryside (MAGIC) website was undertaken with regards to the presence of statutory nature conservation sites within the potential zone of influence. In addition, a high-level screening review of the National Biodiversity Network (NBN) website was undertaken for an indication of the potential presence of protected species within 2km of the survey site; and records held by Essex Wildlife Trust Records Centre (EWT) of protected/notable species and designated sites within 2km of the target site, since 2010, were also consulted.

A search for waterbodies within 250m of the site was also undertaken using a range of mapping resources, including Google Earth, MAGIC and OS Maps.

A search of the Local Planning Portal was undertaken to identify any previous ecological surveys and planning applications close to the site.

5.2 Field Surveys

5.2.1 Extended Phase 1 Habitat Survey

A walkover of the site was undertaken on 28th April 2021, by Hannah Bushnell and Emma Watson, based on the JNCC (2010) Handbook for Phase 1 habitat survey.

The Phase 1 Survey was extended to include a search for signs of protected, principal importance and biodiversity action plan priority species and an assessment of the habitats present for their likelihood to support such species (see Annex One). Target notes (TN) are shown on a habitat map in Appendix Three.

5.2.2 Phase 2 Great Crested Newt Surveys- eDNA Surveys

When great crested newts inhabit a pond, they deposit traces of their DNA in the water as evidence of their presence. Analysis of pond water samples for these small environmental DNA (eDNA) traces can be undertaken to confirm great crested newt habitation or establish great crested newt absence.

Pond 1 was subject to eDNA surveying with water samples collected on 28th April 2021 by Hannah Bushnell and Emma Watson who have been trained in the use of eDNA sampling.

The samples were taken from the waterbody and were submitted for eDNA analysis to the protocol stated in DEFRA WC1067 (Biggs et al., 2014).

5.3 Constraints and Survey Limitations

There were no constraints specific to the survey site but generally, surveys only provide a 'snap-shot' of information temporally and spatially from which behaviour can be extrapolated to make an ecological evaluation. Ecological conditions can vary on a yearly and seasonal basis.

Waterbodies were identified using multiple mapping sources during the desktop survey. Some waterbodies are not illustrated on maps, particularly those that are small in size and within residential properties. Therefore, some waterbodies may have gone undetected. Furthermore, HSI and eDNA surveys of ponds three and four were not taken as landowner permission to access these was refused. It is considered that this will not significantly impact the findings of this report as there is extensive woodland surrounding these ponds which is considered to be more optimal habitat for great crested newts than the improved grassland onsite. Both ponds are also >100m from the proposed working areas and "research sponsored by Natural England has shown that most newts within terrestrial capture programmes are found within 50 metres of the pond with few animals captured at distances greater than 100 metres (Cresswell and Whitworth 2004). "

6.0 Results

6.1 Background Data

6.1.1 Statutory and Non-Statutory Nature Conservation Sites

Table Two: Statutory and Non-Statutory Nature Conservation Sites

Site Name	Designation	Grid ref	Distance from site	Reasons for designation
Colam Lane Verges	SRV	TL77170751	Immediately adjacent (north)	The verge on the south side of the road has of an abundance of Wood Melick (*Melica uniflora*), whilst that to the north side lies adjacent to and is complemented by Ch129 Rectory Wood, Little Baddow. This roadside verge bank has a well-established population of Common Cow-wheat (*Melampyrum pratense*), an Essex Red Data List species.
Rectory Wood	LWS	TL77290747	10m	Rectory Wood is a likely small remnant of ancient wood. Hornbeam (*Carpinus betulus*) coppice and standards with Pedunculate Oak (*Quercus robur*) standards dominate this wood. Wild Service-tree (*Sorbus torminalis*) occurs on the edge adjacent to Colam Lane. Ancient woodland indicators recorded include Wood Anemone (*Anemone nemorosa*), Bluebell (*Hyacinthoides non-scripta*), Wood Millet (*Milium effusum*), Wood Melick (*Melica uniflora*) and the Essex Red Data List species Common Cow-wheat (*Melampyrum pratense*).
Hollybred Wood	LWS	TL77390804	337m	Hornbeam (*Carpinus betulus*) coppice and Pedunculate Oak (*Quercus robur*) standards dominate virtually all of this wood. Some Sweet Chestnut (*Castanea sativa*) coppice is found in the centre of the site and there is also some Silver Birch (*Betula pendula*), mostly

				to the south. A few Wild Service-trees (*Sorbus torminalis*) occur on the east edge of the wood. Elder (*Sambucus nigra*) is part of a very sparse shrub layer. The ground flora has Bluebell (*Hyacinthoides non-scripta*), Wood Melick (*Melica uniflora*) and Wood Millet (*Milium effusum*) surviving under the dense Hornbeam canopy.
Little Baddow Heath	LWS	TL78790618	442m	The northern section comprises heathland that has undergone recent restoration to remove much of the invasive Birch (*Betula* spp.) scrub. It now comprises an acid grassland/heathland mosaic characterised by abundant Common Bent (*Agrostis capillaris*), with lesser amounts of Heather (*Calluna vulgaris*), Pill Sedge (*Carex pilulifera*), Heath Bedstraw (*Galium saxatile*), Trailing St.-john's-wort (*Hypericum humifusum*), Heath Wood-rush (*Luzula multiflora*), Sheep's Sorrel (*Rumex acetosella*), Heath Speedwell (*Veronica officinalis*) and, most notably, a strong population of Milkwort (*Polygala* sp.). The southern section is quite different in character and comprises a broad-leaved woodland of very varying types, reflecting the changing soil drainage. The canopy comprises a mix of Downy Birch (*Betula pubescens*), Pedunculate Oak (*Quercus robur*), Hornbeam (*Carpinus betulus*), Ash (*Fraxinus excelsior*) and several other species at low density. The understorey has Hazel (*Corylus avellana*), willows (*Salix* spp.), Hawthorn (*Crataegus monogyna*), Rowan (*Sorbus*

				aucuparia) and Elder (*Sambucus nigra*). The ground flora is very diverse and includes several species generally typical of ancient woodland, although likely to have colonised the site from elsewhere. These include Primrose (*Primula vulgaris*), Wood Melick (*Melica uniflora*), Bluebell (*Hyacinthoides non-scripta*) and Yellow Pimpernel (*Lysimachia nemorum*). Lady Fern (*Athyrium filix-femina*) is unusually widespread.
The Chapel	LWS	TL76690778	442m	Despite its relatively small size, this unimproved grassland supports a very rich assemblage of plants. Amongst the grassland are herbs such as Agrimony (*Agrimonia eupatoria*), Common Knapweed (*Centaurea nigra* agg.), Field Wood-rush (*Luzula campestris*), Heath Speedwell (*Veronica officinalis*), Cuckooflower (*Cardamine pratensis*) and Burnet-saxifrage (*Pimpinella saxifraga*). Of particular interest is the presence of Betony (*Betonica officinalis*), Harebell (*Campanula rotundifolia*) and Meadow Saxifrage (*Saxifraga granulata*) which are al Essex Red Data List species, whilst Lesser Calamint (*Clinopodium calamintha*) though not scarce in Chelmsford or the county is, however, a nationally scarce species. Sixteen species of fungi have also been recorded from this churchyard.
Long Spring Wood	LWS	TL76110672	795m	This large ancient woodland has a westerly flowing stream close to the southern edge of the wood, adding to the diversity of woodland habitats present. The composition is mainly Sweet Chestnut (*Castanea sativa*),

				Hornbeam (*Carpinus betulus*) and Ash (*Fraxinus excelsior*) as coppice with Pedunculate Oak (*Quercus robur*) standards. The shrub layer beneath is scattered and has Hawthorn (*Crataegus monogyna*) and Elder (*Sambucus nigra*), but Holly (*Ilex aquifolium*) is also found throughout this wood. Though the ground flora is dominated by carpets of Bluebell (*Hyacinthoides non-scripta*) and smaller areas with Dog's Mercury (*Mercurialis perennis*), there are a number of other ancient woodland indicators present. These include Wood Anemone (*Anemone nemorosa*), Yellow Archangel (*Lamiastrum galeobdolon*), Moschatel (*Adoxa moschatellina*), Pignut (*Conopodium majus*), Primrose (*Primula vulgaris*) and Three-nerved Sandwort (*Moehringia trinervia*). Wood Speedwell (*Veronica montana*), another ancient woodland plant, is generally found close to the stream.
Heather Hills/Scrub Wood	LWS	TL78230768	854m	An undulating topography either side of a deeply incised stream valley gives rise to a wide range of soil types and hence habitats within The Warren and Heather Hills. To the west, Pedunculate Oak (*Quercus robur*) and Silver Birch (*Betula pendula*) dominate, with Bramble (*Rubus fruticosus*) and Bracken (*Pteridium aquilinum*) characterising the ground flora. To the east, the canopy comprises Oak, Beech (*Fagus sylvatica*) and Sycamore (*Acer pseudoplatanus*), with much Holly (*Ilex aquifolium*), whilst Bracken (*Pteridium aquilinum*) thrives beneath, especially where the woodland gives way

				to clearings. Within clearings on the highest, most freely draining ground, heathland and acid grassland have developed. Wavy Hair-grass (*Deschampsia flexuosa*), Sheep's Sorrel (*Rumex acetosella*), Heather (*Calluna vulgaris*), Sand-spurrey (*Spergularia rubra*) and Pill Sedge (*Carex pilulifera*), a rare plant in Essex, are present. Harts-tongue (*Asplenium scolopendrium*) is found in the stream valley. Scrub Wood is immediately to the north of Heather Hills/The Warren. This area comprises ancient and non-ancient blocks of woodland with a central stream valley, which flows northwards. The ancient woodland is typical of the area, with Hornbeam (*Carpinus betulus*) coppice dominating. Other tree species of the high canopy include Pedunculate Oak, Sweet Chestnut (*Castanea sativa*), Ash (*Fraxinus excelsior*) and Sycamore and birch (*Betula* spp.). Species of interest in the ground flora include Bluebell (*Hyacinthoides non-scripta*), Yellow Archangel (*Lamiastrum galeobdolon*) and Climbing Corydalis (*Ceratocapnos claviculata*). The most northerly block of woodland still contains Hornbeam, but also Birch coppice and some Oak and Ash standards in the high canopy. The stream flows through a small ravine and species such as Lady Fern (*Athyrium filix-femina*) and Great Horsetail (*Equisetum telmateia*) are to be found associated with these damp conditions.
Boreham	LWS	TL76700864	898m	This area south of the River Chelmer is a complex mosaic of

Meads				grassland, marshy grassland and swamp dominated habitat. The central area has stands of Common Reed (*Phragmites australis*), pond-sedges (*Carex* spp.) and Reed Canary-grass (*Phalaris arundinacea*), which are bounded on the south side by scrub. Among small patches of wooded scrub, rushes (*Juncus* spp.), Tufted Hair-grass (*Deschampsia cespitosa*) and Large Bitter-cress (*Cardamine amara*) (an Essex Red Data List (ERDL) species) are found. The marshy areas support Marsh Marigold (*Caltha palustris*) and another ERDL plant, Brown Sedge (*Carex disticha*). The land near Hoe Mills bridge to the east comprises willow plantation over a grassy ground cover. Recent disturbance has seen the appearance here of Ragged-Robin (*Silene flos-cuculi*) and Yellow-rattle (*Rhinanthus minor*). To the north side of the river lies a large block of grassland. This was ploughed in the early 1990s but has subsequently recovered. Species of interest recorded from this area include Ragged-Robin, Cuckooflower (*Cardamine pratensis*) and three ERDL species: Meadow Saxifrage (*Saxifraga granulata*), Pepper-saxifrage (*Silaum silaus*) and Dropwort (*Filipendula vulgaris*), this last species at possibly its only native location within Essex. This area includes the Boreham Special Roadside Verge (TL 76230867 to 76270861), which has been designated due to the presence of Common Meadow-rue (*Thalictrum flavum*), a rare Essex plant that is included on the ERDL.

Waterhall Meadows	LWS	TL75880702	960m	Situated on the west bank of the Sandon Brook, this site comprises an Essex Wildlife Trust nature reserve. The reserve consists of old flood meadow, a small spinney and an area of Blackthorn (*Prunus spinosa*) thicket. A varied suite of grasses has been recorded, including Sweet Vernal-grass (*Anthoxanthum odoratum*), Crested Dog's-tail (*Cynosurus cristatus*), Meadow Barley (*Hordeum secalinum*), Yorkshire-fog (*Holcus lanatus*) and, in the damper areas, Marsh Foxtail (*Alopecurus geniculatus*). A rich herb flora is also present. Three Essex Red Data List plants (Meadow Saxifrage (*Saxifraga granulata*), Devil's-bit Scabious (*Succisa pratensis*) and Pepper-saxifrage (*Silaum silaus*)) have been recorded here, along with Lady's Bedstraw (*Galium verum*) and Cowslip (*Primula veris*). Among a wide range of birds to be found, there are eight species of Warbler, while the Kingfisher (*Alcedo atthis*) is a regular visitor and has bred in the reserve. A rich insect fauna includes dragonflies and damselflies including the Nationally Scarce (Nb) White-legged Damselfly (*Platycnemis pennipes*), a rare species in Essex.
River Chelmer	LWS	TL 75100766	1020m	This site comprises the watercourse and the associated marginal vegetation of the river Chelmer downstream from the city centre. Other sections of the river are included within a series of LoWS running along the Chelmer valley (see Ch67, Ch68, Ch76 and Ch87). A few sections of the river are

				bordered by planted trees, in particular willows (*Salix* spp.), but for much of its length it is open. The marginal vegetation is particularly lush along both banks of the channel. Many plant species commonly found are Branched Bur-reed (*Sparganium erectum*), Reed Canary-grass (*Phalaris arundinacea*), Greater Pond–sedge (*Carex riparia*), Reed Sweet-grass (*Glyceria maxima*) and Common Reed (*Phragmites australis*). However, many other species are to be found interspersed along the watercourse, including Sweet-flag (*Acorus calamus*), Flowering-rush (*Butomus umbellatus*), Marsh Woundwort (*Stachys palustris*), Purple-loosestrife (*Lythrum salicaria*), Common Club-rush (*Schoenoplectus lacustris*) and the Essex Red Data List Water Dock (*Rumex hydrolapathum*). Apart from the intrinsic quality of the river and its vegetation, it also forms a very valuable linking corridor between other riverine Wildlife Sites. The river Chelmer also supports a diverse dragonfly and damselfly assemblage. Otters frequent the river Chelmer and it also supports Water Voles.
Hall Wood	LWS	TL76450604	1040m	Coppiced Hornbeam (*Carpinus betulus*), Sweet Chestnut (*Castanea sativa*) and Pedunculate Oak (*Quercus robur*) standards are the main trees that characterise this woodland, while Alder (*Alnus glutinosa*) coppice straddles the stream running through the centre. The ground flora displays a rich mix, with species such as Marsh

				Marigold (*Caltha palustris*) and the Essex Red Data List species Opposite-leaved Golden-saxifrage (*Chrysosplenium oppositifolium*) near the stream. The drier soils exhibit a range of other ancient woodland indicators, including Bluebell (*Hyacinthoides non-scripta*), Wood Anemone (*Anemone nemorosa*), Moschatel (*Adoxa moschatellina*), Pignut (*Conopodium majus*), Yellow Archangel (*Lamiastrum galeobdolon*), Wood Sorrel (*Oxalis acetosella*), Wood-sedge (*Carex sylvatica*) and Climbing Corydalis (*Ceratocapnos claviculata*).
Riffhams Lane Wood	LWS	TL77310607	1130m	Whilst most of this site comprises Pedunculate Oak (*Quercus robur*), Hornbeam (*Carpinus betulus*), and Beech (*Fagus sylvatica*), there are some conifers found mainly towards the southern end of the woodland. It is fairly open beneath the canopy in the northern part of the wood, but further south is a better developed shrub layer, with Hawthorn (*Crataegus monogyna*) dominating. The ground flora is diverse and quite species-rich with Wood Anemone (*Anemone nemorosa*), Dog's Mercury (*Mercurialis perennis*), Remote Sedge (*Carex remota*) and Moschatel (*Adoxa moschatellina*) found as locally frequent patches. Other ancient woodland indicators found include Yellow Archangel (*Lamiastrum galeobdolon*), Primrose (*Primula vulgaris*), Wood Speedwell (*Veronica montana*), Wood-sedge (*Carex sylvatica*) and Wood Melick

				(*Melica uniflora*).
Pheasanthouse Farm	LWS	TL78620720	1270m	Pheasanthouse Farm is owned and managed by the Essex Wildlife Trust. Only the more species-rich grasslands at the northern end of the reserve are included within the LoWS. The swards include Common Bent (*Agrostis capillaris*), Sweet Vernal-grass (*Anthoxanthum odoratum*), Common Knapweed (*Centaurea nigra* agg.), Marsh Thistle (*Cirsium palustre*), Yorkshire-fog (*Holcus lanatus*), Meadow Vetchling (*Lathyrus pratensis*), Common and Greater Bird's-foot Trefoils (*Lotus corniculatus* and *L. pedunculatus*), Rough Meadow-grass (*Poa trivialis*), Meadow Buttercup (*Ranunculus acris*) and, in drier, sandier areas, Sheep's Sorrel (*Rumex acetosella*). Within a damper area in the far south-eastern corner, the flora Marsh Woundwort (*Stachys palustris*) and Common Spotted Orchid (*Dactylorhiza fuchsii*). The scarce Bitter Vetch (*Lathyrus linifolius*) has also been recorded from the reserve. The fields are bounded by thick, tall and species-rich hedgerows, with a small area of scrub centrally adding to the habitat diversity.
Bassetts Wood	LWS	TL78710785	1310m	This site comprises ancient and non-ancient woodland. Bassetts Wood, strictly referring to the northern part of this LoWS, is a block of predominantly ancient woodland and lies either side of a small stream valley. A variety

				of tree species occur as coppice and standards throughout. Hornbeam (*Carpinus betulus*) is dominant towards the north end, whilst Pedunculate Oak (*Quercus robur*), Silver Birch (*Betula pendula*), Sweet Chestnut (*Castanea sativa*) and Rowan (*Sorbus aucuparia*) are all to be found at canopy and sub-canopy level. Several ancient woodland indicators are found in the herb flora, including Bluebell (*Hyacinthoides non-scripta*), Wood Anemone (*Anemone nemorosa*), Yellow Archangel (*Lamiastrum galeobdolon*), Wood Melick (*Melica uniflora*), Wood Millet (*Milium effusum*), Three-nerved Sandwort (*Moehringia trinervia*) and Wood Speedwell (*Veronica montana*). The damper valley area is home to Moschatel (*Adoxa moschatellina*), whilst the well-drained upper slopes have locally dominant patches of Bracken (*Pteridium aquilinum*) and where grassy areas prevail then Heath Speedwell (*Veronica officinalis*) and Climbing Corydalis (*Ceratocapnos claviculata*) are present. The southern part of the site is recent woodland but exhibits a varied structure with tall canopy trees and lower growing scrub vegetation. Sweet Chestnut, Silver Birch, Ash (*Fraxinus excelsior*), Pedunculate Oak, Hawthorn (*Crataegus monogyna*) are the most characteristic species. The ground flora has developed into a species-rich assemblage typical of older woodlands, including Dog's Mercury (*Mercurialis perennis*), Bluebell, Yellow Archangel, Moschatel and

				Primrose (*Primula vulgaris*).
New Wood	LWS	TL78120861	1340	This woodland is characterised by a structure comprising Hornbeam (*Carpinus betulus*) coppice and Pedunculate Oak (*Quercus robur*) standards. Other tree species recorded include Ash (*Fraxinus excelsior*), Field Maple (*Acer campestre*) and Sweet Chestnut (*Castanea sativa*). Amongst the shrub layer are Hawthorn (*Crataegus monogyna*) and Elder (*Sambucus nigra*) and frequent patches of Honeysuckle (*Lonicera periclymenum*). Bluebell (*Hyacinthoides non-scripta*) is abundant in the ground flora of the wood and also present is Wood Anemone (*Anemone nemorosa*), a strong indicator of ancient woodland.
Common Lane Woods	LWS	TL78320646	1370m	This woodland provides a useful habitat extension to the adjacent SSSI. The southeastern section is arguably ancient, with abundant old Hornbeam (*Carpinus betulus*) coppice over Bluebell (*Hyacinthoides non-scripta*). There is also an extensive patch of Lily-of-the-valley (*Convallaria majalis*). This rare Essex plant is often present as a garden escape and its status in this wood is uncertain, although its extent suggests that it has been present for a considerable period of time. The northern block is largely Sweet Chestnut (*Castanea sativa*), with some Sycamore (*Acer pseudoplatanus*), Birch (*Betulus* spp.) and Holly (*Ilex*

				aquifolium). Overall, the ground flora is characterised by frequent Bracken (*Pteridium aquilinum*), Broad Buckler-fern (*Dryopteris dilatata*) and Wood Sage (*Teucrium scorodonia*). Species of interest include Primrose (*Primula vulgaris*), Butcher's-broom (*Ruscus aculeatus*), Wood Anemone (*Anemone nemorosa*) and Wood Melick (*Melica uniflora*).
Brickwell Wood	LWS	TL78540868	1660	This is a predominantly coppiced Hornbeam (*Carpinus betulus*) wood with Pedunculate Oak (*Quercus robur*) and Ash (*Fraxinus excelsior*) standards with some elm (*Ulmus* sp.) clones. Wild Service-tree (*Sorbus torminalis*), a species usually confined to ancient woodland, is found in the north-eastern part of the wood. Elder (*Sambucus nigra*), Hawthorn (*Crataegus monogyna*) and Blackthorn (*Prunus spinosa*) are the main components of the shrub layer, whilst the ground flora is characterised by abundant Bluebells (*Hyacinthoides non-scripta*). Wood Anemone (*Anemone nemorosa*), a strong indicator of ancient woodland, is also present as is the diminutive Moschatel (*Adoxa moschatellina*).
Brakey Wood	LWS	TL77210965	1860m	This site, whilst not designated as ancient wood within the English Nature Inventory, has a structure and composition that indicates an ancient status. Hornbeam (*Carpinus betulus*) coppice and Pedunculate Oak (*Quercus robur*) standards are the main tree species, with a small amount of Ash (*Fraxinus excelsior*) coppice. The shrub canopy includes Hawthorn (*Crataegus monogyna*) Midland

				Hawthorn (*C. laevigata*) with Spindle (*Euonymus europaeus*) also found. The far north-western corner of the wood has many young Wild Service-trees (*Sorbus torminalis*). The ground flora includes Bluebell (*Hyacinthoides non-scripta*) found in greatest quantity in the northern half of the wood. Other recorded ground flora species indicative of ancient woodland are Early Purple Orchid (*Orchis mascula*), Wood Spurge (*Euphorbia amygdaloides*), Moschatel (*Adoxa moschatellina*), Goldilocks Buttercup (*Ranunculus auricomus*), Wood-sedge (*Carex sylvatica*), Primrose (*Primula vulgaris*) and Wood Speedwell (*Veronica montana*). Curiously, the local authority boundary cuts across the northeast corner, so that this undefined part of the wood is a Braintree LoWS (Bra99).

Nb. SSSI= Site of Special Scientific Interest, SRV= Special Road Verge, LWS= Local Wildlife Site

6.1.2 Notable Species and/or Protected Species

Within the records consulted, notable species of relevance to the onsite habitats recorded within 2km of the site included: an assemblage of bird species (most relevant to site: cuckoo and woodpecker species), pipistrelle bat species, long-eared bat species, great crested newt, and badger.

6.2 Field Survey - Habitats

6.2.1 Vegetation

6.2.1.1 Improved Grassland

The site predominantly comprises improved grassland. Species include cow parsley, creeping thistle, Yorkshire fog, perennial rye grass, cock's foot, chickweed, red fescue, and meadow foxtail.

6.2.1.2 *Boundary Hedgerow/Trees*

A species-rich hedgerow runs along the north-eastern boundary of the site and extends along the south-eastern boundary. The hedgerow falls under the category of species-rich due to the number of woody species present, along with the herbaceous species and adjacent pond.

The hedgerow species comprise; hawthorn, oak, dog rose, field maple, blackthorn, holly, spindle, ash, hornbeam and elder. The ground flora species comprise ground ivy, greater stitchwort, bramble, lords and ladies, cleavers and bluebells.

6.2.1.3 Ponds

One pond was situated adjacent to the species-rich hedgerow, within an area of woodland, within the north-eastern corner of the site. The pond was quite shallow and heavily shaded with a build-up of leaf litter from surrounding trees, with very minimal aquatic vegetation.

6.2.2 Neighbouring Habitat

The site is situated within a rural area to the south-west of the small village of Little Baddow. Located between Danbury and Chelmsford. The site is predominantly surrounded by improved grazing fields, hedgerows, trees, and woodland to the north-east.

6.3 Field Survey – Notable and/or Protected Species

6.3.1 Nesting Birds

The hedgerows and trees onsite could support nesting birds during the breeding season.

6.3.2 Bats

6.3.2.1 Trees

The trees on site were not individually assessed for their potential to support roosting bats as they will not be impacted and are some distance from the proposed works. However, during the survey some trees, particularly two trees within the hedgerow (T1+T2) and two standalone trees (T3+4), were noted as having potential roosting features (TN2). The potential roosting features included rot holes, woodpecker holes, cracks and split bark.

Foraging/Commuting

The site was noted during the walkover to have potential to support foraging and commuting bats, particularly along the boundary hedgerows and wooded area.

6.3.3 Badgers

There is suitable habitat for foraging and commuting badgers, and sett creation although no immediate evidence of badgers or any setts were seen during the survey.

6.3.4 Great Crested Newt

6.3.4.1 Terrestrial Habitat

The boundary hedgerows/trees offer potential opportunities to foraging/commuting resting/sheltering great crested newts. However, there are poor opportunities within the improved grassland habitat.

6.3.4.2 Waterbodies

There were four water bodies within 250m of the site, with one pond (P1) located onsite. The pond onsite (P1) was shallow and heavily shaded with a lot of leaf litter and minimal aquatic vegetation. Pond 2 (P2) was almost dried up and therefore was not considered for further assessment or surveying. Ponds three and four (P3+P4) were not surveyed as access was not granted by the landowner.

6.3.4.3 Habitat Suitability Index (HSI) Assessment

Pond 1 was subject to an HSI assessment. The results of this are given below in Table Three.

Pond 1 was assessed as being 'below average' for supporting great crested newts.

Table Three: Habitat Suitability Index Scores

Pond reference:	P1
Location	1
Pond area	0.2
Pond drying	0.5
Water quality	0.33
Shade	0.35
Fowl	1
Fish	1
Ponds	1
Terr'l habitat	0.67
Macrophytes	0.3
HSI	**0.55**

Table Four: Categorisation of HSI Scores

HSI	Pond Suitability
<0.5	Poor
0.5-0.59	Below Average
0.6-0.69	Average
0.7-0.79	Good
>0.8	Excellent

6.3.4.4 Phase 2 Great Crested Newt Surveys- eDNA

The results from the eDNA survey of Pond 1 were negative for the presence of great crested newt. The results are given below in Table Five.

Table Five: eDNA Survey Results

Waterbody Reference	Result	Positive Replicates
P1	Negative	0/12

6.3.5 Herpetofauna

6.3.5.1 Terrestrial Habitat

The onsite habitats (boundary hedgerows/woodland) could support reptiles and amphibians. However, the greater extent of onsite habitat (improved grassland) is considered sub-optimal for supporting herpetofauna. The proposed works are not anticipated to impact on habitats suitable for herpetofauna, therefore, no further recommendations have been made in relation to this species.

6.3.6 Hedgehog

The onsite habitats could support commuting/foraging hedgehogs. The boundary hedgerows could support resting/sheltering hedgehogs.

7.0 Impact Assessment Criteria

Where possible, features have been subjected to a full impact assessment using the criteria below. For those features where further surveys are deemed necessary, a full impact assessment will be undertaken once sufficient information is available, based on the results of such surveys.

The assessment of the impacts and effects[1] on important ecological features within the Zone of Influence (ZoI) of the Scheme has been based on the Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines (2018). This process includes:

- Identification of ecological features likely to be affected;
- Identification of which ecological features are 'important', and therefore should be subject to detailed assessment;
- Characterising whether the effect on these ecological features is 'significant' in terms of the extent, magnitude, duration, reversibility, frequency/timing and whether it is likely to have a positive or negative effect.

7.1 Identifying the Zone of Influence (ZoI)

The 'Zone of Influence' for a project is the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities. This may be confined to within the site boundaries and land immediately adjacent, but for some ecological features may extend beyond the project site. For example, great crested newts (and breeding colonies) could potentially also be affected within 250-500m metres of construction activities, depending on the scale of works and habitats present.

7.2 Evaluation

7.2.1 Determining Importance of Ecological Features and Resources

The CIEEM Guidelines acknowledge that determining importance of ecological features and resources is a complex and subjective process, but it provides key factors to take into consideration. These include geographic context; legal protection or control; site designations and features; habitat type and priority; biodiversity value; species of conservation value (including; population size, distribution and abundance); ecosystem value/natural capital.

Focusing on assessments of biodiversity value, there are various characteristics that can be used to identify ecological resources or features that are likely to be important in terms of biodiversity. These include:

[1] Note: The following definitions are used for the terms 'impact' and 'effect':
Impact – Actions resulting in changes to an ecological feature. For example, the construction activities of a development removing a hedgerow.
Effect – Outcome to an ecological feature from an impact. For example, the effects on a dormouse population from loss of a hedgerow (CIEEM 2018).

- Rare or uncommon species in the local, national or international context;
- Endemic or locally distinct sub-populations of a species;
- Species on the edge of their distribution;
- Notably large populations of animals or concentration of animals considered uncommon or threatened in a wider context;
- Species-rich assemblages of plants or animals;
- Ecosystems and their component parts which provide the habitats required by the above species, populations and/or assemblages;
- Plant communities (and associated animals) considered typical of valued natural/semi-natural vegetation types;
- Habitat diversity, connectivity and/or synergistic associations.

This assessment also measures the contribution to nature conservation interest from non-statutory sites, and the presence of habitats and species which, although not specially protected, are still considered to be of local, regional or national conservation importance.

This latter category includes identification of flora and fauna that are listed as Species of Principal Importance under the Natural Environmental and Rural Communities Act 2006 (NERC), those prioritised under the UK Biodiversity Action Plan (UK BAP)/Local Biodiversity Action Plans (LBAP), as well as Red Data Book Species.

7.2.2 Considering Geographic Context

The following frame of reference[2] is used when considering the importance of an ecological feature:

- International and European;
- National;
- Regional;
- Metropolitan, County, vice-county or other local authority-wide area;
- River Basin District;
- Estuarine system/Coastal cell; and
- Local[3]

[2] Note- this is not a hierarchy
[3] Where appropriate, impacts may also be assessed at the site scale, although it is acknowledged that this can be difficult to assess

7.2.3 Prediction of Ecological Impacts and Effects

This assessment has considered potential impacts on each ecological feature determined as 'important' from all phases of the project. Impacts are characterised, through consideration of their magnitude and/or extent, the route through which they occur (whether direct, indirect, secondary or cumulative) and their duration and their reversibility. Positive impacts are assessed as well as negative ones.

7.2.4 Significance of Effects

The CIEEM guidelines (2018) explain 'significant effect' with the following definition:

"For the purpose of EcIA, 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local."

A significant effect is an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project.

The following characteristics are considered when describing ecological impacts and effects:

- positive or negative
- extent
- magnitude
- duration
- frequency and timing
- reversibility

Following the characterisation of impacts and effects, an assessment of the ecological significance of an effect is made. The Guidelines promote a transparent approach in which a beneficial or adverse effect is determined to be significant or not, in ecological terms, in relation to: the conservation objectives of the defined site, the structure and functions of the ecosystem(s) and/or the conservation status[4] of habitats or species within a given geographical area. The Guidelines also advise that it is important to consider the likelihood of a predicted impact.

[4] Habitats: conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area
Species: conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area.

The Guidelines also state that:

"After assessing the impacts of the proposal, all attempts should be made to avoid and mitigate ecological impacts. Once measures to avoid and mitigate ecological impacts have been finalised, assessment of the residual impacts should be undertaken to determine the significance of their effects on ecological features. Any residual impacts that will result in effects that are significant, and the proposed compensatory measures, will be the factors considered against ecological objectives (legislation and policy) in determining the outcome of the application."

For the purposes of this report, a detailed impact assessment has only been presented for residual effects present after mitigation, although the above assessment has been undertaken for each important ecological feature pre-mitigation, to inform the recommendations outlined in Section Eight.

7.2.5 Key Principles Underpinning Recommendations

The following hierarchy of principles underpin EcIA and are followed in the assessment undertaken in this report:

- Avoidance - Seek options that avoid harm to ecological features (for example, by locating on an alternative site). This is the preferred option.
- Mitigation - Negative effects should be avoided or minimised through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.
- Compensation - Where there are significant residual negative ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.
- Enhancement - Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

7.2.6 Potential Effects

Based on the results outlined in Section Six, Table Six provides a summary of the important species and habitats that are known to be present and/or have potential to be significantly affected by the proposed construction without mitigation.

Table Six: Potential Receptors

Potential Receptor
Designated Sites
Nesting Birds
Bats
Badger
Great Crested Newts
Hedgehog

8.0 Impact Assessment, Conclusions and Recommendations

8.1 General Description and Best Practice Recommendations

8.1.1 Conclusions

The site comprises predominantly improved grassland, with a species-rich hedgerow and trees along the north-east and south-east boundaries. It is anticipated that the proposed development will not impact the trees and hedgerows, within, and surrounding the site. There was one pond situated within an area of woodland to the north-east of the site.

8.1.2 Recommendations

The proposed development is not anticipated to impact on any trees or hedgerows. However, if the proposals change any works close to trees and/or hedgerows should be undertaken in accordance with the British Standard BS 5837: 2012 and National Joint Utilities Group Guidelines (NJUG 4).

8.2 Desktop Search Results - Designated Sites and Notable/Protected Species

8.2.1 Conclusions

There are 17 ecological designations within 2km of the site. Colam Lane Verges is an SPV (TN1) that is situated immediately adjacent to the north-east boundary of the site. Proposed works are not anticipated to impact this site.

Within the records consulted, notable species of relevance to the onsite habitats recorded within 2km of the site included: an assemblage of bird species (most relevant to site: cuckoo and woodpecker species), pipistrelle bat species, long-eared bat, great crested newt, and badger.

8.2.2 Recommendations

Any impacts to the species-rich hedgerow and/or the SPV will be avoided. Where this is not possible, further guidance should be sought from the LPA prior to any works being undertaken.

Species-specific recommendations have been detailed below under the appropriate headings for the majority of the species found with the records consulted. Recommendations made for great crested newts and reptiles will also benefit smooth newt, common toad and common frog that have not had species-specific recommendations made.

8.3 Nesting Birds

8.3.1 Conclusions

The hedgerows and trees within the site and site boundary provide suitable habitat for general nesting birds.

If birds' nests are disturbed during the process of incubation and rearing then mortality of chicks could occur.

8.3.2 Recommendations

Impacts to hedgerows or trees are not anticipated as per the proposed plans. If plans change and tree works are necessary, then it is recommended that the operational set-up should ideally avoid the bird-breeding season (late February to August inclusive) to avoid damage to nesting species. If this is not practicable then an experienced ecologist will undertake a nesting bird survey of any hedgerow/trees to be affected, to identify whether active nests are present. If any are found, they will be clearly marked and avoided until after the young have left the nest. Results of nesting bird surveys are only valid for 48hrs and, therefore, multiple surveys may be required for phased works.

Following mitigation and/or enhancement measures, no significant effect on nesting birds is anticipated.

8.4 Bats

8.4.1 Conclusions

The trees and boundary hedgerows are considered suitable to support foraging /commuting bats. Some trees within the site and boundary hedgerows (TN2), were noted particularly for having obvious potential bat roosting features, however, there is potential that other trees within the boundary hedgerow, could support roosting bats. No direct impact on these trees is anticipated within the proposed plans.

The site is currently unlit, as is the surrounding habitat. Any new lighting arising from development could impact upon the adjacent foraging and commuting habitat.

8.4.2 Recommendations

Plans indicating any lighting have not been seen. However, if any lighting is to be installed the lighting levels should avoid the boundary hedgerows/trees to retain dark commuting corridors. Generally, any potential new lighting impacts associated with the proposed development (both during and post-construction phase) should be minimised by the use of warm white light sources and directional downlights - illuminating below the horizontal plane which avoids light trespass into the environment. The use of light directional accessories such as baffles, hoods and louvres can assist with this. Particular attention should be made to avoid lighting of the trees and boundary hedgerows within and neighbouring the development site. Lighting types to be avoided include any blue-white light sources, metal halide and mercury lamps, and any form of up-lighting, which lights above the horizontal plane, illuminating trees and foraging habitat. Any lighting impacts to occur on hedgerows or trees will require further assessment by an ecologist.

If plans change and direct impacts to the hedgerow or any trees are anticipated, then further ecological surveys will be required.

Following mitigation measures, no significant effect is anticipated on bats.

8.5 Badger

8.5.1 Conclusions

The site and wider area are suitable to support foraging/commuting badgers. There is scope for sett creation within the boundary hedgerows/trees, however, minor potential within the proposed working areas within the open improved grassland field, which is also adjacent to a used public right of way path. No evidence of badgers was noted at the time of surveying within the site or potential zone of influence.

Badgers foraging/commuting through working areas may become trapped in any open trenches/pits.

8.5.2 Recommendations

It is recommended to cover any trenches/pits created during the works nightly to prevent any badgers from becoming trapped. Alternatively, a ramp should be installed in these features to allow badgers to escape.

Following mitigation and/or enhancement measures, no significant effect is anticipated.

8.6 Great Crested Newts

8.6.1 Conclusions

There is one pond (P1) within the site boundary and one pond (P2) adjacent to the southern boundary of the site. Pond 1 held water at the time of surveying and was subject to an eDNA survey and HSI assessment. The eDNA survey revealed no presence of great crested newts within the pond and the HSI assessment showed poor suitability in supporting great crested newts.

The water level was significantly low in Pond 2 for an eDNA survey to be undertaken and was evident the pond is only seasonally wet.

Ponds 3 and 4, were not surveyed, however are 126m and 218m away from the site within good quality great crested newt habitat, with the proposed working area being of negligible value to great crested newts. Research sponsored by Natural England has shown that most newts within terrestrial capture programmes are found within 50 metres of the pond with few animals captured at distances greater than 100 metres (Cresswell and Whitworth 2004).

Due to the small construction footprint and lack of suitable terrestrial habitat it is assessed that great crested newts are unlikely to be present within the construction zone, and negligible impact on this species is anticipated.

8.6.2 Recommendations

No further recommendations have been made in relation to great crested newts. In the unlikely event that great crested newts are found, works will be stopped immediately, and a licensed ecologist contacted.

8.7 Hedgehog

8.7.1 Conclusions

The site could support foraging/commuting hedgehogs. The hedgerows onsite could also support resting/sheltering hedgehogs, however, impacts on these are not anticipated.

If hedgehogs are present on site during the time of works, then there is a risk of them becoming trapped in any open trenches/pits created during the works.

8.7.2 Recommendations

As with badgers, any trenches/pits created during the works should be covered/fenced nightly to prevent hedgehogs from becoming trapped. Alternatively, ramps should be installed to allow hedgehogs to escape.

If this mitigation is followed, then no significant effect on hedgehogs is anticipated.

9.0 References

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10.0 Photographs

Species-Rich boundary hedgerow (SRV)(TN1).

Proposed working area (improved grassland).

Continuation of hedgerow along north-eastern boundary (outside of SRV protection).

Wooded area adjacent to P1.

TN2 - Ash tree with bat roost potential (T1).

TN2 - Oak with bat roost potential (T2).

TN2 - Oak tree with bat roost potential and woodpecker holes (T3).

TN2 – Oak tree with woodpecker holes (T4).

Pond 1 (P1).

Pond 2 (P2).

11.0 Appendices

Appendix One: Client Proposed Working Area and Site Boundary

Appendix Two: Location Plan

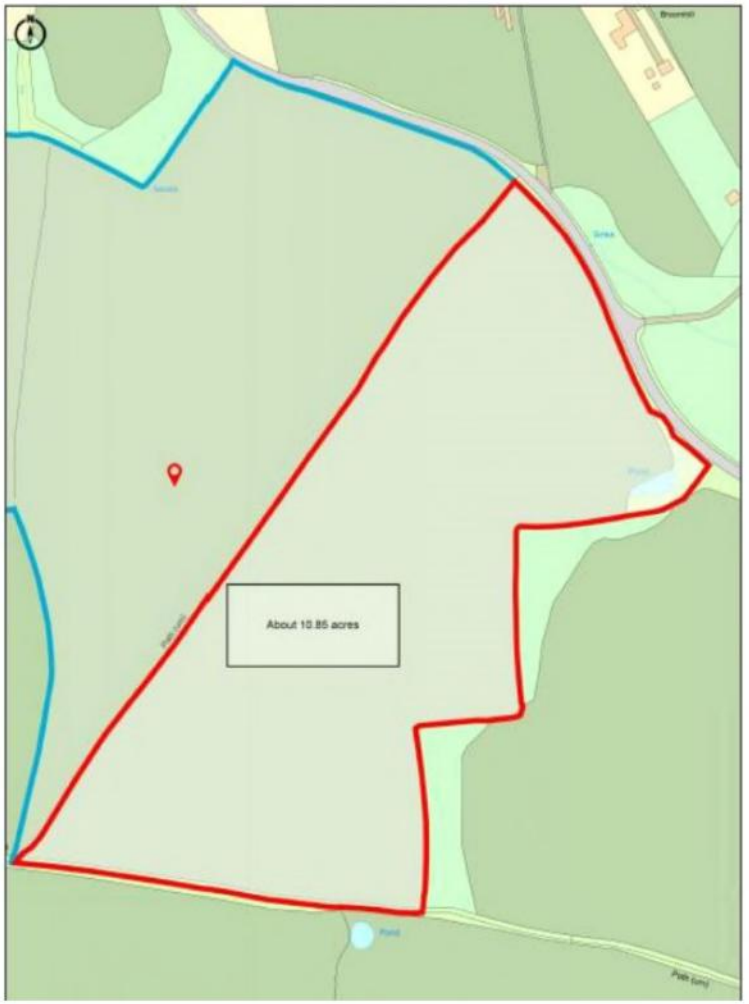
Appendix Three: Habitat Map with Target Notes

Appendix Four: Flora and Fauna Referred to in the Report (Common and Latin Names)

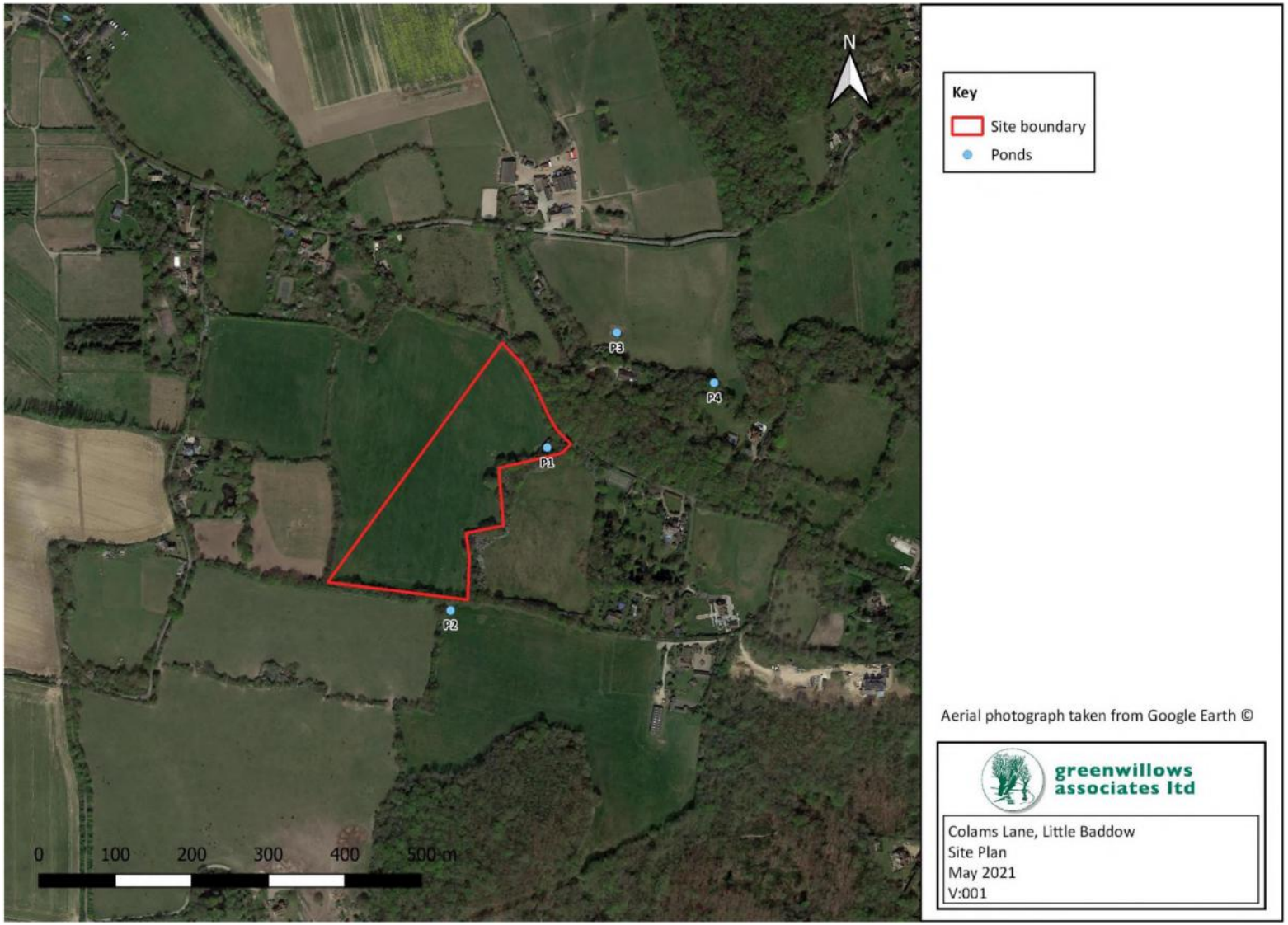
Appendix Five: Examples of Potential Site Enhancements/Mitigation

Annex One: Standard Survey Methodologies

Appendix One: Client Proposed Working Area and Site Boundary



Appendix Two: Location Plan



Internal Reference: LIBA002

Appendix Three: Habitat Map with Target Note

Internal Reference: LIBA002

Appendix Four: Flora and Fauna Referred to in the Report (Common and Latin Names)

Flora	
Common name	**Latin name**
Ash	*Fraxinus excelsior*
Blackthorn	*Prunus spinosa*
Bluebells	*Hyacinthoides non-scripta*
Bramble	*Rubus fruticosus agg.*
Chickweed	*Stellaria media*
Cleavers	*Galium aparine*
Cocks foot	*Dactylis glomerata*
Cow parsley	*Anthriscus sylvestris*
Creeping thistle	*Cirsium arvense*
Dog rose	*Rosa canina agg.*
Elder	*Sambucus nigra*
Field maple	*Acer campestre*
Greater stitchwort	*Stellaria holostea*
Ground ivy	*Glechoma hederacea*
Hawthorn	*Crataegus monogyna*
Holly	*Ilex aquifolium*
Hornbeam	*Carpinus betulus*
Lords and ladies	*Arum maculatum*
Meadow foxtail	*Alopecurue pratensis*
Oak	*Quercus sp.*
Perennial rye grass	*Lolium perenne*
Red fescue	*Festuca rubra*
Spindle	*Euonymus europaeus*
Yorkshire fog	*Holcus lanatus*
Fauna	
Common name	**Latin name**
Cuckoo	*Cuculus canorus*
Eurasian badger	*Meles meles*
Great crested newt,	*Triturus cristatus*
Long-eared bat	*Plecotus auritus*
Pipistrelle bat species	*Pipistrellus sp.*
Woodpecker	*Dendrocopos major*

Appendix Five: Examples of Potential Site Enhancements/Mitigation

Bat Friendly Planting Suggestions	
Bedding Plants	
Nottingham catchfly	*Silene nutans*
Night-scented catchfly	*S. noctiflora*
Bladder campion	*S. vulgaris*
Night-scented stock	*Matthiola bicornis*
Sweet rocket	*Hesperis natronalis*
Evening primrose	*Oenothera biennis*
Tobacco plant	*Nicotiana affinis*
Cherry pie	*Heliotropium arborescens*
Soapwort	*Saponaria officinalis*
Climbers	
European honeysuckle	*Lonicera caprifolium*
Italian honeysuckle	*L. etrusca superba*
Japanese honeysuckle	*L. japonica halliana*
Honeysuckle (native)	*L. periclymenum.*
White jasmine	*Jasminium officinale*
Dog rose	*Rosa canina*
Sweetbriar	*R. rubiginosa*
Field rose	*R. arvensis*
Ivy	*Hedera helix*
Bramble	*- many species*
Large trees, small trees and shrubs	
Oak	*Quercus robur & Q. petrea*
Ash	*Fraxinus excelsior*
Silver birch	*Betula pendula*
Field maple	*Acer campestre*
Hawthorn	*Crataegus monogyna*
Alder	*Alnus glutinosa*
Goat willow	*Salix caprea*
Guelder rose	*Viburnum opulus*
Hazel	*Corylus avellana*
Blackthorn	*Prunus spinosa*
Elder	*Sambucus nigra*
Buddleia	*Buddleja davidii*
Rock plants for walls	
Ivy-leaved toadflax	*Cymbana muralis*
Wall pennywort	*Umbilicus rupestris*
Stonecrop	*Sedum acre*

ANNEX ONE

Standard Survey Methodologies

A site walkover is undertaken to identify potential habitats suitable for protected species and/or evidence of field signs indicating presence of protected species and invasive plants.

Species Specific Methodologies

Great Crested Newts: A habitat suitability assessment for newts is undertaken taking due note of the presence of water bodies within 250 metres of the site (based on English Nature (2001) now Natural England) guidelines and potentially suitable terrestrial resting and shelter habitat.

At certain times of the year and/or in some years but not others ponds may be seasonally dry but these are not necessarily ruled out as ephemeral ponds can be important 'stepping stones' from one pond to another and/or refuges from the ravages of fish populations that can build up in permanent ponds.

Ponds are assessed using a combination of professional judgment and applying the nationally accepted Habitat Suitability Index (HSI) for Great Crested Newts based on Oldham *et al 2001* which uses nationally accepted formulae based on a number of factors which are assigned a score ranging from 0 to 1 with a score of <0.5 assessed as poor, 0.5 to 0.59 below average, 0.6 to 0.69 average, 0.7 to 0.79 good and >0.8 excellent.

If appropriate, follow-up pond surveys are undertaken in the spring to cover all ponds within 250 metres (or further where professional judgment dictates) of the construction footprint to determine presence/absence of this species. Night-torch surveys, egg searching, netting and funnel trapping are the main methods employed where practicable

Bats: A habitat suitability assessment for bats is undertaken by identifying buildings and trees likely to be affected by the proposed construction works.

The tree assessments involve looking for the following signs:

- Holes
- Fissures
- Broken Limbs
- Loose Bark
- Urine Staining
- Fur Rubbing
- Dense Ivy

A scoring system is applied to the buildings and trees using the following criteria.

- **Low/Negligible probability of bat interest**. Buildings in this category fall into two main types: Generally well maintained without cracks and crevices, no gaps between bargeboard or soffit and wall or without an attic space. Or those which contain some or all of the above features, but are both draughty and thick in cobwebs or contain strong odours such as solvents, diesel etc.

It must be borne in mind that a building from this latter group can become suitable for bats due to refurbishment. This often happens to houses once the attic space has been cleaned and under-felted prior to timber treatment.

No licence is required for development to a building classified as Low probability of bat interest.

Trees with low bat interest are usually young trees without any deadwood or holes. Most conifers fall into this category as they are usually planted as a crop and are then felled prior to becoming old, although once maturity is attained as in a landscape tree, suitable bat roosts may develop.

- **Medium probability of bat interest.** The buildings in this category contain many sites suitable for roosting bats although no obvious signs were recorded during the survey. In exposed conditions on large buildings the signs of bat usage such as droppings and urine marks can be obliterated by heavy rain.

Occasionally a light scattering of droppings will be recorded in an attic or a semi-derelict building, which is considered by the surveyor unsuitable for use as a bat roost. The medium probability of bat interest category can be used based on the surveyor's experience.

Whilst no licence is required for development to a building classified as Medium probability of bat interest, it is often best practice to conduct sensitive roof stripping or architectural salvaging to minimise any possible disturbance.

Trees in this category will have holes, cracks and crevices and lose bark suitable for roosting bats but no obvious roost signs such as staining and droppings at entrances.

- **High probability of bat interest.** This group includes buildings with known roosts or signs of bat occupancy such as droppings and staining at a roost entrance. The description of high probability buildings will also contain an indication as to the time of the year when it will be occupied by bats i.e. Summer – nursery roost, Winter – hibernation.

A licence is normally required for development to a building classified as High probability of bat interest.

Trees within this category will contain all the obvious roost features such as holes, cracks and crevices and loose bark and will also contain staining and droppings at the roost entrance or have been identified as a roost via a visual sighting of an existing bat.

If appropriate, follow-up surveys are undertaken incorporating detailed inspections of the buildings/trees by a licensed bat worker and where necessary bat activity surveys are also undertaken to determine presence/absence of this group of species.

Reptiles: A habitat suitability assessment for reptiles is undertaken looking for, *inter alia,* areas of rough scrub, tussocky/rank grassland, areas of structural diversity offering short open areas of grassland and bare soil for basking with taller vegetation and habitat edges offering shelter and rapid escape routes, natural refugia such as brash piles and rubble heaps.

Where appropriate, follow-up surveys are undertaken utilizing artificial refugia to determine presence/absence of this species.

Badgers: Field signs are searched for including setts, runs, prints, dung pits, hairs and feeding signs.

Otters: Field signs are searched for including holts, prints, spraints, haul out points and feeding signs.

Water Voles: A habitat suitability assessment for water voles is undertaken within riparian habitat assessment factors including, *inter alia,* water levels and seasonal longevity of water table, seasonal flash floods, bank profiles and substrates, vegetation for cover and suitable food sources, over shading, and evidence of the presence of mink. Where appropriate, follow-up surveys are undertaken where field signs are searched for including burrows, prints, runs, droppings, latrines and feeding signs.

White-Clawed Native Crayfish: A habitat suitability assessment for crayfish is undertaken within riparian habitat assessment factors including, *inter alia,* water levels and quality and seasonal longevity of water table, water flow, underlying geology, bank and watercourse substrates, suitable submerged refugia and known presence of signal crayfish. Where appropriate, follow-up surveys are undertaken to search for presence of this species by stone turning in the stream bed, netting and searching for burrows in the stream banks. Humane trapping may also be employed.

Harvest Mice: A habitat suitability assessment for harvest mice is undertaken within rough grassland and tall ruderal vegetation. Harvest mice build breeding nests in dense vegetation by weaving a nest out of leaves which will be at the top of a tussock of grass or around half way up the stem of cereals. To search for these nests surveyors walk transects of the target habitat checking within tussocks of grass and on stems. All areas of suitable vegetation are checked.

Notable Flora and Invasive Weeds: A habitat suitability assessment for notable flora (rare and protected) is undertaken and species are recorded. Evidence of the presence of invasive weeds included within Schedule 9 of the Wildlife and Countryside Act 1981 as amended is searched for.

Equine Barn

This barn is required to store the hay and bedding for the horses and will be located near to the stables and arena, in the equine part of the site. The barn is to be 10m x 20m and will be naturally finished featheredge with a green felt tile roof. The ridge will be approx. 5.5m. There will be 2 double doors to the front.

Agricultural Barn

This barn is required for storing livestock feed and machinery and could also provide isolation/shelter for sick or wounded livestock. It will be situated in the agricultural section of the site. The barn is to be 10m x 20m and will be naturally finished featheredge with a green felt tile roof. The ridge will be approx. 5.5m. There will be 2 double doors to the front, and the general appearance will be similar to the barn below.

Social

The owners of the plot have 2 daughters and a son who will benefit from the facilities which are proposed. The family are keen equestrians and wish to provide for this leisure pursuit on this recently purchased plot. One of the daughters, Emilia, has significant additional needs and would greatly benefit from an accessible site where she can enjoy the countryside and animals without the social and emotional pressures of livery yards and public spaces. Emilia is on the clinically extremely vulnerable list and has been unable to attend school for 18 months due to shielding. She has a degenerative heart and lung condition and lowered immunity which makes her extremely vulnerable. She has Down syndrome, autism and sensory processing disorder and this along with her health needs means attending public places is not possible. Emilia's work with horses is not only essential for her mental health but also provides physiotherapy which helps with her low muscle tone and associated problems. Unfortunately the time she can spend with horses is very limited at present due to the lack of a private yard for the family.

Economic

This proposal is not for economic gain but for the better care/exercise of the existing animals of the owner and to further their daughters' equine career as well as providing an inclusive recreational area for the disabled daughter with additional needs. The contracts for building the barns, stables and manège will provide useful contracts for local contractors who specialise in this field. Local contractors have already been identified.

Sustainability and Environment

This proposal will raise the quality of animal life and the environment in this rural location. The plot can easily sustain the scale of development. The site is currently not being used and would benefit from returning to its historic use as grazing as well as the addition of the equine facilities. The construction and design will be to the highest standards, using good quality sustainable materials and high quality finishes, in keeping with the surroundings.

No wildlife or vegetation (including trees) will be adversely affected by the proposals. No large scale felling is expected. The proposal has been designed to have the minimal impact on anyone other than the land owners in terms of view, noise, or accessibility. No flooding is expected in this area. The design is considered to be environmentally sustainable and should improve the character of the area. An ecological study has been carried out and has been provided with the pre-application.

Design Considerations

Amount

- total plot = 4.8 ha (11.9 acres).
- proposed development site area = 2.2ha (which consists of the area of change of use to equine and an area to include the proposed agricultural barn)
- final area of equine use = 2.0 ha.
- final agricultural area = 2.8 ha.

Change of use

The site is believed to be agriculturally classified and has been used to graze livestock. It is therefore proposed that the site be divided into an equine area and an agricultural area. Change of use from agricultural to 'keeping of horses for recreational purposes' is therefore sought for part of the plot.

Access and Parking

Permanent - There is ample grass parking for the owners on the site. It is proposed that permeable access tracks will be constructed from the existing access as shown on the site plan. There will be a dedicated area set aside for parking a horse box. The construction of the manège/stables will result in additional vehicles needing access and parking facilities; these will include hay/bedding deliveries, farrier and vet. It is estimated that the additional traffic movements would be approximately 1 per week.

During construction - There is sufficient space within the site for trade/construction vehicles during construction. There is also area which can be set aside for building materials. This sufficient off road parking will ensure that contractors will not park the public road or cause any congestion.

Existing Crossovers – There is an existing crossover with large timber gates on Colam Road outside the boundary at the north of the site. As part of the sale the owners have right of access over this crossover. There is a pedestrian gate adjacent to the fields gates to access the public footpath which runs along the boundary of the plot. There is also an historic additional crossover at the east of the site near to the pond and adjacent to the proposed equine barn. It is the intention that this will become the main access to the site and has much better visibility onto the lane.

Public Footpath – The site has a public footpath running along one boundary within the site. The footpath is accessed from Colam Lane by a timber gate. The site will be animal stock fenced within the site to allow footpath use to remain unchanged. The fencing will ensure no animals graze on the footpath.

New Planting –

he applicant has applied to the Woodland Trust to plant a hedge along the entire footpath border. There will also be some native tree planting within the site to provide natural shelter for the horses and livestock. They will also be planting a wild flower/ sensory garden and vegetable/herb patch with their daughter. This will result in a net biodiversity gain.

Summary

- For personal use only by owners
- Will provide important leisure/recreational facility for a young person with additional needs
- Will assist in the recreational pursuits/wellbeing of the whole family
- Land to be used is not currently farmed
- Not in a flood zone
- Not in a protected area
- No felling of mature trees required
- Sustainable materials used
- No ecological impact expected
- Excavated material from manège construction is to be used on site and not removed from site via local highways.
- Natural hedging and tree planting planned
- No disruption to existing footpaths

DORLI NEWBERY BEng (Hons)
SHINGLE HALL
ONGAR ROAD
DUNMOW
ESSEX
CM6 1JB
01371 859942 –dorlinewbery@btinternet.com

Pre-application Advice Planning Statement
Land adjacent to Culvert Cottage, Culverts Lane, Chelmsford, CM3 4BL/4SY

This statement has been prepared to accompany a pre-application advice application for the **change of use from agricultural land to equine use, construction of an equestrian manège, construction of stables construction of equine and agricultural barns**. The riding arena will be 20m x 60m as required for dressage schooling of horses. The development is intended for the sole use of the land owners. The boundaries of the property are identified on the Block Plan and Location Plan on the Planning Drawing **2021/273/01**

Applicant: Mr and Mrs Gunn, 5 Deyncourt Gardens, RM14 1DE

Agent: Dorli Newbery, Shingle Hall, Ongar Road, Dunmow, CM6 1JB - 01371 859942

Physical

The land has recently been purchased The land is believed to be currently classed as agricultural and has a history of grazing sheep. The total plot area is 4.8ha (11.9 acres). The intention is the have a change of use on part of the land to enable equine use, with the remaining land remaining agricultural land for the purpose of grazing sheep.

Approximate extent of site subject to remain as agricultural land with the addition of an agricultural barn

Approximate extent of site subject to change of use to keeping horses and addition of equine barn, stables and manège

See site plans for accurate site boundaries

Photographs of the Site

Looking towards the East corner
(preferred access)

Looking along the NE boundary
towards the shared access

Looking West

The Proposal

Manège

The intent is to utilize part of this land parcel for equine pursuits, in particular for the training and exercise of horses already owned by the applicant. In order to use the site all year round an all-weather arena is proposed. This will enable the riders to exercise and school safely in all-weather without causing injury to either rider or horse by slippery or water-logged ground. The finished area of the manège is to be 60m x 20m. The manège is to have a proprietary surface, Flexiride, which is a high specification product giving a flexible, hardwearing and free draining surface suitable for normal equestrian needs. The riding surface is mixed with the silica sand layer and the final appearance is beige/grey – thus fitting into the rural landscape. The manège will have kick boards around the edge to prevent the surface from spreading but no post and rail fencing, similar to the image below.

Stable Block

The horses are currently stabled elsewhere and would be moved to live full time at this site (subject to planning permission). There is ample grazing for 4 horses in the proposed paddock area, in addition to the area to be used for the manège, stables and barn. It is proposed that the stable block will take a L shaped form and will consist 4 stalls, a tack room and feed store. The long side will be 18.28m with a short side of 8.53m. The width of the L shape will be 3.66m. An approximate ridge will be 4m and an eave of 2.4m. The roof will have an overhang of 1.2m. The external finish will be timber featheredge with a natural finish to blend into the rural landscape, similar to the image below. The roof will be green felt shingles.

Equine Barn

This barn is required to store the hay and bedding for the horses and will be located near to the stables and arena, in the equine part of the site. The barn is to be 10m x 20m and will be naturally finished featheredge with a green felt tile roof. The ridge will be approx. 5.5m. There will be 2 double doors to the front.

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Social

The owners of the plot have [redacted] who will benefit from the facilities which are proposed. The family are keen equestrians and wish to provide for this leisure pursuit on this recently purchased plot. One of the [redacted] would greatly benefit from an accessible site where she can enjoy the countryside and animals [redacted] of livery yards and public spaces. [redacted]

Economic

This proposal is not for economic gain but for the better care/exercise of the existing animals of the owner [redacted] The contracts for building the barns, stables and manège will provide useful contracts for local contractors who specialise in this field. Local contractors have already been identified.

Sustainability and Environment

This proposal will raise the quality of animal life and the environment in this rural location. The plot can easily sustain the scale of development. The site is currently not being used and would benefit from returning to its historic use as grazing as well as the addition of the equine facilities. The construction and design will be to the highest standards, using good quality sustainable materials and high quality finishes, in keeping with the surroundings.

No wildlife or vegetation (including trees) will be adversely affected by the proposals. No large scale felling is expected. The proposal has been designed to have the minimal impact on anyone other than the land owners in terms of view, noise, or accessibility. No flooding is expected in this area. The design is considered to be environmentally sustainable and should improve the character of the area. An ecological study has been carried out and has been provided with the pre-application.

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Public Footpath – The site has a public footpath running along one boundary within the site. The footpath is accessed from Colam Lane by a timber gate. The site will be animal stock fenced within the site to allow footpath use to remain unchanged. The fencing will ensure no animals graze on the footpath.

New Planting –

he applicant has applied to the Woodland Trust to plant a hedge along the entire footpath border. There will also be some native tree planting within the site to provide natural shelter for the horses and livestock. They will also be planting a wild flower/ sensory garden and vegetable/herb patch with their daughter. This will result in a net biodiversity gain.

Summary

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- Will provide important leisure/recreational facility [redacted]
- Will assist in the recreational pursuits/wellbeing of the whole family
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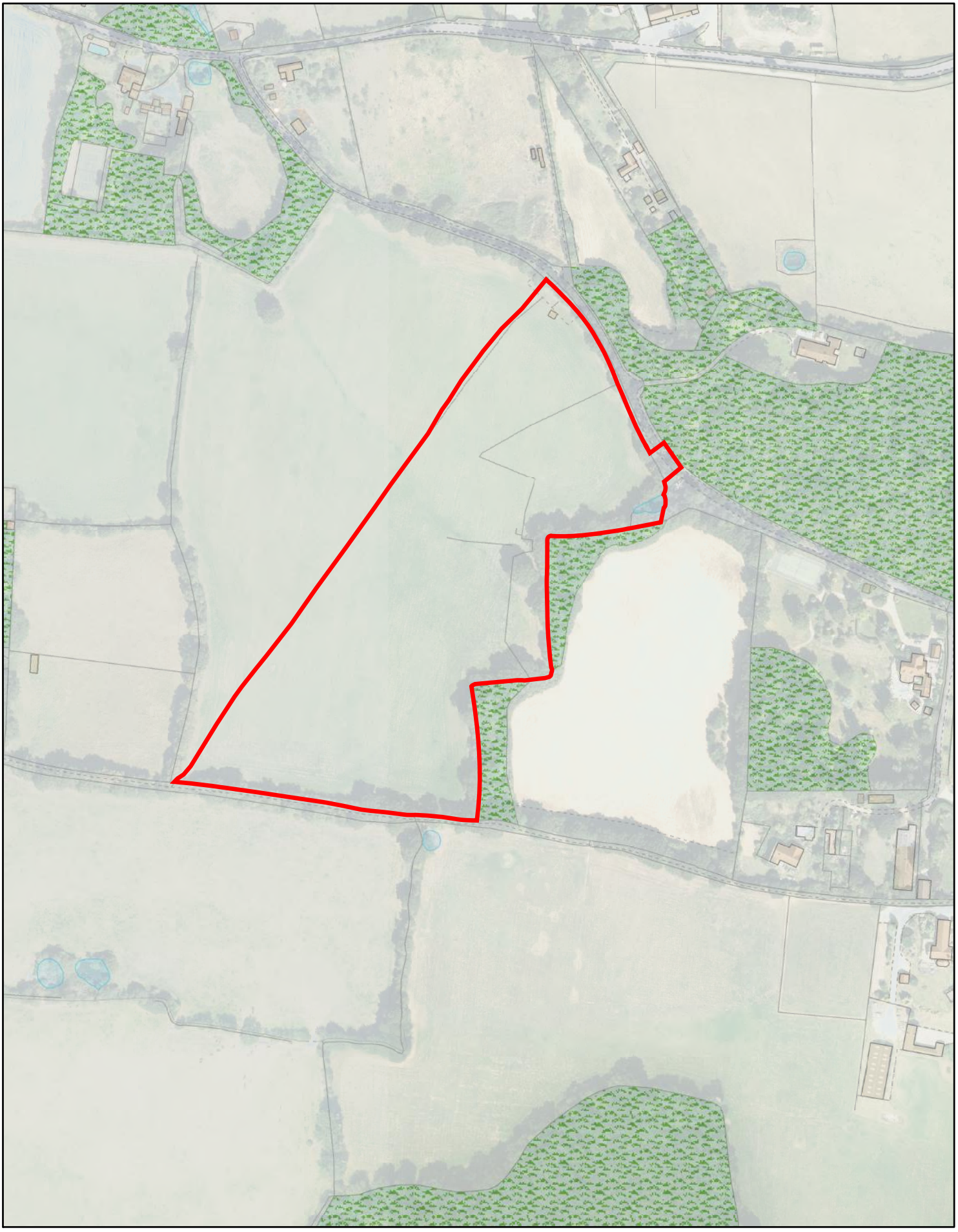
- Not in a flood zone
- Not in a protected area
- No felling of mature trees required
- Sustainable materials used
- No ecological impact expected
- Excavated material from manège construction is to be used on site and not removed from site via local highways.
- Natural hedging and tree planting planned
- No disruption to existing footpaths



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Planning Committee
22/01877/FUL

Planning & Development Management
Directorate for Sustainable Communities

PO Box 7544 Civic Centre
Duke Street, Chelmsford, CM1 1XP

Telephone: 01245 606826

Planning Committee
5th September 2023

Application No	:	23/00195/FUL Full Application
Location	:	Garages Rear Of 27 Medway Close Chelmsford Essex
Proposal	:	**Demolition of existing garaging and redevelopment to provide 6 new affordable homes with associated access improvements, parking, private amenity space and landscaping.**
Applicant	:	D Ford Chelmsford City Council
Agent	:	James Firth
Date Valid	:	2nd February 2023

Appendices:

Appendix 1 Consultations
Appendix 2 Drawings

1. Executive summary

1.1. This application is for six affordable rent dwellings on previously developed land. The land is owned and operated by the City Council. The planning application is made by the City Council. In accordance with the Council's Constitution, the application is presented to the Planning Committee for a decision.

1.2. Objections to the application have been received (see Appendix 1). These cover a range of topics including design and character, displacement of parking, flood risk, impact of new resident parking on local roads, access to existing properties and neighbour amenity. All representations and consultee comments have been considered as part of the wider planning considerations of this development proposal. The application assessment concludes the proposal is compliant with the Development Plan.

1.3. The application is recommended for approval subject to conditions.

2. Description of site

2.1. The application site is located within the Urban Area of Chelmsford. It is comprised of previously developed land, taking the form of hardstanding and garaging, which were originally allocated for residential parking and storage purposes when the wider estate was developed. There are 32 existing garages on site, of which two are still used by existing tenants for the parking of vehicles. The site measures 0.232ha in size.

2.2. Access is gained from Medway Close, on the eastern side of the application site. The access runs between the side elevation of No. 30 Medway Close and the adjacent properties to the north-west, along Avon Road.

2.3. The eastern and northern boundaries of the site meet the long rear gardens of properties fronting Medway Close and Avon Road. The southern and western boundaries meet undeveloped woodland. There are no protected trees within the vicinity of the site.

2.4. Lawford Mead Primary School is located nearby to the application site, as well as local convenience stores on Trent Road. As the site is located within the Urban Area and close by to the City Centre, it is served by bus and rail links.

2.5. The site is allocated under Growth Site Policy 1S in the Chelmsford Local Plan.

3. Details of the proposal

3.1. This application proposes the construction of a terrace of five, four-bedroom, six-person dwellings and a one-bedroom maisonette over car port spaces (commonly referred to as a FOG unit). All of the proposed dwellings are to be offered for affordable rent.

3.2. Two new garages are also proposed to replace the existing garages which are still tenanted on the site.

3.3. The application proposes an improved access arrangements into the site, including the widening of the existing site access and provision of a pedestrian walkway. Existing access for

neighbouring residents' rear gardens and one garage is also retained by the proposed development.

3.4. Two off-street parking spaces are proposed for the two-storey dwellings under and through car ports, with the FOG unit provided one parking space underneath. Two visitor parking space are also proposed.

4. Summary of consultations

Public Health & Protection Services: Add ENV07 contaminated land condition. Residential development should provide EV charging infrastructure.

Essex County Council Highways: The proposal is acceptable to the Highway Authority subject to conditions.

Recycling & Waste Collection Services: Raised concerns regarding access for refuse vehicles which have been addressed or can be controlled by condition.

ECC Historic Environment Branch: Condition a Written Scheme of Investigation to be submitted and approved prior to commencement of development.

ECC SUDs: No objection.

Environment Agency: No response.

Local residents: 14 letters of representation (including an unsigned petition) received from local residents all objecting to the proposed development. Concerns raised include:

- Environmental and ecological impacts.
- Increase in noise intrusion.
- Access and safety issues.
- Inadequate parking levels to serve the wider housing estate.
- Harmful to privacy of adjacent neighbouring properties.
- Not in accordance with Development Standards in Appendix B of Chelmsford Local Plan.
- Visual intrusion of development.
- Block light to neighbouring properties.
- Flood risk from surface water.
- Contamination issues.
- Inadequate parking provision.

5. Planning considerations

Main Issues

5.1. The application seeks six affordable housing units, making this a 100% affordable housing scheme. All six units would be provided on an affordable rent tenure which can be secured without a legal agreement due to the Council's ownership of the site. In these circumstances affordable housing tenure considerations under Policy DM2 would not apply.

5.2. The proposal includes 5 x 4B6P affordable houses for rent which meet the Council's priority housing need. The Council currently has numerous statutory homeless households requiring

four-bedroom accommodation that are currently housed in temporary accommodation awaiting an offer of permanent affordable housing.

5.3. The 1B2P flat is also proposed to be provided as affordable rented housing that will meet priority housing needs as there are a considerable number of households in priority housing need on the Housing Register and in temporary accommodation awaiting an offer of one-bedroom affordable accommodation.

5.4. The main considerations for this proposal are parking displacement, design, flood risk and neighbour relationships. Other considerations, such as parking and access, technical compliance with development standards and other material considerations also apply.

Design and Character

5.5. Policy DM23 of the Chelmsford Local Plan states that planning permission will be granted for development that respects the character and appearance of the area in which it is located. Development must be compatible with its surroundings having regard to scale, siting, form, architecture, materials, boundary treatments and landscape. The design of all new buildings and extensions must be of high quality, well proportioned, have visually coherent elevations, active elevations and create safe, accessible and inclusive environments.

5.6. The proposed development has been laid out in a similar layout to the existing garages, back-to-back with existing houses to create an additional street to Medway Close. The scale and design of the proposed dwellings reflect the existing character of the area. A development of two-storey dwellings within the context of a suburban residential area containing predominantly two-storey dwellings is considered to be very much in keeping with the prevailing character of the locality.

5.7. The proposed development is accompanied by a landscape plan, which details the proposed scheme of shrub and tree planting; as well as boundary treatments including walls and close boarded fences. These measures are proposed to soften the impact of the development and assist in integrating the site into its context.

5.8. The proposal complies with Policy DM23 of the Chelmsford Local Plan.

Neighbouring Impacts

5.9. Policy DM29 of the Chelmsford Local Plan states that Development proposals must safeguard the amenities of the occupiers of any nearby residential property by ensuring that development is not overbearing and does not result in unacceptable overlooking or overshadowing. Development must also avoid unacceptable levels of polluting emissions, unless appropriate mitigation measures can be put in place and permanently maintained.

5.10. Concern has been raised from local residents that the proposed development would have a harmful impact on the existing properties on Avon Road, to the north of the site, and Medway Close, to the east.

5.11. The distances between the proposed dwellings and the end of the rear gardens of the existing dwellings is roughly 10 metres. Whilst the Local Plan Appendix B recommends a distance of 15 metres, it should be noted that the rear gardens of the existing properties are relatively long (over 25 metres). As such, the majority of the garden areas of these properties are over the 15m

recommended distance from first floor windows in the proposed development. Furthermore, the back-to-back distances between the proposed dwellings and the existing development to the north exceed 30m. This exceeds the recommended minimum distance for two/three storey developments' rear or front-facing windows serving habitable rooms on upper floors of 25m, as per Appendix B of the Chelmsford Local Plan.

5.12. The applicant has also responded to representations during the lifetime of the application to reduce harm to neighbours. As such, the amount of habitable rear room windows has been reduced from two to one, further limiting perceived harm to these existing properties. The flank wall of Plot 5 to the east does not contain first floor windows and is over 27m to nearest property.

5.13. Local residents have raised that the proposed development would increase noise pollution to existing properties. Although any development would proportionately increase noise in an area, this would be extremely minimal owing to the residential nature of use and considered in context with a residential setting. A refusal of planning permission could not be justified on this basis. This area is appropriate for new residential development.

5.14. For these reasons, the proposal complies with Policy DM29 of the Chelmsford Local Plan.

Parking Provision, Access and Displacement

5.15. The Local Highway Authority has been consulted on these proposals and has raised no objections but has recommended several planning conditions to scope and manage works affecting the highway.

5.16. The scheme contains six residential units with provision of 14 car parking spaces (including four visitor spaces). The site is within the Urban Area close to local amenities and city centre. This balance of travel provision in such a sustainable location is acceptable and is supported by the Local Highway Authority.

5.17. The proposed development incorporates on-site parking that meets the Essex Parking Standards. The Council's Making Spaces Supplementary Planning Document reiterates that the Essex Parking Standards will be used, but states these may be relaxed "in urban locations with high levels of public transport accessibility". There are good public transport links locally, but these are a short walk from the site. As such, the proposed provision of car parking is considered appropriate.

5.18. The Transport Statement submitted with the application has considered existing parking provision within a 100m radius of the application site, to establish whether residents, including those who may have used the garages proposed to be demolished, will have alternative places to park on-street. Whilst it should be noted that the garages are not in use presently for parking, this confirmed that sufficient spaces are available. In addition, the survey demonstrates that the loss of spaces from a Traffic Regulation Order restricting car parking at the end of Medway Close to facilitate larger vehicle access to the site (e.g. refuse freighter or fire tender) would not result in undue parking stress.

5.19. Acknowledging that local concern has been raised about existing parking pressures within Medway Close, the consideration to be applied is whether this proposal would exacerbate these issues. Whilst the existing parking stresses have been considered, the proposed development would provide policy compliant levels of parking in excess of minimum provision based on

proximity to city centre and other facilities. The existing garages on site are not, in practice, used for car parking and the proposed development incorporates sufficient parking for future occupiers and visitors. As such, the proposed development is not considered to give rise to any additional material impact on parking in the local area.

5.20. Access to the site is to be taken from Medway Close in the same position to the existing car park access. No matters of principle arise from this proposal and the works, including a Traffic Regulation Order, will need further agreement by the Local Highway Authority which is covered by separate highways legislation.

5.21. The site is to be serviced (e.g. refuse collection) from the within the site. Submitted with the application is a refuse and recycling strategy plan which confirms that all of the units have legible pathways from on-plot storage to the shared bin collection point which is suitably accessible to operatives from the street. Bin stores and collection point will be required by condition to ensure that there is adequate provision to serve the development.

Development Standards

5.22. Policy DM26 of the Chelmsford Local Plan states that all new dwellings shall have sufficient privacy, amenity space, open space, refuse and recycling storage and shall adhere to the Nationally Described Space Standards. These must be in accordance with Appendix B.

5.23. The development is compliant with the Nationally Described Space Standards for housing.

5.24. Five out of the six dwellings will meet the requirements of Part M4(2) of Building Regulations 2015. The 1-bed unit will meet Part M4(1) requirements. Whilst not required specifically for a development of this scale, this level of accessibility will be a significant benefit for these affordable homes and ensuring they meet a range of user needs and requirements.

5.25. Electric Vehicle charging will be required for each plot.

5.26. The proposals also meet the requirements of the Council's Development Standards (Appendix B) in respect of garden sizes and parking provision.

Trees, Biodiversity Enhancements and RAMS

5.27. Submitted with the application is a tree report concluding that development would have no significant impact on surrounding trees. There is a short section of independent hedgerow and two C Category trees within the site which will be removed to facilitate development. These are of low value. The development has been largely designed to avoid impact on tree roots, but methodologies would nonetheless be required, which can be secured by condition.

5.28. The Ecology Appraisal submitted with the application does not conclude further assessment or survey is required. This conclusion is agreed. The specification of landscaping and recommendations for other ecological betterment will be secured by planning condition. Net biodiversity gain is achieved via the landscaping scheme.

5.29. The Conservation of Habitats and Species Regulations 2017, as amended (commonly known as the Habitat Regulations) require all new residential developments that have the potential to cause disturbance to European designated sites to provide appropriate mitigation. To deal with this, an Essex County wide strategic approach to considering and mitigating potential harm has

been produced - the Essex Coast Recreational Disturbance Avoidance and Mitigation Strategy (RAMS). An Appropriate Assessment has been carried out which concludes that a contribution towards off-site mitigation (RAMS contribution) is necessary to mitigate the potential disturbance to European designated sites arising from this development growth. A RAMS payment of £940.56 has been agreed with the Council's Corporate Property Manager, which is in line with the prevailing rate.

Tree Planting

5.30. The Council has declared a Climate and Ecological Emergency to focus attention on reducing carbon and greenhouse gas emissions in the area and to plan for a more sustainable future. The Council's Climate and Ecological Emergency Action Plan includes undertaking a greening programme to significantly increase the amount of woodland and the proportion of tree cover in Chelmsford. Paragraph 5.18 of the Making Places Supplementary Planning Document (January 2021) states that green spaces provided in connection with new housing development should, where practicable, include the planting of three trees per net new dwelling. The proposed plans show that 18 new trees (three for each dwelling) will be planted within the application site. These will be secured as part of the conditioned landscaping scheme.

Flood Risk

5.31. The Application is accompanied by a Flood Risk Assessment (FRA) and Drainage Strategy prepared by Create. A full FRA has been undertaken given the site's location in a Critical Drainage Area (NCLF_001 St Andrews South Critical Drainage Area).

5.32. There are a number of surface water flow paths within the site and as such there is a risk of surface water flooding. As a result of this however, the built form has been situated away from the primary routes, and also raised in floor level (300-350mm over existing ground levels for Plots 1-4, and 400-500mm for Plots 5 and 6). Plot 6 (raised flat over a garage) will have a sacrificial ground floor footprint. A full scheme of mitigation measures is provided within the accompanying Flood Risk Assessment and Drainage Strategy report.

5.33. The assessments undertaken demonstrate that the risk of flooding from all sources is generally low, and the development can be operated safely without significantly increasing flood risk elsewhere. Some residual risks have been identified but appropriate mitigation measures proposed to manage these.

5.34. The Lead Local Flood Authority (LLFA) Essex County Council have been consulted on and do not object to the proposals.

5.35. The development will therefore be safe from flooding and will not increase flood risk elsewhere in accordance with adopted Policy DM18.

6. Community Infrastructure Levy (CIL)

6.1. This development is CIL liable. CIL payments are required to help pay for general infrastructure arising from development. In addition, there is a requirement for specific payments towards works which would usually be made via a S.106 agreement, but as this is a Council-owned site those contributions (RAMS) have been secured as direct transfer between Council Services, to be undertaken when planning permission is in place.

7. Conclusion

7.1. The proposals are a sustainable use of previously developed land in the Urban Area.

7.2. The development will have a positive impact on housing and affordable housing in the city.

7.3. Local objections have been received and considered. The matters raised through the consultation have been considered in the context of national and local planning policy. The objections would not amount to grounds for refusal as the development is assessed to be acceptable in relation to those concerns raised.

7.4. The proposals are compliant with the standards and objectives of the National Planning Policy Framework and Chelmsford Local Plan (May 2020). Across all material planning considerations the development is assessed to be acceptable.

7.5. Officers recommend the application is approved subject to conditions.

RECOMMENDATION

The Application be APPROVED subject to the following conditions:-

Condition 1

The development hereby permitted shall begin no later than 3 years from the date of this decision.

Reason:

In order to comply with Section 91(1) of the Town and Country Planning Act 1990 as amended by Section 51 of the Planning and Compulsory Purchase Act 2004.

Condition 2

The development hereby permitted shall be carried out in accordance with the approved plans and conditions listed on this decision notice.

Reason:

In order to achieve satisfactory development of the site

Condition 3

Prior to their use, details of the materials to be used in the construction of the development hereby permitted shall be submitted to and approved in writing by the local planning authority. The development shall then be carried out in accordance with the approved details.

Reason:

To ensure that the development is visually acceptable in accordance with Policy DM23 of the Chelmsford Local Plan.

Condition 4

The six (6) dwellings in this development shall not be used for any purpose other than the provision of Affordable Housing within the definition as given within the National Planning Policy Framework.

Reason:

To define the scope of the planning permission as being a 100% Affordable Housing scheme.

Condition 5
a) No development shall take place until a scheme to assess and deal with any contamination of the site has been submitted to and approved in writing by the local planning authority.

b) Prior to the occupation or first use of the development, any remediation of the site found necessary shall be carried out, and a validation report to that effect submitted to the local planning authority for written approval and the development shall be carried out in accordance with that scheme.

Reason:
This information is required prior to the commencement of the development because this is the only opportunity for contamination to be accurately assessed. This is to ensure the development does not give rise to problems of pollution or contamination in accordance with Policy DM30 of the Chelmsford Local Plan.

Condition 6
Prior to the first occupation of the dwelling/s hereby permitted, charging infrastructure for electric vehicles shall be installed and retained at a rate of 1 charging point per dwelling.

Reason:
To ensure that the development is constructed sustainably in accordance with Policy DM25 of the Chelmsford Local Plan.

Condition 7
All new dwelling units as hereby approved shall be constructed to achieve increased water efficiency to a standard of no more than 110 litres of water per person per day in accordance with Building Regulations Approved Document Part G (2015 - as amended).

Reason:
To ensure the development reduces water dependency in accordance with Policy DM25 of the Chelmsford Local Plan.

Condition 8
All mitigation measures and/or works shall be carried out in accordance with the details contained in the Preliminary Ecological Appraisal (James Blake Associates, October 2022) as submitted with the planning application and agreed in principle with the local planning authority prior to determination.

Reason:
To conserve protected and Priority species and allow the LPA to discharge its duties under the Conservation of Habitats and Species Regulations 2017 (as amended), the Wildlife & Countryside Act 1981 as amended and s40 of the NERC Act 2006 (Priority habitats & species).

Condition 9
No unbound material shall be used in the surface treatment of the vehicular access hereby permitted within 6 metres of the highway boundary.

Reason:
To avoid displacement of loose material onto the highway in the interests of highway safety.

Condition 10
The area/s of hardsurfacing hereby permitted shall be constructed using a permeable surface or shall include drainage to prevent discharge of surface water onto the Highway.

Reason:
To prevent hazards caused by water flowing onto the highway and to avoid the formation of ice on the highway in the interest of highway safety.

Condition 11
No dwelling shall be occupied until space has been laid out within the site in accordance with Drawing No. 3556:02/G for fourteen (14) cars to be parked and that space shall thereafter be kept available at all times for the parking of vehicles.

Reason:
To ensure that sufficient parking is available to serve the development in accordance with Policy DM27 of the Chelmsford Local Plan.

Condition 12
Prior to the construction of any access roads, a plan to show how the development will be serviced by a refuse vehicle shall be submitted to and approved in writing by the local planning authority. All roads shown on the approved drawing to be served by a refuse collection vehicle shall be constructed to a standard capable of carrying a 26 tonne vehicle.

Reason:
In the interests of highway safety and to ensure that the development is accessible in accordance with Policy DM23 [and DM24] of the Chelmsford Local Plan.

Condition 13
No development shall take place, including any ground works or demolition, until a Construction Management Plan has been submitted to, and approved in writing by, the Local Planning Authority. The approved plan shall be adhered to throughout the construction period. The Plan shall provide for:

i. The parking of vehicles of site operatives and visitors,
ii. Loading and unloading of plant and materials,
iii. Storage of plant and materials used in constructing the development,
iv. Wheel and underbody washing facilities.
v. Before and after condition survey to identify defects to highway in the vicinity of the access to the site and where necessary ensure repairs are undertaken at the developer expense where caused by developer.

Reason:
To ensure that on-street parking of these vehicles in the adjoining streets does not occur and to ensure that loose materials and spoil are not brought out onto the highway in the interests of highway safety.

Condition 14
Prior to first occupation of the development, the vehicular area turning facility, shown in Approved Drawing No. 3556:02/G shall be constructed, surfaced and maintained free from obstruction within the site at all times for that sole purpose.

Reason:
To ensure that vehicles can enter and leave the highway in a forward gear in the interest of highway safety.

Condition 15
The first-floor rear windows in the northern rear elevations of Plots 1-5, serving bathrooms, and shown on approved Drawing No. 3556:02/H shall be:

a) obscured (minimum Level 3 obscurity level) and
b) of a design not capable of being opened below a height of 1.7m above finished floor level
and shall remain so obscured and non-openable.

Reason:
To safeguard the privacy of the occupiers of the adjacent property or properties in accordance with Policy DM29 of the Chelmsford Local Plan.

Condition 16
Notwithstanding the provisions of the Town and Country Planning (General Permitted Development) Order 2015 (or any Order revoking or re-enacting that Order with or without modification), the dwellings hereby permitted shall not be enlarged or extended without the grant of an additional planning permission by the local planning authority.

Reason:
To ensure that the development remains contextualised to its surroundings and to ensure that adequate private amenity space is retained for the dwellings in accordance with Policies DM23 and DM26 of the Chelmsford Local Plan.

Condition 17
Notwithstanding the drawings as approved:

(i) Within 6 months of commencement of development the proposed treatment of all boundaries (external and internal site subdivision), including representative drawings of gates, fences, walls, railings or piers shall have been submitted to and approved in writing by the local planning authority.

(ii) No part of the development shall be occupied until boundary treatments as approved under (i) of this condition have been installed in accordance with those agreed details.

Reason:
In the interests of the visual amenities of the area in accordance with Policies DM23 and DM29 of the adopted Chelmsford Local Plan (May 2020).

Condition 18
Notwithstanding the approved drawings, within 6 months of commencement of development a comprehensive specification of all hard and soft landscaping works and content shall have been submitted to and approved in writing by the local planning authority to include written specification, layouts and large-scale drawings as necessary of the following:

i. hard materials setting out (including laying patterns),
ii. details of any steps/ramps,
iii. lighting (to streets/spaces),
iv. existing trees, hedges or other soft features to be retained,
v. definitive planting specification containing species and sizes,
vi. tree pits, root barriers and staking,
vii. any in-built method(s) of irrigation
viii. maintenance plan(s) for all of the above

All external areas of the development as approved shall be laid out, planted, equipped and implemented in accordance with the agreed specifications prior to the occupation of 90% of the approved dwellings unless

the local planning authority formally agrees to a varied timetable and shall be permanently retained thereafter in accordance with a management plan, as approved.

If within a period of 5 years from the date of planting any element of the soft landscaping scheme or retained landscaping (or any replacement planting to which this same provision would also apply), is removed, uprooted, or destroyed, or becomes, in the opinion of the local planning authority, seriously damaged or defective, another tree or landscaping feature of the same size and species as that originally planted shall be planted at the same place, unless the local planning authority gives its written consent to any variation.

Reason:
Whilst drawings 3556:02/G and 004/D provide detail sufficient to determine the application, further information is required to ensure the specification of external areas sufficient. Implementation in accordance with full details is necessary to comply with Policies DM13, DM16 and DM23 of the adopted Chelmsford Local Plan (May 2020).

Condition 19
Prior to the occupation of any of the proposed dwellings, the proposed private drive shall be constructed as shown in Approved Drawing No. 3556:02/G and provided with a suitable dropped kerb crossing of the existing footway/verge. The construction works shall be regulated by an appropriate legal agreement with the Highway Authority, which will provide for but not be limited to the following:

i. A footway transition into the site on the south side of the vehicular access, connecting to the existing Medway Close footway.
ii. Clear to ground vehicular visibility splays of 2.4 metres x 43 metres in both directions, to be maintained in perpetuity.
iii. Unless the Local Planning Authority agrees to a commensurate solution, provision of Traffic Regulation Order (TRO) parking restrictions to prevent parking on Medway Close to each side of the vehicular access to the north and the south and opposite the vehicular access on the east side of Medway Close to facilitate refuse vehicle entry to the development, in accordance with details to be agreed with the Highway Authority.
iv. Provision of all signing and lining in association with the highway works.

Reason:
To provide appropriate footway connection, adequate inter-visibility between vehicles using the road junction and those in the existing public highway and to facilitate entry/exit of refuse vehicles, in the interest of highway safety.

Condition 20
i) No development or preliminary groundworks of any kind shall take place until a programme of archaeological investigation has been secured in accordance with a Written Scheme of Investigation which has been submitted by the applicant, and approved in writing by the local planning authority.
ii) No development or preliminary groundworks of any kind shall take place until the completion of the programme of archaeological investigation identified in the Written Scheme of Investigation defined in (i) above.
iii) The applicant will submit to the local planning authority a post excavation assessment (to be submitted within six months of the completion of the fieldwork, unless otherwise agreed in advance with the Planning Authority). This will result in the completion of post excavation analysis, preparation of a full site archive and report ready for deposition at the local museum, and submission of a publication report.

Reason:
This information is required prior to the commencement of the development because this is the only opportunity for archaeological investigation work to be undertaken. These works are required to ensure that adequate archaeological records can be made in respect of the site in accordance with Policy DM15 of the Chelmsford Local Plan.

Condition 21
No development shall take place within the root protection area of trees as shown on drawing number JBA 22 119 TCP01 Rev A (forming part of the Arboricultural Impact Assessment) until an arboricultural method statement setting out arrangements for the building operations and excavations within the root protection area of the affected trees has been submitted to and approved in writing by the local planning authority. The development shall then be carried out in accordance with the approved details.

Reason:
The use of the correct excavation methods will ensure that the tree roots are not damaged in order to safeguard the existing trees in accordance with Policy DM17 of the Chelmsford Local Plan.

Condition 22
No part of the development shall be occupied until the approved refuse and recycling storage has been made available and shall thereafter be maintained in a good state of function and cleanliness for its intended use as approved. The bin collection point("BCP") as shown on drawing 3556:02 Rev G shall be used for staging of bin/recycling receptacles for collection only and shall at all other times remain clear.

Reason:
To ensure satisfactory waste and recycling and collection points are available to all occupiers in accordance with Policy DM26 of the adopted Chelmsford Local Plan (May 2020).

Condition 23
Prior to the first occupation of each respective unit within the development covered and secure cycle parking for those residents shall be created and be made available for use. Those spaces shall thereafter be kept available for the parking of cycles only.

Reason:
To ensure adequate cycle provision is available in accordance with Policy DM27 of the Chelmsford Local Plan (May 2020).

Notes to Applicant

1 In order to cause minimum nuisance to neighbours, the applicant is strongly advised to follow guidelines for acceptable working hours set out by the Council's Public Health and Protection team.

Noisy work
- Can be carried out between 0800 and 1800 Monday to Friday
- Limited to 0800-1300 on Saturdays
- At all other times including Sundays and Bank Holidays, no work should be carried out that is audible beyond the boundary of the site

Light work
- Acceptable outside the hours shown above
- Can be carried out between 0700 and 0800; and 1800-1900 Monday to Friday

In some circumstance further restrictions may be necessary.
For more information, please contact Chelmsford City Council Public Health and Protection Services, or view the Council's website at www.chelmsford.gov.uk/construction-site-noise

2 The proposed development may be liable for a charge under the Community Infrastructure Levy Regulations 2010 (as Amended). If applicable, a Liability Notice will be sent as soon as possible to the applicant and any other person who has an interest in the land. This will contain details of the chargeable amount and how to claim exemption or relief if appropriate. There are further details on this process on the Council's website at www.chelmsford.gov.uk/cil, and further information can be requested by emailing cilenquiries@chelmsford.gov.uk. If the scheme involves demolition, for the purposes of the Regulations the development will be considered to have begun on commencement of the demolition works.

3 Please note that the Council will contact you at least annually to gain information on projected build out rates for this development. Your co-operation with this request for information is vital in ensuring that the Council maintains an up to date record in relation to Housing Land Supply.

4 This permission is subject to conditions, which require details to be submitted and approved by the local planning authority. Please note that applications to discharge planning conditions can take up to eight weeks to determine.

5 This development will result in the need for a new postal address. Applicants should apply in writing, email or by completing the online application form which can be found at www.chelmsford.gov.uk/streetnaming. Enquires can also be made to the Address Management Officer by emailing Address.Management@chelmsford.gov.uk

6 The Local Highway Authority (Essex County Council) must be contacted regarding the details of any works affecting the existing highway. Contact details are: Telephone: 0845 603 7631. Email: development.management@essexhighways.org.

Positive and Proactive Statement

During the life of the application the Local Planning Authority suggested amendments to the proposal in order to improve the development. The Local Planning Authority has assessed the proposal against all material considerations including planning policies and any comments that may have been received. The planning application has been approved in accordance with the objectives of the National Planning Policy Framework to promote the delivery of sustainable development and to approach decision taking in a positive way.

SUMMARY OF RELEVANT ADOPTED PLANNING POLICIES:

DM2A
Policy DM2 (A) - Affordable Housing & Rural Exception Sites - The Council will require the provision of 35% of the total number of residential units to be provided and maintained as affordable housing within all new residential sites which comprise 11 or more residential units.

DM23
Policy DM23 - High Quality & Inclusive Design - Planning permission will be granted for development that respects the character and appearance of the area in which it is located. Development must be compatible with its surroundings having regard to scale, siting, form, architecture, materials, boundary treatments and landscape. The design of all new buildings and extensions must be of high quality, well proportioned, have visually coherent elevations, active elevations and create safe, accessible and inclusive environments.

DM29
Policy DM29 - Protecting Living & Working Environments - Development proposals must safeguard the amenities of the occupiers of any nearby residential property by ensuring that development is not overbearing and does not result in unacceptable overlooking or overshadowing. Development must also avoid unacceptable levels of polluting emissions, unless appropriate mitigation measures can be put in place and permanently maintained.

APPB
Appendix B forms part of the adopted Local Plan and provides information about standards that apply to all new residential developments in Chelmsford including conversions, apartments, houses, Houses in Multiple Occupation (HMO's) and extensions, unless it can be demonstrated that the particular site circumstances require a different design approach. The standards seek to ensure new developments will meet the needs of their occupiers, minimise the impact of new developments on surrounding occupiers and encourage higher rates of recycling.

MPSPD
The Making Places Supplementary Planning Document was adopted in January 2021 and sets out detailed guidance for the implementation of the policy requirements set out in the Local Plan. It seeks to promote and secure high-quality sustainable new development. It is aimed at all forms of development, from large strategic developments, public spaces and places, to small extensions to individual homes.

DM27
Policy DM27 - Parking Standards - The Council will have regard to the vehicle parking standards set out in the Essex Parking Standards - Design and Good Practice (2009) or as subsequently amended when determining planning applications.

DM26
Policy DM26 - Design Specification for Dwellings - All new dwellings (including flats) shall have sufficient privacy, amenity space, open space, refuse and recycling storage and shall adhere to the Nationally Described Space Standards. These must be in accordance with Appendix B. All houses in multiple occupation shall also provide sufficient communal garden space, cycle storage, parking and refuse and waste storage.

DM16
Policy DM16 - Ecology & Biodiversity - The impact of a development on Internationally Designated Sites, Nationally Designated Sites and Locally Designated Sites will be considered in line with the importance of the

site. With National and Local Sites, this will be balanced against the benefits of the development. All development proposals should conserve and enhance the network of habitats, species and sites.

DM30
Policy DM30 - Contamination & Pollution - Permission will only be granted for developments on or near to hazardous land where the Council is satisfied there will be no threat to the health or safety of future users and there will be no adverse impact on the quality of local groundwater or surface water. Developments must also not have an unacceptable impact on air quality and the health and wellbeing of people.

DM25
Policy DM25 - Sustainable Buildings - All new dwellings and non-residential buildings shall incorporate sustainable design features to reduce carbon dioxide and nitrogen dioxide emissions and the use of natural resources. New dwellings and non-residential buildings shall provide convenient access to electric vehicle charging point infrastructure.

DM18
Policy DM18 - Flooding/Suds - Planning permission for all types of development will only be granted where it can be demonstrated that the site is safe from all types of flooding. All major developments will be required to incorporate water management measures to reduce surface water run off and ensure that it does not increase flood risk elsewhere.

Background Papers

Case File

Public Health & Protection Services

Comments
22.02.2023 - Please put on an ENV07 condition. The Phase 1 Assessment has identified the need for an intrusive investigation. An asbestos survey must be undertaken prior to demolition. Any asbestos found must be removed by a suitably qualified contractor and disposed of at a licensed facility. Duty of care documentation must be provided. This residential development should provide EV charging point infrastructure to encourage the use of ultra-low emission vehicles at the rate of 1 charging point per unit (for a dwelling with dedicated off-road parking) and/or 1 charging point per 10 spaces (where off-road parking is unallocated).

Essex County Council Highways

Comments
14.03.2023 - Your Ref: 23/00195/FUL Our Ref: CO/EGD/SD/RM/CHL/23/195/53802 Date:- 14th March 2023 ' The development site is a 32no. garage site, where the vast majority of the garages are abandoned or disused. o Note that the 2no. garages that are currently in use, would be re-provided as part of the scheme. See condition 7 in the recommendation below. ' The proposal is for 6no dwellings; 5no. four bedroom dwellings and 1no. one bedroom dwelling: o 14no. Parking Spaces in accordance with the Parking Standards are provided: o Each dwelling is provided with off-street parking in accordance with the parking standards (11no. parking spaces; 2no. for Plot 1 to 5 and 1no. for the Plot 6, the apartment). o Separate additional unallocated 3no. visitor parking spaces are provided.

' A Parking Beat Survey of available kerbside residential parking space in the surrounding streets (Medway Close, Avon Road and Thames Avenue) within 100 metres of the development site (and not restricted by TRO), was carried out Tuesday 29th and Wednesday 30th November 2022 and Saturday 3rd December 2022.

o The survey identified there is space to accommodate 84no. vehicles.

o The survey summary identified:

' The highest on-street parking level of 36no. vehicles (43%) Wednesday 13:00hrs (48no. available).

' The lowest on-street parking level of 29no. vehicles (35%) Saturday 16:00hrs (55no. available).

o This level of available on-street parking space means that any displaced parking from the development, would very likely not result residential kerbside parking stress.

' The private drive and estate road would not meet Highway Authority criterion for adoption at public expense.

From a highway and transportation perspective the impact of the proposal is acceptable to the Highway Authority subject to the following conditions:

1. No development shall take place, including any ground works or demolition, until a Construction Management Plan has been submitted to, and approved in writing by, the local planning authority. The approved plan shall be adhered to throughout the construction period. The Plan shall provide for;

i. the parking of vehicles of site operatives and visitors,

ii. loading and unloading of plant and materials,

iii. storage of plant and materials used in constructing the development,

iv. wheel and underbody washing facilities.

v. Before and after condition survey to identify defects to highway in the vicinity of the access to the site and where necessary ensure repairs are undertaken at the developer expense where caused by developer.

Reason: To ensure that on-street parking of these vehicles in the adjoining streets does not occur and to ensure that loose materials and spoil are not brought out onto the highway in the interests of highway safety and Policy DM1.

2. Prior to the occupation of any of the proposed dwellings, the proposed private drive shall be constructed as shown in principle the Proposed Block Plan, drawing no. 3556:02 Revision D, and provided with an appropriate dropped kerb crossing of the footway/verge. The construction works shall be regulated by an appropriate legal agreement with the Highway Authority, which will provide for but not be limited to the following:

i. A footway transition into the site on the south side of the vehicular access, connecting to the existing Medway Close footway.

ii. Clear to ground vehicular visibility splays of 2.4 metres x 43 metres in both directions, to be maintained in perpetuity.

iii. Provision of Traffic Regulation Order (TRO) parking restrictions to facilitate refuse vehicle entry to the development, prevent parking on the Medway Close to each side of the vehicular access to the north and the south and opposite the vehicular access on the east side of Medway Close, details to be agreed with and at no cost to the Highway Authority.

iv. Provision of all signing and lining in association with the highway works.

Reason: To provide appropriate footway connection, adequate inter-visibility between vehicles using the road junction and those in the existing public highway and to facilitate entry/exit of refuse vehicles, in the interest of highway safety in accordance with policy DM1.

3. There shall be no discharge of surface water from the development onto the Highway.

Reason: To prevent hazards caused by water flowing onto the highway and to avoid the formation of ice on the highway in the interest of highway safety to ensure accordance with policy DM1.

4. No unbound material shall be used in the surface treatment of the vehicular access within 6 metres of the highway boundary.

Reason: To avoid displacement of loose material onto the highway in the interests of highway safety in accordance with policy DM1.

5. Prior to first occupation of the development the vehicular area turning facility, shown in the Proposed Block Plan, drawing no. 3556:02 Revision D shall be constructed, surfaced and maintained free from obstruction within the site at all times for that sole purpose.

Reason: To ensure that vehicles can enter and leave the highway in a forward gear in the interest of highway safety in accordance with policy DM1.

6. Prior to first occupation of the proposed development, the 14no. vehicle parking spaces for the proposal,

shown in the Proposed Block Plan, drawing no. 3556:02 Revision D, including the garage parking and the 3no. unallocated visitor parking spaces, shall be constructed and appropriately surfaced ready for use in accordance with the Parking Standards. The vehicle parking area and associated turning area shall be retained in this form at all times. The vehicle parking shall not be used for any purpose other than the parking of vehicles.

Reason: To ensure that on street parking of vehicles in the adjoining streets does not occur in the interests of highway safety and that appropriate parking is provided in accordance with Policy DM8.

7. Prior to first occupation, the 2no. replacement garages labelled G1 and G2, shown in the Proposed Block Plan, drawing no. 3556:02 Revision D, shall be constructed ready for use.

Reason: To ensure that on street parking of vehicles in the adjoining streets does not occur in the interests of highway safety and that appropriate parking is provided in accordance with Policy DM8.

8. Cycle parking shall be provided in accordance with the EPOA Parking Standards. The approved facility shall be secure, convenient, covered and provided prior to occupation and retained at all times.

Reason: To ensure appropriate cycle parking is provided in the interest of highway safety and amenity in accordance with Policy DM8.

9. Prior to occupation of the proposed development, the Developer shall be responsible for the provision and implementation of a Residential Travel Information Pack per dwelling, for sustainable transport, approved by Essex County Council, to include six one day travel vouchers for use with the relevant local public transport operator.

Reason: In the interests of reducing the need to travel by car and promoting sustainable development and transport in accordance with policies DM9 and DM10.

General

I. Prior to any works taking place in public highway or areas to become public highway the developer shall enter into an appropriate agreement with the Highway Authority to regulate construction works. This will include the submission of detailed engineering drawings for approval and a safety audit.

II. The above to be provided at no cost to the Highway Authority

III. The above to be imposed on the planning permission (if granted) by planning obligation or condition, as necessary.

The above conditions are to ensure that the proposal conforms to the relevant policies contained within the

County Highway Authority's Development Management Policies, adopted as County Council Supplementary Guidance in February 2011.

Please include the informatives:

i. All work within or affecting the highway is to be laid out and constructed by prior arrangement with, and to the requirements and satisfaction of, the Highway Authority, details to be agreed before the commencement of works:

The applicants should be advised to contact the Development Management Team by email at development.management@essexhighways.org

ii. All housing developments in Essex which would result in the creation of a new street (more than five dwelling units communally served by a single all-purpose access) will be subject to The Advance Payments Code, Highways Act, 1980. The Developer will be served with an appropriate Notice within 6 weeks of building regulations approval being granted and prior to the commencement of any development must provide guaranteed deposits which will ensure that the new street is constructed in accordance with acceptable specification sufficient to ensure future maintenance as a public highway.

iii. Mitigating and adapting to a changing climate is a national and Essex County Council priority. The Climate Change Act 2008 (amended in 2019) commits the UK to achieving net-zero by 2050. In Essex, the Essex Climate Action Commission proposed 160+ recommendations for climate action. Essex County Council is working with partners to achieve specific goals by 2030, including net zero carbon development. All those active in the development sector should have regard to these goals and applicants are invited to sign up to the Essex Developers' Group Climate Charter [2022] and to view the advice contained in the Essex Design Guide. Climate Action Advice guides for residents, businesses and schools are also available.

Recycling & Waste Collection Services

Comments
09.03.2023 - I have concerns in relation to vehicles accessing the site, the vehicles would need to swing into the site which due to cars parked directly opposite the entrance they would not be able to do.

I have concerns that the turning head as shown would not allow vehicles to easily position themselves to be able to reverse past the front of the properties, this would only be made more difficult/impossible if vehicles were parked in the turning head which often happens.

My comments have taken into consideration the tracked drawing.

Essex County Council (SUDS)

Comments

19.07.2023 - Consultation Response -23/00195/FUL- Garages Rear Of 27 Medway Close Chelmsford Essex

Thank you for your email which provides Essex County Council (ECC) with the opportunity to assess and advise on the proposed surface water drainage strategy for the aforementioned planning application.

As the Lead Local Flood Authority (LLFA) ECC provides advice on SuDS schemes for major developments. ECC have been statutory consultee on surface water since the 15th April 2015.

In providing advice this Council, and their appointed consultants, looks to ensure sustainable drainage proposals comply with the required standards as set out in the following documents:

o Non-statutory technical standards for sustainable drainage systems

o Essex County Council's (ECC's) adopted Sustainable Drainage Systems Design Guide

o The CIRIA SuDS Manual (C753)

o BS8582 Code of practice for surface water management for development sites.

Lead Local Flood Authority position

As we have been consulted on a minor application, we are assuming that there is a potential flood risk on site, therefore we are considering the impact of increased run off rates. The cumulative impacts of minor developments can increase flood risk in an area.

This site is located within the NCLF_001 St Andrews South Critical Drainage Area (CDA).

Current processes for assessing major applications cannot be applied in the same way to minor applications as reduced orifice sizing to meet the greenfield 1 in 1 rate can increase the risk of blockages and therefore flood risk.

The required storage volume and run off for the site can be calculated using the UK SUDS website.

Having reviewed the application we wish to issue a holding objection based upon the following:

o Discharge should be in line with the drainage hierarchy. Figure 3.3 shows that there is both a main river and a known watercourse to the west of the site. If this is an unviable discharge option, please evidence

why.

https://www.essexdesignguide.co.uk/suds/discharge-locations/the-drainage-hierarchy/

o Infiltration testing/ground investigation to assess the viability of using infiltration on site- there should be some ground testing for geology and then the worst case rates for that soil type should be used.

o As the site is situated within a CDA, rainwater harvesting should be considered. At a minimum, each dwelling should be fitted with a water butt.

o Please provide hydraulic modelling for the 1-year storm event. Sewer Network Design should demonstrate that there is No Surcharging for the 1 in 1yr RP.

o Engineering drawings should be provided detailing the SuDS components used within the drainage system.

We strongly recommend looking at the Essex Green Infrastructure Strategy to ensure that the proposals are implementing multifunctional green/blue features effectively. The link can be found below.

https://www.essex.gov.uk/protecting-environment

We recommend that a covenant should be included within the deed to the land to ensure SUDS features are maintained in the future.

Should you wish us to provide further comment additional information should be supplied to show how SUDS will be implemented on site.

Summary of Flood Risk Responsibilities for your Council

We have not considered the following issues as part of this planning application as they are not within our direct remit; nevertheless these are all very important considerations for managing flood risk for this development, and determining the safety and acceptability of the proposal. Prior to deciding this application you should give due consideration to the issue(s) below. It may be that you need to consult relevant experts outside your planning team.

o Sequential Test in relation to fluvial flood risk;

o Safety of people (including the provision and adequacy of an emergency plan, temporary refuge and rescue or evacuation arrangements);

o Safety of the building;

o Flood recovery measures (including flood proofing and other building level resistance and resilience measures);

o Sustainability of the development.

In all circumstances where warning and emergency response is fundamental to managing flood risk, ECC advise local planning authorities to formally consider the emergency planning and rescue implications of new development in making their decisions.

Should further correspondence be required, please contact the SuDS team directly using the below details.

17.08.2023 - Dear Joshua,

Following receipt of a revised FRA which you were cc'd into (also attached above), SuDS are satisfied with the information provided to remove the holding objection on this minor application.

Please may the updated FRA be uploaded to the planning portal, as well as the attached email as it mentions water butts, which SuDS would expect to see for developments located within critical drainage areas.

Kind regards,

Gemma

Gemma Parson (she, her)

Development and Flood Risk Officer

Climate Adaptation and Mitigation, Climate, Environment & Customer Services

17.08.2023 - Consultation Response -23/00195/FUL- Garages Rear Of 27 Medway Close, Chelmsford, Essex

Thank you for your email which provides Essex County Council (ECC) with the opportunity to assess and advise on the proposed surface water drainage strategy for the aforementioned planning application.

As the Lead Local Flood Authority (LLFA) ECC provides advice on SuDS schemes for major developments. ECC have been statutory consultee on surface water since the 15th April 2015.

In providing advice this Council, and their appointed consultants, looks to ensure sustainable drainage proposals comply with the required standards as set out in the following documents:

o Non-statutory technical standards for sustainable drainage systems

o Essex County Council's (ECC's) adopted Sustainable Drainage Systems Design Guide

o The CIRIA SuDS Manual (C753)

o BS8582 Code of practice for surface water management for development sites.

Lead Local Flood Authority position

As we have been consulted on a minor application, we are assuming that there is a potential flood risk on site, therefore we are considering the impact of increased run off rates. The cumulative impacts of minor developments can increase flood risk in an area.

This site is located within the NCLF_001 St Andrews South Critical Drainage Area (CDA).

Current processes for assessing major applications cannot be applied in the same way to minor applications as reduced orifice sizing to meet the greenfield 1 in 1 rate can increase the risk of blockages and therefore flood risk.

The required storage volume and run off for the site can be calculated using the UK SUDS website.

Having reviewed the application, we do not object to the granting of planning permission.

It has been confirmed that each dwelling will be fitted with a rainwater butt for rainwater re-use.

We strongly recommend looking at the Essex Green Infrastructure Strategy to ensure that the proposals are implementing multifunctional green/blue features effectively. The link can be found below.

https://www.essex.gov.uk/protecting-environment

We recommend that a covenant should be included within the deed to the land to ensure SUDS features are maintained in the future.

Summary of Flood Risk Responsibilities for your Council

We have not considered the following issues as part of this planning application as they are not within our direct remit; nevertheless these are all very important considerations for managing flood risk for this development, and determining the safety and acceptability of the proposal. Prior to deciding this application you should give due consideration to the issue(s) below. It may be that you need to consult relevant experts outside your planning team.

o Sequential Test in relation to fluvial flood risk;

o Safety of people (including the provision and adequacy of an emergency plan, temporary refuge and rescue or evacuation arrangements);

o Safety of the building;

o Flood recovery measures (including flood proofing and other building level resistance and resilience measures);

o Sustainability of the development.

In all circumstances where warning and emergency response is fundamental to managing flood risk, ECC advise local planning authorities to formally consider the emergency planning and rescue implications of new development in making their decisions.

Should further correspondence be required, please contact the SuDS team directly using the below details.

Yours sincerely,

Gemma Parson

Development and Flood Risk Officer

Team: Green Infrastructure and Sustainable Drainage

Service: Climate Action and Mitigation

Essex County Council

Internet: www.essex.gov.uk

Email: suds@essex.gov.uk

Environment Agency

Comments
No response received

ECC Historic Environment Branch

Comments
14.03.2023 - RE: 23/00195/FUL - Demolition of existing garaging and redevelopment to provide 6 new affordable homes with associated access improvements, parking, private amenity space and landscaping. Garages Rear Of 27 Medway Close, Chelmsford The above application has been identified on the weekly list by the Historic Environment Advisor to Chelmsford City Council as having archaeological implications. The Essex Historic Environment Record (EHER) shows that the proposed development is in an area with the potential for archaeological remains. From the area surrounding the proposed development multiple Roman coins have been recovered, including one from the site itself or its immediate environs (EHER 802) and two from further north (EHER 814). A flint arrowhead (EHER 81) and medieval pottery (EHER 825) have also been recovered from nearby. Additionally, to the west of the site a series of cropmarks have been identified from aerial photography that have been interpreted as showing ring-ditches (some with central pits) and linear features (EHER 856). Archaeological features or deposits relating to the remains described above may project into the proposed development site and be negatively impacted by the groundworks associated with the development. Given the above, this office recommends that the following conditions are placed on any consent, in line with the National Planning Policy Framework, paragraph 205: RECOMMENDATION: Archaeological trial-trenching and excavation

(i) No development or preliminary groundworks of any kind shall take place until a programme of archaeological investigation has been secured in accordance with a Written Scheme of Investigation which has been submitted by the applicant, and approved in writing by the local planning authority.

(ii) No development or preliminary groundworks of any kind shall take place until the completion of the programme of archaeological investigation identified in the Written Scheme of Investigation defined in (i) above.

(iii) The applicant will submit to the local planning authority a post excavation assessment (to be submitted within six months of the completion of the fieldwork, unless otherwise agreed in advance with the Planning Authority). This will result in the completion of post excavation analysis, preparation of a full site archive and report ready for deposition at the local museum, and submission of a publication report.

The work will comprise an archaeological trial-trenching evaluation of the proposed development site, after the demolition of the garages to ground-level only. Depending on the results of this evaluation, it may then be followed by excavation areas focused on any archaeological deposits identified, and/or monitoring of groundworks associated with the development.

An archaeological brief will be produced from this office detailing the work required, on request, and should be acquired prior to the submission of a Written Scheme of Investigation.

If you have any questions please do not hesitate to contact me.

Yours sincerely,

Local Residents

Comments
Local residents: 14 letters of representation (including an unsigned petition) received from local residents all objecting to the proposed development. Concerns raised include: - Environmental and ecological impacts. - Increase in noise intrusion. - Access and safety issues. - Inadequate parking levels to serve the wider housing estate. - Harmful to privacy of adjacent neighbouring properties. - Not in accordance with Development Standards in Appendix B of Chelmsford Local Plan. - Visual intrusion of development.

- Block light to neighbouring properties.
- Flood risk from surface water.
- Contamination issues.
- Inadequate parking provision.

0 12.5 25 50 Metres

1:1,250

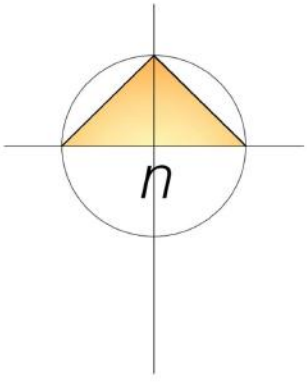
N

Planning Committee
23/00195/FUL

Planning & Development Management
Directorate for Sustainable Communities

PO Box 7544 Civic Centre
Duke Street, Chelmsford, CM1 1XP

Telephone: 01245 606826



revision

issue

PLANNING

client

Chelmsford City Council

project

Medway Close, Chelmsford

title

Location Plan

john finch partnership
chartered architects & town planning consultants

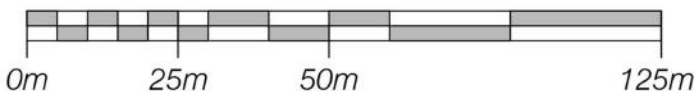
88 Broomfield Road
Chelmsford CM1 1SS
01245 354319/250780
admin@johnfinchpartnership.co.uk

www.johnfinchpartnership.co.uk

date	08.11.22	scale	1:1250 @ A4
drawn	jm/jh	checked	jm
dwg no	3556:01	revision	E

Location plan

A4 SHEET @ 1:1250



A3 SHEET @ 1:500

0m 12.5m 25m

Site Area= 0.23ha

Accommodation Schedule

Plot No.	Accommodation	Area (m^2)	Amenity (m^2)
01	*4 Bedroom 6 person house*	*110*	*108*
02	*4 Bedroom 6 person house*	*110*	*104*
03	*4 Bedroom 6 person house*	*110*	*104*
04	*4 Bedroom 6 person house*	*110*	*104*
05	*4 Bedroom 6 person house*	*110*	*110*
06	*1 Bedroom 2 person apartment*	*60*	*4*
G1/2	*Private Double Garage*	*42*	

Key:
(See in conjunction with submitted landscaping proposal plan 2022.51.004)

- *Retained Tree*
- *Proposed Tree*
- *Permeable standing*
- *Permeable pavers*
- *Cycle Stores*
- *Bins*
- *1800mm h. close boarded timber fence*
- *1800mm h. 225mm thick external brick wall*

revision

issue

PLANNING

client

Chelmsford City Council

project

Medway Close, Chelmsford

title

Proposed Block Plan

john finch partnership
chartered architects & town planning consultants

88 Broomfield Road
Chelmsford CM1 1SS
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www.johnfinchpartnership.co.uk

date	17.03.2023	scale	1:500 @ A3
drawn	jm/jh	checked	jm
dwg no	3556:02	revision	G

LANDSCAPE SPECIFICATION:

All landscape works to be carried out broadly in accordance with the relevant current British Standards; National Planting Specifications Guidelines; Horticultural Trades Association Standards; CPSE 'Plant Handling' Standards & COSHH Regulations.

TOPSOIL

Importation:
- Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work. Any imported soil should be to BS 3882.

Handling:
- Ensure that any aggressive weeds are removed from site – do not cut or distribute.
- Select and use plant to minimize disturbance, trafficking and compaction.
- Do not contaminate topsoil with subsoil, stone, hardcore, rubbish or material from building works.
- Alleviate any compaction of the soil prior to planting or turfing and do not handle topsoil in wet conditions or after heavy rainfall.

PLANTING

Seeding & Turfing:
- Ensure that there is a healthy, vigorous grass sward, free from the visible effects of pests, weeds and disease.
- The final sward should form a closely knit, continuous ground cover of even density, height and colour.

Watering:
- As and when required to ensure healthy establishment of plants.

Site Clearance:
- Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.

Soil Conditions:
- Soil for cultivating and planting must be moist, friable and not waterlogged.
- No planting to take place if soil is frozen or snow covered and any plants waiting to be planted should be given additional root protection.
- Prevent planting pit sides and bases and backfill materials from freezing.

Plants:
- Plant names, forms, dimensions and other criteria: To be labelled as per the applicable section of BS 3936.
- Frost: Protect plants from frost and handle plants with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
- Planting: Upright or well balanced with best side to front, well firmed in and evenly spaced.
- Ornamental trees within the te to be staked with a single low stake at 45degrees to the stem and tied with an adjustable rubber tie.

Timing:
- The landscape scheme/planting programme is confirmed as being timetabled for implementation by or during the first planting season (mid-November to mid-March) following commencement of works.

Cultivation:
- Compacted topsoil to be broken up to full depth. Cultivate, aerate and break up soil a few days before planting when weather and ground conditions are suitably dry, leaving the surface regular and even.
- Any undesirable material brought to the surface including visible weeds, roots and large stones to be removed.

Weeding of planted areas:
- All areas to be checked regularly and kept free of invasive weeds. Either remove by hand (root included) or spot treated with a non-residual herbicide in accordance with the Manufacturer's instructions.

Mulching:
- Well- rotted bark mulch, free of pests, disease, fungus and weeds to be applied 100mm thick to be applied to all planting areas.

Spot treatment of weeds:
- Weeding of planted areas to be undertaken on a regular basis to ensure that the plants are given a fair chance to establish. Care to be taken to ensure that invasive and aggressive weeds do not become a problem and impact on the overall planting scheme. Where necessary, spot treatment of weeds in planted and grassed areas would be undertaken to ensure that they do not seed and establish elsewhere.
- Regular tidying of the planting beds – including:
  - removal of leaf litter and any other debris
  - shrubs and trees to be regularly pruned in order to maintain healthy growth and vigour.
  - Any dead, diseased or dying trees or shrubs to be taken away or affected limbs removed.

MANAGEMENT

Protection of existing vegetation:
- There are a number of hedges on the peripheries of the site and where possible, existing vegetation would be retained. Protection of trees and hedges would be in accordance with BS 5837: 2012 Trees in relation to design, demolition and construction.n should be taken when working adjacent to the existing trees and heges, particularly in relation to the washing out of machines, storage of materials and other activities which may be deemed hazerdous to the health and well being of the existing vegetation.

Inspection Timetable:
- The planting will be subject to an annual inspection each summer for the first 5 years to ensure that any dead, dying or diseased plants are removed. Those removed will be replaced with the same size or species as per the planting specification. Management of the overall scheme will incorporate regular reviews to check that the scheme is establishing well and any concerns highlighted and an appropriate professional consulted in order to address any issues.

PLANT SCHEDULE

SHRUBS

QTY	CODE	PLANT NAME	STOCK	SIZE	SPACING
15No.	Lon BG	Lonicera nitida 'Baggensens Gold'	C 3L	30-40cm	3/m2

TREES

QTY	CODE	PLANT NAME	STOCK	FORM	GIRTH/HEIGHT
6No.	CRA MON hs	Crataegus monogyna	B	STD	12-14cm
5No.	MAL Eve f	Malus 'Evereste'	C	FTH	150-200cm
4No.	MAL SYL s	Malus sylvestris	B	STD	180-210cm
2No.	PRU PLE ss	Prunus avium 'Plena'	B	STD	10-12cm
1No.	SOR STR ss	Sorbus aucuparia 'Streetwise'	B	STD	10-12cm

PLANT MIXES

PERCENT	QTY	PLANT NAME	STOCK	SIZE
31m2 GROUNDCOVER MIX 4 planted @ 3/m2				
20%	19No.	Lonicera pileata	C 2L	20-30cm
20%	19No.	Rosa grouse	C 2L	20-30cm
15%	14No.	Euonymus fortunei 'Coloratus'	C 2L	20-30cm
15%	14No.	Cotoneaster horizantalis	C 2L	20-30cm
15%	14No.	Rosa 'Max Graff'	C 2L	20-30cm
15%	14No.	Ceanothus thysiflorus 'Repens'	C 2L	20-30cm

Individual varieties to be planted in groups of approximately 20.

16m2 SOUTH FACING SHRUB MIX planted @ 4/m2				
15%	10No.	Hebe 'Caledonia'	C 2L	10-20cm
25%	16No.	Lavendula angustifolia 'Hidcote'	C 2L	10-20cm
10%	6No.	Euonymus fortunei 'Emerald Gaiety'	C 2L	20-30cm
25%	16No.	Geranium sanguineum 'Album'	C 2L	10-20cm
25%	16No.	Ceanothus thrysiflorus var. repens	C 2L	20-30cm

Individual varieties to be planted in groups of approximately 3, 5 or 7.

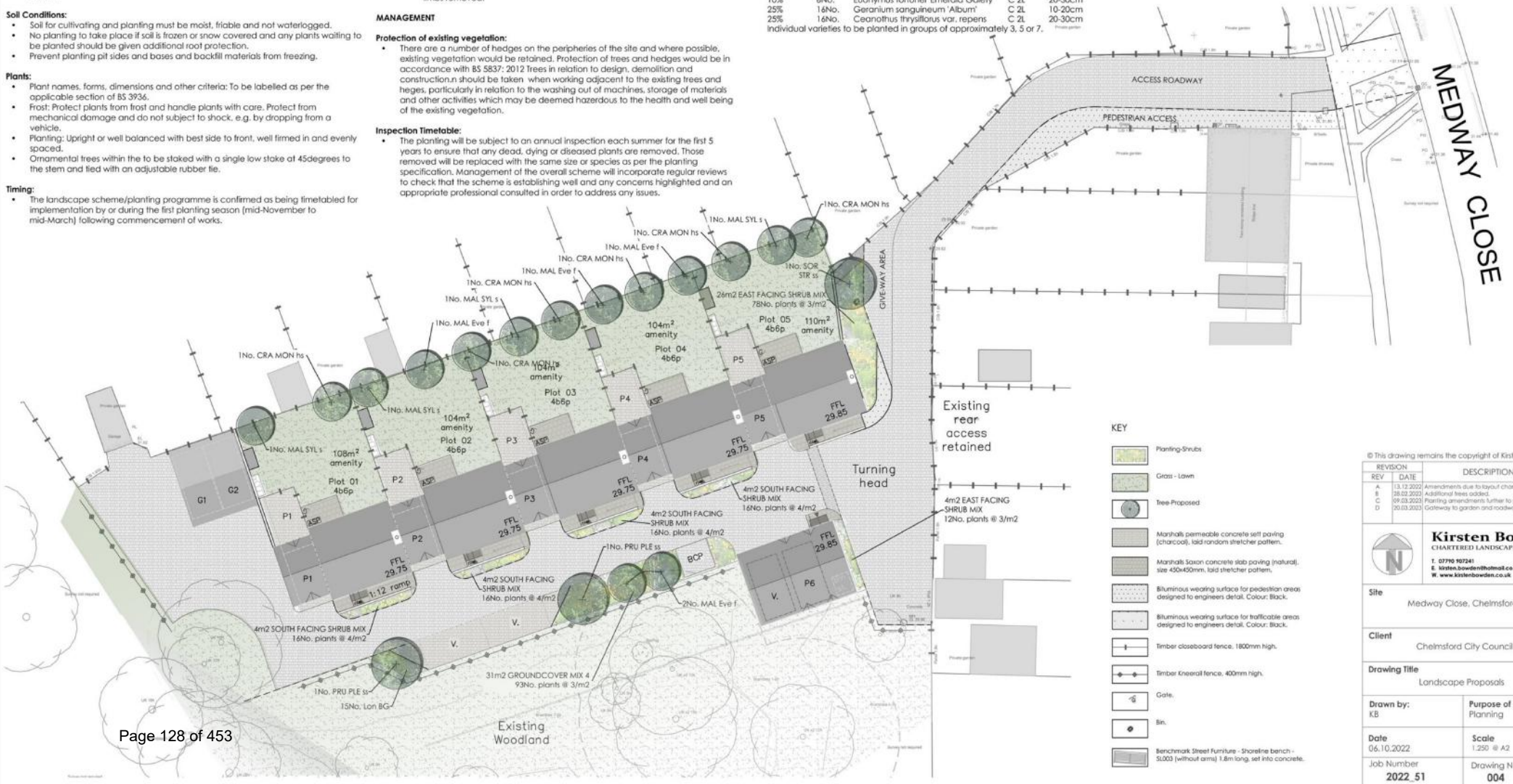
30m2 EAST FACING SHRUB MIX planted @ 3/m2

15%	14No.	Pachysandra terminalis	C 3L	40-60cm
25%	23No.	Spiraea japonica 'Goldflame'	C 3L	40-60cm
10%	9No.	Euonymus fortunei 'Emerald Gaiety'	C 3L	40-60cm
25%	23No.	Viburnum tinus 'Eve Price'	C 3L	40-60cm
25%	23No.	Pittosporum 'Toms Thumb'	C 3L	40-60cm

Individual varieties to be planted in groups of approximately 3, 5 or 7.

NOTES AND ABBREVIATIONS:

B = Bare root (bagged).
C = Container (or pot) grown, followed by size of the container (or pot).
FORM = Shape of tree as supplied by the nursery.
FTH = Feather.
QTY = Quantity
SIZE = Height or Spread of juvenile plant.
STD = (clear stem) Standard.
STOCK = Root condition/protection method eg Bare root.



KEY

- Planting-Shrubs
- Grass - Lawn
- Tree-Proposed
- Marshalls permeable concrete sett paving (charcoal), laid random stretcher pattern.
- Marshalls Saxon concrete slab paving (natural), size 450x450mm, laid stretcher pattern.
- Bituminous wearing surface for pedestrian areas designed to engineers detail. Colour: Black.
- Bituminous wearing surface for trafficable areas designed to engineers detail. Colour: Black.
- Timber closeboard fence, 1800mm high.
- Timber Kneerail fence, 400mm high.
- Gate.
- Bin.
- Benchmark Street Furniture - Shoreline bench - SL003 (without arms) 1.8m long, set into concrete.

REVISION REV	DATE	DESCRIPTION
A	13.12.2022	Amendments due to layout changes.
B	28.02.2023	Additional trees added.
C	09.03.2023	Planting amendments further to planning advice.
D	20.03.2023	Gateway to garden and roadway surface.

Kirsten Bowden
CHARTERED LANDSCAPE ARCHITECT
T. 07790 907241
E. kirsten.bowden@hotmail.co.uk
W. www.kirstenbowden.co.uk

Site
Medway Close, Chelmsford.

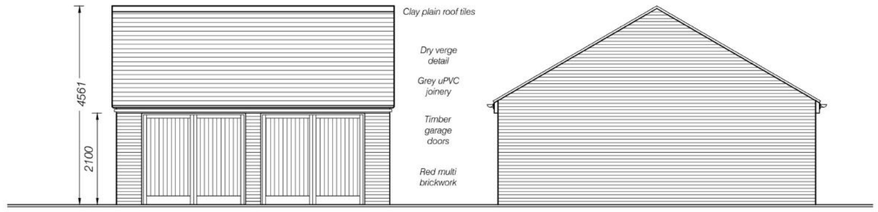
Client
Chelmsford City Council.

Drawing Title
Landscape Proposals

Drawn by:	Purpose of Issue:
KB	Planning
Date 06.10.2022	**Scale** 1:250 @ A2
Job Number 2022_51	Drawing No. 004 / Rev D

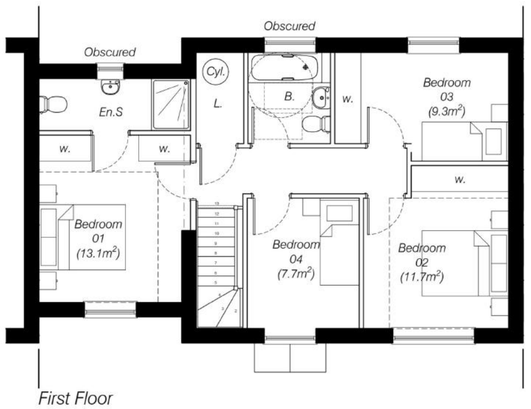
Front Elevation
Plots 01-05

Rear Elevation
Plots 01-05

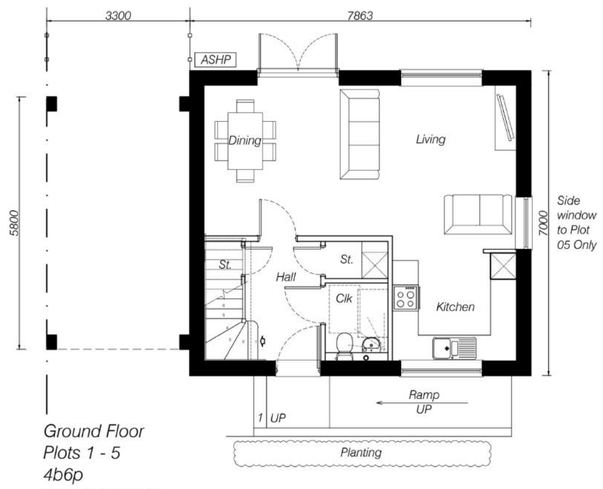


Garage front elevation

Side elevation

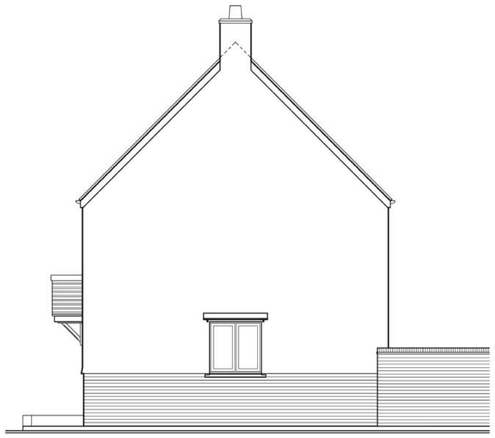


First Floor

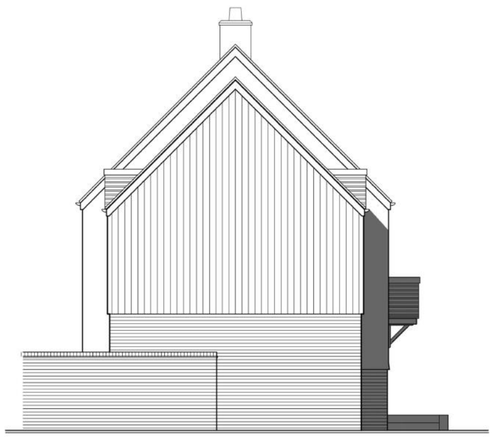


Ground Floor
Plots 1 - 5
4b6p
110m2 total GIA

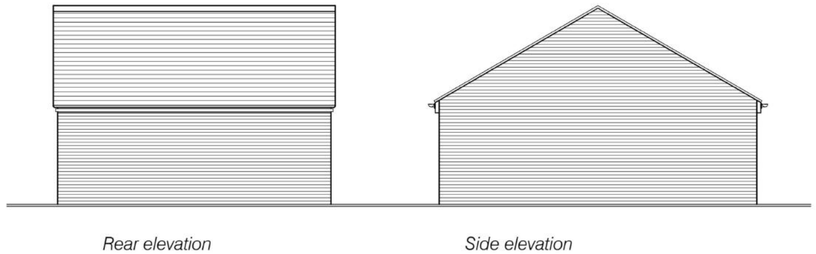
M4(2) Accessible and Adaptable dwelling



Side Elevation Plot 5

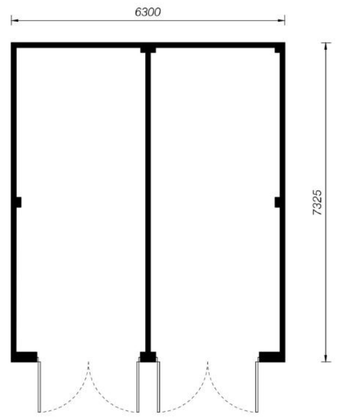


Side Elevation Plot 1



Rear elevation

Side elevation



G1/2 Garage Floor Plan

A2 SHEET @ 1:100

0m 2.5m 5m

revision
issue

PLANNING

client

Chelmsford City Council

project

Medway Close, Chelmsford

title

Plots 1–5 Proposed Plans, Elevations & Garage

john finch partnership
chartered architects & town planning consultants

88 Broomfield Road
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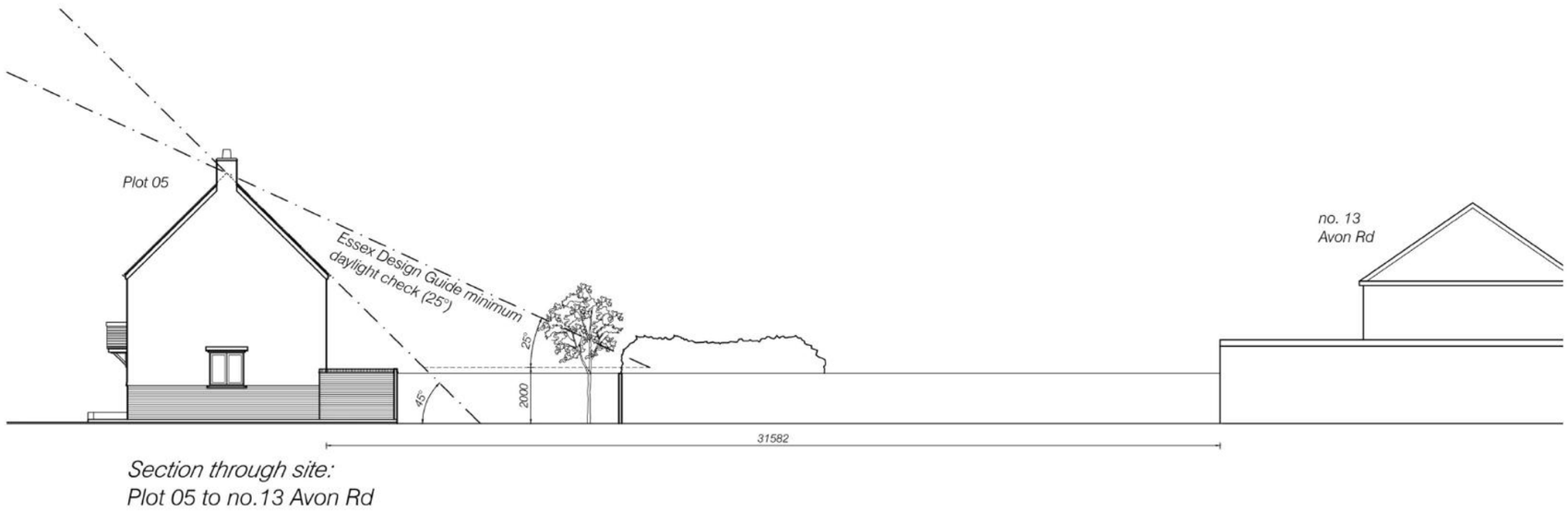
date	15.03.2023	scale	1:100 @ A2
drawn	jm/jh	checked	jm
dwg no	3556:03	revision	H

A3 SHEET @ 1:200

0m 5m 10m

Street Scene



Section through site:
Plot 05 to no.13 Avon Rd

revision
issue

PLANNING

client

Chelmsford City Council

project

Medway Close, Chelmsford

title

Proposed Street Scene
and Site Section

john finch partnership
chartered architects & town planning consultants

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Chelmsford CM1 1SS
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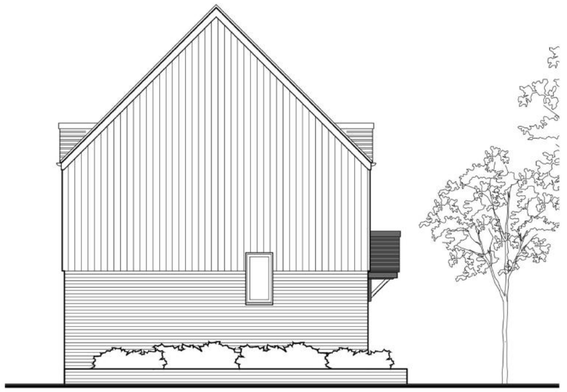
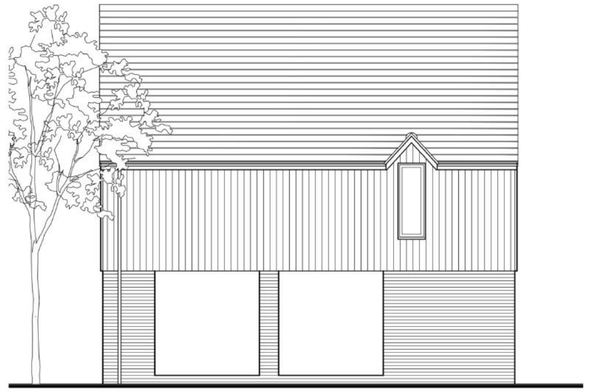
date	21.03.2023	scale	1:200 @ A3
drawn	jh	checked	jm
dwg no	3556:05	revision	F

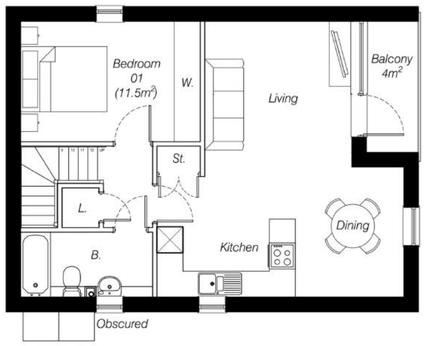
Front Elevation



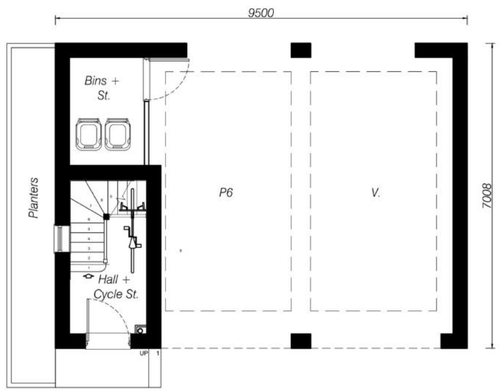
Side Elevation



Rear Elevation

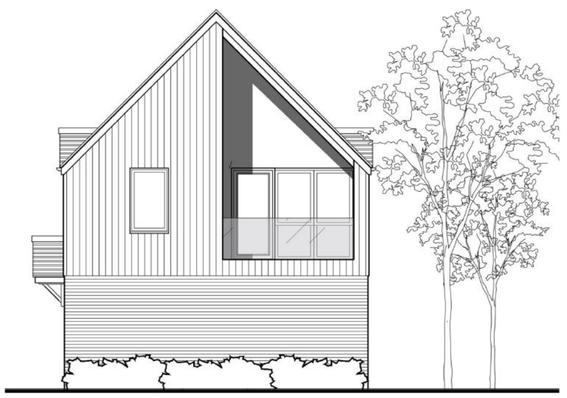


First Floor



Ground Floor
Plot 6
1b2p
56m2 total GIA

M4(1) Visitable dwelling



Side Elevation

A2 SHEET @ 1:100

0m 2.5m 5m

revision
issue

PLANNING

client

Chelmsford City Council

project

Medway Close, Chelmsford

title

Plot 6 Proposed Plans & Elevations

john finch partnership
chartered architects & town planning consultants

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date	08.03.2023	scale	1:100 @ A2
drawn	jh	checked	jm
dwg no	3556:04	revision	G

JAMES BLAKE ASSOCIATES

Preliminary Ecological Appraisal

of

Land at Medway Close,

Chelmsford,

Essex

on behalf of

Chelmsford City Council

October 2022

Over 30 Years of Service, Value and Innovation

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Company Secretary: Louise Blake BSc PGCE
Directors: Elzbieta Zebrowska MSc Eng LArch MScEnvSc CMLI
Associate Directors: Vivienne Jackson ; Marie Lowe CIMA Cert BA
Associate Director - Strategic Landscape Division: Abby Stallwood BSc (Hons) PG Dip LM CMLI

www.jba-landmarc.com

Registration no. 08169866 VAT no. 512 4127 91

Revision	Purpose	Originated	Checked	Authorised	Date
		BFH	SR	JBA	October 2022
Job Number: JBA 22/119		**Title:** Preliminary Ecological Appraisal of Land at Medway Close, Chelmsford, Essex			

Disclaimer

James Blake Associates Ltd have made every effort to meet the client's brief. However, no survey ensures complete and absolute assessment of the changeable natural environment. The findings in this report were based on evidence from thorough survey: It is important to remember that evidence can be limited, hard to detect or concealed by site use and disturbance. When it is stated that no evidence was found or was evident at that point in time, it does not mean that species are not present or could not be present at a later date: The survey was required because habitats are suitable for a given protected species, and such species could colonise areas following completion of the survey.

This report was instructed by Chelmsford City Council. Neither James Blake Associates Ltd nor any associated company, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use of the report.

CONTENTS

Non-technical Summary

Site:	Land at Medway Close, Chelmsford
Ordnance Survey National Grid Reference:	TL 68750 07623
Report Commissioned by:	Chelmsford City Council
Date of Walkover Survey:	26th August 2022

Considerations	Description	Potential impacts and timing
Statutory designated wildlife areas within 7km of the site:	Three Local Nature Reserves (LNR) and one Site of Special Scientific Interest (SSSI)	Consultation with Natural England and the Local Planning Authority may be required with regards to the Suffolk Recreational Disturbance Avoidance and Mitigation Strategy.
Non-statutory designated wildlife sites within 2km of the site:	Severn County Wildlife Sites (CWS).	The small scale of the development is unlikely to cause a significant impact to non-statutory sites.
Results of walkover survey:	The site is considered suitable to support bats, great crested newt, hedgehog, and nesting birds. The site is considered to be of 'low' habitat value for foraging and commuting bats.	
Precautionary measures:	Any vegetation removal.	Under the supervision of a GCN licenced ecologist. Outside of the nesting bird season or following a clear nesting bird check. Nesting season is March to mid-August. Scrub should be cut to 20cm using hand-held tools and checked for hedgehogs.
	Continual management of grassland.	-
	Garage demolition.	Under ecological supervision.

1 Introduction

Background

1.1 James Blake Associates Ltd. (JBA) was commissioned by Chelmsford City Council to undertake a Preliminary Ecological Appraisal (PEA) of land at Medway Close, Chelmsford. Ordnance Survey National Grid Reference; TL 68750 07623 taken from the centre of site.

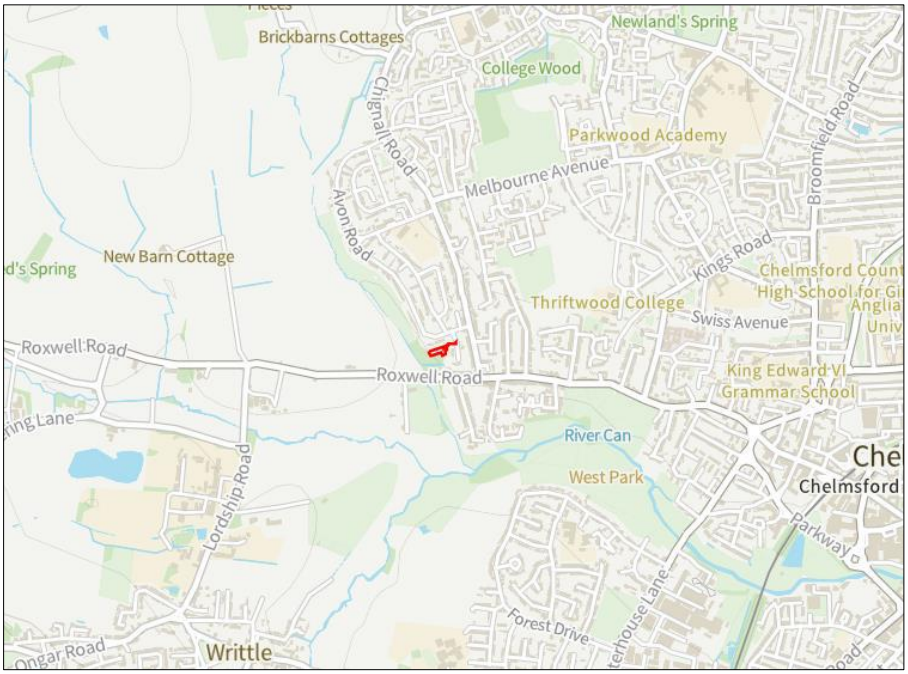
1.2 The assessment was required to accompany a planning application for the development of residential dwelling units and associated infrastructure.

Site Description

1.3 The site is approximately 0.2 hectares in size and is located to the north of Roxwell Road (A1060), on Medway Close, Chelmsford, in Essex. The wider landscape includes the town of Chelmsford, residential and commercial buildings, and arable land. The A414 is approximately 2.4km south of the site (see Figure 1 below).

1.4 The site itself mainly consists of hardground, two rows of abandoned, single-storey garages, with some vegetation in the form of tall ruderal and scrub to the north and south.

Figure 1: Site location



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Aims and objectives

1.5 The aim of the survey was to:

- Identify the presence, or potential presence, of any protected or notable species or habitats on, or adjacent to, the site; and
- make recommendations for further surveys if required, to advise on avoidance and/or mitigation measures following the survey (if necessary) and provide suggestions to enhance the wildlife value of the site post-development to provide a net gain in biodiversity value.

Wildlife Legislation and Planning Policy

1.6 The relevant wildlife legislations and planning policies are listed below:

- Conservation of Habitats and Species Regulations 2017, ('The Habitats Regulations'). The Habitats Regulations implement The Habitats Directive 1992 (92/43/EEC) into English Law. (Amended by the Conservation of Habitats and Species (Amendment) Regulations 2012 S.I. 2012/1927).
- Wildlife and Countryside Act, 1981 (as amended) (WCA). (Amended by the Countryside and Rights of Way Act (2000).
- The Natural Environment and Rural Communities Act, 2006 (NERC).
- The Protection of Badgers Act, 1992 (The Badgers Act).
- The Wild Mammals (Protection) Act, 1996.
- The Hedgerows Regulations, 2007.
- National Planning Policy Framework, 2021 (NPPF).

2 Methodology

Desk study

2.1 A desk study was undertaken for statutory and non-statutory designated wildlife sites within a 7km and 2km radius of the site, respectively using 'MAGIC', the Multi-Agency Geographic Information system for the Countryside. The data provided from Essex Field Club (EFC) was consulted for records of non-statutory sites and protected and rare species within a 2km search radius (EFC data provided on the 22nd August 2022).

2.2 The site is covered by the Local Biodiversity Action Plan (LBAP) for Essex which was consulted as part of the desk study.

2.3 Within the desk study results, the Birds of Conservation Concern (BoCC) are split into three criteria; the Red list is the highest conservation priority (species needing urgent action). The Amber list is the next most critical group, followed by Green. Red listed species are those that are globally threatened according to the International Union for Conservation of Nature (IUCN) criteria, species with populations or ranges that have declined rapidly in recent years, and those that have declined historically and have not shown a substantial recent recovery.

Walkover Survey

2.4 The survey was undertaken by Bethan Feeney-Howell BSc (Hons) QCIEEM, and Sarah Jarrett BSc (Hons) MSc on the 26th of August 2022.

2.5 The survey methodology followed the standard Phase 1 methodology of Joint Nature Conservation Committee Guidelines (JNCC, 2010). An extension of this basic methodology was also undertaken to provide further details in relation to notable or protected habitats present within the survey area, or in relation to habitats present that have the potential to support notable or protected species (CIEEM, 2013).

2.6 **Badgers (*Meles meles*):** A visual survey for setts, hair, latrines, prints, snuffle marks or other signs of badgers was undertaken within the site boundary, following guidelines set out by the Mammal Society (1989).

2.7 **Bats**: Buildings within the site boundary were surveyed, from the ground, for their potential to support roosting bats in accordance with Bat Conservation Trust's Guidelines (Collins (ed.), 2016).

2.8 **Birds:** A visual survey of bird activity and suitable nesting habitat was carried out, to

determine if any areas would be suitable for WCA Schedule 1 birds, BoCC or other common and widespread nesting birds.

2.9 **Reptiles**: A visual survey for the presence of suitable habitat was carried out according to the criteria given in the Herpetofauna Workers' Manual (Gent and Gibson 1998).

2.10 **Amphibians:** Where accessible, known ponds within 500m of the site (unless ecologically separated from the site by significant barriers, such as major roads or rivers) were assessed for potential to support breeding amphibians, such as great crested newts (GCN) (*Triturus cristatus*). Ponds were assessed for their potential suitability to support GCN by undertaking a Habitat Suitability Index (HSI) assessment (Oldham *et al.*, 2000). The HSI for GCN is assessed using ten habitat variables (suitability indices – SI) which are known to affect the survival and ability to breed, of GCN. The variables include:

- Geographical location.
- Pond area.
- Pond permanence (number of years a pond is likely to dry out per decade).
- Water quality.
- Percentage of shade of margin.
- Number of waterfowl.
- Occurrence of fish.
- Pond density.
- Terrestrial habitat.
- Macrophyte (plant) cover.

Each variable (or suitability index) is assessed in the field and expressed on a scale from 1 (optimal suitability for GCN) to 0 (totally unsuitable). The ten variables, or indices, are combined using geometric mean to derive the final HSI score for the waterbody. The scoring system is presented in Table 1 below:

Table 1: HSI score and suitability of a waterbody habitat to support breeding GCN

HSI Score	Suitability of water body habitat to support breeding GCN
0.01-0.49	'Poor'
0.50-0.59	'Below average'
0.60-0.69	'Average'
0.70-0.79	'Good'

0.80-1.00	'Excellent'

2.11 **Invertebrates**: The site was scoped for significant rotting deadwood, and high quality aquatic or other habitats, which could be used by significant assemblages of invertebrates, or by any of the invertebrates highlighted in the data search.

2.12 **Flora and habitats**: All habitats and plant species that were identifiable at the time of the survey were recorded.

2.13 **Adjacent Habitat**: Habitats close to the site were identified, using aerial maps and field observation, so that the ecological impact of the proposed works on the wider landscape could be assessed.

Limitations and Assumptions

2.14 The baseline conditions reported in this document represent those identified at the time of the survey on 26th August 2022. Although a reasonable assessment of habitats present can be made during a single walkover survey, seasonal variations are not observed. The survey was conducted in August, which is within the optimal season for the identification of flora.

2.15 The desk study used available records and historical data from the local area. However, this does not provide a reliable indication of species present since records depend entirely on survey effort in the area, which is highly variable. The data is useful as a general guide to supplement the site visit, but absence of records does not reflect absence of species.

3 Results

Desk Study

Statutory Designated Wildlife Sites

3.1 Three 'Local Nature Reserve' (LNR) and one 'Sites of Special Scientific Interest' (SSSI) were identified within 7km of the site. Statutory designated sites are detailed in Appendix A.

3.2 The development falls under the criteria for consultation between Natural England and the Local Planning Authority (LPA); for new residential development in this area, financial contributions are required towards the emerging Essex Coast Recreational disturbance Avoidance and Mitigation Strategy (RAMS).

Non-Statutory Designated Wildlife Sites

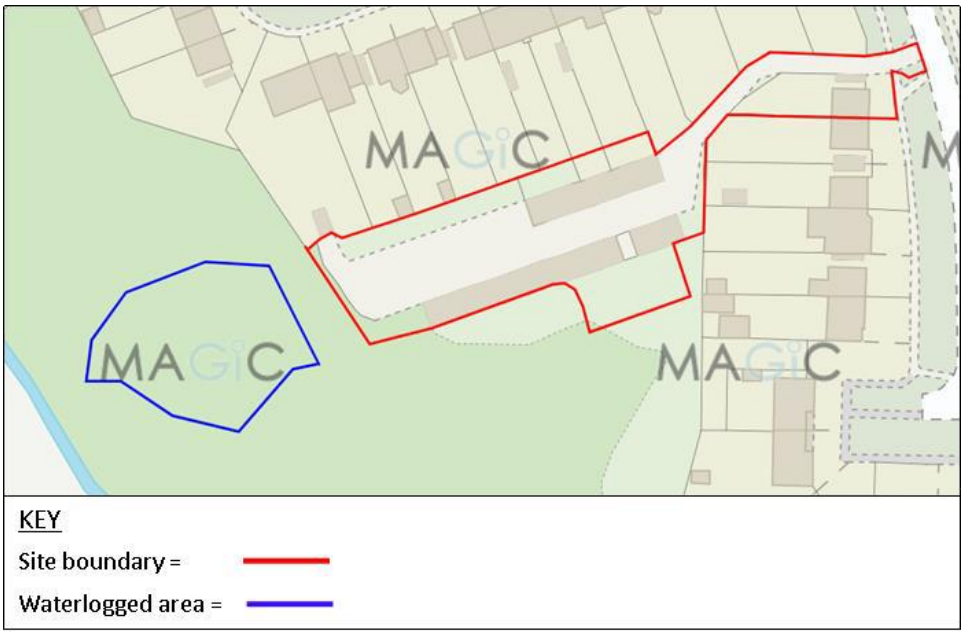
3.3 There were seven non-statutory designated wildlife sites identified within 2km of the site; all of which are Local Wildlife Sites (CWS). These are detailed in Appendix B.

3.4 Due to the small scale of the proposed development, it is unlikely to cause any significant impacts to non-statutory designated wildlife sites.

Ponds within 500m

3.5 No ponds were identified within 500m of the site boundary; however, within the woodland directly west of the site, waterlogged conditions were noted (See Figure 2).

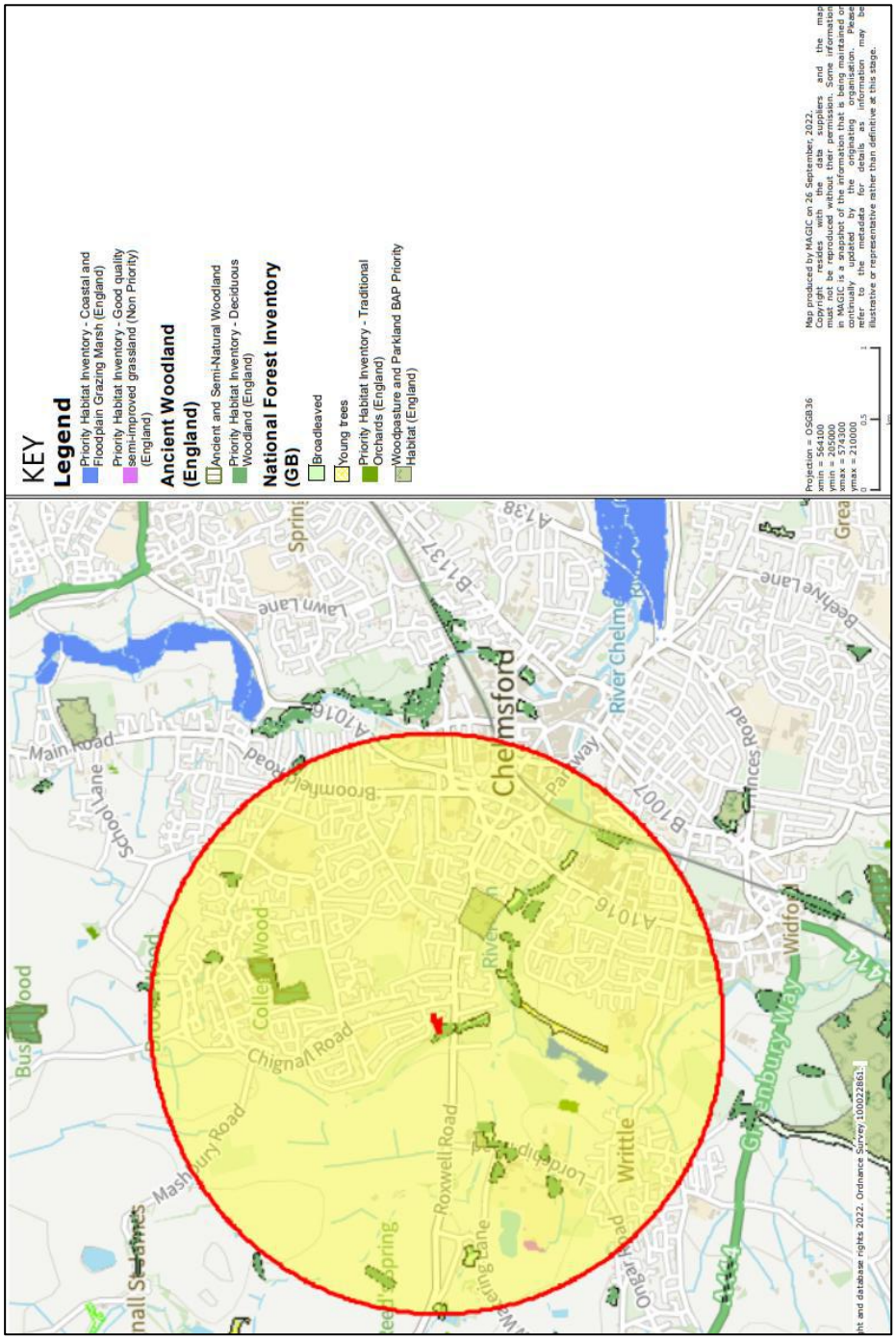
Figure 2: Waterlogged conditions in woodland



Habitat Types within 2km

3.6 Habitat types within the area include coastal and floodplain grazing marsh, good quality semi-improved grassland, ancient and semi-natural woodland, deciduous woodland, broadleaved, young trees, traditional ochards and woodpasture and parkland, Habitat types are shown on Figure 3. The nearest broadleaved and deciduous woodland is located directly adjacent the western boundary of the site, with woodpasture and parkland further south (686m).

Figure 3: Habitat types within 2km of the site



Protected, priority and rare species within 2km of site

3.6 There were no records of protected or rare species for the site itself; although there were numerous records of species within 2km of the site (full raw data can be provided upon request). The most relevant records are described below. Records over ten years old have not been referred to as the walkover survey is considered to provide a more up to date and accurate account of the species and habitats for the site.

3.7 European badger was recorded in 2019, within 2km of the site boundary.

3.8 Within the desk study common pipistrelle (*Pipistrellus pipistrellus)* were recorded in 2015, 1.1.km east and in 2016, 1.8km southwest of the site. Soprano pipistrelle (*Pipistrellus pygmaeus)* were recorded just 0.5km southeast of the site in 2018. Brown long-eared bat (*Plecotus auritus)* were also recorded in the desk study, 1.7km southwest of the site in 2015.

3.9 Hedgehog (*Erinaceus europaeus)* has been recorded on multiple occasions. The most recent record was from 2019, 1.4km east of the site.

3.10 21 Red listed bird species were identified within 2km of the site; including turtle dove (*Streptopelia turtur*), starling (*Sturnus vulgaris*), fieldfare (*Turdus pilaris*) and mistle thrush (*Turdus viscivorus*).

3.11 26 Amber listed bird species were also identified within the desk study; including tawny owl (*Strix aluco*) wren (*Troglodytes troglodytes*), redwing (*Turdus iliacus*) and song thrush (*Turdus philomelos*).

3.12 One record of common lizard (*Zootoca vivipara)* was present within the desk study, 1.8km southeast of the site in 2020. Grass snake (*Natrix helvetica)* were recorded in 2019, 1.5km southeast of the site. Slow worm *(Anguis fragilis)* were recorded on several occasions, with the most recent record from 2021, 1.9km southeast of the site.

3.13 One record of the nationally scarce tangle web spider (*Theridion blackwalli)* was recorded in 2015, 0.6km north of the site.

3.14 Small heath (*Coenonympha pamphilus*) was identified on several occasions in 2019, with the closest record to the site just 0.6km to the south. White-letter hairstreak (*Satyrium w-album)* was recorded in 2017, 1.9km southwest of the site.

3.15 A total of 83 moth species were identified; 56 of which are UK BAP, including cinnabar (*Tyria jacobaeae)* and latticed heath (Chiasmia clathrate)

Walkover Survey

3.16 The habitats on site were considered with respect to their potential to support protected species.

3.17 Within the redline boundary the site comprises a number of dominant 'habitat types', taken from those listed in the Handbook for Phase 1 Habitat Survey (JNCC, 2010). These habitat types are described below and are shown schematically on Figure 4. Target Notes (TN) are presented in Table 2. A list of plant species identified on site is included in Appendix C. The baseline conditions reported and assessed in this document represent those identified at the time of the survey on 26th August 2022. Although a reasonable assessment of habitats present can be made during a single walkover survey, seasonal variations are not observed.

3.18 The site itself mainly consists of hardground, two rows of abandoned, single-storey garages, with some vegetation in the form of tall ruderal and scrub to the north and south.

3.19 The following photographs in Table 2 show the Target Notes referred to in Figure 4.

Figure 4: Phase 1 Habitat Map

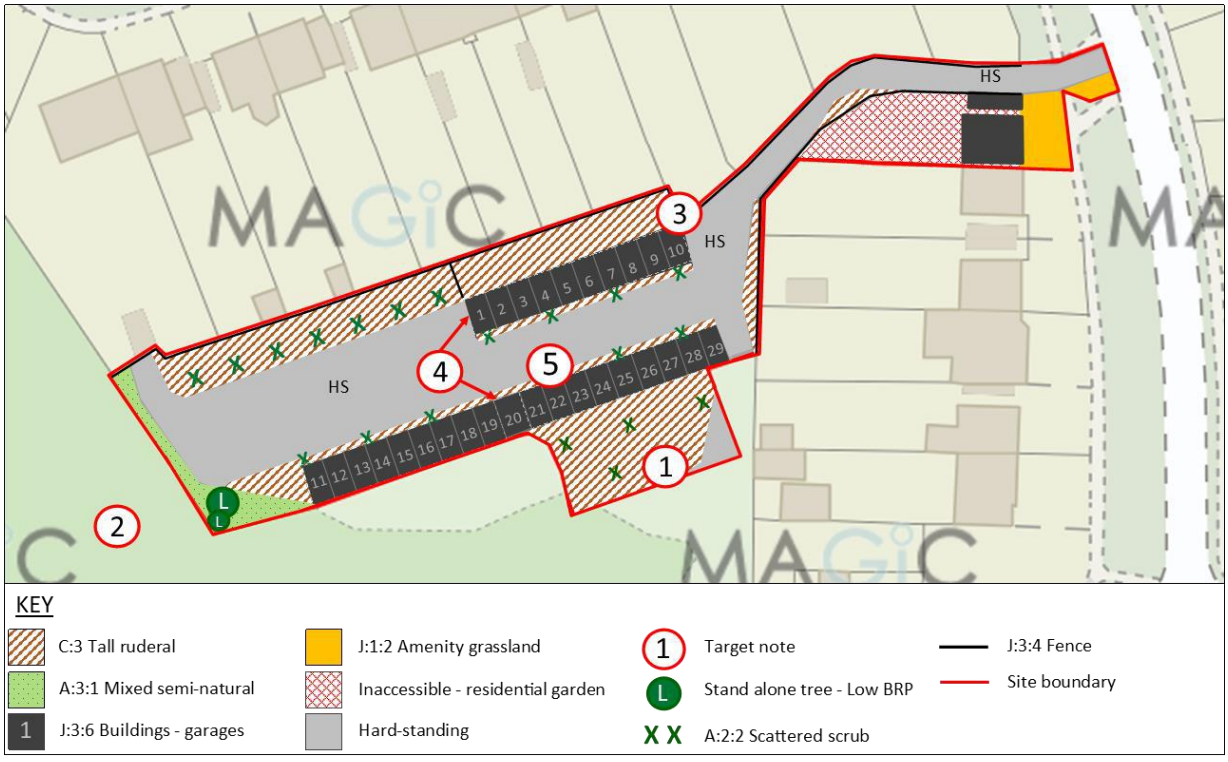


Table 2: Target Notes

Target Note	Description	Photo
1	Badger droppings	
2	Waterlogged conditions, brash piles, and deer droppings within woodland (Just outside site boundary)	   
3	Large hole in brick/concrete wall, into dark room – potential entry/exit point for roosting bats	
4	Abandoned garages	 

Target Note	Description	Photo
5	Cotoneaster (*Cotoneaster horizontalis*)	

4 Protected Species – Results and Evaluation

Badger

4.1 The majority of habitats on site are considered unsuitable for badgers due to no or minimal cover for sett creation. The tall ruderal vegetation on site provides some foraging opportunities. Habitats directly adjacent the western and southern boundaries of the site boundary offer good potential for sett creation, as well as for foraging and commuting purposes.

4.2 No setts were discovered at the time of the survey within the tall ruderal and scrub habitats on site, or in the more suitable habitat adjacent the western and southern site boundaries. However, badger droppings were noted at the time of the survey within the tall ruderal towards the southern boundary of the site; this shows the site is currently in use by badgers, likely for foraging and commuting purposes.

Bats

4.3 Two rows of garages are present on site, all of which are disused and dilapidated, lined with bramble and tall ruderal vegetation. The main structure of both rows of garages were constructed from concrete, with corrugated iron roofing and garage-style metal doors. Several of the garages were boarded up with chipboard, some had collapsed roofs, and majority contained an array of rubble and discarded material. Both rows of garages were assessed as having 'low' bat roosting potential (BRP) due to minimal features present; however, some aspects such as dark corners with lots of debris, cracks in the concrete structure, and gaps behind wooden boarding, could be suitable for small or singular roosts.

4.4 No trees are present on site; however, the canopies of two semi-mature oak trees overlapped the southwest corner of the site. These trees were assessed as having 'low' BRP due to some potential roosting features present, including cracked limbs and cavities.

4.5 See Table 3 for bat roosting feature photographs (numbering corresponds to those seen in Figure 4).

4.6 Habitat on-site was assessed as 'low' for foraging and commuting bats. Majority of habitats on site are hardstanding and buildings; however, areas of tall ruderal, particular on the northern boundary, as well as the woodland edge to the west and

south, have good suitability for a small number of foraging bats. The adjacent woodland also offers connectivity to the wider landscape.

Table 3: Photographs showing potential bat roost features

Potential bat roost features	Photo
Group of two Oak (*Quercus robur*) trees - Cracked limbs - Cavities	
North row of garages - Large cavity into dark garage - Wooden boarding with lots of bramble coverage - Gaps at end of corrugated iron roofing - Cracks in concrete structure	   

South row of garages - Lots of debris and discarded materials within garages - Dark corners - Gaps in concrete structure	

Mammals - Other

4.7 The site provides some habitat for hedgehog due to scrub and tall ruderal that could provide shelter and foraging opportunities; however, this is limited due to the extent of hard standing. Access into some of the garages would be possible for hedgehogs, with the debris and discarded materials potentially also offering sheltering opportunities. However, no evidence of hedgehog was recorded during the walkover survey.

4.8 Evidence of muntjac deer was present within the woodland adjacent the western site boundary, through droppings. No other evidence of mammals using the site, or adjacent habitats, were present at the time of the survey.

Birds

4.9 Tall ruderal and scrub on site have some potential to provide nesting and foraging opportunities for birds. No trees are present on site; however, the oak tree which overhangs the site boundary has good nesting opportunities for birds.

4.10 Bird species observed during the walkover survey included; robin (*Erithacus rubecula*), pigeon (*Columba palumbus*), and magpie (*Pica pica*).

Reptiles

4.11 The majority of the site is hard standing; however, areas of tall ruderal offer suitable habitat for reptiles. Debris and discarded material within the garages also hold potential to act as sheltering habitats.

4.12 Large brash piles were present within the woodland to the west, approximately 10m outside the site boundary, which act as very suitable sheltering and hibernating habitats for reptiles.

Amphibians

4.13 No ponds were identified during the desk study search within 500m of the site boundary; however, waterlogged conditions within the woodland directly to the west of the site were assessed for habitat suitability. It was concluded that these waterlogged conditions have the potential to be suitable for GCN, particularly due to suitable vegetation and an abundance of hibernacula. However, these suitable waterlogged conditions are located approximately 20m from the western boundary of the site, and so are unlikely to be impacted by works. Brash piles on the woodland edge, rubble and material piles within the garages, and tall ruderal and scrub vegetation on site provide suitable hibernating habitat for great crested newts.

Invertebrates

4.14 The habitats on the site are unlikely to support a diverse assemblage of invertebrates. However, the scrub areas provide potential habitat for invertebrates such as small heath and latticed heath which were identified in the desk study.

4.15 No rare or protected invertebrate species were observed during the walkover.

Flora

4.16 No rare, principally important, local BAP or protected plant flora was identified during the walkover survey.

4.17 Cotoneaster (*Cotoneaster horizontalis*), a Schedule 9 invasive plant species, was found at the centre of the site.

5 Evaluation, Legislation and Recommendations

5.1 Table 4 below includes a summary of all identified and potential ecological constraints to the development, including those where there is insufficient information at the time of survey to be definitive. Relevant legislation has also been given here.

Table 4: Survey evaluation, relevant legislation and recommendations

Ecological Receptor	Summary of desk and walkover survey findings and relevant legislation	Likely impact and recommendations for further survey
Designated wildlife areas - statutory	The desk study identified three LNR's and one SSSI within 7km of the site: • Marconi Ponds LNR (1.7km SE); • Chelmer Valley Riverside LNR (2.1km E); • Newney Green Pit SSSI (4.1km W); and • Galleywood Common LNR (4.9km S).	For new residential development in this area, financial contributions are required towards the emerging Essex Coast Recreational disturbance Avoidance and Mitigation Strategy (RAMS). Consultation between NE and the LPA may be required.
Designated wildlife areas – non-statutory	The desk study identified seven LWS within 2km of the site: • Writtle Bridge Meadows (0.3km S); • College Wood (0.9km N); • Daffy Wood (1.6km N); • Newland's Spring (1.7km N); • All Saints Church, Writtle (1.7km SW); • Marconi Ponds Nature Reserve (1.7km SE); and • Writtle Road Cemetery (2.0km SE).	The small-scale nature of the proposed development is unlikely to adversely impact the designated areas. No further assessment required.
Habitats	Habitats on the site comprise: • Hardstanding • Tall ruderal • Scrub • Boundary trees Woodland	Woodland on the western boundary of the site is a priority habitat. It is recommended this woodland section on site is retained and managed suitably. If this is not possible, any loss of this habitat will need to be mitigated for by replacement habitat on or off site.
Badger	Evidence of badger activity on site was recorded through droppings towards the southern boundary. No other evidence in terms of setts, pawprints or hair were recorded at the time of the survey. The site was considered suitable for sett creation, in particular, the scrub habitats. Badgers and their setts are protected under the Protection of Badgers Act 1992 and also protected by the Wild Mammals (Protection) Act 1996. Protection also extends to include disturbance. Under the Protection of Badgers Act 1992, it is an offence to intentionally or recklessly: • Kill, injure or take badgers; • Damage a badger sett or any part of it; • Destroy a badger sett; • Obstruct access to, or any entrance of a badger sett; and • Disturb a badger whilst it is occupying a badger sett.	If there is a delay in the commencement of works of up to 6 months prior to the commencement of construction, a badger check should be undertaken for the presence of setts. This is to assess any likely adverse impacts on active setts / or badgers using a sett for shelter or protection. Setts can extend up to 20m underground from their entrance. Surveys can be undertaken all year round with the optimum period being February to April or September. If the proposed works are likely to adversely impact a sett (if present), then a development licence would be necessary from Natural England prior to commencement.

Ecological Receptor	Summary of desk and walkover survey findings and relevant legislation	Likely impact and recommendations for further survey
Bats	The garages on site were assessed as having 'low' BRP due to several potential entry/exit points and some potential roosting features such as cracks, gaps, and lots of debris/discarded material. The two Oak trees overhanging the site boundary were also assessed as having 'low' BRP due to cracked limbs and cavities. The site was considered to have 'low' suitability for foraging and commuting bats; habitats can be used by small number of bats, with the adjacent woodland offering connectivity to the wider landscape. All species of bat are afforded full legal protection under Schedule 5 of the WCA. They are also listed under Schedule 2 of the Habitats Regulations. Some species of bat are also listed in Section 41 of NERC Act as an SPI. Combined legislation makes it an offence: to deliberately kill, injure, capture/take a wild bat; intentionally or recklessly disturb bats, including whilst occupying a place of shelter or protection; to damage or destroy a place used by a bat for breeding or resting (does not need to be deliberate, reckless or intentional); and to intentionally or recklessly obstruct access to any place used by a bat for shelter or protection. Bats are classed as 'European Protected Species' (EPS) and mitigation will typically be undertaken under the auspices of an EPS licence from Natural England.	It is recommended all trees overlapping the site boundary are maintained, with root protection zones (RPZs) incorporated into proposal plans. Bat emergence surveys are not considered necessary; however, as a precaution, the garages should be cleared under ecologist supervision using soft demolition. Demolition should take place outside the bat active season which is deemed to be from April to October.
Mammals - other	No evidence of hedgehogs was found during the walkover survey. The site provided some hibernation and foraging habitat for hedgehogs in tall ruderal and scrub habitats, as well as amongst debris/discarded materials within the garages. Hedgehogs are listed on Schedule 6 of the WCA which makes it illegal to kill or capture wild hedgehogs, with certain methods listed. The hedgehog is also a SPI under Section 41 of the NERC. All wild mammals are protected under the Wild Mammals (Protection) Act 1996. Offences relate to any act which results in the intent to inflict unnecessary suffering. Mercy killings and killing in a swift and humane way in the course of a lawful activity are not offences under the Act.	No further surveys recommended. It is recommended that if scrub is to be removed then scrub areas should be cut to 20cm using hand-held tools (brushcutter/trimmer) and checked for hedgehog before removal. See Section 6 for enhancements.
Birds	The following habitats have the potential to support breeding birds: • Overhanging trees; • Scrub; and • Tall ruderal No nests were present on site during the walkover survey. All wild birds while actively nesting are afforded legal protection under the WCA. Special protection is also afforded to birds listed on	It is recommended that any vegetation clearance and disturbance is undertaken outside of the nesting season. The nesting season is deemed to be from mid-March to mid-August, although these times can be temperature dependent. If this timing is not possible then a nesting bird check must be carried out by a suitably experienced person, no more than 48 hours between the check and the removal.

Ecological Receptor	Summary of desk and walkover survey findings and relevant legislation	Likely impact and recommendations for further survey
	Schedule 1 of the WCA which makes it an offence to disturb these species at nest or the dependent young. Combined legislation means that all birds, their nests and eggs are protected by law and it is an offence, with certain exceptions, to: a) intentionally kill, injure or take any wild bird; b) intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; c) intentionally take or destroy the egg of any wild bird; d) have in one's possession or control any wild bird (dead or alive), part of a wild bird or egg of a wild bird; e) intentionally or recklessly disturb any wild bird listed on **Schedule 1** while it is nest building or is in, on or near a nest with eggs or young; or disturb the dependent young of such a bird; and f) have in one's possession or control any birds of a species listed on Schedule 4 of the Act unless registered in accordance with the Secretary of State's regulations.	If the 'all clear' is given, then removal/works can commence. The survey lasts for no longer than 48 hours. If works are not completed in this time frame, then a re-survey will need to be carried out. If birds are found to be nesting, then no works should be undertaken within at least 10m of the nest until chicks have fledged.
Reptiles	Some habitats on site are considered suitable for reptiles, such as the scrub and tall ruderal habitats, with the debris/discarded materials within the garages also offering some sheltering opportunities. Brash piles within the woodland to the west, approximately 10m outside the site boundary, provides further suitable habitat. Reptiles are afforded protection under Schedule 5 of the WCA from deliberate injury, killing and trade. They are also listed under Section 41 of NERC as an SPI.	No further survey recommended. It is recommended any clearance of vegetation and/or debris/discarded material piles, is done under ecologist supervision.
Amphibians, particularly GCN	No ponds were identified within 500m of the site boundary; however, within the woodland directly west of the site, waterlogged conditions were noted as potentially suitable for GCN. Tall ruderal and scrub on site provide suitable habitat for amphibians, including GCN. Debris and discarded material piles within the garages also provide sheltering opportunities. Both aquatic and terrestrial habitat is protected under wildlife legislation. GCN is afforded full legal protection under Schedule 5 of the WCA. It is also listed under Schedule 2 of the Habitats Regulations. This species is also listed under Section 41 of NERC as a species of Principal Importance. GCN are classes as a 'European Protected Species' and any necessary mitigation is typically undertaken under the auspices of a licence from Natural England.	It is recommended any clearance of vegetation and/or debris/discarded material piles, is undertaken between April and November, under the supervision of a GCN licenced ecologist (following Reasonable Avoidance Measures). If GCN are found to be present during the supervision works, then works must stop until an EPS licence from Natural England is acquired. **Timings and consideration will also be needed in relation to nesting birds.** It is also recommended that the woodland edge is managed sympathetically, with any vegetation clearance or removal of brash piles also done under ecologist supervision.
Invertebrates	The habitats on site are unlikely to support a diverse assemblage of invertebrates. However, areas of scrub can be used by a small number of invertebrates, such as butterflies.	No further surveys recommended. However, the woodland edge should be managed sympathetically. See Section 6 for enhancements.

Ecological Receptor	Summary of desk and walkover survey findings and relevant legislation	Likely impact and recommendations for further survey
Flora	The habitats on site are unlikely to support any rare or protected flora. Cotoneaster was found on site, which is a Schedule 9 invasive plant species. Schedule 9 includes certain plants that have become established in the wild in Great Britain but which the law seeks to prevent spreading further. The WCA creates various offences, including allowing a Schedule 9 plant to grow in the wild. Negligent or reckless behaviour such as inappropriate disposal, resulting in the plant becoming established in the wild also constitutes an offence. Depositing unauthorised 'controlled waste' (such as Japanese knotweed) is also likely to be a breach of Section 33 of the Environmental Protection Act, 1990. In the recent Court of Appeal decision in the case of *Network Rail Infrastructure Limited v Williams and Another* [2018], a landowner/occupier can be liable for failing to act reasonably to remove any Japanese knotweed after becoming aware of it and where it is foreseeable that it would damage neighbouring land.	No further surveys recommended. The woodland edge should be managed sympathetically. The cotoneaster should be removed from site and dealt with by a licensed specialist.

6 Ecological Considerations and Enhancements

6.1 The proposed development is considered unlikely to be adversely detrimental to designated areas, protected species or habitats, provided the recommendations are followed in Table 5. However, a number of considerations and enhancements are recommended with respect to the overall biodiversity of the site in line with current Planning Policy.

6.2 A Biodiversity Net Gain (BNG) assessment may be requested by the LPA to provide a net gain of at least 10%. BNG calculations can be undertaken using Defra Metric 2.0 (2019, as amended) which involves comparing 'baseline' habitat measurements with proposed habitats, post-development.

6.3 Where possible, scrub and trees at the boundaries of the site should be retained with a ~2m buffer zone and enhanced to create corridors and shelter/foraging areas for wildlife including bats, birds, hedgehogs, and small mammals.

6.4 The addition of standard bird boxes on retained trees and proposed new buildings will attract a greater diversity of birds to nest. A number of 1SP Schwegler sparrow terraces should be installed onto new builds. These should be located out of direct sunlight and close to but not restricted by vegetation. A number of Schwegler Swift Bricks should also be installed on the periphery of the new builds.

6.5 The addition of bat boxes could also be installed on retained trees and proposed new buildings to provide roosting opportunities for common species.

6.6 Landscaping should incorporate native or wildlife attracting trees, shrubs, and wildflower areas as these would likely be of benefit to a variety of wildlife including, birds, bats and invertebrates, including pollinators. These wildflower areas can easily be incorporated into the 'Green Amenity Space' within current proposal plans.

6.7 'Hedgehog links' (i.e. 15cm diameter gaps at the base of fences) are recommended to enable small mammals to move through the development.

7 Conclusion

7.1 A Preliminary Ecological Appraisal was undertaken at Land at Medway Close, Chelmsford by James Blake Associates in support of a planning application for residential dwelling units and associated infrastructure.

7.2 The majority of the site comprises hardstanding and buildings, with tall ruderal, scrub, and boundary trees.

7.3 If there is a delay in works of up to 6 months, an updated badger survey will be required, to note any changes in the interim.

7.4 Current development proposals show demolition of the garages on site. Tall ruderal and scrub vegetation on site is also likely to be removed. A licenced GCN ecologist needs to be present during these works. Ideally for GCN this would be recommended to be carried out between late-March/April and October; however, due to the suitability of these habitats also for nesting birds, and given works will be done under supervision, clearance can begin at the soonest convenience.

7.5 If the precautionary measures for bats, birds, hedgehogs and GCN detailed in this report are followed, it is considered that the development is able to proceed with minimal impact on the local conservation status of any protected, principally important, or rare species within the area.

7.6 It is also considered that with a sensitive landscape scheme, and by including some, or all, of the additional enhancements, the site could be improved for local wildlife post development.

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National Planning Policy Framework (2021).

10 Appendices

Appendix A: Statutory designated wildlife sites within 7km

Site Name	Designation	Distance from Site	Description
Marconi Ponds	LNR	1.7km SE	1.1 ha of 'rural retreat' utilised for educational purposed. The site was developed in the 60's and 70's as filter beds. The now nature reserve is nearby a railway.
Chelmer Valley Riverside	LNR	2.1km E	17.6 ha of urban riverside, with a mosaic of unimproved grasslands, old hedges scrub, woodland, seasonal ponds, and the river Chelmer. Marshy habitat is present, and species seen include kingfisher and pyramidal orchid
Newney Green Pit	SSSI	4.1km W	0.08 ha of short semi-improved grassland with a badger sett and historic geological excavation.
Galleywood Common	LNR	4.9km S	A 44.56- hectare site consisting of areas of open space containing low growing shrubs, heathers, and grasses. The site also contains areas of bare ground, wetland, and scrub.

Appendix B: Non-statutory designated wildlife sites within 2km

Site Name	Designation	Distance from Site	Description
College Wood	LWS	0.9km N	A 4.49-hecatre site consisting of an ancient woodland with Hornbeam (Carpinus betulus), Hazel coppice (Corylus avellana) and Oak (Quercus robur). Wild service tree (Sorbus torminalis) and Midland hawthorn (Crataegus monogyna) are indicators of its ancient status.
Writtle Bridge Meadows	LWS	0.3km S	A 14.48-hecatre site consisting of meadows that form a corridor of habitats on the outskirts of urban Chelmsford. The horse grazed meadow to the north of the River Can exhibits the most floristically diversity assemblage. The meadows to the east comprise of tall grass dominated sward. False Oatgrass (Arrhenatherum elatius) and Yorkshire fog are also abundant.
Daffy Wood	LWS	1.6km N	A 0.70-hecatre site containing a woodland consisting of Pedunculate oak, Hornbeam and Sweet Chestnut (Castanea sativa). Daffodils found on the site may be the rare wild daffodil (Narcissus pseudonarcissus subsp. Pseudonarcissus) and is a locally significant feature.
Newland's Spring	LWS	1.7km N	Newland's Spring is a small fragment of woodland of 0.8ha, situated in the urban environs of Chelmsford.
All Saints Church, Writtle	LWS	1.7km SW	A 0.6ha churchyard site with contrasting areas of short mown and tall sward grassland left for wildlife. This grassland is likely to have evolved from a Lowland Meadows vegetation type. Churchyards often protect remnants of older grassland that have not been treated with chemical sprays and, as such, can remain floristic rich. This church provides an oasis of species diverse grassland.
Marconi Ponds Nature Reserve	LWS	1.7km SE	A 1.1-hectare site consisting of woodland, scrub, and ponds. A small area of grassland can be found at the northern end of the site which has a varied herb flora including common knapweed and St. Johns-worts. Species found on the site include mallards, smooth newts and common frogs.

Site Name	Designation	Distance from Site	Description
Writtle Road Cemetery	LWS	2.0km SE	A 5.14-hecatre site with a variety of grasses including Bent grasses (Agrostis spp.), Yorkshire fog (Holcus lanatus) and Red fescue (Festuca rubra).

Appendix C: Flora list identified during the walkover survey

Common Name	Scientific Name
Cleavers	*Galium aparine*
Foxglove	*Digitalis purpurea*
Horse weed	*Erigeron canadensis*
Hairy fleabane	*Conyza bonariensis*
Wild dandelion	*Taraxacum*
Cape figwort	*Phygelius capensis*
Rock cotoneaster	*Cotoneaster horizontalis*
Ivy	*Hedera helix*
Purple toadflax	*Linaria purpurea.*
Welsh poppy	*Meconopsis cambrica*
Rose bay willow herb	*Chamaenerion angustifolium*
Hemp agrimony	*Eupatorium cannabinum*
Elder	*Sambucus*
Oak	*Quercus robur*
Common nettle	*Urtica dioica*
Curly dock	*Rumex crispus*
Broadleaf laintain	*Plantago major*
Viper's bugloss	*Echium vulgare*
Field thistle	*Cirsium arvense*

LAND OFF MEDWAY CLOSE, CHELMSOFRD

Flood Risk Assessment and Drainage Strategy – Revision A

LAND OFF MEDWAY CLOSE, CHELMSFORD
Flood Risk Assessment and Drainage Strategy

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Reference: GGB/VL/P22-2709/09 Rev A

Date: December 2022

LAND OFF MEDWAY CLOSE, CHELMSOFRD
Flood Risk Assessment and Drainage Strategy – Revision A

LAND OFF MEDWAY CLOSE, CHELMSFORD
Flood Risk Assessment and Drainage Strategy
Revision A

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Plans

3556:02D	Site Location Plan
41368BWLS-01	Topographic Survey
2709/02/005	Foul and Surface Water Drainage Strategy
2709/02/002	Drainage Standard Details

Registration of Amendments

Revision	Amendment Details	Revision Prepared By	Revision Approved By
Rev A 11.08.2023	Amended to reflect drawing updates to the drainage strategy	GGB	GS

1.0 INTRODUCTION

Brief

1.1 Create Consulting Engineers Ltd were instructed by Chelmsford City Council to undertake a Flood Risk Assessment (FRA) and Drainage Strategy to inform a residential development for Land off Medway Close, Chelmsford (Figure 1.1).

Project Context

1.2 The Site comprises a parcel of Brownfield land, as shown in Figure 1.1. The Client intends to submit an outline planning application to develop the Site with six dwellings and associated access/infrastructure. Architect's Layouts showing the proposed scheme are included on Drawing 3556:02D.

Planning Policy Context

1.3 The potential consequences of inappropriate development in a flood risk area for occupiers, either of the development or elsewhere, pose significant risks in terms of personal safety and damage to property.

National Policy

1.4 The National Planning Policy Framework[1] (updated 2021) includes Government policy on development and flood risk stating that:

> *167. When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:*
>
> *a) Within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;*
>
> *b) The development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;*
>
> *c) It incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;*
>
> *d) Any residual risk can be safely managed; and*
>
> e) *Safe access and escape routes are included where appropriate, as part of an agreed emergency plan.*

[1] Ministry of Housing, Communities & Local Government., 2021. *National Planning Policy Framework (NPPF)*. [Online]. Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2 [Accessed December, 2022].

1.5 The Planning Practice Guidance to the NPPF[2] (updated August, 2021) requires that at the planning stage, the developer should prepare and submit an appropriate FRA to demonstrate how flood risk from all sources of flooding to the development itself and flood risk to others will be managed now and when taking climate change into account.

1.6 To comply with the NPPF a FRA must be submitted for planning applications for developments within flood zones 2 and 3 (medium or high risk of fluvial or tidal flooding) and for all developments located in Flood Zone 1 (low risk) which are 1 hectare or greater; which has been identified by the Environment Agency as having critical drainage problems; identified in a strategic flood risk assessment as being at increased flood risk in future; or that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.

1.7 A FRA should be appropriate to the scale, nature and location of the development and should identify and assess the risk from all sources of flooding to and from the development and demonstrate how any flood risks will be managed over the lifetime of the development.

1.8 An assessment of surface water and drainage is also required as part of the FRA in order to demonstrate how flood risk to others will be managed following development and taking climate change into account.

1.9 The Planning Practice Guidance (substantially revised in March 2015 in relation to drainage) requires that sustainable drainage systems should be considered and included where practicable, in line with DEFRA Technical Standards[3].

1.10 The Technical Standards are therefore a key reference document and should be used in the formulation of the surface water drainage strategy for a scheme of this nature. The standards include the following requirements:

> ***"Flood risk outside the development***
>
> ***S1*** *Where the drainage system discharges to a surface water body that can accommodate uncontrolled surface water discharges without any impact on flood risk from that surface water body (e.g. the sea or a large estuary) the peak flow control standards (**S2** and **S3** below) and volume control technical standards (**S4** and **S6** below) need not apply.*

[2] Ministry of Housing, Communities & Local Government., 2021. *Planning Practice Guidance (PPG) - Flood Risk and Coastal Change*. [Online]. Available at: http://planningguidance.planningportal.gov.uk/ [Accessed December, 2022].

[3] Department for Environment and Rural Affairs (DEFRA)., 2015. *Sustainable drainage systems: non-statutory technical standards*. [Online]. Available at: https://www.gov.uk/government/publications/sustainable-drainage-systems-non-statutory-technical-standards [Accessed December, 2022].

Peak flow control

S2 *For greenfield developments, the peak runoff rate from the development to any highway drain, sewer or surface water body for the 1 in 1 year rainfall event and the 1 in 100 year rainfall event should never exceed the peak greenfield runoff rate for the same event.*

S3 *For developments which were previously developed, the peak runoff rate from the development to any drain, sewer or surface water body for the 1 in 1 year rainfall event and the 1 in 100 year rainfall event must be as close as reasonably practicable to the greenfield runoff rate from the development for the same rainfall event, but should never exceed the rate of discharge from the development prior to redevelopment for that event.*

Volume control

S4 *Where reasonably practicable, for greenfield development, the runoff volume from the development to any highway drain, sewer or surface water body in the 1 in 100 year 6 hour rainfall event should never exceed the greenfield runoff volume for the same event.*

S5 *Where reasonably practicable, for developments which have been previously developed, the runoff volume from the development to any highway drain, sewer or surface water body in the 1 in 100 year, 6 hour rainfall event must be constrained to a value as close as is reasonably practicable to the greenfield runoff volume for the same event, but should never exceed the runoff volume from the development site prior to redevelopment for that event.*

S6 *Where it is not reasonably practicable to constrain the volume of runoff to any drain, sewer or surface water body in accordance with* ***S4*** *or* ***S5*** *above, the runoff volume must be discharged at a rate that does not adversely affect flood risk.*

Flood risk within the development

S7 *The drainage system must be designed so that, unless an area is designated to hold and/or convey water as part of the design, flooding does not occur on any part of the Site for a 1 in 30 year rainfall event.*

S8 *The drainage system must be designed so that, unless an area is designated to hold and/or convey water as part of the design, flooding does not occur during a 1 in 100 year rainfall event in any part of: a building (including a basement); or in any utility plant susceptible to water (e.g. pumping station or electricity substation) within the development.*

S9 *The design of the Site must ensure that, so far as is reasonably practicable, flows resulting from rainfall in excess of a 1 in 100 year rainfall event are managed in exceedance routes that minimise the risks to people and property.*

Structural Integrity

S10 *Components must be designed to ensure structural integrity of the drainage system and any adjacent structures or infrastructure under anticipated loading conditions over the design life of the development taking into account the requirements for reasonable levels of maintenance.*

S11 *The materials, including products, components, fittings or naturally occurring materials, which are specified by the designer must be of a suitable nature and quality for their intended use.*

Designing for Maintenance Considerations

S12 *Pumping should only be used to facilitate drainage for those parts of the Site where it is not reasonably practicable to drain water by gravity.*

Construction

S13 *The mode of construction of any communication with an existing sewer or drainage system must be such that the making of the communication would not be prejudicial to the structural integrity and functionality of the sewerage or drainage system.*

S14 *Damage to the drainage system resulting from associated construction activities must be minimised and must be rectified before the drainage system is considered to be completed."*

County Council Policy

1.11 Essex County Council act as Lead Local Flood Authority (LLFA) for the area and are a statutory consultee for all major developments, which includes the following:

- 10 or more houses;
- a site of over 0.5 hectares where the number of houses are unknown;
- a building greater than 1000 square metres; and
- a site over 1 hectare.

1.12 The LLFA have produced a local SuDS Design Guide[4] which includes construction standards and provide assistance to developers in creating sustainable drainage systems on their sites as well as the LLFA's consenting policy and various protocols. Essex County Council also provide guidance within their Preliminary Flood Risk Assessment (PFRA)[5] and Flood Risk Management Strategy[6] on development and flood risk.

District Council Planning Policy

1.13 Chelmsford City Council are currently working on a new local plan[7] to replace the 2008 adopted Core Strategy and Development Control Policies document[8] and 2013 Focused Review[9] currently in place. These plans provide guidance relating to flood risk and drainage.

1.14 The relevant policy is as follows:

Local Plan - Emerging

- *Strategic Policy S3 – Addressing Climate Change and Flood Risk*
- *Strategic Policy S11 – Infrastructure Requirements*
- *Policy NE3 – Flooding / SuDS*
- *Strategic Growth Site 3b – East Chelmsford – Land North of Maldon Road (Employment)*
- *Strategic Growth Site 3c – East Chelmsford – Land South of Maldon Road (Employment)*
- *Strategic Growth Site 3d – East Chelmsford – Land North of Maldon Road (Residential)*

Core Strategy and Development Control Policies (2008)

- *CP10 – Protection From Flooding*
- *DC22 – Areas of Flood Risk*
- *DC25 – Water Efficiency and Sustainable Drainage Systems*

1.15 The relevant policies and text from these local planning documents have been considered as part of this Flood Risk Assessment and Drainage Strategy.

[4] Essex County Council The SuDS Design Guide [Online]. Available at: https://www.essexdesignguide.co.uk/suds Accessed December, 2022]

[5] Essex County Council Preliminary Flood Risk Assessment [Online]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/698238/PFRA_Essex_County_Council_2017.pdf [Accessed December, 2022]

[6] Essex County Council Local Flood Risk Management Strategy [Online]. Available at: https://flood.essex.gov.uk/our-strategies-and-responsibilities/our-local-flood-risk-management-strategy/ [Accessed December, 2022]

[7] Chelmsford Draft Local Plan Pre-Submission Document (Regulation 19 - Publication Draft) January 2018 (Accessed December, 2022) https://www.chelmsford.gov.uk/planning-and-building-control/planning-policy-and-new-local-plan/new-local-plan/local-plan-examination/

[8] Chelmsford Adopted Local Plan - Core Strategy and Development Control Policies, 2008 (Accessed December, 2022) https://www.chelmsford.gov.uk/planning-and-building-control/planning-policy-and-new-local-plan/existing-local-plans/

[9] Chelmsford Adopted Local Plan - Core Strategy and Development Control Policies Focused Review, 2013 (Accessed December, 2022) https://www.chelmsford.gov.uk/planning-and-building-control/planning-policy-and-new-local-plan/existing-local-plans/

1.16 As part of evidence gathering for the new Local Plan, Chelmsford City Council have produced a new Strategic Flood Risk Assessment (SFRA) Level 1 and 2[10] (JBA, 2018) provides a summary of the flood risks for the local area. Combined with the Chelmsford Surface Water Management Plan (2014)[11] and Chelmsford City Water Cycle Study Update (2018)[12] these documents provide information on local flood risks. These documents have been utilised as part of this assessment and are referenced where applicable throughout this report.

Climate Change

1.17 Climate change has important implications for the assessment and management of flood risk. The NPPF requires that climate change is considered when making an assessment of flood risk posed to future development.

1.18 Climate change has the potential to affect all identified sources of flooding at the Site. The likely impacts of climate change include increased severity of rainfall events as well as wetter winters leading to higher groundwater levels and increased frequency and severity of surface water flooding.

1.19 The influence of climate change on rainfall intensity has been taken into account by the surface water drainage strategy outlined in Chapter 6 as an inclusion of 45% has been made for climate change for all rainfall events up to and including the 1 in 100 year event in accordance with NPPF requirements, and 'Flood Risk Assessments: Climate Change Allowances'[13].

Objectives

1.20 The following specific objectives were set by Create Consulting Engineers Ltd after a review of the available data:

- To assess the suitability of the scheme in relation to all sources of flooding;
- To assess the flood risk posed by the scheme once it is complete and operational;
- To suggest mitigation measures in order to reduce any residual risks to acceptable levels.

[10] Chelmsford City Council Strategic Flood Risk Assessment (SFRA) Level 1 and 2 (Accessed December, 2022) https://www.chelmsford.gov.uk/planning-and-building-control/planning-policy-and-new-local-plan/new-local-plan/evidence-base/

[11] Chelmsford Surface Water Management Plan (Accessed December, 2022) https://www.chelmsford.gov.uk/planning-and-building-control/planning-policy-and-new-local-plan/new-local-plan/evidence-base/

[12] Chelmsford City Water Cycle Study Update (Accessed December, 2022) https://www.chelmsford.gov.uk/planning-and-building-control/planning-policy-and-new-local-plan/new-local-plan/evidence-base/

[13] Gov.uk ., 2022. *Flood Risk Assessments: Climate Change Allowances*. [Online]. Available at: https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances [Accessed December, 2022].

Constraints and Limitations

1.21 The copyright of this report is vested in Create Consulting Engineers Ltd and the Client, Chelmsford City Council**.** The Clients, or their appointed representatives, may copy the report for purposes in connection with the development described herein. It shall not be copied by any other party or used for any other purposes without the written consent of Create Consulting Engineers Ltd or the Clients.

1.22 Create Consulting Engineers Ltd accepts no responsibility whatsoever to other parties to whom this report, or any part thereof, is made known. Any such other parties rely upon the report at their own risk.

1.23 The Flood Risk Assessment addresses the flood risk posed to and from the proposed development, the extent of which is shown by the Site boundary, as indicated on the attached drawings.

1.24 This report has been undertaken with the assumption that the Site will be developed in accordance with the above proposals without significant change. The conclusions resulting from this study are not necessarily indicative of future conditions or operating practices at or adjacent to the Site.

1.25 Create Consulting Engineers Ltd has endeavoured to assess all information provided to them during this appraisal. The report summarises information from a number of external sources and cannot offer any guarantees or warranties for the completeness or accuracy or information relied upon. Information from third parties has not been verified by Create Consulting Engineers Ltd unless otherwise stated in this report.

1.26 The revised Construction (Design and Management) Regulations 2015[14] (CDM Regulations) came into force in April 2015 to update certain duties on all parties involved in a construction project, including those promoting the development. One of the designer's responsibilities is to ensure that the client organisation, in this instance Chelmsford City Council, is made aware of their duties under the CDM Regulations. Further information on the CDM Regulations is provided in the client guide and is available online. It has been assumed for the purposes of this assessment that the lead designer will be responsible for advising the Client.

1.27 The approach to this FRA follows the ethos of the CDM Regulation, inasmuch as during the assessment process the proposed development is considered and any foreseeable associated health and safety flood risks are identified. It is then considered how these flood risk can be eliminated, or mitigations identified to reduce or control them. The outcome of this assessment process is presented in this report. While preparing this FRA no other noteworthy or unique health and safety risk have been identified.

[14] Health and Safety Executive., 2015. *Construction (Design and Management) Regulations.* [Online]. Available at: http://www.hse.gov.uk/pubns/indg411.pdf [Accessed December, 2022].

2.0 SOURCES OF INFORMATION

2.1 The information contained in this report is based on a review of existing information and consultation with interested parties.

Records Review

2.2 Key reports and websites reviewed as part of this study are listed in Table 2.1 below.

Document/Website	Author/Publisher	Date
Fluvial/Tidal Flood Maps, Groundwater Mapping – environment-agency.gov.uk	Environment Agency (EA)	Accessed December 2022
Surface Water and Reservoir Flood Mapping – flood-warning-information.service.gov.uk	GOV.UK	Accessed December 2022
BGS GeoIndex – Geology and borehole records - www.bgs.ac.uk/geoindex	British Geological Survey	Accessed December 2022
Essex County Council Preliminary Flood Risk Assessment (PFRA)	URS, Scott Wilson	2011
Essex County Council Local Flood Risk Management Strategy	Capita Symonds, Essex County Council	2013
Essex County Council SUDS Design Guide	Essex County Council	Accessed December 2022
Chelmsford Draft Local Plan Pre-Submission Document (Regulation 19 - Publication Draft)	Chelmsford City Council	January 2018
Chelmsford Adopted Local Plan - Core Strategy and Development Control Policies	Chelmsford City Council	2008
Chelmsford Adopted Local Plan - Core Strategy and Development Control Policies Focused Review	Chelmsford City Council	2013
Chelmsford City Council Strategic Flood Risk Assessment (SFRA) Level 1 and 2	JBA Consulting	2018
Chelmsford Surface Water Management Plan	Capita Symonds	2014
Chelmsford City Water Cycle Study Update	Chelmsford City Council	2018
Anglian Water Foul and Surface Water Asset Plans (Appendix A) and Pre-Planning Enquiry Report Correspondence (included as Appendix C)	Anglian Water	2022
Essex and Suffolk Clean water asset plan (Appendix B)	Essex and Suffolk Water	2022
Proposed Site Layout Plan (Drawing 3556:02B)	John Finch Partnership	October 2022
Topographic Survey (Drawing 41368BWLS-01)	Survey Solutions	April 2022

Table 2.1: Key Information Sources

Consultation

2.3 The agencies and individuals consulted as part of this exercise to obtain records or seek input to the proposals as part of this FRA are listed in Table 2.2 and key records are included in the appendices.

Consultee	Form of Consultation	Topics Discussed and Actions Agreed
Anglian Water Developer Services Team	Request for Asset Plans	Asset plans were requested in order to inform the foul and surface water drainage strategies. The asset plans (Appendix A), dated 26 September, 2022 show foul water assets in the vicinity of the Site. A foul water 300mm VC gravity sewer runs through the western side of the Site. A Surface Water 600mm gravity sewer runs through the eastern side of the Site flowing north to south..
	Correspondence around Pre-Planning Assessment	At the time of writing this report, Anglian Water have been contacted regarding capacity of the surface and foul water network and we are awaiting a response (Appendix C)
Essex and Suffolk Water Developer Services Team	Request for Asset Plans	Asset Plans were requeted on order to inform he foul and surface water drainage strategies. The asset plans (Appendix B) show a 4 inch CL pipe running north south along the western footway of medway close, however it does not cross the Site.

Table 2.2: List of Parties Consulted

Site Walkover

2.4 No site walkover was undertaken by Create Consulting Engineers Ltd.

Site Investigation

2.5 No Site Investigation has been carried out for the purposes of this assessment.

3.0 SITE SETTING

Site Location

3.1 The Site lies to the west of Chelmsford, Essex, approximately 1.8 km northwest of Chelmsford Rail Station, at Ordnance Survey grid reference 568760E , 207629N. The Site lies within the administrative area of Chelmsford City Council (CCC) and consists of a parcel of brownfield land with its boundary shown on the attached drawings.

Description of Site and Surroundings

3.2 The Site comprises approximately 0.2382 ha of brownfield land, bounded to the north and east by the gardens of residential developments and to the south and west by dense forest and woodland.

3.3 The Site is irregularly shaped and is formed mainly of hard surfaced brownfield land with storage units/garages bounded by a mixture of hedgerow, semi-natural woodland, coniferous and broadleaved plantation woodland vegetation.

3.4 The Topographic Survey, included with this report on Drawing 41368BWLS-01, summarises elevations in the area of the Site. The Site generally falls to the southwest. Levels generally fall from 29.87 mAOD in the northeast area of the site to 29.40 mAOD in the southwest.

Geological/Hydrological Setting

Underlying Geology

3.5 British Geological Survey (BGS) mapping (1:50,000 scale)[15] (Figure 3.1) identifies bedrock geology at the Site to comprise London Clay Formation (clay, silt and sand). This is characterised by the BGS as mainly comprising bioturbated or poorly laminated, blue-grey or grey-brown, slightly calcareous, silty to very silty clay, clayey silt and sometimes silt, with some layers of sandy clay.

3.6 Superficial deposits across the majority of the Site (Figure 3.2) comprise the Head (clay, silt, sand and gravel) which forms a conformable relationship with Alluvium (clay, silt, sand and gravel) deposits to the west. Head is characterised by the BGS as poorly sorted and poorly stratified, angular rock debris and/or clayey hillwash and soil creep, mantling a hillslope and deposited by solifluction and gelifluction processes.Whereas Alluvium is defined by the BGS as unconsolidated detrital material deposited by a river, stream or other body of running water as a sorted or semi-sorted sediment in the bed of the stream or on its floodplain or delta, or as a cone or fan at the base of a mountain slope.

[15] British Geological Survey (BGS) Onshore GeoIndex., 2022. *DiGMapGB-50 Bedrock Geology and Superficial Deposits*. [Online]. Available at: www.bgs.ac.uk/geoindex [Accessed December, 2022].

3.7 Proximate BGS borehole records[16] include TL60NE24 located approximately 360 m west of the Site, this recorded Head to 0.8 m below ground level (bgl) and Glacial Silts between 0.8 to 7.6 mbgl. This was underlain by Boulder Clay to 9.6 mbgl and Glacial Sand and Gravel to 13.1 mbgl and Boulder Clay from 13.4 to 21.0 mbgl

Surface Watercourses

3.8 The nearest watercourse to The Site is a tributary to the River Can (Chignall Brook) located approximately 60 m to the west, as shown on Figure 3.3.

Water Quality

3.9 The EA's river quality maps[17] indicate that the water quality in the Chignall Brook downstream of the Site, which is the receiving watercourse for runoff from the Site, has "moderate" ecological and "fail" Chemical quality.

3.10 According to the Defra Magic website[18], the Site is within a Nitrate Vulnerable Zone (NVZ). NVZ guidance states that an NVZ 'is designated where land drains and contributes to the nitrate found in "polluted" waters'. It defines polluted waters as:

- Surface or ground waters that contain at least 50mg per litre (mg/l) nitrate;
- Surface or ground waters that are likely to contain at least 50mg/l nitrate if no action is taken; and
- Waters which are eutrophic, or are likely to become eutrophic if no action is taken;

3.11 The DEFRA guidance states that water is eutrophic if:

> "it contains levels of nitrogen compounds that cause excessive plant growth resulting in "an undesirable disturbance to the balance of organisms present in the water and to the quality of the water".

3.12 The EA website indicates that the NVZ designation for the Site relates to polluted surface water.

[16] British Geological Survey (BGS) Onshore GeoIndex., 2022. *Borehole records*. [Online]. Available at: www.bgs.ac.uk/geoindex [Accessed December, 2022].
[17] Environment Agency (EA)., 2022. *Catchment Data Search*, [Online]. Available at: https://environment.data.gov.uk/catchment-planning/ [Accessed December, 2022].
[18] Department for Environment and Rural Affairs (DEFRA) Magic Website., 2017. [Online]. *Nitrate Vulnerable Zones (NVZ) – Combined (Final Designations).* Available at: https://magic.defra.gov.uk/MagicMap.aspx [Accessed December, 2022].

Groundwater

3.13 The site is underlain by a Secondary Undifferentiated Superficial aquifer[19] defined by the Environment Agency as:

> *'it has not been possible to attribute either category A or B to a rock type'. Category A is defined as 'permeable strata capable of supporting water supplies at a local rather than strategic scale and in some cases forming an important source of base flow to rivers' and Category B is defined as 'predominantly lower permeability strata which may in part have the ability to store and yield limited amounts of groundwater by virtue of localised features such as fissures, thin permeable horizons and weathering'.*

3.14 The site is also underlain by an unproductive bedrock aquifer[10].

3.15 The Site does not lie within any Groundwater Source Protection Zones[20], as identified by the Environment Agency.

3.16 Groundwater was found within Borehole record[7] TL60NE24, which recorded strikes at 7.5 and 9.5 mbgl respectively.

Artificial Water Bodies

3.17 The nearest water body to the Site is a reservoir at Chignall Hall Farm located approximately 2.8km northwest of the Site.

Public Sewers and Water Supply Mains

3.18 Anglian Water (AW) are the statutory sewerage undertaker for the area and responsible for the operation and maintenance of public sewers serving Chelmsford.

3.19 Foul sewers present in the immediate vicinity of the Site are shown within sewerage asset mapping provided by AW (Appendix A) and comprise:

- A 300 mm VC diameter gravity foul sewer network serving development leading off Medway Close and crosses the western side of the Site. This flows to the southeast across the Site to a connection at AW manhole 7501.
- A 600mm diameter VC gravity sewer flowing from Medway Close then crosses the site and runs southwest to a connection at AW manhole 7552.

[19] Department for Environment and Rural Affairs (DEFRA) Magic Website., 2010. [Online]. *Environment Agency Aquifer Designation Data.* Available at: https://magic.defra.gov.uk/MagicMap.aspx [Accessed December, 2022].

[20] Department for Environment and Rural Affairs (DEFRA) Magic Website., 2019. [Online]. *Environment Agency Source Protection Zones (Merged.* Available at: https://magic.defra.gov.uk/MagicMap.aspx [Accessed December, 2022].

3.20 Essex and Suffolk Water are also the potable water supplier for the area, asset plans contained within Appendix B, indicate that water supply assets are generally located within the service corridors of the roads in close proximity to the Site, including Medway Close to the east of the Site. These can be found beneath the east and west footway of Medway Close, recorded as having a 4 inch diameter.

Existing Site Drainage

3.21 The Topographic Survey (Drawing 41368BWLS-01) shows that the site has gulley drains that drain the surface water from the Site, which we assume drains to the AW network.

4.0 SCHEME DESCRIPTION

The Scheme

4.1 The Client intends to apply for planning permission to develop the Site with six dwellings and associated access and infrastructure.

4.2 The proposed scheme is shown on Drawing 3556:02 appended with this report.

Proposed Land Use Vulnerability Classification

4.3 The development is proposed to include residential dwellings which is defined as a 'more vulnerable' use according to the NPPF.

4.4 Given the proposed land use classification and the location of the Site within the surface water flood zone ther Sequential and Exception testst may be required. The Sequential tests does not form part of this report and will be submitted under separate cover, should this be required.

5.0 FLOOD RISK ASSESSMENT

Scope of Work

5.1 The scope of this FRA was refined to meet the brief outlined in Chapter 1 of this report and considers the following:

- Flood risk to the development from all sources;
- Potential for the design, construction and operation of the Site to increase the risk of flooding to neighbouring properties;
- Any necessary mitigation measures to mitigate identified potential flood risks;
- Climate change;
- Residual flood risks.

5.2 The approach is consistent with the NPPF[1] and its associated Technical Guidance[2] along with the requirements of local planning policy.

Flood Risk to the Proposed Development

Flood Risk from Fluvial/Tidal Sources

5.3 EA flood mapping[21], as shown on Figure 5.1, indicates that the Site is located within Flood Zone 1. Flood Zone 1 is defined as areas with a 'low' probability of inundation defined as having a less than 1 in 1,000 annual probability of river (fluvial) or sea (tidal) flooding (<0.1%).

5.4 Review of available flood investigation records provided by Essex County Council[22] has identified no record of flooding from this source affecting the Site or the surrounding area.

5.5 Given the above the Site is considered to be at a low risk of fluvial/tidal flooding, therefore this source is not considered further within this report.

Flood Risk from Surface Water

5.6 The EA Surface Water Flood Mapping[23], as shown on Figure 5.2, shows that there are number areas of flow path within the Site; running northeast to southwest with the central line of that run being high risk (3.3%) and as you move north and south from the centre of the site it gradually lessens to medium risk (1%) then to low risk (0.1%).

[21] Environment Agency., 2022. *Flood Map for Planning (Rivers and Sea) - Flood Zone 2 and Flood Zone 3. [Online]. Available at:* https://data.gov.uk/dataset/cf494c44-05cd-4060-a029-35937970c9c6/flood-map-for-planning-rivers-and-sea-flood-zone-2 [Accessed December, 2022]

[22] Essex County Council., Various. *Flood Investigation Reports*. [Online]. Available at: https://flood.essex.gov.uk/know-your-flood-risk/check-if-you-re-at-risk-of-flooding/ [Accessed December, 2022].

[23] Environment Agency., 2022. *Risk of Flooding from Surface Water Extent: 3.3 percent annual chance, 1 percent annual chance and 0.1 percent annual chance.* [Online]. *Available at:* https://data.gov.uk/dataset/95ea1c96-f3dd-4f92-b41f-ef21603a2802/risk-of-flooding-from-surface-water-extent-3-3-percent-annual-chance [Accessed December, 2022].

5.7 Flood depths across the majority of the site remain below 600 mm for both the High (Figure 5.3) and Medium (Figure 5.4) risk events. However, in the Low risk scenario, a small portion of the eastern side of the Site reaches depths between 900 mm and 1200 mm (Figure 5.5).

5.8 Surface Water flood risk modelling and mapping has been undertaken as part of the SFRA, for the 1 in 100 year event with an inclusion for 40% climate change. The results of which show the climate change extent closely matches, with slight increases, the current 1 in 100 year flood risk extent provided by the above referenced mapping.

5.9 Given the nature of the proposed development and the fact dwellings will be placed away from primary flow routes, it is considered that the risk from surface water flooding is generally low, however appropriate mitigation measures are included in Table 7.1 of this report.

Flood Risk from Groundwater

5.10 The Chelmsford City Council (CCC) SFRA includes mapping showing groundwater flooding susceptibility, based on the AStGWf dataset provided by the BGS[24]. This shows that up to 75% of the site is susceptible to groundwater flooding. It should be noted however, that this dataset identifies areas where the local geological and hydrogeological conditions may allow groundwater to emerge and does not represent flood risk.

5.11 Based on the results of groundwater strikes in BGS borehole TL60NE24 at 7.5 and 9.5mbgl, the risk of groundwater flooding in this location is considered to be low.

5.12 The effect of climate change on groundwater flooding is also currently uncertain. Milder wetter winters may increase the scale and frequency of flooding however, warmer drier summers may counteract this effect by drawing down groundwater levels to a greater extent during the summer months. This is considered as part of the residual risk identified above and appropriate mitigation measures are included in Table 7.1 of this report.

Flood Risk from Artificial Water bodies

5.13 The nearest artificial waterbody to the site is a reservoir located approximately 2.8km to the northwest. This is a reservoir currently used by Chignall Hall Farm.

5.14 The Site is not in an area mapped by the EA to be at risk from flooding during a reservoir breach event[25], as shown by figure 5.6

[24] British Geological Survey (BGS)., 2022. *Groundwater Flooding Susceptibility AStGWf Dataset.* [Online]. Available at: https://data.gov.uk/dataset/f0329412-b46a-49b0-9f30-abef8c4b807e/groundwater-flooding-susceptibility [Accessed December, 2022].

[25] Environment Agency., 2022. *Risk of Flooding from Reservoirs - Maximum Flood Extent (Web Mapping Service).* [Online]. Available at: https://data.gov.uk/dataset/44b9df6e-c1d4-40e9-98eb-bb3698ecb076/risk-of-flooding-from-reservoirs-maximum-flood-extent-web-mapping-service [Accessed December, 2022].

Flood Risk from Public Sewers

5.15 The SFRA shows no record of sewer flooding affecting the site or the immediate area. The risk of sewer flooding is therefore considered to be low.

5.16 Sewer flooding from blockage of private site and building drainage as well as the AW network is, however, a residual risk managed by the design of the Site drainage and regular inspection and maintenance of the public and private sewer network. The flood risk associated with this source may also increase over time due to the effects of climate change. Appropriate mitigation measures are therefore included in Table 7.1 of this report.

Flood Risk from Water Mains

5.17 Flood risk from this source is considered to be a risk during construction as their are existing mains shown within the supplied AW asset plans (Appendix A) crossing the site or within the immediate area. The main threat therefore will be from damage to existing and newly constructed internal pipe work during the construction phase or as a result of any future individual property building works. Appropriate mitigation measures are discussed in Table 7.1 below.

Flood History

5.18 Review of available flood investigation records provided by Essex County Council[22] and the Chelmsford City Council SFRA[26] has identified no record of flooding from this source affecting the Site.

Flood Risk Summary

5.19 In summary, the risk of flooding from all sources is generally considered to be low, however, the risk from surface water remains as well residual risks from groundwater, public sewers and water mains. A number of mitigation measures are recommended in Table 7.1 to address and manage surface water flood risk and the residual risks from these forms of flooding.

[26] Chelmsford City Council., 2018 Preliminary Flood Risk Assessment 1 and 2 [Online]. Available at https://www.essexdesignguide.co.uk/media/1522/chelmsford-sfra-l1-and-l2-final-report-v10-oct-2017.pdf [Accessed December, 2022].

6.0 FOUL AND SURFACE WATER DRAINAGE AND FLOOD RISK FROM THE DEVELOPMENT

Existing Foul Water Drainage

6.1 Although the site is currently brownfield in nature there doesn't appear to be foul drainage on site given the current uses.

Proposed Foul Water Drainage Strategy

6.2 Foul water from the Site will be designed to drain via gravity to the west of the site boundary, to a new connection on the Anglian Water foul sewer that runs throught he site, this will then drain south to Anglian Water manhole 7501 (which lies within the ownership of the applicant). The foul water drainage proposals are included on Drawing 2709/02/005 appended to this report.

6.3 At the time of writing this report, Anglian Water have been contacted regarding the foul water drainage capacity and we are awaiting a response. Correspondence of which can be found in Appendix C.

Existing Surface Water Drainage

6.4 Calculations included in Appendix D estimate the current Greenfield runoff rates from the Site as shown in Table 6.1.

Rainfall Event	Greenfield Runoff Rate (Equivalent to Proposed Impermeable Areas) (l/s)	Brownfield Runoff Rate from Existing Impermeable Area (l/s)
Q 1 year	0.4	23.82
Q 30 year	0.9	58.39
Q 100 year	1.3	75.29

Table 6.1: Greenfield Runoff Rates from the Site for Various Rainfall Events.

6.5 As noted in Chapter 3 the Site is currently free draining to surrounding and internal gulley drains, which are assumed to drain to the AW surface water sewer network.

Proposed Surface Water Drainage Strategy

6.6 The following provides a summary of the proposed method of management and disposal of surface water runoff from the Site:

- As part of the design process sustainable drainage methods have been included where practicable, to provide the required attenuation in accordance with the SUDS hierarchy (see Table 6.2).

- Surface water flows will be attenuated using SUDS such that flows from the Site are restricted (with an allowance for an increase in rainfall intensity of 45% due to climate change) prior to a discharge into new connection to the Anglian Water surface warter network upstream of Manhole 7552.
- A single outfall is proposed using a gravity connection outfall flowing to the eastern boundary of the Site;
- There is little potential for Infiltration forms of SUDS (i.e. soakaways) to be viable due to the superficial deposits shown in Borehole TL60NE24 approximately 200m west of the Site. This borehole shows that the first 5.0 m below the Site is likely made of clay rich deposits which means that the Site is unlikely to infiltrate. On the basis that infiltration systems are not viable the following forms of SUDS are proposed, as shown on Drawing 2709/02/005:
  - 0.7m depth tanked permeable paving will provide 121.2587m^3 of storage for the 1 in 100 year plus 45% climate change event. This is shown in the Flow calculations included in Appendix E
  - A flow control restricting runoff to the lowest operable rate of 1.0 l/s be included prior to the discharge into the Anglian water surface water sewer network. This will restrict flows to this level for all events up to and including the 1 in 100 year plus 45% climate change event.
  - Roof areas will also drain via the permeable paving to receive appropriate levels of treatment with a further summary on SuDS mitigation indices below.
- The 1.0 l/s 1restricting flow rate is the lowest operable rate for the proposed impermeable areas of the developed area (0.1568ha) of the Site (i.e. the Site area excluding public open space and tree belts etc.), as shown by the calculations included in Appendix D.
- Baffles are proposed on the access road for the permeable paving as the Site drops 1.5m over the section between the entrance point and dwellings, the locations of these baffles will be considered further at the detailed design stage.
- Appropriate pollution control measures have been incorporated in line with guidance provided by the SUDS Manual and is detailed further below.
- It is recommended that the downstream flow route from the point of outfall should be fully surveyed, desilted and jetted as required prior to any new connection being made.
- An allowance for future urban creep has also been included, within the above calculations, of 10% of the measured impermeable area of the site.
- Relevant SuDS pro-forma has been completed and included as appendix F.

6.7 A summary of the potential SUDS options which led to the above drainage strategy is included in Table 6.2. This drainage strategy however is considered to be in compliance with both local and national policy as summarised in Section 1 of this report.

SUDS Option	Suitability/Included in the Scheme?	Comments
Soakaways and porous paving	x	Geology likely not suitable for infiltration as shown in Borehole TL60NE24 however testing may be undertaken at the detailed design stage.
Porous paving (storage)	✓	0.7m depth tanked permeable paving will be used for private drives and roadways for storage.
Rainwater Harvesting	*	Not included in the client and architect design proposal at present.
Swales	x	Not included in the client and architect design proposal at present and not viable due to space constraints on site
Attenuation Ponds (above ground storage)	x	Not included in the client and architect design proposal at present and not viable due to space constraints on site
Below ground storage in cellular systems	x	Not included in the client and architect design proposal at present.
Flow control devices	✓	Hydrobrake Vortex Control restricting flows to 1.0l/s is included within the scheme
Green Roofs/Brown Roofs/Blue Roofs	*	Not included in the client and architect design proposal at present.

Table 6.2: SUDS Options

Key:

✓ *Suitable for use and included in the scheme*

* *Possibly suitable for use – not included in the client and architect design proposal at present – should be considered further as part of the detailed design*

X Unlikely to be suitable for use

Surface Water Drainage Management and Maintenance

6.8 Given the small scale nature of the site and the fact no adoptable roadways are proposed all drainage will likely remain private and under the control of a private management company.

6.9 Further detail regarding the exact management and maintenance procedures required will be provided as part of any reserved matters submission once a management company has been instructed and a scope agreed. This will however, follow the principles set out in Table 6.3 below:

6.10 A summary of the required measures for the drainage assets on site is as follows:

Maintenance Schedule	Required Actions	Typical Frequency
Permeable paving		
Regular Maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations–pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment
Occasional Maintenance	Stabilise and mow contributing and adjacent communal areas	As required
	Removal of weeds or management using glyphospate applied directly into the weeds by an applicator rather than spraying	As required/once per year on less frequently used pavements
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50mm of the level of the paving	As required
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth–if required, take remedial action	Three-monthly, 48h after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	

Maintenance Schedule	Required Actions	Typical Frequency
Other General:		
Regular Maintenance	Inspect rainwater gutter channels, inlets and outlets for blockages and clear as required.	Monthly for first year then annually thereafter
	Inspect gully drains, channel drains and inspection chambers (including silt traps) for siltation/blockage.	Monthly for first year then annually thereafter
	Inspect for sediment and debris in manhole bases and any blockage of soakaway chamber and geocellular storage.	Bimonthly for first six months then every six months thereafter
	Remove litter and debris from swale. Carry out periodic mowing of grassed surface and inspect for silt accumulation to determine appropriate removal frequency.	Monthly or as required (and through growing season for swales)
	Remove any sediment and debris from base of chambers and cellular storage.	As required, based on inspections
Occasional Maintenance Remedial Actions	Remove sediment from any affected articles including silt traps and soakaways (most likely via jetting).	As required
	Clear any pipe blockages with appropriate equipment	As required
	Repair any damage arising from various inspections (by approved engineer where required)	As required
	Replacement of permeable surfacing, manhole components, silt traps and cellular soakaways should failure occur.	As required

Table 6.3: SuDS Management and Maintenance Requirements

Exceedance Flows

6.11 Exceedance flow routes are shown on Figure 6.1, these may be adapted to suit any proposed changes to the Site layout as the design progresses in line with the following principles:

- Surcharged flows from highways, private drives and roof areas will be retained within kerb lines and channelled towards the east;
- External ground levels will be profiled such that no ponding occurs against buildings, with flows directed as above;
- All flows in excess of the drainage network design standard will be channelled to the permeable paving which has been sized to accommodate the 1 in 100 year plus climate change event whilst also allowing a suitable freeboard for inflows above this.

- For exceedance events beyond 1 in 100 plus climate change, the water will run off towards the south of the site as per the existing scenario.

Pollution Control

6.12 Pollution control requirements are determined by the using the Simple Index Approach as detailed in the CIRIA SuDS Manual.

6.13 Suitable pollution hazard indices are allocated for the proposed land uses. The indices range from 0 (no pollution hazard for this contaminant type) to 1 (high pollution hazard for this contaminant type).

6.14 From the designated hazard indices a total SuDS mitigation index is calculated for each of suspended solids, metals and hydrocarbons using:

$$\textit{Total SuDS mitigation index} = \textit{mitigation index}_{1} + 0.5(\textit{mitigation index}_{2})$$

Where:

$\textit{Mitigation index}_{n}$ = *mitigation index for component n*

6.15 To deliver adequate treatment the selected SuDS components should have a total pollution mitigation index (for each contaminant type) that equals or exceeds the pollution hazard index (for each contaminant type).

$$\textit{Total SuDS mitigation index} \geq \textit{pollution hazard index}$$

6.16 In this case the SuDS pollution hazard indices are detailed in Table 6.4.

Land Use	Total Suspended Solids	Metals	Hydrocarbons
Residential Roofs	0.2	0.2	0.05
Individual property driveways, residential car parks, low traffic roads, and non-residential car parking with infrequent change	0.5	0.4	0.4

Table 6.4: SuDS pollution hazard indexes for the Site

6.17 Roofs and external areas will drain through tanked permeable paving. This provides mitigation indices that equal or exceed those required for the Site in all cases (Table 6.5) and therefore is considered an appropriate method to deliver adequate pollution mitigation treatment with the permeable paving ultimately providing treatment extra over that required for those relevant areas.

SuDS Component	Total Suspended Solids	Metals	Hydrocarbons
Permeable Paving	0.7	0.6	0.7

Table 6.5: Indicative SuDS mitigation indices

6.18 It should be noted that SuDS components only deliver these indices if they follow design guidance with respect to hydraulics and treatment set out in the relevant technical component chapters of the CIRIA SuDS Manual.

Flood Risk from the Development

6.19 As the development of the Site will introduce hard surfacing, the runoff characteristics will be significantly altered. Therefore an assessment of the proposed surface and foul water drainage scheme is required to ensure the scheme does not increase flood risk to the surrounding area.

6.20 The following sections provide a drainage assessment of the scheme and appropriate mitigation measures are presented in Table 7.1

Effects on the Public Foul Sewer Network

6.21 As the Site will now produce foul water flows AW have been consulted to confirm there will be no detriment to the surrounding foul water network as a result of the scheme.

6.22 At the time of writing we are still waiting for a response, correspondence can be found in Appendix C.

Effects on Nearby Watercourses

6.23 As the majority of the Site is free draining, it is assumed that under current conditions, any surface water will currently pond or runoff overland during extreme rainfall events. Following development, the surface water drainage strategy set out above ensures that sufficient sustainable drainage systems will be included to make sure that there are no significant changes in surface water runoff from the Site compared to the existing situation (for all rainfall events up to the 1 in 100 year rainfall event including an allowance for climate change). Calculations in Appendix F confirm this.

6.24 For all events beyond the 1 in 100 year plus climate change rainfall event, the situation will be no worse than existing, as long as a consideration of exceedance flows is made as part of the detailed drainage design to ensure that any excess surface water runoff would continue to overflow away from the existing and proposed residential properties.

7.0 MITIGATION MEASURES

7.1 Flood Risk Mitigation measures are proposed in Table 7.1 in order to both mitigate flood risk posed to the development and to ensure the development poses no risk to the surrounding area.

Type of Flooding (Source)	Issue	Mitigation Measures	Justification	Residual Risk *

Flooding from surface water runoff – overland flow/ponding	Risk of flooding from rainfall events in exceedance of the site drainage design and by run-off from surrounding areas, may result in on-site property flooding.	• Finished Floor Levels will be raised to 29.75mAOD for Plots 1-4 and to 29.85mAOD Plots 5-6, which equates to a increase of between 300-350mm (Plots 1-4) and 400-500mm (plots 5-6) over existing ground levels.
		• Plot 6 will have a sacrificial ground floor with only parking and access areas included at this level, given this plots position within the surface water flood zone.
		• Appropriate flood resilience/resistance measures will be included on the ground floor in agreement with the relevant authorities. These could include, but are not limited to:
		  • The provision of the necessary infrastructure to allow flood defence residential doors to be installed at the pedestrian entrances to the properties;
		  • Electrical wiring feeding low level points and switches should drop from the ceiling rather than be fed from floor level. Switches and points should be raised as high as reasonably practicable and within Building Regulations standards.
		  • Use of dry-proofing and wet-proofing building materials;
		  • Water resistant coatings for external walls;
		  • Raise plant as high as practically possible;
		  • Non-return valves will be considered for foul/surface water sewers to prevent backflow;
		  • Use of concrete or hard surfaced floors rather than timber or soft coverings. Or use of waterproof floor coverings with appropriate sealing such as Aquastep;
		  • Location of boilers as high as possible;
		  • PVC windows and external finishes should be used;
		  • Use of plastic or metal alternatives to chipboard or MDF;
		  • Use of concrete ground bearing slab as opposed to a suspended floor to avoid water entry beneath the floor structure;
		  • Partition walls should be constructed such that replacement is not required following a flood event;
		  • Underfloor services using ferrous metals will be avoided where practicable;
		  • Use of self-closing airbricks or air brick covers;
		  • Waterproof pointing to any brickwork;
		  • Inclusion of liquid DPMs over floor screeds; and,
		  • Use of full cell insulation in all walls and floors instead of fibre.
		• The detailed design of the development will make an allowance for flow routing from rainfall events in exceedance of the drainage design capacity (i.e. the 100 year plus 40% climate change) in accordance with best practice guidance;
		• External areas will also be profiled so as any runoff will be directed away from dwellings and into the roads and designated open space areas;
		• Appropriate maintenance of downstream riparian watercourses, culverts and main rivers by the respective riparian owners and EA.
			Will ensure flood risk from this source is minimised for the lifetime of the development and as updated modelling becomes available, whilst also ensuring no downstream impacts arise from new structures within the flood zone.	Low

Flooding from perched/shallow groundwater	Perched or Shallow groundwater may be present or may affect the site in the future during periods of prolonged extreme rainfall, due to the increasing effects of climate change (for rainfall above the design event). This may result in flooding of the internal building in extreme cases.	• Consider the need for groundwater monitoring • Consider the need for dewatering during the construction phase. • Consider the need for waterproofing substructures and any below ground services as part of the detailed design. • Carry out de-watering as necessary through the construction phase. • Where surface and foul water drainage networks are to be placed within any water bearing strata, they should be constructed such that water ingress cannot occur.	Will ensure the risk of flooding and moisture ingress is minimised.	Low

Type of Flooding (Source)	Issue	Mitigation Measures	Justification	Residual Risk *
Flooding from failure of water mains associated with existing assets (external water supply system)	A residual risk of flooding associated with burst water mains may result in flooding of open areas, access roads and dwellings.	• All water mains within development areas will be suitably located and marked prior to the commencement of construction to minimise the risk of strikes during excavation works.	Will ensure the residual risk is minimised for the lifetime of the development.	Low
Flooding from proposed water mains (proposed internal water supply system).	A residual risk of flooding associated with internal water supply and distribution systems may result in flooding of dwellings.	• Routine inspection of the Site and public water supply and distribution system by the Site owner and Essex and Suffolk Water.	Will ensure the residual risk is minimised for the lifetime of the development.	Low
Sewer flooding from existing public and private drainage (foul and surface water).	Blockages or surcharges in the Site drainage or the public sewer network crossing the Site or in the Site vicinity may result in flooding of the Site.	• Maintain an appropriate 6.0 m easement around the foul water sewer and surface water sewer crossing the site and allow appropriate easement within detailed design for future connections; • Diversion of assets will be carried out, if needed, with the agreement of AW or appropriate buildover agreements entered. • Confirm capacity is still available in the public sewer network at the detailed design stage; • Where connections are proposed to the existing foul sewer network, required upgrades will carried out prior to the occupation of the relevant development areas, to ensure suitable capacity is available.	In the event of foul and surface water flooding occurring, these measures will ensure the effects of flooding to external areas and dwellings will be minimised.	Low
	A residual risk of flooding associated with the blockage/surcharge or failure of existing foul and surface water drainage networks remains.	• All sewers within development areas will be suitably located and marked prior to the commencement of construction to minimise the risk of strikes during excavation works. • Floor levels of dwellings will be raised above the surrounding area as above. • At the detailed design stage consideration will be given to flood flow routes in the event of a system surcharge/blockage, these will ensure any surcharged water is kept within kerb line and away from properties and all access points. • Consider opportunities for flood resilient design as above. • Ensure routine inspection and maintenance of both the on-site and offsite drainage systems by the Site management and AW; • A management plan for the maintenance of drainage assets should be prepared and agreed with appropriate authorities as part of the detailed design. This should ensure routine inspection and maintenance of both the foul and surface water drainage systems by the Site management and/or any adopting body and AW;	Will ensure the risk of flooding is minimised as far as possible including as part of the detailed design stage	
Increased flood risk to surrounding and downstream properties and land as a result of the increased impermeable area associated with the scheme.	The scheme will change surface water run-off rates and patterns which may increase risk of flooding to neighbouring land or property, most notably due to the increase in runoff volume.	• Sustainable drainage systems and surface water attenuation will be included to ensure the risk of flooding to the surrounding area is minimised whilst no flooding of properties occurs during the design 1 in 100-year surface water flood plus 40% climate change event. Associated with this is the restriction of flows to the equivalent 1 in 1-year greenfield runoff rate for all impermeable areas, as outlined in Chapter 5. • The detailed design of the development will make an allowance for flow routing from rainfall events in exceedance of the drainage design capacity (i.e. the 100 year plus 40% climate change) in accordance with best practice guidance to ensure surcharged flows are directed, above ground and within roadways or open space, towards the permeable paving. • At the detailed design stage consideration will also be given to flood flow routes in the event of a system surcharge/blockage, these will ensure any surcharged water is kept within kerb line and away from properties. • External areas will also be profiled so as any runoff will be directed away from dwellings, into roadways/open space and towards permeable paving. • Maintenance plans and schedules will be compiled for all sustainable drainage systems in the scheme at the detailed design stage. These should ensure routine inspection and maintenance of both the foul and surface water drainage systems and will be targeted towards all responsible parties including homeowners, adopting authorities and private management companies. These measures will ensure the effective operation of all drainage assets for the lifetime of the development. • Appropriate maintenance of downstream sewers by AW and of any downstream culverts by the respective riparian owners. • Floor levels of all units will be raised above the surrounding area as above.	These measures will ensure the risk of flooding posed by the development will be reduced in line with the design standard, whilst events in excess of this are suitably managed where possible, in line with local and national policy requirements.	Low

Type of Flooding (Source)	Issue	Mitigation Measures	Justification	Residual Risk *
	The development of the Site will increase foul water flows in the local network.	• AW will be consulted further at the detailed design stage to confirm network capacity. • The existing site network, where connections are proposed, will be upgraded, where necessary, in liaison with AW. • Routine inspection and maintenance of both the foul water drainage systems private owners, management companies and the adopting authority. • Confirm Foul Water connection point and agree appropriate diversion/buildover of foul sewer crossing the Site at the detailed design stage; • Confirm Foul Water connection point with AW and adjacent site owner should the immediate connection be private at the detailed design stage.		
	The introduction of new water mains to supply the development has the potential to increase the residual risk of bursts associated with these structures	• Appropriate easements will be maintained around all proposed water mains and placed, where possible, within main service corridors beneath roadways. This will ensure that any flood waters are contained within kerb lines and channelled towards permeable paving as per the above flow routing requirements.		

Table 7.1. Mitigation Measures

*Following adoption of the mitigation measures

8.0 RESIDUAL FLOOD RISKS AND IMPACTS TO SURROUNDING AREAS

Residual Risks

8.1 A number of residual risks have been identified, associated with surface water flooding, public sewers, shallow groundwater site drainage and water supply pipes and intense rainfall.

8.2 As long as the mitigation measures outlined in Table 7.1 are adopted then then the residual risks will be minimised as far as possible.

Impact on Flood Risk of Surrounding Areas

8.3 Given the generally low flood risk present on site and the drainage strategy proposed, it is considered that the development of the Site will not increase the risk of flooding in other areas, surrounding the Site, assuming the measures proposed in Table 7.1 are implemented. Obviously a risk of surface water flooding remains however the placement of the dwellings is not seen to produce a significant difference to the existing garaging and therefore it is considered that no material impact on surface water flood volumes will be observed.

9.0 CONCLUSIONS AND RECOMMENDATIONS

9.1 Based on our understanding of the Site setting and the development proposals, it is considered that the risk of flooding from all sources is generally low, and the development can be operated safely and without significantly increasing flood risk elsewhere. A risk of surface water flooding remains, however appropriate mitigation measures have been proposed. A number of residual risks have also been identified, associated with public sewers, site drainage, water supply pipes, intense rainfall, surface water flooding, and groundwater flooding. Appropriate mitigation measures have been provided in Table 7.1 to address and manage the residual risk from these forms of flooding.

9.2 We recommend that the assessment of risks and residual risks should be reviewed by site owners as new flood risk information becomes available, and the flood risk associated with adjacent sewers may also increase over time in the area due to climate change.

10.0 REFERENCES

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xiv. Essex County Council (20XX) The SUDS Design Guide. [Online] Essex County Council.

FIGURES

Figure 1.1: Site Location Plan

Figure 3.1: British Geological Survey Bedrock Geology Mapping Extract (1:50,000 scale)

Figure 3.2: British Geological Survey Superficial Geology Mapping Extract (1:50,000 scale)

Figure 3.3: Identified Local Watercourse Map

Figure 5.1: Environment Agency Fluvial/Tidal Flood Map

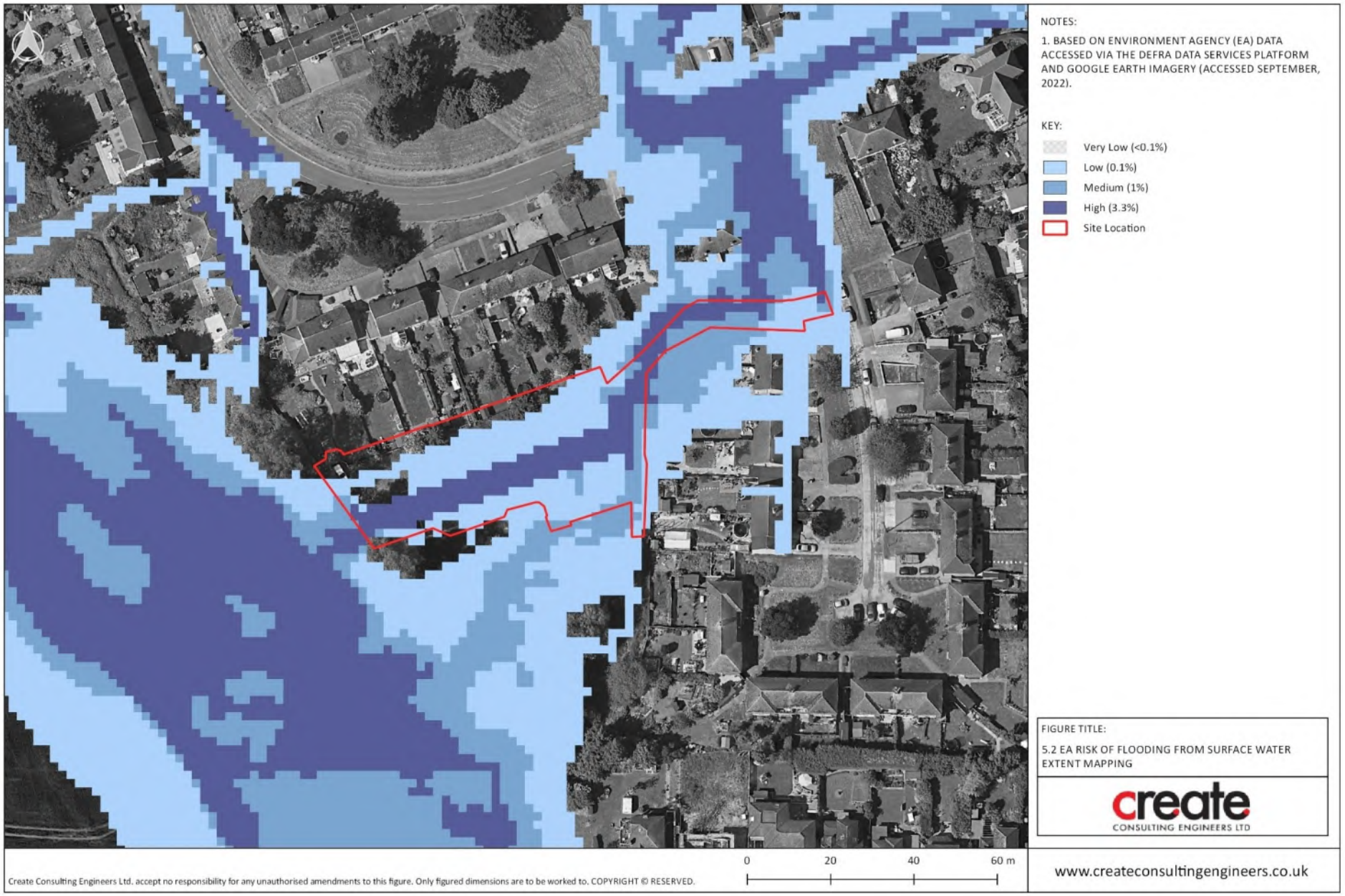


Figure 5.2: Environment Agency Surface Water Flood Risk Map

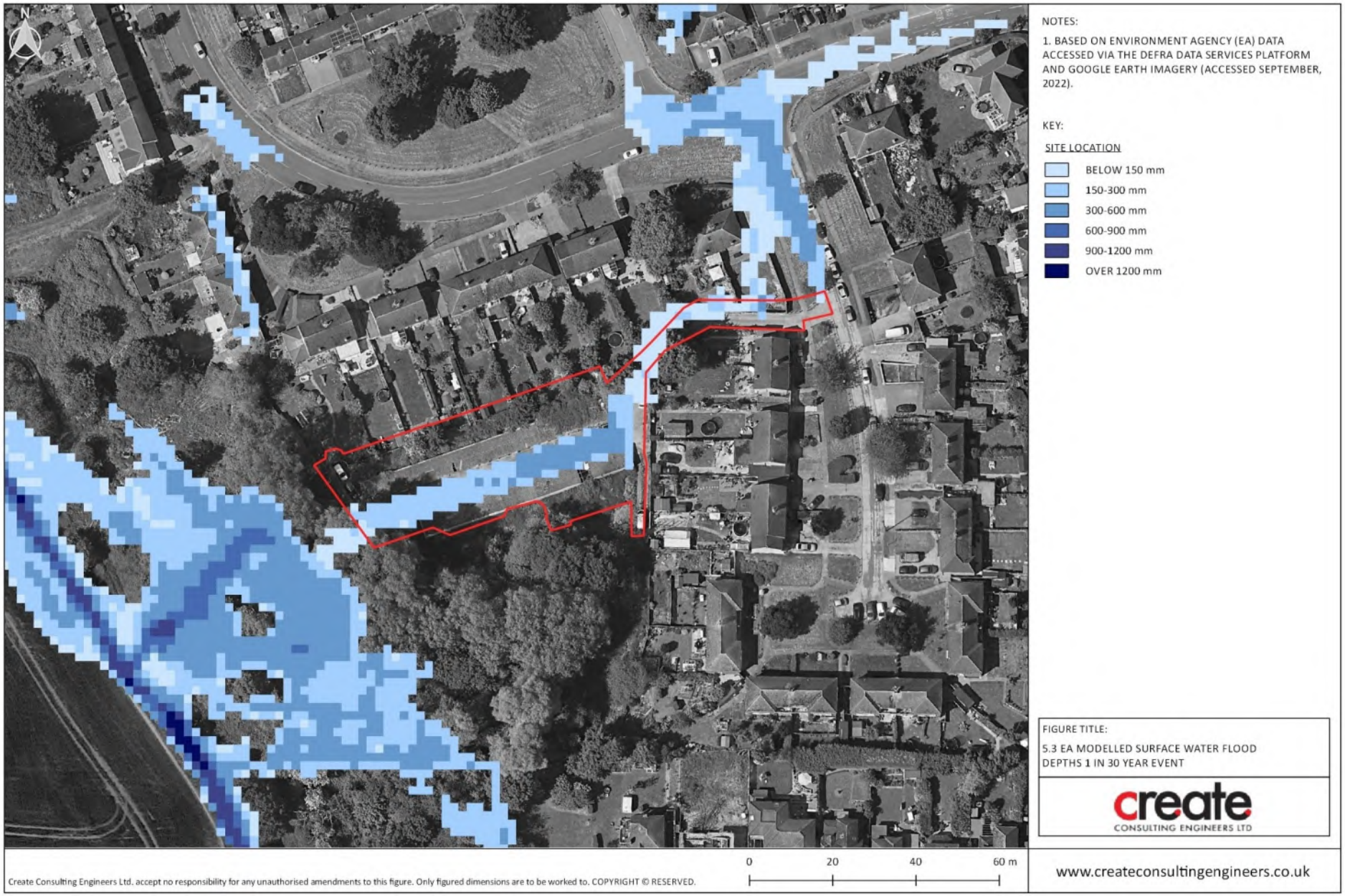


Figure 5.3: Environment Agency Surface Water Flood Depth Map 3.3%

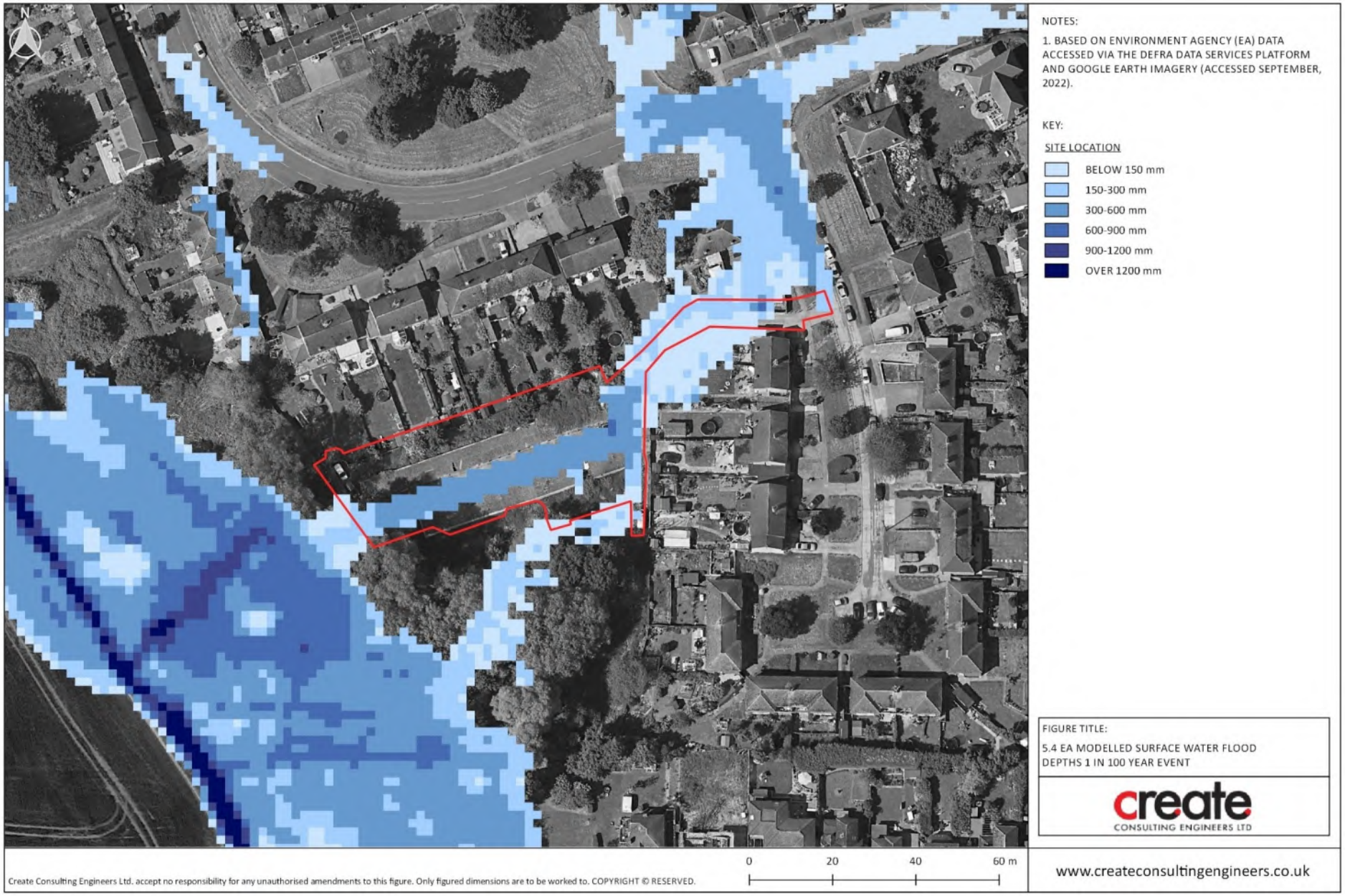


Figure 5.4: Environment Agency Surface Water Flood Depth Map 1% Event

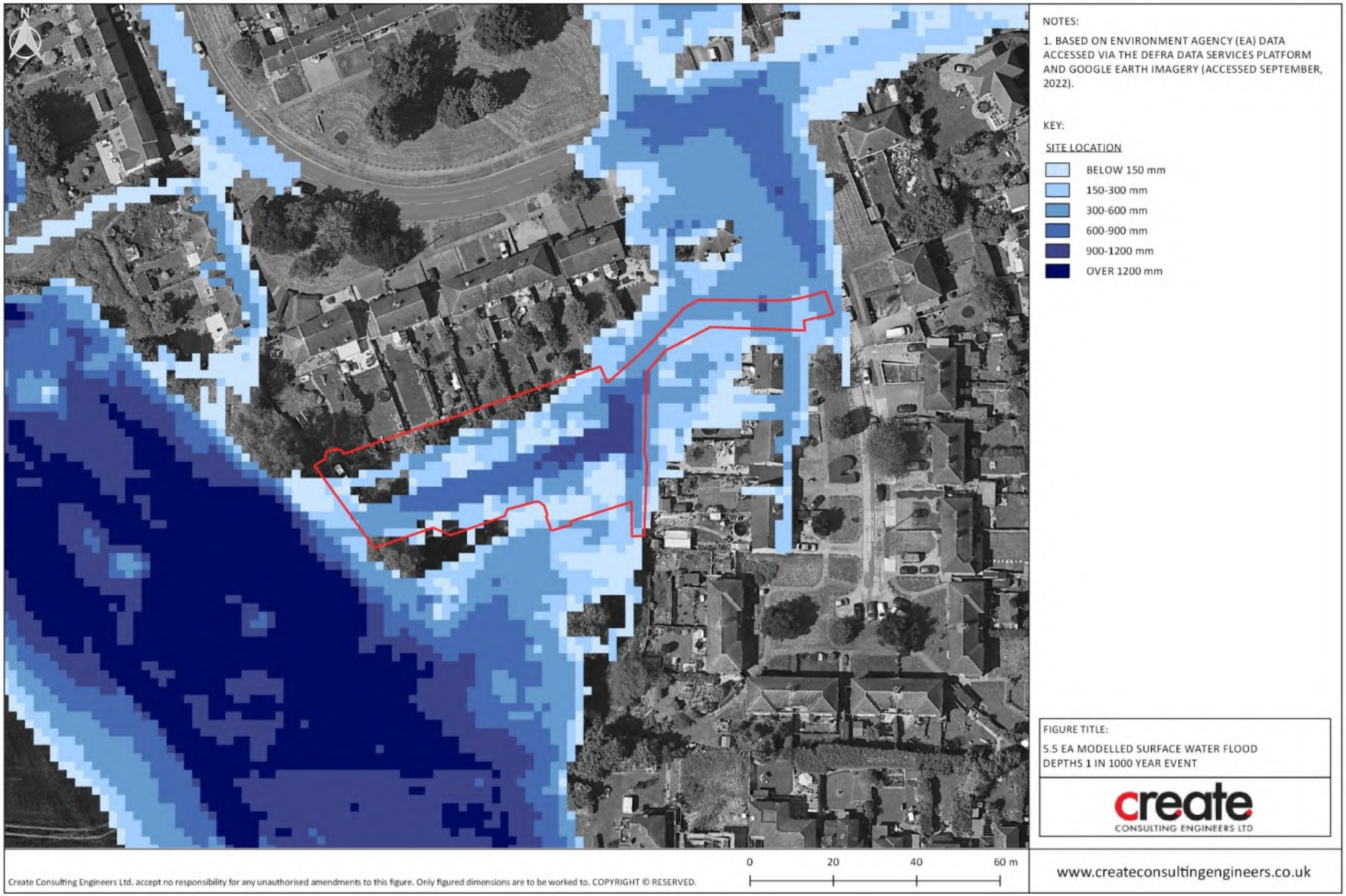


Figure 5.5: Environment Agency Surface Water Flood Depth Map 0.1% Event

Figure 5.6: Environment Agency Risk of Flooding from Reservoirs Map

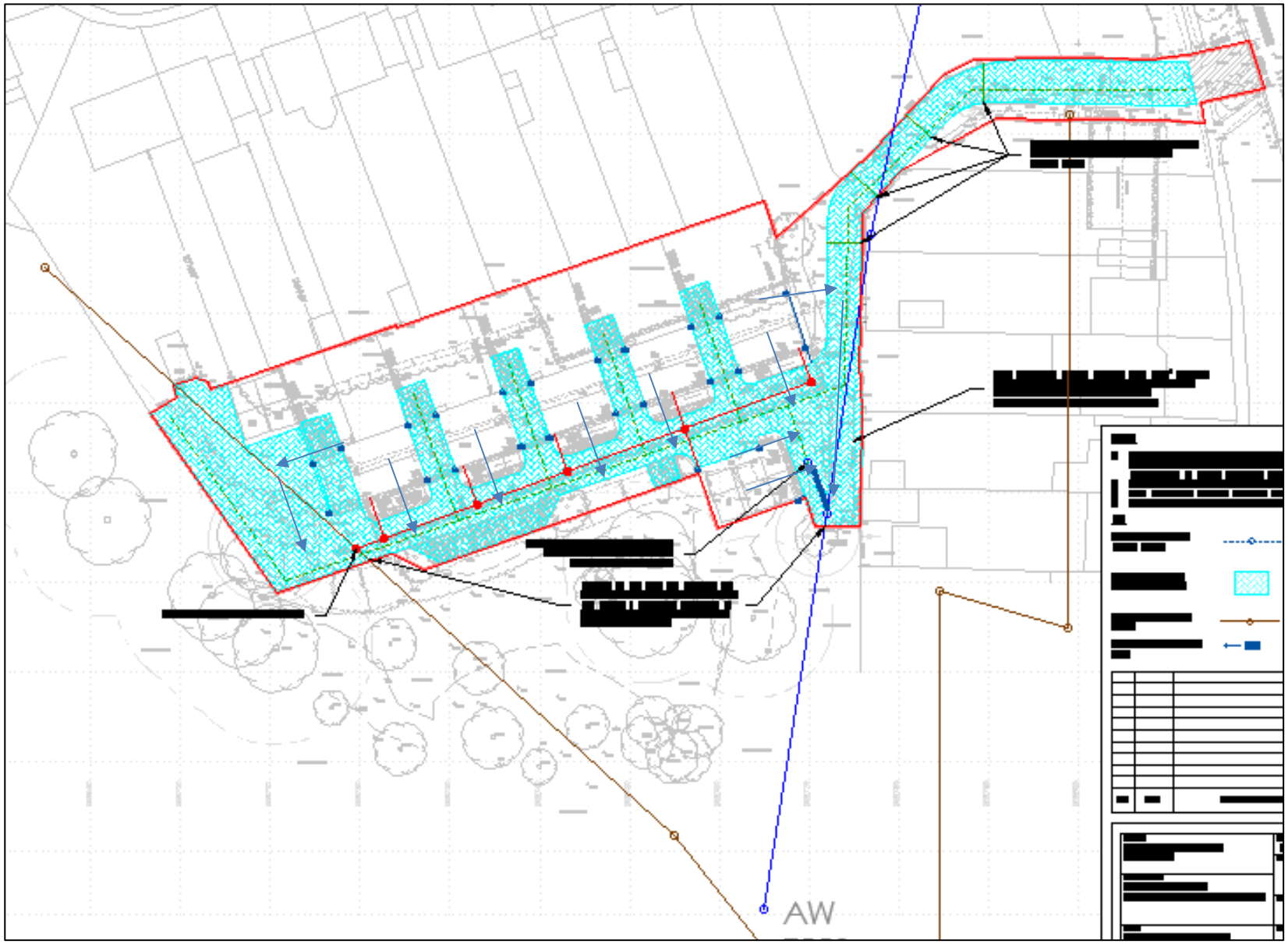
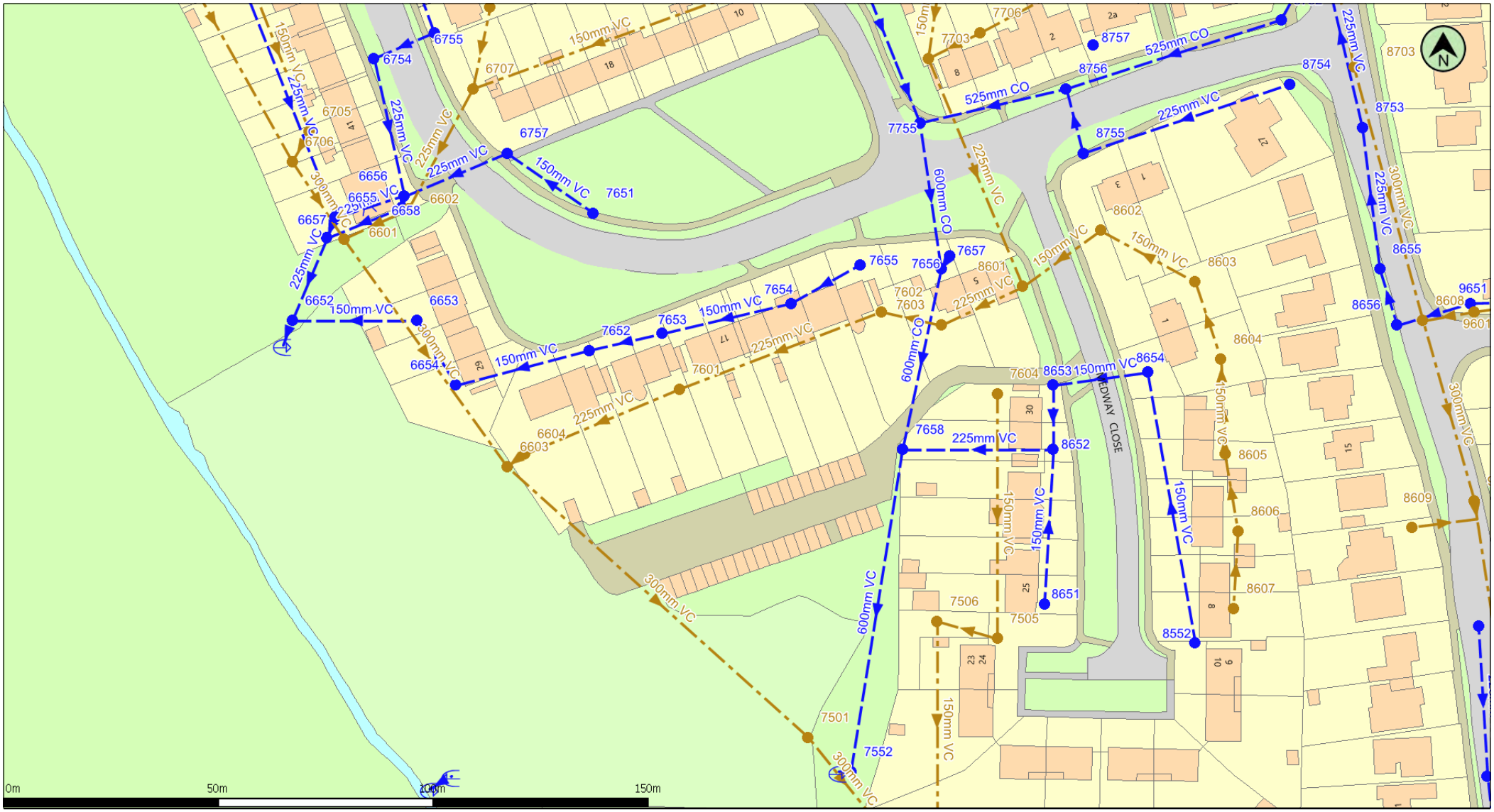


Figure 6.1: Indicative Exceedance Routes

Source: Drawing XXXXX by XXXX

APPENDICES

APPENDIX A



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Date: 26/09/22 | Scale: 1:1250 | Map Centre: 568741,207649 | Data updated: 31/08/22 | Our Ref: 960195 - 3 | Wastewater Plan A4

This plan is provided by Anglian Water pursuant its obligations under the Water Industry Act 1991 sections 198 or 199. It must be used in conjunction with any search results attached. The information on this plan is based on data currently recorded but position must be regarded as approximate. Service pipes, private sewers and drains are generally not shown. Users of this map are strongly advised to commission their own survey of the area shown on the plan before carrying out any works. The actual position of all apparatus MUST be established by trial holes. No liability whatsoever, including liability for negligence, is accepted by Anglian Water for any error or inaccuracy or omission, including the failure to accurately record, or record at all, the location of any water main, discharge pipe, sewer or disposal main or any item of apparatus. This information is valid for the date printed. This plan is produced by Anglian Water Services Limited (c) Crown copyright and database rights 2022 Ordnance Survey 100022432.This map is to be used for the purposes of viewing the location of Anglian Water plant only. Any other uses of the map data or further copies is not permitted. This notice is not intended to exclude or restrict liability for death or personal injury resulting from negligence.

- Foul Sewer
- Surface Sewer
- Combined Sewer
- Final Effluent
- Rising Main*
- Private Sewer*
- Decommissioned Sewer*
- Outfall*
- Inlet*
- Manhole*
- Sewage Treatment Works
- Public Pumping Station
- Decomissioned Pumping Station

*(Colour denotes effluent type)

claire.seymour@createconsultingengineers.co.uk

P22-2709 Chelmsford

love every drop anglianwater

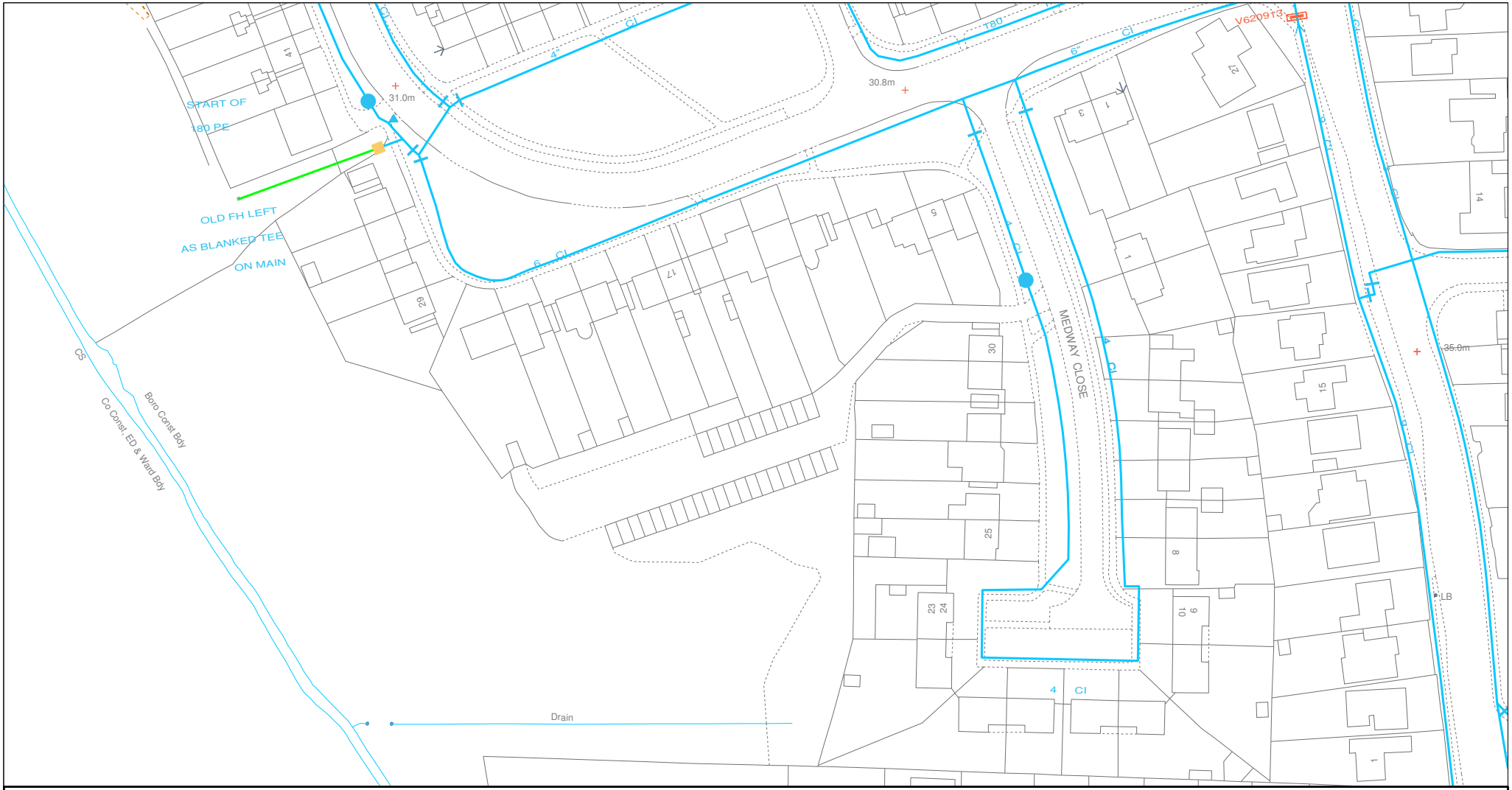
Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
6601	F	29.82	27.32	2.5
6602	F	30.85	28.53	2.32
6603	F	29.97	27.2	2.77
6604	F	30.77	27.75	3.02
6705	F	-	-	-
6706	F	-	-	-
6707	F	31.82	29.91	1.91
6708	F	32.51	30.5	2.01
7501	F	28.07	26.94	1.13
7505	F	30.85	28.21	2.64
7506	F	30.2	27.96	2.24
7601	F	31.68	27.95	3.73
7602	F	31.42	28.22	3.2
7603	F	30.82	28.33	2.49
7604	F	30.92	29.35	1.57
7703	F	32.35	29.56	2.79
7706	F	32.4	29.98	2.42
8601	F	30.81	28.44	2.37
8602	F	31.15	29.53	1.62
8603	F	32.3	29.94	2.36
8604	F	32.54	29.98	2.56
8605	F	33.41	32.12	1.29
8606	F	33.66	32.62	1.04
8607	F	33.71	33.19	0.52
8608	F	35.04	31.13	3.91
8609	F	-	-	-
8703	F	33.47	31.56	1.91
9601	F	35.62	33.29	2.33
9613	F	34.9	30.91	3.99
6652	S	28.47	27.87	0.6
6653	S	29.99	27.92	2.07
6654	S	30.07	-	-

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
6655	S	29.98	28.16	1.82
6656	S	30.89	29.02	1.87
6657	S	-	-	-
6658	S	-	-	-
6754	S	31.24	29.9	1.34
6755	S	31.73	30.31	1.42
6757	S	31.61	29.83	1.78
7552	S	27.7	26.26	1.44
7651	S	31.59	30.24	1.35
7652	S	30.92	29.31	1.61
7653	S	31.41	29.73	1.68
7654	S	31.65	30.25	1.4
7655	S	31.45	30.61	0.84
7656	S	30.88	28.83	2.05
7657	S	30.98	29.35	1.63
7658	S	29.57	28.17	1.4
7755	S	31.74	29.78	1.96
8552	S	33.05	-	-
8651	S	31.11	30.06	1.05
8652	S	30.89	29.5	1.39
8653	S	31.04	29.99	1.05
8654	S	32.12	30.65	1.47
8655	S	34.59	33.36	1.23
8656	S	35.03	33.56	1.47
8752	S	32.77	30.72	2.05
8753	S	33.86	32.25	1.61
8754	S	32.73	30.78	1.95
8755	S	31.34	30.25	1.09
8756	S	31.48	29.82	1.66
8757	S	-	-	-
9554	S	34.46	32.95	1.51
9561	S	-	-	-

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
9651	S	35.63	33.68	1.95

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

APPENDIX B



Valves/Regulators

Fittings/Symbols

Storage/Operations

Network Types
- Distribution
- Treated
- Raw
- Fire
- Supply

Specific Main Types
- Abandoned Asbestos
- Abandoned
- Out of Commission
- Private
- Proposed

Area Types
- Water Quality
- District Metering
- Easement

ESSEX&SUFFOLK WATER living water

User : OLIVA

Title : 0000

Date : 03/10/2022

Centre Point : 568754,207638

Map Sheet : TL6807NE

10 m

APPENDIX C

Vicky Luck

From: George Baker
Sent: 01 December 2022 16:04
To: planningliason@anglianwater.co.uk
Subject: P22-2709 - Rectory Lane, Glebe Road and Medway Close Car Parks, Chelmsford (plus St Michaels Drive and East Hanningfield Sites No.1 and No.2)
Attachments: 2809_02_005 Preliminary Surface Water Drainage Strategy (i) (St Michaels Drive).pdf; 2709_02_004 Preliminary Foul and Surface Water Drainage Strategy (i) (Medway Close).pdf; 2709_02_001 Preliminary Surface Water Drainage Strategy (ii).pdf; RE: PPE-0142790-Decoy Road; 960195_A4_Wastewater Site 4.pdf; 960195_A4 _Wastewater Site 3.pdf; 960195_A4_Wastewater Sites 5 and 6.pdf

Hi!

George Baker here from Create Consulting Engineers. We're currently undertaking the Foul and Surface Water drainage strategies for several Chelmsford sites for Chelmsford City Council.
I am contacting the planning liaison directly as four of the sites we've been allocated have less than 10 residential dwellings.
In line with AW guidance, as attached in the email correspondence with Sandra Olim, this should mean that we just have to submit a s106 application to connect instead of having to submit a full Pre planning enquiry.
Can AW confirm that this would be the case for our sites?

Below is a summary of the proposed drainage strategies for the sites:

East Hanningfield Site: south

Surface Water: The surface water flows from the 1 dwelling are proposed to be stored in tanked permeable paving, then be discharged via a flow control hydrobrake at 1.0l/s. This will then connect to AW manhole 8959 (NGR 576867 200929) via gravity.
Foul Water: The Foul Water flows from the 1 dwelling are proposed to drain via gravity to AW manhole 8901 (NGR 576869 200913)

East Hanningfield Site: west

Surface Water: The surface water flows from the 3 dwellings are proposed to be stored in tanked permeable paving, then be discharged via a flow control hydrobrake at 1.0l/s. This will then connect to AW manhole 8953 (GR 576817 200927) via gravity.
Foul Water: The Foul Water flows from the 3 dwellings are proposed to drain via gravity to AW manhole 8905 (NGR 576825 200929)

Medway Close

Surface Water: The surface water flows from the 6 dwellings are proposed to be stored in tanked permeable paving, the it will discharge via a flow control hydrobrake at 1.0l/s. This will the connect to the AW network on the pipe run to the east of the site at a new connection or at manhole 7552 (NGR 568765 207563) via gravity.
Foul Water: Currently there is a foul water sewer crossing the western side of the Site. It is proposed that we connect to either a new connection on the pipe run or to AW manhole 7501 (NGR 568755 207571)

St Michaels Drive

Surface Water: The surface water for the site is not connecting to the AW network as there are no surface water sewers in the vicinity of the site.

Foul Water: There are foul water assets in the eastern footway of medway close, it is assumed that the site will drain via gravity to AW manhole 4505.

Kind Regards,

George Baker
Graduate Flood Risk Consultant

Create Consulting Engineers Ltd
15 Princes Street|Norwich|NR3 1AF
T 01603 877 010

APPENDIX D

Location : **Medway Close, Chelmsford**
M5-60 : 20 mm Wallingford Method - maps
r : 0.45

For different durations, From Table 1

Duration, D	Z1			
15 min	0.65	**M5-15:**	Z1 x M5-60	13.00 mm
30 min	0.82	**M5-30:**	Z1 x M5-60	16.40 mm
60 min	1	**M5-60:**	Z1 x M5-60	20.00 mm
6hr	1.51	**M5-360:**	Z1 x M5-60	30.20 mm

For different return intervals,
From Table 2*

		Z2	
Duration, D	M1	M30	M100
15 min	0.62	1.52	1.96
30 min	0.62	1.53	2.00
60 min	0.64	1.54	2.03
6 hr	0.68	1.51	1.97

Average point intensity, API = I/(D/60)

	D min	Calculation	I mm	API mm/hr
M 1-15	15	M5-15*Z2(M1)	8.06	32.24
M 1-30	30	M5-30*Z2(M1)	10.17	20.34
M 1-60	30	M5-360*Z2(M1)	12.80	25.60
M1-360	360	M5-360*Z2(M1)	20.54	3.42
M 30-15	15	M5-15*Z2(M30)	19.76	79.04
M 30-30	30	M5-30*Z2(M30)	25.09	50.18
M 30-60	60	M5-60*Z2(M30)	30.80	30.80
M30-360	360	M5-360*Z2(M30)	45.60	7.60
M 100-15	15	M5-15*Z2(M100)	25.48	101.92
M 100-30	30	M5-30*Z2(M100)	32.80	65.60
M100-60	60	M5-60*Z2(M100)	40.60	40.60
M100-360	360	M5-360*Z2(M100)	59.49	9.92

Peak Runoff
Q=2.78CiA Rational Method, SUDS Manual Section 4.3.3

where: (1) C = Cv Cr
Cv = 1 **
Cr = 1.3 constant value for design purposes
therefore , C = 1.3

(2) i = API, defined above Q=2.78CiA
(3) A = areas measured for subcatchments

	i mm/hr	Contributing Impermeable Area Ha Site 0.2044	 Per hectare 1
M 1-15	32.24	23.82	116.52
M 1-30	20.34	15.02	73.49
M 1-60	25.60	18.91	73.49
M1-360	3.42	2.53	12.37
M 30-15	79.04	**58.39**	285.65
M 30-30	50.18	37.07	181.36

	i mm/hr	Contributing Impermeable Area Ha Site 0.2044	 Per hectare 1
M 30-60	30.80	22.75	181.36
M30-360	7.60	5.61	27.47
M 100-15	101.92	**75.29**	368.34
M 100-30	65.60	48.46	237.08
M 100-60	40.60	29.99	237.08
M100-360	9.92	7.32	35.84

Table 1

	Rainfall Duration D									
Minutes					Hours					
r	5	10	15	30	1	2	4	6	10	24
0.12	0.22	0.34	0.45	0.67	1.00	1.48	2.17	2.75	3.70	6.00
0.15	0.25	0.38	0.48	0.69	1.00	1.42	2.02	2.46	3.32	4.90
0.18	0.27	0.41	0.51	0.71	1.00	1.36	1.86	2.25	2.86	4.30
0.21	0.29	0.43	0.54	0.73	1.00	1.33	1.77	2.12	2.62	3.60
0.24	0.31	0.46	0.56	0.75	1.00	1.30	1.71	2.00	2.40	3.35
0.27	0.33	0.48	0.58	0.76	1.00	1.27	1.64	1.88	2.24	3.10
0.30	0.34	0.49	0.59	0.77	1.00	1.25	1.57	1.78	2.12	2.84
0.33	0.35	0.50	0.61	0.78	1.00	1.23	1.53	1.73	2.04	2.60
0.36	0.36	0.51	0.62	0.79	1.00	1.22	1.48	1.67	1.90	2.42
0.39	0.37	0.52	0.63	0.80	1.00	1.21	1.46	1.62	1.82	2.28
0.42	0.38	0.53	0.64	0.81	1.00	1.20	1.42	1.57	1.74	2.16
0.45	0.39	0.54	0.65	0.82	1.00	1.19	1.38	1.51	1.68	2.03

Table 2 - England and Wales

	Growth Factor Z2									
M5 rainfall	M1	M2	M3	M4	M5	M10	M20	M50	M100	M30 interpolated
5.00	0.62	0.79	0.89	0.97	1.02	1.19	1.36	1.56	1.79	1.25
10.00	0.61	0.79	0.90	0.97	1.03	1.22	1.41	1.65	1.91	1.49
15.00	0.62	0.80	0.90	0.97	1.03	1.24	1.44	1.70	1.99	1.53
20.00	0.64	0.81	0.90	0.97	1.03	1.24	1.45	1.73	2.03	1.54
25.00	0.66	0.82	0.91	0.97	1.03	1.24	1.44	1.72	2.01	1.53
30.00	0.68	0.83	0.91	0.97	1.03	1.22	1.42	1.70	1.97	1.51
40.00	0.70	0.84	0.92	0.97	1.02	1.19	1.38	1.64	1.89	1.47
50.00	0.72	0.85	0.93	0.98	1.02	1.17	1.34	1.58	1.81	1.42
75.00	0.76	0.87	0.93	0.98	1.02	1.14	1.28	1.47	1.64	1.34
100.00	0.78	0.88	0.94	0.98	1.02	1.13	1.25	1.40	1.54	1.30
150.00	0.78	0.88	0.94	0.98	1.01	1.12	1.21	1.33	1.45	1.25
200.00	0.78	0.88	0.94	0.98	1.01	1.11	1.19	1.30	1.40	1.23

* The rainfall depths from cells E8-E11 are compared with the depths given in cells J29-J40 and Z2 interpolated accordingly for each return period

** Cv varies between 0.6 (rapidly draining soils) and 0.9 (heavy clay) with an average of 0.75 taken if ground conditions not known.

2.78*C= **3.614**

IoH 124 Calculation of Greenfield Runoff Rate

Project:	P22-2709 Medway Close, Chelmsford			
OS Location	568750	E	207628	N
Date:	13/10/2022			
Written By:	GGB	**Checked By:**	GS	

SAAR	569	mm
Pro Rata Site Area =	50	ha
	0.5	km^2
Soil WRA Class	3	
Soil Type SPR Value	0.4	

$Qbar_{rural}$ = 0.00108 x (AREA)0.89 X (SAAR)1.17 X (SOIL)2.17

Qbar-50ha = 0.133 m^3/s

From Regional Growth Curve Factor

Region: 6

Return period	1	2	5	10	25	30	50	100	500
Growth Factor	0.85	0.88	1.28	1.62	2.14	2.24	2.62	3.19	4.49

Q_1 50ha =	0.113	m^3/s	=	113.47	l/s	=	2.269	l/s/ha
Q_2 50ha =	0.117	m^3/s	=	117.47	l/s	=	2.349	l/s/ha
Q_5 50ha =	0.171	m^3/s	=	170.87	l/s	=	3.417	l/s/ha
Q_{10} 50ha =	0.216	m^3/s	=	216.26	l/s	=	4.325	l/s/ha
Q_{25} 50ha =	0.286	m^3/s	=	285.68	l/s	=	5.714	l/s/ha
Q_{30} 50ha =	0.299	m^3/s	=	299.02	l/s	=	5.980	l/s/ha
Q_{50} 50ha =	0.350	m^3/s	=	349.75	l/s	=	6.995	l/s/ha
Q_{100} 50ha =	0.426	m^3/s	=	425.84	l/s	=	8.517	l/s/ha
Q_{500} 50ha =	0.599	m^3/s	=	599.38	l/s	=	11.988	l/s/ha

Factored for Development Impermeable Area

Site Area = 0.1568

Q_{bar} site =	0.000	m^3/s	=	0.4	l/s	=	2.7	l/s/ha
Q_1 site =	0.000	m^3/s	=	0.4	l/s	=	2.3	l/s/ha
Q_2site =	0.000	m^3/s	=	0.4	l/s	=	2.3	l/s/ha
Q_5site =	0.001	m^3/s	=	0.5	l/s	=	3.4	l/s/ha
Q_{10} site =	0.001	m^3/s	=	0.7	l/s	=	4.3	l/s/ha
Q_{25} site =	0.001	m^3/s	=	0.9	l/s	=	5.7	l/s/ha
Q_{30} site =	0.001	m^3/s	=	0.9	l/s	=	6.0	l/s/ha
Q_{50} site =	0.001	m^3/s	=	1.1	l/s	=	7.0	l/s/ha
Q_{100} site =	0.001	m^3/s	=	1.3	l/s	=	8.5	l/s/ha
Q_{500} site =	0.002	m^3/s	=	1.9	l/s	=	12.0	l/s/ha

Note: For greenfield site, the critical duration is generally not relevant and the prediction of the peak rate of runoff using IoH124 does not require consideration of storm duration.

Soil WRA Class	Soil Type SPR Value
1	0.15
2	0.3
3	0.4
4	0.45
5	0.5

	Return Period								
Region	1	2	5	10	25	30	50	100	500
1	0.85	0.90	1.20	1.45	1.81	*1.87*	2.12	2.48	3.25
2	0.85	0.91	1.11	1.42	1.81	*1.88*	2.17	2.63	3.45
3	0.85	0.94	1.25	1.45	1.70	*1.74*	1.90	2.08	2.73
4	0.85	0.89	1.23	1.49	1.87	*1.93*	2.20	2.57	3.62
5	0.85	0.89	1.29	1.65	2.25	2.37	2.83	3.56	5.02
6	0.85	0.88	1.28	1.62	2.14	2.24	2.62	3.19	4.49
7	0.85	0.88	1.28	1.62	2.14	2.24	2.62	3.19	4.49
8	0.85	0.88	1.23	1.49	1.84	*1.89*	2.12	2.42	3.41
9	0.85	0.93	1.21	1.42	1.71	*1.75*	1.94	2.18	2.86
10	0.85	0.93	1.19	1.38	1.64	*1.68*	1.85	2.08	2.73

APPENDIX E

Design Settings

Rainfall Methodology	FEH-13	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	0.900
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
Carpark 1	0.151	5.00	29.400		-40.843	90.182	0.700
7552			27.700	1500	-25.279	90.222	1.440
1			29.400	1200	-35.507	90.147	0.800
2			29.400	1200	-29.441	90.209	1.862

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	Carpark 1	1	1.000	0.600	28.700	28.600	0.100	10.0	150	5.01	50.0
1.002	2	7552	4.162	0.600	27.538	26.260	1.278	3.3	600	5.10	50.0
1.001	1	2	6.100	0.600	28.600	28.519	0.081	75.0	150	5.09	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	3.204	56.6	20.5	0.550	0.650	0.151	0.0	62	2.953
1.002	13.552	3831.8	20.5	1.262	0.840	0.151	0.0	31	3.727
1.001	1.162	20.5	20.5	0.650	0.731	0.151	0.0	123	1.320

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	1.000	10.0	150	Circular	29.400	28.700	0.550	29.400	28.600	0.650
1.002	4.162	3.3	600	Circular	29.400	27.538	1.262	27.700	26.260	0.840
1.001	6.100	75.0	150	Circular	29.400	28.600	0.650	29.400	28.519	0.731

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	Carpark 1		Junction		1	1200	Manhole	Adoptable
1.002	2	1200	Manhole	Adoptable	7552	1500	Manhole	Adoptable
1.001	1	1200	Manhole	Adoptable	2	1200	Manhole	Adoptable

Simulation Settings

Rainfall Methodology	FEH-13	Skip Steady State	x	2 year (l/s)	0.6
Summer CV	0.750	Drain Down Time (mins)	240	30 year (l/s)	1.2
Winter CV	0.840	Additional Storage (m³/ha)	20.0	100 year (l/s)	1.6
Analysis Speed	Normal	Check Discharge Rate(s)	✓	Check Discharge Volume	x

Storm Durations

15	60	180	360	600	960	2160	4320	7200	10080
30	120	240	480	720	1440	2880	5760	8640	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	35	0	0
100	45	0	0

Pre-development Discharge Rate

Site Makeup	Greenfield	Growth Factor 30 year	1.95
Greenfield Method	IH124	Growth Factor 100 year	2.48
Positively Drained Area (ha)	0.238	Betterment (%)	0
SAAR (mm)	569	QBar	0.6
Soil Index	3	Q 2 year (l/s)	0.6
SPR	0.40	Q 30 year (l/s)	1.2
Region	6	Q 100 year (l/s)	1.6
Growth Factor 2 year	0.88		

Node 1 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Downstream Link	1.001	Sump Available	✓
Replaces Downstream Link	✓	Product Number	CTL-SHE-0049-1000-0800-1000
Invert Level (m)	28.600	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.800	Min Node Diameter (mm)	1200
Design Flow (l/s)	1.0		

Node Carpark 1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	28.700	Slope (1:X)	1000.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	
Safety Factor	1.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	209.000		

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.91%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	Carpark 1	200	28.848	0.148	9.4	17.0011	0.0000	OK
30 minute winter	7552	27	26.267	0.007	0.9	0.0000	0.0000	OK
240 minute winter	1	200	28.848	0.248	8.5	0.2800	0.0000	SURCHARGED
30 minute winter	2	27	27.546	0.008	0.9	0.0090	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	Carpark 1	1.000	1	8.5	0.640	0.150	0.0176	
240 minute winter	1	Hydro-Brake®	2	0.9				
30 minute winter	2	1.002	7552	0.9	1.516	0.000	0.0026	12.0

Results for 30 year +35% CC Critical Storm Duration. Lowest mass balance: 99.91%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	Carpark 1	360	29.048	0.348	11.3	77.9789	0.0000	SURCHARGED
15 minute winter	7552	9	26.267	0.007	0.9	0.0000	0.0000	OK
360 minute winter	1	360	29.048	0.448	9.0	0.5071	0.0000	SURCHARGED
15 minute winter	2	9	27.546	0.008	0.9	0.0090	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	Carpark 1	1.000	1	9.0	0.613	0.160	0.0176	
360 minute winter	1	Hydro-Brake®	2	0.9				
15 minute winter	2	1.002	7552	0.9	1.516	0.000	0.0026	13.9

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.91%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	Carpark 1	585	29.185	0.485	10.6	121.2587	0.0000	FLOOD RISK
15 minute winter	7552	8	26.267	0.007	0.9	0.0000	0.0000	OK
600 minute winter	1	585	29.185	0.585	8.6	0.6611	0.0000	FLOOD RISK
15 minute winter	2	8	27.546	0.008	0.9	0.0090	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	Carpark 1	1.000	1	8.6	0.685	0.152	0.0176	
600 minute winter	1	Hydro-Brake®	2	0.9				
15 minute winter	2	1.002	7552	0.9	1.516	0.000	0.0026	13.7

APPENDIX F

Essex County Council

SuDS Water quantity and Quality – LLFA Technical Assessment Proforma

Introduction

This proforma identifies the information required by Essex LLFA to enable technical assessment the Designers approach to water quantity and water quality as part of SuDS design approach in compliance with Essex SuDS Design Guide.

Completion of the proforma will also allow for technical assessment against Non-statutory technical standards (NSTS) for Sustainable Drainage. The proforma will accompany the site specific Flood Risk Assessment and Drainage Strategy submitted as part of the planning application.

Please complete this form in full for full applications and the coloured sections for outline appllications. This will help us identify what information has been included and will assist with a smoother and quicker application.

Instructions for use

Use the units defined for input of figures
Numbers in brackets refer to accompanying notes.
Where ……m^3 .....m^3/m^2 *are noted – both values should be filled in.*

Site details

1.1	Planning application reference (if known)		
1.2	Site name	Land Off Medway Close, Chelmsford	
1.3	Total application site area (1)	0.2382	ha
1.4	Predevelopment use (4)	Brownfield	
1.5	Post development use	Residential	
	If other, please sepcify		
1.6	Urban creep applicable	Yes	if yes, factor applied: 10
1.7	Proposed design life / planning application life	100	
1.8	Method(s) of discharge: (5)		

☐ *Reuse* ☐ *Infiltration* ☐ *Hybrid* ☐ *Waterbody* ☑ *Storm sewer* ☐ *Combined sewer*

1.9	Is discharge direct to estuary / sea	No
1.10	Have agreements in principle (where applicable) for discharge been provided	No

Essex County Council

SuDS Water quantity and Quality – LLFA Technical Assessment

Calculation inputs

2.1	Area within site which is drained by SuDS (2)	2382	m^2
2.2	Impermeable area drained pre development (3)	2044	m^2
2.3	Impermeable area drained post development (3)	1568	m^2
2.4	Additional impermeable area (2.3 minus 2.2)	-468	m^2
2.5	Method for assessing greenfield runoff rate	IH124	
2.6	Method for assessing brownfield runoff rate	RATIONAL METHOD	
2.7	Coefficient of runoff (Cv) (6)	0.75	
2.8	Source of rainfall data (FEH Preferred)	FEH	
2.9	Climate change factor applied 45	%	

Attenuation (positive outlet)

2.10 Drainage outlet at risk of drowning (tidal locking, elevated water levels in watercourse/sewer)
Note: Vortex controls require conditions of free discharge to operate as per manufacturers specification.

2.11 Invert level at final outlet 27.538 mAOD

2.12 Design level used for surcharge water level at point of discharge (16) 28.6 mAOD

Infiltration (Discharge to Ground)

2.13	Have infiltration tests been undertaken	No	
2.14	If yes, which method has been used	N/A	
2.15	Infiltration rate (where applicable)	N/A	m/s
2.16	Depth to highest known ground water table		mAOD
2.17	If there are multiple infiltration features please specify where they can be found in the FRA		
2.18	Depth of infiltration feature		mAOD
2.19	Factor of safety used for sizing infiltration storage		

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SuDS Water quantity and Quality – LLFA Technical Assessment Proforma

Calculation outputs

Sections 3 and 4 refer to site where storage is provided by full attenuation or partial infiltration. Where all flows are infiltrated to ground go straight to Section 6.

3.0	**Greenfield runoff rates** (incl. Urban Creep)					
3.1	1 in 1 year rainfall	2.3	l/s/ha,	0.4	l/s for the site	
3.2	1 in 30 year rainfall	6.0	l/s/ha,	0.9	l/s for the site	
3.3	1 in 100 year rainfall + CCA	8.5	l/s/ha,	1.3	l/s for the site	
4.0	**Brownfield runoff rates** (incl. Urban Creep)					
4.1	1 in 1 year rainfall		l/s/ha,	23.82	l/s for the site	
4.2	1 in 30 year rainfall		l/s/ha,	58.39	l/s for the site	
4.3	1 in 100 year rainfall + CCA		l/s/ha,	75.29	l/s for the site	
5.0	Proposed maximum rate of runoff from site (incl. Urban Creep) (7)					
5.1	1 in 1 year rainfall	1	l/s/ha,	1	l/s for the site	
5.2	1 in 30 year rainfall	1	l/s/ha,	1	l/s for the site	
5.3	1 in 100 year rainfall + CCA	1	l/s/ha,	1	l/s for the site	
6.0	Attenuation storage to manage flow rates from site (incl. **Climate Change Allowance** (CCA) and Urban Creep)					
6.1	Storage - 1 in 100 year + CCA (9)	121.2587	m^3	121.2587/1	m^3/m^2	
6.2	50% storage drain down time 1 in 30 years				hours	
7.0	Controlling volume of runoff from the site(10)					
7.1	Pre development runoff volume(12) (development area)	n/a			m^3 for the site	
7.2	Post development runoff volume (unmitigated) (12)	n/a			m^3 for the site	
7.3	Volume to be controlled (5.2 - 5.1)	n/a			m^3 for the site	

Essex County Council

7.4	Volume control provided by:		
	- Interception losses(13)		m^3
	- Rain harvesting (14)		m^3
	- Infiltration		m^3
	- Attenuation	121.2587	m^3
	- Separate volume designated as long term storage(15)		m^3
7.5	Total volume control (sum of inputs for 5.4)	121.2587	m^3 (17)

8.0 Site storage volumes (full infiltration only)

8.1	Storage - 1in 30 year + CCA (8)	m^3	m^3/m^2 (of developed impermeable area)
8.2	Storage - 1 in 100 year + CCA (11)	m^3	m^3/m^2

SuDS Water quantity and Quality – LLFA Technical Assessment Proforma

Design Inputs

Proposed site use: Residential

Pollution hazard category (see C753 Table 26.2): Residential Roofs and Individual F

High risk area defined as area storing fuels chemicals, refuelling area, washdown area, loading bay.

Design Outputs

List order of SuDS techniques proposed for treatment: Permeable Paving

Note that gully pots, pipes and tanks are not accepted by Essex LLFA as a form of treatment (for justification see C753 Section 4.1, Table 26.15 and Box B.2)

Are very high pollution risk areas drained separate from SuDS to foul system: No

Other

Please include any other information that is relevant to your application

Essex County Council

SuDS Water quantity and Quality – LLFA Technical Assessment Proforma

Notes

1. All area with the proposed application site boundary to be included.
2. The site area which is positively drained includes all green areas which drain to the SuDS system and area of surface SuDS features. It excludes large open green spaces which do not drain to the SuDS system.
3. Impermeable area should be measured pre and post development. Impermeable surfaces include, roofs, pavements, driveways and paths where runoff is conveyed to the drainage system.
4. Predevelopment use may impact on the allowable discharge rate. The LLFA will seek for reduction in flow rates to GF (Essex SuDS Design Guide).
5. Runoff may be discharge via one or more methods.
6. Sewers for Adoption 6th Edition recommends a Cv of 100% when designing drainage for impermeable area (assumes no loss of runoff from impermeable surfaces) and 0% for permeable areas. Where lower Cv's are used the applicant should justify the selection of Cv.
7. It is Essex County Council's preference that discharge rates for all events up to the 1 in 100 year event plus climate change are limited to the 1 in 1 greenfield rate. This is also considered to mitigate the increased runoff volumes that occur with the introduction of impermeable surfaces. If discharge rates are limited to a range of matched greenfield flows then it is necessary to provide additional mitigation of increased runoff volumes by the provision of Long-term Storage.
8. Storage for the 1 in 30 year must be fully contained within the SuDS components. Note that standing water within SuDS components such as ponds, basins and swales is not classified as flooding. Storage should be calculated for the critical duration rainfall event.
9. Runoff generated from rainfall events up to the 1 in 100 year will not be allowed to leave the site in an uncontrolled way. Temporary flooding of designated areas to shallow depths and velocities may be acceptable.
10. The following information should only be provided if increased runoff volumes are not mitigated by limiting all discharge rates back to the greenfield 1 in 1 year rate.
11. Climate change is specified as 40% increase to rainfall intensity, unless otherwise agreed with the LLFA / EA.
12. To be determined using the 100 year return period 6 hour duration winter rainfall event.
13. Where Source Control is provided Interception losses will occur. An allowance of 5mm rainfall depth can be subtracted from the net inflow to the storage calculation where interception losses are demonstrated. The Applicant should demonstrate use of subcatchments and source control techniques. Further information is available in the SuDS Design Guide.
14. Please refer to Rain harvesting BS for guidance on available storage.
15. Flows within long term storage areas should be infiltrated to the ground or discharged at low flow rate of maximum 2 l/s/ha.
16. Careful consideration should be used for calculations where flow control / storage is likely to be influenced by surcharged sewer or peak levels within a watercourse. Outlets can be tidally locked where discharge is direct to estuary or sea. Calculations should demonstrate that risk of downed outlet has been taken into consideration. Vortex controls require conditions of free discharge to operate as per specification.
17. In controlling the volume of runoff the total volume from mitigation measures should be greater than or equal to the additional volume generated.

PLANS

A3 SHEET @ 1:500

0m 12.5m 25m

N

Site Area= 0.23ha

Accommodation Schedule

Plot No.	Accommodation	Area (m^2)	Amenity (m^2)
01	*4 Bedroom 7 person house*	*110*	*108*
02	*4 Bedroom 7 person house*	*110*	*104*
03	*4 Bedroom 7 person house*	*110*	*104*
04	*4 Bedroom 7 person house*	*110*	*104*
05	*4 Bedroom 7 person house*	*110*	*110*
06	*1 Bedroom 2 person apartment*	*60*	*4*
G1/2	*Private Double Garage*	*42*	

Key:

- Retained Tree
- Proposed Tree
- Permeable gravel driveway
- Concrete pavers
- Cycle Stores
- Bins
- 1800mm h. close boarded timber fence
- 1800mm h. 225mm thick external brick wall

revision

issue PLANNING

client Chelmsford City Council

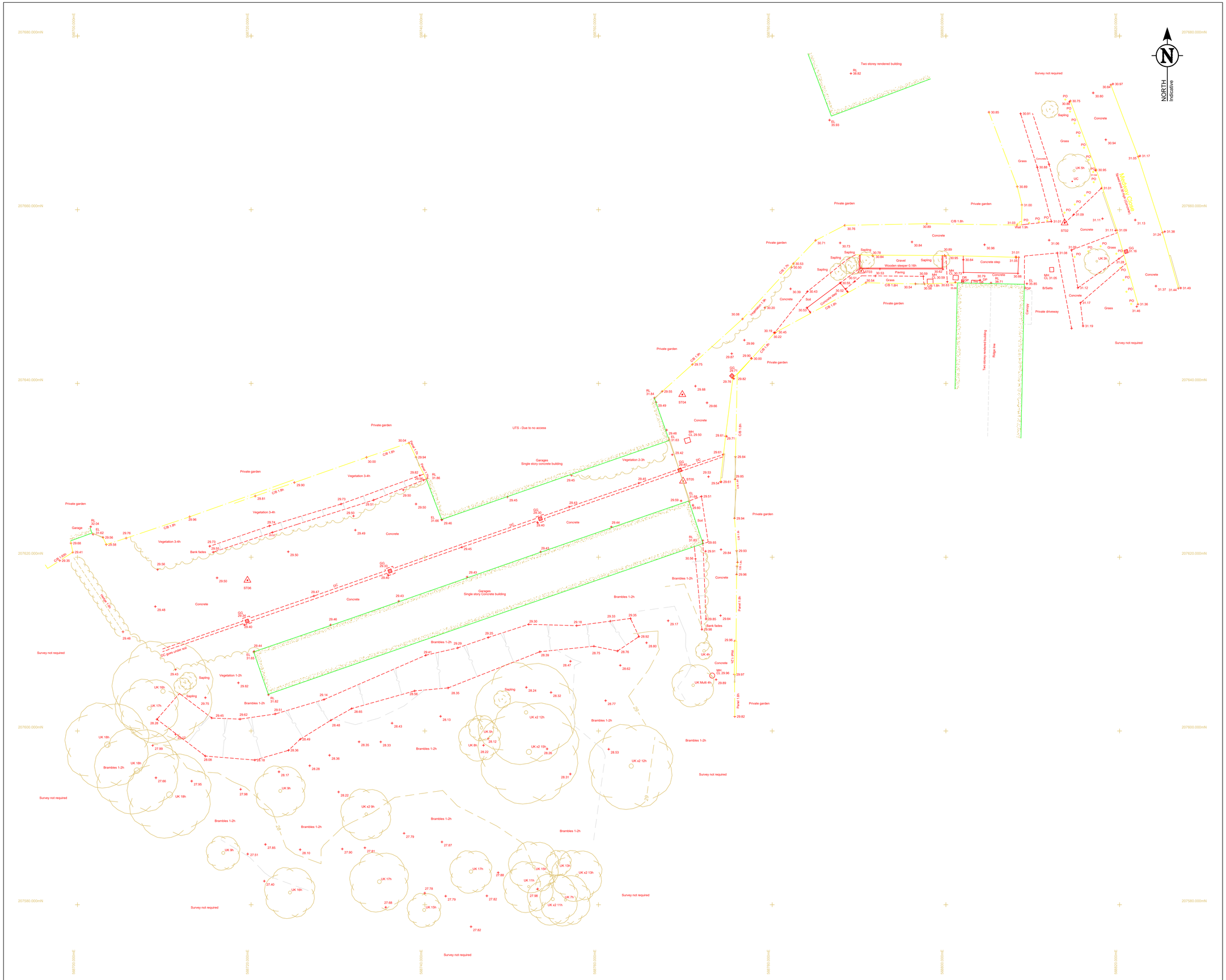
project Medway Close, Chelmsford

title Proposed Block Plan

john finch partnership
chartered architects & town planning consultants

88 Broomfield Road
Chelmsford CM1 1SS
01245 354319/250780
admin@johnfinchpartnership.co.uk
www.johnfinchpartnership.co.uk

date	08.11.22	scale	1:500 @ A3
drawn	jm/jh	checked	jm
dwg no	3556:02	revision	D



TOPOGRAPHICAL & MEASURED BUILDING SURVEYS

ABBREVIATIONS & SYMBOLS

AH	Arch Head Height	ER	Earth Rod	RSD	Roller Shutter Door
A/B	Air Brick	ET	EP+Transformer	RSJ	Rolled Steel Joist
AR	Assumed Route	FB	Flower Bed	SI	Sign Post
AV	Air Valve	FBD	Floor Board Direction	SP	Arch Spring Point Height
BB	Bellsha Beacon	FH	Fire Hydrant	SV	Stop Valve
BH	Bore Hole	FL	Floor Level	SW	Surface Water
BL	Bed Level	FP	Flag Pole	SY	Cable Stay
BO	Bollard	FW	Foul Water	Tac	Tactile Paving
B/P	Brace Post	GG	Gully Grate	TC	Telecom Cover
BS	Bus Stop	GV	Gas Valve	TH	Trial Pit
BU	Bush	HH	Head Height	THL	Threshold Level
B/W	Barbed Wire Fence	IC	Inspection Cover	TL	Traffic Light
BX	Box (Utilities)	IL	Invert Level	ToW	Top of Wall
C/B	Close Board Fence	I/R	Iron Railings	TP	Telegraph Pole
CH	Cill Height	KO	Kerb Outlet	TS	Traffic Signal Cover
CL	Cover Level	LP	Lamp Post	TV	Cable TV Cover
C/L	Chain Link Fence	MH	Manhole	UB	Universal Beam
C/Lev	Ceiling Level	MP	Marker Post	UC	Unknown Cover
Col	Column	NB	Name Board	UK	Unknown Tree
C/P	Chestnut Paling Fence	OHL	Overhead Line (approx)	UMG	Unmade Ground
CR	Cable Riser	Pan	Panel Fence	USB	Under Side Beam
C/W	Chicken Wire	PB	Post Box	UTL	Unable To Lift
DC	Drainage Channel	PM	Parking Meter	UTS	Unable To Survey
DH	Door Head Height	PO	Post	VP	Vent Pipe
Dil.	Dilapidated	P/R	Post & Rail Fence	WB	Waste Bin
DP	Down Pipe	P/W	Post & Wire Fence	WH	Weep Hole
DR	Drain	P/Wall	Partition Wall	WL	Water Level
EBx	Electric Box	RE	Rodding Eye	WM	Water Meter
EC	Electric Supply Cover	RL	Ridge Level	WO	Wash Out
EL	Eaves Level	RP	Reflector Post	CH	Floor to Ceiling Height
EP	Electric Pole	RS	Road Sign	FFC	Floor to False Ceiling Ht
					Survey Control Station

DRAWING NOTES

Topographical Surveys

Trees are drawn to scale showing the average canopy spread. Descriptions and heights should be used as a guide only.

All building names, descriptions, number of storeys, construction type including roof line details are indicative only and taken externally from ground level.

All below ground details including drainage, voids and services have been identified from above ground and therefore all details relating to these features including; sizes, depth, description etc will be approximate only. All critical dimensions and connections should be checked and verified prior to starting work.

Detail, services and features may not have been surveyed if obstructed or not reasonably visible at the time of the survey.

Surveyed physical features may not necessarily represent the legal boundary line.

Measured Building Surveys

Measurements to internal walls are taken to the wall finishes at approx 1m above the floor level and the wall assumed to be vertical.

Cill heights are measured as floor to the cill and head heights are measured from cill to the top of window.

General

The contractor must check and verify all site and building dimensions, levels, utilities and drainage details and connections prior to commencing work. Any errors or discrepancies must be notified to Survey Solutions immediately.

The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

The survey control listed is only to be used for topographical surveys at the stated scale. All control must be checked and verified prior to use.

Do not scale from this drawing.

SURVEY CONTROL CO-ORDINATES

STATIONS	EASTINGS	NORTHINGS	LEVEL	DESCRIPTION
ST01	568803.087	207696.286	30.750	PK Nail
ST02	568813.677	207658.483	31.076	PK Nail
ST03	568790.241	207652.958	30.560	PK Nail
ST04	568769.655	207638.723	29.622	PK Nail
ST05	568769.738	207628.759	29.453	PK Nail
ST06	568719.574	207617.349	29.503	PK Nail

SURVEY GRID AND LEVEL DATUM

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) using GPS Smartnet.

To avoid discrepancies any coordinated data used in conjunction with this survey must be derived directly from this control data.

REV	DESCRIPTION	DRAWN	APPR	DATE

SURVEY SOLUTIONS

LAND SURVEYING
BUILDING SURVEYING
UNDERGROUND SURVEYING
SITE ENGINEERING
MONITORING

0845 040 5969
survey-solutions.co.uk

IPSWICH BEDFORD COVENTRY GLASGOW LONDON MANCHESTER NORWICH NOTTINGHAM YEOVIL

PROJECT TITLE: MEDWAY CLOSE, CHELMSFORD, ESSEX, CM1 2LH				
DRAWING DETAIL: TOPOGRAPHICAL SURVEY Sheet 1 of 1				
CLIENT: CHELMSFORD CITY COUNCIL				SCALE: 1:200
SURVEYOR: GB	SURVEY DATE: 27/04/22	CHECKED BY: JG	APPROVED BY: SB	DWG STATUS: FINAL
DRAWING NUMBER: 41368BWLS-01			REVISION:	ISSUE DATE: 28/04/22

N
Indicative
CREATE

MEDWAY CLOSE

BAFFLES ON PERMEABLE PAVING ON ACCESS ROAD TO BE CONFIRMED AT DETAILED DESIGN STAGE

0.7M PERMEABLE PAVING STORAGE WITH 121.2587m³ STORAGE FOR THE 1 IN 100 YEAR + 45% CLIMATE CHANGE EVENT

HYDROBRAKE RESTRICTING OUTFALL TO THE LOWEST OPERABLE RATE 1.0L/S CL 29.4mAOD IL 28.6mAOD

THE DEVELOPMENT IS WITHIN 6M EASEMENT OF THE SEWER, A BUILDOVER AGREEMENT IS REQUIRED WITH ANGLIAN WATER AT THE DETAILED DESIGN STAGE

ASSUMED INVERT LEVEL 26.9805mAOD

NOTES

1. THIS DRAWING IS BASED ON LAYOUT DRAWING 3556:20 ENTITLED PROPOSED BLOCK PLAN BY JOHN FINCH PARTNERSHIP DATED 09/08/22 AND TOPOGRAPHIC SURVEY 41368BWLS-01 BY SURVEY SOLUTIONS DATED 28/04/2022.
2. FOUL NETWORK INDICATIVE PENDING SVP LOCATIONS
3. RWPs INDICATIVE PENDING DETAILED DESIGN
4. ALL DRAINAGE LEVELS SUBJECT TO DETAILED DESIGN

KEY

PROPOSED SURFACE WATER SEWER

APPLICATION SITE REDLINE BOUNDARY

PROPOSED TANKED PERMEABLE PAVING

EXISTING SURFACE WATER SEWER

EXISTING FOUL WATER SEWER

PROPOSED FOUL WATER SEWER

INDICATIVE RAIN WATER PIPES — rwp

PROPOSED FIN DRAINS

PROPOSED BAFFLES

REV	DATE	AMENDMENT DETAILS	DRAWN	APPROVED
A	11.08.23	AMENDED TO REFLECT CORRECT PERMEABLE PAVING UNITS	GGB	GS

PROJECT: LAND OFF MEDWAY CLOSE CHELMSFORD	DATE: 03.01.23	DRAWING STATUS: INFORMATION	
	SCALE(S): 1:250	DESIGNED: GGB	DRAWN: GGB
		CHECKED: GS	APPROVED: GS
DRAWING TITLE: PROPOSED FOUL AND SURFACE WATER DRAINAGE STRATEGY	JOB No: 2709		
CLIENT: CHELMSFORD CITY COUNCIL	DRAWING No: 02/005	REVISION: A	

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DO NOT SCALE ORIGINAL SHEET SIZE - A1 Landscape

MINIMUM DIMENSIONS FOR ACCESS FITTINGS AND INSPECTION CHAMBERS

TYPE OF ACCESS	DEPTH TO INVERT FROM COVER LEVEL (m)	MINIMUM INTERNAL DIMENSIONS		MINIMUM CLEAR OPENING SIZE	
		LENGTH x WIDTH (mm x mm)	CIRCULAR (mm)	LENGTH x WIDTH (mm x mm)	CIRCULAR (mm)
RODDING EYE	-	AS DRAIN BUT 100mm MINIMUM	-	-	SAME SIZE AS PIPEWORK[6]
ACCESS FITTING SMALL 150mmØ SMALL - 150mmx100mm LARGE 225mmx100mm	0.6m OR LESS EXCEPT WHERE SITUATED IN A CHAMBER	150 x 100 225 x 100	150 225	150 x 100 [1] 225 x 100 [1]	SAME SIZE AS ACCESS FITTING
INSPECTION CHAMBER					
SHALLOW	0.6m OR LESS	225 x 100	190 [2]		190 [2]
MEDIUM	1.2m OR LESS	450 x 450	450	MINIMUM 430 x 430	430
DEEP	GREATER THAN 1.2m	450 x 450	450	MAXIMUM 300 x 300 [3]	ACCESS RESTRICTED TO 350 MAXIMUM [3]

NOTES:
1. THE CLEAR OPENING MAY BE REDUCED BY 20mm IN ORDER TO PROVIDE PROPER SUPPORT FOR THE COVER AND FRAME.
2. DRAINS UP TO 150mm DIAMETER.
3. A LARGER CLEAR OPENING COVER MAY BE USED IN CONJUNCTION WITH A RESTRICTED ACCESS. THE SIZE IS RESTRICTED FOR HEALTH AND SAFETY REASONS TO DETER ENTRY.

MINIMUM DIMENSIONS FOR MANHOLES

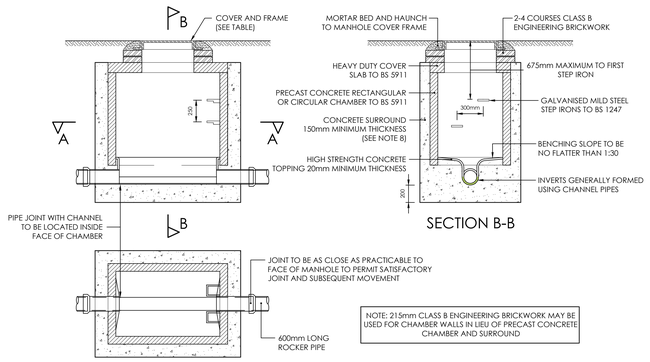
TYPE OF ACCESS	SIZE OF LARGEST PIPE (DN)	MINIMUM INTERNAL DIMENSIONS [1]		MINIMUM CLEAR OPENING SIZE [1]	
		RECTANGULAR LENGTH x WIDTH (mm x mm)	CIRCULAR DIAMETER (mm)	RECTANGULAR LENGTH x WIDTH (mm x mm)	CIRCULAR DIAMETER (mm)
MANHOLE LESS THAN 1.5m DEEP TO SOFFIT	LESS THAN OR EQUAL TO 150	750 x 675 [7]	1000 [7]	750 x 675 [7]	N/A [7]
	225	1200 x 675	1200	1200 x 675 [7]	
	300	1200 x 750	1200		
	GREATER THAN 300	1800 x (DN+450)	THE LARGER OF 1800 OR (DN+450)		
MANHOLE GREATER THAN 1.5m DEEP TO SOFFIT	LESS THAN OR EQUAL TO 225	1200 x 1000	1200	600 x 600	600
	300	1200 x 1075	1200		
	375-450	1350 x 1225	1200		
	GREATER THAN 450	1800 x (DN+775)	THE LARGER OF 1800 OR (DN+775)		
MANHOLE SHAFT *	STEPS [5]	1050 x 800	1050	600 x 600	600
GREATER THAN 3.0m DEEP TO SOFFIT	LADDER [5]	1200 x 800	1200		
	WINCH *	900 x 800	900	600 x 600	600

NOTES:
1. LARGER SIZES MAY BE REQUIRED FOR MANHOLES ON BENDS OR WHERE THERE ARE JUNCTIONS
2. MAY BE REDUCED TO 600mmx600mm WHERE REQUIRED BY HIGHWAY LOADING CONSIDERATIONS, SUBJECT TO A SAFE SYSTEM OF WORK BEING SPECIFIED
3. NOT APPLICABLE DUE TO WORKING SPACE NEEDED
4. MINIMUM HEIGHT OF CHAMBER IN SHAFTED MANHOLE 2m FROM BENCHING TO UNDERSIDE OF REDUCING SLAB
5. MINIMUM CLEAR SPACE BETWEEN LADDER OR STEPS AND THE OPPOSITE FACE OF THE SHAFT SHOULD BE APPROXIMATELY 900mm
6. WINCH ONLY - NO STEPS OR LADDERS, PERMANENT OR REMOVABLE
7. THE MINIMUM SIZE OF ANY MANHOLE SERVING A SEWER (i.e. ANY DRAIN SERVING MORE THAN ONE PROPERTY) SHOULD BE 1200mmx675mm RECTANGULAR OR 1200mm DIAMETER.

TABLE SHOWING PRIVATE MANHOLE/INSPECTION CHAMBER COVER GRADES AND AREAS OF USE

COVER GRADE TO BS EN 124	LOCATION
D400	FOR USE IN INDUSTRIAL ROADS AND PARKING AREAS ACCESSIBLE TO ALL TYPES OF ROAD VEHICLES INCLUDING HGVs
C250*	FOR USE IN PRIVATE ROADS OR PARKING AREAS, e.g. CAR PARKS AND MINOR PRIVATE ROADS ACCESSIBLE TO REFUSE VEHICLES, FIRE APPLIANCES, etc. WITH POSSIBLE OCCASIONAL HGV USE
B125	FOR USE IN FOOTWAYS, PEDESTRIAN AREAS, DRIVEWAYS AND CAR PARKS ACCESSIBLE BY LIGHT VEHICLES ONLY
A15	FOR USE IN AREAS WHICH CAN BE USED ONLY BY PEDESTRIANS AND PEDAL CYCLISTS

* D400 MAY BE USED IN LIEU OF C250 IF PREFERRED



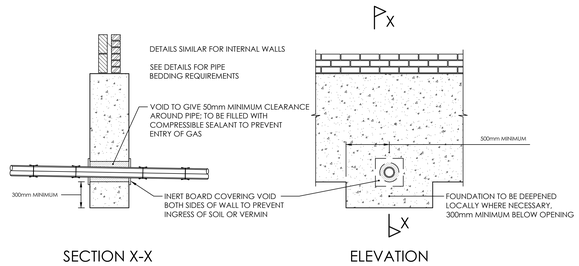
PLAN AT A-A

SECTION B-B

NOTE: 215mm CLASS B ENGINEERING BRICKWORK MAY BE USED FOR CHAMBER WALLS IN LIEU OF PRECAST CONCRETE CHAMBER AND SURROUND

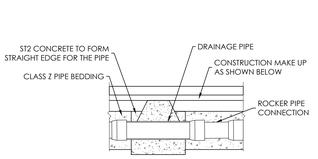
TYPICAL CONCRETE MANHOLE DETAIL

REFER TO TABLE FOR CHAMBER DIMENSIONS



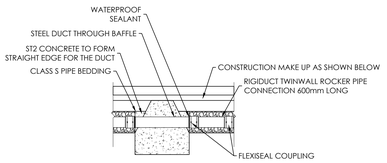
SECTION X-X ELEVATION

TYPICAL DRAIN PASSING THROUGH FOUNDATION



DRAINAGE PIPE THROUGH BAFFLE DETAIL

SCALE: 1:20

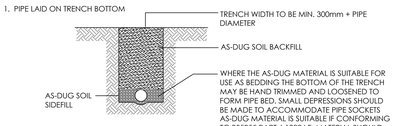


UTILITY DUCT THROUGH BAFFLE DETAIL

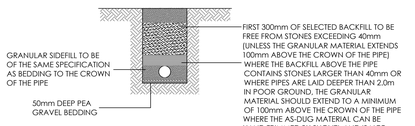
SCALE: 1:20

BEDDING

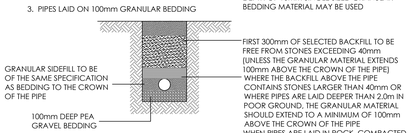
1. PIPE LAID ON TRENCH BOTTOM



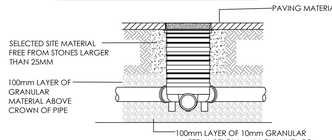
2. PIPES LAID ON 50mm GRANULAR BEDDING



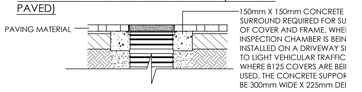
3. PIPES LAID ON 100mm GRANULAR BEDDING

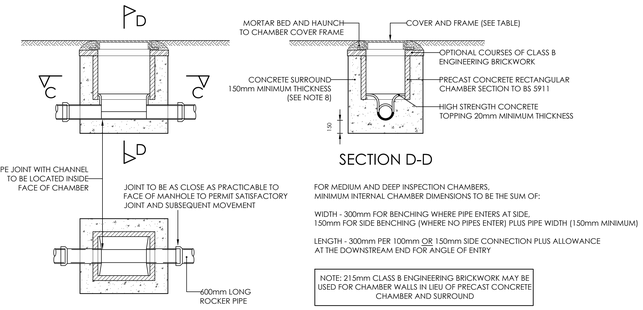


SHALLOW INSPECTION CHAMBER DETAIL



SHALLOW INSPECTION CHAMBER DETAIL (BLOCKED PAVED)





PLAN AT C-C

SECTION D-D

FOR MEDIUM AND DEEP INSPECTION CHAMBERS, MINIMUM INTERNAL CHAMBER DIMENSIONS TO BE THE SUM OF:

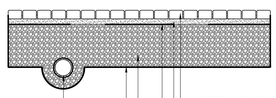
WIDTH - 300mm FOR BENCHING WHERE PIPE ENTERS AT SIDE, 150mm FOR SIDE BENCHING (WHERE NO PIPES ENTER) PLUS PIPE WIDTH (150mm MINIMUM)

LENGTH - 300mm PER 100mm OR 150mm SIDE CONNECTION PLUS ALLOWANCE AT THE DOWNSTREAM END FOR ANGLE OF ENTRY

NOTE: 215mm CLASS B ENGINEERING BRICKWORK MAY BE USED FOR CHAMBER WALLS IN LIEU OF PRECAST CONCRETE CHAMBER AND SURROUND

TYPICAL CONCRETE INSPECTION CHAMBER DETAIL

REFER TO TABLE FOR CHAMBER DIMENSIONS



PERMEABLE BLOCK PAVING CONSTRUCTION MAKEUP

SCALE 1:20

SURFACE COURSE
80mm - PERMEABLE CONCRETE BLOCK PAVING WITH 6mm OPEN GRADED CRUSHED ROCK JOINING MATERIAL

BEDDING
50mm - 6mm OPEN GRADED CRUSHED ROCK

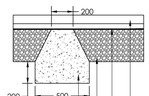
MEMBRANE LAYER
PERMEABLE GEOTEXTILE MEMBRANE IN ACCORDANCE WITH BS 7533-13

SUB-BASE
700mm MIN.- 20mm OPEN GRADED CRUSHED ROCK

MEMBRANE LAYER
IMPERMEABLE MEMBRANE GM500M SUPPLIED BY GEOSYNTHETICS OR SIMILAR APPROVED

150mm Ø PERFORATED PIPES TO OUTLET WITH MIN. 150mm SURROUND WRAPPED IN EKOTEX 07 NON-WOVEN GEOTEXTILE SUPPLIED BY GEOSYNTHETICS OR SIMILAR APPROVED

NOTE:
THIS CONSTRUCTION IS BASED ON A SUB-BASE CBR OF 5% OR GREATER. CBR TESTS TO BE CARRIED OUT PRIOR TO CONSTRUCTION AND ROAD CONSTRUCTION MAKE UP TO BE CONFIRMED WITH ENGINEER



PERMEABLE SURFACING INCLUDING CONCRETE BAFFLE - SCALE 1:20

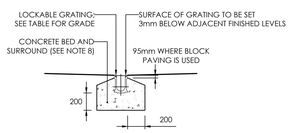
SURFACE COURSE
REFER TO PERMEABLE BLOCK PAVING CONSTRUCTION MAKE UP DETAIL

MEMBRANE LAYER
REFER TO PERMEABLE BLOCK PAVING CONSTRUCTION MAKE UP DETAIL

SUB-BASE
REFER TO PERMEABLE BLOCK PAVING CONSTRUCTION MAKE UP DETAIL

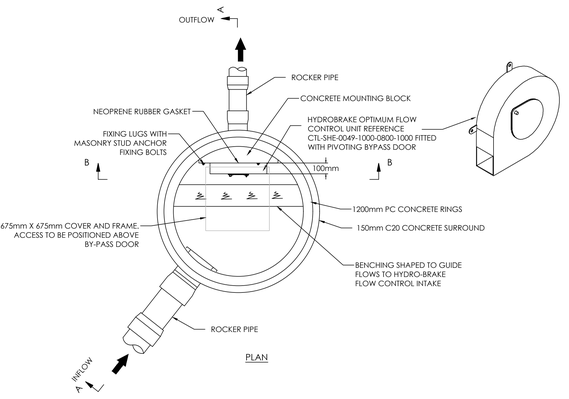
CONCRETE BAFFLE
CAST IN-SITU ST2 CONCRETE 'BAFFLE' WITHIN OPEN GRADED SUBBASE. SIMILAR SIZED PRE-CAST ALTERNATIVES CAN ALSO BE USED WITH APPROVAL FROM THE ENGINEER.

ROAD GRADIENT	SUB BASE THICKNESS (mm)	BAFFLE SPACING (m)
1:40 OR FLATTER	700	-
1:30 - 1:39	700	21
1:20 - 1:29	700	14



TYPICAL* CHANNEL DRAIN SECTION

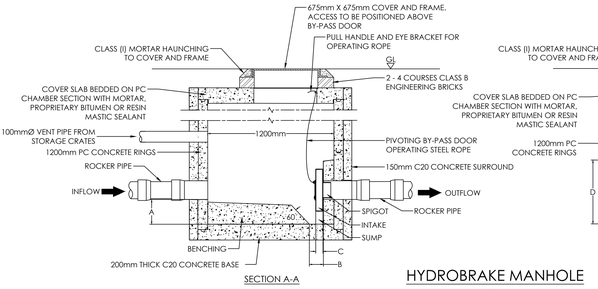
* REFER TO MANUFACTURER'S INSTRUCTIONS, WHICH TAKE PRECEDENCE OVER THIS INDICATIVE DETAIL



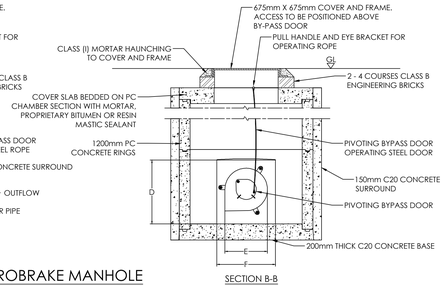
PLAN

HYDROBRAKE UNIT DIMENSIONS	
	CTL-SHE-0049-1000-0800-1000
A	265
B	110
C	55
D	650
E	300
F	505

HYDROBRAKE UNIT TECHNICAL SPECIFICATION		
	CTL-SHE-0049-1000-0800-1000	
CONTROL POINT	DESIGN HEAD (m)	FLOW (l/s)
PRIMARY DESIGN	0.800	1.000
FLUSH-FLO	0.215	0.927
KICK-FLO	0.437	0.764
MEAN-FLO		0.839



SECTION A-A



SECTION B-B

HYDROBRAKE MANHOLE

N.T.S

REV	DATE	AMENDMENT DETAILS	DRAWN	APPROVED

PROJECT: MEDWAY LOSE, CHELMSFORD	DATE: 03.08.23	DRAWING STATUS: INFORMATION	
	SCALE(S): N.T.S	DESIGNED: JG	DRAWN: JG
		CHECKED: JPP	APPROVED: GS
DRAWING TITLE: DRAINAGE STANDARD DETAILS	JOB No: 2709		
CLIENT: SJT DEVELOPMENTS	DRAWING No: 02/002	REVISION: -	

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DO NOT SCALE ORIGINAL SHEET SIZE - A01 Landscape

Transport Statement

Ref	JTP 634
Site Name	Medway Close, Chelmsford
Date	December 2022

Quality Assurance

Site name:	Medway Close, Chelmsford
Client name:	Chelmsford City Council
Type of report:	Transport Statement
Prepared and Reviewed by:	Steve Amann BSc (Hons) MSc (Eng)
Signed	
Date	December 2022

Table of Contents

Appendices

1 Introduction

Brief

1.1 Journey Transport Planning Ltd has been instructed by Chelmsford City Council to undertake a Transport Statement in support of a full planning application to Chelmsford City Council pursuant to proposals for a residential development for 6 dwellings (C3 use), hard and soft landscaping and associated parking and infrastructure on land to the west of Medway Close, Chelmsford. The location of the site is illustrated in **Appendix 1.**

Background

1.2 This Transport Statement provides a summary of investigations at the site and its access pursuant to demonstrating the proposal will not have a detrimental impact on highway safety or capacity in the vicinity of the site and moreover that the proposal is suitably located for access via means other than the private car.

1.3 The following matters are considered in this appraisal:

- Site Assessment
- National and Local Policy Review
- Development Proposals and assessment of the traffic impact of the proposal
- Parking assessment and servicing appraisal

2 Site Assessment

Existing Information

2.1 The proposal site is located on the site of an existing garage complex off Medway Close, Chelmsford. The site location is shown in **Appendix 1.**

2.2 Access to the site is proposed by way the existing access drive from Medway Close. This access is currently 3.5m wide at its junction with Medway Close and varies in width at around 4m along its length.

2.3 Visibility from the access onto Medway Close is achievable for at least 2.4m by 43m in both directions in accordance with the standards set out in the Manual for Streets for a 30mph road.

Public Transport Information

2.4 Public transport availability in the vicinity of the site has been examined and a regular bus service operate along Avon Road and Roxwell Road at existing stops within 400m of the site. The services are operated by First Essex and Arriva and provide regular timetabled services to Chelmsford Bus Station. The services is summarised in Table 2.1 below and full details of the service can be found in **Appendix 2.**

Table 2.1 Medway Close Bus Services

Service Number	Route	Frequency
32	Ongar - Chelmsford	Two Hourly
59	Harlow-Chelmsford	Hourly

2.5 The available public transport services in the vicinity of the site represent a reasonable level of service and as such the site is considered to be accessible by bus based public transport.

Walking and Cycling Assessment

2.6 Cycling has the potential to substitute for short car trips, particularly those less than five kilometres. Cycle access to the proposal has been considered in detail. For the purposes of cycle accessibility, a cycling time of 20 minutes, which equates to five kilometres at an average speed of 15kph, has been assumed.

2.7 The five kilometre catchment area of the proposal site includes Writtle and much of the built area of Chelmsford City and as such is within reasonable cycling distance of a wide range of associated facilities, amenities and essential services including nursery, primary, secondary and further and higher education establishments, the rail and bus station and the City Centre.

2.8 The roads in the vicinity are of a good quality and due to the relatively flat nature of the area, are considered suitable for cycling. The site is also within easy reach of an existing off road cycle route into Chelmsford City Centre which can be reached from the end of Beaches Drive to the south. This provides a safe, signed off-road cycle connection into Chelmsford City, the rail station, and the retail centre.

2.9 In consideration of the site location and its connections with the wider area, the site offers excellent opportunities for access by bike.

2.10 With respect to pedestrian access walking offers potential to replace short car trips, particularly those under 2km and is generally considered the maximum acceptable distance to directly access any local facility or amenity.

2.11 The site is in walking distance of the adjacent bus stops, a petrol filling station with convenience store and local schools.

2.12 In consideration of the above, the site is suitably located in accessibility terms by cycle and public transport and provides opportunities for access via means other than the private car.

Safety Considerations and Accident Analysis

2.13 The accident record in the vicinity of the site has been considered and the Essex County Council Collision database indicates that there have been five accidents in the vicinity in the latest available 3 year period between October 2019 and October 2022. Three of the accidents were classified as serious and the remaining as slight. All five incidents took place in along Chignall Road to the east in sperate locations.

2.14 Given that there was no clustering or common causal factors, there is are considered to be specific highway safety issue in the vicinity of the site

2.15 The proposals by virtue of their very limited impact are very unlikely to have a material impact on that record.

3 Policy Background

National Policy

3.1 Relevant policy guidance relating to new development, and transport and land use planning is set out at national level in the following document:

- the National Planning Policy Framework

3.2 This document set the context in which the proposals have been assessed.

The National Planning Policy Framework (NPPF)

3.3 The National Planning Policy Framework (NPPF, 2021) in this document the government sets out its core principles for the planning system in England.

3.4 The purpose of the planning system is to contribute to the achievement of sustainable development. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs.

Promoting Sustainable Transport

3.5 The NPPF in promoting sustainable transport considers that for sites to be allocated for development in plans, or specific applications for development, it should be ensured that:

A. *appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*

B. *safe and suitable access to the site can be achieved for all users; and*

C. *any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.*

3.6 The framework goes on to re-iterate that ***Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.***

3.7 The NPPF sets out in the context of applications for development that they should:

A. *give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*

B. *address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*

C. *create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*

D. *allow for the efficient delivery of goods, and access by service and emergency vehicles; and*

E. *be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.*

3.8 The chapter concludes that … All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.

Local Policy

3.9 The following local policy document constitutes the development plan for Chelmsford City Council:

- The Chelmsford Local Plan 2013-2036
- Parking Standards Design and Good Practice 2009 (Essex Planning Officers Association) and subsequent Chelmsford City Council adopted standards
- Development Management Policies, Essex County Council February 2011

3.10 The Chelmsford Local Plan sets out the policy, aims and objectives for new development and sustainable transport that support the guidance set out in the NPPF and seeks to develop a sustainable, integrated transport system for the area, which provides necessary access to facilities, services and goods with less dependence on cars and less impact on the environment.

3.11 Policy DM 27 - Parking Standards at Developments States that: The Council will have regard to the vehicle parking standards set out in the Essex Parking Standards - Design and Good Practice (2009), or as subsequently amended, when determining planning applications. Proposals which provide below these standards should be supported by evidence detailing the local circumstances that justify deviation from the standard.

3.12 The advice contained in the national and local policy documents has been fully considered during the development of this proposal. It is considered that the proposal is in accordance with the aims and objectives of transport policy as it applies to both its location and the use proposed.

Development Management Policy

3.13 Essex County Council (ECC) set out in their publication, Development Management Policies (DMP) Feb 2011, that access to development sites should be considered against the Essex Functional Route Hierarchy.

3.14 Medway Close, which provides access to the site, is defined within the Functional Route Hierarchy as an Other Route within the defined settlement and as such there are policy restrictions with respect to access proposals for development. Given its location, the proposal site access is governed by Policy DM4 of the DMP, which states that the Highway Authority will protect the function of other routes by:

- Ensuring that new access points will be designed and constructed in accordance with the current standards
- Requiring improvements to existing substandard access.

3.15 The aims and objectives of the DMP have been complied with in the development of this proposal and the development being considered accords with that policy.

4 Development Proposals

Description of Proposal

4.1 The proposals consider a residential development for 5 four bedroomed dwellings and one single bed dwelling (C3 use), hard and soft landscaping and associated parking and infrastructure.

4.2 A layout plan of the proposed development is shown in **Appendix 3** and indicates the principal point of access to the site and the general site layout.

4.3 As a part of the proposals the access will be widened out at its entry to form a 5.5m wide entrance for at least 6m into the access road.

Trip Generation

4.4 In accordance with standard transport assessment guidelines, the proposals have been considered with respect to the likely level of trips that could be generated and the impact they would have on the local highway network.

4.5 The travel demand that could be associated with the proposal has been considered in detail and assessed utilising data from the TRICS trip generation database. Sites within the database have been interrogated to consider sites that are similar in land use, location and size to the proposal being considered.

4.6 The TRICS 7.9.3 trip generation database has been interrogated to assess the likely number of vehicular trips that could be associated with nine private flats, representing the proposed development.

4.7 **Table 4.1** summarises the trip generation rates and provides an estimate of vehicular movements associated with the development proposals.

Table 4.1 Residential Use Trip Generation Summary

	AM Peak (08:00-09:00)		PM Peak (17:00-18:00)		Daily Trips 07:00-19:00	
	Arrivals	**Departures**	**Arrivals**	**Departures**	**Arrivals**	**Departures**
Trip Rate per Dwelling	0.154	0.321	0.303	0.167	2.342	2.385
Trips per 6 dwellings	1	2	2	1	14	14

4.8 **Table 4.1** indicates that the proposed redevelopment could result 3 trips in the AM peak and 3 trips in the PM peak and 28 movements over a typical day.

4.9 Given the very low level of vehicular trips that could be generated by the proposals and the opportunities to access the site via means other than the private car, the development will not have a detrimental impact on the operation of the local road network in the vicinity of the site and can be accommodated in terms of capacity and highway safety. Given the existing garage use, the development will not result in an intensification of use of the access

4.10 The TRICS data is held in **Appendix 4.**

Vehicle Parking

4.11 The car parking requirements of the proposal have been considered in the context of the requirements set out by Chelmsford City Council in accordance with the following minimum requirements:

- One space per one bed dwelling
- Two spaces per 2 + Bed Dwelling
- Visitor Parking 0.25 spaces per dwelling

4.12 The proposals comprise 5 four bedroomed dwellings and 1 one bedroomed dwelling and as such 11 allocated spaces are proposed with a further 3 visitor parking spaces in accordance with the guidance.

4.13 All spaces are proposed at either 2.9m by 5.5m where perpendicular or at 6.0m by 2.9m where parallel provision is proposed. All spaces are accessible without the need to reverse onto the highway.

4.14 As a part of the proposals each dwelling will have a cycle parking space in accordance with current standards.

Local Parking Demand

4.15 Following pre-application discussions, the Highway Authority raised concerns with respect to the impact of the loss of car parking provision on the locally available on-street supply and whether the additional demand could be accommodated within the capacity available.

4.16 It is understood from discussions with Chelmsford City Council, that the garages are no longer let and as such their proposed removal will not impact on parking supply and the foregoing surveys, already include any impact that could be associated with their removal.

4.17 Nonetheless, in order to provide a robust assessment, the availability and utilisation of on-street car parking in the vicinity has been surveyed utilising the Lambeth Parking survey methodology. The surveys were undertaken 29th and 30th November and 3rd of December 2022.

4.18 The survey area included all roads within 100m of the site. In accordance with the Lambeth parking survey methodology with available spaces were identified where they are not subject to legal or practical restrictions.

4.19 The plan attached at **Appendix 5** illustrates the available parking within the surveyed area. The surveys were undertaken for the following times

- Tuesday 09:00, 13:00, 16:00
- Wednesday 09:00, 13:00, 16:00
- Saturday 09:00, 13:00, 16:00

4.20 The results of the surveys are summarised in Table 4.1 below

Table 4.1 Medway Close Parking Beat Survey Summary

Time Period	On Street Spaces		%age Utilisation
	Spaces Available	Spaces Utilised	
Tues 09:00	84	31	37%
Tues 13:00	84	35	42%
Tues 16:00	84	34	40%
Weds 09:00	84	31	37%
Weds 13:00	84	36	43%
Weds 16:00	84	32	38%
Sat 09:00	84	34	40%
Sat 13:00	84	34	40%
Sat 16:00	84	29	35%

4.21 The surveys identify that within 100m of the site there are a total of 84 available legally usable parking spaces not subject to restriction.

4.22 During the surveyed days and time periods the data indicates that the maximum utilisation was observed at 13:00 on a Tuesday where 35 parked vehicles were surveyed representing a space utilisation of 42% leaving 49 free spaces. At all other times the observed utilisation was between 29% and 40%.

4.23 Given the foregoing, the proposals will not have an impact on the existing available on-street supply and would not result in any measured local parking stress.

4.24 The parking surveys and plan held in **Appendix 5.**

Access and Servicing

4.25 The main access to the proposed development is proposed via the existing access to the garages directly from Medway Close. Visibility at the access is achievable at 2.4m by 43m in both directions as required for a 30mph road under Manual for Streets guidance.

4.26 The access will be widened out to 5.5m for the initial 6m into the access. The remainder of the access will be provided as a non-adopted access drive with a minimum width of 3.7m to allow for emergency access. The existing kerb will be widened to accommodate the drive with an appropriate drop kerbed crossing.

4.27 A vehicle tracking assessment has been undertaken and demonstrates that refuse and emergency fire vehicles can enter and exit the site in forward gear. The vehicle tracking assessment is held in **Appendix 6.**

5 Summary and Conclusions

Summary

5.1 This Transport Statement has been provided in support of a full planning application to Chelmsford City Council for proposals for the redevelopment of land and buildings in Medway Close, Chelmsford for the purposes of 6 dwellings, parking and access.

5.2 The TRICS trip generation assessment demonstrates that the proposed development would lead to a minimal increase in vehicular trips associated with the site.

5.3 The traffic generated by the proposal can be accommodated via the existing access improved arrangements without having a detrimental impact on the operation of the local highway network by virtue of either highway capacity or highway safety.

5.4 The site is considered to be in an accessible location for the purposes of access via means other than the private car.

5.5 The proposed change of use will incorporate car and cycle parking in accordance with Chelmsford City Council requirements.

5.6 The potential displaced parking pressure on local on-street parking that could be created by the development can easily be accommodated by the existing on-street car parking supply without having a detrimental impact in terms of parking stress.

5.7 The delivery and emergency manoeuvring requirements for the proposals can be undertaken in accordance with Chelmsford City Council requirements.

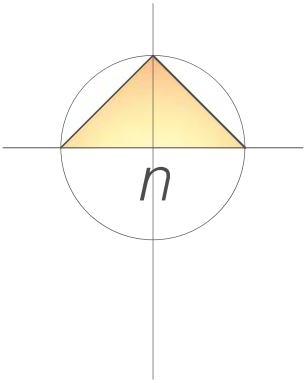
Conclusions

5.8 This Transport Statement demonstrates that the proposals have been developed in accordance with the aims and objectives of current national and local policy as it relates to transport and will not have a significant or severe impact on the efficiency or safety of the local transport network.

5.9 In view of the foregoing, it is considered that there are no substantive highway or transportation reasons why the proposals as submitted should not be permitted.

Appendix 1

Site Location



revision

issue

PLANNING

client

Chelmsford City Council

project

Medway Close, Chelmsford

title

Location Plan

john finch partnership
chartered architects & town planning consultants

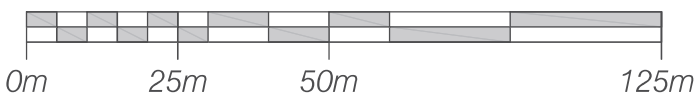
88 Broomfield Road
Chelmsford CM1 1SS
01245 354319/250780
admin@johnfinchpartnership.co.uk

www.johnfinchpartnership.co.uk

date	08.11.22	scale	1:1250 @ A4
drawn	jm/jh	checked	jm
dwg no	3556:01	revision	E

Location plan

A4 SHEET @ 1:1250



Appendix 2

Public Transport Information

First 32 Ongar-Chelmsford

Mondays to Fridays from 30 October 2022

	32	32	32	32	32	32	32
	Sch	NSch					
Ongar, Two Brewers	0717	0732	0957	1157	1357	1707	1843
High Ongar, Church	0727	0738	1003	1203	1403	1713	1848
Blackmore, The Green	0738	0747	1012	1212	1412	1722	1856
Highwood, The Green Man	0747	0756	1021	1221	1421	1731	1904
Oxney Green, Ongar Road	0751	0800	1025	1225	1425	1735	1908
Writtle, Writtle Green	0755	0803	1028	1228	1428	1738	1910
Chelmsford, South Lodge Hotel	0806	0810	1035	1235	1435	1745	1916
Chelmsford, Bus Station Stand 9	0820	-	1045	1245	1445	-	-
Chelmsford, St John Payne School	0829	-	-	-	-	-	-
Chelmsford, Bus Station Stand 6	-	0817	-	-	-	1752	1921
Chignall Estate, Trent Road Shops	-	-	1055	1255	1455	-	-

Notes

NSch this journey runs during school holidays only

Sch this journey runs on schooldays only

First 32 Ongar-Chelmsford

Saturdays from 30 October 2022

	32	32	32	32	32	32
Ongar, Two Brewers	0732	0957	1157	1357	1557	1841
High Ongar, Church	0738	1003	1203	1403	1603	1846
Blackmore, The Green	0747	1012	1212	1412	1612	1854
Highwood, The Green Man	0756	1021	1221	1421	1621	1902
Oxney Green, Ongar Road	0800	1025	1225	1425	1625	1906
Writtle, Writtle Green	0803	1028	1228	1428	1628	1908
Chelmsford, South Lodge Hotel	0810	1035	1235	1435	1635	1914
Chelmsford, Bus Station Stand 6	0817	-	-	-	-	1919
Chelmsford, Bus Station Stand 9	-	1045	1245	1445	1645	-
Chignall Estate, Trent Road Shops	-	1055	1255	1455	1655	-

First 32 Chelmsford-Ongar

Mondays to Fridays from 30 October 2022

	32	32	32	32	32	32	32	32
						Sch	NSch	
Chignall Estate, Trent Road Shops	-	0900	1100	1300	1500	-	-	-
Chelmsford, St John Payne School	-	-	-	-	-	1558	-	-
Chelmsford, Bus Station Stand 6	0637	0913	1113	1313	1511	1615	1615	1757
Chelmsford, Rail Station Stand 11	0638	0914	1114	1314	-	1616	1616	1758
Chelmsford, BBC Essex	0642	0921	1121	1321	-	1626	1626	1808
Writtle, Writtle Green	0647	0926	1126	1326	-	1633	1633	1813
Oxney Green, Ongar Road	0649	0928	1128	1328	-	1635	1635	1815
Highwood, The Green Man	0653	0932	1132	1332	-	1639	1639	1819
Blackmore, The Green	0701	0940	1140	1340	-	1648	1648	1827
High Ongar, Church	0709	0949	1149	1349	-	1656	1656	1835
Ongar, Two Brewers	0714	0954	1154	1354	-	1702	1702	1840

Notes

NSch this journey runs during school holidays only

Sch this journey runs on schooldays only

First 32 Chelmsford-Ongar

Saturdays from 30 October 2022

	32	32	32	32	32	32	32
Chignall Estate, Trent Road Shops	-	0900	1100	1300	1500	1700	-
Chelmsford, Bus Station Stand 6	0637	0913	1113	1313	1513	1711	1757
Chelmsford, Rail Station Stand 11	0638	0914	1114	1314	1514	-	1758
Chelmsford, BBC Essex	0642	0921	1121	1321	1521	-	1805
Writtle, Writtle Green	0647	0926	1126	1326	1526	-	1810
Oxney Green, Ongar Road	0649	0928	1128	1328	1528	-	1812
Highwood, The Green Man	0653	0932	1132	1332	1532	-	1816
Blackmore, The Green	0701	0940	1140	1340	1540	-	1824
High Ongar, Church	0709	0949	1149	1349	1549	-	1832
Ongar, Two Brewers	0714	0954	1154	1354	1554	-	1838

Arriva 59 Harlow-Chelmsford

Mondays to Fridays from 11 April 2021

	59	59	59	59	59	59	59	59	59	59	59	59	59
Harlow, Bus Station Stand 11	0542	0655	0730	0905	1005	1105	1205	1305	1405	1505	1605	1720	1820
Old Harlow, Post Office	0549	0703	0740	0913	1013	1113	1213	1313	1413	1517	1617	1732	1828
Lower Sheering, Gilden Way	0552	0706	0743	0916	1016	1116	1216	1316	1416	1521	1621	1736	1831
Sheering, The Cock	0556	0710	0746	0920	1020	1120	1220	1320	1420	1525	1625	1740	1835
Hatfield Heath, The White Horse	0559	0713	0751	0923	1023	1123	1223	1323	1423	1529	1629	1744	1838
White Roding, The Black Horse	0603	0717	0755	0928	1028	1128	1228	1328	1428	1534	1634	1749	1843
Leaden Roding, Village Hall	0607	0722	0800	0932	1032	1132	1232	1332	1432	1538	1638	1753	1847
Margaret Roding, Marks Hall Lane	0610	0725	0803	0935	1035	1135	1235	1335	1435	1541	1641	1756	1850
Boyton Cross, Boyton Cross Lane	0615	0731	0809	0941	1041	1141	1241	1341	1441	1547	1647	1802	1856
Roxwell, The Hare	0617	0733	0811	0943	1043	1143	1243	1343	1443	1549	1649	1804	1858
Chelmsford, Rail Station Stand 11	0625	0742	0825	0952	1052	1152	1252	1352	1452	1600	1700	1815	1907
Chelmsford, Anglia Ruskin University	-	0748	0831	0958	1058	1158	1258	1358	1458	1606	1706	1821	1912

Arriva 59 Harlow-Chelmsford

Saturdays from 11 April 2021

	59	59	59	59	59	59	59	59	59	59	59
Harlow, Bus Station Stand 11	0655	0805	0905	1005	1105	1205	1305	1405	1505	1605	1705
Old Harlow, Post Office	0703	0813	0913	1013	1113	1213	1313	1413	1513	1613	1713
Lower Sheering, Gilden Way	0706	0816	0916	1016	1116	1216	1316	1416	1516	1616	1716
Sheering, The Cock	0710	0820	0920	1020	1120	1220	1320	1420	1520	1620	1720
Hatfield Heath, The White Horse	0713	0823	0923	1023	1123	1223	1323	1423	1523	1623	1723
White Roding, The Black Horse	0718	0828	0928	1028	1128	1228	1328	1428	1528	1628	1728
Leaden Roding, Village Hall	0722	0832	0932	1032	1132	1232	1332	1432	1532	1632	1732
Margaret Roding, Marks Hall Lane	0725	0835	0935	1035	1135	1235	1335	1435	1535	1635	1735
Boyton Cross, Boyton Cross Lane	0731	0841	0941	1041	1141	1241	1341	1441	1541	1641	1741
Roxwell, The Hare	0733	0843	0943	1043	1143	1243	1343	1443	1543	1643	1743
Chelmsford, Rail Station Stand 11	0742	0852	0952	1052	1152	1252	1352	1452	1552	1652	1752
Chelmsford, Anglia Ruskin University	0748	0858	0958	1058	1158	1258	1358	1458	1558	1658	1758

Arriva 59 Harlow-Chelmsford

Sundays and Public Holidays from 11 April 2021

	59	59	59	59	59	59
Harlow, Bus Station Stand 11	0855	1055	1255	1455	1655	1855
Old Harlow, Post Office	0903	1103	1303	1503	1703	1903
Lower Sheering, Gilden Way	0907	1107	1307	1507	1707	1907
Sheering, The Cock	0912	1112	1312	1512	1712	1912
Hatfield Heath, The White Horse	0915	1115	1315	1515	1715	1915
White Roding, The Black Horse	0921	1121	1321	1521	1721	1921
Leaden Roding, Village Hall	0925	1125	1325	1525	1725	1925
Margaret Roding, Marks Hall Lane	0927	1127	1327	1527	1727	1927
Boyton Cross, Boyton Cross Lane	0932	1132	1332	1532	1732	1932
Roxwell, The Hare	0934	1134	1334	1534	1734	1934
Chelmsford, Rail Station Stand 11	0945	1145	1345	1545	1745	1945

Arriva 59 Chelmsford-Harlow

Mondays to Fridays from 11 April 2021

	59	59	59	59	59	59	59	59	59	59	59	59	59	59
Chelmsford, Anglia Ruskin University	-	-	0754	0854	1004	1104	1204	1304	1404	1504	1614	1714	1829	1920
Chelmsford, Bus Station Stand 9	0605	0635	0800	0900	1010	1110	1210	1310	1410	1510	1620	1720	1835	1926
Roxwell, The Hare	0615	0646	0811	0911	1021	1121	1221	1321	1421	1521	1631	1731	1846	1937
Boyton Cross, Boyton Cross Lane	0617	0649	0814	0914	1024	1124	1224	1324	1424	1524	1634	1734	1849	1940
Margaret Roding, Marks Hall Lane	0622	0654	0819	0919	1029	1129	1229	1329	1429	1529	1639	1739	1854	1945
Leaden Roding, Village Hall	0624	0656	0821	0921	1031	1131	1231	1331	1431	1531	1641	1741	1856	1947
White Roding, The Black Horse	0628	0700	0825	0925	1035	1135	1235	1335	1435	1535	1645	1745	1900	1951
Hatfield Heath, The White Horse	0633	0705	0830	0930	1040	1140	1240	1340	1440	1540	1650	1750	1905	1956
Sheering, The Cock	0636	0708	0833	0933	1043	1143	1243	1343	1443	1543	1653	1753	1908	1959
Lower Sheering, Gilden Way	0640	0712	0837	0937	1047	1147	1247	1347	1447	1547	1657	1757	1912	2003
Harlow, Bus Station Stand 11	0649	0721	0846	0946	1056	1156	1256	1356	1456	1556	1706	1806	1921	2012

Arriva 59 Chelmsford-Harlow

Saturdays from 11 April 2021

	59	59	59	59	59	59	59	59	59	59	59
Chelmsford, Anglia Ruskin University	0754	0904	1004	1104	1204	1304	1404	1504	1604	1704	1804
Chelmsford, Bus Station Stand 9	0800	0910	1010	1110	1210	1310	1410	1510	1610	1710	1810
Roxwell, The Hare	0811	0921	1021	1121	1221	1321	1421	1521	1621	1721	1821
Boyton Cross, Boyton Cross Lane	0814	0924	1024	1124	1224	1324	1424	1524	1624	1724	1824
Margaret Roding, Marks Hall Lane	0819	0929	1029	1129	1229	1329	1429	1529	1629	1729	1829
Leaden Roding, Village Hall	0821	0931	1031	1131	1231	1331	1431	1531	1631	1731	1831
White Roding, The Black Horse	0825	0935	1035	1135	1235	1335	1435	1535	1635	1735	1835
Hatfield Heath, The White Horse	0830	0940	1040	1140	1240	1340	1440	1540	1640	1740	1840
Sheering, The Cock	0833	0943	1043	1143	1243	1343	1443	1543	1643	1743	1843
Lower Sheering, Gilden Way	0837	0947	1047	1147	1247	1347	1447	1547	1647	1747	1847
Harlow, Bus Station Stand 11	0846	0956	1056	1156	1256	1356	1456	1556	1656	1756	1856

Arriva 59 Chelmsford-Harlow

Sundays and Public Holidays from 11 April 2021

	59	59	59	59	59	59
Chelmsford, Bus Station Stand 9	0955	1155	1355	1555	1755	1955
Roxwell, The Hare	1006	1206	1406	1606	1806	2006
Boyton Cross, Boyton Cross Lane	1008	1208	1408	1608	1808	2008
Margaret Roding, Marks Hall Lane	1013	1213	1413	1613	1813	2013
Leaden Roding, Village Hall	1015	1215	1415	1615	1815	2015
White Roding, The Black Horse	1019	1219	1419	1619	1819	2019
Hatfield Heath, The White Horse	1025	1225	1425	1625	1825	2025
Sheering, The Cock	1028	1228	1428	1628	1828	2028
Lower Sheering, Gilden Way	1033	1233	1433	1633	1833	2033
Harlow, Bus Station Stand 11	1042	1242	1442	1642	1842	2042

Appendix 3

Development Layout

A3 SHEET @ 1:500

0m 12.5m 25m

Site Area= 0.23ha

Accommodation Schedule

Plot No.	Accommodation	Area (m^2)	Amenity (m^2)
01	*4 Bedroom 7 person house*	*110*	*108*
02	*4 Bedroom 7 person house*	*110*	*104*
03	*4 Bedroom 7 person house*	*110*	*104*
04	*4 Bedroom 7 person house*	*110*	*104*
05	*4 Bedroom 7 person house*	*110*	*110*
06	*1 Bedroom 2 person apartment*	*60*	*4*
G1/2	*Private Double Garage*	*42*	

Key:

- Retained Tree
- Proposed Tree
- Permeable gravel driveway
- Concrete pavers
- Cycle Stores
- Bins
- 1800mm h. close boarded timber fence
- 1800mm h. 225mm thick external brick wall

revision

issue

PLANNING

client

Chelmsford City Council

project

Medway Close, Chelmsford

title

Proposed Block Plan

john finch partnership
chartered architects & town planning consultants

88 Broomfield Road
Chelmsford CM1 1SS
01245 354319/250780
admin@johnfinchpartnership.co.uk

www.johnfinchpartnership.co.uk

date	08.11.22	scale	1:500 @ A3
drawn	jm/jh	checked	jm
dwg no	3556:02	revision	D

Appendix 4

TRICS Data

Calculation Reference: AUDIT-757101-221208-1226

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	ES	EAST SUSSEX	1 days
	MW	MEDWAY	1 days
03	SOUTH WEST		
	GS	GLOUCESTERSHIRE	1 days
	SM	SOMERSET	2 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
	SF	SUFFOLK	2 days
05	EAST MIDLANDS		
	NM	WEST NORTHAMPTONSHIRE	1 days
	NN	NORTH NORTHAMPTONSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	SY	SOUTH YORKSHIRE	2 days
08	NORTH WEST		
	AC	CHESHIRE WEST & CHESTER	1 days
09	NORTH		
	TW	TYNE & WEAR	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: No of Dwellings
Actual Range: 8 to 47 (units:)
Range Selected by User: 6 to 50 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/14 to 22/06/22

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday	4 days
Wednesday	3 days
Thursday	2 days
Friday	5 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	14 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:
Neighbourhood Centre (PPS6 Local Centre) 14

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3	14 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,000 or Less	2 days
1,001 to 5,000	10 days
5,001 to 10,000	2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

25,001 to 50,000	3 days
50,001 to 75,000	2 days
75,001 to 100,000	2 days
125,001 to 250,000	5 days
250,001 to 500,000	1 days
500,001 or More	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	7 days
1.6 to 2.0	2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	3 days
No	11 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	14 days

This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1 AC-03-A-05 SEMI-DETACHED & TERRACED CHESHIRE WEST & CHESTER
MEADOW DRIVE
NORTHWICH
BARNTON
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 40
Survey date: FRIDAY *30/04/21* *Survey Type: MANUAL*

2 CA-03-A-07 MIXED HOUSES CAMBRIDGESHIRE
FIELD END
NEAR ELY
WITCHFORD
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 32
Survey date: THURSDAY *27/05/21* *Survey Type: MANUAL*

3 ES-03-A-06 MIXED HOUSES EAST SUSSEX
BISHOPS LANE
RINGMER

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 12
Survey date: WEDNESDAY *16/06/21* *Survey Type: MANUAL*

4 GS-03-A-02 DETACHED HOUSES GLOUCESTERSHIRE
OAKRIDGE
NEAR GLOUCESTER
HIGHNAM
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 40
Survey date: FRIDAY *23/04/21* *Survey Type: MANUAL*

5 MW-03-A-01 DETACHED & SEMI-DETACHED MEDWAY
ROCHESTER ROAD
NEAR CHATHAM
BURHAM
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 8
Survey date: FRIDAY *22/09/17* *Survey Type: MANUAL*

6 NM-03-A-02 DETACHED & SEMI-DETACHED WEST NORTHAMPTONSHIRE
HARLESTONE ROAD
NEAR NORTHAMPTON
CHAPEL BRAMPTON
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 47
Survey date: TUESDAY *20/10/20* *Survey Type: MANUAL*

7 NN-03-A-01 MIXED HOUSES & FLATS NORTH NORTHAMPTONSHIRE
MAIN STREET
NEAR WELLINGBOROUGH
LITTLE HARROWDEN
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 44
Survey date: TUESDAY *20/10/20* *Survey Type: MANUAL*

8 SF-03-A-06 DETACHED & SEMI-DETACHED SUFFOLK
BURY ROAD
KENTFORD

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 38
Survey date: FRIDAY *22/09/17* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9	SF-03-A-08 MIXED HOUSES		SUFFOLK
	STANNINGFIELD ROAD		
	NEAR BURY ST EDMUNDS		
	GREAT WHELNETHAM		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total No of Dwellings:	34	
	Survey date: WEDNESDAY	*16/09/20*	*Survey Type: MANUAL*
10	SM-03-A-02 MIXED HOUSES		SOMERSET
	HYDE LANE		
	NEAR TAUNTON		
	CREECH SAINT MICHAEL		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total No of Dwellings:	42	
	Survey date: TUESDAY	*25/09/18*	*Survey Type: MANUAL*
11	SM-03-A-03 MIXED HOUSES		SOMERSET
	HYDE LANE		
	NEAR TAUNTON		
	CREECH ST MICHAEL		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total No of Dwellings:	41	
	Survey date: TUESDAY	*25/09/18*	*Survey Type: MANUAL*
12	SY-03-A-02 DETACHED & BUNGALOWS		SOUTH YORKSHIRE
	MANOR ROAD		
	NEAR SHEFFIELD		
	WALES		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total No of Dwellings:	25	
	Survey date: THURSDAY	*10/09/20*	*Survey Type: MANUAL*
13	SY-03-A-03 BUNGALOWS & DETACHED		SOUTH YORKSHIRE
	CHURCH LANE		
	NEAR BARNSLEY		
	WORSBROUGH		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total No of Dwellings:	19	
	Survey date: WEDNESDAY	*09/09/20*	*Survey Type: MANUAL*
14	TW-03-A-03 MIXED HOUSES		TYNE & WEAR
	STATION ROAD		
	NEAR NEWCASTLE		
	BACKWORTH		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total No of Dwellings:	33	
	Survey date: FRIDAY	*13/11/15*	*Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	14	33	0.088	14	33	0.262	14	33	0.350
08:00 - 09:00	14	33	0.154	14	33	0.321	14	33	0.475
09:00 - 10:00	14	33	0.147	14	33	0.224	14	33	0.371
10:00 - 11:00	14	33	0.167	14	33	0.171	14	33	0.338
11:00 - 12:00	14	33	0.220	14	33	0.198	14	33	0.418
12:00 - 13:00	14	33	0.167	14	33	0.174	14	33	0.341
13:00 - 14:00	14	33	0.187	14	33	0.180	14	33	0.367
14:00 - 15:00	14	33	0.193	14	33	0.178	14	33	0.371
15:00 - 16:00	14	33	0.226	14	33	0.196	14	33	0.422
16:00 - 17:00	14	33	0.248	14	33	0.182	14	33	0.430
17:00 - 18:00	14	33	0.303	14	33	0.167	14	33	0.470
18:00 - 19:00	14	33	0.242	14	33	0.132	14	33	0.374
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.342			2.385			4.727

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

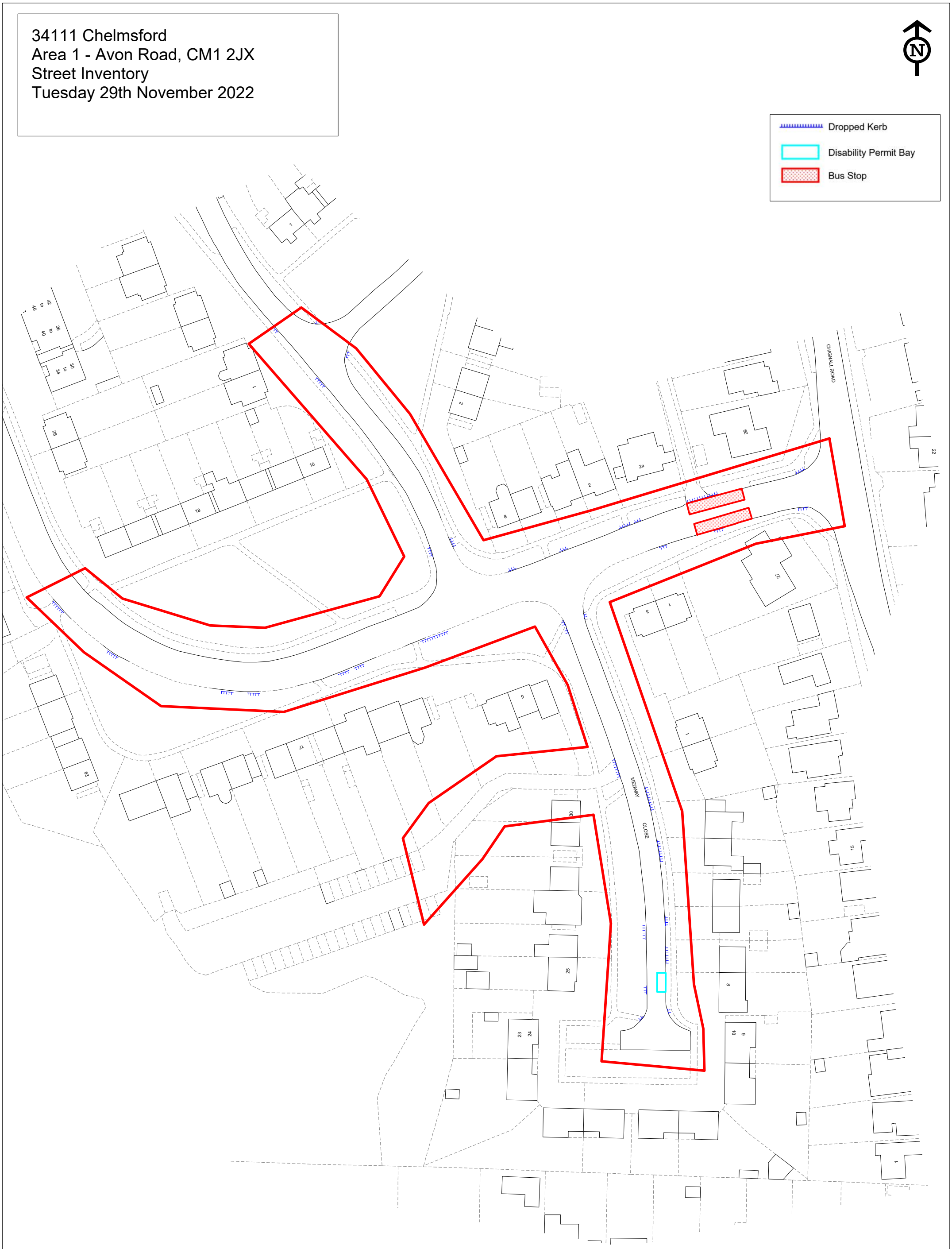
Trip rate parameter range selected:	8 - 47 (units:)
Survey date date range:	01/01/14 - 22/06/22
Number of weekdays (Monday-Friday):	14
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Appendix 5

Parking Plan and Survey

34111 Chelmsford
Area 1 - Avon Road, CM1 2JX
Street Inventory
Tuesday 29th November 2022



ADVANCED TRANSPORT RESEARCH

Advanced Transport Research	Job Number & Name:	34111 Chelmsford
Area 2	Client:	Journey Transport Planning
Parking Demand	Date:	29th, 30th, 3rd

					Unrestricted Kerb Space				Double Yellow Line			
0830 Tuesday 29th	Street	Total Length of Available Kerb Space	Length of Junctions	Length of Bus stops/other	Length (m)	Calculated Spaces	Cars Parked	Stress	Length (m)	Calculated Spaces	Cars Parked	Stress
	The Street	178	5	17	146	29	12	41%	10	2	0	0%
	St Michaels Drive	286	5	57	224	44	13	30%				
	Total per Beat by restriction					73	25	34%		2	0	0%
	Total per Beat					73	25	34%				

					Unrestricted Kerb Space				Double Yellow Line			
1230 Tuesday 29th	Street	Total Length of Available Kerb Space	Length of Junctions	Length of Bus stops/other	Length (m)	Calculated Spaces	Cars Parked	Stress	Length (m)	Calculated Spaces	Cars Parked	Stress
	The Street	178	5	17	146	29	10	34%	10	2	0	0%
	St Michaels Drive	286	5	57	224	44	10	23%				
	Total per Beat by restriction					73	20	27%		2	0	0%
	Total per Beat					73	20	27%				

					Unrestricted Kerb Space				Double Yellow Line			
1930 Tuesday 29th	Street	Total Length of Available Kerb Space	Length of Junctions	Length of Bus stops/other	Length (m)	Calculated Spaces	Cars Parked	Stress	Length (m)	Calculated Spaces	Cars Parked	Stress
	The Street	178	5	17	146	29	11	38%	10	2	0	0%
	St Michaels Drive	286	5	57	224	44	13	30%				
	Total per Beat by restriction					73	24	33%		2	0	0%
	Total per Beat					73	24	33%				

					Unrestricted Kerb Space				Double Yellow Line			
0830 Wednesday	Street	Total Length of Available Kerb Space	Length of Junctions	Length of Bus stops/other	Length (m)	Calculated Spaces	Cars Parked	Stress	Length (m)	Calculated Spaces	Cars Parked	Stress
	The Street	178	5	17	146	29	11	38%	10	2	0	0%
	St Michaels Drive	286	5	57	224	44	13	30%				
	Total per Beat by restriction					73	24	33%		2	0	0%
	Total per Beat					73	24	33%				

					Unrestricted Kerb Space				Double Yellow Line			
1230 Wednesday	Street	Total Length of Available Kerb Space	Length of Junctions	Length of Bus stops/other	Length (m)	Calculated Spaces	Cars Parked	Stress	Length (m)	Calculated Spaces	Cars Parked	Stress
	The Street	178	5	17	146	29	11	38%	10	2	0	0%
	St Michaels Drive	286	5	57	224	44	12	27%				
	Total per Beat by restriction					73	23	32%		2	0	0%
	Total per Beat					73	23	32%				

Advanced Transport Research		*Job Number & Name:*	**34111 Chelmsford**
Area 2		*Client:*	**Journey Transport Planning**
Parking Demand		*Date:*	**29th, 30th, 3rd**

1930 Wednesday					Unrestricted Kerb Space				Double Yellow Line			
Street	**Total Length of Available Kerb Space**	**Length of Junctions**	**Length of Bus stops/other**	Length (m)	Calculated Spaces	Cars Parked	**Stress**	Length (m)	Calculated Spaces	Cars Parked	**Stress**
The Street	178	5	17	146	29	10	**34%**	10	2	0	**0%**
St Michaels Drive	286	5	57	224	44	12	**27%**				
Total per Beat by restriction					73	22	**30%**		2	0	**0%**
Total per Beat					73	22	**30%**				

0930 Saturday 3rd					Unrestricted Kerb Space				Double Yellow Line			
Street	**Total Length of Available Kerb Space**	**Length of Junctions**	**Length of Bus stops/other**	Length (m)	Calculated Spaces	Cars Parked	**Stress**	Length (m)	Calculated Spaces	Cars Parked	**Stress**
The Street	178	5	17	146	29	10	**34%**	10	2	0	**0%**
St Michaels Drive	286	5	57	224	44	15	**34%**				
Total per Beat by restriction					73	25	**34%**		2	0	**0%**
Total per Beat					73	25	**34%**				

1230 Saturday 3rd					Unrestricted Kerb Space				Double Yellow Line			
Street	**Total Length of Available Kerb Space**	**Length of Junctions**	**Length of Bus stops/other**	Length (m)	Calculated Spaces	Cars Parked	**Stress**	Length (m)	Calculated Spaces	Cars Parked	**Stress**
The Street	178	5	17	146	29	14	**48%**	10	2	0	**0%**
St Michaels Drive	286	5	57	224	44	15	**34%**				
Total per Beat by restriction					73	29	**40%**		2	0	**0%**
Total per Beat					73	29	**40%**				

1630 Saturday 3rd					Unrestricted Kerb Space				Double Yellow Line			
Street	**Total Length of Available Kerb Space**	**Length of Junctions**	**Length of Bus stops/other**	Length (m)	Calculated Spaces	Cars Parked	**Stress**	Length (m)	Calculated Spaces	Cars Parked	**Stress**
The Street	178	5	17	146	29	13	**45%**	10	2	0	**0%**
St Michaels Drive	286	5	57	224	44	13	**30%**				
Total per Beat by restriction					73	26	**36%**		2	0	**0%**
Total per Beat					73	26	**36%**				

Appendix 6

Vehicle Tracking assessments

A3 SHEET @ 1:500

0m 12.5m 25m

Accommodation Schedule

Plot No.	Accommodation	Area (m^2)	Amenity (m^2)
01	*4 Bedroom 7 person house*	*110*	*108*
02	*4 Bedroom 7 person house*	*110*	*104*
03	*4 Bedroom 7 person house*	*110*	*104*
04	*4 Bedroom 7 person house*	*110*	*104*
05	*4 Bedroom 7 person house*	*110*	*110*
06	*1 Bedroom 2 person apartment*	*60*	*4*
G1/2	*Private Double Garage*	*42*	

Key:

- Retained Tree
- Proposed Tree
- Permeable gravel driveway
- Concrete pavers
- Cycle Stores
- Bins
- 1800mm h. close boarded timber fence
- 1800mm h. 225mm thick external brick wall

Vehicle dimensions

ECC Refuse Collector (3 axled) - Custom

Length: 8.74 m
Max width: 2.50 m
Lock to lock time: 6.0 s
Max steering angle: 35.33°
Turn radius (curb to curb): 8.75 m

N

Site Area= 0.23ha

revision
issue
PLANNING

client
Chelmsford City Council

project
Medway Close, Chelmsford

title
Proposed Block Plan

john finch partnership
chartered architects & town planning consultants

88 Broomfield Road
Chelmsford CM1 1SS
01245 354319/250780
admin@johnfinchpartnership.co.uk
www.johnfinchpartnership.co.uk

date	08.11.22	scale	1:500 @ A3
drawn	jm/jh	checked	jm
dwg no	3556:02	revision	D

A3 SHEET @ 1:500

0m 12.5m 25m

Accommodation Schedule

Plot No.	Accommodation	Area (m^2)	Amenity (m^2)
01	*4 Bedroom 7 person house*	*110*	*108*
02	*4 Bedroom 7 person house*	*110*	*104*
03	*4 Bedroom 7 person house*	*110*	*104*
04	*4 Bedroom 7 person house*	*110*	*104*
05	*4 Bedroom 7 person house*	*110*	*110*
06	*1 Bedroom 2 person apartment*	*60*	*4*
G1/2	*Private Double Garage*	*42*	

Key:

- Retained Tree
- Proposed Tree
- Permeable gravel driveway
- Concrete pavers
- Cycle Stores
- Bins
- 1800mm h. close boarded timber fence
- 1800mm h. 225mm thick external brick wall

Vehicle dimensions

Fire Appliance - Custom

Length: 8.68 m
Max width: 2.40 m
Lock to lock time: 4.0 s
Max steering angle: 42.02°
Turn radius (curb to curb): 9.11 m
Turn radius (wall to wall): 10.16 m

N

Site Area= 0.23ha

revision
issue
PLANNING

client
Chelmsford City Council

project
Medway Close, Chelmsford

title
Proposed Block Plan

john finch partnership
chartered architects & town planning consultants

88 Broomfield Road
Chelmsford CM1 1SS
01245 354319/250780
admin@johnfinchpartnership.co.uk
www.johnfinchpartnership.co.uk

date	08.11.22	scale	1:500 @ A3
drawn	jm/jh	checked	jm
dwg no	3556:02	revision	D

Planning Committee
5th September 2023

Application No	:	23/00781/FUL Full Application
Location	:	59-63 Garage Block Rear Of St Michaels Drive Roxwell Chelmsford Essex CM1 4NX
Proposal	:	**Demolition of existing garaging. 3 New affordable dwellings with associated access improvements, parking, private amenity space and landscaping.**
Applicant	:	Mr Derek Ford Chelmsford City Council
Agent	:	Laura Dudley-Smith
Date Valid	:	18th May 2023

Appendices:

Appendix 1 Consultations
Appendix 2 Drawings

1. Executive summary

1.1. This application is for three affordable rent dwellings on previously developed land. The land is owned and operated by the City Council. The planning application is made by the City Council. In accordance with the Council's Constitution, the application is presented to the Planning Committee for a decision.

1.2. Objections to the application have been received (see Appendix 1). These cover a range of topics including displacement of parking, impact of new resident parking on local roads, access and neighbour amenity. All representations and consultee comments have been considered as part of the wider planning considerations of this development proposal. The application assessment concludes the proposal is compliant with the Development Plan.

1.3. The application is recommended for approval subject to conditions.

2. Description of site

2.1. The site is approximately 0.15ha in size. It is previously developed, comprising hardstanding and garaging. There are approximately 18 existing garages on the site which are let on short term agreements to a range of tenants. One garage is not let and redundant.

2.2. The site falls within the defined settlement of Roxwell and is directly adjacent to a playground which is designated as Public Open Space in the Chelmsford Local Plan.

2.3. Access is taken from St Michaels Drive and runs between Nos. 63 and 65 St Michaels Drive.

2.4. There are existing accesses to No. 65 St Michaels Drive, the allotments, and No. 57 St Michaels Drive taken from within the site.

3. Details of the proposal

3.1. The proposed development comprises a terrace of three, four-bedroom, two-storey dwellings.

3.2. Each house will have two car parking spaces, one in front of each plot, and one along the shared driveway. Two additional visitor parking spaces for the site will be provided within the main driveway.

3.3. Whilst the site will continue to use the existing access, it is also proposed to improve this entrance into the site by providing a pedestrian walkway along it to enhance the safety of pedestrians accessing the play area to the rear.

3.4. Each house will have a secure private garden of at least 80sqm in size. Sheds will also be provided in each private garden for cycle parking, and a contained structure in front of each dwelling has been designed to provide bin storage.

3.5. All proposed dwellings have been designed to meet the Nationally Described Space Standards, and the dwellings will also meet Part M4(2) of the Building Regulations.

4. Summary of consultations

Essex County Council Highways: The proposal is acceptable to the Highway Authority subject to conditions.

Recycling & Waste Collection Services: Access is acceptable subject to a TRO being secured for the access road on St Michaels Drive.

Roxwell Parish Council: Object to the proposed development on the following grounds:

- Detrimental impact on the existing children's playground.
- Lack of visibility of playground could lead to issues of safety, security and the wellbeing of users.
- Question whether affordable homes will benefit villagers of Roxwell.
- Question the financial viability of the proposal.
- Potential asbestos contamination of playground and local housing.
- Concerns that those travelling to the playground would have to park on St Michaels Drive.

Public Health & Protection Services: Add ENV07 contaminated land condition. Residential development should provide EV charging infrastructure. An asbestos survey must be undertaken prior to demolition.

Local residents: 10 letters of representation received from 3 local residents; 7 objecting to the proposal, 3 neither objecting to nor supporting the planning application. Concerns raised:

- Access not shown to No. 3 and 5 Stonehill Road on submitted plans.
- Demolition of garages will have detrimental impact on street parking.
- Window overlooking playground should be obscured.
- Overshadowing to neighbouring properties.
- Landscaping plan insufficient.
- Question whether affordable homes will benefit villagers of Roxwell.
- Concern whether the homes would be genuinely affordable.
- Foul water/sewage drainage issues in the area.

5. Planning considerations

Main Issues

5.1. The application seeks three affordable housing units, making this a 100% affordable housing scheme. All three units would be provided on an affordable rent tenure which can be secured without a legal agreement due to the Council's ownership of the site. In these circumstances affordable housing tenure considerations under Policy DM2 would not apply.

5.2. The proposal includes 3x four-bedroom affordable houses for rent. The Council declared a housing crisis in February 2022 and produced the Chelmsford Housing Strategy 2022-2027 in March the same year. The Strategy highlights a chronic undersupply of large affordable homes for rent, especially four-bedroom homes. This proposal would make a valuable contribution towards this need.

5.3. The application site is located within the defined settlement of Roxwell, where the principle of development is acceptable subject to compliance with relevant planning policies. The main policy considerations for this proposal are parking displacement, design and neighbour relationships. Other considerations, such as parking and access, technical compliance with development standards and other material considerations also apply.

Design and Character

5.4. Policy DM23 of the Chelmsford Local Plan states that Planning permission will be granted for development that respects the character and appearance of the area in which it is located. Development must be compatible with its surroundings having regard to scale, siting, form, architecture, materials, boundary treatments and landscape. The design of all new buildings and extensions must be of high quality, well proportioned, have visually coherent elevations, active elevations and create safe, accessible and inclusive environments.

5.5. The site is currently in use as garages, many of which are constructed from wood or corrugated metal. The garages are in various stages of deterioration. Adjacent to the south of the site is a large community allotment and to the west there is a public playground.

5.6. The height of the dwellings would be in keeping with the surrounding, two storey, residential context. While the site is disconnected from the St. Michaels Drive Street scene, the proposal aims to be a modern continuation of the existing wider housing area. The design of the proposed dwellings has therefore been influenced by the character and appearance of the local housing stock.

5.7. Concern has been raised by the Parish Council that the proposed development would have a detrimental impact on the safety of users of the playground. It is considered that the existing use of the site (garaging) affords limited natural surveillance of the adjacent playground, providing limited security benefit. The introduction of a residential development would enhance natural surveillance.

5.8. For these reasons, the proposal would comply with Policy DM23 of the Chelmsford Local Plan.

Parking Provision, Access and Displacement

5.9. The Local Highway Authority has been consulted on these proposals and has raised no objections but has recommended several planning conditions to scope and manage works affecting the highway.

5.10. The scheme contains three residential units with provision of 8 car parking spaces (includes two visitor spaces).

5.11. The proposed development incorporates on-site parking that meets the Essex Parking Standards.

5.12. The Transport Statement considered parking provision within a 100 metre radius of the application site, to establish whether residents who may have used garages proposed to be demolished will have alternative places to park on-street, should that be necessary (although few of the garages appear to be in active use for parking of vehicles). This confirmed that spaces are available locally.

5.13. Access to the site is to be taken from St Michaels Drive in the same position. No matters of principle arise from this proposal and the works, including a Traffic Regulation Order, will need further agreement by the Local Highway Authority which is covered by separate highways legislation.

5.14. The intention is for the site to be serviced (e.g. refuse collection) from the within the site. Submitted with the application is a refuse and recycling strategy plan which confirms that refuse vehicles are able to enter the site and leave in a forward gear. Refuse operatives will be able to collect bins from outside of the dwellings.

Neighbour impacts

5.15. The proposed dwellings would be located with frontage towards the rear garden of 65 St Michaels Drive. The properties would not face directly onto the house or private zone of the garden immediately to the rear of the house, with a circa 18m oblique remoteness. There would be no unobscured windows to the side of Plot 3 facing towards 61/63 St Michaels Drive. The remoteness between those properties would be circa 22 metres, which is in excess of minimum remoteness for a flank-to-rear relationship as set out within Appendix B.

5.16. The proposed development would have an acceptable relationship with neighbouring properties. The proposal complies with Policy DM26 of the Chelmsford Local Plan.

Development Standards and Neighbouring Impacts

5.17. Policy DM26 of the Chelmsford Local Plan states that all new dwellings shall have sufficient privacy, amenity space, open space, refuse and recycling storage and shall adhere to the Nationally Described Space Standards. These must be in accordance with Appendix B.

5.18. The development is compliant with the Nationally Described Space Standards for housing.

5.19. All the proposed units would be compliant with Approved Document Part M4(2). Whilst not required specifically for a development of this scale, this level of accessibility will be a significant benefit for these affordable homes and ensuring they meet a range of user needs and requirements.

5.20. The proposals also meet the requirements of the Council's Development Standards (Appendix B) in respect of garden sizes, parking provision, recycling and waste storage.

5.21. The proposed development would have an acceptable relationship with neighbouring properties and would offer an adequate level of amenity for future occupiers. The proposal complies with Policy DM26 of the Chelmsford Local Plan.

Biodiversity Enhancements and RAMS

5.22. The Ecology Appraisal submitted with the application does not conclude further assessment or survey is required. This conclusion is agreed. The specification of landscaping and recommendations for other ecological betterment will be secured by planning condition. Net biodiversity gain is achieved via the landscaping scheme.

5.23. The Conservation of Habitats and Species Regulations 2017, as amended (commonly known as the Habitat Regulations) require all new residential developments that have the potential to cause disturbance to European designated sites to provide appropriate mitigation. To deal with this, an Essex County wide strategic approach to considering and mitigating potential harm has been produced - the Essex Coast Recreational Disturbance Avoidance and Mitigation Strategy (RAMS). An Appropriate Assessment has been carried out which concludes that a contribution towards off-site mitigation (RAMS contribution) is necessary to mitigate the potential

disturbance to European designated sites arising from this development growth. A RAMS payment of £470.28 has been agreed with the Council's Corporate Property Manager, which is in line with the prevailing rate.

Tree Planting

5.24. The Council has declared a Climate and Ecological Emergency to focus attention on reducing carbon and greenhouse gas emissions in the area and to plan for a more sustainable future. The Council's Climate and Ecological Emergency Action Plan includes undertaking a greening programme to significantly increase the amount of woodland and the proportion of tree cover in Chelmsford. Paragraph 5.18 of the Making Places Supplementary Planning Document (January 2021) states that green spaces provided in connection with new housing development should, where practicable, include the planting of three trees per net new dwelling. The proposed plans show that nine new trees (three for each dwelling) will be planted within the application site. These will be secured as part of the conditioned landscaping scheme.

Flood Risk and Drainage

5.25. Concern has been raised from local residents and the Parish Council that residents within proximity to the application site experience issues with foul water sewage and drainage.

5.26. The application is accompanied by a Foul and Surface Water Drainage Strategy.

5.27. It is proposed that all the driveways will drain via permeable paving and all roof areas will drain via a filter drain, which will both feed a rainwater harvesting tank and onwards into the neighbouring allotments via a pumped outlet. This will overflow into an informal soakaway.

5.28. The strategy has been developed to ensure that flood risk to surrounding areas is not increased.

5.29. The development will therefore be safe from flooding and will not increase flood risk elsewhere in accordance with Policy DM18 of the Chelmsford Local Plan.

Other Matters

5.30. The application site is located adjacent to an existing community allotment. Access to the allotment has been maintained and designed into the layout.

5.31. Local representations have raised concern regarding the demolition of the existing garages, and potential asbestos contamination of the playground and local housing. The application is accompanied by a Phase 1 Geo-Environmental Desk Study Report, prepared by Gemco which recommends a mitigation strategy is prepared to support development. This will tie in with Public Health and Protection Service comments regarding the appropriate treatment of asbestos which may be present within some of the existing garage structures. Phase 1 report has identified the need for an intrusive investigation. This will be secured through planning conditi

5.32. Whether these affordable houses are required and whether they will benefit the residents of Roxwell has been posed as an objection to the application. Chelmsford City Council has recognised the urgent need for affordable housing within its administrative area, common to most areas in this region. The Council declared a housing crisis last year, citing the significant increase in housing costs in Chelmsford, and the large number of homeless households in the City. Chelmsford City Council has committed to practical action to address this issue, as set out in its Chelmsford Housing Strategy 2022-2027. Notwithstanding the scale of housing

development across the administrative area, the vast majority of this is to settlements other than Roxwell. Roxwell is a distinct community in its own right, and it is considered important that the vitality of such communities is supported, including by ensuring their proportionate growth and the provision of affordable housing. National policy, as set out in the National Planning Policy Framework (NPPF), is clear that planning should seek opportunities for villages to grow and thrive, especially where this will support local people and services.

6. Community Infrastructure Levy (CIL)

6.1 This development is CIL liable. CIL payments are required to help pay for general infrastructure arising from development. In addition, there is a requirement for specific payments towards works which would usually be made via a S.106 agreement, but as this is a Council-owned site those contributions (RAMS) have been secured as direct transfers between Council Services, to be undertaken when planning permission is in place.

7. Conclusion

7.1. The proposals are a sustainable use of previously developed land in defined settlement.

7.2. The development will have a positive impact on housing and affordable housing in the area.

7.3. Local objections have been received and considered. The matters raised through the consultation have been considered in the context of national and local planning policy. The objections would not amount to grounds for refusal as the development is assessed to be acceptable in relation to those concerns raised.

7.4. The proposals are compliant with the standards and objectives of the National Planning Policy Framework and Chelmsford Local Plan (May 2020). Across all material planning considerations the development is assessed to be acceptable.

7.5. Officers recommend the application is approved subject to conditions.

RECOMMENDATION

The Application be APPROVED subject to the following conditions:-

Condition 1

The development hereby permitted shall begin no later than 3 years from the date of this decision.

Reason:

In order to comply with Section 91(1) of the Town and Country Planning Act 1990 as amended by Section 51 of the Planning and Compulsory Purchase Act 2004.

Condition 2

The development hereby permitted shall be carried out in accordance with the approved plans and conditions listed on this decision notice.

Reason:

In order to achieve satisfactory development of the site

Condition 3
Prior to their use, details of the materials to be used in the construction of the development hereby permitted shall be submitted to and approved in writing by the local planning authority. The development shall then be carried out in accordance with the approved details.

Reason:
To ensure that the development is visually acceptable in accordance with Policy DM23 of the Chelmsford Local Plan.

Condition 4
The three (3) dwellings in this development shall not be used for any purpose other than the provision of Affordable Housing within the definition as given within the National Planning Policy Framework.

Reason:
To define the scope of the planning permission as being a 100% Affordable Housing scheme.

Condition 5
a) No development shall take place until a scheme to assess and deal with any contamination of the site has been submitted to and approved in writing by the local planning authority.

b) Prior to the occupation or first use of the development, any remediation of the site found necessary shall be carried out, and a validation report to that effect submitted to the local planning authority for written approval and the development shall be carried out in accordance with that scheme.

Reason:
This information is required prior to the commencement of the development because this is the only opportunity for contamination to be accurately assessed. This is to ensure the development does not give rise to problems of pollution or contamination in accordance with Policy DM30 of the Chelmsford Local Plan.

Condition 6
Prior to the first occupation of the dwelling/s hereby permitted, charging infrastructure for electric vehicles shall be installed and retained at a rate of 1 charging point per dwelling.

Reason:
To ensure that the development is constructed sustainably in accordance with Policy DM25 of the Chelmsford Local Plan.

Condition 7
All new dwelling units as hereby approved shall be constructed to achieve increased water efficiency to a standard of no more than 110 litres of water per person per day in accordance with Building Regulations Approved Document Part G (2015 - as amended).

Reason:
To ensure the development reduces water dependency in accordance with Policy DM25 of the Chelmsford Local Plan.

Condition 8
All mitigation measures and/or works shall be carried out in accordance with the details contained in the Preliminary Ecological Appraisal (James Blake Associates, September 2022) as submitted with the planning application and agreed in principle with the local planning authority prior to determination.

Reason:
To conserve protected and Priority species and allow the LPA to discharge its duties under the Conservation of Habitats and Species Regulations 2017 (as amended), the Wildlife & Countryside Act 1981 as amended and s40 of the NERC Act 2006 (Priority habitats & species).

Condition 9
The area/s of hardsurfacing hereby permitted shall be constructed using a permeable surface or shall include drainage to prevent discharge of surface water onto the Highway.

Reason:
To prevent hazards caused by water flowing onto the highway and to avoid the formation of ice on the highway in the interest of highway safety.

Condition 10
No unbound material shall be used in the surface treatment of the vehicular access hereby permitted within 6 metres of the highway boundary.

Reason:
To avoid displacement of loose material onto the highway in the interests of highway safety.

Condition 11
No dwelling shall be occupied until space has been laid out within the site in accordance with Drawing No. 3555:02/G for eight (8) cars to be parked and that space shall thereafter be kept available at all times for the parking of vehicles.

Reason:
To ensure that sufficient parking is available to serve the development in accordance with Policy DM27 of the Chelmsford Local Plan.

Condition 12
Prior to the construction of any access roads, a plan to show how the development will be serviced by a refuse vehicle shall be submitted to and approved in writing by the local planning authority. All roads shown on the approved drawing to be served by a refuse collection vehicle shall be constructed to a standard capable of carrying a 26 tonne vehicle.

Reason:
In the interests of highway safety and to ensure that the development is accessible in accordance with Policy DM23 [and DM24] of the Chelmsford Local Plan.

Condition 13
No development shall take place, including any ground works or demolition, until a Construction Management Plan has been submitted to, and approved in writing by, the local planning authority. The approved plan shall be adhered to throughout the construction period. The Plan shall provide for;

i. The parking of vehicles of site operatives and visitors,
ii. Loading and unloading of plant and materials,
iii. Storage of plant and materials used in constructing the development,
iv. Wheel and underbody washing facilities.
v. Before and after condition survey to identify defects to highway in the vicinity of the access to the site and where necessary ensure repairs are undertaken at the developer expense where caused by developer.

Reason:
To ensure that on-street parking of these vehicles in the adjoining streets does not occur and to ensure that loose materials and spoil are not brought out onto the highway in the interests of highway safety.

Condition 14
Prior to first occupation of the development, the vehicular area turning facilities, shown in Approved Drawing No. 3555:02/G shall be constructed, surfaced and maintained free from obstruction within the site at all times for that sole purpose.

Reason:
To ensure that vehicles can enter and leave the highway in a forward gear in the interest of highway safety.

Condition 15
Notwithstanding the provisions of the Town and Country Planning (General Permitted Development) Order 2015 (or any Order revoking or re-enacting that Order with or without modification), the dwellings hereby permitted shall not be enlarged or extended without the grant of an additional planning permission by the local planning authority.

Reason:
To ensure that the development remains contextualised to its surroundings and to ensure that adequate private amenity space is retained for the dwellings in accordance with Policies DM23 and DM26 of the Chelmsford Local Plan.

Condition 16
Notwithstanding the drawings as approved:

(i) Within 6 months of commencement of development the proposed treatment of all boundaries (external and internal site subdivision), including representative drawings of gates, fences, walls, railings or piers shall have been submitted to and approved in writing by the local planning authority.

(ii) No part of the development shall be occupied until boundary treatments as approved under (i) of this condition have been installed in accordance with those agreed details.

Reason:
In the interests of the visual amenities of the area in accordance with Policies DM23 and DM29 of the adopted Chelmsford Local Plan (May 2020).

Condition 17
Notwithstanding the approved drawings, within 6 months of commencement of development a comprehensive specification of all hard and soft landscaping works and content shall have been submitted to and approved in writing by the local planning authority to include written specification, layouts and large-scale drawings as necessary of the following:

i. hard materials setting out (including laying patterns),
ii. details of any steps/ramps,
iii. lighting (to streets/spaces),
iv. definitive planting specification containing species and sizes,
v. tree pits, root barriers and staking,
vi. any in-built method(s) of irrigation
vii. maintenance plan(s) for all of the above

All external areas of the development as approved shall be laid out, planted, equipped and implemented in accordance with the agreed specifications prior to the occupation of 90% of the approved dwellings unless the local planning authority formally agrees to a varied timetable and shall be permanently retained thereafter in accordance with a management plan, as approved.

If within a period of 5 years from the date of planting any element of the soft landscaping scheme or retained landscaping (or any replacement planting to which this same provision would also apply), is removed, uprooted, or destroyed, or becomes, in the opinion of the local planning authority, seriously damaged or defective, another tree or landscaping feature of the same size and species as that originally planted shall be planted at the same place, unless the local planning authority gives its written consent to any variation.

Reason:
Whilst drawings 3555:02/E and 006/B provide detail sufficient to determine the application, further information is required to ensure the specification of external areas is sufficient. Implementation in accordance with full details is necessary to comply with Policies DM13, DM16 and DM23 of the adopted Chelmsford Local Plan (May 2020).

Condition 18
Unless the Local Planning Authority agrees to a commensurate solution, prior to first occupation of the development hereby approved, provision of Traffic Regulation Order (TRO) parking restrictions to prevent parking on St Michaels Drive to each side of the vehicular access to the north and the south and opposite the vehicular access on the east side of St Michaels Drive to facilitate refuse vehicle entry to the development, shall be provided in accordance with details to be agreed with the Highway Authority.

Reason:
To facilitate entry/exit of refuse vehicles, in the interest of highway safety.

Condition 19
Prior to first occupation of the development hereby approved, the applicant shall submit evidence to the local planning authority, confirming that they have obtained Anglian Water's agreement to foul water connection.

Reason
To ensure that the development will not have an adverse impact on foul water and sewage treatment.

Notes to Applicant

1 In order to cause minimum nuisance to neighbours, the applicant is strongly advised to follow guidelines for acceptable working hours set out by the Council's Public Health and Protection team.

Noisy work
- Can be carried out between 0800 and 1800 Monday to Friday
- Limited to 0800-1300 on Saturdays
- At all other times including Sundays and Bank Holidays, no work should be carried out that is audible beyond the boundary of the site

Light work
- Acceptable outside the hours shown above
- Can be carried out between 0700 and 0800; and 1800-1900 Monday to Friday

In some circumstance further restrictions may be necessary.
For more information, please contact Chelmsford City Council Public Health and Protection Services, or view the Council's website at www.chelmsford.gov.uk/construction-site-noise

2 The Local Highway Authority (Essex County Council) must be contacted regarding the details of any works affecting the existing highway. Contact details are: Telephone: 0845 603 7631. Email: development.management@essexhighways.org.

3 The proposed demolition in the scheme should not be carried out until you have given notice to the Chelmsford City Council (Building Control Manager) of your intention to do so pursuant to Section 80 of the Building Act 1984.

Notice should be in writing and accompanied by a block plan (e.g. 1/500) clearly identifying the building(s) to be demolished.

4 The proposed development may be liable for a charge under the Community Infrastructure Levy Regulations 2010 (as Amended). If applicable, a Liability Notice will be sent as soon as possible to the applicant and any other person who has an interest in the land. This will contain details of the chargeable amount and how to claim exemption or relief if appropriate. There are further details on this process on the Council's website at www.chelmsford.gov.uk/cil, and further information can be requested by emailing cilenquiries@chelmsford.gov.uk. If the scheme involves demolition, for the purposes of the Regulations the development will be considered to have begun on commencement of the demolition works.

5 Please note that the Council will contact you at least annually to gain information on projected build out rates for this development. Your co-operation with this request for information is vital in ensuring that the Council maintains an up to date record in relation to Housing Land Supply.

6 This permission is subject to conditions, which require details to be submitted and approved by the local planning authority. Please note that applications to discharge planning conditions can take up to eight weeks to determine.

7 This development will result in the need for a new postal address. Applicants should apply in writing, email or by completing the online application form which can be found at www.chelmsford.gov.uk/streetnaming. Enquires can also be made to the Address Management Officer by emailing Address.Management@chelmsford.gov.uk

Positive and Proactive Statement

During the life of the application the Local Planning Authority suggested amendments to the proposal in order to improve the development. The Local Planning Authority has assessed the proposal against all material considerations including planning policies and any comments that may have been received. The planning application has been approved in accordance with the objectives of the National Planning Policy Framework to promote the delivery of sustainable development and to approach decision taking in a positive way.

SUMMARY OF RELEVANT ADOPTED PLANNING POLICIES:

DM2A
Policy DM2 (A) - Affordable Housing & Rural Exception Sites - The Council will require the provision of 35% of the total number of residential units to be provided and maintained as affordable housing within all new residential sites which comprise 11 or more residential units.

DM23
Policy DM23 - High Quality & Inclusive Design - Planning permission will be granted for development that respects the character and appearance of the area in which it is located. Development must be compatible with its surroundings having regard to scale, siting, form, architecture, materials, boundary treatments and landscape. The design of all new buildings and extensions must be of high quality, well proportioned, have visually coherent elevations, active elevations and create safe, accessible and inclusive environments.

DM29
Policy DM29 - Protecting Living & Working Environments - Development proposals must safeguard the amenities of the occupiers of any nearby residential property by ensuring that development is not overbearing and does not result in unacceptable overlooking or overshadowing. Development must also avoid unacceptable levels of polluting emissions, unless appropriate mitigation measures can be put in place and permanently maintained.

APPB
Appendix B forms part of the adopted Local Plan and provides information about standards that apply to all new residential developments in Chelmsford including conversions, apartments, houses, Houses in Multiple Occupation (HMO's) and extensions, unless it can be demonstrated that the particular site circumstances require a different design approach. The standards seek to ensure new developments will meet the needs of their occupiers, minimise the impact of new developments on surrounding occupiers and encourage higher rates of recycling.

DM27
Policy DM27 - Parking Standards - The Council will have regard to the vehicle parking standards set out in the Essex Parking Standards - Design and Good Practice (2009) or as subsequently amended when determining planning applications.

DM26
Policy DM26 - Design Specification for Dwellings - All new dwellings (including flats) shall have sufficient privacy, amenity space, open space, refuse and recycling storage and shall adhere to the Nationally Described Space Standards. These must be in accordance with Appendix B. All houses in multiple occupation shall also provide sufficient communal garden space, cycle storage, parking and refuse and waste storage.

DM16
Policy DM16 - Ecology & Biodiversity - The impact of a development on Internationally Designated Sites, Nationally Designated Sites and Locally Designated Sites will be considered in line with the importance of the site. With National and Local Sites, this will be balanced against the benefits of the development. All development proposals should conserve and enhance the network of habitats, species and sites.

DM30
Policy DM30 - Contamination & Pollution - Permission will only be granted for developments on or near to hazardous land where the Council is satisfied there will be no threat to the health or safety of future users and there will be no adverse impact on the quality of local groundwater or surface water. Developments must also not have an unacceptable impact on air quality and the health and wellbeing of people.

DM25
Policy DM25 - Sustainable Buildings - All new dwellings and non-residential buildings shall incorporate sustainable design features to reduce carbon dioxide and nitrogen dioxide emissions and the use of natural resources. New dwellings and non-residential buildings shall provide convenient access to electric vehicle charging point infrastructure.

DM18
Policy DM18 - Flooding/Suds - Planning permission for all types of development will only be granted where it can be demonstrated that the site is safe from all types of flooding. All major developments will be required to incorporate water management measures to reduce surface water run off and ensure that it does not increase flood risk elsewhere.

Background Papers

Case File

Essex County Council Highways

Comments
26.06.2023 - Your Ref: 23/00781/FUL Our Ref: CO/EGD/SD/RM/CHL/23/781/54589 Date:- 26th June 2023 ' The proposal includes off-street parking provision, which including 2no. unallocated visitor parking spaces, in accordance with the Parking Standards. ' The submitted parking survey conducted in St Michaels Drive and The Street, within 100 metres of the garage site, demonstrates that there is sufficient existing kerbside residential parking availability, to accommodate any parking displaced from the garages that are occupied currently. From a highway and transportation perspective the impact of the proposal is acceptable to the Highway Authority subject to the following conditions: 1. No development shall take place, including any ground works or demolition, until a Construction Management Plan has been submitted to, and approved in writing by, the local planning authority. The approved plan shall be adhered to throughout the construction period. The Plan shall provide for; i. the parking of vehicles of site operatives and visitors, ii. loading and unloading of plant and materials, iii. storage of plant and materials used in constructing the development, iv. wheel and underbody washing facilities. v. Before and after condition survey to identify defects to highway in the vicinity of the access to the site and where necessary ensure repairs are undertaken at the developer expense where caused by developer. Reason: To ensure that on-street parking of these vehicles in the adjoining streets does not occur and to ensure that loose materials and spoil are not brought out onto the highway in the interests of highway safety and Policy DM1. 2. Prior to first occupation of the proposed development, the proposed private drive shall be constructed to a width of 5.5 metres for at least the first 6 metres from the back of footway and provided with an

appropriate dropped kerb crossing of the footway.

Reason: To ensure that vehicles can enter and leave the highway in a controlled manner and to ensure that opposing vehicles can pass clear of the limits of the highway, in the interests of highway safety in accordance with policy DM1.

3. No unbound material shall be used in the surface treatment of the vehicular access within 6 metres of the highway boundary.

Reason: To avoid displacement of loose material onto the highway in the interests of highway safety in accordance with policy DM1

4. There shall be no discharge of surface water from the development onto the Highway.

Reason: To prevent hazards caused by water flowing onto the highway and to avoid the formation of ice on the highway in the interest of highway safety to ensure accordance with policy DM1.

5. Prior to first occupation of the development the three vehicle turning areas, shown in the Proposed Block Plan, drawing no. 3555:02 Revision E; adjacent to Plot 03, adjacent to Plot 01 and adjacent to the retained garage shall be constructed, surfaced and maintained free from obstruction within the site at all times for that sole purpose.

Reason: To ensure that vehicles can enter and leave the highway in a forward gear in the interest of highway safety in accordance with policy DM1.

6. Prior to first occupation of the proposed development, the vehicle parking areas shown in the Proposed Block Plan, drawing no. 3555:02 Revision E, shall be constructed, appropriately hard surfaced ready for use. The vehicle parking areas and associated turning areas shall be retained in this form at all times. The vehicle parking shall not be used for any purpose other than the parking of vehicles.

Reason: To ensure that on street parking of vehicles in the adjoining streets does not occur in the interests of highway safety and that appropriate parking is provided in accordance with Policy DM8.

7. Cycle parking shall be provided in accordance with the EPOA Parking Standards. The approved facility shall be secure, convenient, covered and provided prior to occupation and retained at all times.

Reason: To ensure appropriate cycle parking is provided in the interest of highway safety and amenity in accordance with Policy DM8.

8. Prior to occupation of the proposed development, the Developer shall be responsible for the provision and implementation of a Residential Travel Information Pack per dwelling proposed, for sustainable transport, approved by Essex County Council, to include six one day travel vouchers for use with the relevant local public transport operator.

Reason: In the interests of reducing the need to travel by car and promoting sustainable development and transport in accordance with policies DM9 and DM10.

General

I. Prior to any works taking place in public highway, the developer shall enter into an appropriate agreement with the Highway Authority to regulate construction works.

II. The above to be provided at no cost to the Highway Authority.

III. The above to be imposed on the planning permission (if granted) by planning obligation or condition, as necessary.

The above conditions are to ensure that the proposal conforms to the relevant policies contained within the County Highway Authority's Development Management Policies, adopted as County Council Supplementary Guidance in February 2011.

Informatives:

i. All work within or affecting the highway is to be laid out and constructed by prior arrangement with, and to the requirements and satisfaction of, the Highway Authority, details to be agreed before the commencement of works.

The applicants should be advised to contact the Development Management Team by email at development.management@essexhighways.org

ii. All housing developments in Essex which would result in the creation of a new street (more than five dwelling units communally served by a single all-purpose access) will be subject to The Advance Payments Code, Highways Act, 1980. The Developer will be served with an appropriate Notice within 6 weeks of building regulations approval being granted and prior to the commencement of any development must provide guaranteed deposits which will ensure that the new street is constructed in accordance with acceptable specification sufficient to ensure future maintenance as a public highway.

Recycling & Waste Collection Services

Comments
No response received

Roxwell Parish Council

Comments
07.06.2023 - PLANNING APPLICATION 23/00781/FUL SITE: 59-63 GARAGE BLOCK -REAR OF ST MICHAELS DRIVE, ROXWELL This site was reviewed in 2012 by the then Chelmsford Borough Council whilst carrying out a Site Allocations Development Plan (Consultation ID 310181). This site was listed as Site No.2B. At the time a number of restraints were listed that would need to be overcome. The planners concluded in their comments that the development of the complete site would be difficult to support. A small infill development may be acceptable although this would have a capacity of about 4 units. The summary sheet shows site 2B in red which includes the allotments and children's playground which are not included in the application. The main issue with this application is the detrimental effect it will have on the existing children's playground. This was approved by planning application M/CHR/481/65 by the then Rural District Council in 1965. The site currently has hedgerow on two sides adjacent to properties on Stonehill Road. This application, as well as the side walls of the end house, shows a 2 metre high fence along that property's garden together with the area designated as car park. This effectively means that the children's playground is shielded to a very large degree by high fencing. It is of great concern that apart from one end, the playground would not be easily visible which could lead to issues regarding the safety, security and well-being of those using the facility. This must not be viewed lightly. This site has over the years has been, and continues to be, a well used village amenity. It has won numerous awards in the Best Kept Playing Fields competition run by the Essex Playing Fields Association.

These 3 proposed units are being designated as Affordable Housing.

This seems odd. Roxwell recently completed an AH scheme managed by English Rural Housing in Green Lane, Roxwell. This consisted of 5 AH units, and 2 cross subsidy properties. This was after a very thorough local survey had been carried out. Why has the Parish Council not been properly and fully consulted in this particular case?

All the units in the Green Lane AH development were allocated to people who either currently lived in the village, or had strong local connections. It would be of immense interest to know the basis on which the proposed affordable housing development is to be allocated. Villagers or outsiders?

Resident council tax payers will be very interested to understand the financial viability of this proposal given there is no reference to cross subsidy.

With all the development that has been and is being built around Chelmsford, this must surely be generating a large number of AH units. To suddenly decide to look for ad hoc small sites in surrounding villages that will not benefit those villages in any way seems ludicrous.

Added to this, there is no shop, doctors, chemist or pub in the village and a very infrequent bus service which would hardly make it attractive to future occupants. Is CCC going to be reviewing such provision on a pro-active basis coupled with its desire to build more homes in the village?

Another issue of great concern would be the demolition of the Garages, as many of them contain asbestos, this could lead to cross contamination of the playground and local housing, which could lead to serious illness.

It should also be noted that not all users of the playground walk; some do arrive by car. With the limited car parking that would be available this could cause problems. Are the allocated public parking spaces intended for the use by playground and allotment users. 2 spaces is, to say the least, inadequate. Public may be forced to park on St.Michael's Drive causing further congestion to local residents. This road is a public bus thoroughfare.

In fact, rebuilding/refurbishing the existing garages to encourage use could reduce on street parking on St.Michael's Drive.

There are historic issues with raw sewage coming up through man-holes contaminating the pavement and road at the entrance to the proposed site with existing usage. To add more dwellings would only compound the problem. This can hardly be considered acceptable in close vicinity to a childrens playground.

Another point that should be looked at is that, all playgrounds sited around the City and surrounding Parishes will be found to be in an environment that puts the well-being and safety of children first. This applicates seems the opposite.

In conclusion the Roxwell Parish Council strongly object to this application being approved due the issues raised and which help prove that the site is not suitable for development.

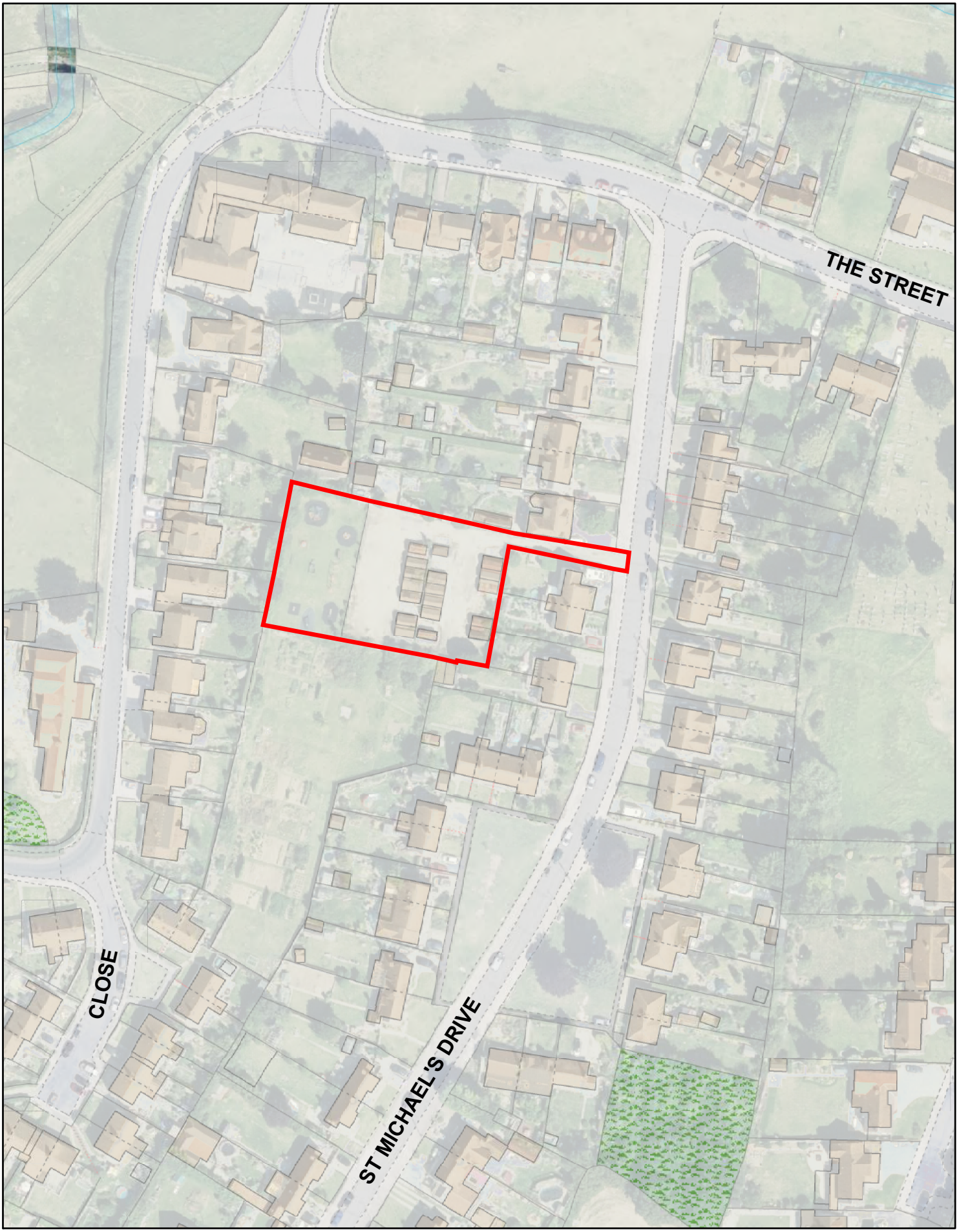
It is imperative that local knowledge and concerns be taken seriously on this matter. Parish Council recommends that all planning Committee members arrange a site visit in consultation with us.

Public Health & Protection Services

Comments
23.05.2023 - Please put on an ENV07 condition. The Phase 1 report has identified the need for an intrusive investigation. An asbestos survey must be undertaken prior to demolition. Any asbestos found must be removed by a qualified contractor and disposed of at a licensed facility. This residential development should provide EV charging point infrastructure to encourage the use of ultra-low emission vehicles at the rate of 1 charging point per unit (for a dwelling with dedicated off-road parking) and/or 1 charging point per 10 spaces (where off-road parking is unallocated).

Local Residents

Comments
10 letters of representation received from 3 local residents; 7 objecting to the proposal, 3 neither objecting to nor supporting the planning application. Concerns raised: - Access not shown to No. 3 and 5 Stonehill Road on submitted plans. - Demolition of garages will have detrimental impact on street parking. - Window overlooking playground should be obscured. - Overshadowing to neighbouring properties. - Landscaping plan insufficient. - Question whether affordable homes will benefit villagers of Roxwell. - Concern whether the homes would be genuinely affordable. - Foul water/sewage drainage issues in the area.



0 12.5 25 50 Metres

1:1,250

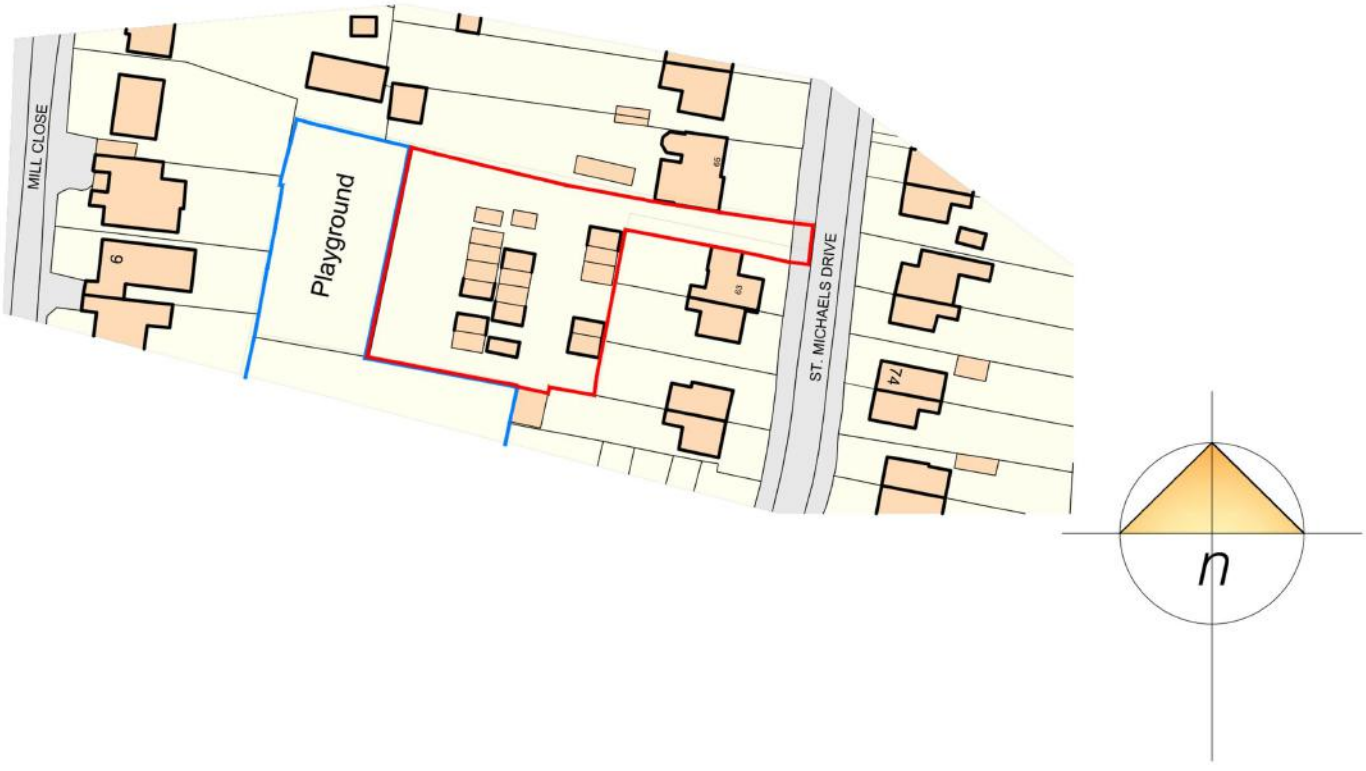
N

Planning Committee
23/00781/FUL

Planning & Development Management
Directorate for Sustainable Communities

PO Box 7544 Civic Centre
Duke Street, Chelmsford, CM1 1XP

Telephone: 01245 606826



client
Chelmsford City Council

project
St. Michaels Drive, Roxwell

title
Location plan

Location plan

A4 SHEET @ 1:1250

0m 25m 50m 125m

chartered architects & town planning consultants

88 broomfield road
chelmsford cm1 1ss
01245 354319/250780
admin@johnfinchpartnership.co.uk

www.johnfinchpartnership.co.uk

date	03.04.2023	scale	1:1250 @ A4
drawn	jm/jh	checked	jm
dwg no	3555:01	revision	F

PROPOSED BLOCK PLAN @ 1:500

A3 SHEET @ 1:500

0m 12.5m 25m

N

Accommodation Schedule

Plot No.	Accommodation	Area (m^2)	Amenity (m^2)
01	*4 Bedroom 6 person house*	*114*	*100*
02	*4 Bedroom 6 person house*	*114*	*100*
03	*4 Bedroom 6 person house*	*114*	*80*

Key:

(See separate proposed landscaping plan for further details)

- Proposed Tree
- Private patio/ paving
- Permeable gravel driveway
- Concrete pavers
- Cycle Stores
- Enclosed Bin stores
- 1800mm h. close boarded timber fence
- 1800mm h. 225mm thick external brick wall
- 1200mm h. metal anti-trap playground fencing to local requirements

revision

issue

PLANNING

client

Chelmsford City Council

project

St. Michaels Drive, Roxwell, Chelmsford

title

Proposed Block Plan

john finch partnership
chartered architects & town planning consultants

88 Broomfield Road
Chelmsford CM1 1SS
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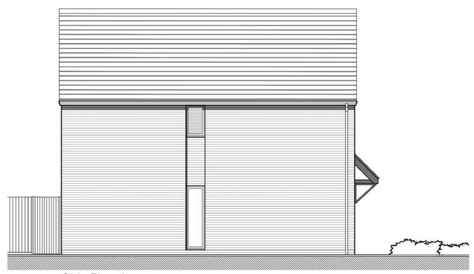
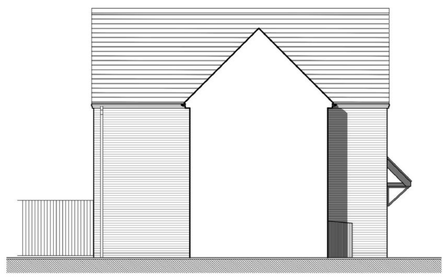
date	29.06.23	scale	1:500 @ A3
drawn	lt/jh	checked	jm
dwg no	3555:02	revision	G

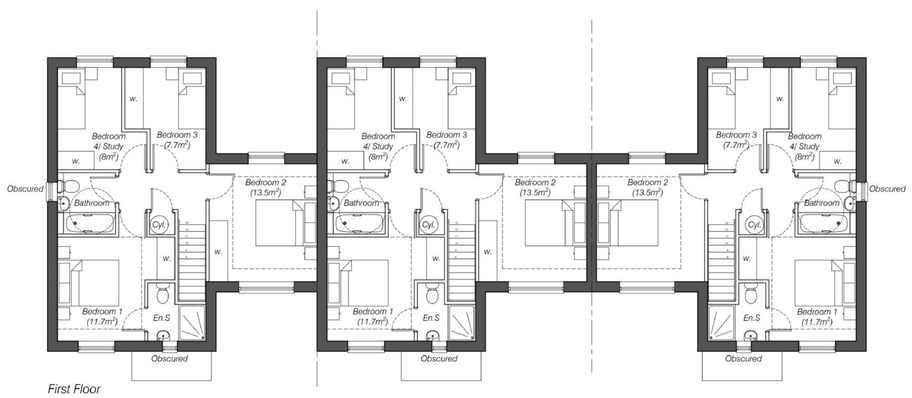
Front Elevation
Plot 03 *Plot 02* *Plot 01*



Side Elevation
Plot 03

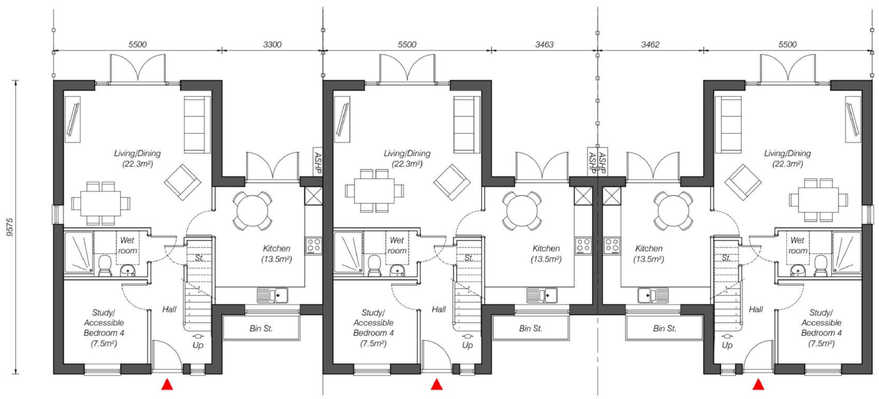


Side Elevation
Plots 01 & 02



First Floor

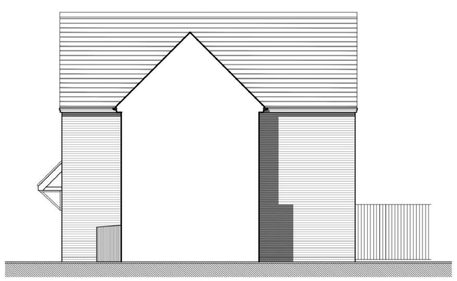
Rear Elevation
Plot 01 *Plot 02* *Plot 03*



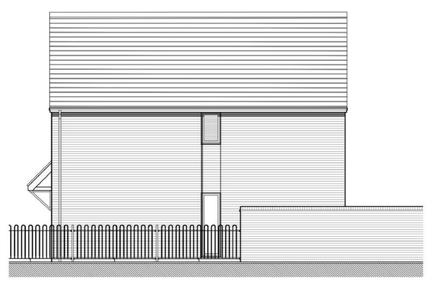
Ground Floor
Plot 03 *Plot 02* *Plot 01*

4b6p (required 106m2 GIA)
114m2 GIA

M4(2) Accessible and
Adaptable dwelling



Side Elevation
Plots 2 & 3



Side Elevation
Plot 01

A1 SHEET @ 1:100

0m 5m 10m

revision
issue

PLANNING

client

Chelmsford City Council

project

St. Michaels Drive, Roxwell, Chelmsford

title

Proposed Plans and Elevations

john finch partnership
chartered architects & town planning consultants

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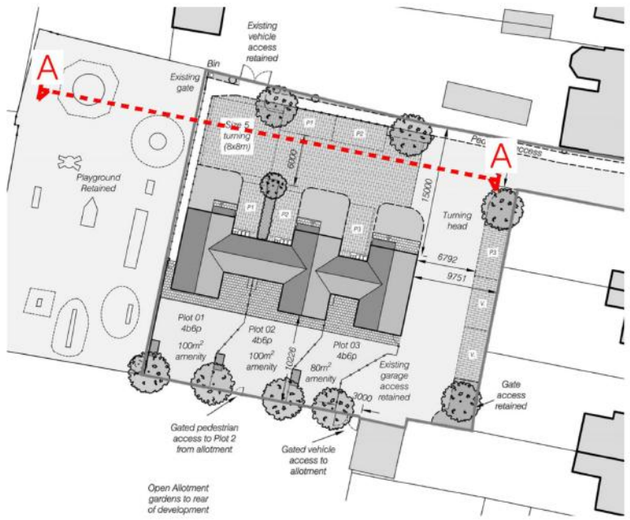
date	29.06.2023	scale	1:100 @ A1
drawn	jm/jh	checked	jm
dwg no	3555:03	revision	H

Street Scene
A.A

A3 SHEET @ 1:150

0m 2.5m 5m



revision
issue

PLANNING

client

Chelmsford City Council

project

St. Michaels Drive, Roxwell, Chelmsford

title

Proposed Street Scene

john finch partnership
chartered architects & town planning consultants

88 Broomfield Road
Chelmsford CM1 1SS
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date	29.06.2023	scale	1:150 @ A3
drawn	jh	checked	jm
dwg no	3555:04	revision	D

LANDSCAPE SPECIFICATION:

All landscape works to be carried out broadly in accordance with the relevant current British Standards; National Planting Specifications Guidelines; Horticultural Trades Association Standards; CPSE 'Plant Handling' Standards & COSHH Regulations.

TOPSOIL
Importation:
- Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work. Any imported soil should be to BS 3882.

Handling:
- Ensure that any aggressive weeds are removed from site – do not cut or distribute.
- Select and use plant to minimize disturbance, trafficking and compaction.
- Do not contaminate topsoil with subsoil, stone, hardcore, rubbish or material from building works.
- Alleviate any compaction of the soil prior to planting or turfing and do not handle topsoil in wet conditions or after heavy rainfall.

PLANTING
Seeding & Turfing:
- Ensure that there is a healthy, vigorous grass sward, free from the visible effects of pests, weeds and disease.
- The final sward should form a closely knit, continuous ground cover of even density, height and colour.

Watering:
- As and when required to ensure healthy establishment of plants.

Site Clearance:
- Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.

Soil Conditions:
- Soil for cultivating and planting must be moist, friable and not waterlogged.
- No planting to take place if soil is frozen or snow covered and any plants waiting to be planted should be given additional root protection.
- Prevent planting pit sides and bases and backfill materials from freezing.

Plants:
- Plant names, forms, dimensions and other criteria: To be labelled as per the applicable section of BS 3936.
- Frost: Protect plants from frost and handle plants with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
- Planting: Upright or well balanced with best side to front, well firmed in and evenly spaced.
- Ornamental trees within the to be staked with a single low stake at 45degrees to the stem and tied with an adjustable rubber tie.
- Newly planted ornamental hedges to be maintained at a height of 800mm within the Site. No guards to be used in order to encourage a more natural form.

Timing:
- The landscape scheme/planting programme is confirmed as being timetabled for implementation by or during the first planting season (mid-November to mid-March) following commencement of works.

Cultivation:
- Compacted topsoil to be broken up to full depth. Cultivate, aerate and break up soil a few days before planting when weather and ground conditions are suitably dry, leaving the surface regular and even.
- Any undesirable material brought to the surface including visible weeds, roots and large stones to be removed.

Weeding of planted areas:
- All areas to be checked regularly and kept free of invasive weeds. Either remove by hand (root included) or spot treated with a non-residual herbicide in accordance with the Manufacturer's instructions.

Mulching:
- Well- rotted bark mulch, free of pests, disease, fungus and weeds to be applied 100mm thick to be applied to all planting areas.

Spot treatment of weeds:
- Weeding of planted areas to be undertaken on a regular basis to ensure that the plants are given a fair chance to establish. Care to be taken to ensure that invasive and aggressive weeds do not become a problem and impact on the overall planting scheme. Where necessary, spot treatment of weeds in planted and grassed areas would be undertaken to ensure that they do not seed and establish elsewhere.
- Regular tidying of the planting beds – including:
  - removal of leaf litter and any other debris
  - shrubs and trees to be regularly pruned in order to maintain healthy growth and vigour.
  - Any dead, diseased or dying trees or shrubs to be taken away or affected limbs removed.

MANAGEMENT

Protection of existing vegetation:
- There are a number of hedges on the peripheries of the site and where possible, existing vegetation would be retained. Protection of trees and hedges would be in accordance with BS 5837: 2012 Trees in relation to design, demolition and construction.n should be taken when working adjacent to the existing trees and heges, particularly in relation to the washing out of machines, storage of materials and other activities which may be deemed hazerdous to the health and well being of the existing vegetation.

Inspection Timetable:
- The planting will be subject to an annual inspection each summer for the first 5 years to ensure that any dead, dying or diseased plants are removed. Those removed will be replaced with the same size or species as per the planting specification. Management of the overall scheme will incorporate regular reviews to check that the scheme is establishing well and any concerns highlighted and an appropriate professional consulted in order to address any issues.

PLANT SCHEDULE

SHRUBS

QTY	CODE	PLANT NAME	STOCK	SIZE	SPACING
3No.	Mah WS	Mahonia x media 'Winter Sun'	C 3L	30-40cm	3/m2

CLIMBERS

QTY	CODE	PLANT NAME	STOCK	HEIGHT	HABIT
2No.	Cle mon	Clematis montana	C 3L	60-80cm	Twiner
2No.	Hed GLA	Hedera helix'Glacier'	C 3L	60-80cm	Self-clinger
2No.	Par hen	Parthenocissus henryana	C 3L	60-80cm	Self-clinger

TREES

QTY	CODE	PLANT NAME	STOCK	FORM	GIRTH/HEIGHT
1No.	Ame Rob s	Amelanchier lamarckii 'Robin Hill'	B	STD	8-10cm
2No.	BET PEN hs	Betula pendula	C 45L	STD	12-14cm
1No.	LIQ WOR ss	Liquidamber styraciflua 'Worplesdon'	B	STD	10-12cm
2No.	Mal syl f	Malus sylvestris	B	FTH	180-210cm
2No.	PRU AVI hs	Prunus avium	B	STD	12-14cm
1No.	SOR LUT s	Sorbus aria 'Lutescens'	B	STD	8-10cm

HEDGES

QTY	CODE	PLANT NAME	STOCK	SIZE
7m	Lon pil Hedge	Lonicera pileata	C 3L	30-40cm
21No. Plants spaced @ 3/m in a Single Row				
6m	Pho Red Hedge	Photinia x fraserii 'Red Robin'	C 3L	40-60cm
12No. Plants spaced @ 2/m in a Single Row				

PLANT MIXES

PERCENT	QTY	PLANT NAME	STOCK	SIZE
9m2 NORTH FACING SHRUB MIX 1 planted @ 3/m2				
15%	4No.	Skimmia 'Nymans'	C 3L	40-60cm
15%	4No.	Sarcococca confusa	C 3L	40-60cm
20%	5No.	Cotoneaster lacteus	C 3L	40-60cm
20%	5No.	Viburnum davidii	C 3L	40-60cm
30%	8No.	Euonymus 'Emerald Gaiety'	C 3L	40-60cm
Individual varieties to be planted in groups of approximately 10.				
28m2 WEST FACING SHRUB MIX planted @ 3/m2				
15%	13No.	Choisya ternata 'Sundance'	C 3L	40-60cm
20%	17No.	Cornus alba 'Elegantissima'	C 3L	40-60cm
15%	13No.	Euonymus fortunei 'Emerald Gaiety'	C 3L	40-60cm
20%	17No.	Viburnum x juddii	C 3L	40-60cm
30%	25No.	Spiraea japonica 'Goldflame'	C 3L	40-60cm
Individual varieties to be planted in groups of approximately 3, 5 or 7.				

NOTES AND ABBREVIATIONS:

B = Bare root (bagged).
C = Container (or pot) grown, followed by size of the container (or pot).
FORM = Shape of tree as supplied by the nursery.
HABIT = Juvenile habit or plant shape as supplied by the nursery.
QTY = Quantity
RB = Rootballed (balled and wrapped).
SIZE = Height or Spread of juvenile plant.
STD = (clear stem) Standard.
STOCK = Root condition/protection method eg Bare root.
Twiner = Twining climber attached to trellis/frame, refer to specification.

KEY

- Planting-Hedges
- Planting-Shrubs
- Grass - Lawn
- Tree-Proposed
- Climber -Proposed 3L
- Shrub-Proposed
- Marshalls permeable concrete sett paving (charcoal), laid random stretcher pattern.
- Marshalls Saxon concrete slab paving (natural), size 450x450mm, laid stretcher pattern.
- Bituminous wearing surface for pedestrian areas designed to engineers detail. Colour: Black.
- Bituminous wearing surface for trafficable areas designed to engineers detail. Colour: Black.
- Permeable gravel driveway in crete system to prevent displacement.
- Timber closeboard fence, 1800mm high.
- Metal - anti-trap railing, 1200mm high.
- Bin.

REVISION REV	DATE	DESCRIPTION
A	13.12.2022	Amendments further to layout changes.
B	04.04.2023	Boundary line adjustment and additional trees.

Kirsten Bowden
CHARTERED LANDSCAPE ARCHITECT
T. 07790 907241
E. kirsten.bowden@hotmail.co.uk
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Site
St Michaels Drive, Chelmsford.

Client
Chelmsford City Council.

Drawing Title
Landscape Proposals

Drawn by:	Purpose of issue:
KB	Planning
Date 06.10.2022	**Scale** 1:200 @ A2
Job Number 2022_51	Drawing No. 006 — Rev B

JAMES BLAKE ASSOCIATES

Preliminary Ecological Appraisal

of

St. Michaels Drive,

Roxwell,

Essex.

on behalf of

Chelmsford City Council

September 2022

Over 30 Years of Service, Value and Innovation

34-52 Out Westgate, Bury St. Edmunds, Suffolk IP33 3PA
tel: **01284 335797** email: **jamesblake@jba-landmarc.com**
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Directors: Elzbieta Zebrowska MSc Eng LArch MScEnvSc CMLI
Associate Directors: Vivienne Jackson ; Marie Lowe CIMA Cert BA
Associate Director - Strategic Landscape Division: Abby Stallwood BSc (Hons) PG Dip LM CMLI

www.jba-landmarc.com

Registration no. 08169866 VAT no. 512 4127 91

Revision	Purpose	Originated	Checked	Authorised	Date
		SJ	SR	JBA	September 2022
Job Number: JBA 22/276		**Title:** Preliminary Ecological Appraisal of St. Michaels Drive, Roxwell, Essex			

Disclaimer

James Blake Associates Ltd have made every effort to meet the client's brief. However, no survey ensures complete and absolute assessment of the changeable natural environment. The findings in this report were based on evidence from thorough survey: It is important to remember that evidence can be limited, hard to detect or concealed by site use and disturbance. When it is stated that no evidence was found or was evident at that point in time, it does not mean that species are not present or could not be present at a later date: The survey was required because habitats are suitable for a given protected species, and such species could colonise areas following completion of the survey.

This report was instructed by Chelmsford City Council. Neither James Blake Associates Ltd nor any associated company, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use of the report.

CONTENTS

Non-technical Summary

Site:	St. Micheal's Drive, Roxwell
Ordnance Survey National Grid Reference:	TL6435708463
Report Commissioned by:	Chelmsford City Council
Date of Walkover Survey:	26th August 2022

Considerations	Description	Potential impacts and timing
Statutory designated wildlife areas within 7km of the site:	One Site of Special Scientific Interest (SSSI) and two Local Nature Reserve (LNR).	For new residential development in this area, consideration is required in terms of the emerging Essex Coast Recreational Disturbance Avoidance and Mitigation Strategy (RAMS). LPA can be contacted for further advice.
Non-statutory designated wildlife sites within 2km of the site:	Six County Wildlife Sites (CWS).	The small-scale nature of the proposed development is unlikely to adversely impact the designated areas.
Results of walkover survey:	The site is considered suitable to support bats, hedgehog and nesting birds. The site is considered to be of 'low' habitat value for foraging and commuting bats.	
Precautionary measures:	Any vegetation removal.	Outside of the nesting bird season or following a clear nesting bird check. Nesting season is March to mid-August. Scrub should be cut to 20cm using hand-held tools and checked for hedgehogs.
	Continual management of grassland.	-
	Shed demolition.	Under ecological supervision regarding B7, B12-14 and B16.

1 Introduction

Background

1.1 James Blake Associates Ltd. (JBA) was commissioned by Chelmsford City Council to undertake a Preliminary Ecological Appraisal (PEA) of St. Michael's Drive, Roxwell. Ordnance Survey National Grid Reference; TL 64357 08463, taken from the centre of site.

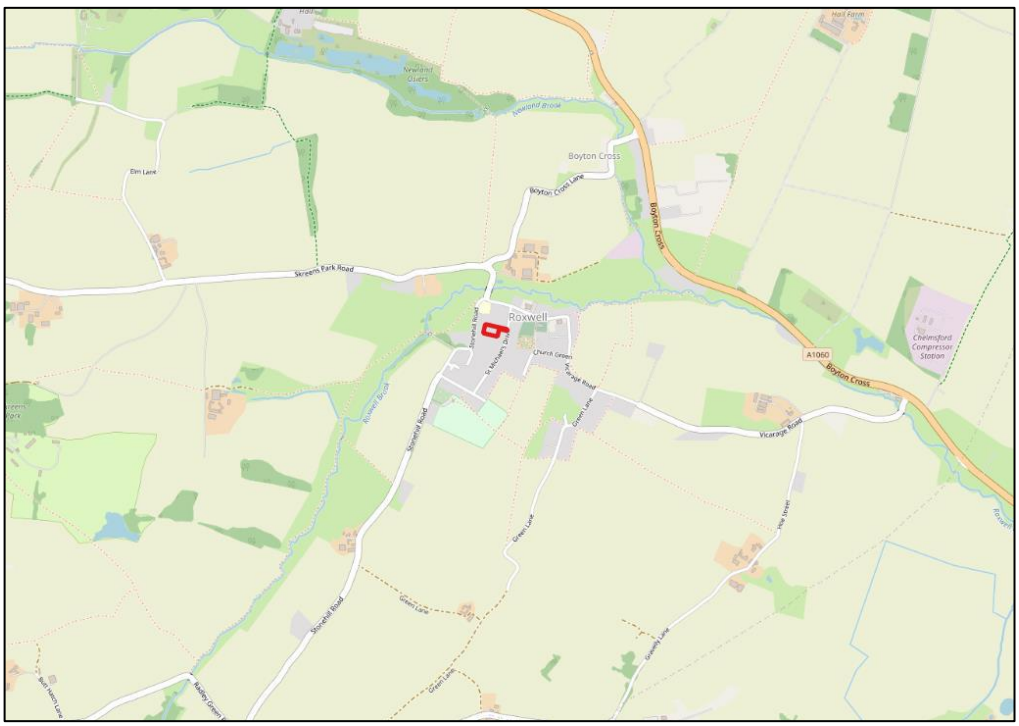
1.2 The assessment was required to accompany a planning application for the development of four residential dwelling units and associated infrastructure, including playground.

Site Description

1.3 The site is approximately 0.2 hectares in size and is located South of Vicarage Road, in Roxwell. The wider landscape includes the villages of Roxwell and Boyton cross, residential buildings and arable land. The A1060 is approximately 0.7km northeast of the site (see Figure 1 below).

1.4 The site itself mainly consists of domestic use sheds, with a public playground, hedgerows and boundary trees. Hardstanding is also present on site.

Figure 1: Site location



© OpenStreetMap

Aims and objectives

1.5 The aim of the survey was to:

- Identify the presence, or potential presence, of any protected or notable species or habitats on, or adjacent to, the site; and
- make recommendations for further surveys if required, to advise on avoidance and/or mitigation measures following the survey (if necessary) and provide suggestions to enhance the wildlife value of the site post-development to provide a net gain in biodiversity value.

Wildlife Legislation and Planning Policy

1.6 The relevant wildlife legislations and planning policies are listed below:

- Conservation of Habitats and Species Regulations 2017, ('The Habitats Regulations'). The Habitats Regulations implement The Habitats Directive 1992 (92/43/EEC) into English Law. (Amended by the Conservation of Habitats and Species (Amendment) Regulations 2012 S.I. 2012/1927).
- Wildlife and Countryside Act, 1981 (as amended) (WCA). (Amended by the Countryside and Rights of Way Act (2000).
- The Natural Environment and Rural Communities Act, 2006 (NERC).
- The Protection of Badgers Act, 1992 (The Badgers Act).
- The Wild Mammals (Protection) Act, 1996.
- The Hedgerows Regulations, 2007.
- National Planning Policy Framework, 2021 (NPPF).

2 Methodology

Desk study

2.1 A desk study was undertaken for statutory and non-statutory designated wildlife sites within a 7km and 2km radius of the site, respectively using 'MAGIC', the Multi-Agency Geographic Information system for the Countryside. The data provided from Essex Field Club (EFC) was consulted for records of non-statutory sites and protected and rare species within a 2km search radius (EFC data provided on the 22nd August 2022).

2.2 The site is covered by the Local Biodiversity Action Plan (LBAP) for Essex which was consulted as part of the desk study.

2.3 Within the desk study results, the Birds of Conservation Concern (BoCC) are split into three criteria; the Red list is the highest conservation priority (species needing urgent action). The Amber list is the next most critical group, followed by Green. Red listed species are those that are globally threatened according to the International Union for Conservation of Nature (IUCN) criteria, species with populations or ranges that have declined rapidly in recent years, and those that have declined historically and have not shown a substantial recent recovery.

Walkover Survey

2.4 The survey was undertaken by Bethan Feeney-Howell BSc (Hons) QCIEEM, and Sarah Jarrett BSc (Hons) MSc on the 26th August 2022.

2.5 The survey methodology followed the standard Phase 1 methodology of Joint Nature Conservation Committee Guidelines (JNCC, 2010). An extension of this basic methodology was also undertaken to provide further details in relation to notable or protected habitats present within the survey area, or in relation to habitats present that have the potential to support notable or protected species (CIEEM, 2013).

2.6 **Badgers (*Meles meles)*:** A visual survey for setts, hair, latrines, prints, snuffle marks or other signs of badgers was undertaken within the site boundary, following guidelines set out by the Mammal Society (1989).

2.7 **Bats**: Buildings within the site boundary were surveyed, from the ground, for their potential to support roosting bats in accordance with Bat Conservation Trust's Guidelines (Collins (ed.), 2016).

2.8 **Birds:** A visual survey of bird activity and suitable nesting habitat was carried out, to determine if any areas would be suitable for WCA Schedule 1 birds, BoCC or other

common and widespread nesting birds.

2.9 **Reptiles**: A visual survey for the presence of suitable habitat was carried out according to the criteria given in the Herpetofauna Workers' Manual (Gent and Gibson 1998).

2.10 **Invertebrates**: The site was scoped for significant rotting deadwood, and high quality aquatic or other habitats, which could be used by significant assemblages of invertebrates, or by any of the invertebrates highlighted in the data search.

2.11 **Flora and habitats**: All habitats and plant species that were identifiable at the time of the survey were recorded.

2.12 **Adjacent Habitat**: Habitats close to the site were identified, using aerial maps and field observation, so that the ecological impact of the proposed works on the wider landscape could be assessed.

Limitations and Assumptions

2.13 The baseline conditions reported in this document represent those identified at the time of the survey on 26th August 2022. Although a reasonable assessment of habitats present can be made during a single walkover survey, seasonal variations are not observed. The survey was conducted in August, which is within the optimal season for the identification of flora.

2.14 The desk study used available records and historical data from the local area. However, this does not provide a reliable indication of species present since records depend entirely on survey effort in the area, which is highly variable. The data is useful as a general guide to supplement the site visit, but absence of records does not reflect absence of species.

3 Results

Desk Study

Statutory Designated Wildlife Sites

3.1 One 'Sites of Special Scientific Interest' (SSSI) and two 'Local Nature Reserve' (LNR) were identified within 7km of the site. Statutory designated sites are detailed in Appendix A.

3.2 For new residential development in this area, consideration is required in terms of the emerging Essex Coast Recreational Disturbance Avoidance and Mitigation Strategy (RAMS), where a financial contribution per residential dwelling may be required. The Local Planning Authority (LPA) can be contacted for further advice.

Non-Statutory Designated Wildlife Sites

3.3 There were six non-statutory designated wildlife sites identified within 2km of the site; all of which are County Wildlife Sites (CWS). These are detailed in Appendix B.

3.4 Due to the small scale and nature of the proposed development, it is unlikely to cause any significant impacts to non-statutory designated wildlife sites.

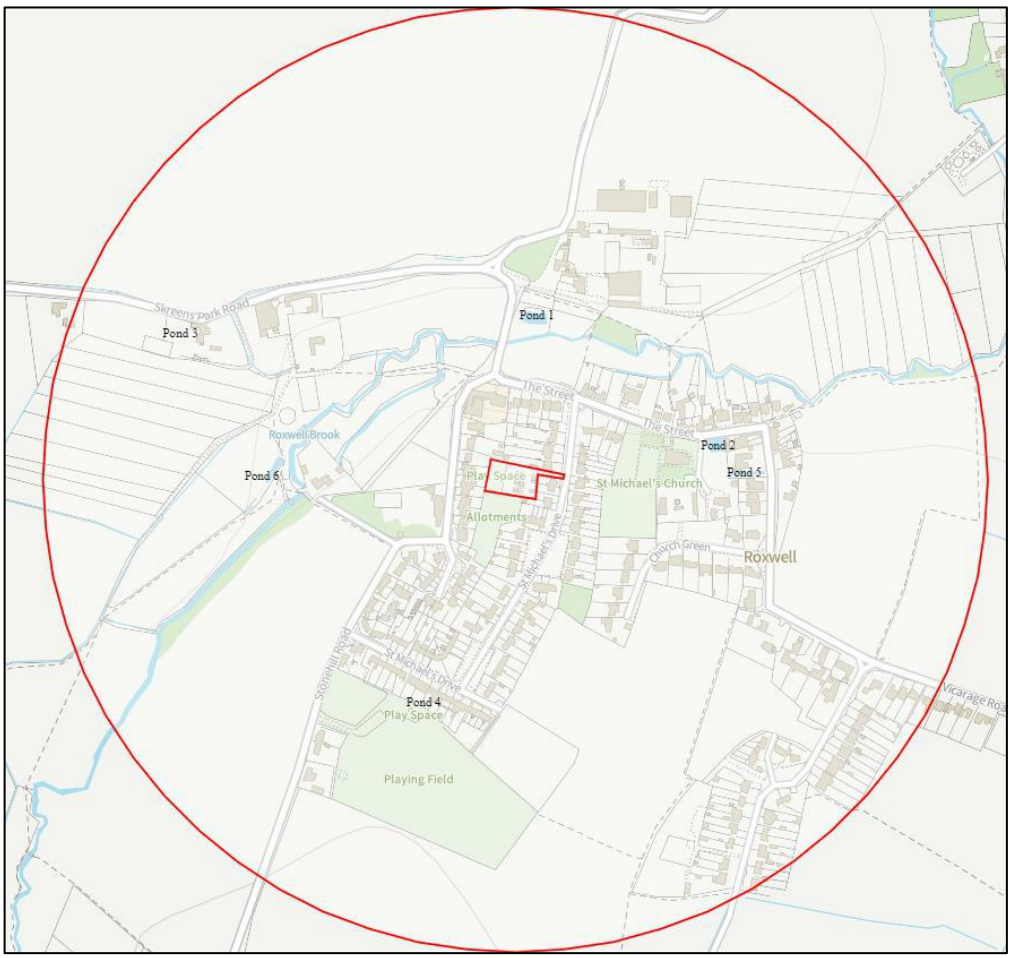
Ponds within 500m

3.5 Six ponds were identified within 500m of the site boundary (Figure 2). Pond 1 located 167m north of site, Pond 2 171m east of the site, Pond 3 391m west of the site, Pond 4 251m south of the site, Pond 5 190m east of the site and Pond 6 located 250m south of the site.

3.6 Ponds 1, 3 and 6 were considered ecologically separate due to the Roxwell Brook, which runs between each of those and the site. Pond 4 is considered ecologically separate due to the large amount of residential buildings north of it.

3.7 Due to the available habitats between ponds 2, 5 and the site, it is considered unlikely that GCN from these ponds (if present) would utilise habitats within the site boundary. Therefore, GCN are considered absent from the site and have not been discussed further in this report.

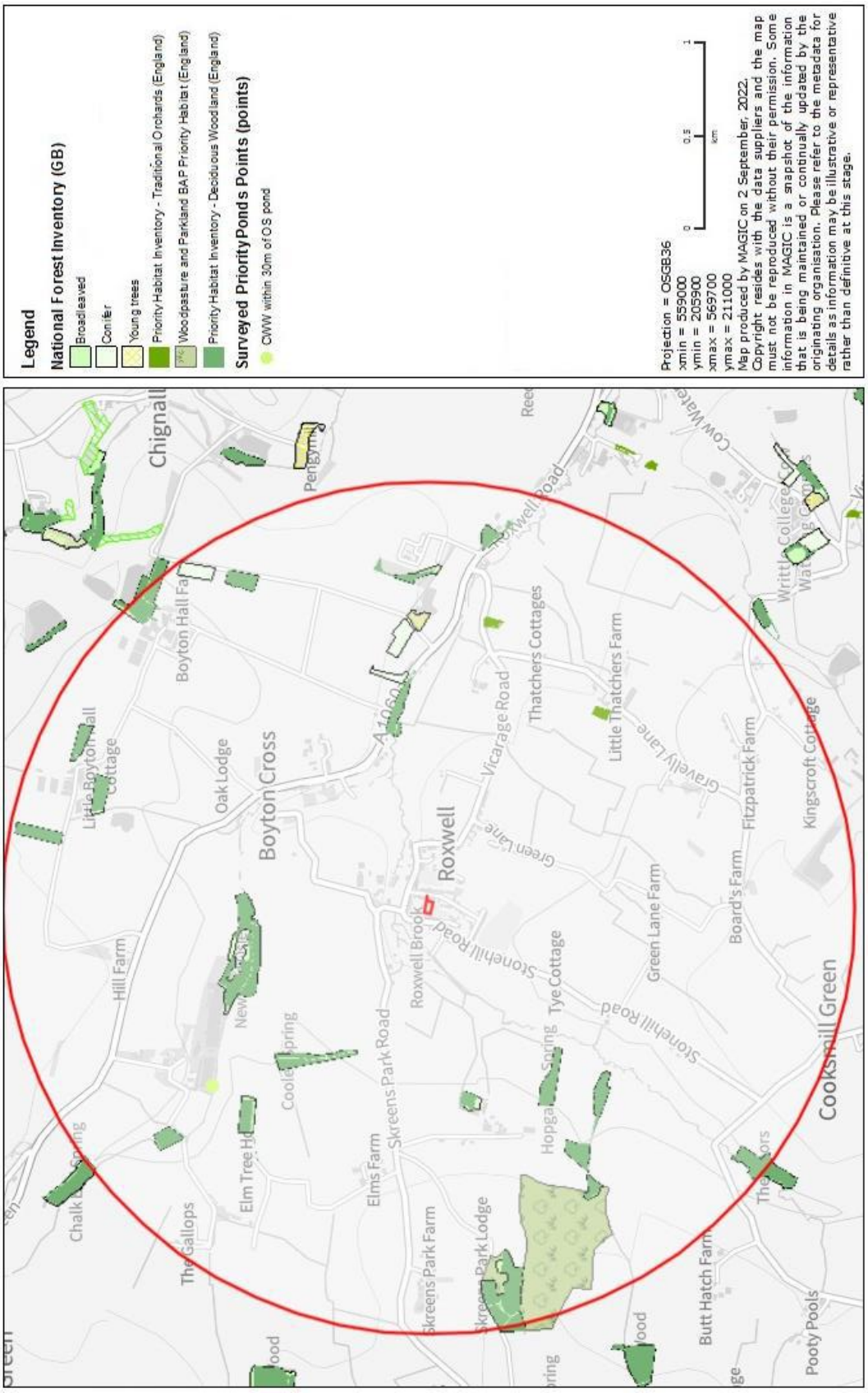
Figure 2: Ponds within 500m of the site boundary



Habitat Types within 2km

3.8 Habitat types within the area include deciudous woodland, woodpasture and parkland, young trees, broadleaved and conifer woodland and traditional orchards. Habitat types are shown on Figure 3. The nearest broadleaved woodland is located 788m north.

Figure 3: Habitat types within 2km of the site



Protected, priority and rare species within 2km of site

3.6 There were no records of protected or rare species for the site itself; although there were numerous records of species within 2km of the site (full raw data can be provided upon request). The most relevant records are described below. Records over ten years old have not been referred to as the walkover survey is considered to provide a more up to date and accurate account of the species and habitats for the site.

3.7 European badger was recorded in 2019, within 2km of the site boundary.

3.8 Within the desk study common pipistrelle (*Pipistrellus pipistrellus)* was recorded 0.1lm north of the site in 2014, soprano pipistrelle (*Pipistrellus pygmaeus)* were recorded 1.5km south of the site in 2015. Brown long-eared bat (*Plecotus auritus)* was recorded 0.13km east of the site in 2016.

3.9 Hedgehog (*Erinaceus europaeus)* has been recorded in 2018, 1km east of the site.

3.10 Brown hare (*Lepus europaeus*) were identified within 2km of the site. The most recent records are from 0.1km south in 2019.

3.11 Pole cat and weasel were identified 1km north in in 2018, and 0.8km west in 2019 respectively.

3.12 18 Red listed bird species were identified within 2km of the site; including cuckoo (*Cuculus canorus)*, House martin (*Delichon urbicum*), house sparrow (*Passer domesticus*), starling *(Sturnus vulgaris*) and swift (*Apus apus*).

3.13 20 Amber listed bird species were also identified within the desk study; including dunnock (*Prunella modularis*), Song thrush (*Turdus philomelos*), wood pigeon (*Columba palumbus*) and wren *(Troglodytes troglodytes*)

3.14 Common lizard (*Zootoca vivipara)* was recorded 1.2km north in 2017. Grass snake (*Natrix helvetica)* was recorded 0.3km south in 2012

3.15 GCN was identified within 2km of the site boundary in 2018, 0.5km northwest across the Roxwell brook.

3.16 Small heath (*Coenonympha pamphilus*) have been recorded within 2km of the site boundary in 2020, on multiple occasions 0.26km east and 1km west.

3.17 A digger wasp (*Gorytes laticinctus*) and A Large-headed resin bee (*Heriades truncorum)* were recorded 0.5km northwest of site in 2018.

3.18 Cinnabar moth (*Tyria jacobaeae*) was recorded 1.8km southwest of site in 2015.

Walkover Survey

3.19 The habitats on site were considered with respect to their potential to support protected species.

3.20 Within the redline boundary the site comprises a number of dominant 'habitat types', taken from those listed in the Handbook for Phase 1 Habitat Survey (JNCC, 2010). These habitat types are described below and are shown schematically on Figure 4. Target Notes (TN) are presented in Table 1. A list of plant species identified on site is included in Appendix C. The baseline conditions reported and assessed in this document represent those identified at the time of the survey on 26th August 2022. Although a reasonable assessment of habitats present can be made during a single walkover survey, seasonal variations are not observed.

3.21 The majority of the site comprises Hardstanding and amenity grassland, with sheds, areas of tall ruderal vegetation, with ornamental or planted native species poor intact hedgerows.

3.22 The following photographs in Table 1 show the Target Notes referred to in Figure 4.

Figure 4: Phase 1 Habitat Map

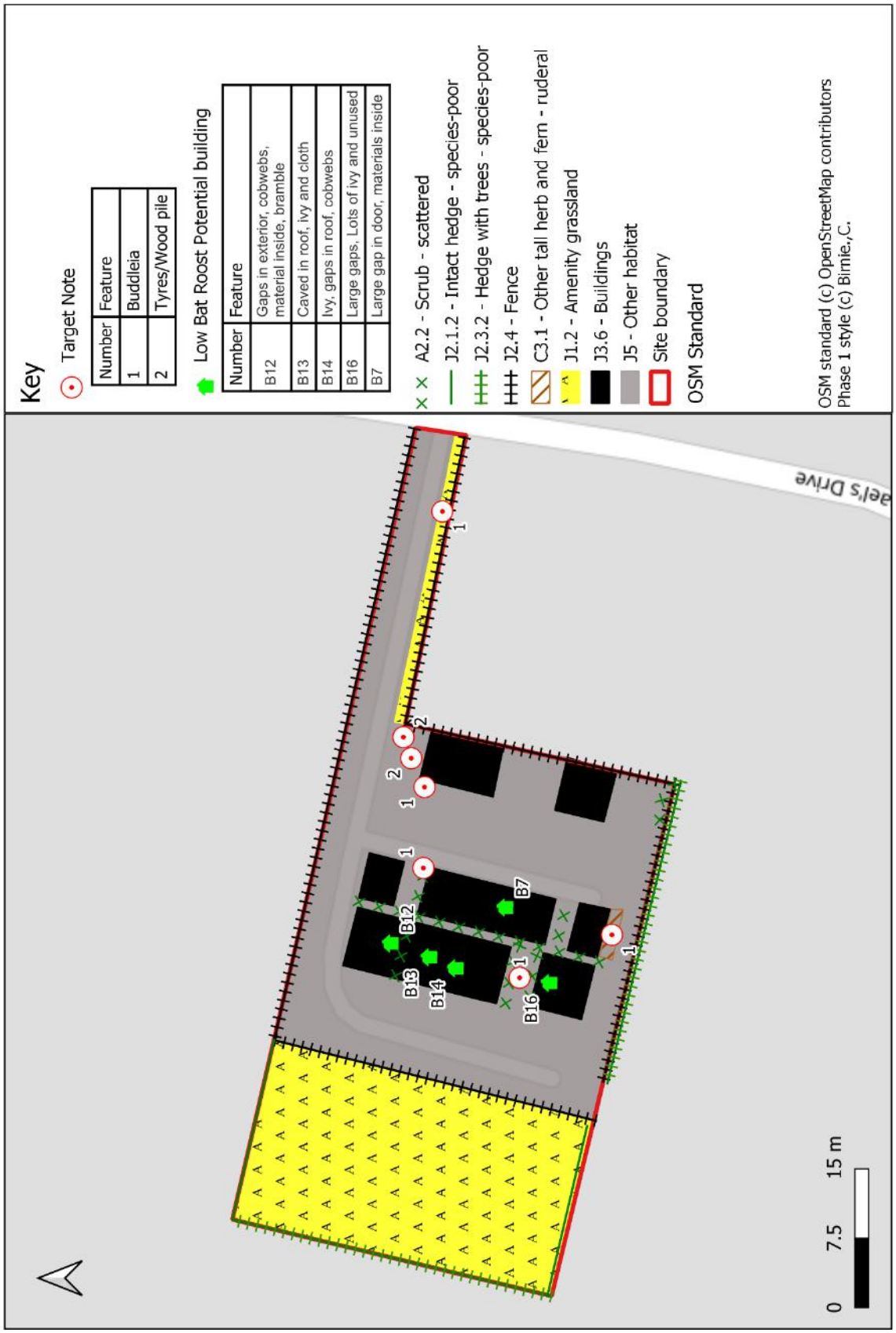


Table 1: Target Notes

Target Note	Description	Photo
1	Buddleja	
2	Tyres/wood/refuse pile	  

4 Protected Species – Results and Evaluation

Badger

4.1 The majority of habitats on site are considered unsuitable for badgers due to no or minimal cover for sett creation. The amenity grassland on site provides very limited foraging opportunities. Surrounding habitats are not suitable for sett creation.

4.2 No setts or evidence of badger activity with regard to hair, latrines or snuffle holes were recorded on the site itself during the survey.

Bats

4.3 A total of 17 sheds are located within the site boundary and were assessed from the ground for bat roost evidence and potential. Majority of these are considered unsuitable or 'negligible' for roosting bats due to no or limited features and regular disturbance; however, 5 were considered to hold 'low' bat roost potential (BRP) (Figure 4) as they had some features (though very limited) such as dense ivy, gaps through to the interior, roofing and dark space inside and most importantly a lack of upkeep and regular use. See Table 2 for shed photographs (numbering corresponds to those seen in Figure 4).

4.4 The scattered/boundary trees on-site are considered to have 'negligible' to 'low' BRP due to no or minimal suitable features present, such as dense ivy cover, pealing bark or knot holes.

4.5 Habitat on-site was assessed as 'low' for foraging and commuting bats. There were intact hedgerows and linear pathways that could be used for commuting bats, but the site is surrounded by residential properties and lacks connectivity to the wider landscape. The amenity grassland within the site provided low foraging habitat as the area is currently highly managed (mown), however the scrub areas and flowering plants provide some foraging habitat.

Table 2: Buildings with 'low' bat roost potential.

Building reference number	Photo
B7	
B12	

B13	
B14	

B16	 

Mammals - Other

4.6 The site provides low suitability for hedgehog due to the majority of the site consisting of bare ground. Boundary trees, scrub between the sheds, wood piles and semi-improved grassland could provide shelter and foraging opportunities, although these are very limited. No evidence of hedgehog was recorded during the walkover survey.

4.7 Brown Hare has been identified in the nearby St Michael and All angles church green; however, the site is not optimal due to the lake of foraging habitat and hardstanding.

Birds

4.8 Trees, hedgerows and scrub throughout and surrounding the site provide nesting and foraging opportunities for birds. The amenity grassland Is not considered suitable due to high management (mown) and limited cover.

4.9 Bird species observed during the walkover survey included; wood pigeon (*Columba palumbus),* dunnock (*Prunella modularis*), robin (*Erithacus rubecula*), and wren (*Troglodytes troglodytes*).

Reptiles

4.10 The majority of the site is managed amenity grassland which currently does not provide good habitat for reptiles. However, if the grassland is left to grow up then the area will become suitable in the future.

4.11 The few wood piles and tyres on site could provide sheltering and hibernation opportunities, however this is located on bare ground and isolated from the other habitats on site.

Invertebrates

4.12 The habitats on the site are unlikely to support a diverse assemblage of invertebrates. However, the scrub and ornamental flowers areas provide potential habitat for invertebrates such as honeybee, white tailed bumblebee, painted lady butterflies and white butterflies.

4.13 Areas of deadwood are also present on site which provide suitable habitat for butterflies, moths and other insects.

4.14 No rare or protected invertebrate species were observed during the walkover.

Flora

4.15 No rare, principally important, local BAP or protected plant flora was identified during the walkover survey.

4.16 Schedule 9 invasive plant species such as Japanese knotweed (*Fallopia japonica*) were not identified at the site during the walkover survey. However, buddleia (*Buddleja davidii*) was identified on site which can be considered an invasive species to developments.

5 Evaluation, Legislation and Recommendations

5.1 Table 3 below includes a summary of all identified and potential ecological constraints to the development, including those where there is insufficient information at the time of survey to be definitive. Relevant legislation has also been given here.

Table 3: Survey evaluation, relevant legislation and recommendations

Ecological Receptor	Summary of desk and walkover survey findings and relevant legislation	Likely impact and recommendations for further survey
Designated wildlife areas - statutory	The desk study identified one SSSI and two LNR's within 7km of the site: • Newney green pit SSSI (2km south); • Marconi Ponds LNR (5.9km east); and • Chelmer Valley riverside LNR (6.5km east).	For new residential development in this area, consideration is required in terms of the emerging Essex Coast RAMS. LPA can be contacted for further advice.
Designated wildlife areas – non-statutory	The desk study identified four CWS within 2km of the site: • Cooley spring (0.8km northwest); • Hopgarden spring (1.1km southwest); • Engine spring/ring grove (1.2km north); • Boyton cross verges (Road verge 12, roxwell) (1.5km southwest); • Road verge 9, Roxwell (1.75km northwest); and • The Moors (2km southwest).	The small-scale nature of the proposed development is unlikely to adversely impact the designated areas. No further assessment required.
Habitats	Habitats on the site comprise: • Hardstanding; • Amenity grassland; • Boundary trees and hedgerows; • Sheds; and • Scrub.	No habitats on site are NERC Priority Habitats. No further assessment required.
Badger	There was no evidence of badger activity on site during the walkover survey. The site was not considered suitable for sett creation. Badgers and their setts are protected under the Protection of Badgers Act 1992 and also protected by the Wild Mammals (Protection) Act 1996. Protection also extends to include disturbance. Under the Protection of Badgers Act 1992, it is an offence to intentionally or recklessly: • Kill, injure or take badgers; • Damage a badger sett or any part of it; • Destroy a badger sett; • Obstruct access to, or any entrance of a badger sett; and • Disturb a badger whilst it is occupying a badger sett.	No further survey required.
Bats	All buildings and trees within the site boundary are considered to have 'negligible' to 'low' BRP. The site was considered to have 'low' suitability for foraging and commuting bats. All species of bat are afforded full legal protection under Schedule 5 of the WCA. They are also listed under	Bat emergence surveys are not considered necessary; however, as a precaution, those sheds with 'low' BRP should be cleared under ecologist supervision using soft demolition. Demolition should take place outside the bat active season,

Ecological Receptor	Summary of desk and walkover survey findings and relevant legislation	Likely impact and recommendations for further survey
	Schedule 2 of the Habitats Regulations. Some species of bat are also listed in Section 41 of NERC Act as an SPI. Combined legislation makes it an offence: to deliberately kill, injure, capture/take a wild bat; intentionally or recklessly disturb bats, including whilst occupying a place of shelter or protection; to damage or destroy a place used by a bat for breeding or resting (does not need to be deliberate, reckless or intentional); and to intentionally or recklessly obstruct access to any place used by a bat for shelter or protection. Bats are classed as 'European Protected Species' (EPS) and mitigation will typically be undertaken under the auspices of an EPS licence from Natural England.	which is deemed to be from April to October.
Mammals - other	No evidence of hedgehogs was found during the walkover survey. The site provided some hibernation and foraging habitat for hedgehogs in scrub and hedgerows. Hedgehogs are listed on Schedule 6 of the WCA which makes it illegal to kill or capture wild hedgehogs, with certain methods listed. The hedgehog is also a SPI under Section 41 of the NERC. All wild mammals are protected under the Wild Mammals (Protection) Act 1996. Offences relate to any act which results in the intent to inflict unnecessary suffering. Mercy killings and killing in a swift and humane way in the course of a lawful activity are not offences under the Act.	No further surveys recommended. It is recommended that if scrub or hedgerows is to be removed then areas should be cut to 20cm using hand-held tools (brushcutter/trimmer) and checked for hedgehog before removal. See Section 6 for enhancements.
Birds	The following habitats have the potential to support breeding birds: • Scattered/boundary trees; • Hedgerows; and • Scrub. No nests were present on site during the walkover survey. All wild birds while actively nesting are afforded legal protection under the WCA. Special protection is also afforded to birds listed on Schedule 1 of the WCA which makes it an offence to disturb these species at nest or the dependent young. Combined legislation means that all birds, their nests and eggs are protected by law and it is an offence, with certain exceptions, to: a) intentionally kill, injure or take any wild bird; b) intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; c) intentionally take or destroy the egg of any wild bird; d) have in one's possession or control any wild bird (dead or alive), part of a wild bird or egg of a wild bird; e) intentionally or recklessly disturb any wild bird listed on **Schedule 1** while it is nest building or is in, on or near a nest with eggs or young; or disturb the dependent young of such a bird; and	It is recommended that any vegetation clearance and disturbance is undertaken outside of the nesting season. The nesting season is deemed to be from mid-March to mid-August, although these times can be temperature dependent. If this timing is not possible then a nesting bird check must be carried out by a suitably experienced person, no more than 48 hours between the check and the removal. If the 'all clear' is given, then removal/works can commence. The survey lasts for no longer than 48 hours. If works are not completed in this time frame, then a re-survey will need to be carried out. If birds are found to be nesting, then no works should be undertaken within at least 10m of the nest until chicks have fledged.

Ecological Receptor	Summary of desk and walkover survey findings and relevant legislation	Likely impact and recommendations for further survey
	f) have in one's possession or control any birds of a species listed on Schedule 4 of the Act unless registered in accordance with the Secretary of State's regulations.	
Reptiles	Habitats on site are considered unsuitable for reptiles, at present, due to managed amenity grassland (regularly mown). The scrub areas offer some shelter and hibernation opportunities; as do the wood piles and tyres. Reptiles are afforded protection under Schedule 5 of the WCA from deliberate injury, killing and trade. They are also listed under Section 41 of NERC as an SPI.	No further survey recommended. It is recommended that the amenity grassland is kept mown on a regular basis and is not allowed to grow up. If not, future reptile surveys may be required.
Invertebrates	The habitats on site are unlikely to support a diverse assemblage of invertebrates. However, areas of scrub can be used by a small number of invertebrates, such as butterflies.	No further surveys recommended. See Section 6 for enhancements.
Flora	The habitats on site are unlikely to support any rare or protected flora. No Schedule 9 invasive plant species were identified on site. However, buddleia is present on site which can be considered an invasive species for developments, if not controlled. Invasive plant species such as Japanese knotweed are listed on Schedule 9 of the WCA. Schedule 9 includes certain plants that have become established in the wild in Great Britain but which the law seeks to prevent spreading further. The WCA creates various offences, including allowing a Schedule 9 plant to grow in the wild. Negligent or reckless behaviour such as inappropriate disposal, resulting in the plant becoming established in the wild also constitutes an offence. Depositing unauthorised 'controlled waste' (such as Japanese knotweed) is also likely to be a breach of Section 33 of the Environmental Protection Act, 1990. In the recent Court of Appeal decision in the case of *Network Rail Infrastructure Limited v Williams and Another* [2018], a landowner/occupier can be liable for failing to act reasonably to remove any Japanese knotweed after becoming aware of it and where it is foreseeable that it would damage neighbouring land.	No further surveys recommended.

6 Ecological Considerations and Enhancements

6.1 The proposed development is considered unlikely to be adversely detrimental to designated areas, protected species or habitats, provided the recommendations are followed in Table 3. However, a number of considerations and enhancements are recommended with respect to the overall biodiversity of the site in line with current Planning Policy.

6.2 A Biodiversity Net Gain (BNG) assessment may be requested by the LPA to provide a net gain of at least 10%. BNG calculations can be undertaken using Defra Metric 3.1 (2022, as amended) which involves comparing 'baseline' habitat measurements with proposed habitats, post-development.

6.3 Where possible, scrub and scattered trees at the boundaries of the site should be retained with a ~2m buffer and enhanced to create corridors and shelter/foraging areas for wildlife including bats, birds, hedgehogs and small mammals.

6.4 The addition of standard bird boxes on retained trees and proposed new buildings will attract a greater diversity of birds to nest. A number of 1SP Schwegler sparrow terraces should be installed onto new builds. These should be located out of direct sunlight and close to but not restricted by vegetation. A number of Schwegler Swift Bricks should also be installed on the periphery of the new builds.

6.5 The addition of bat boxes could also be installed on retained trees and proposed new buildings to provide roosting opportunities for common species.

6.6 Landscaping should incorporate native or wildlife attracting trees, shrubs, and wildflower areas as these would likely be of benefit to a variety of wildlife including, birds, bats and invertebrates, including pollinators.

6.7 'Hedgehog links' (i.e., 15cm diameter gaps at the base of fences) are recommended to enable small mammals to move through the development.

7 Conclusion

7.1 A Preliminary Ecological Appraisal was undertaken at St Michaels Drive, Roxwell Chelmsford by James Blake Associates in support of a planning application for residential dwelling units and associated infrastructure.

7.2 The site comprises hardstanding with sheds, and an amenity grassland children's play area with boundary hedgerows.

7.3 No further ecological surveys are considered necessary.

7.4 If the precautionary measures for bats, birds and hedgehogs detailed in this report are followed, it is considered that the development is able to proceed with minimal impact on the local conservation status of any protected, principally important or rare species within the area.

7.5 It is also considered that with a sensitive landscape scheme, and by including some, or all, of the additional enhancements, the site could be improved for local wildlife post development.

8 References

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HMSO (1992) Protection of Badgers Act, HMSO London.

HMSO (2000) Countryside and Rights of Way (CRoW) Act. HMSO, London.

HMSO (2006) Natural Environment and Rural Communities Act HMSO, London.

HMSO (2017) Conservation of Habitats and Species Regulations 2010 (as amended) HMSO, London.

National Planning Policy Framework (2021).

10 Appendices

Appendix A: Statutory designated wildlife sites within 7km

Site Name	Designation	Distance from Site	Description
Newney green pit	SSSI	2km south	0.08 ha of short semi-improved grassland with a badger sett and historic geological excavation.
Marconi Ponds	LNR	5.9km east	1.1 ha of 'rural retreat' utilised for educational purposed. The site was developed in the 60's and 70's as filter beds. The now nature reserve is nearby a railway.
Chelmer Valley riverside	LNR	6.5km east	17.6 ha of urban riverside, with a mosaic of unimproved grasslands, old hedges scrub, woodland, seasonal ponds and the river Chelmer. Marshy habitat is present, and species seen include kingfisher and pyramidal orchid.

Appendix B: Non-statutory designated wildlife sites within 2km

Site Name	Designation	Distance from Site	Description
Cooley spring	LWS	0.8km northwest	A narrow strip of woodland with arable land surrounding it.
Hopgarden spring	LWS	1.1km southwest	A small mixed woodland with history of coppicing.
Engine spring/ring grove	LWS	1.2km north	A thinly joined site of veteran or old woodland with ancient woodland features.
Boyton cross verges (Road verge12, Roxwell)	LWS	1.5km southwest	Grasslands on the side of the A1060, with nearby farmland and a reservoir.
Road verge 9, Roxwell	LWS	1.75km northwest	A species rich grassland with a huge variety of flora.
The Moors	LWS	2km southwest	An area of lowland mixed deciduous woodland on non-ancient sites, it has a good diversity of structure, habitat and flora.

Appendix C: Flora list identified during the walkover survey

Common Name	Scientific Name
Elder	*Sambucus nigra*
Hawthorn	*Crataegus monogyna*
Blackthorn	*Prunus spinosa*
Maple	*Acer campestre*
Holly	*Ilex aquifolium*
Cut leaved dead nettle	*Lamium hybridum*
Cow parsley	*Anthriscus sylvestris*
Lilac	*Syringa vulgaris*
Moss sp	*Bryophta*
Sumac	*Rhus sp.*
Mallow	*Malva sylvestris*
Stone crop	*Sedum sp*
Plantain	*Plantago major*
Oxe Tongue	*Helminthotheca echioides*
Mullien	*Verbascum thapsus*
Thistle	*Cirsium arvense*
Valerium	*Valeriana officinalis*
Sunflower	*Helianthus annuus*
Fleabane	*Erigeron annuus*
Buddleja	*Buddleja davidii*
Sedge	*Carex sp.*
Mouse ear	*Cerastium fontanum*
Clover	*Trifolium repens*
Yarrow	*Achillea millefolium*
Rosebay willowherb	*Chamaenerion angustifolium*

Transport Statement

Ref	JTP 635
Site Name	St Michaels Drive, Roxwell
Date	December 2022

Quality Assurance

Site name:	St Michaels Drive, Roxwell
Client name:	Chelmsford City Council
Type of report:	Transport Statement
Prepared and Reviewed by:	Steve Amann BSc (Hons) MSc (Eng)
Signed	
Date	December 2022

Table of Contents

Appendices

1 Introduction

Brief

1.1 Journey Transport Planning Ltd has been instructed by Chelmsford City Council to undertake a Transport Statement in support of a full planning application to Chelmsford City Council pursuant to proposals for a residential development for 3 dwellings (C3 use), hard and soft landscaping and associated parking and infrastructure on land to the west of St Michaels Drive, Roxwell. The location of the site is illustrated in **Appendix 1.**

Background

1.2 This Transport Statement provides a summary of investigations at the site and its access pursuant to demonstrating the proposal will not have a detrimental impact on highway safety or capacity in the vicinity of the site and moreover that the proposal is suitably located for access via means other than the private car.

1.3 The following matters are considered in this appraisal:

- Site Assessment
- National and Local Policy Review
- Development Proposals and assessment of the traffic impact of the proposal
- Parking assessment and servicing appraisal

2 Site Assessment

Existing Information

2.1 The proposal site is located on the site of an existing play area and garage complex off St Michaels Drive, Roxwell. The site location is shown in **Appendix 1.**

2.2 Access to the site is proposed by way the existing access drive from St Michaels Drive. This access is currently 4.8m wide at its junction with St Michaels Drive and varies in width along its length.

2.3 Visibility from the access onto St Michaels Drive is achievable for at least 2.4m by 43m in both directions in accordance with the standards set out in the Manual for Streets for a 30mph road.

Public Transport Information

2.4 Public transport availability in the vicinity of the site has been examined and a regular bus service operate along The Street at existing stops within 400m of the site. The services are operated by First Essex and provides a regular timetabled services to Chelmsford Bus Station. The service is summarised in Table 2.1 below and full details of the service can be found in **Appendix 2.**

Table 2.1 The Street Bus Services

Service Number	Route	Frequency
9	Ongar - Chelmsford	Two Hourly

2.5 The available public transport services in the vicinity of the site represent a reasonable level of service given its village location and as such the site is considered to be accessible by bus based public transport.

Walking and Cycling Assessment

2.6 Cycling has the potential to substitute for short car trips, particularly those less than five kilometres. Cycle access to the proposal has been considered in detail. For the purposes of cycle accessibility, a cycling time of 20 minutes, which equates to five kilometres at an average speed of 15kph, has been assumed.

2.7 The five kilometre catchment area of the proposal site includes Writtle and parts of the west Chelmsford built area and as such is within reasonable cycling distance of a range of associated facilities, amenities and essential services including nursery, primary, secondary and further and higher education establishments.

2.8 The roads in the vicinity are of a good quality and due to the relatively flat nature of the area, are considered suitable for cycling.

2.9 In consideration of the site location and its connections with the wider area, the site offers excellent opportunities for access by bike.

2.10 With respect to pedestrian access walking offers potential to replace short car trips, particularly those under 2km and is generally considered the maximum acceptable distance to directly access any local facility or amenity.

2.11 The site is in walking distance of the adjacent bus stops, a village hall and a primary school.

2.12 In consideration of the above, the site is suitably located in accessibility terms by cycle and public transport and provides opportunities for access via means other than the private car.

Safety Considerations and Accident Analysis

2.13 The accident record in the vicinity of the site has been considered and the Essex County Council Collision database indicates that there have been no accidents in the vicinity in the latest available 3 year period between October 2019 and October 2022.

2.14 The proposals by virtue of their very limited impact are very unlikely to have a material impact on that record.

3 Policy Background

National Policy

3.1 Relevant policy guidance relating to new development, and transport and land use planning is set out at national level in the following document:

- the National Planning Policy Framework

3.2 This document set the context in which the proposals have been assessed.

The National Planning Policy Framework (NPPF)

3.3 The National Planning Policy Framework (NPPF, 2021) in this document the government sets out its core principles for the planning system in England.

3.4 The purpose of the planning system is to contribute to the achievement of sustainable development. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs.

Promoting Sustainable Transport

3.5 The NPPF in promoting sustainable transport considers that for sites to be allocated for development in plans, or specific applications for development, it should be ensured that:

A. *appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*

B. *safe and suitable access to the site can be achieved for all users; and*

C. *any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.*

3.6 The framework goes on to re-iterate that ***Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.***

3.7 The NPPF sets out in the context of applications for development that they should:

A. *give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*

B. *address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*

C. *create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*

D. *allow for the efficient delivery of goods, and access by service and emergency vehicles; and*

E. *be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.*

3.8 The chapter concludes that … All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.

Local Policy

3.9 The following local policy document constitutes the development plan for Chelmsford City Council:

- The Chelmsford Local Plan 2013-2036
- Parking Standards Design and Good Practice 2009 (Essex Planning Officers Association) and subsequent Chelmsford City Council adopted standards
- Development Management Policies, Essex County Council February 2011

3.10 The Chelmsford Local Plan sets out the policy, aims and objectives for new development and sustainable transport that support the guidance set out in the NPPF and seeks to develop a sustainable, integrated transport system for the area, which provides necessary access to facilities, services and goods with less dependence on cars and less impact on the environment.

3.11 Policy DM 27 - Parking Standards at Developments States that: The Council will have regard to the vehicle parking standards set out in the Essex Parking Standards - Design and Good Practice (2009), or as subsequently amended, when determining planning applications. Proposals which provide below these standards should be supported by evidence detailing the local circumstances that justify deviation from the standard.

3.12 The advice contained in the national and local policy documents has been fully considered during the development of this proposal. It is considered that the proposal is in accordance with the aims and objectives of transport policy as it applies to both its location and the use proposed.

Development Management Policy

3.13 Essex County Council (ECC) set out in their publication, Development Management Policies (DMP) Feb 2011, that access to development sites should be considered against the Essex Functional Route Hierarchy.

3.14 St Michaels Drive, which provides access to the site, is defined within the Functional Route Hierarchy as an Other Route within the defined settlement and as such there are policy restrictions with respect to access proposals for development. Given its location, the proposal site access is governed by Policy DM4 of the DMP, which states that the Highway Authority will protect the function of other routes by:

- Ensuring that new access points will be designed and constructed in accordance with the current standards
- Requiring improvements to existing substandard access.

3.15 The aims and objectives of the DMP have been complied with in the development of this proposal and the development being considered accords with that policy.

4 Development Proposals

Description of Proposal

4.1 The proposals consider a residential development for 3 four bedroomed dwellings (C3 use), hard and soft landscaping and associated parking and infrastructure.

4.2 A layout plan of the proposed development is shown in **Appendix 3** and indicates the principal point of access to the site and the general site layout.

4.3 As a part of the proposals the access will be widened out at its entry to form a 5.5m wide entrance for at least 6m into the access road.

Trip Generation

4.4 In accordance with standard transport assessment guidelines, the proposals have been considered with respect to the likely level of trips that could be generated and the impact they would have on the local highway network.

4.5 The travel demand that could be associated with the proposal has been considered in detail and assessed utilising data from the TRICS trip generation database. Sites within the database have been interrogated to consider sites that are similar in land use, location and size to the proposal being considered.

4.6 The TRICS 7.9.3 trip generation database has been interrogated to assess the likely number of vehicular trips that could be associated with nine private flats, representing the proposed development.

4.7 **Table 4.1** summarises the trip generation rates and provides an estimate of vehicular movements associated with the development proposals.

Table 4.1 Residential Use Trip Generation Summary

	AM Peak (08:00-09:00)		PM Peak (17:00-18:00)		Daily Trips 07:00-19:00	
	Arrivals	**Departures**	**Arrivals**	**Departures**	**Arrivals**	**Departures**
Trip Rate per Dwelling	0.154	0.321	0.303	0.167	2.342	2.385
Trips per 3 dwellings	1	1	1	1	7	7

4.8 **Table 4.1** indicates that the proposed redevelopment could result 2 trips in the AM peak and 2 trips in the PM peak and 14 movements over a typical day.

4.9 Given the very low level of vehicular trips that could be generated by the proposals and the opportunities to access the site via means other than the private car, the development will not have a detrimental impact on the operation of the local road network in the vicinity of the site and can be accommodated in terms of capacity and highway safety. Given the existing garage use, the development will not result in an intensification of use of the access

4.10 The TRICS data is held in **Appendix 4.**

Vehicle Parking

4.11 The car parking requirements of the proposal have been considered in the context of the requirements set out by Chelmsford City Council in accordance with the following minimum requirements:

- One space per one bed dwelling
- Two spaces per 2 + Bed Dwelling
- Visitor Parking 0.25 spaces per dwelling

4.12 The proposals comprise three 4 bedroomed dwellings and as such 6 allocated spaces are proposed with a further 2 visitor parking spaces in accordance with the guidance.

4.13 All spaces are proposed at either 2.9m by 5.5m where perpendicular or at 6.0m by 2.9m where parallel provision is proposed. All spaces are accessible without the need to reverse onto the highway.

4.14 As a part of the proposals each dwelling will have a cycle parking space in accordance with current standards.

Local Parking Demand

4.15 Following pre-application discussions, the Highway Authority raised concerns with respect to the impact of the loss of car parking provision on the locally available on-street supply and whether the additional demand could be accommodated within the capacity available.

4.16 Currently, 17 of the 24 available garages on the site are occupied, primarily by individuals within Roxwell village and as such there is the potential for the loss of this parking to impact on the locally available on-street supply and as such, a parking survey to assess the capacity of the on-street parking available in the vicinity to accommodate any additional displaced demand has been undertaken.

4.17 It should be recognised that, notwithstanding the current occupancy of the garages, the likelihood is that the use of the garages pertains to not only to their function as a parking space but moreover as a secure and covered structure. As such it is likely that the majority of the displaced users would seek alternative similar covered secure provision as a direct replacement and as such the proposals would not impact significantly on the local on street parking supply.

4.18 It is also probable that a proportion of the occupiers utilise the garages as storage for purposes other than that of vehicle parking and as such will seek alternative similar storage and again the loss of the garages will not impact on local on-street parking supply.

4.19 Nonetheless, in order to provide a robust assessment, the availability and utilisation of on-street car parking in the vicinity has been surveyed utilising the Lambeth Parking survey methodology. The surveys were undertaken 29th and 30th November and 3rd of December 2022.

4.20 The survey area included all roads within 100m of the site. In accordance with the Lambeth parking survey methodology with available spaces were identified where they are not subject to legal or practical restrictions.

4.21 The plan attached at **Appendix 5** illustrates the available parking within the surveyed area. The surveys were undertaken for the following times

- Tuesday 08:30, 12:30, 19:30
- Wednesday 08:30, 12:30, 19:30
- Saturday 08:30, 12:30, 19:30

4.22 The results of the surveys are summarised in Table 4.1 below

Table 4.1 St Michaels Drive Parking Beat Survey Summary

Time Period	On Street Spaces		%age Utilisation
	Spaces Available	**Spaces Utilised**	
Tues 08:30	73	25	34%
Tues 12:30	73	20	27%
Tues 19:30	73	24	33%
Weds 08:30	73	24	33%
Weds 12:30	73	23	32%
Weds 19:30	73	22	30%
Sat 09:30	73	25	34%
Sat 12:30	73	29	40%
Sat 16:30	73	26	36%

4.23 The surveys identify that within 100m of the site there are a total of 73 available legally usable parking spaces not subject to restriction.

4.24 During the surveyed days and time periods the data indicates that the maximum utilisation was observed at 12:30 on a Saturday where 29 parked vehicles were surveyed representing a space utilisation of 40% leaving 44 free spaces. At all other times the observed utilisation was between 27% and 36%.

4.25 Given the foregoing, even should all occupiers of the 17 let garages require replacement parking on-street, this demand could easily be accommodated within the existing available on-street supply and would not result in any measured local parking stress.

4.26 The parking surveys and plan held in **Appendix 5.**

Access and Servicing

4.27 The main access to the proposed development is proposed via the existing access to the garages directly from St Michaels Drive. Visibility at the access is achievable at 2.4m by 43m in both directions as required for a 30mph road under Manual for Streets guidance.

4.28 The access will be widened out to 5.5m for the initial 6m into the access. The remainder of the access will be provided as per a shared private drive arrangement. The existing kerb will be widened to accommodate the drive with an appropriate drop kerbed crossing.

4.29 A vehicle tracking assessment has been undertaken and demonstrates that refuse and emergency fire vehicles can enter and exit the site in forward gear. Vehicular access to the rear of number 65 St Michaels Drive will be retained as a part of the proposals and as such the vehicle tracking also demonstrates that that the use of this access can be maintained. The vehicle tracking assessment is held in **Appendix 6.**

5 Summary and Conclusions

Summary

5.1 This Transport Statement has been provided in support of a full planning application to Chelmsford City Council for proposals for the redevelopment of land and buildings at St Michaels Drive, Roxwell for the purposes of three dwellings, parking and access.

5.2 The TRICS trip generation assessment demonstrates that the proposed development would lead to a minimal increase in vehicular trips associated with the site.

5.3 The traffic generated by the proposal can be accommodated via the existing access improved arrangements without having a detrimental impact on the operation of the local highway network by virtue of either highway capacity or highway safety.

5.4 The site is considered to be in an accessible location for the purposes of access via means other than the private car.

5.5 The proposed change of use will incorporate car and cycle parking in accordance with Chelmsford City Council requirements.

5.6 The potential displaced parking pressure on local on-street parking that could be created by the development can easily be accommodated by the existing on-street car parking supply without having a detrimental impact in terms of parking stress.

5.7 The delivery and emergency manoeuvring requirements for the proposals can be undertaken in accordance with Chelmsford City Council requirements.

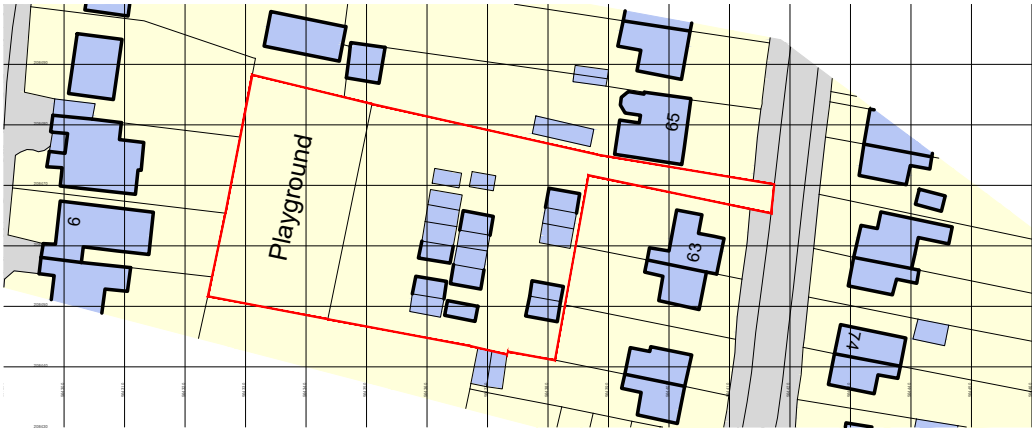
Conclusions

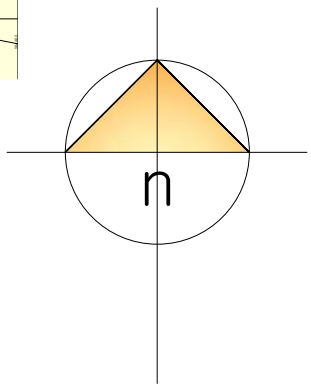
5.8 This Transport Statement demonstrates that the proposals have been developed in accordance with the aims and objectives of current national and local policy as it relates to transport and will not have a significant or severe impact on the efficiency or safety of the local transport network.

5.9 In view of the foregoing, it is considered that there are no substantive highway or transportation reasons why the proposals as submitted should not be permitted.

Appendix 1

Site Location





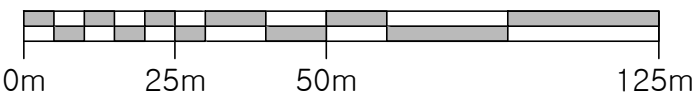
client
Chelmsford City Council

project
St. Michael Drive, Roxwell

title
Location plan

Location plan

A4 SHEET @ 1:1250



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date	May 2021	scale	1:1250 @ A4
drawn	jm	checked	rjh
dwg no	3555:01	revision	

Appendix 2

Public Transport Information

First 46 Ongar-Chelmsford

Mondays to Fridays from 30 October 2022

	46	46	46	46	46	46
Ongar, Two Brewers	0720	0920	1110	1335	1525	1715
Ongar, The Kings Inn	0722	0922	1112	1337	1527	1717
Ongar, Four Wantz	0725	0925	1115	1340	1530	1720
Fyfield, The Queens Head	0730	0929	1119	1344	1534	1724
Willingale, The Maltsters Arms	0737	0936	1126	1351	1541	1731
Roxwell, St Michael's Drive	0747	0946	1136	1401	1551	1740
Roxwell, Village Hall	0749	0948	1138	1403	1553	1742
Roxwell, The Hare	0752	0951	1141	1406	1556	1745
Writtle, Agricultural College	0757	0956	1146	1411	1601	1750
Chelmsford, Bus Station Stand 6	0819	1009	1159	1424	1614	1805

First 46 Ongar-Chelmsford

Saturdays from 30 October 2022

	46	46	46	46	46	46
Ongar, Two Brewers	0730	0920	1110	1335	1525	1715
Ongar, The Kings Inn	0732	0922	1112	1337	1527	1717
Ongar, Four Wantz	0735	0925	1115	1340	1530	1720
Fyfield, The Queens Head	0739	0929	1119	1344	1534	1724
Willingale, The Maltsters Arms	0746	0936	1126	1351	1541	1731
Roxwell, St Michael's Drive	0757	0946	1136	1401	1551	1741
Roxwell, Village Hall	0758	0948	1138	1403	1553	1743
Roxwell, The Hare	0801	0951	1141	1406	1556	1746
Writtle, Agricultural College	0806	0956	1146	1411	1601	1751
Chelmsford, Bus Station Stand 6	0820	1009	1159	1424	1614	1804

First 46 Chelmsford-Ongar

Mondays to Fridays from 30 October 2022

	46	46	46	46	46	46
Chelmsford, Bus Station Stand 6	0825	1015	1240	1430	1620	1810
Chelmsford, H&M Stop Dc	0827	1017	1242	1432	1624	1813
Writtle, Lordship Road	0841	1028	1253	1443	1635	1824
Roxwell, The Hare	0846	1033	1258	1448	1640	1829
Roxwell, Village Hall	0849	1036	1301	1451	1643	1832
Roxwell, St Michael's Drive	0851	1038	1303	1453	1645	1834
Willingale, The Maltsters Arms	0901	1048	1313	1503	1655	1843
Fyfield, The Queens Head	0908	1055	1320	1510	1702	1850
Ongar, Four Wantz	0912	1059	1324	1514	1706	1854
Ongar, The Kings Inn	0915	1102	1327	1517	1709	1857
Ongar, Two Brewers	0917	1104	1329	1519	1712	1859

First 46 Chelmsford-Ongar

Saturdays from 30 October 2022

	46	46	46	46	46	46
Chelmsford, Bus Station Stand 6	0825	1015	1240	1430	1620	1810
Chelmsford, H&M Stop Dc	0827	1017	1242	1432	1622	1812
Writtle, Lordship Road	0838	1028	1253	1443	1633	1823
Roxwell, The Hare	0843	1033	1258	1448	1638	1828
Roxwell, Village Hall	0846	1036	1301	1451	1641	1831
Roxwell, St Michael's Drive	0848	1038	1303	1453	1643	1833
Willingale, The Maltsters Arms	0858	1048	1313	1503	1653	1843
Fyfield, The Queens Head	0905	1055	1320	1510	1700	1850
Ongar, Four Wantz	0909	1059	1324	1514	1704	1854
Ongar, The Kings Inn	0912	1102	1327	1517	1707	1857
Ongar, Two Brewers	0914	1104	1329	1519	1710	1859

Appendix 3

Development Layout

PROPOSED BLOCK PLAN @ 1:500

A3 SHEET @ 1:500

0m 12.5m 25m

N

Accommodation Schedule

Plot No.	Accommodation	Area (m^2)	Amenity (m^2)
01	*4 Bedroom 6 person house*	*117*	*120*
02	*4 Bedroom 6 person house*	*117*	*120*
03	*4 Bedroom 6 person house*	*117*	*90*

Key:

- Proposed Tree
- Permeable gravel driveway
- Concrete pavers
- Cycle Stores
- Enclosed Bin stores
- 1800mm h. close boarded timber fence
- 1800mm h. 225mm thick external brick wall
- 1200mm h. metal anti-trap playground fencing to local requirements

revision

issue

FOR INFORMATION

client

Chelmsford City Council

project

St. Michaels Drive, Roxwell, Chelmsford

title

Proposed Block Plan

john finch partnership
chartered architects & town planning consultants

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date	22.11.22	scale	1:500 @ A3
drawn	lt/jh	checked	jm
dwg no	3555:02	revision	C

Appendix 4

TRICS Data

Calculation Reference: AUDIT-757101-221208-1226

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	ES	EAST SUSSEX	1 days
	MW	MEDWAY	1 days
03	SOUTH WEST		
	GS	GLOUCESTERSHIRE	1 days
	SM	SOMERSET	2 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
	SF	SUFFOLK	2 days
05	EAST MIDLANDS		
	NM	WEST NORTHAMPTONSHIRE	1 days
	NN	NORTH NORTHAMPTONSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	SY	SOUTH YORKSHIRE	2 days
08	NORTH WEST		
	AC	CHESHIRE WEST & CHESTER	1 days
09	NORTH		
	TW	TYNE & WEAR	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: No of Dwellings
Actual Range: 8 to 47 (units:)
Range Selected by User: 6 to 50 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/14 to 22/06/22

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday	4 days
Wednesday	3 days
Thursday	2 days
Friday	5 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	14 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:
Neighbourhood Centre (PPS6 Local Centre) 14

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3	14 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,000 or Less	2 days
1,001 to 5,000	10 days
5,001 to 10,000	2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

25,001 to 50,000	3 days
50,001 to 75,000	2 days
75,001 to 100,000	2 days
125,001 to 250,000	5 days
250,001 to 500,000	1 days
500,001 or More	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	7 days
1.6 to 2.0	2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	3 days
No	11 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	14 days

This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1 AC-03-A-05 SEMI-DETACHED & TERRACED CHESHIRE WEST & CHESTER
MEADOW DRIVE
NORTHWICH
BARNTON
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 40
Survey date: FRIDAY *30/04/21* *Survey Type: MANUAL*

2 CA-03-A-07 MIXED HOUSES CAMBRIDGESHIRE
FIELD END
NEAR ELY
WITCHFORD
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 32
Survey date: THURSDAY *27/05/21* *Survey Type: MANUAL*

3 ES-03-A-06 MIXED HOUSES EAST SUSSEX
BISHOPS LANE
RINGMER

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 12
Survey date: WEDNESDAY *16/06/21* *Survey Type: MANUAL*

4 GS-03-A-02 DETACHED HOUSES GLOUCESTERSHIRE
OAKRIDGE
NEAR GLOUCESTER
HIGHNAM
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 40
Survey date: FRIDAY *23/04/21* *Survey Type: MANUAL*

5 MW-03-A-01 DETACHED & SEMI-DETACHED MEDWAY
ROCHESTER ROAD
NEAR CHATHAM
BURHAM
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 8
Survey date: FRIDAY *22/09/17* *Survey Type: MANUAL*

6 NM-03-A-02 DETACHED & SEMI-DETACHED WEST NORTHAMPTONSHIRE
HARLESTONE ROAD
NEAR NORTHAMPTON
CHAPEL BRAMPTON
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 47
Survey date: TUESDAY *20/10/20* *Survey Type: MANUAL*

7 NN-03-A-01 MIXED HOUSES & FLATS NORTH NORTHAMPTONSHIRE
MAIN STREET
NEAR WELLINGBOROUGH
LITTLE HARROWDEN
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 44
Survey date: TUESDAY *20/10/20* *Survey Type: MANUAL*

8 SF-03-A-06 DETACHED & SEMI-DETACHED SUFFOLK
BURY ROAD
KENTFORD

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 38
Survey date: FRIDAY *22/09/17* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9	SF-03-A-08	MIXED HOUSES		SUFFOLK
	STANNINGFIELD ROAD			
	NEAR BURY ST EDMUNDS			
	GREAT WHELNETHAM			
	Neighbourhood Centre (PPS6 Local Centre)			
	Village			
	Total No of Dwellings:		34	
	Survey date: WEDNESDAY		*16/09/20*	*Survey Type: MANUAL*
10	SM-03-A-02	MIXED HOUSES		SOMERSET
	HYDE LANE			
	NEAR TAUNTON			
	CREECH SAINT MICHAEL			
	Neighbourhood Centre (PPS6 Local Centre)			
	Village			
	Total No of Dwellings:		42	
	Survey date: TUESDAY		*25/09/18*	*Survey Type: MANUAL*
11	SM-03-A-03	MIXED HOUSES		SOMERSET
	HYDE LANE			
	NEAR TAUNTON			
	CREECH ST MICHAEL			
	Neighbourhood Centre (PPS6 Local Centre)			
	Village			
	Total No of Dwellings:		41	
	Survey date: TUESDAY		*25/09/18*	*Survey Type: MANUAL*
12	SY-03-A-02	DETACHED & BUNGALOWS		SOUTH YORKSHIRE
	MANOR ROAD			
	NEAR SHEFFIELD			
	WALES			
	Neighbourhood Centre (PPS6 Local Centre)			
	Village			
	Total No of Dwellings:		25	
	Survey date: THURSDAY		*10/09/20*	*Survey Type: MANUAL*
13	SY-03-A-03	BUNGALOWS & DETACHED		SOUTH YORKSHIRE
	CHURCH LANE			
	NEAR BARNSLEY			
	WORSBROUGH			
	Neighbourhood Centre (PPS6 Local Centre)			
	Village			
	Total No of Dwellings:		19	
	Survey date: WEDNESDAY		*09/09/20*	*Survey Type: MANUAL*
14	TW-03-A-03	MIXED HOUSES		TYNE & WEAR
	STATION ROAD			
	NEAR NEWCASTLE			
	BACKWORTH			
	Neighbourhood Centre (PPS6 Local Centre)			
	Village			
	Total No of Dwellings:		33	
	Survey date: FRIDAY		*13/11/15*	*Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	14	33	0.088	14	33	0.262	14	33	0.350
08:00 - 09:00	14	33	0.154	14	33	0.321	14	33	0.475
09:00 - 10:00	14	33	0.147	14	33	0.224	14	33	0.371
10:00 - 11:00	14	33	0.167	14	33	0.171	14	33	0.338
11:00 - 12:00	14	33	0.220	14	33	0.198	14	33	0.418
12:00 - 13:00	14	33	0.167	14	33	0.174	14	33	0.341
13:00 - 14:00	14	33	0.187	14	33	0.180	14	33	0.367
14:00 - 15:00	14	33	0.193	14	33	0.178	14	33	0.371
15:00 - 16:00	14	33	0.226	14	33	0.196	14	33	0.422
16:00 - 17:00	14	33	0.248	14	33	0.182	14	33	0.430
17:00 - 18:00	14	33	0.303	14	33	0.167	14	33	0.470
18:00 - 19:00	14	33	0.242	14	33	0.132	14	33	0.374
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.342			2.385			4.727

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	8 - 47 (units:)
Survey date date range:	01/01/14 - 22/06/22
Number of weekdays (Monday-Friday):	14
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Appendix 5

Parking Plan and Survey

34111 Chelmsford
Area 2 - St Michaels Drive, CM1 4NU
Street Inventory
Tuesday 29th November 2022

Double Yellow Line
School Keep Clear
Dropped Kerb

Roxwell C of E (VC) Primary School
Grove Cottage
Horseshoe Cottage
Red Gables
Cosycot
Elmby
The Causeway
Little Dukes
Hall
THE STREET
Shelter
Playground
Allotment Gardens
St Michael's Church
ST MICHAEL'S DRIVE
El Sub Sta

Advanced Transport Research	Job Number & Name:	34111 Chelmsford
Area 2	Client:	Journey Transport Planning
Parking Demand	Date:	29th, 30th, 3rd

0830 Tuesday 29th					Unrestricted Kerb Space				Double Yellow Line			
	Street	Total Length of Available Kerb Space	Length of Junctions	Length of Bus stops/other	Length (m)	Calculated Spaces	Cars Parked	Stress	Length (m)	Calculated Spaces	Cars Parked	Stress
	The Street	178	5	17	146	29	12	41%	10	2	0	0%
	St Michaels Drive	286	5	57	224	44	13	30%				
	Total per Beat by restriction					73	25	34%		2	0	0%
	Total per Beat					73	25	34%				

1230 Tuesday 29th					Unrestricted Kerb Space				Double Yellow Line			
	Street	Total Length of Available Kerb Space	Length of Junctions	Length of Bus stops/other	Length (m)	Calculated Spaces	Cars Parked	Stress	Length (m)	Calculated Spaces	Cars Parked	Stress
	The Street	178	5	17	146	29	10	34%	10	2	0	0%
	St Michaels Drive	286	5	57	224	44	10	23%				
	Total per Beat by restriction					73	20	27%		2	0	0%
	Total per Beat					73	20	27%				

1930 Tuesday 29th					Unrestricted Kerb Space				Double Yellow Line			
	Street	Total Length of Available Kerb Space	Length of Junctions	Length of Bus stops/other	Length (m)	Calculated Spaces	Cars Parked	Stress	Length (m)	Calculated Spaces	Cars Parked	Stress
	The Street	178	5	17	146	29	11	38%	10	2	0	0%
	St Michaels Drive	286	5	57	224	44	13	30%				
	Total per Beat by restriction					73	24	33%		2	0	0%
	Total per Beat					73	24	33%				

0830 Wednesday					Unrestricted Kerb Space				Double Yellow Line			
	Street	Total Length of Available Kerb Space	Length of Junctions	Length of Bus stops/other	Length (m)	Calculated Spaces	Cars Parked	Stress	Length (m)	Calculated Spaces	Cars Parked	Stress
	The Street	178	5	17	146	29	11	38%	10	2	0	0%
	St Michaels Drive	286	5	57	224	44	13	30%				
	Total per Beat by restriction					73	24	33%		2	0	0%
	Total per Beat					73	24	33%				

1230 Wednesday					Unrestricted Kerb Space				Double Yellow Line			
	Street	Total Length of Available Kerb Space	Length of Junctions	Length of Bus stops/other	Length (m)	Calculated Spaces	Cars Parked	Stress	Length (m)	Calculated Spaces	Cars Parked	Stress
	The Street	178	5	17	146	29	11	38%	10	2	0	0%
	St Michaels Drive	286	5	57	224	44	12	27%				
	Total per Beat by restriction					73	23	32%		2	0	0%
	Total per Beat					73	23	32%				

Advanced Transport Research	*Job Number & Name:*	**34111 Chelmsford**
Area 2	*Client:*	**Journey Transport Planning**
Parking Demand	*Date:*	**29th, 30th, 3rd**

1930 Wednesday	Street	Total Length of Available Kerb Space	Length of Junctions	Length of Bus stops/other	Unrestricted Kerb Space				Double Yellow Line			
					Length (m)	Calculated Spaces	Cars Parked	Stress	Length (m)	Calculated Spaces	Cars Parked	Stress
	The Street	178	5	17	146	29	10	34%	10	2	0	0%
	St Michaels Drive	286	5	57	224	44	12	27%				
	Total per Beat by restriction					73	22	30%		2	0	0%
	Total per Beat					73	22	30%				

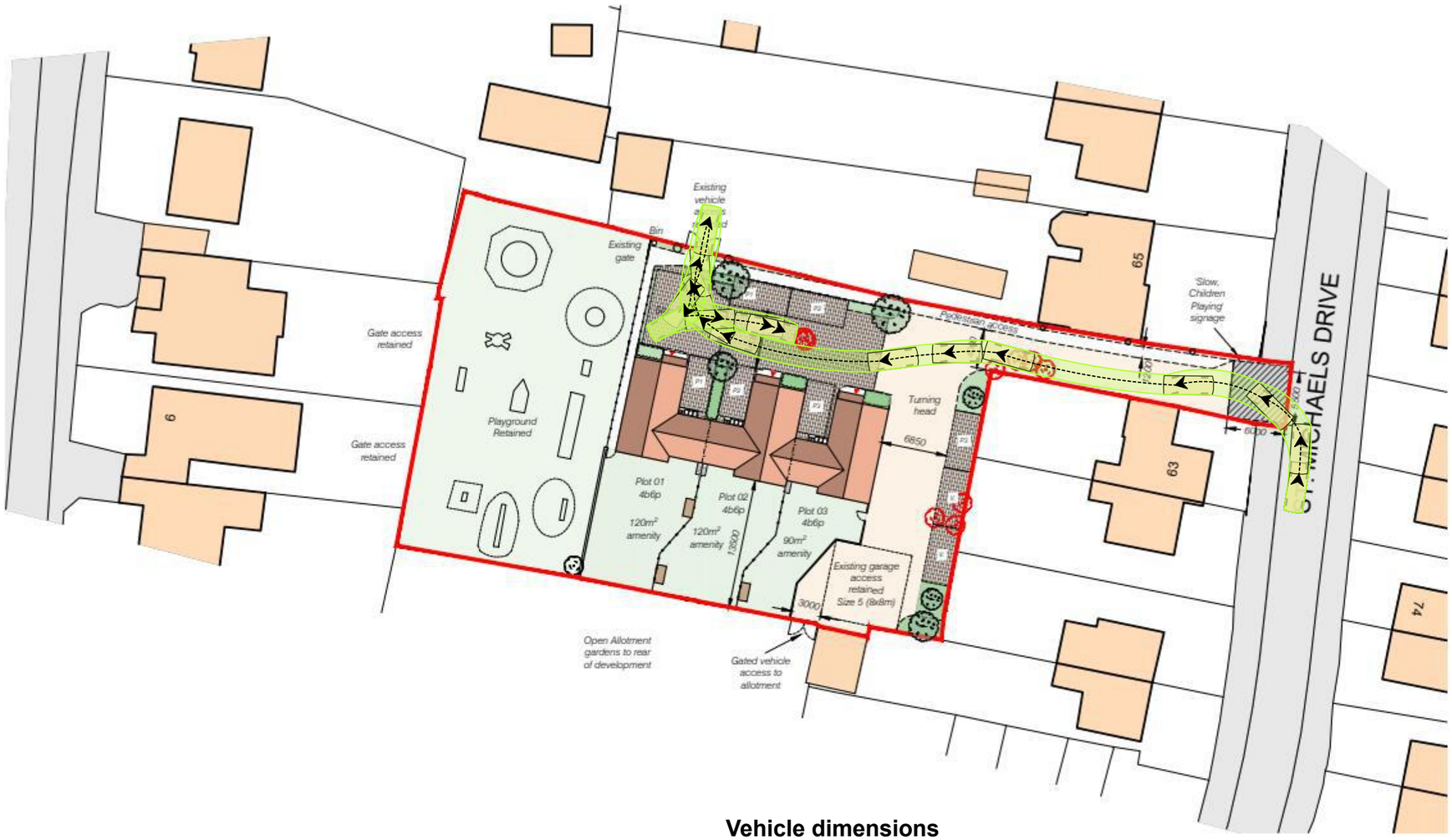
0930 Saturday 3rd	Street	Total Length of Available Kerb Space	Length of Junctions	Length of Bus stops/other	Unrestricted Kerb Space				Double Yellow Line			
					Length (m)	Calculated Spaces	Cars Parked	Stress	Length (m)	Calculated Spaces	Cars Parked	Stress
	The Street	178	5	17	146	29	10	34%	10	2	0	0%
	St Michaels Drive	286	5	57	224	44	15	34%				
	Total per Beat by restriction					73	25	34%		2	0	0%
	Total per Beat					73	25	34%				

1230 Saturday 3rd	Street	Total Length of Available Kerb Space	Length of Junctions	Length of Bus stops/other	Unrestricted Kerb Space				Double Yellow Line			
					Length (m)	Calculated Spaces	Cars Parked	Stress	Length (m)	Calculated Spaces	Cars Parked	Stress
	The Street	178	5	17	146	29	14	48%	10	2	0	0%
	St Michaels Drive	286	5	57	224	44	15	34%				
	Total per Beat by restriction					73	29	40%		2	0	0%
	Total per Beat					73	29	40%				

1630 Saturday 3rd	Street	Total Length of Available Kerb Space	Length of Junctions	Length of Bus stops/other	Unrestricted Kerb Space				Double Yellow Line			
					Length (m)	Calculated Spaces	Cars Parked	Stress	Length (m)	Calculated Spaces	Cars Parked	Stress
	The Street	178	5	17	146	29	13	45%	10	2	0	0%
	St Michaels Drive	286	5	57	224	44	13	30%				
	Total per Beat by restriction					73	26	36%		2	0	0%
	Total per Beat					73	26	36%				

Appendix 6

Vehicle Tracking assessments



PROPOSED BLOCK PLAN @ 1:500

A3 SHEET @ 1:500

0m 12.5m 25m

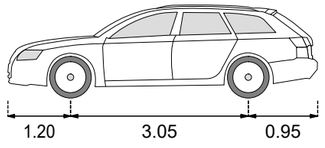
Accommodation Schedule

Plot No.	Accommodation	Area (m^2)	Amenity (m^2)
01	*4 Bedroom 6 person house*	*117*	*120*
02	*4 Bedroom 6 person house*	*117*	*120*
03	*4 Bedroom 6 person house*	*117*	*90*

Key:

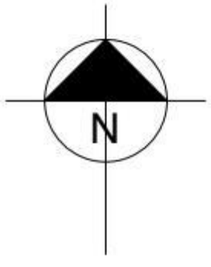
- Proposed Tree
- Permeable gravel driveway
- Concrete pavers
- Cycle Stores
- Enclosed Bin stores
- 1800mm h. close boarded timber fence
- 1800mm h. 225mm thick external brick wall
- 1200mm h. metal anti-trap playground fencing to local requirements

Vehicle dimensions



Passenger car (long) - Custom

Length: 5.16 m
Max width: 1.94 m
Lock to lock time: 4.0 s
Max steering angle: 33.59°
Turn radius (curb to curb): 6.30 m
Turn radius (wall to wall): 7.00 m



revision
issue
FOR INFORMATION

client
Chelmsford City Council

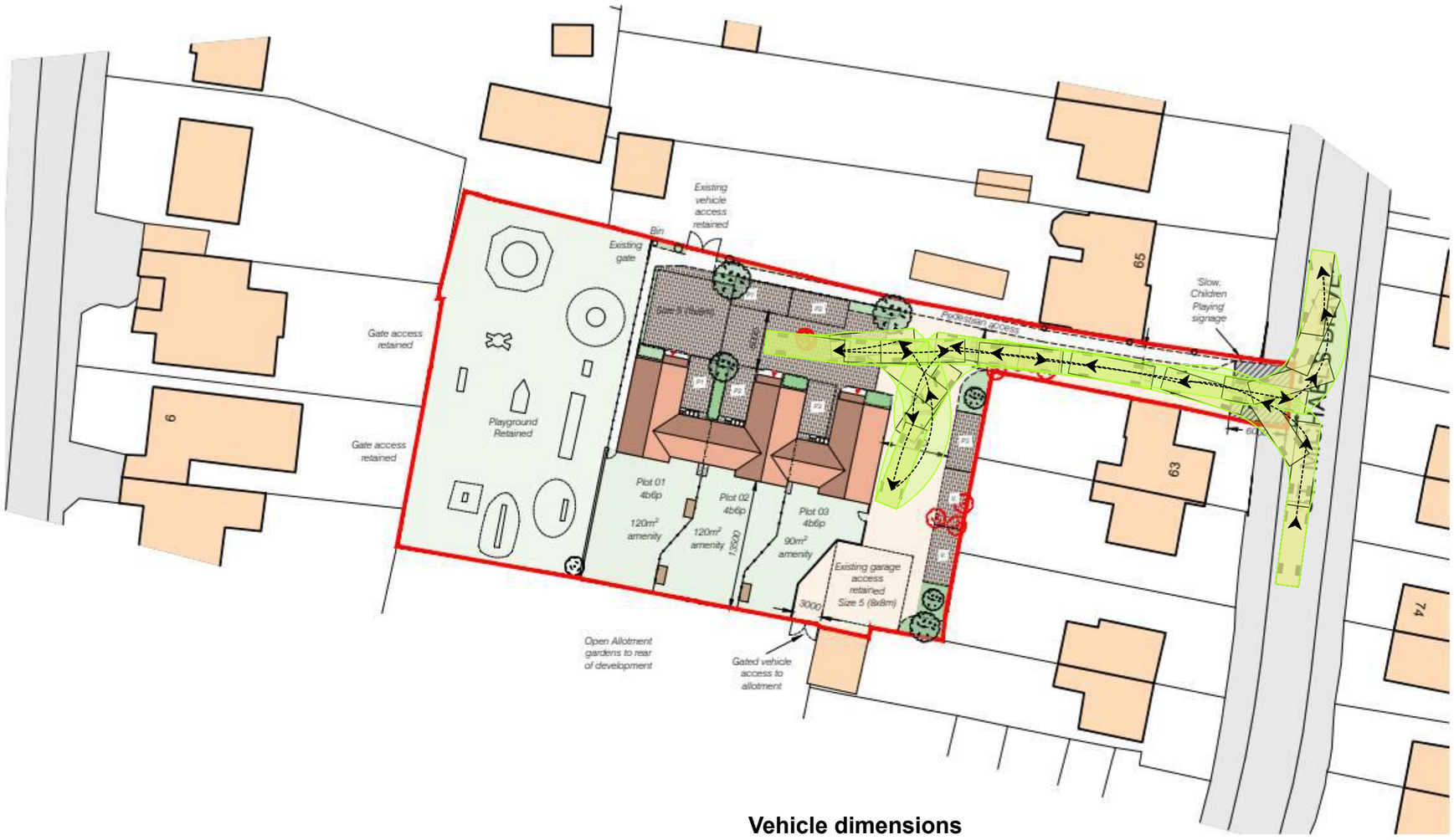
project
St. Michaels Drive, Roxwell, Chelmsford

title
Proposed Block Plan

john finch partnership
chartered architects & town planning consultants

88 Broomfield Road
Chelmsford CM1 1SS
01245 354319/250780
admin@johnfinchpartnership.co.uk
www.johnfinchpartnership.co.uk

date	22.11.22	scale	1:500 @ A3
drawn	lt/jh	checked	jm
dwg no	3555:02	revision	C



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A3 SHEET @ 1:500

0m 12.5m 25m

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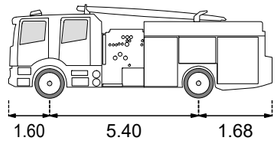
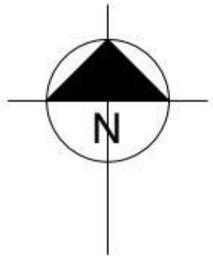
- 1800mm h. 225mm thick external brick wall
- 1200mm h. metal anti-trap playground fencing to local requirements

Vehicle dimensions



Fire Appliance

Length: 8.68 m
Max width: 2.40 m
Lock to lock time: 6.0 s
Max steering angle: 42.02°
Turn radius (curb to curb): 9.00 m
Turn radius (wall to wall): 10.04 m



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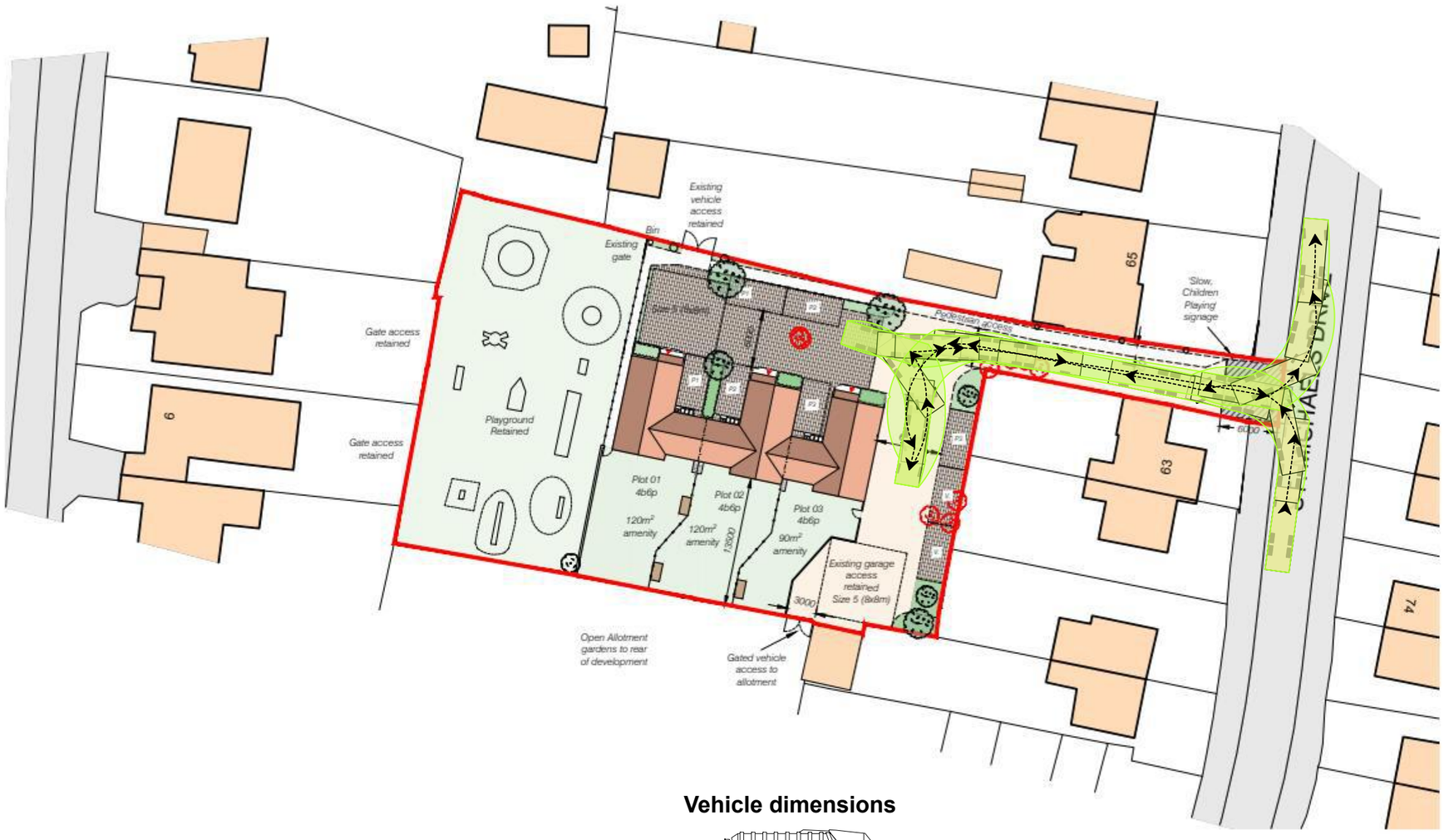

PROPOSED BLOCK PLAN @ 1:500

A3 SHEET @ 1:500

0m 12.5m 25m

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01	*4 Bedroom 6 person house*	*117*	*120*
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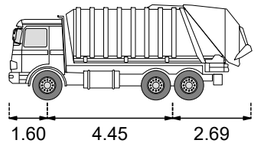
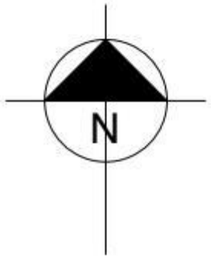
- 1200mm h. metal anti-trap playground fencing to local requirements

Vehicle dimensions



ECC Refuse Collector (3 axled) - Custom

Length: 8.74 m
Max width: 2.50 m
Lock to lock time: 6.0 s
Max steering angle: 35.33°
Turn radius (curb to curb): 8.75 m



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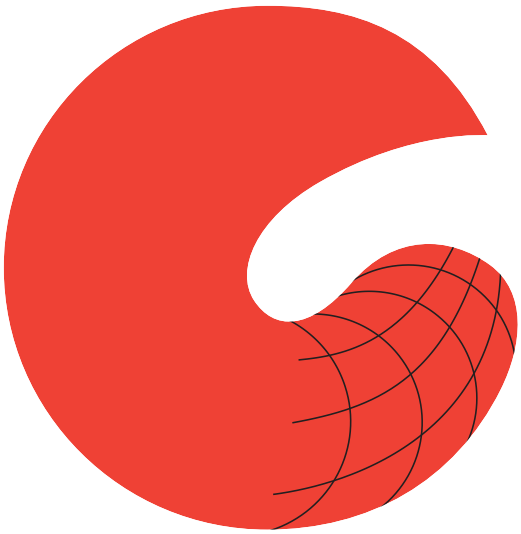

create
CONSULTING
ENGINEERS LTD

ST MICHAELS DRIVE, CHELMSFORD
Foul and Surface Water Drainage Strategy

ST MICHAELS DRIVE, ROXWELL, CHELMSFORD
Foul and Surface Water Drainage Strategy

Clients: Chelmsford City Council

Engineer: Create Consulting Engineers Limited
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Report By: James Everitt, MEng (Hons)

Reviewed By: Graham Sinclair, BSc (Hons), MSc, DIC, C.WEM, MCIWEM

Reference: JE/CS/P22-2709/15

Date: April 2023

ST MICHAELS DRIVE, CHELMSFORD
Foul and Surface Water Drainage Strategy

ST MICHAELS DRIVE, CHELMSFORD
Drainage Strategy

Contents

Figures

Appendices

Plans

3555:02	Site Layout
41367BWLS-01	Topographic Survey
2709/02/005B	Surface Water Drainage Strategy

Registration of Amendments

Revision	Amendment Details	Revision Prepared By	Revision Approved By

1.0 INTRODUCTION

1.1 Create Consulting Engineers Ltd was instructed by Chelmsford City Council to undertake a Foul and Surface Water Drainage Strategy for St Michaels Drive, Chelmsford (Figure 1.1).

Project Context

1.2 It is understood that this Foul and Surface Water Drainage Strategy will be used by the Client to support a planning application for the provision of 3 residential units. The scheme includes all associated access, car parking and garages for certain plots.

1.3 Plans showing the proposed scheme are included in Drawing 3555:02.

Planning Policy Context

National Policy

1.4 The National Planning Policy Framework[1] (updated 2021) includes Government policy on development and flood risk stating that:

> *167. When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:*
>
> *a) Within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;*
>
> *b) The development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;*
>
> *c) It incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;*
>
> *d) Any residual risk can be safely managed; and*
>
> e) *Safe access and escape routes are included where appropriate, as part of an agreed emergency plan.*

1.5 The Planning Practice Guidance to the NPPF[2] (updated August, 2022) requires that at the planning stage, the developer should prepare and submit an appropriate FRA to demonstrate how flood risk from all sources of flooding to the development itself and flood risk to others will be managed now and when taking climate change into account.

[1] Ministry of Housing, Communities & Local Government., 2021. *National Planning Policy Framework (NPPF)*. [Online]. Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2 [Accessed April, 2023].
[2] Ministry of Housing, Communities & Local Government., 2021. *Planning Practice Guidance (PPG) - Flood Risk and Coastal Change*. [Online]. Available at: http://planningguidance.planningportal.gov.uk/ [Accessed April, 2023].

1.6 To comply with the NPPF a FRA must be submitted for planning applications for developments within flood zones 2 and 3 (medium or high risk of fluvial or tidal flooding) and for all developments located in Flood Zone 1 (low risk) which are 1 hectare or greater; which has been identified by the Environment Agency as having critical drainage problems; identified in a strategic flood risk assessment as being at increased flood risk in future; or that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.

1.7 A FRA should be appropriate to the scale, nature and location of the development and should identify and assess the risk from all sources of flooding to and from the development and demonstrate how any flood risks will be managed over the lifetime of the development.

1.8 An assessment of surface water and drainage is also required as part of the FRA in order to demonstrate how flood risk to others will be managed following development and taking climate change into account.

1.9 The Planning Practice Guidance (substantially revised in August 2022) requires that sustainable drainage systems should be considered and included where practicable, in line with DEFRA Technical Standards[3].

1.10 The Technical Standards are therefore a key reference document and should be used in the formulation of the surface water drainage strategy for a scheme of this nature. The standards include the following requirements:

> ***"Flood risk outside the development***
>
> ***S1*** *Where the drainage system discharges to a surface water body that can accommodate uncontrolled surface water discharges without any impact on flood risk from that surface water body (e.g. the sea or a large estuary) the peak flow control standards (**S2** and **S3** below) and volume control technical standards (**S4** and **S6** below) need not apply.*
>
> ***Peak flow control***
>
> ***S2*** *For greenfield developments, the peak runoff rate from the development to any highway drain, sewer or surface water body for the 1 in 1 year rainfall event and the 1 in 100 year rainfall event should never exceed the peak greenfield runoff rate for the same event.*
>
> ***S3*** *For developments which were previously developed, the peak runoff rate from the development to any drain, sewer or surface water body for the 1 in 1 year rainfall event*

[3] Department for Environment and Rural Affairs (DEFRA)., 2015. *Sustainable drainage systems: non-statutory technical standards.* [Online]. Available at: https://www.gov.uk/government/publications/sustainable-drainage-systems-non-statutory-technical-standards [Accessed April, 2023].

and the 1 in 100 year rainfall event must be as close as reasonably practicable to the greenfield runoff rate from the development for the same rainfall event, but should never exceed the rate of discharge from the development prior to redevelopment for that event.

Volume control

S4 *Where reasonably practicable, for greenfield development, the runoff volume from the development to any highway drain, sewer or surface water body in the 1 in 100 year 6 hour rainfall event should never exceed the greenfield runoff volume for the same event.*

S5 *Where reasonably practicable, for developments which have been previously developed, the runoff volume from the development to any highway drain, sewer or surface water body in the 1 in 100 year, 6 hour rainfall event must be constrained to a value as close as is reasonably practicable to the greenfield runoff volume for the same event, but should never exceed the runoff volume from the development site prior to redevelopment for that event.*

S6 *Where it is not reasonably practicable to constrain the volume of runoff to any drain, sewer or surface water body in accordance with* ***S4*** *or* ***S5*** *above, the runoff volume must be discharged at a rate that does not adversely affect flood risk.*

Flood risk within the development

S7 *The drainage system must be designed so that, unless an area is designated to hold and/or convey water as part of the design, flooding does not occur on any part of the Site for a 1 in 30 year rainfall event.*

S8 *The drainage system must be designed so that, unless an area is designated to hold and/or convey water as part of the design, flooding does not occur during a 1 in 100 year rainfall event in any part of: a building (including a basement); or in any utility plant susceptible to water (e.g. pumping station or electricity substation) within the development.*

S9 *The design of the Site must ensure that, so far as is reasonably practicable, flows resulting from rainfall in excess of a 1 in 100 year rainfall event are managed in exceedance routes that minimise the risks to people and property.*

Structural Integrity

S10 *Components must be designed to ensure structural integrity of the drainage system and any adjacent structures or infrastructure under anticipated loading conditions over*

the design life of the development taking into account the requirements for reasonable levels of maintenance.

***S11** The materials, including products, components, fittings or naturally occurring materials, which are specified by the designer must be of a suitable nature and quality for their intended use.*

Designing for Maintenance Considerations

***S12** Pumping should only be used to facilitate drainage for those parts of the Site where it is not reasonably practicable to drain water by gravity.*

Construction

***S13** The mode of construction of any communication with an existing sewer or drainage system must be such that the making of the communication would not be prejudicial to the structural integrity and functionality of the sewerage or drainage system.*

***S14** Damage to the drainage system resulting from associated construction activities must be minimised and must be rectified before the drainage system is considered to be completed."*

Climate Change

1.11 Climate change has important implications for the assessment and management of flood risk. The NPPF requires that climate change is considered when making an assessment of flood risk posed to future development.

1.12 Climate change has the potential to affect all identified sources of flooding at the Site. The likely impacts of climate change include increased severity of rainfall events as well as wetter winters leading to higher groundwater levels and increased frequency and severity of surface water flooding.

1.13 The influence of climate change on rainfall intensity has been taken into account by the surface water drainage strategy here as an inclusion of 45% has been made for climate change for all rainfall events up to and including the 1 in 100 year event in accordance with NPPF requirements, and 'Flood Risk Assessments: Climate Change Allowances'[4]

[4] Environment Agency (2016) *Flood Risk Assessments: Climate Change Allowances*.

County Council Policy

1.14 Essex County Council act as Lead Local Flood Authority (LLFA) for the area and are a statutory consultee for all major developments, which includes the following:

- 10 or more houses;
- a site of over 0.5 hectares where the number of houses are unknown;
- a building greater than 1000 square metres; and
- a site over 1 hectare.

1.15 The LLFA have produced a local SuDS Design Guide[5] which includes construction standards and provide assistance to developers in creating sustainable drainage systems on their sites as well as the LLFA's consenting policy and various protocols. Essex County Council also provide guidance within their Preliminary Flood Risk Assessment (PFRA)[6] and Flood Risk Management Strategy[7] on development and flood risk.

Local District Planning Policy

1.16 Chelmsford City Council are currently working on a new local plan[8] to replace the 2008 adopted Core Strategy and Development Control Policies document[9] and 2013 Focused Review[10] currently in place. These plans provide guidance relating to flood risk and drainage.

1.17 The relevant policy is as follows:

Local Plan - Emerging

- *Strategic Policy S3 – Addressing Climate Change and Flood Risk*
- *Strategic Policy S11 – Infrastructure Requirements*
- *Policy NE3 – Flooding / SuDS*
- *Strategic Growth Site 3b – East Chelmsford – Land North of Maldon Road (Employment)*
- *Strategic Growth Site 3c – East Chelmsford – Land South of Maldon Road (Employment)*
- *Strategic Growth Site 3d – East Chelmsford – Land North of Maldon Road (Residential)*

[5] Essex County Council The SuDS Design Guide [Online]. Available at: https://www.essexdesignguide.co.uk/suds Accessed April, 2023]
[6] Essex County Council Preliminary Flood Risk Assessment [Online]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/698238/PFRA_Essex_County_Council_2017.pdf [Accessed April, 2023]
[7] Essex County Council Local Flood Risk Management Strategy [Online]. Available at: https://flood.essex.gov.uk/our-strategies-and-responsibilities/our-local-flood-risk-management-strategy/ [Accessed April, 2023]
[8]Chelmsford Draft Local Plan Pre-Submission Document (Regulation 19 - Publication Draft) January 2018 (Accessed April, 2023) https://www.chelmsford.gov.uk/planning-and-building-control/planning-policy-and-new-local-plan/new-local-plan/local-plan-examination/
[9] Chelmsford Adopted Local Plan - Core Strategy and Development Control Policies, 2008 (Accessed April, 2023) https://www.chelmsford.gov.uk/planning-and-building-control/planning-policy-and-new-local-plan/existing-local-plans/
[10] Chelmsford Adopted Local Plan - Core Strategy and Development Control Policies Focused Review, 2013 (Accessed April, 2023) https://www.chelmsford.gov.uk/planning-and-building-control/planning-policy-and-new-local-plan/existing-local-plans/

Core Strategy and Development Control Policies (2008)

- *CP10 – Protection From Flooding*
- *DC22 – Areas of Flood Risk*
- *DC25 – Water Efficiency and Sustainable Drainage Systems*

1.18 The relevant policies and text from these local planning documents have been considered as part of this Flood Risk Assessment and Drainage Strategy.

1.19 As part of evidence gathering for the new Local Plan, Chelmsford City Council have produced a new Strategic Flood Risk Assessment (SFRA) Level 1 and 2[11] (JBA, 2018) provides a summary of the flood risks for the local area. Combined with the Chelmsford Surface Water Management Plan (2014)[12] and Chelmsford City Water Cycle Study Update (2018)[13] these documents provide information on local flood risks. These documents have been utilised as part of this assessment and are referenced where applicable throughout this report.

Objectives

1.20 To prepare a Foul and Surface Water Drainage Strategy report in accordance with the National Planning Policy Framework (NPPF)[14], Planning Practice Guidance (PPG)[15], their associated guidance document (detailed above) local policy documents (again detailed above).

Constraints and Limitations

1.21 The copyright of this report is vested in Create Consulting Engineers Ltd and the Client, Chelmsford City Council. The Client, or his appointed representatives, may copy the report for purposes in connection with the development described herein. It shall not be copied by any other party or used for any other purposes without the written consent of Create Consulting Engineers Ltd or the Client.

1.22 Create Consulting Engineers Ltd accepts no responsibility whatsoever to other parties to whom this report, or any part thereof, is made known. Any such other parties rely upon the report at their own risk.

1.23 The Foul and Surface Water Drainage Strategy addresses the flood risk posed to and from the proposed development, the extent of which is shown by the Site boundary, as indicated on drawing 2709/02/005B.

[11] Chelmsford City Council Strategic Flood Risk Assessment (SFRA) Level 1 and 2 (Accessed April, 2023) https://www.chelmsford.gov.uk/planning-and-building-control/planning-policy-and-new-local-plan/new-local-plan/evidence-base/
[12] Chelmsford Surface Water Management Plan (Accessed April, 2023) https://www.chelmsford.gov.uk/planning-and-building-control/planning-policy-and-new-local-plan/new-local-plan/evidence-base/
[13] Chelmsford City Water Cycle Study Update (Accessed April, 2023) https://www.chelmsford.gov.uk/planning-and-building-control/planning-policy-and-new-local-plan/new-local-plan/evidence-base/
[14] NPPF (accessed online April, 2023) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf
[15] PPG (accessed online April, 2023) http://planningguidance.planningportal.gov.uk/

1.24 This report has been undertaken with the assumption that the Site will be developed in accordance with the above proposals without significant change. The conclusions resulting from this study are not necessarily indicative of future conditions or operating practices at or adjacent to the Site.

1.25 Create Consulting Engineers Ltd has endeavoured to assess all information provided to them during this appraisal. The report summarises information from a number of external sources and cannot offer any guarantees or warranties for the completeness or accuracy or information relied upon. Information from third parties has not been verified by Create Consulting Engineers Ltd unless otherwise stated in this report.

1.26 Create Consulting Engineers Ltd has endeavoured to assess all information provided to them during this appraisal. The report summarises information from a number of external sources and cannot offer any guarantees or warranties for the completeness or accuracy or information relied upon. Information from third parties has not been verified by Create Consulting Engineers Ltd unless otherwise stated in this report.

1.27 The revised Construction (Design and Management) Regulations 2015[16] (CDM Regulations) came into force in April 2015 to update certain duties on all parties involved in a construction project, including those promoting the development. One of the designer's responsibilities is to ensure that the client organisation, in this instance Chelmsford City Council, is made aware of their duties under the CDM Regulations. Further information on the CDM Regulations is provided in the client guide and is available online. It has been assumed for the purposes of this assessment that the lead designer will be responsible for advising the Client.

[16] Health and Safety Executive., 2015. *Construction (Design and Management) Regulations.* [Online]. Available at: http://www.hse.gov.uk/pubns/indg411.pdf [Accessed April, 2023].

2.0 SOURCES OF INFORMATION

2.1 The information contained in this report is based on a review of existing information and consultation with interested parties.

Records Review

2.2 Key reports and Websites reviewed as part of this study are listed in Table 2.1 below.

Document/Website	Author/Publisher	Date
Fluvial/Tidal Flood Maps, Groundwater Mapping – environment-agency.gov.uk	Environment Agency (EA)	Accessed April, 2023
Surface Water and Reservoir Flood Mapping – flood-warning-information.service.gov.uk	GOV.UK	Accessed April, 2023
BGS GeoIndex – Geology and borehole records - www.bgs.ac.uk/geoindex	British Geological Survey	Accessed April, 2023
Essex County Council Preliminary Flood Risk Assessment (PFRA)	URS, Scott Wilson	2011
Essex County Council Local Flood Risk Management Strategy	Capita Symonds, Essex County Council	2013
Essex County Council SUDS Design Guide	Essex County Council	2023
Chelmsford Draft Local Plan Pre-Submission Document (Regulation 19 - Publication Draft)	Chelmsford City Council	January 2018
Chelmsford Adopted Local Plan - Core Strategy and Development Control Policies	Chelmsford City Council	2008
Chelmsford Adopted Local Plan - Core Strategy and Development Control Policies Focused Review	Chelmsford City Council	2013
Chelmsford City Council Strategic Flood Risk Assessment (SFRA) Level 1 and 2	JBA Consulting	2018
Chelmsford Surface Water Management Plan	Capita Symonds	2014
Chelmsford City Water Cycle Study Update	Chelmsford City Council	2018
Anglian Water Foul and Surface Water Asset Plans (Appendix A)	Anglian Water	2022
Essex and Suffolk Clean water asset plan (Appendix B)	Essex and Suffolk Water	2022
Proposed Site Layout Plan (Drawing 3555:02)	John Finch Partnership	July 2022
Topographical survey 41367BWLS-01	Survey Solutions	December 2022

Table 2.1: Key Information Sources

Consultation

2.3 The agencies and individuals consulted as part of this exercise to obtain records or seek input to the proposals as part of this FRA are listed in Table 2.2 and key records are included in the appendices.

Consultee	Form of Consultation	Topics Discussed and Actions Agreed
Anglian Water Developer Services	Anglian Water Foul and Surface Water Asset Plans	Asset plans were requested on the 26th September 2022 and received on the 26th September 2022. Appendix A shows a 150 mm foul sewer located in the northeast of the site.
Essex and Suffolk Water Developer Services	Online request for Clean Water Asset Plans	Asset plans were requested on the 26th September 2022 and received on the 6th October 2022. Appendix B shows a 3inch distribution main running under St Michaels Drive.

Table 2.2: List of Parties Consulted

3.0 SITE SETTING

Site Location

3.1 The Site lies within the village of Roxwell, west of Chelmsford, at Ordnance Survey grid reference 564371, 208462 and postcode CM1 4PE. The Site lies within the administrative area of Chelmsford City Council and consists of a parcel of brownfield land with its boundary shown on the attached drawings and Figure 1.1.

Description of Site and Surroundings

3.2 The Site is classed as brownfield land with an approximate total area of 0.144 ha, of this area 100 % is currently impermeable roof or hardstanding. The site is located within a residential area with residential properties to the north, east and west with allotments to the south. The extended area beyond the Site is predominantly residential.

3.3 The Site is largely square in shape with an access road to the east and is currently occupied by garages and hardstanding areas. The topographic survey, included with this report on Drawing 41367BWLS-01, summarises levels across the Site. The survey shows that the Site is predominantly flat with a dominant fall from south to north, with approximate levels from 43.8 m AOD to 42.5 m AOD.

Geological/Hydrological Setting

Ground Conditions and Infiltration Capacity

3.4 British Geological Survey (BGS) mapping[17] (Figures 3.1 & 3.2) identifies bedrock geology across the Site as London Clay Formation, with superficial shown to be Head Clay Formation (clay, silt, sands and gravels).

Surface Watercourses

3.5 The nearest watercourse to the Site is the Roxwell Brook at approximately 165 m north of the site.

Groundwater

3.6 The Site does not lie within any Groundwater Source Protection Zones.

3.7 The Site overlays an unproductive aquifer. This consists of bedrock with low permeability that naturally offer protection to any aquifers that may be present beneath.

[17] British Geological Survey (BGS) Onshore GeoIndex., 2022. *DiGMapGB-50 Bedrock Geology and Superficial Deposits*. [Online]. Available at: www.bgs.ac.uk/geoindex [Accessed April, 2023].

3.8 Groundwater was encountered at a depth of 4.7 m below ground level in BGS borehole record TL60NE13, located approximately 700m southeast of the Site.

Artificial Water Bodies

3.9 There are no artificial waterbodies located within or near the Site.

Public Sewers and Water Supply Mains

3.10 An Anglian Water Asset Location Search is included in Appendix A. A 150 mm foul water sewer is located northeast of the Site. This drains the residential dwellings to the northern end of St Michaels Drive, however it is assumed that locally all dwellings connect to this sewer network, albeit via assets not shown on the Anglian Water plans.

3.11 The Essex and Suffolk asset plans also show a 3inch AC water main serving the residential developments along St Michaels Drive.

Existing Site Drainage

3.12 The existing site is brownfield and it is assumed that rainfall currently drains from the site via the highway to the east or to the existing surroundings to the west as a watershed runs through the side from north to south. After considering the topographical levels (41367BWLS-01), the site drains from south to north with the lowest levels being within the north-eastern corner of the site. The high point of the site is located between the rows of the existing garages and it is assumed that rainfall occurring within the eastern most row of garages flows north to this point and then east away from the site and into the adjacent highway. Rainfall runoff originating from the westernmost row of garages therefore runs north and the west across to the park within the site and then to the surrounding areas.

3.13 No formal drainage networks have been noted on the site as part of the walkovers and investigations carried out to date.

Flood Zones

3.14 The entirety of the Site lies within the Environment Agency's Flood Zone 1[18], which is described within the NPPF Technical Guidance as having a less than 1 in 1000 annual probability of river or tidal flooding (<0.1%) in any one year.

[18] Environment Agency., 2022. *Flood Map for Planning (Rivers and Sea) - Flood Zone 2 and Flood Zone 3. [Online]. Available at:* https://data.gov.uk/dataset/cf494c44-05cd-4060-a029-35937970c9c6/flood-map-for-planning-rivers-and-sea-flood-zone-2 [Accessed April, 2023]

Flood History

3.15 The SFRA and PFRA does not note historical flooding from any source that has impacted on the Site.

4.0 SCHEME DESCRIPTION AND PROPOSED DRAINAGE STRATEGY

The Scheme

4.1 This report accompanies an application for planning permission for the erection of three new dwellings and associated works.

4.2 The proposed scheme is shown on Drawing 3555:02 appended with this report.

Proposed Foul Water Drainage Strategy

4.3 Foul water from the Site will be designed to flow to the existing AW foul sewer shown on (960195_A4).The closest connection point in proximity to the site is MH4505, however, invert levels are currently unknown. Therefore, it is assumed that the flows will be able to connect via gravity, but this will be confirmed during the detailed design stage. Downstream drainage surveys have been carried out and therefore all that is needed is approval from AW through an appropriate S106 application at the detailed design stage. The site is below the threshold for a pre-planning enquiry (10 dwellings) and so Anglian Water have not been consulted at this stage.

4.4 Details of the proposed foul water drainage strategy are included on Drawing 2709/02/005.

Proposed Surface Water Drainage Strategy

4.5 Currently, it is assumed that surface water drainage collects at ground level and then either soaks within the site area of runs off to the highway or surrounding area. The proposed surface water drainage strategy is detailed below.

4.6 All driveways will drain via infiltrating permeable paving (570m^2) and all roof areas will drain via a filter drain to a Rainwater Harvesting Tank which will feed into the allotments via a pumped outlet. This will then overflow into an informal soakaway. Both tanks (detailed in Table 4.1) have been designed to accommodate and store flows up to and including the 1 in 100 year plus 45 % climate change event. Preliminary calculations of the proposed storage locations are located in Appendix D. The proposed strategy can be seen on Drawing 2709/02/005B. The schedule for the respective storage areas can be seen below:

Storage Area ID	Area (m^2)	Depth/Subbase Depth (m)	Maximum Gradient
Carpark	570	0.60 / 0.47	1in1000
Allotment Tank	30	1.00	1in1000
Overflow Tank	50	0.60	1in1000

Table 4.1: Storage Design Schedule as shown on Drawing 2709/02/005B

4.7 Table 4.2 below shows the top water level (TWL) and storage volume for the 1 in 100 + 45 % year event.

Storage Area ID	TWL (m)	Volume (m^3)
Carpark	0.37	73.6
Allotment Tank	0.96	28.4
Overflow Tank	-	-

Table 4.2: Storage Results Summary

Surface Water Quality

4.8 Pollution control requirements are determined by the using the Simple Index Approach as detailed in the CIRIA SuDS Manual. The pollution indices for this Site as per table 26.2 of the CIRIA SuDS Manual can be seen below:

Land Use	Total Suspended Solids	Metals	Hydrocarbons
Residential roofs	0.2	0.2	0.05
Individual property driveways, residential car parks, low traffic roads i.e. <300 traffic movements a day	0.5	0.4	0.4

Table 4.3: Calculated SuDS pollution mitigation indexes for the Site

4.9 Surface water from the driveway will be treated via the permeable paving prior to discharge to ground and the roof water will be treated by a filter drain, based on table 26.3 from the CIRIA SuDS Manual, this will provide treatment indices of:

SuDS Component	Total Suspended Solids	Metals	Hydrocarbons
Filter Drain	0.4	0.4	0.4
Permeable Paving	0.7	0.6	0.7

Table 4.4: Indicative SuDS mitigation indices

4.10 It can be seen from the tables above that the proposed treatment provides the required level of treatment for this Site prior to discharge to ground.

4.11 It should be noted that SuDS components only deliver these indices if they follow design guidance with respect to hydraulics and treatment set out in the relevant technical component chapters of the CIRIA SuDS Manual.

SuDS Potential

4.12 A summary of the potential SUDS options which led to the above drainage strategy is included in Table 4.5. This drainage strategy, however, is in compliance with both local and national policy as outlined in Section 1 of this report.

SUDS Option	Suitability/Included in the Scheme?	Comments
Soakaways and porous paving	✓	Permeable paving is proposed for all roads and driveways. Permeable Paving will provide 73.6m^3 storage for the Site for the 1 in 100 year plus 45% climate change event.
Rainwater Harvesting	✓	Water butts will be provided on a property by property basis to aid with rainwater harvesting. In addition to this, all run off not stored in the permeable paving will be stored in the allotment tank for reuse via the adjacent allotment gardens
Swales	X	Not included in the client and architect design proposal at present due to space constraints on Site
Attenuation Ponds (above ground storage)	X	Not included in the client and architect design proposal at present due to space constraints on Site.
Below ground storage in cellular systems	✓	Infiltration crates are proposed to store all roof areas, providing 28.5m^3 storage for the Site for the 1 in 100 year plus 45% climate change event. An extra unlined overflow tank providing 28.5m^3 has also been proposed.
Flow control devices	X	Not included as not required.
Green Roofs/Brown Roofs/Blue Roofs	X	No flat roofs.

Table 4.5: SUDS Options

Key:

✓ *Suitable for use and included in the scheme*

* *Possibly suitable for use – not included in the client and architect design proposal at present – should be considered further as part of the detailed design*

X Unlikely to be suitable for use

Exceedance Flow Routes

4.13 Exceedance flow routes are shown on Drawing 2709/02/005B, these may be adapted to suit any proposed changes to the Site layout as the design progresses in line with the following principles:

- Surcharged flows from the private drives and roof areas will be retained within kerb lines and channelled towards the east and west of the site, in line with the following rationale;
- External ground levels will be profiled such that no ponding occurs against buildings, with flows directed as above;

- All flows in excess of the drainage network design standard will be channelled to the south.

Management and Maintenance of Drainage Assets

4.14 The party or persons ultimately responsible for the management and maintenance of drainage assets will be a private management company (or their successor in title) instructed as part of the wider Site management regime.

4.15 Further detail regarding the exact management and maintenance procedures required will be provided as part of any reserved matters submission once a management company has been instructed and a scope agreed. This will, however, follow the principles set out in Table 4.6 below:

Maintenance Schedule	Required Actions	Typical Frequency
Permeable Paving		
Regular Maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on Site-specific observations of clogging or manufacturer's recommendations–pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment
Occasional Maintenance	Stabilise and mow contributing and adjacent communal areas	As required
	Removal of weeds or management using glyphospate applied directly into the weeds by an applicator rather than spraying	As required/once per year on less frequently used pavements
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50mm of the level of the paving	As required
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users and replace lost jointing material	
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)

Maintenance Schedule	Required Actions	Typical Frequency
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth–if required, take remedial action	Three-monthly, 48h after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	
Other General:		
Regular Maintenance	Inspect rainwater gutter channels, inlets and outlets for blockages and clear as required.	Monthly for first year then annually thereafter
	Inspect gully drains, channel drains and inspection chambers (including silt traps) for siltation/blockage.	Monthly for first year then annually thereafter
	Inspect for sediment and debris in manhole bases and any blockage of soakaway chamber and geocellular storage.	Bimonthly for first six months then every six months thereafter
	Remove litter and debris from swale. Carry out periodic mowing of grassed surface and inspect for silt accumulation to determine appropriate removal frequency.	Monthly or as required (and through growing season for swales)
	Remove any sediment and debris from base of chambers and cellular storage.	As required, based on inspections
Occasional Maintenance Remedial Actions	Remove sediment from any affected articles including silt traps (most likely via jetting).	As required
	Clear any pipe blockages with appropriate equipment	As required
	Repair any damage arising from various inspections (by approved engineer where required)	As required
	Replacement of permeable surfacing, manhole components.	As required

Table 4.6: Outline SUDS Management and Maintenance Requirements

5.0 ASSESSMENT OF DRAINAGE AND FLOOD RISK

5.1 The scope of this report was refined to meet the brief outlined in Chapter 1 and primarily ensures the development does not increase the risk of flooding to surrounding areas. Consideration is then given to any necessary mitigation measures to mitigate identified potential flood risks, climate change and residual flood risks.

Drainage Assessment

Changes in runoff

5.2 As the majority of the Site is hardstanding, it is assumed that under current conditions, any surface water will currently runoff overland during extreme rainfall events. Following development, the surface water drainage strategy set out in above ensures that sufficient sustainable drainage systems will be included to make sure that there are no significant changes in surface water runoff from the Site compared to the existing situation (for all rainfall events up to the 1 in 100 year rainfall event including an allowance for climate change). Calculations in Appendix D confirm this.

5.3 For all events beyond the 1 in 100 year plus climate change rainfall event, the situation will be no worse than existing, as long as a the consideration of exceedance flows, as per Drawing 2709/02/005B is carried forward to the detailed drainage design to ensure that any excess surface water runoff would continue to flow away from the existing and proposed residential properties.

Impact on the public sewer network

5.4 As the site is below the threshold for a pre-planning enquiring (due to the proposal being 10 units), Anglian Water have not been consulted at this stage.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 This foul and surface water drainage strategy has shown that the scheme can be constructed with adequate drainage provided to ensure flood risk to surrounding areas is not increased.

6.2 This report proposes that all surface water flows will be attenuated and then given the chance to infiltrate via non-lined permeable paving and an informal soakaway.

7.0 REFERENCES

i. British Geological Survey Geoindex (2017). Available at: www.bgs.ac.uk/geoindex.

ii. Environment Agency Surface Water Flood Maps and Reservoir Flood Maps (2014). Available at: https://flood-warning-information.service.gov.uk/long-term-flood-risk/. (Accessed April 2023).

iii. Government Flood Map for Planning and Groundwater Maps (2017). Available at: https://flood-map-for-planning.service.gov.uk/. (Accessed April 2023).

iv. Chelmsford City Council (2018) *Chelmsford Draft Local Plan Pre-Submission Document (Regulation 19 - Publication Draft).*

v. Chelmsford City Council (2008) *Chelmsford Adopted Local Plan - Core Strategy and Development Control Policies.*

vi. Chelmsford City Council (2013) *Chelmsford Adopted Local Plan - Core Strategy and Development Control Policies Focused Review.*

vii. JBA Consulting (2018) *Chelmsford City Council Strategic Flood Risk Assessment (SFRA) Level 1 and 2.*

viii. Capita Symonds (2014) *Chelmsford Surface Water Management Plan.*

ix. Chelmsford City Council (2018) *Chelmsford City Water Cycle Study Update.*

x. Water UK/WRc plc (2012) Sewers for Adoption – 7th Edition. WRc plc, Swindon.

xi. Woods-Ballard., et al. (2015) *The SUDS Manual.* Report C753. CIRIA, London.

xii. Essex County Council (2011) Preliminary Flood Risk Assessment. URS, Scott Wilson.

xiii. Essex County Council (2013) Local Flood Risk Management Strategy. Capita Symonds, Essex County Council.

xiv. Essex County Council (20XX) The SUDS Design Guide. [Online] Essex County Council.

FIGURES

Figure 1.1: Site Location Plan

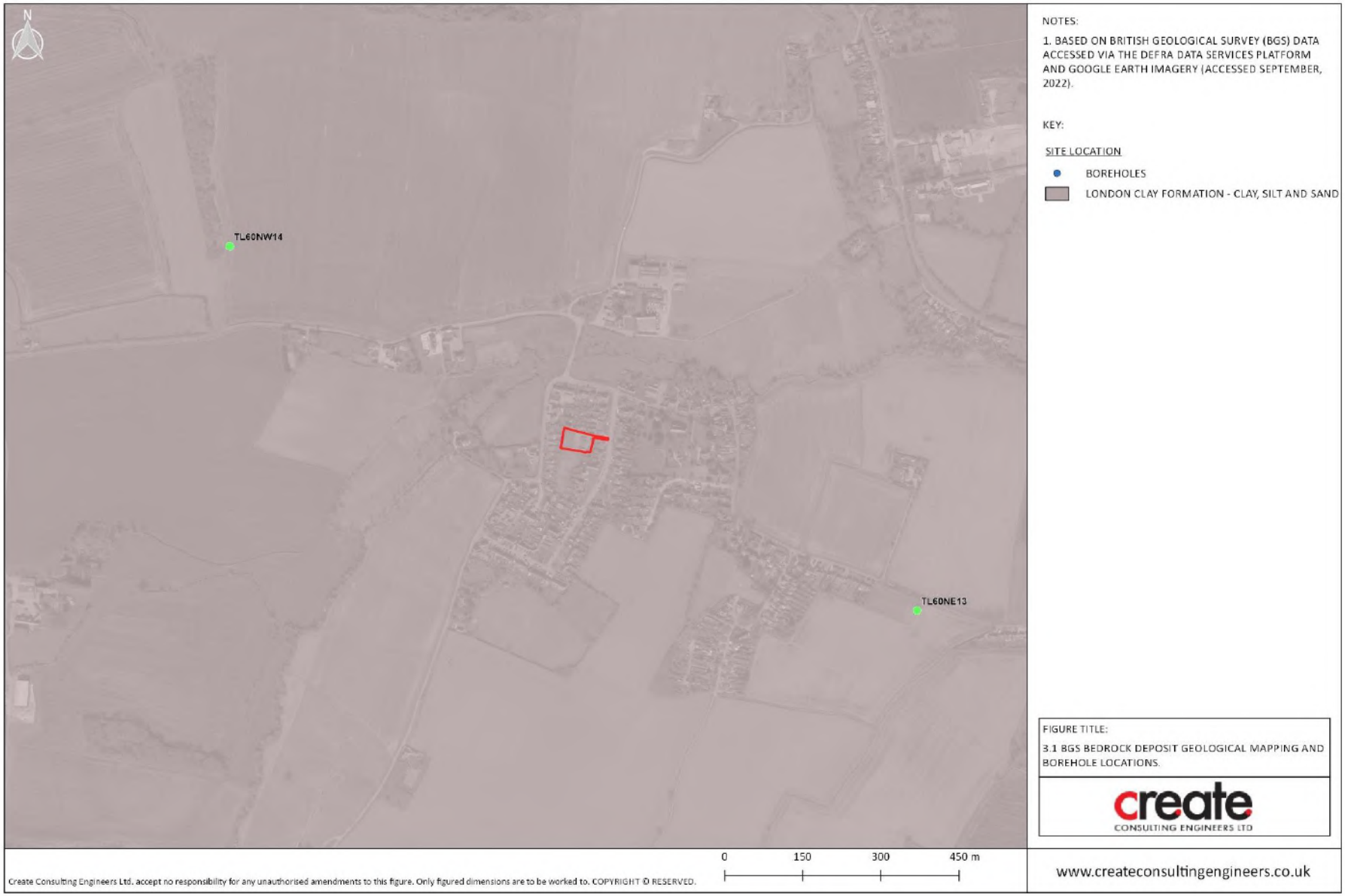

Figure 3.1: British Geological Survey Bedrock Geology Mapping Extract (1:50,000 scale)

Figure 3.2: British Geological Survey Superficial Deposits Geology Mapping Extract (1:50,000 scale)

Figure 3.3: Identified Local Watercourse Map

APPENDICES

APPENDIX A

(c) Crown copyright and database rights 2022 Ordnance Survey 100022432 | Date: 26/09/22 | Scale: 1:1250 | Map Centre: 564366,208477 | Data updated: 31/08/22 | Our Ref: 960195 - 2 | Wastewater Plan A4

This plan is provided by Anglian Water pursuant its obligations under the Water Industry Act 1991 sections 198 or 199. It must be used in conjunction with any search results attached. The information on this plan is based on data currently recorded but position must be regarded as approximate. Service pipes, private sewers and drains are generally not shown. Users of this map are strongly advised to commission their own survey of the area shown on the plan before carrying out any works. The actual position of all apparatus MUST be established by trial holes. No liability whatsoever, including liability for negligence, is accepted by Anglian Water for any error or inaccuracy or omission, including the failure to accurately record, or record at all, the location of any water main, discharge pipe, sewer or disposal main or any item of apparatus. This information is valid for the date printed. This plan is produced by Anglian Water Services Limited (c) Crown copyright and database rights 2022 Ordnance Survey 100022432.This map is to be used for the purposes of viewing the location of Anglian Water plant only. Any other uses of the map data or further copies is not permitted. This notice is not intended to exclude or restrict liability for death or personal injury resulting from negligence.

- Foul Sewer
- Surface Sewer
- Combined Sewer
- Final Effluent
- Rising Main*
- Private Sewer*
- Decommissioned Sewer*
- Outfall*
- Inlet*
- Manhole*
- Sewage Treatment Works
- Public Pumping Station
- Decomissioned Pumping Station

*(Colour denotes effluent type)

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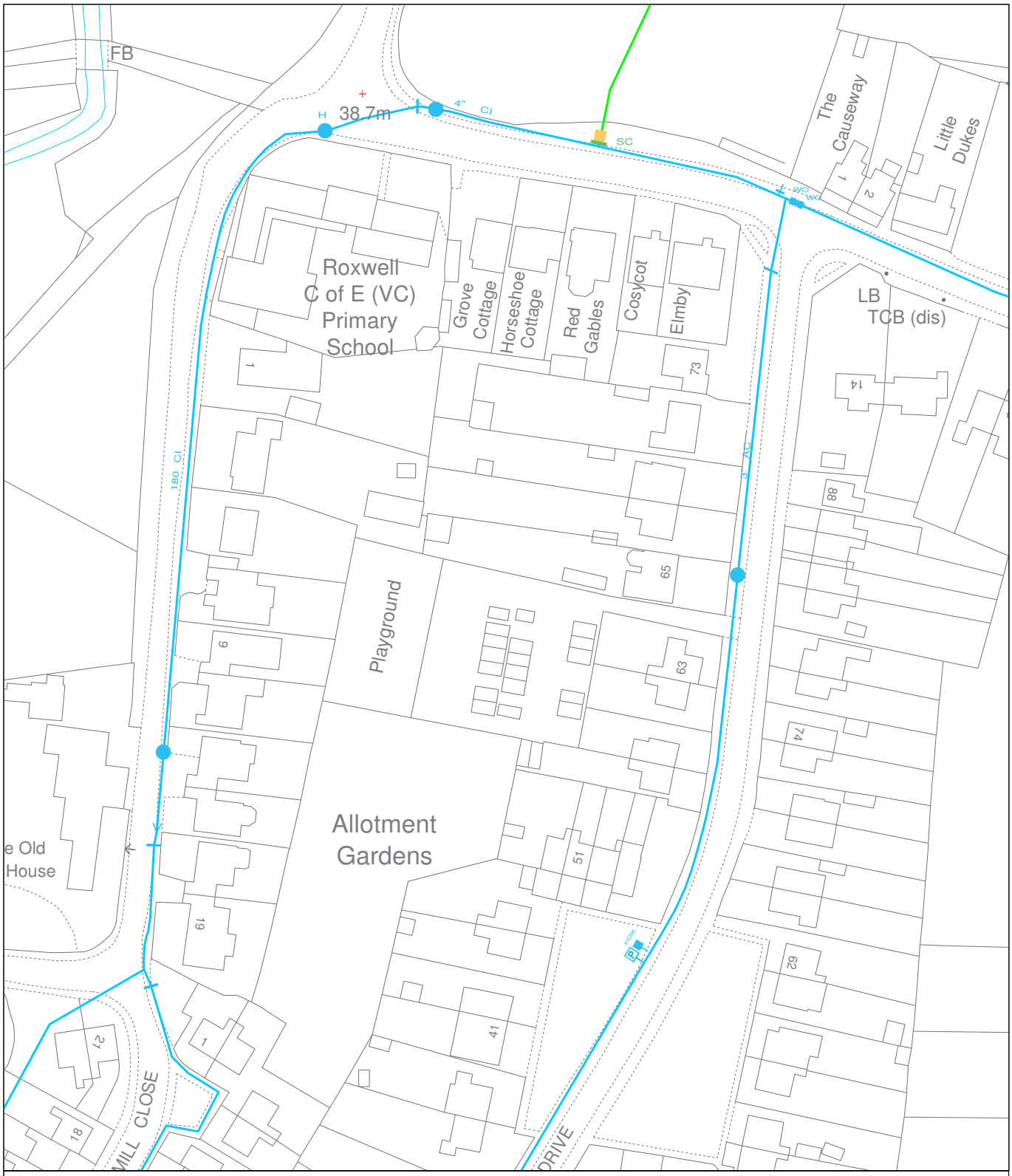
P22-2709 Chelmsford

love every drop anglianwater

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
2401	F	-	-	1.52
2501	F	-	-	1.27
3501	F	-	-	1.52
4501	F	-	-	2.31
4502	F	-	-	2.72
4503	F	-	-	-
4504	F	-	-	-
4505	F	-	-	-
5301	F	-	-	1.3
5501	F	-	-	2.97

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

APPENDIX B



Valves/Regulators | Fittings/Symbols | Storage/Operations

Network Types: Distribution, Treated, Raw, Fire, Supply

Specific Main Types: Abandoned Asbestos, Abandoned, Out of Commission, Private, Proposed

Area Types: Water Quality, District Metering, Easement

ESSEX&SUFFOLK WATER living water

User : OLIVA

Date : 03/10/2022

Title : 0000

Map Sheet : TL6408SW

Centre Point : 564365,208477

10 m

APPENDIX C

Location : **St Michaels Drive**

M5-60 : 20 mm

r : 0.45

Wallingford Method - maps

For different durations,

From Table 1

Duration, D	Z1			
15 min	0.65	**M5-15:**	Z1 x M5-60	13.00 mm
30 min	0.82	**M5-30:**	Z1 x M5-60	16.40 mm
60 min	1	**M5-60:**	Z1 x M5-60	20.00 mm
6hr	1.51	**M5-360:**	Z1 x M5-60	30.20 mm

For different return intervals,

From Table 2*

		Z2	
Duration, D	M1	M30	M100
15 min	0.62	1.52	1.96
30 min	0.62	1.53	2.00
60 min	0.64	1.54	2.03
6 hr	0.68	1.51	1.97

Average point intensity, API = I/(D/60)

	D min	Calculation	I mm	API mm/hr
M 1-15	15	M5-15*Z2(M1)	8.06	32.24
M 1-30	30	M5-30*Z2(M1)	10.17	20.34
M 1-60	30	M5-360*Z2(M1)	12.80	25.60
M1-360	360	M5-360*Z2(M1)	20.54	3.42
M 30-15	15	M5-15*Z2(M30)	19.76	79.04
M 30-30	30	M5-30*Z2(M30)	25.09	50.18
M 30-60	60	M5-60*Z2(M30)	30.80	30.80
M30-360	360	M5-360*Z2(M30)	45.60	7.60
M 100-15	15	M5-15*Z2(M100)	25.48	101.92
M 100-30	30	M5-30*Z2(M100)	32.80	65.60
M100-60	60	M5-60*Z2(M100)	40.60	40.60
M100-360	360	M5-360*Z2(M100)	59.49	9.92

Peak Runoff

Q=2.78CiA Rational Method, SUDS Manual Section 4.3.3

where: (1) C = Cv Cr

Cv = 1 **

Cr = 1.3 constant value for design purposes

therefore , C = 1.3

(2) i = API, defined above

(3) A = areas measured for subcatchments

Q=2.78CiA

2.78*C= **3.614**

i mm/hr	Contributing Impermeable Area Ha Site	 Per hectare
	0.1444	1

i mm/hr	Contributing Impermeable Area Ha Site	 Per hectare
	0.1444	1

Table 1

Rainfall Duration D

Minutes					Hours					
r	5	10	15	30	1	2	4	6	10	24
0.12	0.22	0.34	0.45	0.67	1.00	1.48	2.17	2.75	3.70	6.00
0.15	0.25	0.38	0.48	0.69	1.00	1.42	2.02	2.46	3.32	4.90
0.18	0.27	0.41	0.51	0.71	1.00	1.36	1.86	2.25	2.86	4.30
0.21	0.29	0.43	0.54	0.73	1.00	1.33	1.77	2.12	2.62	3.60
0.24	0.31	0.46	0.56	0.75	1.00	1.30	1.71	2.00	2.40	3.35
0.27	0.33	0.48	0.58	0.76	1.00	1.27	1.64	1.88	2.24	3.10
0.30	0.34	0.49	0.59	0.77	1.00	1.25	1.57	1.78	2.12	2.84
0.33	0.35	0.50	0.61	0.78	1.00	1.23	1.53	1.73	2.04	2.60
0.36	0.36	0.51	0.62	0.79	1.00	1.22	1.48	1.67	1.90	2.42
0.39	0.37	0.52	0.63	0.80	1.00	1.21	1.46	1.62	1.82	2.28
0.42	0.38	0.53	0.64	0.81	1.00	1.20	1.42	1.57	1.74	2.16
0.45	0.39	0.54	0.65	0.82	1.00	1.19	1.38	1.51	1.68	2.03

Table 2 - England and Wales

	Growth Factor Z2									
M5 rainfall	M1	M2	M3	M4	M5	M10	M20	M50	M100	M30 interpolated
5.00	0.62	0.79	0.89	0.97	1.02	1.19	1.36	1.56	1.79	1.25
10.00	0.61	0.79	0.90	0.97	1.03	1.22	1.41	1.65	1.91	1.49
15.00	0.62	0.80	0.90	0.97	1.03	1.24	1.44	1.70	1.99	1.53
20.00	0.64	0.81	0.90	0.97	1.03	1.24	1.45	1.73	2.03	1.54
25.00	0.66	0.82	0.91	0.97	1.03	1.24	1.44	1.72	2.01	1.53
30.00	0.68	0.83	0.91	0.97	1.03	1.22	1.42	1.70	1.97	1.51
40.00	0.70	0.84	0.92	0.97	1.02	1.19	1.38	1.64	1.89	1.47
50.00	0.72	0.85	0.93	0.98	1.02	1.17	1.34	1.58	1.81	1.42
75.00	0.76	0.87	0.93	0.98	1.02	1.14	1.28	1.47	1.64	1.34
100.00	0.78	0.88	0.94	0.98	1.02	1.13	1.25	1.40	1.54	1.30
150.00	0.78	0.88	0.94	0.98	1.01	1.12	1.21	1.33	1.45	1.25
200.00	0.78	0.88	0.94	0.98	1.01	1.11	1.19	1.30	1.40	1.23

* The rainfall depths from cells E8-E11 are compared with the depths given in cells J29-J40 and Z2 interpolated accordingly for each return period

** Cv varies between 0.6 (rapidly draining soils) and 0.9 (heavy clay) with an average of 0.75 taken if ground conditions not known.

M 1-15	32.24	16.82	116.52
M 1-30	20.34	10.61	73.49
M 1-60	25.60	13.36	73.49
M1-360	3.42	1.79	12.37
M 30-15	79.04	**41.25**	285.65
M 30-30	50.18	26.19	181.36

M 30-60	30.80	16.07	181.36
M30-360	7.60	3.97	27.47
M 100-15	101.92	**53.19**	368.34
M 100-30	65.60	34.23	237.08
M 100-60	40.60	21.19	237.08
M100-360	9.92	5.17	35.84

IoH 124 Calculation of Greenfield Runoff Rate

Project:	P22-2709			
	St Michaels Drive, Chelmsford			
OS Location	564371	E	208462	N
Date:	14/04/2023			
Written By:	JE	**Checked By:**	GS	

SAAR	580	mm
Pro Rata Site Area =	50	ha
	0.5	km^2
Soil WRA Class	3	
Soil Type SPR Value	0.4	

$Qbar_{rural}$ = 0.00108 x (AREA)0.89 X (SAAR)1.17 X (SOIL)2.17

Qbar-50ha = 0.137 m^3/s

From Regional Growth Curve Factor

Region: 6

Return period	1	2	5	10	25	30	50	100	500
Growth Factor	0.85	0.88	1.28	1.62	2.14	2.24	2.62	3.19	4.49

Q_1 50ha =	0.116	m^3/s	=	116.04	l/s	=	2.321	l/s/ha
Q_2 50ha =	0.120	m^3/s	=	120.14	l/s	=	2.403	l/s/ha
Q_5 50ha =	0.175	m^3/s	=	174.74	l/s	=	3.495	l/s/ha
Q_{10} 50ha =	0.221	m^3/s	=	221.16	l/s	=	4.423	l/s/ha
Q_{25} 50ha =	0.292	m^3/s	=	292.15	l/s	=	5.843	l/s/ha
Q_{30} 50ha =	0.306	m^3/s	=	305.80	l/s	=	6.116	l/s/ha
Q_{50} 50ha =	0.358	m^3/s	=	357.68	l/s	=	7.154	l/s/ha
Q_{100} 50ha =	0.435	m^3/s	=	435.49	l/s	=	8.710	l/s/ha
Q_{500} 50ha =	0.613	m^3/s	=	612.96	l/s	=	12.259	l/s/ha

Factored for Development Impermeable Area

Site Area = 0.1444

Q_{bar} site =	0.000	m^3/s	=	0.4	l/s	=	2.7	l/s/ha
Q_1 site =	0.000	m^3/s	=	0.3	l/s	=	2.3	l/s/ha
Q_2site =	0.000	m^3/s	=	0.3	l/s	=	2.4	l/s/ha
Q_5site =	0.001	m^3/s	=	0.5	l/s	=	3.5	l/s/ha
Q_{10} site =	0.001	m^3/s	=	0.6	l/s	=	4.4	l/s/ha
Q_{25} site =	0.001	m^3/s	=	0.8	l/s	=	5.8	l/s/ha
Q_{30} site =	0.001	m^3/s	=	0.9	l/s	=	6.1	l/s/ha
Q_{50} site =	0.001	m^3/s	=	1.0	l/s	=	7.2	l/s/ha
Q_{100} site =	0.001	m^3/s	=	1.3	l/s	=	8.7	l/s/ha
Q_{500} site =	0.002	m^3/s	=	1.8	l/s	=	12.3	l/s/ha

Note: For greenfield site, the critical duration is generally not relevant and the prediction of the peak rate of runoff using IoH124 does not require consideration of storm duration.

APPENDIX D

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1		5.00	43.350	1200	564373.377	208454.716	0.800
S2	0.008	5.00	42.900	1200	564376.162	208466.992	0.700
S3	0.008	5.00	42.750	1200	564347.962	208473.390	0.839
S4	0.008	5.00	43.400	1200	564342.734	208450.347	1.725
ATTENUATION			43.500	1200	564344.872	208449.905	2.000
SOAKAWAY			43.600	1200	564357.316	208447.105	1.300
PP	0.057		42.900				0.600

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	12.588	36.0	100	Circular	43.350	42.550	0.700	42.900	42.200	0.600
1.001	28.917	100.0	100	Circular	42.900	42.200	0.600	42.750	41.911	0.739
1.002	23.629	100.0	100	Circular	42.750	41.911	0.739	43.400	41.675	1.625
1.004	2.183	12.5	100	Circular	43.400	41.675	1.625	43.500	41.500	1.900
1.005	12.755	63.8	100	Circular	43.500	42.500	0.900	43.600	42.300	1.200

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S1	1200	Manhole	Adoptable	S2	1200	Manhole	Adoptable
1.001	S2	1200	Manhole	Adoptable	S3	1200	Manhole	Adoptable
1.002	S3	1200	Manhole	Adoptable	S4	1200	Manhole	Adoptable
1.004	S4	1200	Manhole	Adoptable	ATTENUATION	1200	Manhole	Adoptable
1.005	ATTENUATION	1200	Manhole	Adoptable	SOAKAWAY	1200	Manhole	Adoptable

Simulation Settings

Rainfall Methodology	FEH-13	Analysis Speed	Detailed	Additional Storage (m³/ha)	20.0
Summer CV	0.750	Skip Steady State	x	Check Discharge Rate(s)	x
Winter CV	0.840	Drain Down Time (mins)	240	Check Discharge Volume	x

Storm Durations

15	60	180	360	600	960	2160
30	120	240	480	720	1440	2880

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	35	0	0
100	45	10	0

Node ATTENUATION Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	41.500
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	30.0	0.0	1.000	30.0	0.0	1.001	0.0	0.0

Node SOAKAWAY Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00010	Invert Level (m)	42.300	Depth (m)	0.600
Side Inf Coefficient (m/hr)	0.00010	Time to half empty (mins)	289831	Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	5.000	Number Required	1
Porosity	0.95	Pit Length (m)	10.000		

Node PP Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00010	Invert Level (m)	42.300	Slope (1:X)	1000.0
Side Inf Coefficient (m/hr)	0.00010	Time to half empty (mins)	61577	Depth (m)	0.470
Safety Factor	2.0	Width (m)	23.900	Inf Depth (m)	
Porosity	0.35	Length (m)	23.900		

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	101.779	28.800
2 year 15 minute winter	71.424	28.800
2 year 30 minute summer	65.390	18.503
2 year 30 minute winter	45.887	18.503
2 year 60 minute summer	43.138	11.400
2 year 60 minute winter	28.660	11.400
2 year 120 minute summer	31.545	8.336
2 year 120 minute winter	20.957	8.336
2 year 180 minute summer	25.656	6.602
2 year 180 minute winter	16.677	6.602
2 year 240 minute summer	20.786	5.493
2 year 240 minute winter	13.810	5.493
2 year 360 minute summer	16.078	4.137
2 year 360 minute winter	10.451	4.137
2 year 480 minute summer	12.605	3.331
2 year 480 minute winter	8.374	3.331
2 year 600 minute summer	10.237	2.800
2 year 600 minute winter	6.994	2.800
2 year 720 minute summer	9.041	2.423
2 year 720 minute winter	6.076	2.423
2 year 960 minute summer	7.301	1.923
2 year 960 minute winter	4.836	1.923
2 year 1440 minute summer	5.162	1.384
2 year 1440 minute winter	3.469	1.384
2 year 2160 minute summer	3.625	1.002
2 year 2160 minute winter	2.498	1.002
2 year 2880 minute summer	2.995	0.803
2 year 2880 minute winter	2.013	0.803
30 year +35% CC 15 minute summer	385.986	109.221
30 year +35% CC 15 minute winter	270.867	109.221
30 year +35% CC 30 minute summer	252.124	71.342
30 year +35% CC 30 minute winter	176.929	71.342
30 year +35% CC 60 minute summer	168.131	44.432
30 year +35% CC 60 minute winter	111.703	44.432
30 year +35% CC 120 minute summer	106.349	28.105
30 year +35% CC 120 minute winter	70.656	28.105
30 year +35% CC 180 minute summer	81.709	21.026
30 year +35% CC 180 minute winter	53.113	21.026

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
30 year +35% CC 240 minute summer	64.119	16.945
30 year +35% CC 240 minute winter	42.599	16.945
30 year +35% CC 360 minute summer	47.874	12.320
30 year +35% CC 360 minute winter	31.120	12.320
30 year +35% CC 480 minute summer	36.798	9.725
30 year +35% CC 480 minute winter	24.448	9.725
30 year +35% CC 600 minute summer	29.476	8.062
30 year +35% CC 600 minute winter	20.140	8.062
30 year +35% CC 720 minute summer	25.757	6.903
30 year +35% CC 720 minute winter	17.310	6.903
30 year +35% CC 960 minute summer	20.462	5.388
30 year +35% CC 960 minute winter	13.555	5.388
30 year +35% CC 1440 minute summer	14.144	3.791
30 year +35% CC 1440 minute winter	9.505	3.791
30 year +35% CC 2160 minute summer	9.667	2.672
30 year +35% CC 2160 minute winter	6.661	2.672
30 year +35% CC 2880 minute summer	7.811	2.093
30 year +35% CC 2880 minute winter	5.249	2.093
100 year +45% CC +10% A 15 minute summer	541.188	153.137
100 year +45% CC +10% A 15 minute winter	379.781	153.137
100 year +45% CC +10% A 30 minute summer	355.969	100.727
100 year +45% CC +10% A 30 minute winter	249.803	100.727
100 year +45% CC +10% A 60 minute summer	238.577	63.049
100 year +45% CC +10% A 60 minute winter	158.505	63.049
100 year +45% CC +10% A 120 minute summer	149.881	39.609
100 year +45% CC +10% A 120 minute winter	99.578	39.609
100 year +45% CC +10% A 180 minute summer	115.615	29.752
100 year +45% CC +10% A 180 minute winter	75.153	29.752
100 year +45% CC +10% A 240 minute summer	91.161	24.091
100 year +45% CC +10% A 240 minute winter	60.565	24.091
100 year +45% CC +10% A 360 minute summer	68.595	17.652
100 year +45% CC +10% A 360 minute winter	44.589	17.652
100 year +45% CC +10% A 480 minute summer	53.032	14.015
100 year +45% CC +10% A 480 minute winter	35.233	14.015
100 year +45% CC +10% A 600 minute summer	42.625	11.659
100 year +45% CC +10% A 600 minute winter	29.124	11.659
100 year +45% CC +10% A 720 minute summer	37.321	10.002
100 year +45% CC +10% A 720 minute winter	25.082	10.002
100 year +45% CC +10% A 960 minute summer	29.674	7.814
100 year +45% CC +10% A 960 minute winter	19.657	7.814
100 year +45% CC +10% A 1440 minute summer	20.444	5.479
100 year +45% CC +10% A 1440 minute winter	13.740	5.479
100 year +45% CC +10% A 2160 minute summer	13.835	3.824
100 year +45% CC +10% A 2160 minute winter	9.533	3.824
100 year +45% CC +10% A 2880 minute summer	11.063	2.965
100 year +45% CC +10% A 2880 minute winter	7.435	2.965

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.64%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	1	42.550	0.000	0.0	0.0000	0.0000	OK
15 minute winter	S2	11	42.227	0.027	1.0	0.0372	0.0000	OK
15 minute winter	S3	11	41.951	0.040	2.0	0.0533	0.0000	OK
15 minute summer	S4	10	41.710	0.035	2.9	0.0425	0.0000	OK
960 minute winter	ATTENUATION	855	41.664	0.164	0.3	4.8458	0.0000	OK
15 minute summer	SOAKAWAY	1	42.300	0.000	0.0	0.0000	0.0000	OK
2160 minute winter	PP	2100	42.397	0.097	0.3	17.2637	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	S1	1.000	S2	0.0	0.000	0.000	0.0109
15 minute winter	S2	1.001	S3	1.0	0.430	0.164	0.0677
15 minute winter	S3	1.002	S4	1.9	0.755	0.317	0.0615
15 minute summer	S4	1.004	ATTENUATION	3.0	1.915	0.171	0.0039
960 minute winter	ATTENUATION	1.005	SOAKAWAY	0.0	0.000	0.000	0.0000
15 minute summer	SOAKAWAY	Infiltration		0.0			
2160 minute winter	PP	Infiltration		0.0			

Results for 30 year +35% CC Critical Storm Duration. Lowest mass balance: 99.64%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	1	42.550	0.000	0.0	0.0000	0.0000	OK
15 minute winter	S2	10	42.258	0.058	4.0	0.0784	0.0000	OK
15 minute winter	S3	12	42.075	0.164	7.8	0.2165	0.0000	SURCHARGED
720 minute winter	S4	870	42.063	0.388	0.9	0.4747	0.0000	SURCHARGED
600 minute winter	ATTENUATION	840	42.063	0.563	2.1	16.6757	0.0000	OK
15 minute summer	SOAKAWAY	1	42.300	0.000	0.0	0.0000	0.0000	OK
2160 minute winter	PP	2160	42.543	0.243	0.9	46.6407	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	S1	1.000	S2	0.0	0.000	0.000	0.0285
15 minute winter	S2	1.001	S3	3.8	0.569	0.632	0.1806
15 minute winter	S3	1.002	S4	6.7	0.929	1.105	0.1601
720 minute winter	S4	1.004	ATTENUATION	2.2	1.169	0.130	0.0171
600 minute winter	ATTENUATION	1.005	SOAKAWAY	0.0	0.000	0.000	0.0000
15 minute summer	SOAKAWAY	Infiltration		0.0			
2160 minute winter	PP	Infiltration		0.0			

Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 99.64%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	1	42.550	0.000	0.0	0.0000	0.0000	OK
15 minute winter	S2	13	42.468	0.268	6.1	0.3701	0.0000	SURCHARGED
1440 minute winter	S3	1380	42.460	0.549	0.6	0.7363	0.0000	FLOOD RISK
1440 minute winter	S4	1440	42.460	0.785	0.9	0.9677	0.0000	SURCHARGED
1440 minute winter	ATTENUATION	1620	42.460	0.960	0.8	28.4393	0.0000	OK
15 minute summer	SOAKAWAY	1	42.300	0.000	0.0	0.0000	0.0000	OK
2880 minute winter	PP	2880	42.676	0.376	1.1	73.6117	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	S1	1.000	S2	0.0	0.000	0.000	0.0492
15 minute winter	S2	1.001	S3	4.8	0.641	0.797	0.2263
1440 minute winter	S3	1.002	S4	0.6	0.416	0.099	0.1849
1440 minute winter	S4	1.004	ATTENUATION	0.8	0.915	0.049	0.0171
1440 minute winter	ATTENUATION	1.005	SOAKAWAY	0.0	0.000	0.000	0.0000
15 minute summer	SOAKAWAY	Infiltration		0.0			
2880 minute winter	PP	Infiltration		0.0			

APPENDIX E

Essex County Council

SuDS Water quantity and Quality – LLFA Technical Assessment Proforma

Introduction

This proforma identifies the information required by Essex LLFA to enable technical assessment the Designers approach to water quantity and water quality as part of SuDS design approach in compliance with Essex SuDS Design Guide.

Completion of the proforma will also allow for technical assessment against Non-statutory technical standards (NSTS) for Sustainable Drainage. The proforma will accompany the site specific Flood Risk Assessment and Drainage Strategy submitted as part of the planning application.

Please complete this form in full for full applications and the coloured sections for outline appllications. This will help us identify what information has been included and will assist with a smoother and quicker application.

Instructions for use

Use the units defined for input of figures
Numbers in brackets refer to accompanying notes.

Where ……m^3 .....m^3/m^2 are noted – both values should be filled in.

Site details

1.1	Planning application reference (if known)			
1.2	Site name	Land Off Medway Close, Chelmsford		
1.3	Total application site area (1)	0.2382	ha	
1.4	Predevelopment use (4)	Brownfield		
1.5	Post development use	Residential		
	If other, please sepcify			
1.6	Urban creep applicable	Yes	if yes, factor applied:	10
1.7	Proposed design life / planning application life	100		
1.8	Method(s) of discharge: (5)			

☐ *Reuse* ☐ *Infiltration* ☐ *Hybrid* ☐ *Waterbody* ☑ *Storm sewer* ☐ *Combined sewer*

1.9	Is discharge direct to estuary / sea	No
1.10	Have agreements in principle (where applicable) for discharge been provided	No

Essex County Council

SuDS Water quantity and Quality – LLFA Technical Assessment

Calculation inputs

2.1	Area within site which is drained by SuDS (2)	2382	m^2
2.2	Impermeable area drained pre development (3)	2044	m^2
2.3	Impermeable area drained post development (3)	1568	m^2
2.4	Additional impermeable area (2.3 minus 2.2)	-468	m^2
2.5	Method for assessing greenfield runoff rate	IH124	
2.6	Method for assessing brownfield runoff rate	RATIONAL METHOD	
2.7	Coefficient of runoff (Cv) (6)	0.75	
2.8	Source of rainfall data (FEH Preferred)	FEH	
2.9	Climate change factor applied 45	%	

Attenuation (positive outlet)

2.10 Drainage outlet at risk of drowning (tidal locking, elevated water levels in watercourse/sewer)
Note: Vortex controls require conditions of free discharge to operate as per manufacturers specification.

2.11 Invert level at final outlet 27.538 mAOD

2.12 Design level used for surcharge water level at point of discharge (16) 28.6 mAOD

Infiltration (Discharge to Ground)

2.13	Have infiltration tests been undertaken	No	
2.14	If yes, which method has been used	N/A	
2.15	Infiltration rate (where applicable)	N/A	m/s
2.16	Depth to highest known ground water table		mAOD
2.17	If there are multiple infiltration features please specify where they can be found in the FRA		
2.18	Depth of infiltration feature		mAOD
2.19	Factor of safety used for sizing infiltration storage		

Essex County Council

SuDS Water quantity and Quality – LLFA Technical Assessment Proforma

Calculation outputs

Sections 3 and 4 refer to site where storage is provided by full attenuation or partial infiltration. Where all flows are infiltrated to ground go straight to Section 6.

3.0	**Greenfield runoff rates** (incl. Urban Creep)					
3.1	1 in 1 year rainfall	2.3	l/s/ha,	0.4	l/s for the site	
3.2	1 in 30 year rainfall	6.0	l/s/ha,	0.9	l/s for the site	
3.3	1 in 100 year rainfall + CCA	8.5	l/s/ha,	1.3	l/s for the site	
4.0	**Brownfield runoff rates** (incl. Urban Creep)					
4.1	1 in 1 year rainfall		l/s/ha,	23.82	l/s for the site	
4.2	1 in 30 year rainfall		l/s/ha,	58.39	l/s for the site	
4.3	1 in 100 year rainfall + CCA		l/s/ha,	75.29	l/s for the site	
5.0	Proposed maximum rate of runoff from site (incl. Urban Creep) (7)					
5.1	1 in 1 year rainfall	1	l/s/ha,	1	l/s for the site	
5.2	1 in 30 year rainfall	1	l/s/ha,	1	l/s for the site	
5.3	1 in 100 year rainfall + CCA	1	l/s/ha,	1	l/s for the site	
6.0	Attenuation storage to manage flow rates from site (incl. **Climate Change Allowance** (CCA) and Urban Creep)					
6.1	Storage - 1 in 100 year + CCA (9)	121.2587	m^3	121.2587/1	m^3/m^2	
6.2	50% storage drain down time 1 in 30 years				hours	
7.0	Controlling volume of runoff from the site(10)					
7.1	Pre development runoff volume(12) (development area)	n/a			m^3 for the site	
7.2	Post development runoff volume (unmitigated) (12)	n/a			m^3 for the site	
7.3	Volume to be controlled (5.2 - 5.1)	n/a			m^3 for the site	

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7.4 Volume control provided by:

- Interception losses[13] m^3
- Rain harvesting [14] m^3
- Infiltration m^3
- Attenuation 121.2587 m^3
- Separate volume designated as long term storage[15] m^3

7.5 Total volume control (sum of inputs for 5.4) 121.2587 m^3 [17]

8.0 Site storage volumes (full infiltration only)

8.1 Storage - 1in 30 year + CCA [8] m^3 m^3/m^2 (of developed impermeable area)

8.2 Storage - 1 in 100 year + CCA [11] m^3 m^3/m^2

SuDS Water quantity and Quality – LLFA Technical Assessment Proforma

Design Inputs

Proposed site use Residential

Pollution hazard category (see C753 Table 26.2) Residential Roofs and Individual F

High risk area defined as area storing fuels chemicals, refuelling area, washdown area, loading bay.

Design Outputs

List order of SuDS techniques proposed for treatment Permeable Paving

Note that gully pots, pipes and tanks are not accepted by Essex LLFA as a form of treatment (for justification see C753 Section 4.1, Table 26.15 and Box B.2)

Are very high pollution risk areas drained separate from SuDS to foul system No

Other

Please include any other information that is relevant to your application

Essex County Council

SuDS Water quantity and Quality – LLFA Technical Assessment Proforma

Notes

1. All area with the proposed application site boundary to be included.
2. The site area which is positively drained includes all green areas which drain to the SuDS system and area of surface SuDS features. It excludes large open green spaces which do not drain to the SuDS system.
3. Impermeable area should be measured pre and post development. Impermeable surfaces include, roofs, pavements, driveways and paths where runoff is conveyed to the drainage system.
4. Predevelopment use may impact on the allowable discharge rate. The LLFA will seek for reduction in flow rates to GF (Essex SuDS Design Guide).
5. Runoff may be discharge via one or more methods.
6. Sewers for Adoption 6th Edition recommends a Cv of 100% when designing drainage for impermeable area (assumes no loss of runoff from impermeable surfaces) and 0% for permeable areas. Where lower Cv's are used the applicant should justify the selection of Cv.
7. It is Essex County Council's preference that discharge rates for all events up to the 1 in 100 year event plus climate change are limited to the 1 in 1 greenfield rate. This is also considered to mitigate the increased runoff volumes that occur with the introduction of impermeable surfaces. If discharge rates are limited to a range of matched greenfield flows then it is necessary to provide additional mitigation of increased runoff volumes by the provision of Long-term Storage.
8. Storage for the 1 in 30 year must be fully contained within the SuDS components. Note that standing water within SuDS components such as ponds, basins and swales is not classified as flooding. Storage should be calculated for the critical duration rainfall event.
9. Runoff generated from rainfall events up to the 1 in 100 year will not be allowed to leave the site in an uncontrolled way. Temporary flooding of designated areas to shallow depths and velocities may be acceptable.
10. The following information should only be provided if increased runoff volumes are not mitigated by limiting all discharge rates back to the greenfield 1 in 1 year rate.
11. Climate change is specified as 40% increase to rainfall intensity, unless otherwise agreed with the LLFA / EA.
12. To be determined using the 100 year return period 6 hour duration winter rainfall event.
13. Where Source Control is provided Interception losses will occur. An allowance of 5mm rainfall depth can be subtracted from the net inflow to the storage calculation where interception losses are demonstrated. The Applicant should demonstrate use of subcatchments and source control techniques. Further information is available in the SuDS Design Guide.
14. Please refer to Rain harvesting BS for guidance on available storage.
15. Flows within long term storage areas should be infiltrated to the ground or discharged at low flow rate of maximum 2 l/s/ha.
16. Careful consideration should be used for calculations where flow control / storage is likely to be influenced by surcharged sewer or peak levels within a watercourse. Outlets can be tidally locked where discharge is direct to estuary or sea. Calculations should demonstrate that risk of downed outlet has been taken into consideration. Vortex controls require conditions of free discharge to operate as per specification.
17. In controlling the volume of runoff the total volume from mitigation measures should be greater than or equal to the additional volume generated.

PLANS

Accommodation Schedule

Plot No.	Accommodation	Area (m^2)	Amenity (m^2)
01	*4 Bedroom 6 person house*	*117*	*120*
02	*4 Bedroom 6 person house*	*117*	*120*
03	*4 Bedroom 6 person house*	*117*	*90*

Key:

- Proposed Tree
- Permeable gravel driveway
- Concrete pavers
- Cycle Stores
- Bins
- 1800mm h. close boarded timber fence
- 1800mm h. 225mm thick external brick wall
- 1200mm h. metal anti-trap playground fencing to local requirements

PROPOSED BLOCK PLAN @ 1:500

A3 SHEET @ 1:500

0m 12.5m 25m

N

revision

issue

PLANNING

client

Chelmsford City Council

project

St. Michaels Drive, Roxwell, Chelmsford

title

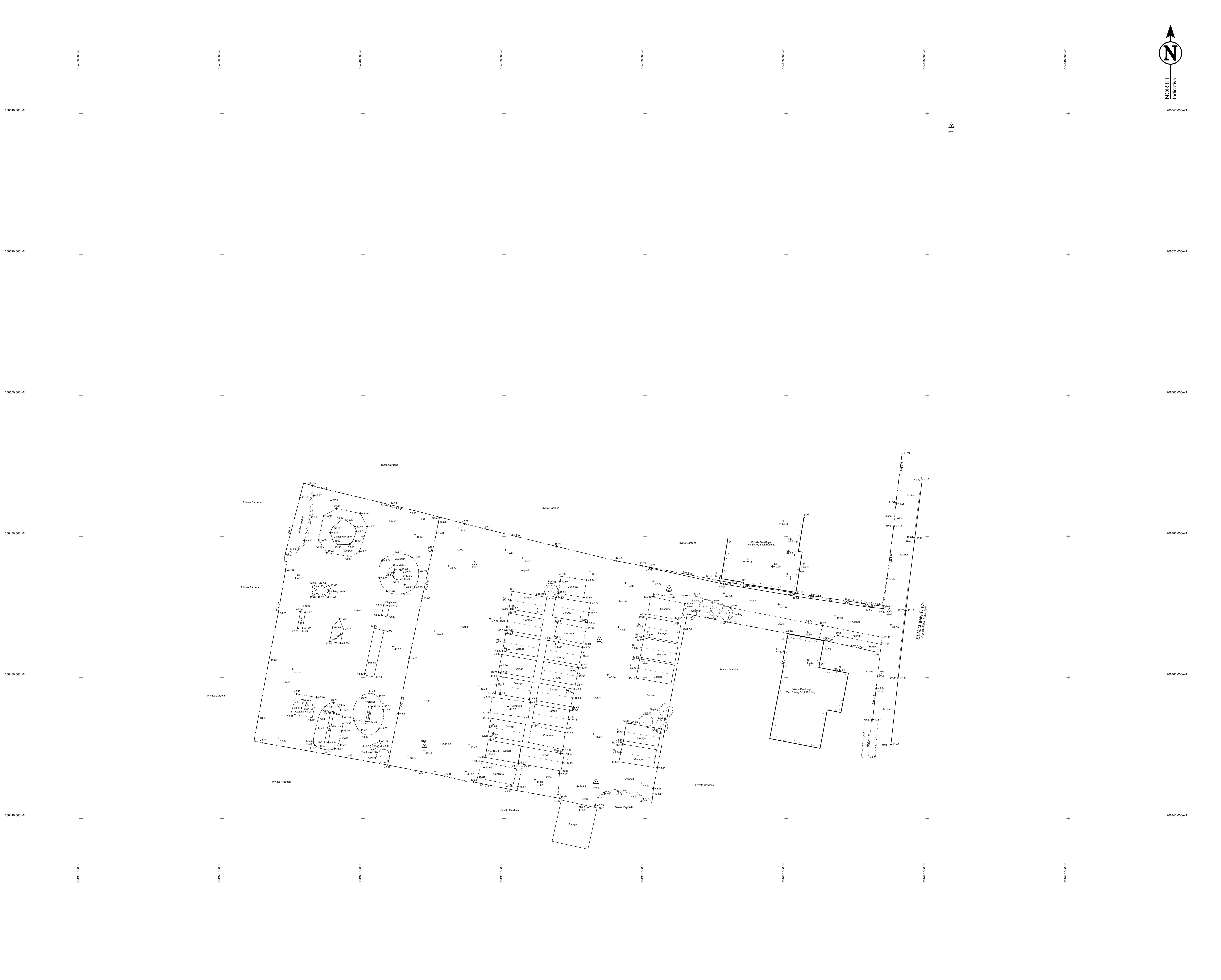
Proposed Block Plan

john finch partnership
chartered architects & town planning consultants

88 Broomfield Road
Chelmsford CM1 1SS
01245 354319/250780
admin@johnfinchpartnership.co.uk

www.johnfinchpartnership.co.uk

date	26.08.22	scale	1:500 @ A3
drawn	lt/jh	checked	jm
dwg no	3555:02	revision	



TOPOGRAPHICAL & MEASURED BUILDING SURVEYS

ABBREVIATIONS & SYMBOLS

AH	Arch Head Height	ER	Earth Rod	RSD	Roller Shutter Door
A/B	Air Brick	ET	EP+Transformer	RSJ	Rolled Steel Joist
AR	Assumed Route	FB	Flower Bed	SI	Sign Post
AV	Air Valve	FBD	Floor Board Direction	SP	Arch Spring Point Height
BB	Belisha Beacon	FH	Fire Hydrant	SV	Stop Valve
BH	Bore Hole	FL	Floor Level	SW	Surface Water
BL	Bed Level	FP	Flag Pole	SY	Cable Stay
BO	Bollard	FW	Foul Water	Tac	Tactile Paving
BrP	Brace Post	GG	Gully Grate	TC	Telecom Cover
BS	Bus Stop	GV	Gas Valve	TH	Trial Pit
BU	Bush	HH	Head Height	THL	Threshold Level
B/W	Barbed Wire Fence	IC	Inspection Cover	TL	Traffic Light
BX	Box (Utilities)	IL	Invert Level	ToW	Top of Wall
C/B	Close Board Fence	I/R	Iron Railings	TP	Telegraph Pole
CH	Cill Height	KO	Kerb Outlet	TS	Traffic Signal Cover
CL	Cover Level	LP	Lamp Post	TV	Cable TV Cover
C/L	Chain Link Fence	MH	Manhole	UB	Universal Beam
C-Lev	Ceiling Level	MP	Marker Post	UC	Unknown Cover
Col	Column	NB	Name Board	UK	Unknown Tree
C/P	Chestnut Paling Fence	OHL	Overhead Line (approx)	UMG	Unmade Ground
CR	Cable Riser	Pan	Panel Fence	USB	Under Side Beam
C/W	Chicken Wire	PB	Post Box	UTL	Unable To Lift
DC	Drainage Channel	PM	Parking Meter	UTS	Unable To Survey
DH	Door Head Height	PO	Post	VP	Vent Pipe
Dil.	Dilapidated	P/R	Post & Rail Fence	WB	Waste Bin
DP	Down Pipe	P/W	Post & Wire Fence	WH	Weep Hole
DR	Drain	P/Wall	Partition Wall	WL	Water Level
EBx	Electric Box	RE	Rodding Eye	WM	Water Meter
EC	Electric Supply Cover	RL	Ridge Level	WO	Wash Out
EL	Eaves Level	RP	Reflector Post	X.XX	Floor to Ceiling Height
EP	Electric Pole	RS	Road Sign	X.XX F/C	Floor to False Ceiling Ht
				△	Survey Control Station

DRAWING NOTES

Topographical Surveys

Trees are drawn to scale showing the average canopy spread. Descriptions and heights should be used as a guide only.

All building names, descriptions, number of storeys, construction type including roof line details are indicative only and taken externally from ground level.

All below ground details including drainage, voids and services have been identified from above ground and therefore all details relating to these features including; sizes, depth, description etc will be approximate only. All critical dimensions and connections should be checked and verified prior to starting work.

Detail, services and features may not have been surveyed if obstructed or not reasonably visible at the time of the survey.

Surveyed physical features may not necessarily represent the legal boundary line.

Measured Building Surveys

Measurements to internal walls are taken to the wall finishes at approx 1m above the floor level and the wall assumed to be vertical.

Cill heights are measured as floor to the cill and head heights are measured from cill to the top of window.

General

The contractor must check and verify all site and building dimensions, levels, utilities and drainage details and connections prior to commencing work. Any errors or discrepancies must be notified to Survey Solutions immediately.

The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

The survey control listed is only to be used for topographical surveys at the stated scale. All control must be checked and verified prior to use.

Do not scale from this drawing.

SURVEY CONTROL CO-ORDINATES

STATIONS	EASTINGS	NORTHINGS	LEVEL	DESCRIPTION
ST01	564423.423	208538.219	39.988	PK Nail
ST02	564414.624	208469.348	42.382	PK Nail
ST03	564383.375	208472.653	42.671	PK Nail
ST04	564373.515	208465.418	42.948	PK Nail
ST05	564372.984	208445.183	43.641	PK Nail
ST06	564348.694	208450.302	43.427	PK Nail
ST07	564355.786	208476.022	42.669	PK Nail

SURVEY GRID AND LEVEL DATUM

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) using GPS Smartnet.

To avoid discrepancies any coordinated data used in conjunction with this survey must be derived directly from this control data.

REV	DESCRIPTION	DRAWN	APPR	DATE

SURVEY SOLUTIONS

LAND SURVEYING
BUILDING SURVEYING
UNDERGROUND SURVEYING
SITE ENGINEERING
MONITORING

0845 040 5969
survey-solutions.co.uk

IPSWICH BEDFORD COVENTRY GLASGOW LONDON MANCHESTER NORWICH NOTTINGHAM YEOVIL

PROJECT TITLE ST. MICHAELS DRIVE, ROXWELL CHELMSFORD, ESSEX, CM14 NU				
DRAWING DETAIL TOPOGRAPHICAL SURVEY Sheet 1 of 1				
CLIENT CHELMSFORD CITY COUNCIL				SCALE 1:200
SURVEYOR RT	SURVEY DATE 03/05/2022	CHECKED BY AK	APPROVED BY MB	DWG STATUS FINAL
DRAWING NUMBER 41367BWLS-01			REVISION	ISSUE DATE 05/05/2022

Original Sheet Size A1H

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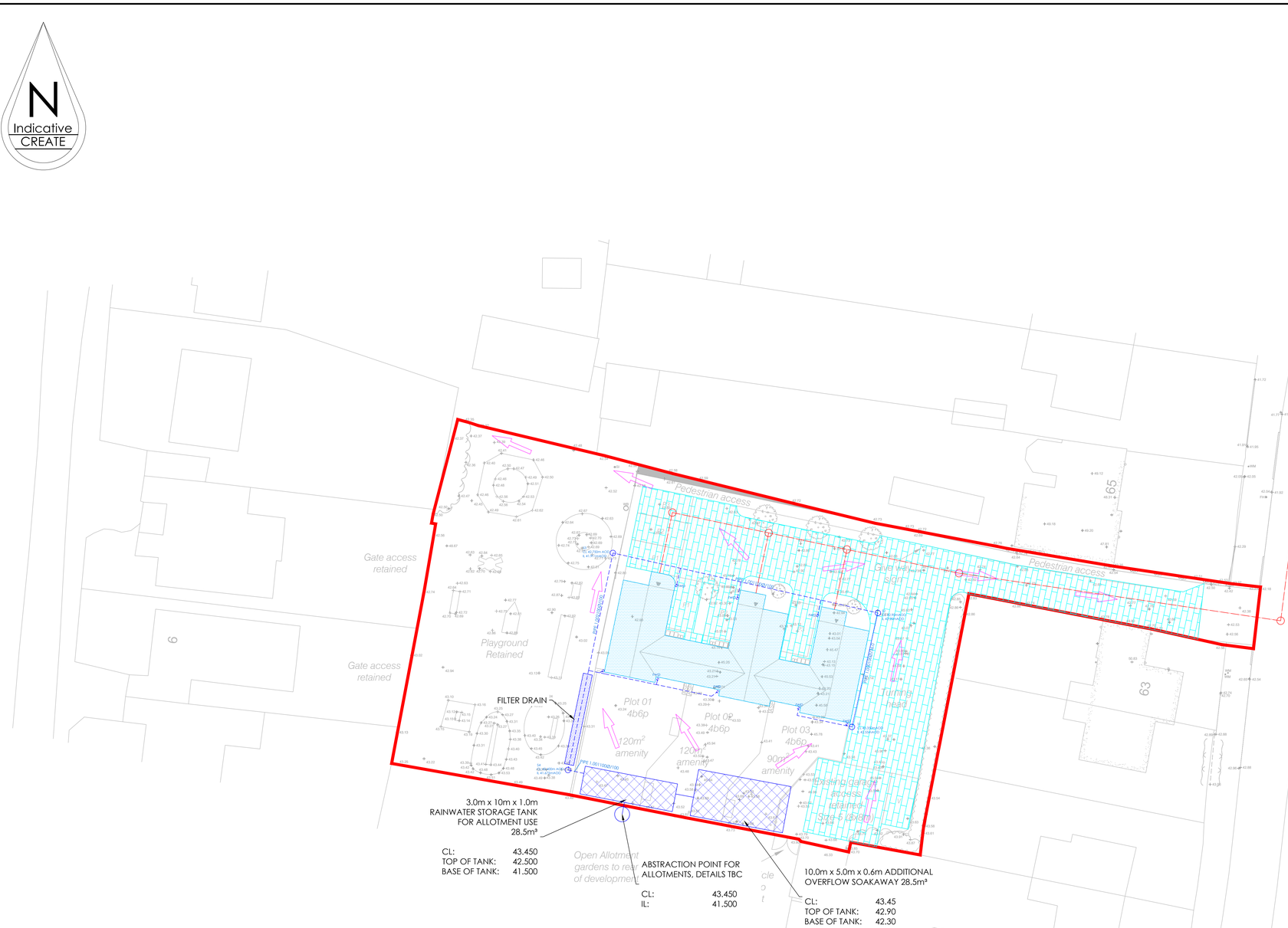
Indicative
CREATE



NOTES

1. THIS DRAWING IS BASED ON LAYOUT DRAWING 3555.02 ENTITLED PROPOSED BLOCK PLAN BY JOHN FINCH PARTNERSHIP DATED 26/08/2022 AND TOPOGRAPHIC SURVEY 41367BWLS-01 BY SURVEY SOLUTIONS DATED 05/05/2022.
2. FOUL CONNECTION LOCATION TO ANGLIAN WATER NETWORK PENDING FURTHER SURVEYS AT DETAILED DESIGN STAGE AND CONFIRMATION CONNECTION CAN BE MADE VIA PRIVATE LAND. IF NOT VIABLE THIS WILL BE SOUHT FURTHER ALONG ST MICHAELS DRIVE.

KEY

PRELIMINARY SURFACE WATER SEWER

APPLICATION SITE REDLINE BOUNDARY

PROPOSED UNLINED PERMEABLE PAVING

PROPOSED ATTENUATION TANKS

IMPERMEABLE AREA

EXCEEDANCE FLOW ROUTE

EXISTING FOUL WATER SEWER

INIDICATIVE RAIN WATER PIPES rwp

PROPOSED FOUL WATER SEWER (PRIVATE PUMPED).

REV	DATE	AMENDMENT DETAILS	DRAWN	APPROVED
B	20.04.23	UPDATED FOR PLANNING ISSUE	JG	GS
A	8.03.23	SURFACE WATER TANKS ADDED	JG	GS

PROJECT: LAND OF ST MICHAELS DRIVE ROXWELL, CHELMSFORD	DATE: 01.11.22	DRAWING STATUS: INFORMATION	
	SCALE(S): 1:250	DESIGNED: GGB / DRAWN: GGB / CHECKED: GS / APPROVED: GS	
DRAWING TITLE: PRELIMINARY FOUL AND SURFACE WATER DRAINAGE STRATEGY	JOB No: 2709		
CLIENT: CHELMSFORD CITY COUNCIL	DRAWING No: 02/005	REVISION: B	

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DO NOT SCALE ORIGINAL SHEET SIZE - A1 Landscape

Planning Committee
5th September 2023

Application No	:	23/00834/FUL Full Application
Location	:	Land Rear Of Hill Cottage Colam Lane Little Baddow Chelmsford Essex
Proposal	:	**Demolition of existing outbuildings. Construction of new detached dwelling.**
Applicant	:	Mr Rory Anderson
Agent	:	Mr Conor Layton
Date Valid	:	26th May 2023

Contents

Appendices:

Appendix 1 Consultations
Appendix 2 Summary of relevant and adopted planning policies
Appendix 3 Drawings

1. Executive summary

1.1. The application is referred to the Planning Committee at the request of a local ward member so that the impacts of the proposal with regards to the street scene, public highway and neighbour amenity can be considered by the Planning Committee.

1.2. The site is located within the Defined Settlement of Little Baddow and is a parcel of land that currently forms part of the rear garden of Hill Cottage.

1.3. Hill Cottage occupies a corner plot at the junction of Colam Lane and North Hill. The prime access to Hill Cottage will remain from Colam Lane.

1.4. The proposal is for a 3-bedroom house which would replace the existing rear garage and a garden outbuilding that currently belong to Hill Cottage. The new house would use the existing access from North Hill.

1.5. The proposed dwelling would be comparable in scale and appearance to the existing development in the area. A gap of 6m would remain between the new house and Kilmory to the north. The development would have an acceptable design and would have a visually acceptable relationship with the character and appearance of the local area.

1.6. Given the position of the house, it would not result in unacceptable overlooking of neighbouring sites. The new house would be positioned some distance away and to the north-east of neighbouring properties along Colam Lane so would not appear dominant or overbearing when viewed from these properties. The new house would be positioned to the south of Kilmory but would not protrude beyond the rear elevation of this neighbouring house. The proposed development would retain an acceptable relationship with all neighbouring properties.

1.7. The proposed development would meet the development standards contained within the Chelmsford Local Plan, would have a safe vehicular access from the highway and would provide sufficient off-street parking provision in accordance with adopted policy requirements.

1.8. Approval is recommended.

2. Description of site

2.1. The application site lies within the Defined Settlement of Little Baddow. It occupies a corner plot at the junction of Colam Lane and North Hill. It is a sizable plot with an L shaped rear garden which stretches behind the rear gardens of Annes' Cottage and joins an L shaped rear garden of Oakhill. The application site contains a garage and an outbuilding.

2.2. The application site is accessed via an existing vehicular access from North Hill.

2.3. There is a mature horse chestnut tree to the front of the existing garage. This tree is protected by a Tree Preservation Order TPO/2023/016.

2.4. The area features a mix of properties of various sizes and styles. The prevailing character of the area can be described as large houses in spacious plots. Properties are often set back from the

road and the boundary treatment is predominantly hedging. The character of the area is semi-rural.

3. Details of the proposal

3.1. The proposed development would construct one detached dwelling with two off-street parking spaces to the front and a rear garden.

3.2. The proposal has been amended during the life of the application. Previously proposed bedroom 1 and bedroom 4 were merged and the en-suite was relocated to the rear of the house. This resulted in a 3-bedroom house as opposed to a 4-bedroom house.

3.3. The proposed dwelling would be 10.7 m wide and 8.1m-10.2m deep. It would be 8.3m tall. It would feature a chimney. The ground floor level would be finished with brickwork and the first-floor level would be textured render. The roof is proposed to be tiled with clay roof tiles. The dwelling would feature sash windows.

3.4. The rear garden would be accessed via the side alleyways retained on both sides of the new dwelling. The rear garden would be about 14.3m deep measured from the rear elevation of the ground floor rear projection. The rear garden would be about 124sqm in size (this excludes the narrow spaces around the house and the front parking area).

3.5. The new house would have three first floor windows facing the rear garden, one of which would serve a bedroom. The bedroom window would be positioned in the north-west corner of the house 3m away from the boundary with Kilmory (to the north of the site). This window would be positioned 15.9m away from the rear/side boundary with Oakhill to the west of the site.

3.6. One first floor side window is proposed in the north elevation would serve the first-floor bathroom.

3.7. The proposal includes planting of four new trees in the rear garden. The existing mature horse chestnut tree to the front of the house would be retained and protected during the construction of the development. The existing hedge along the side boundaries with Kilmory and Anne's Cottage are proposed to be retained where possible and some would be replanted.

3.8. The existing hedge and trees along the east boundary of Hill Cottage and along North Hill is proposed to be removed to provide improved visibility to the junction of Colam Lane and North Hill and the application site.

4. Other relevant applications

4.1. In 2005 a garage was constructed in the rear garden of Hill Cottage with access from North Hill. Planning application 05/02291/FUL sought planning permission for its retention. The proposal was refused on 10th of February 2006 due to insufficient space in front of it to exit the site in a forward gear. The appearance of the garage was however considered acceptable. The garage remained in situ. In 2017 it was confirmed by the Council that due to the passage of time the garage is lawful and is immune from enforcement action. The current proposal would replace this garage with a house.

5. Summary of consultations

5.1. The following were consulted as part of the application:

- Little Baddow Parish Council
- Essex County Council Highways
- Recycling & Waste Collection Services
- Public Health & Protection Services
- Local residents

5.2. Full details of consultation responses are set out in appendix 1.

5.3. Following the amended scheme Little Baddow Parish Council does not object to the proposed scheme, subject to two conditions:

1) the removal of vegetation/hedging from the roadside verges and improvements to the road junction sight lines be completed and approved by Essex Highways before commencement of any building works.

2) that no development shall take place before a scheme for regulated discharge of surface water run-off has been submitted to, and approved in writing by, the Local Planning Authority, and that the scheme provides surface water storage and restrictions to surface water runoff which will remain in place permanently to ensure that the surface water run off rate from the new property is controlled to prevent surface water flooding onto neighbouring properties, taking account for any storm up to and including the 1 in 100 year storm event plus an allowance for climate change at 45%.

5.4. Essex County Council Highways have no objection subject to conditions. The Authority supports the proposed improvements to the visibility splays at Colam Lane and North Hill junction.

5.5. Public Health and Protection Services stated that this residential development should provide EV charging point infrastructure to encourage the use of ultra-low emission vehicles at the rate of 1 charging point per unit.

5.6. Thirty-five representations have been received objecting to the proposal. The objections are broadlybased on the following grounds:

- The proposed house will be out of keeping with the area,
- The development will create additional traffic putting people at risk,
- Concerns raised regarding surface water runoff in the rear,
- The development will impact on the privacy of neighbouring sites,
- The proposed house does not comply with the size of property which consultation as part of the Neighbourhood Plan process revealed residents would prefer,
- The development will likely result in on-road parking in the area,
- The proposed house is too large for its plot,
- The proposed building works would create nuisance and danger to pedestrians and motorists,
- Concerns raised that the lack of gaps between the new house and its neighbours will urbanise the street scene,

- Cutting back the hedge along the east boundary of Hill Cottage and along North Hill will encourage speeding, and this will exacerbate risks of collision associated with the adjacent crossroads,
- The development would be opposite the Memorial Hall where cars might be parked outside on the road and with additional traffic and access the development will cause dangerous situations on the road,
- The proposed development would result in insufficient off-road parking for both the new and existing properties,
- Additional or existing vegetation should not be used to deal with overlooking issues between the new house and its neighbours,
- Proposed additional trees will block the light to neighbouring properties,
- The development is not consisted with the Little Baddow Neighbourhood Plan,
- The development will put additional pressure on the already stretched local infrastructure,
- Noise during construction would impact the neighbours,
- Two double yellow lines suggested to prevent on-road parking in dangerous parts of the road.

Comments received in support of the proposal:

- The proposed improvement to the visibility splay at the junction of Colam Lane and North Hill is welcomed,
- The proposed house is in keeping with the development within the boundary of the settlement,
- This is a good location for a new house,
- The proposed house would be nicely designed.

6. Planning considerations

Main Issues

6.1. The main issues are whether:

- the proposal would have an acceptable design, character, appearance, siting and form in the context of the surrounding area.
- the proposal would have an acceptable relationship with all nearby and neighbouring residential properties.
- the proposal would provide safe and sufficient vehicular access and off-street parking provision.

Design, Character, Appearance and Layout

6.2. Chapter 12 of the National Planning Policy Framework (NPPF, 2021) sets out the objectives towards achieving well-designed places. Paragraph 130(a) of the NPPF states that planning decisions should ensure that developments will “function well and add to the overall quality of the area”. Paragraph 130(c) of the NPPF states that planning decisions should ensure thatdevelopments amongst other matters “are sympathetic to local character and history, including the surrounding built environment and landscape setting”. Paragraph 130(d) of the NPPF states that planning decisions should ensure that developments “establish or maintain a strong sense ofplace, using the arrangement of street, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit”.

6.3. Chelmsford Local Plan Policy DM23 relates to high quality and inclusive design. This Policy states that planning permission will be granted for development that respects the character and appearance of the area in which It is located. Development must be compatible with its surroundings, having regard

to scale, siting, form, architecture, materials, boundary treatments and landscape. The design of all new buildings and extensions must be of high quality, well proportioned, have visually coherent elevations, active elevations and create safe, accessible andinclusive environments.

6.4. The proposal would be constructed from similar materials to those within the street and it has been designed to take architectural cues and references from the design of other houses within Little Baddow village. The design of the new house would respect and be compatible with the character and appearance of other houses in the area.

6.5. The Little Baddow Village Design Statement makes a strong reference to the setting of the houses in the village and how important is space in between the properties. A spacious layout of houses helps to preserve the semi-rural character and appearance of the village.

6.6. Whilst the village is characterised by spacious plots and large houses within them, there is not a uniform pattern of gaps between the houses. Houses are generally set back from the road with lush vegetation along the boundaries which softens the street scene. The front hardstanding areas used for parking are large and often occupy a large proportion of the front gardens.

6.7. It is acknowledged that the gap between Hill Cottage and Kilmory would be reduced by infilling it with the new property. The new property would however retain decent gaps on both sides. Hill Cottage would be located about 14m from the new house. Kilmory would be 6m away from the new house.

6.8. The new house would be positioned in line with the frontage of Kilmory,. The existing building line of properties to the north of the application site would be maintained by the new development. The new house would be set back from the road in a similar way to its neighbouring properties.

6.9. The mature chestnut tree would be retained to the front of the house as well as mature and established boundary treatments, which in some places would be replanted. The front of the house would provide parking and turning space, which is in keeping with the setting of other houses in the area.

6.10. The application plot is acknowledged to be narrower than the immediate neighbouring sites to the north. However, given that village features a wide variety of houses and plot sizes, the proposed development would not appear incongruous. The retained gaps on both sides of the house and a garden space in excess of 124sqm with parking to the front for 2/3 vehicles would not result in this new property appearing cramped into the plot.

6.11. It is considered that the design of the house, its scale and siting are acceptable. The building would fit comfortably within the existing street scene. The proposals comply with policy DM23 and the NPPF.

Neighbour Amenity

6.12. Chelmsford Local Plan Policy DM29 relates to protecting living and working environments (neighbour amenity). This Policy states that planning permission will be granted for development proposals provided the development amongst other matters safeguards the living environment of the occupiers of any nearby residential property by ensuring that the development is not overbearing and does not result in unacceptable overlooking or overshadowing. The development shall also not result in excessive noise, activity or vehicle movements.

6.13. The proposed dwelling would be located to the south of Kilmory and parallel to this neighbour. There would be one first floor window in the side elevation of the new house which would serve a bathroom and would be fitted with obscure glass and be non-openable below 1.7m from the floor level. This will be secured by a condition.

6.14. One first floor window in the rear elevation of the new house which would serve a bedroom would be positioned 3m away from the boundary with Kilmory. This window would allow for a sideways view towards a small area in the far end (south-west) of this neighbour's garden. This would not be considered unacceptable or detrimental to the enjoinment of the garden by the occupiers of Kilmory. Given the parallel position of the new house to Kilmory, the proposed development would not overlook the rear elevation or private patio area immediately to the rear of this neighbour's house. It is not considered that the new house would result in such an unacceptable relationship with Kilmory that refusal of the scheme could be justified on this basis.

6.15. The original proposal included a second window to the rear, on the first floor, which would have served one more bedroom. Due to the shape of the application plot this window would have been only 2m away from the side/rear boundary with Annes Cottage,. The scheme has been amended and this window removed and replaced with an ensuite window. This window would be fitted with obscure glass and be non-openable below 1.7m from the floor level, which will be secured by a condition.

6.16. The only bedroom window in the rear elevation of the new house would not directly face the rear garden of Annes Cottage as it would be orientated to the west and the garden of Annes Cottage faces the north. Sideway views from the bedroom window would allow for a glimpse of the far end of the rear garden of Annes Cottage; this would be similar to the existing mutual overlooking between Annes Cottage and Hill Lodge. The new property is not considered to result in harmful overlooking of Annes Cottage.

6.17. The new house would be to the north-east of Annes Cottage and about 23 m away. The existing hedge on the boundary would be retained, in some places replanted. The new house would not have an oppressive or overbearing impacts on the amenity of occupiers of this neighbouring house.

6.18. Hill Lodge does not share a boundary with the application site. The new house would be positioned about 29m to the east of this neighbouring site and across the residential plot of Annes Cottage. It is considered that the living environment of the occupiers of Hill Lodge would not be harmed by the presence of the new house.

6.19. Oakhill is located to the west and has an L shaped garden. The new house would be positioned about 36m away from the rear elevation of this neighbouring site (this is when the line is drawn directly across other neighbouring sites). The rear/side boundary of Oakhill would be shared with the application site. Oakhill sits parallel to Hill Lodge and Little Quillets and faces Colam Lane. The rear elevation of this neighbour is orientated to the north. Whilst the garden of the new dwelling would join the rear/side boundary of garden of Oakhill, the new property would not have a back-to-back relationship with this neighbour. The two storey element of the new house would be positioned 15.9m away from the rear/side boundary of Oakhill. According to Table 9 figures in Appendix B of the Local Plan a minimum back-to-boundary distance between the new development and an existing residential site must be at least 15m. The proposal achieves the required minimum distance. The development is considered to satisfactory preserve the privacy of Oakhill.

6.20. The relationship with the host property and other sites within the immediate surrounding of the application site is acceptable and would accord to the requirements of policy DM29.

Development Standards

6.21. The proposed three-bedroom house would meet the National Space Standards for three-bedroom six person units. To the rear of the proposed dwelling a private rear garden and amenity space would be provided, approximately 124 sqm in area. The proposed development would comply with Chelmsford Local Plan Policy DM26 (Design Specification).

Parking and Access

6.22. Policy DM27 requires compliance with Essex Planning Officer Association (EPOA) Parking Standards. The EPOA Parking Standards recommend that dwellings with 2 bedrooms or more, are provided with not less than 2 off-street parking spaces and that dwellings with 1 bedroom are provided with 1 off-street parking space.

6.23. Chapter 9 of the National Planning Policy Framework (NPPF, 2021) is about promoting sustainable transport. Paragraph 110 of the NPPF states that development proposals should ensure that "*(b) safe and suitable access to the site can be achieved for all users".* In addition, paragraph 111 states that "*development should be refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe"*.

6.24. The proposed new dwelling would be served by the existing vehicular access to the existing garage and associated parking area to the rear of Hill Cottage from North Hill. The existing garage would be demolished to provide 2 car parking spaces in accordance with the Parking Standards. Turning area space would also be provided within the front of the house to enable vehicles entering to turn and leave the site to North Hill in forward gear.

6.25. The proposal includes clearance of existing hedge and outgrowth from the adjacent highway verge margin, on the west side of the North Hill carriageway and to the east side of Hill Cottage. This would provide appropriate visibility splays to the existing vehicle access on North Hill, that would serve the proposed new dwelling. This would also re-establish appropriate visibility splays to the north side of the Colam Lane junction with North Hill on the west side of the North Hill carriageway.

6.26. The proposed development would comply with policy DM27 and would provide adequate parking provision for the proposed house. It would also provide safe access to the site with appropriate visibility splays.

6.27. The existing house, Hill Cottage, would retain 2/3 parking spaces in front of the house and accessed from Colam Lane.

Other Matters

6.28. The application site is located within the Defined Settlement and within a sustainable location with good access to services, schools, shops and public transport. National planning policy seeks to encourage development in sustainable locations.

6.29. The proposed dwelling would result in no detrimental increase in traffic in the area. The new property would be served by sufficient off-road parking provision, therefore, no on-road parking will likely to occur.

6.30. There is no evidence to assume that improved visibility splays at the junction of Colam Lane and North Hill will result in vehicles speeding in the area.

6.31. The conditions requested by the Parish Council with regards to the surface water flooding in the area and removal of vegetation along the eastern boundary of Hill Cottage have been accepted by the applicant and are attached to the recommendation.

6.32. It is likely that there may be some noise and disruption during the construction period, however, this would be temporary in nature. In respect of the parking of vehicles and storage of materials a construction method statement is required to be submitted by way of a planning condition attached to this planning permission; which requires details of the parking of vehicles for site operatives and visitors and areas to be shown for storage and reception of plant and materials.

6.33. The mature horse chestnut tree, which is protected by a Tree Preservation Order TPO/2023/016, to the front of the new house is to be retained and would be protected during the construction of the proposed development. Several new trees are proposed to be planted within the site. Vegetation along the boundaries with Kilmory and Annes Cottage is proposed to be retained where possible and replaced with new soft boundary which is new hedge and pleached trees. A condition is recommended that the works to the existing trees and hedge were carried out in accordance with the submitted Arboricultural Report. Details of soft and hard landscaping will be requested by a condition.

6.34. New residential development at this site has the potential to cause disturbance to European designated sites and therefore the development must provide appropriate mitigation. This is necessary to meet the requirements of the Conservation of Habitats and Species Regulations 2017. The applicant has provided a financial contribution towards mitigation at a local wildlife site.

6.35. The application is also accompanied by an ecological survey which does not recommend any further surveys to be undertaken. The survey suggests that the proposed improvements to the existing soft landscaping and provision of additional bird and bat boxes and hedgehog highway holes on the site would achieve Biodiversity Net Gain (BNG) in accordance with the policy DM16 requirements. A condition is attached to this recommendation requiring the compliance with the suggested biodiversity enhancement contained in the Preliminary Ecological Appraisal and Biodiversity Net Gain Assessment Report.

6.36. For the reasons given above and having regard to all other matters raised it is concluded that the proposed development is acceptable in accordance with the adopted Local Plan Policies.

7. Community Infrastructure Levy (CIL)

7.1. The application may be CIL liable and there may be a CIL charge payable.

8. Recommendation

RECOMMENDATION

The Application be APPROVED subject to the following conditions:-

Condition 1

The development hereby permitted shall begin no later than 3 years from the date of this decision.

Reason:

In order to comply with Section 91(1) of the Town and Country Planning Act 1990 as amended by Section 51 of the Planning and Compulsory Purchase Act 2004.

Condition 2

The development hereby permitted shall be carried out in accordance with the approved plans and conditions listed on this decision notice.

Reason:

In order to achieve satisfactory development of the site

Condition 3

Prior to their use, details of the materials to be used in the construction of the development hereby permitted shall be submitted to and approved in writing by the local planning authority. The development shall then be carried out in accordance with the approved details.

Reason:

To ensure that the development is visually acceptable in accordance with Policy DM23 of the Chelmsford Local Plan.

Condition 4

a) Details of the proposed treatment of all boundaries, including drawings of any gates, fences, walls, railings or piers, shall be submitted to and approved in writing by the local planning authority.

b) The development shall not be occupied until the boundary treatments have been provided in accordance with the approved details.

Reason:

In the interests of the visual amenities of the area and to safeguard the residential living environment of the occupiers of the proposed dwellings and the existing neighbouring dwellings in accordance with Policy DM29 and Policy DM23 of the Chelmsford Local Plan.

Condition 5

Prior to the first occupation of the dwelling hereby permitted, charging infrastructure for electric vehicles shall be installed in accordance with drawing No 0501.

Reason:

To ensure that the development is constructed sustainably in accordance with Policy DM25 of the Chelmsford Local Plan.

Condition 6
All new dwelling units as hereby approved shall be constructed to achieve increased water efficiency to a standard of no more than 110 litres of water per person per day in accordance with Building Regulations Approved Document Part G (2015 - as amended).

Reason:
To ensure the development reduces water dependency in accordance with Policy DM25 of the Chelmsford Local Plan.

Condition 7
No unbound material shall be used in the surface treatment of the vehicular access hereby permitted within 6 metres of the highway boundary.

Reason:
To avoid displacement of loose material onto the highway in the interests of highway safety.

Condition 8
The area/s of hardsurfacing hereby permitted shall be constructed using a permeable surface or shall include drainage to prevent discharge of surface water onto the Highway.

Reason:
To prevent hazards caused by water flowing onto the highway and to avoid the formation of ice on the highway in the interest of highway safety.

Condition 9
The dwelling shall not be occupied until space has been laid out within the site in accordance with drawing No 0501 for 2 cars to be parked and that space shall thereafter be kept available at all times for the parking of vehicles.

Reason:
To ensure that sufficient parking is available to serve the development in accordance with Policy DM27 of the Chelmsford Local Plan.

Condition 10
The first-floor window in the north elevation facing Kilmory and shown on approved Drawing No 2001 shall be:

a) obscured (minimum Level 3 obscurity level) and
b) of a design not capable of being opened below a height of 1.7m above finished floor level
and shall remain so obscured and non-openable.

Reason:
To safeguard the privacy of the occupiers of the adjacent property or properties in accordance with Policy DM29 of the Chelmsford Local Plan.

Condition 11
In relation to tree protection, tree surgery and construction methods, the development shall only be carried out in accordance with the submitted arboricultural report entitled Arboricultural Impact Assessment Report (Ref: SHA 1546) subject to such minor variations as may be agreed in writing by the local planning authority.

Reason:
To safeguard the existing protected trees in accordance with Policy DM17 of the Chelmsford Local Plan.

Condition 12
The development hereby permitted shall only be carried out in accordance with the details contained in the approved Preliminary Ecological Appraisal and Biodiversity Net Gain Assessment Report (3rd May 2023) subject to such minor variations as may be agreed in writing by the local planning authority.

Reason:
To ensure that no harm is caused to protected species in accordance with Policy DM16 of the Chelmsford Local Plan.

Condition 13
Prior to the commencement of any buildings works (excluding demolition) the boundary hedge and trees along the east boundary of the site with Hill Cottage shall be removed and reinstated, as well as improvements to the sight lines, in accordance with drawings No.0501 and ANDE 570/6-001 shall be carried out as approved.

Reason:
To provide adequate inter-visibility between users of the access and the public highway in the interests of highway safety.

Condition 14
No development (excluding demolition) shall take place before a scheme for regulated discharge of surface water run-off has been submitted to, and approved in writing by, the Local Planning Authority. The scheme shall provide surface water storage and restrictions to surface water runoff which will remain in place permanently to ensure that the surface water run off rate from the new property is controlled to prevent surface water flooding onto neighbouring properties, taking account for any storm up to and including the 1 in 100 year storm event plus an allowance for climate change at 45%.

Reason:
To ensure that the proposed development would not cause localised flooding in the neighbouring sites.

Condition 15
The additional trees as shown on drawing No 0501 shall be planted in the first available planting season following the first occupation of the dwelling hereby approved. The trees shall be planted at a minimum size standard of 'Select Standard (SS)'.

If any tree planted above is removed, uprooted, or destroyed or dies, within a period of 5 years following its original planting another tree of similar species and size shall be planted at the same place, or as otherwise specified by the local planning authority, in the next available planting season.

Reason:
In order to add character to the development, to integrate the development into the area and to promote biodiversity in accordance with Policies DM16 and Policy DM23 of the Chelmsford Local Plan.

Condition 16
The first-floor windows in the west elevation to serve bathrooms and located to the north of rear garden of Annes Cottage and shown on approved Drawing No 2001 shall be:

a) obscured (minimum Level 3 obscurity level) and

b) of a design not capable of being opened below a height of 1.7m above finished floor level
and shall remain so obscured and non-openable.

Reason:
To safeguard the privacy of the occupiers of the adjacent property or properties in accordance with Policy DM29 of the Chelmsford Local Plan.

Condition 17
No development shall take place, including any ground works or demolition, until a Construction Management Plan has been submitted to, and approved in writing by, the local planning authority. The approved plan shall be adhered to throughout the construction period. The Plan shall provide for:

i. the parking of vehicles of site operatives and visitors,
ii. loading and unloading of plant and materials,
iii. storage of plant and materials used in constructing the development,
iv.

Reason:
To ensure that on-street parking of these vehicles in the adjoining streets does not occur and to ensure that loose materials and spoil are not brought out onto the highway in the interests of highway safety.

Condition 18
The visibility splay areas 6 and 8, shown on drawing No 0501 shall be maintained clear of obstruction at all times from and along the nearside edge of the North Hill carriageway.

Reason:
To provide adequate inter-visibility between users of the access and the public highway in the interests of highway safety.

Notes to Applicant

1 In order to cause minimum nuisance to neighbours, the applicant is strongly advised to follow guidelines for acceptable working hours set out by the Council's Public Health and Protection team.

Noisy work
- Can be carried out between 0800 and 1800 Monday to Friday
- Limited to 0800-1300 on Saturdays
- At all other times including Sundays and Bank Holidays, no work should be carried out that is audible beyond the boundary of the site

Light work
- Acceptable outside the hours shown above
- Can be carried out between 0700 and 0800; and 1800-1900 Monday to Friday

In some circumstance further restrictions may be necessary.
For more information, please contact Chelmsford City Council Public Health and Protection Services, or view the Council's website at www.chelmsford.gov.uk/construction-site-noise

2 The proposed demolition in the scheme should not be carried out until you have given notice to the Chelmsford City Council (Building Control Manager) of your intention to do so pursuant to Section 80 of the Building Act 1984.

Notice should be in writing and accompanied by a block plan (e.g. 1/500) clearly identifying the building(s) to be demolished.

3 The Local Highway Authority (Essex County Council) must be contacted regarding the details of any works affecting the existing highway. Contact details are: Telephone: 0845 603 7631. Email: development.management@essexhighways.org.

4 The applicant is advised to contact the Highway Authority (Essex County Council) for details of the requirements regarding road layout and disposal of surface water from the new roads. Contact details are: Development Management Team, Essex Highways, Springfield Highways Depot, Colchester Road, Chelmsford. CM2 5PU. Telephone via Contact Essex: 0845 603 7631. Email: development.management@essexhighways.org.

5 The proposed development may be liable for a charge under the Community Infrastructure Levy Regulations 2010 (as Amended). If applicable, a Liability Notice will be sent as soon as possible to the applicant and any other person who has an interest in the land. This will contain details of the chargeable amount and how to claim exemption or relief if appropriate. There are further details on this process on the Council's website at www.chelmsford.gov.uk/cil, and further information can be requested by emailing cilenquiries@chelmsford.gov.uk. If the scheme involves demolition, for the purposes of the Regulations the development will be considered to have begun on commencement of the demolition works.

6 Please note that the Council will contact you at least annually to gain information on projected build out rates for this development. Your co-operation with this request for information is vital in ensuring that the Council maintains an up to date record in relation to Housing Land Supply.

7 This permission is subject to conditions, which require details to be submitted and approved by the local planning authority. Please note that applications to discharge planning conditions can take up to eight weeks to determine.

8 This development will result in the need for a new postal address. Applicants should apply in writing, email or by completing the online application form which can be found at www.chelmsford.gov.uk/streetnaming. Enquires can also be made to the Address Management Officer by emailing Address.Management@chelmsford.gov.uk

Positive and Proactive Statement

The Local Planning Authority provided advice to the applicant before the application was submitted. During the life of the application the Local Planning Authority suggested further amendments to the proposal in order to improve the development. The Local Planning Authority has assessed the proposal against all material considerations including planning policies and any comments that may have been received. The planning application has been approved in accordance with the objectives of the National Planning Policy Framework to promote the delivery of sustainable development and to approach decision taking in a positive way.

Little Baddow Parish Council

Comments
07.07.2023 - Little Baddow Parish Council considered this application at its meeting on July 6, 2023 and objected to the proposal. Council was concerned with potential privacy issues for adjoining properties and their gardens being overlooked by the new build. In addition, Council would request that plans to manage rainwater from the proposed property are considered including routing into the main drainage so that the potential problem of flooding will be avoided. 04.08.2023 - Little Baddow Parish Council considered this application at its meeting on August 3, 2023 and acknowledging the changes made to the original plans by the applicant had no objection to the revised proposal. If City Council Planning is minded to approve the proposal Little Baddow Parish Council would request that two conditions are made: 1. the removal of vegetation/hedging from the roadside verges and improvements to the road junction sight lines be completed and approved by Essex Highways before commencement of any building works. 2. that no development shall take place before a scheme for regulated discharge of surface water run-off has been submitted to, and approved in writing by, the Local Planning Authority, and that the scheme provides surface water storage and restrictions to surface water runoff which will remain in place permanently to ensure that the surface water run off rate from the new property is controlled to prevent surface water flooding onto neighbouring properties, taking account for any storm up to and including the 1 in 100 year storm event plus an allowance for climate change at 45%.

Essex County Council Highways

Comments
20.07.2023 - Your Ref: 23/00834/FUL Our Ref: CO/EGD/SD/RM/CHL/23/834/56679 Date:- 20th July 2023 ' The proposal includes off-street parking provision, for the host dwelling (Hill Cottage) and the proposed new dwelling in accord with the adopted Parking Standards. o Hill Cottage has existing vehicular access from Colam Lane to a 2no. car parking area hardstand, in the front garden area.

' The proposed new dwelling would be served by the existing vehicular access to the garage and associated parking area to the rear of Hill Cottage from North Hill.

o The existing garage would be demolished to provide:

' 2no. car parking spaces in accord with the Parking Standards.

' Turning area space, that would enable vehicles entering to turn and leave the site to North Hill in forward gear.

' The proposal includes clearance of existing hedge and outgrowth from the adjacent highway verge margin, on the west side of the North Hill carriageway and to the east side of Hill Cottage. This re-establishes appropriate visibility splays to:

o The north side of the Colam Lane junction with North Hill on the west side of the North Hill carriageway.

o The existing vehicle access on North Hill, that would serve the proposed new dwelling.

From a highway and transportation perspective the impact of the proposal is acceptable to the Highway Authority subject to the following conditions:

1. No development shall take place, including any ground works or demolition, until a Construction Management Plan has been submitted to, and approved in writing by, the local planning authority. The approved plan shall be adhered to throughout the construction period. The Plan shall provide for;

i. the parking of vehicles of site operatives and visitors,

ii. loading and unloading of plant and materials,

iii. storage of plant and materials used in constructing the development,

iv. wheel and underbody washing facilities.

v. Before and after condition survey to identify defects to highway in the vicinity of the access to the site and where necessary ensure repairs are undertaken at the developer expense where caused by developer.

Reason: To ensure that on-street parking of these vehicles in the adjoining streets does not occur and to ensure that loose materials and spoil are not brought out onto the highway in the interests of highway safety and Policy DM1.

2. Prior to first occupation, the visibility splay areas 6 and 8, shown in the Site Layout and Landscaping, drawing no. 0501, shall be maintained clear of obstruction at all times from and along the nearside edge of

the North Hill carriageway. This area provides visibility splays to the north side of the Colam Lane junction and to the south of the North Hill vehicular access that would serve the proposed dwelling.

Reason: To provide adequate inter-visibility between users of the access and the public highway in the interests of highway safety in accordance with policy DM1.

Note The proposed works in 2 above, directly abuts to the back edge of the North Hill carriageway. This is public highway and the hedge planting clearance work must be carried out subject to arrangements made with the Service Management Office 2 (SMO2) contact details in the informative at the foot of the recommendation.

Reason: In the interests of highway safety in accordance with policy DM1.

3. Prior to first occupation of the proposed development the 2no. vehicle parking area for the proposed new dwelling shall be constructed and appropriately hard surfaced ready for use and the existing 2no. vehicle parking area for Hill Cottage retained, as shown in the drawings no. ANDE 570/001. The vehicle parking area and associated turning area shall be retained in this form at all times. The vehicle parking shall not be used for any purpose other than the parking of vehicles.

Reason: To ensure that on street parking of vehicles in the adjoining streets does not occur in the interests of highway safety and that appropriate parking is provided in accordance with Policy DM8.

4. The vehicular turning area for the proposed dwelling shown in the Site Plan, drawing no. 0501, shall be constructed, surfaced and maintained free from obstruction within the site at all times for that sole purpose.

Reason: To ensure that vehicles can enter and leave the highway in a forward gear in the interest of highway safety in accordance with policy DM1.

5. No unbound material shall be used in the surface treatment of the vehicular access within 6 metres of the highway boundary of the North Hill vehicular access serving the new dwelling.

Reason: To avoid displacement of loose material onto the highway in the interests of highway safety in accordance with policy DM1.

6. There shall be no discharge of surface water onto the Highway from the North Hill vehicular access serving the new dwelling.

Reason: To prevent hazards caused by water flowing onto the highway and to avoid the formation of ice on the highway in the interest of highway safety to ensure accordance with policy DM1.

7. Cycle parking shall be provided in accordance with the EPOA Parking Standards. The approved facility shall be secure, convenient, covered and provided prior to occupation and retained at all times.

Reason: To ensure appropriate cycle parking is provided in the interest of highway safety and amenity in accordance with Policy DM8.

8. Prior to occupation of the proposed development, the Developer shall be responsible for the provision and implementation of a Residential Travel Information Pack for the proposed new dwelling, for sustainable transport, approved by Essex County Council, to include six one day travel vouchers for use with the relevant local public transport operator.

Reason: In the interests of reducing the need to travel by car and promoting sustainable development and transport in accordance with policies DM9 and DM10.

The above conditions are to ensure that the proposal conforms to the relevant policies contained within the County Highway Authority's Development Management Policies, adopted as County Council Supplementary Guidance in February 2011.

Please include the informative for 1 and 2 above:

All work within or affecting the highway is to be laid out and constructed by prior arrangement with, and to the requirements and satisfaction of, the Highway Authority, details to be agreed before the commencement of works.

The applicants should be advised to contact the Development Management Team at Service Management Office 2 (SMO2), by email at development.management@essexhighways.org

Recycling & Waste Collection Services

Comments
No response received

Public Health & Protection Services

Comments
05.06.2023 - This residential development should provide EV charging point infrastructure to encourage the use of ultra-low emission vehicles at the rate of 1 charging point per unit (for a dwelling with dedicated off-road parking) and/or 1 charging point per 10 spaces (where off-road parking is unallocated).

Local Residents

Comments
Representations received: Thirty-five representations have been received objecting to the proposal. The objections are broadlybased on the following grounds: • The proposed house will be out of keeping with the area, • The development will create additional traffic putting people at risk, • Concerns raised regarding surface water runoff in the rear, • The development will impact on the privacy of neighbouring sites, • The proposed house does not comply with the size of property which consultation as part of the Neighbourhood Plan process revealed residents would prefer, • The development will likely result in on-road parking in the area, • The proposed house is too large for its plot, • The proposed building works would create nuisance and danger to pedestrians and motorists, • Concerns raised that the lack of gaps between the new house and its neighbours will urbanise the street scene, • Cutting back the hedge along the east boundary of Hill Cottage and along North Hill will encourage speeding, and this will exacerbate risks of collision associated with the adjacent crossroads, • The development would be opposite the Memorial Hall where cars might be parked outside on the road and with additional traffic and access the development will cause dangerous situations on the road, • The proposed development would result in insufficient off-road parking for both the new and existing properties, • Additional or existing vegetation should not be used to deal with overlooking issues between the new house and its neighbours, • Proposed additional trees will block the light to neighbouring properties, • The development is not consisted with the Little Baddow Neighbourhood Plan, • The development will put additional pressure on the already stretched local infrastructure, • Noise during construction would impact the neighbours, • Two double yellow lines suggested to prevent on-road parking in dangerous parts of the road. Comments received in support of the proposal: • The proposed improvement to the visibility splay at the junction of Colam Lane and North Hill is welcomed, • The proposed house is in keeping with the development within the boundary of the settlement, • This is a good location for a new house,

- The proposed house would be nicely designed.

Appendix 2 – Summary of relevant adopted planning policies

APPB
Appendix B forms part of the adopted Local Plan and provides information about standards that apply to all new residential developments in Chelmsford including conversions, apartments, houses, Houses in Multiple Occupation (HMO's) and extensions, unless it can be demonstrated that the particular site circumstances require a different design approach. The standards seek to ensure new developments will meet the needs of their occupiers, minimise the impact of new developments on surrounding occupiers and encourage higher rates of recycling.

DM16
Policy DM16 - Ecology & Biodiversity - The impact of a development on Internationally Designated Sites, Nationally Designated Sites and Locally Designated Sites will be considered in line with the importance of the site. With National and Local Sites, this will be balanced against the benefits of the development. All development proposals should conserve and enhance the network of habitats, species and sites.

DM17
Policy DM17 - Trees, Woodland & Landscape Features - Planning permission will only be granted for development proposals that do not result in unacceptable harm to the health of a preserved tree, trees in a Conservation Area or Registered Park and Garden, preserved woodlands or ancient woodlands. Development proposals must not result in unacceptable harm to natural landscape features that are important to the character and appearance of the area.

DM23
Policy DM23 - High Quality & Inclusive Design - Planning permission will be granted for development that respects the character and appearance of the area in which it is located. Development must be compatible with its surroundings having regard to scale, siting, form, architecture, materials, boundary treatments and landscape. The design of all new buildings and extensions must be of high quality, well proportioned, have visually coherent elevations, active elevations and create safe, accessible and inclusive environments.

DM25
Policy DM25 - Sustainable Buildings - All new dwellings and non-residential buildings shall incorporate sustainable design features to reduce carbon dioxide and nitrogen dioxide emissions and the use of natural resources. New dwellings and non-residential buildings shall provide convenient access to electric vehicle charging point infrastructure.

DM26
Policy DM26 - Design Specification for Dwellings - All new dwellings (including flats) shall have sufficient privacy, amenity space, open space, refuse and recycling storage and shall adhere to the Nationally Described Space Standards. These must be in accordance with Appendix B. All houses in multiple occupation shall also provide sufficient communal garden space, cycle storage, parking and refuse and waste storage.

DM27
Policy DM27 - Parking Standards - The Council will have regard to the vehicle parking standards set out in the Essex Parking Standards - Design and Good Practice (2009) or as subsequently amended when determining planning applications.

DM29

Policy DM29 - Protecting Living & Working Environments - Development proposals must safeguard the amenities of the occupiers of any nearby residential property by ensuring that development is not overbearing and does not result in unacceptable overlooking or overshadowing. Development must also avoid unacceptable levels of polluting emissions, unless appropriate mitigation measures can be put in place and permanently maintained.

MPSPD

The Making Places Supplementary Planning Document was adopted in January 2021 and sets out detailed guidance for the implementation of the policy requirements set out in the Local Plan. It seeks to promote and secure high-quality sustainable new development. It is aimed at all forms of development, from large strategic developments, public spaces and places, to small extensions to individual homes.

SPS7

Strategic Policy S7 The Spatial Strategy - New housing and employment growth will be focussed to the most sustainable locations by making the best use of previously developed land in Chelmsford Urban Area; sustainable urban extensions around Chelmsford and South Woodham Ferrers and development around Key Service Settlements outside of the Green Belt in accordance with the Settlement Hierarchy. New development allocations will be focused on the three Growth Areas of Central and Urban Chelmsford, North Chelmsford, and South and East Chelmsford. Where there are large and established mainly institutional uses within the countryside, Special Policy Area will be used to support their necessary functional and operational requirements.

VDS

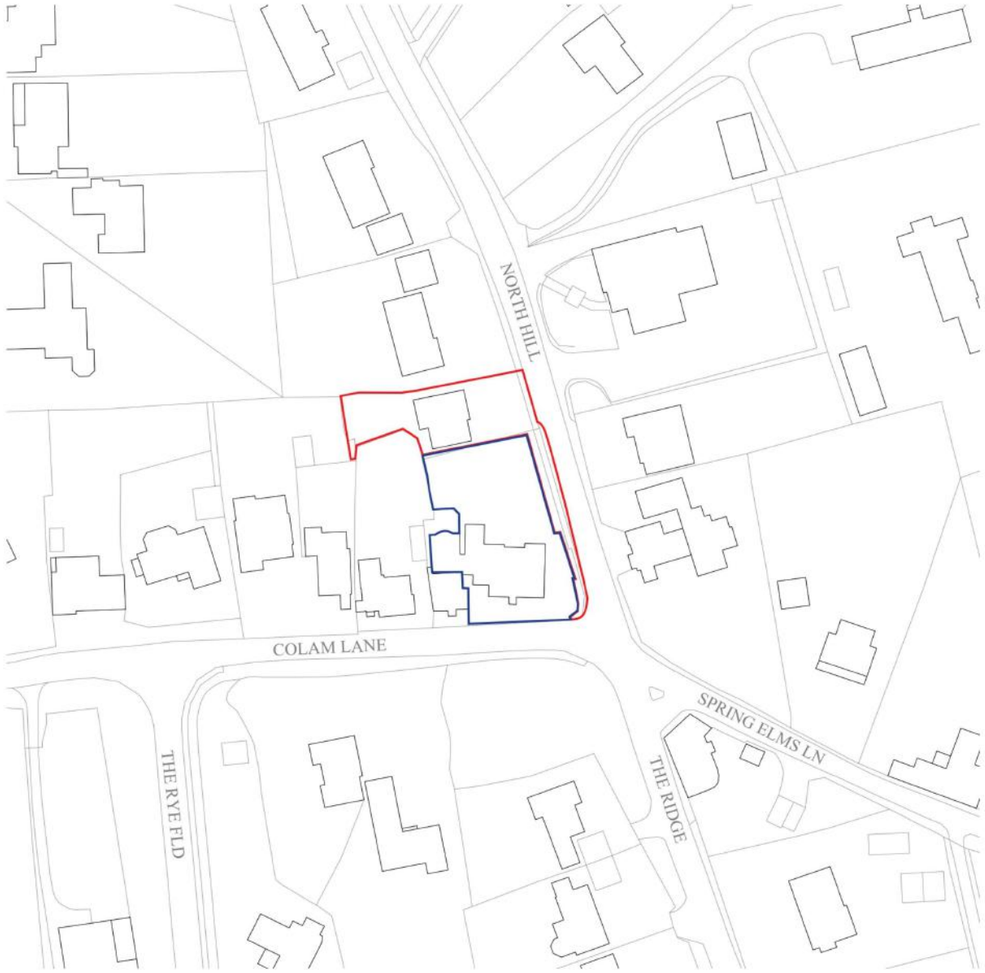
Sets out the local community's view on the character and design of the local area. New development should respect its setting and contribute to its environment.

Appendix 3 – Drawings

To be added

PROPOSAL

SITE LOCATION PLAN



KEY:

Site

Land in ownership

SITE LOCATION PLAN. DRAWING no. 0500. Scale 1:1250@A3

0 5 10 15 25 65m

HILL COTTAGE, COLAM LANE, LITTLE BADDOW, CHELMSFORD, CM3 4SX

PROPOSAL

SITE LAYOUT & LANDSCAPING

KEY

- Land within ownership
- Site boundary

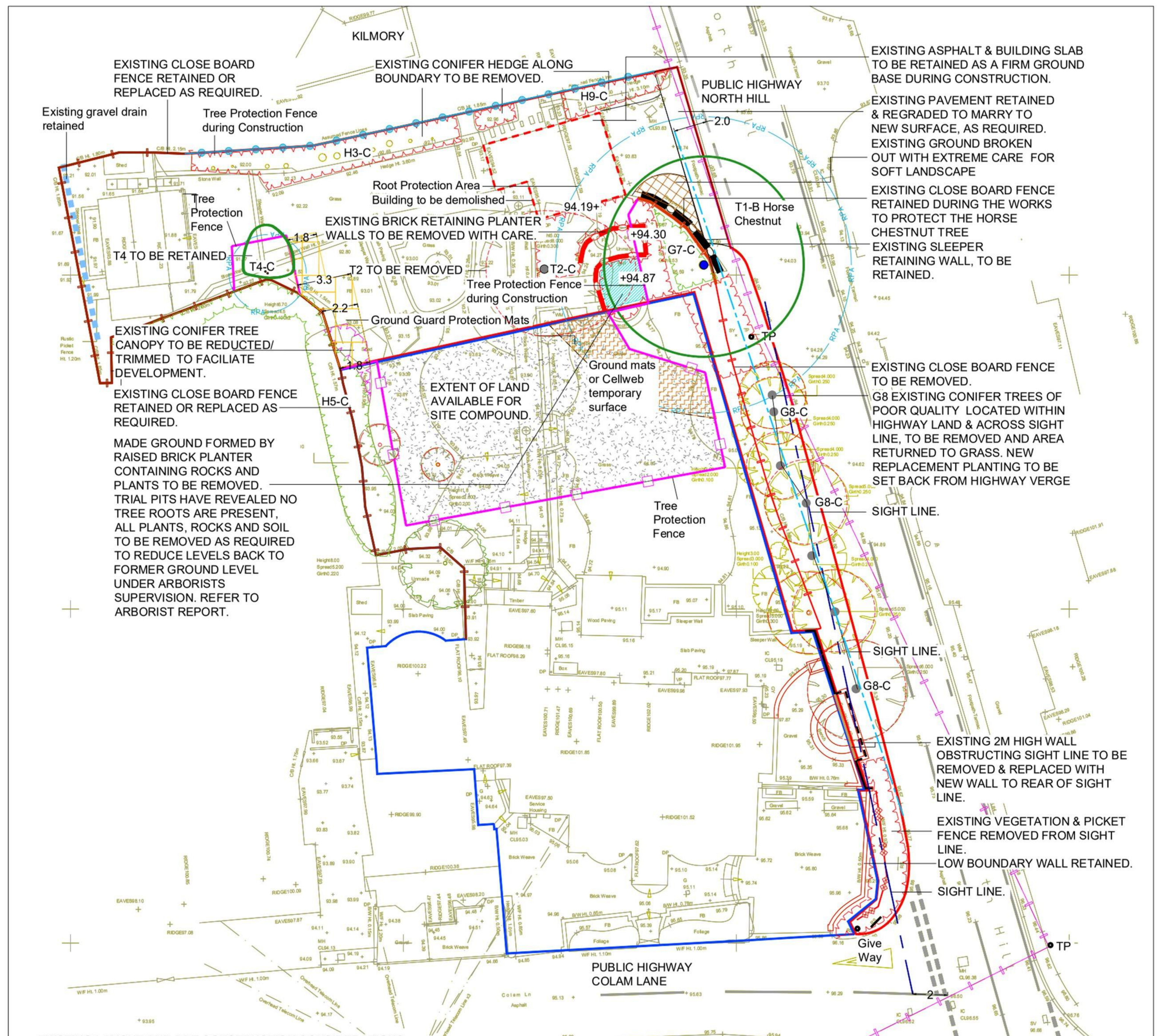
1. Proposed dwelling
2. Driveway with turning head
3. 2 no. parking spaces laid with permeable paving
4. Garden laid to lawn
5. Boundary hedge and 8 pleached trees with close board timber fence on the plot side
6. Reinstated grass verge along highway
7. 2m high replacement wall of similar design to existing wall to be located behidn sight line
8. Vegetation and picket fence replaced with boundary metal vertical railing fence and hedge
9. Boundary hedge and 8 pleached trees
10. Permeable block paving
11. Tobermore paving
12. Proposed extra heavy standard tree planting
13. Retained birch tree
14. Boundary hedge and 4 pleached trees
15. Hedging and pleached trees
16. Proposed magnolia tree

- Surface water drain
- Bin store
- Bike store
- 2 no. electric car charging point

*Please refer to ELD proposal provided for more information on landscape design.

SITE PLAN DRAWING no. 0501. Scale 1:200@A3

0 1 2 3 4 5 10m

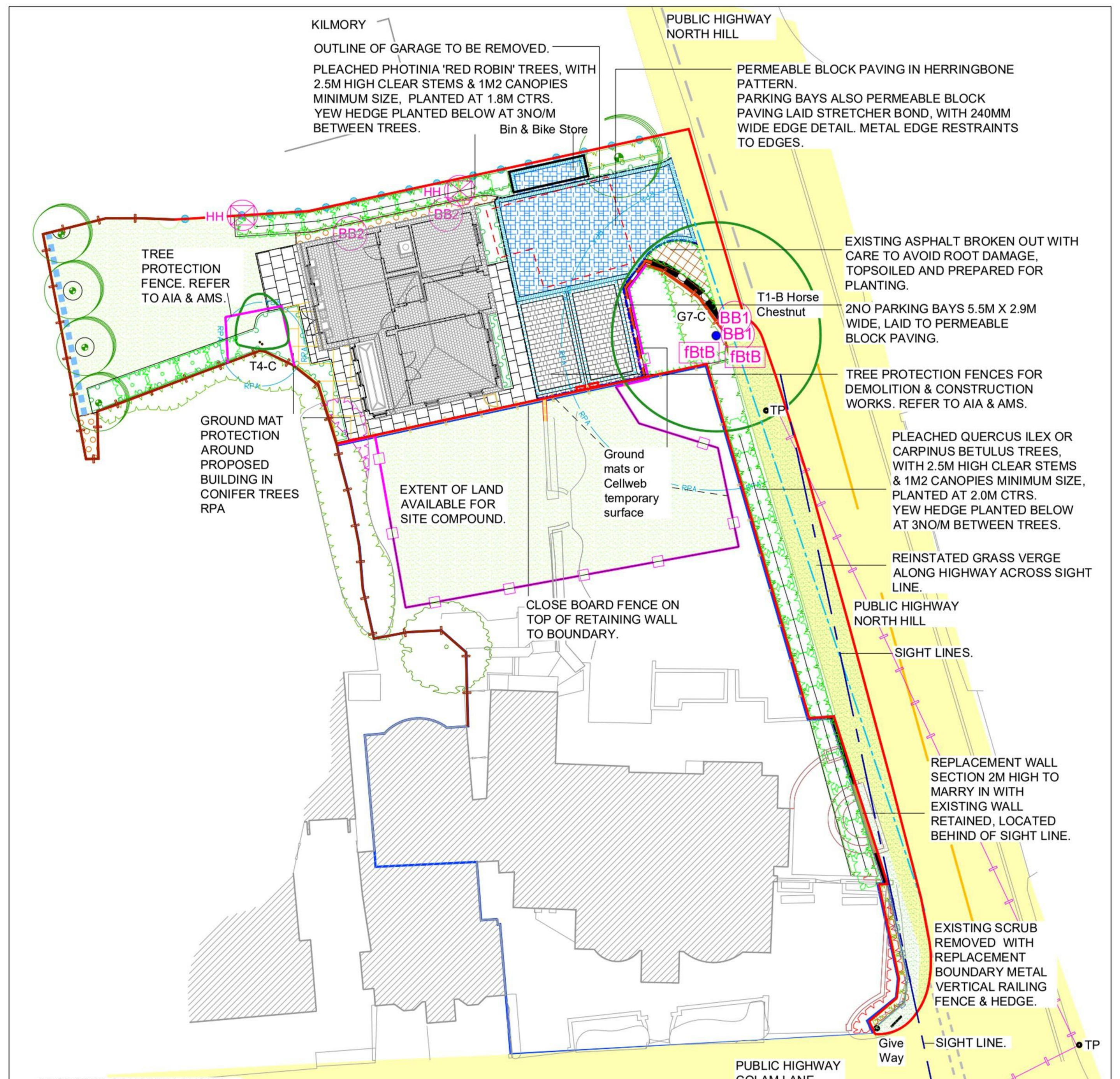


EXISTING LAYOUT AND PRE CONSTRUCTION CONSIDERATIONS
1:200 SCALE

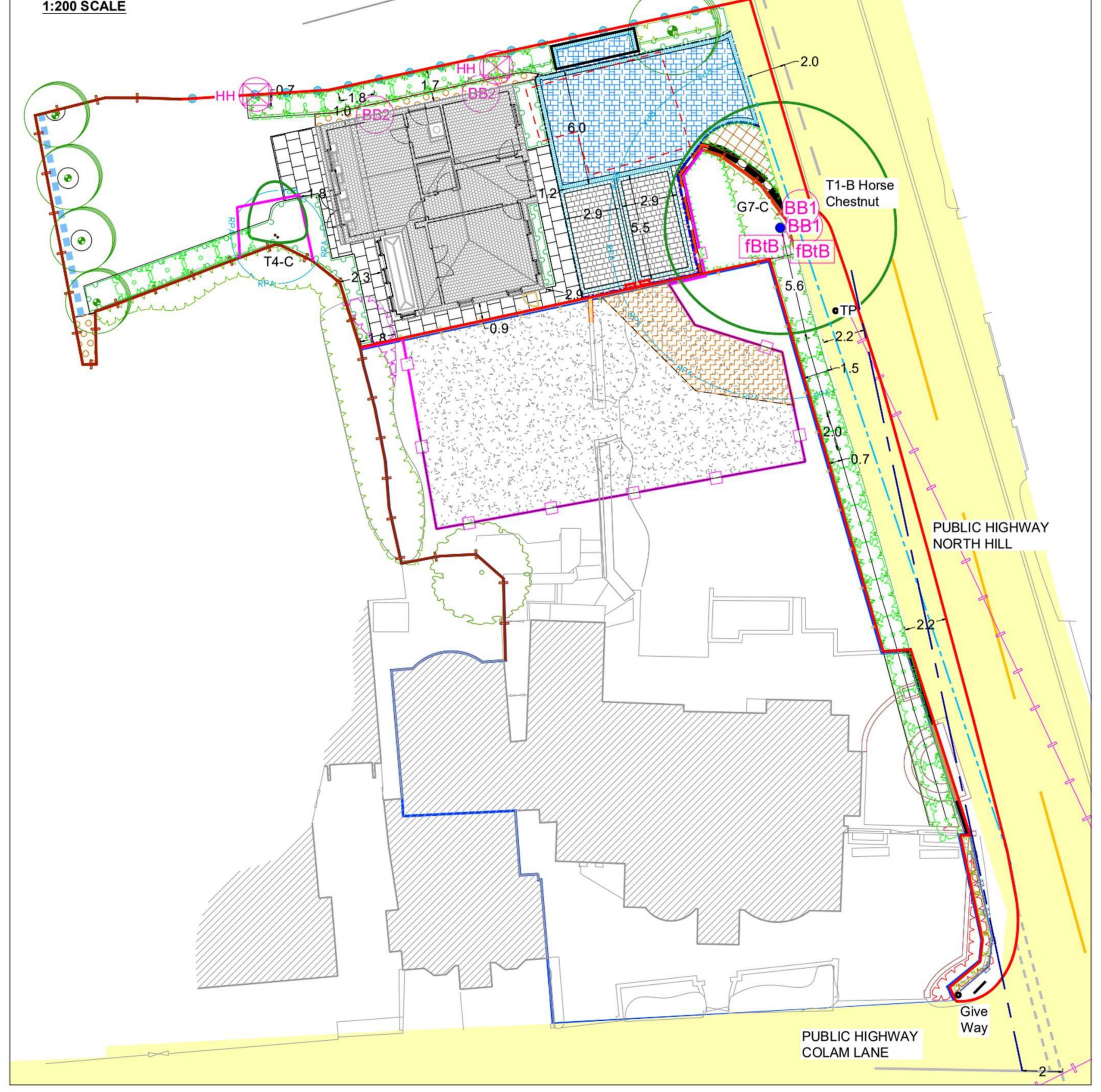
KEY

Existing Features

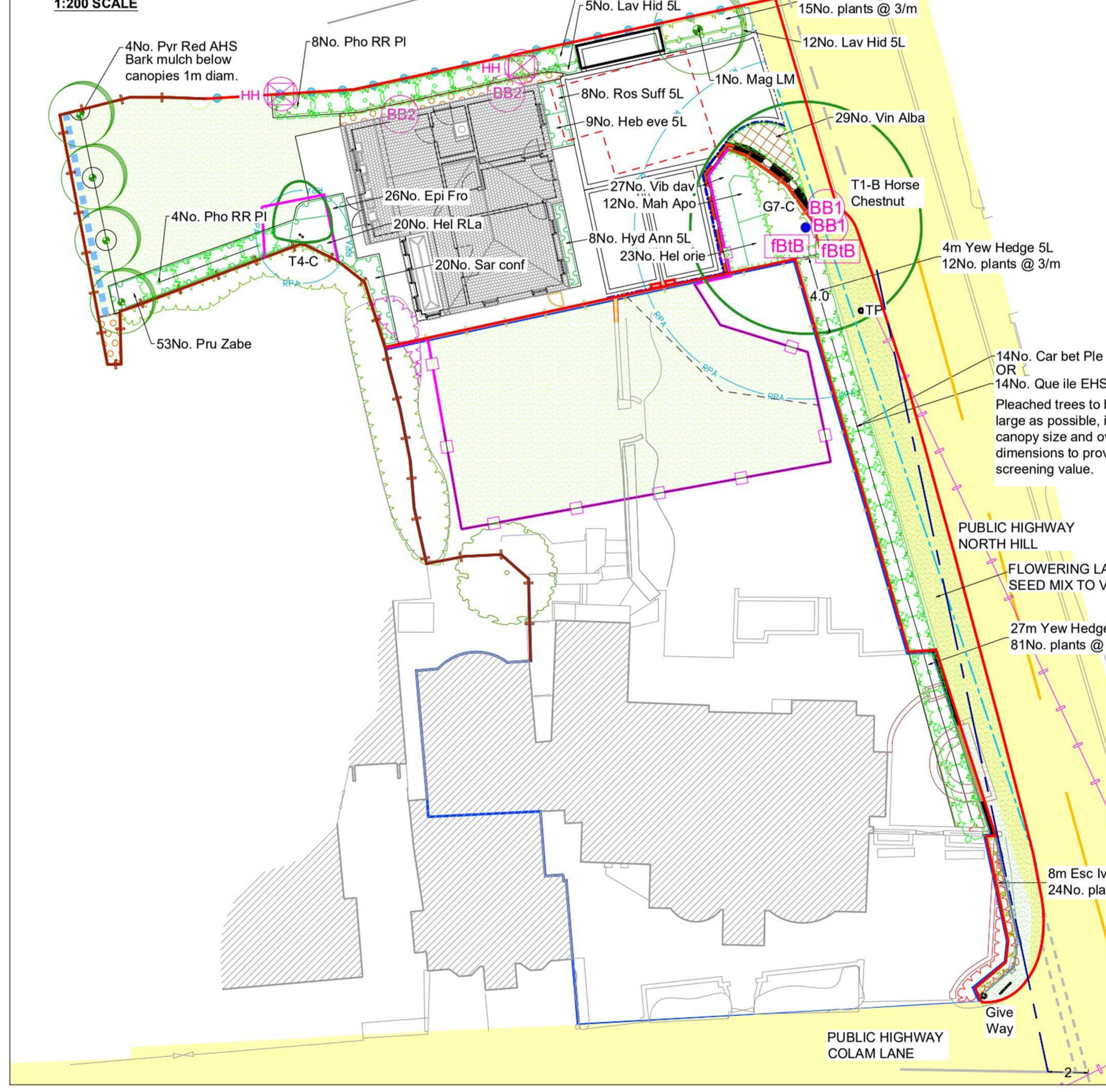
- EXISTING TREES RETAINED & PROTECTED WITH FENCE TO ALLOW PARKING BAY CONSTRUCTION, AS PER BS 5837:2012. REFER TO SHARON HOSEGOOD AIA.
- EXISTING VEGETATION RETAINED.
- PROPOSED STOUT TREE ROOT PROTECTION EXCLUSION FENCE AS PER BS 5837:2012 & SHARON HOSEGOOD AIA.
- EXISTING CLOSE BOARD FENCES TO BE RETAINED DURING DEMOLITION & CONSTRUCTION TO PROTECT THE HORSE CHESTNUT TREE DURING THE WORKS.
- PROPOSED HEAVY DUTY GROUND PROTECTION PLATES/MATS LAID OVER EXISTING SURFACE TO PREVENT DAMAGE TO SURFACE AND TREE ROOTS LOCATED BELOW SURFACE DURING DEMOLITION & CONSTRUCTION, AS PER BS 5837:2012.
- EXISTING CONIFER HEDGE CANOPY TO BE REDUCED TO FACILITATE DEVELOPMENT.
- EXISTING CONIFER HEDGE TO BE REMOVED TO INCLUDE STUMPS TO FACILITATE DEVELOPMENT.
- EXISTING TREES TO BE REMOVED TO INCLUDE STUMPS TO FACILITATE DEVELOPMENT.
- EXISTING SOIL & ROCKS WITHIN RAISED BRICK PLANTER TO BE REMOVED BY HAND AS REQUIRED. WORK TO BE UNDERTAKEN BY A QUALIFIED ARBORIST, AS PER AMS.
- PROPOSED GROUND PROTECTION MATS/GUARDS OR 'CELLWEB TRP' SURFACE TO CONTRACTORS COMPOUND. 'CELLWEB TRP' CELLULAR CONFINEMENT SYSTEM, 150MM DEEP, BACKFILLED WITH CLEAN AGGREGATE, MOT TYPE 3 WITH NO FINES, LAID OVER 'TREETEX 300'. EITHER OPTION LAID OVER EXISTING GARDEN GRASS SURFACE. CELLWEB SUPPLIED BY GEOSYTHETICS. REFER TO ENGINEER'S DETAILS.
- PROPOSED TEMPORARY SURFACE FOR CONTRACTORS COMPOUND, USING MOT TYPE 3 LAID OVER A GEOTEXTILE MEMBRANE LINKED TO GROUND MATS OR CELLWEB SURFACE. SURFACE TO BE REMOVED, GROUND DECOMPACTED & REINSATED AS GARDEN LAWN, AT COMPLETION, AVOIDING LEVEL CHANGES WITHIN RPA.
- EXISTING CLOSE BOARD FENCES TO SITE BOUNDARY TO BE RETAINED OR REPLACED AS NECESSARY.
- EXISTING BOUNDARY TREATMENT TO REMAIN, OR BE REPLACED, AS REQUIRED.
- EXISTING CLOSE BOARD FENCE TO BE REMOVED TO FACILITATE NEW PLANTING BEHIND SIGHT LINES.
- EXISTING PICKET FENCE TO BE REMOVED TO FACILITATE SIGHT LINES.
- EXISTING SLEEPER RETAINING WALL TO BE RETAINED.
- EXISTING LOW BRICK RETAINING WALLS TO BE REMOVED TO FACILITATE PROPOSALS.
- EXISTING BRICK BOUNDARY GARDEN WALLS UP TO 2M HIGH TO BE RETAINED.
- EXISTING BRICK BOUNDARY GARDEN WALLS UP TO 2M HIGH TO BE REMOVED FROM WITHIN SIGHT LINE.
- PROPOSED SECTION OF REPLACEMENT WALL TO MATCH WITH EXISTING BEHIND SIGHT LINE.
- EXISTING TELEGRAPH POLE WITH OVER HEAD CABLES.
- PROPOSED SIGHT LINES. REFER TO STOMOR/ ENGINEER'S DETAILS.
- EXISTING GRAVEL DRAIN RETAINED.



PROPOSED CONCEPT LAYOUT
1:200 SCALE



PROPOSED HARD LANDSCAPE DESIGN
1:200 SCALE



PROPOSED PLANTING DESIGN
1:200 SCALE

0m 10m 20m 30m 40m 50m @ A0

HIGHWAY PLANTING METHODOLOGY & PROPOSALS

Existing Landscape
The current landscape setting along the western side of the North Hill village highway, adjacent to Hill Cottage, comprises a row of incongruous, mature Leylandii conifers, once planted as a hedge but now 6m - 7m high, planted within the adopted highway verge. As a conifer species, they are unattractive, non native and offer negligible value for wildlife. An added constraint relates to their growth, which will continue unabated without maintenance, with the added drawback that no new growth will develop from cut stems, leaving unattractive, open, dead wood scars to trunks and branches after trimming. Currently their trunks and lower branches are restricting the highway sight line. Consequently, they are all to be felled and stumps removed to provide a clear highway verge and unobstructied sight line.

Boundary Fence & Verge
To facilitate replacement planting along the highway, the existing 2.0m high, close board fence would be re-erected in a new position, set back further to the west. The highway verge would be topsoiled to make good after stump removal, followed by reinstatement seeding across the verge with planting located behind the sight line.

New Planting
New planting would require semi mature pleached trees, of either evergreen/holm oak (Quercus ilex), or native, deciduous hornbeam (Carpinsu betulus) species. A native, evergreen yew hedge would be planted to the base, set centrally within a 1.5m wide trench to allow for future growth and expansion, whilst being trimmed into shape each year. The pleached trees shall have 2.0m-2.5m high, clear trunks with a 1.0m-1.5m high x 500mm deep canopy from day one, with each tree set 2.0m apart. The yew hedge shall be approximately 1.2m high from day one and planted between tree trunks at 3no/m, to form an instant, evergreen hedge to the base. The hedge shall grow and be clipped annually to reach 2.0m high x 1.5m wide when mature, set neatly behind the highway verge and sight line to hide the fence when viewed from the village street.

Pleached tree trunks shall emerge from the hedge and as the tree canopies knit together along a horizontal band, they will be trimmed to form a continuous, higher level 'hedge on stilts', with the canopy located 0.5m above the fence line. Overall height shall be between 4.0m and 5.0m high x 1.5m wide. These combined linear features will provide screening and privacy for all residents, with a more controlled, clipped and continuous canopy, that is far more in keeping than the unsightly and incongruous conifers. The highway verge shall be mown as required and sight lines will be retained long term by the resident of Hill Cottage.

Below: an example of pleached hornbeam trees growing above a clipped hedge.

KEY

Existing Trees

- EXISTING TREES RETAINED & PROTECTED. WITH FENCE RELOCATED TO ALLOW PARKING BAY CONSTRUCTION, AS PER BS 5837:2012. REFER TO SHARON HOSEGOOD AIA.
- EXISTING VEGETATION OUTSIDE OF SITE BOUNDARY RETAINED.
- PROPOSED STOUT TREE ROOT PROTECTION EXCLUSION FENCE AS PER BS 5837:2012 & SHARON HOSEGOOD AIA.
- PROPOSED HEAVY DUTY GROUND PROTECTION PLATES/MATS LAID OVER EXISTING HARD SURFACE TO PREVENT DAMAGE TO SURFACE AND TREE ROOTS LOCATED BELOW SURFACE DURING DEMOLITION & CONSTRUCTION, AS PER BS 5837:2012.
- EXISTING CONIFER HEDGE CANOPY TO BE REDIUCED TO FACILITATE DEVELOPMENT.

Existing Features

- EXISTING TELEGRAPH POLE WITH OVER HEAD CABLES.
- PROPOSED SIGHT LINES. REFER TO STOMOR/ ENGINEER'S DETAILS.
- EXISTING GRAVEL DRAIN RETAINED.

Proposed Features - Soft Landscape

- PROPOSED STANDARD TREE PLANTING, TO INCLUDE DOUBLE TREE STAKES 1M HIGH, RUBBER TIES AND SPACERS, 2.0M LENGTH OF PERFORATED IRRIGATION PIPE @ 60MM DIAM. WRAPPED AROUND ROOTBALL & 50MM DEPTH OF BARK MULCH AFTER SETTLEMENT, TO 1M DIAM. AROUND BASE OF ALL NEW TREES.
- PROPOSED PLEACHED TREES: PHOTONIA 'RED ROBIN', PLANTED AT 1.8M CENTRES AND EITHER QUERCUS ILEX OR CARPINUS BETULUS, PLANTED AT 2.0M CENTRES. ALL TO HAVE 2.5M HIGH CLEAR STEM & MINIMUM OF 1M SQUARE CANOPY. ALL TO BE SUPPORTED, ON A SQUARE CANE TRELLIS. HIGHWAY TREES TO BE SUPPORTED BY METAL POSTS & WITH CANES ATTACHED TO 3-4NO TENSIONED WIRE HORIZONTAL SUPPORTS, WITH RUBBER PIPE ON WIRES TO PREVENT CHAFFING OF BRANCHES. ALL TREES TO HAVE A 60MM DIAM. PERFORATED IRRIGATION PIPE WRAPPED AROUND ROOTBALL, OR A LEAKY PIPE DRIP FEED, 60MM DEPTH BARK MULCH = 50MM AFTER SETTLEMENT AND CLEAR SPIRAL GUARD TO BASE.
- PROPOSED NATIVE YEW HEDGES,1.2M HIGH, PLANTED CENTRALLY @ 3NO/M IN A SINGLE ROW WITHIN HEDGE TRENCH, MINIMUM 1.2M TO 1.5M WIDE, WITH 50MM DEPTH BARK MULCH AFTER SETTLEMENT.
- PROPOSED SHRUB AND HERBACEOUS PLANTING WITH 50MM DEPTH BARK MULCH AFTER SETTLEMENT.
- PROPOSED GROUND COVER SHRUB AND HERBACEOUS PLANTING TO GROW TO MAX. 600MM, WITH 50MM DEPTH BARK MULCH AFTER SETTLEMENT.
- PROPOSED LAWN TURF TO PLOT GARDEN, MAINTAINED BY RESIDENTS BY WEEKLY CUTTING.
- PROPOSED GRASS SEED EL1, FLOWERING LAWN SOWN @ 4G/M2, SUPPLIED BY EMORSGATE SEEDS, LOCATED ALONG HIGHWAY VERGE, MAINTAINED BY LPA, BY REGULAR MOWING.
- PROPOSED GRAVEL OVER GEOTEXTILE WITH TIMBER EDGE BETWEEN GRAVEL & PLANTING.
- PROPOSED GROUND PROTECTION MATS/GUARDS OR 'CELLWEB TRP' SURFACE TO CONTRACTORS COMPOUND. 'CELLWEB TRP' CELLULAR CONFINEMENT SYSTEM, 150MM DEEP, BACKFILLED WITH CLEAN AGGREGATE, MOT TYPE 3 WITH NO FINES, LAID OVER 'TREETEX 300'. EITHER OPTION LAID OVER EXISTING GARDEN GRASS SURFACE. ALL SUPPLIED BY GEOSYTHETICS. REFER TO ENGINEER'S DETAILS.

Ecological Features

- BB1 — PROPOSED BIRD BOXES, TYPE 'SCHWEGLER 'TRADITIONAL/GENERAL PURPOSE TREE MOUNTED BIRD BOXES', WITH 50% FITTED WITH A 26MM HOLE 50% WITH A 55MM OVAL HOLE. THE BOXES ARE TO BE FITTED ON EXISTING TREE TO AVOID DIRECT SUNLIGHT AND PREVAILING WIND, LOCATED TO EASTERN AND NORTHERN ELEVATIONS. 2NO. IN TOTAL.
- BB2 — PROPOSED BIRD BOXES INTEGRATED INTO BUILDING; HOUSE SPARROW TERRACE BOX (32MM HOLE X 3); STARLING, BOX (45MM HOLE). ALL TO BE FITTED AT LEAST 3M ABOVE THE GROUND BELOW EAVES TO AVOID PATHS, PATIOS AND WINDOWS BELOW; DIRECT SUNLIGHT AND PREVAILING WIND LOCATED TO EASTERN ELEVATION. 2NO. IN TOTAL.
- fBtB — PROPOSED 'HABIBAT 001 BESPOKE' (WWW.HABIBAT.CO.UK) BAT BOX TO BE FITTED ON EXISTING TREE, AT LEAST 3M TO 6M ABOVE GROUND, LOCATED ON WESTERN ELEVATION. 2NO. IN TOTAL.
- HH — PROPOSED HEDGEHOG HOLE, MINIMUM 100MM HIGH x 130MM WIDE LOCATED AT THE BASE OF GARDEN FENCING WHERE SHOWN, TO ALLOW MOVEMENT OF HEDGEHOGS FROM GARDEN TO GARDEN AND BEYOND THE SITE BOUNDARIES. 2NO. IN TOTAL.

Proposed Features - Hard Landscape

- PROPOSED BLOCK PAVING TO BE RETAINED WITH 'ALU EXCEL' METAL EDGE RESTRAINTS, 100MM HIGH, WITH PINS SECURED INTO A LEAN CEMENT MIX STRIP FOUNDATION. SUPPLIED BY KINLEY SYSTEMS. 01580 830688.
- EXISTING/REINSTATED BACK TOP ASPHALT TO PAVEMENT GRADED BACK WITH NO DIG SURFACES TO ADOPTABLE HIGHWAY STANDARDS & ENGINEER'S DETAILS.
- PROPOSED ACCESS TO BE PERMEABLE BLOCK PAVING TO BE TOBERMORE, 'TEGULA 240', CONCRETE SETT PAVING, COLOUR 'BRACKEN', LAID AS HERRINGBONE BOND AT 45 DEGREES TO KERB, BLOCK SIZE 240 X 120 X 80MM DEEP, WITH A SINGLE SETT LAID AS A LINEAR EDGE DETAIL IN SOLDIER BOND, SIZE 240 X 120MM WIDE X 80MM DEEP IN 'BRACKEN'. SUPPLIED BY TOBERMORE, TEL: 0345 6081250, OR SIMILAR APPROVED. NB. PLAN PAVING IS ILLUSTRATED BY A GRAPHIC HATCH ONLY. REFER ENGINEER'S SPECIFICATION.
- PROPOSED CAR PARKING BAYS & OVER RUN TO BE PERMEABLE BLOCK PAVING LAID OVER NO DIG SURFACE: USING TOBERMORE, 'HYDROPAVE TEGULA DUO', PERMEABLE CONCRETE SETT PAVING, COLOUR 'CHARCOAL'. ALL BLOCKS TO BE LAID AS A 60:40 MIX WITH 208 X 173 X 60MM AND 173 X 173 X 60MM IN STRETCHER BOND AS INDICATED AT 90 DEGREES ACROSS BAYS, WITH 173 X 208MM WIDE LINEAR EDGE DETAILS IN COLOUR 'CHARCOAL', TO DIVIDE AND BORDER EACH PARKING BAY. SUPPLIED BY TOBERMORE, TEL: 0345 6081250, OR SIMILAR APPROVED. NB. PLAN PAVING IS ILLUSTRATED BY A GRAPHIC HATCH ONLY. REFER ENGINEER'S SPECIFICATION.
- PROPOSED PATH & PATIO: TO BE TOBERMORE 'TEXTURED FLAG PAVING' WITH CHAMFERED EDGES, COLOUR 'NATURAL', SIZES 600 X 600 X 50MM, LAID HALF BOND WITH STAGGERED JOINTS, IN DIRECTIONS AS INDICATED ON THE PLAN. ALL TO BE LAID FLUSH WITH ADJACENT SURFACES TO PREVENT TRIP HAZARDS. MANHOLE COVERS RECESSED & ORIENTATED TO TIE IN WITH PAVING ALIGNMENT AND ALL TO BE POINTED. PAVING SUPPLIED BY TOBERMORE, TEL: 0345 608 1250, OR SIMILAR APPROVED. PAVING DEPTH AND DETAILS BY ENGINEER. NB. PLAN PAVING IS ILLUSTRATED BY A GRAPHIC HATCH ONLY.
- PROPOSED PCC 50MM PIN KERB TO EDGE OF PAVING.
- PROPOSED TEMPORARY SURFACE FOR CONTRACTORS COMPOUND, USING MOT TYPE 3 LAID OVER A GEOTEXTILE MEMBRANE LINKED TO GROUND MATS OR CELLWEB SURFACE. SURFACE TO BE REMOVED, GROUND DECOMPACTED & REINSATED AS GARDEN LAWN, AT COMPLETION, AVOIDING LEVEL CHANGES WITHIN RPA.
- EXISTING LOW VERTICAL SLEEPER RETAINING WALLS TO BE RETAINED TO PROTECT TREE ROOTS FROM DAMAGE.
- PROPOSED GREEN OAK SLEEPERS TO RETAIN SOIL ALONG EDGE OF RPA TO CHESTNUT TREE AROUND PARKING BAY, WITH PREDRILLED HOLES @ 0.5M CENTRES, WITH PINS SECURED INTO THE GROUND THROUGH SLEEPERS TO 600MM DEEP, CUT OFF LEVEL WITH THE SLEEPER SURFACE. SLEEPERS ALSO SECURED WITH GEOTEXTILE LINING REAR SURFACE. TIMBER POSTS SECURED TO THE REAR EDGE AT 1M CENTRES. BLOCK PAVING TO BE RETAINED ALONG INNER EDGE OF SLEEPERS WITH 'ALU EXCEL' METAL EDGE RESTRAINTS, 100MM HIGH, WITH PINS SECURED INTO A LEAN CEMENT MIX STRIP FOUNDFATION. SUPPLIED BY KINLEY SYSTEMS. 01580 830688.
- PROPOSED BLOCK WORK RETAINING WALL, FACED WITH BRICKS ALONG BOUNDARY, WITH 1.8M HIGH CLOSE BOARD FENCE MOUNTED ON TOP, WHERE INDICATED. DETAILS BY ARCHITECT.
- EXISTING CLOSE BOARD FENCES TO BE RETAINED DURING DEMOLITION & CONSTRUCTION TO PROTECT THE HORSE CHESTNUT TREE DURING THE WORKS.
- EXISTING CLOSE BOARD FENCES TO SITE BOUNDARY TO BE RETAINED OR REPLACED AS NECESSARY.
- PROPOSED 1.8M HIGH CLOSE BOARD TIMBER FENCE WITH TIMBER POSTS, GRAVEL BOARD TO BASE AND 3NO HORIZONTAL ARRAS RAILS.
- EXISTING BOUNDARY TREATMENT TO REMAIN, OR BE REPLACED, AS REQUIRED.
- PROPOSED 1.2M HIGH BLACK METAL VERTICAL RAILING FENCE.
- EXISTING BRICK BOUNDARY GARDEN WALLS UP TO 2M HIGH TO BE RETAINED.
- PROPOSED SECTION OF REPLACEMENT WALL TO MATCH WITH EXISTING BEHIND SIGHT LINE.
- PROPOSED EV CHARGING POINTS.

PLANT SCHEDULE

TREES

QTY	CODE	PLANT NAME	STOCK	FORM	GIRTH/HEIGHT
14No.	Car bet Ple *	Carpinus betulus Pleached 2.5m clear stem, 1m canopy	C 250L	PLEACHED	350-400cm
OR					
14No.	Que ile EHS *	Quercus ilex Pleached 2.5m clear stem, 1m canopy	C 250L	PLEACHED	350-400cm
1No.	Mag LM	Magnolia soulangeana 'Leonard Messell'	C	STD	180-210cm
12No.	Pho RR Pl	Photinia x fraseri 'Red Robin' 2.5m clear stem, 1m canopy	C 150L	PLEACHED	300-350cm
4No.	Pyr Red AHS	Pyrus calleryana 'Redspire'	C 150L	STD	16-18cm

* Pleached trees to be supplied as large as possible, as either/or species.

HEDGES

QTY	CODE	PLANT NAME	STOCK	SIZE
8m	Esc Ivi Hedge 5L	Escallonia 'Iveyi'	C 5L	40-60cm
24No. Plants spaced @ 3/m in a Single Row				
4m	Yew Hedge 5L	Taxus baccata	C 5L	40-60cm
12No. Plants spaced @ 3/m in a Single Row 1.5m wide below horse chestnut tree/RPA				
47m	Yew Hedge 20L	Taxus baccata	C 20L	100-125cm
141No. Plants spaced @ 3/m in a Single Row, in a trench 1.5m wide				

SHRUBS

QTY	CODE	PLANT NAME	STOCK	SIZE	SPACING
9No.	Heb eve 5L	Hebe evenosa	C 5L	40-60cm	4/m2
8No.	Hyd Ann 5L	Hydrangea arborescens 'Annabelle'	C 5L	40-60cm	3/m2
17No.	Lav Hid 5L	Lavandula angustifolia 'Hidcote'	C 5L	40-50cm	4/m2
12No.	Mah Apo	Mahonia aquifolium 'Apollo'	C 3L	30-40cm	4/m2
53No.	Pru Zabe	Prunus lauracersus 'Zabelliana'	C 3L	30-40cm	4/m2
8No.	Ros Suff 5L	Rosa 'Suffolk'	C 5L	30-40cm	4/m2
20No.	Sar conf	Sarcoccoca confusa	C 3L	40-60cm	5/m2
27No.	Vib dav	Viburnum davidii	C 3L	40-60cm	4/m2

HERBACEOUS PLANTS

QTY	CODE	PLANT NAME	STOCK	SPACING
26No.	Epi Fro	Epimedium x perralchicum 'Frohnleiten'	C 2L	5/m2
23No.	Hel orie	Helleborus orientalis	C 3L	5/m2
20No.	Hel RLa	Helleborus × hybridus 'Red Lady'	C 2L	5/m2
29No.	Vin Alba	Vinca minor 'Alba'	C 3L	5/m2

NOTES AND ABBREVIATIONS:
C = Container (or pot) grown, followed by size of the container (or pot)
EHS = Extra Heavy Standard 14-16cm girth
FORM = Shape of tree as supplied by the nursery
Fth = Feathered tree
QTY = Quantity
SIZE = Height or Spread of juvenile plant
Std = (clear stem) Standard.
STOCK = Root condition/protection method eg Bare root
- Refer to specification for further information
- All plants to be completely hardened off
- Substitutions to be agreed with Landscape Architect

Plant Schedule generated by "Qscape" software 09/05/2023

OUTLINE SPECIFICATION NOTES

SERVICES
A service corridor outside the root protection area of the Horse Chesnut tree along the northern boundary of the site has been identified as a suitable location for incoming services from North Hill.

EXISTING TREES
Trees retained and to be removed are indicated on the drawings, along with protective fences and areas where soil and rocks are to be removed from below caopies. All tree roots shall be removed and hollows backfilled with topsoil to facilitate new planting. Refer to all Arboricultural details provided by Sharon Hosegood.

TOPSOIL PREPARATION
Planting below existing canopies shall be into retained, insitu topsoil. All new planting areas outside of tree root protection areas (RPAs) to the plot frontage shall be excavated to the specified depth and the base of all planting beds ripped a further 250mm minimum, to provide free drainage. All arisings shall be removed from the planting bed prior to topsoiling. No bricks, rubble or debris in subsoil layers will be accepted prior to topsoiling.

All lawn areas shall be topsoiled to 200mm and hedge and shrub planting areas shall be topsoiled to a minimum depth of 350mm and maximum of 400mm. All lawns and borders shall be cultivated to a depth of 250mm and raked to an even tilth prior to planting or seeding operations. Finished topsoil levels shall be 65mm below adjacent paving and turf at the edges and slightly mounded to the centre to allow for spreading of bark mulch, with mulch levels to be recessed 15mm below adjacent surfaces to prevent spillage.

Tree pits within soft landscape areas shall be excavated to a square, minimum size of 800 x 800 x 500mm deep, or 1/3 larger than the rootball/container size and backfilled with approved topsoil and 100mm depth of peat free compost / ameliorants. All tree pits to be thoroughly decompacted across base and sides prior to back-filling, refirmed to prevent sinkage of the tree rootball.

All planting beds and hedgerows shall be covered with 50mm depth of peat free compost across all beds prior to final cultivation.

WEED/DEBRIS CLEARANCE
Where necessary areas to be planted shall be cleared of any grass, weed growth or debris physically and/or chemically with a translocated herbicide (Glyphosate) prior to cultivation operations. If necessary any further grass and weed growth shall be eradicated physically and/or chemically with a translocated herbicide. All roots of perennial weeds shall be removed. More than one application may be necessary to ensure eradication.

PROPOSED TREES
Trees shall be supplied to the sizes and stock on the plant schedule and planted in the locations shown. Each stadnard tree shall have a single leader with a well developed, balanced crown and clear, straight stem. All pleached trees shall have the same dimensions and trunk heights, as per the specied specified. All trees shall be container grown to ensure good root development.

Secure all standard adn pleached trees with a double tree stake placed to each side of the rootball, with rubber tree ties and "Rubberlock" standard belt tie with spacer blocks, wrapped around the trunk and passed through a rubber collar/spacer between the trunk and stake to prevent movement and chafing allowing for the radial expansion of the stem. The tie shall be located 50mm below the top of the stake. Replace ties or adjust tension of ties as tree stem diameter increases to prevent strangulation. All stakes shall be set parallel to the kerbs/fences. All stakes shall be 75mm diameter and 2.5m long, pressure impregnated with preservative to BS:1282, of a softwood source, free of any projections or bark and pointed at one end. It shall be driven into the pit prior to planting, to a depth 1.0m below the base of the pit, and following planting the stake shall be cut to a height of 1.0m above finished ground level.

All standard adn pleached trees shall have a 60mm diameter, 1.5m long, black perforated irrigation pipe wrapped about the top of rootball with 100mm left above ground level to permit irrigation during dry weather. Each pipe shall have a cap to the end to prevent ingress of mulch, vermin or rubbish. A spiral rabbit guard shall be secured to the base of all trees. All trees shall have a 600mm high spiral rabbit guard wrapped around the base and a strimming guard to prevent damage during floral meadow maintenance.

PROPOSED ORNAMENTAL SHRUB AND HEDGEROW AREAS
Where shrub planting is specified next to hard landscape areas, haunching to kerbs shall be controlled by shuttering to avoid spread into planting areas and to maximise planting space between kerbs.

All shrubs shall be container grown, bushy and have a minimum of three breaks/ branches from the base of the plant with full root development in the container. All shrubs shall be planted at even centres, offset from the edges of paving and lawns to allow 0.5m of branch development.

Hedges shall be planted in a single row at the densities specified, set centrally withing the hedge trench, which shall be maintained free of grass and weeds, to the full width as indicated, at all times.

LAWNS
The rear garden shall be laid to turf
Turf: using a fine lawn turf such as Rolawn Medallion or similar approved. Turf shall be laid on a prepared base of topsoil 150mm deep, cultivated to a fine tilth with all stones larger than 15mm diameter removed. Prepared areas are to be levelled to 20mm below road Kerb. All turf is to be laid from boards to prevent ground compaction and butted up to adjacent turf with close joints. Water regularly until established and a 50mm high green sward of grass is evident. The grass is to be cut to 50mm in height for first cut and to 35mm in height for subsequent cuts. All arisings shall be finely chopped and scattered on site. Areas that have not become successfully established shall be re-turfed in the next available season. Residents shall be liable for maintenance following occupation.

Retain an area 1.0m diameter clear of grass to the base of new tree planting to reveive mulch.

BARK MULCH
Following planting of all ornamental planting beds and trees shall be mulched with composted bark mulch to form a depth of 65mm, to reach 50mm after settlement. All mulch shall be a medium grade composted bark or similar approved, containing less than 5% wood. It shall be pest, disease and weed free with no Methyl Bromide contamination. Prior to mulching all beds shall be spread with a layer of slow release fertiliser and watered to field capacity. Trees in rear gardens shall have a 1m diameter area of mulch placed at the base, to 65mm

HARD LANDSCAPE
Refer to the ELD Key for material type and size.

MAINTENANCE / MAKING GOOD DEFECTS
Soft landscaping shall be timetabled and implemented during the first planting season (Mid-November to Mid-March) after the substantial completion of the hardworks.

The Landscape Contractor (LC) shall maintain plot garden lawns and planting prior to occupation only, thereafter all landscape areas shall become the responsibility of the resident or client as applicable. After this agreed period, the resident shall be responsible for all landscape maintenance in perpetuity to ensure all plants become established and mature to reach their full potential. No plants shall be removed. The site shall be maintained as follows:

Plant failures: All plant failures shall be replaced during the first five years, as above.

Weeds: All new trees, shrubs and hedgerow planting shall be kept free of weeds for the duration of the maintenance period, in a weed free state at all times. This shall be by mechanical or chemical methods as appropriate; in line with the manufacturer's instructions and in compliance with the Pesticides Act (1998), taking care to avoid drift onto surrounding vegetation.
Hedgerows shall be kept free of weeds throughout their full width up to 1.5m wide and full length. All arisings in plot areas shall be removed following dieback and beds tidied. All trees shall have a 1m diameter grass/weed free zone to the base of individual plants with 1m diam of bark mulch 50mm deep to each plant.
Lawn Grass: All lawn areas shall be cut regularly to 35-40mm high following establishment.
Tree Stakes: All tree stakes and ties should be checked regularly to ensure that tree root systems remain stable, firm and upright in the ground at all times and that ties are still effective and not causing any damage to the tree such as abrasion against the trunk. Any stakes and ties that are found not to be fit for purpose should be adjusted, replaced or removed.
Pleached Tree Pruning: Horizontal branch structure shall be trained and encouraged along pleached canes and canopies trimmed to retain a 'hedge on stilts' effect in accordance with BS 3998 as required throughout the early years after planting to establish a permanent, structurally sound scaffold system of horizontal branches, typical of the species and appropriate to the site circumstances. All arising shall be removed.
Pruning - General: Any damaged shoots or branches shall be pruned off plants using appropriate secateurs/loppers. All pruning undertaken in accordance with good horticultural practices. All arising shall be removed.
Shrubs/herbaceous: All other shrubs shall be maintained in accordance with good horticultural practices.
Mulch: All areas of bark mulch to trees, shrubs and hedges shall be topped up to 50mm depth at the end of the 12 month defects period.
Irrigation: All new tree, shrub and hedge planting shall be irrigated by the contractor or resident as required, using appropriate methods to ensure proper establishment of planting during the first 5 years after planting.

IRRIGATION
The timing and frequency of irrigation should take into account the prevailing weather conditions, soil moisture release characteristics and the response of the tree species to water deficits, or periods of prolonged soil saturation. The frequency of irrigation is more important than the volume of water given at any one time. Increased water volumes cannot compensate for a lack of frequency. All trees and shrubs shall be irrigated as required, using appropriate water sources to maintain good and proper plant establishment. Monitoring is recommended if there are 10 consecutive days during the growing season at ≥25 °C. Water should only be added if soil moisture probe/tensiometer values indicate that it would be appropriate to do so. In the first 2 growing seasons during summer months, trees may require the following total volumes of water per month, applied across 2 to 3 visits during the month: 10-12cm girth (up to 3.6m high) @ 75L per month and 12-14cm girth (up to 4.2m high) @ 115L per month.

ALL DIMENSIONS TO BE CHECKED ON SITE. TO BE READ WITH ALL CONTRACT DOCUMENTATION. ANY DISCREPANCIES TO BE REPORTED TO THE CONTRACT ADMINISTRATOR. DO NOT SCALE FROM THIS DRAWING.

N.B. THESE LANDSCAPE PROPOSALS HAVE NOT BEEN CROSS REFERENCED AGAINST DRAINAGE, SERVICES OR UTILITY LOCATIONS TO IDENTIFY ANY POTENTIAL CONFLICTS. CLIENT/ENGINEER TO CHECK AND ADVISE ACCORDINGLY.

CDM Regs 2015 - Designer Hazard Risk Identification Checklist

- Gas: Surveys and data NOT obtained. Contractor to check on site. Soft landscape co-ordinated to avoid existing/proposed easements.
- Overground/Underground cables: Surveys and data obtained & illustrated on ELD plans where known. Contractor to check on site. Soft landscape co-ordinated to avoid known underground cables.
- Water pipes: Surveys and data NOT obtained. Contractor to check on site. Soft landscape co-ordinated to avoid existing/proposed water pipes.
- Electricity: Surveys and data NOT obtained. Contractor to check on site. Soft landscape co-ordinated to avoid existing/proposed easements.
- Drainage: Surveys and data NOT obtained. Contractor to check on site. Soft landscape co-ordinated to avoid existing/proposed drainage tanks, easements and pipes.
- Manual handling: Paving materials and most plant stock specified to permit manual handling and avoid musculoskeletal injury. Street furniture suitable for manual handling, with 2 people.
- Manual Handling: Nursery stock trees. Larger stock to be mechanically lifted into tree pits to avoid manual handling and muscloskeletal injury.
- Existing Trees: Development designed to avoid existing trees. Hand diggging and no dig construction specified. Trees felled in areas of development conflict.
- Proposed trees: designed to be offset from buildings to avoid structural damage or negative effect on occupants/services, with foundations deepened as required.
- Plants with elevated toxicity: Generally not specified. Contractors instructed to wear gloves during planting/maintenance works to avoid skin irritation.
- Deleterious materials: None specified.

Rev.	Date Yr/Mth/Dy	Initials	Details

E·L·D
ELWOOD LANDSCAPE DESIGN
CHARTERED LANDSCAPE ARCHITECTS

Suffolk Office: The Barn, Cherry Tree Farm, Mendlesham Green, Stowmarket, Suffolk IP14 5RQ. Tel: 01449 768828 E: team@e-l-d.co.uk

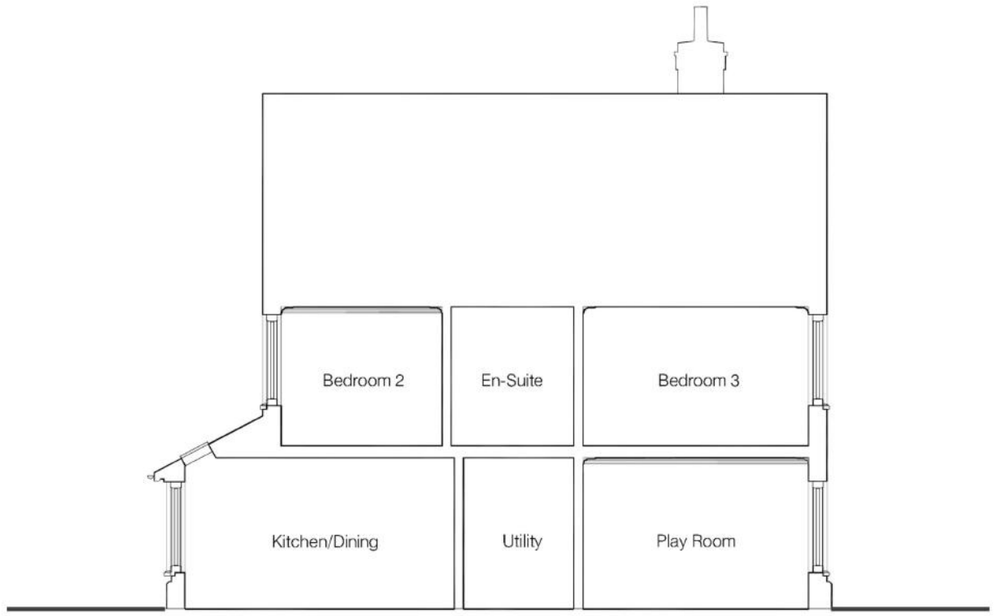
Cambridgeshire Office: The Nursery, Market Street, Fordham, Cambridgeshire, CB7 5LQ. Tel: 01638 721066 E: team@e-l-d.co.uk

☒ ISSUED BY ☐

CLIENT: LANDIPLOMACY	PROJECT: LAND AT HILL COTTAGE, COLAM LANE, LITTLE BADDOW CM3 4SY
DWG TITLE: EXISTING & PROPOSED LANDSCAPE - NEW DWELLING, NORTH HILL	
SCALE: 1: 200 @ A0	DATE: 13TH FEBRUARY 2023
DRAWN BY: RE. / CHECKED BY: AE.	DRAWING NO: ANDE 570/6-001 / REV. .

PROPOSAL

BUILDING SECTION



SECTION A-A DRAWING no. 2200. Scale 1:100@A3

0 1 2 3 4 5m

PROPOSAL

EAST ELEVATION

Obscured sash window

Textured render

Facing brickwork

Brickwork to chimney

Clay roof tiles

Timber frame door

Timber sash windows

Brickwork plinth

EAST ELEVATION DRAWING no. 2100. Scale 1:100@A3

0 1 2 3 4 5m

PROPOSAL

SOUTH ELEVATION

SOUTH ELEVATION DRAWING no. 2101. Scale 1:100@A3

0 1 2 3 4 5m

PROPOSAL

WEST ELEVATION

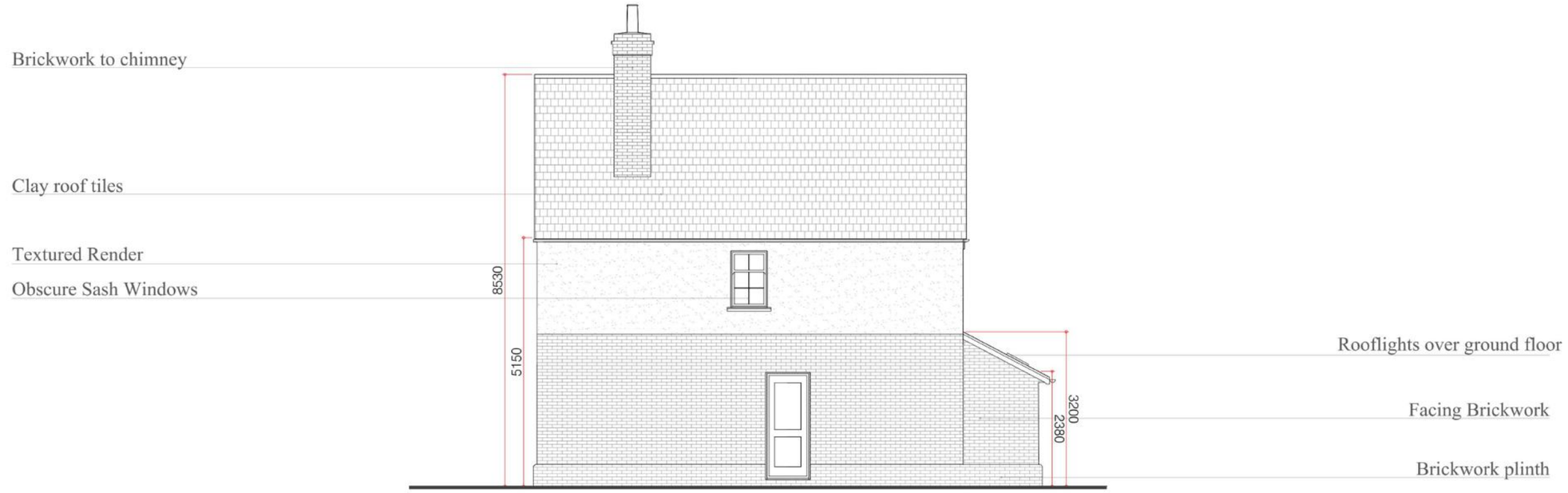
WEST ELEVATION DRAWING no. 2102. Scale 1:100@A3

0 1 2 3 4 5m

LAND ADJACENT TO THE OLD COTTAGE, LITTLE BADDOW, CHELMSFORD, CM3 4SX

PROPOSAL

NORTH ELEVATION



NORTH ELEVATION DRAWING no. 2103. Scale 1:100@A3

0 1 2 3 4 5m

LAND ADJACENT TO HILL COTTAGE, LITTLE BADDOW, CHELMSFORD, CM3 4SX

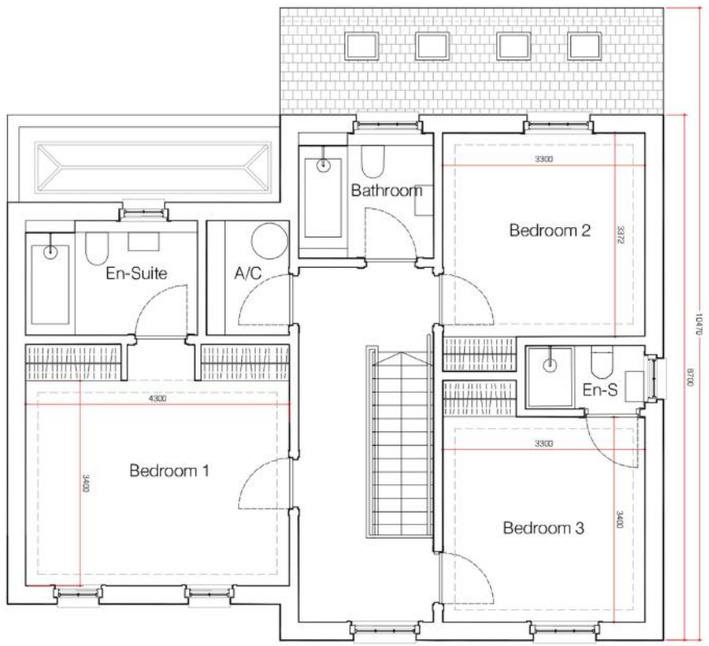
PROPOSAL

FIRST FLOOR PLAN

AREA SCHEDULE

First Floor Plan (GIA):

72.7 sqm
782 sqft



FIRST FLOOR PLAN DRAWING no. 2001. Scale 1:100@A3

0 1 2 3 4 5m

LAND ADJACENT TO THE OLD COTTAGE, LITTLE BADDOW, CHELMSFORD, CM3 4SX

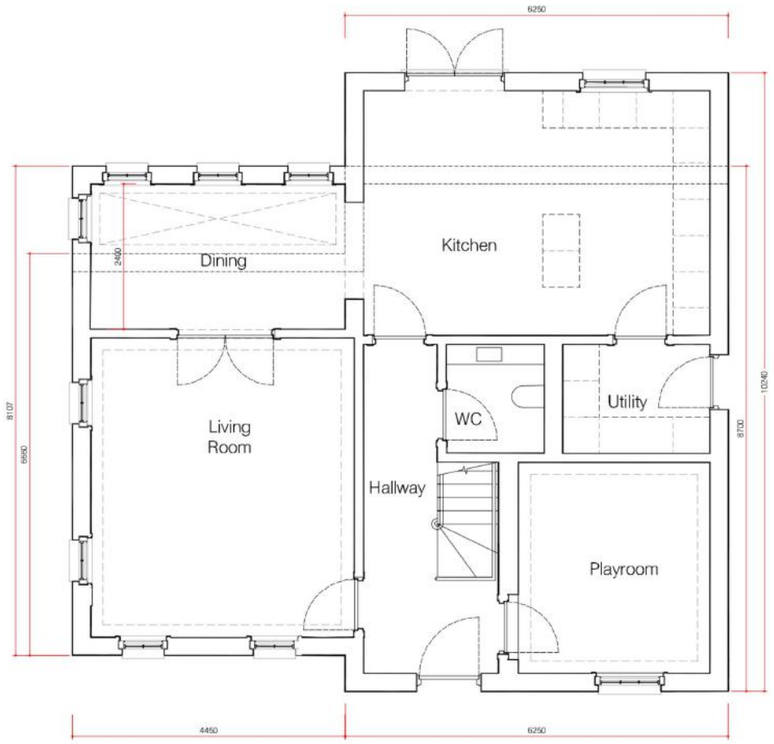
PROPOSAL

GROUND FLOOR PLAN

AREA SCHEDULE

Ground Floor Plan (GIA):

87.9 sqm
946 sqft

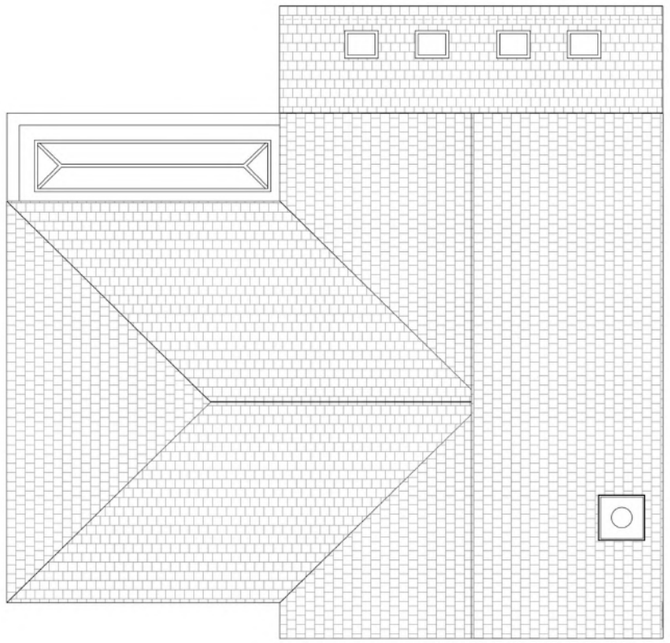


GROUND FLOOR PLAN DRAWING no. 2000. Scale 1:100@A3

0 1 2 3 4 5m

PROPOSAL

ROOF PLAN



ROOF PLAN DRAWING no. 2002. Scale 1:100@A3

0 1 2 3 4 5m

0 5 10 20 Metres

1:800

N

Planning Committee
23/00834/FUL

Planning & Development Management
Directorate for Sustainable Communities

PO Box 7544 Civic Centre
Duke Street, Chelmsford, CM1 1XP

Telephone: 01245 606826

Appeals Report

Directorate for Sustainable Communities

Appeal Decisions received between 08/06/2023 and 20/08/2023

PLANNING APPEALS

Total Appeal Decisions Received	5	
Dismissed	4	80%
Allowed	1	20%
Split	0	0%

Written Reps

Site At Rolphs Farm Blasford Hill Little Waltham Chelmsford Essex

Reference	22/00925/CUPAQ
Proposal	Determination as to whether the prior approval of the local planning authority is required for the proposed change of use from agricultural buildings to 1 dwellinghouse (Class C3).
Appeal Decision	Appeal Dismissed - 21/07/2023
Key Themes	
Agreed with CCC on	Insufficient structural information submitted; not satisfied that the building operations would be those reasonably required to convert building; scheme different from 2018 PD approval.
Disagreed with CCC on	
Costs Decision	Appellant's application for costs: Costs refused

Greenacres Mill Hill Galleywood Chelmsford Essex CM2 8TW

Reference	22/01521/CLOPUD
Proposal	Proposed outbuilding with a swimming pool
Appeal Decision	Appeal Allowed - 15/08/2023
Key Themes	Whether the proposed outbuilding was reasonably required for a purpose incidental to th enjoyment of the dwellinghouse
Agreed with CCC on	None
Disagreed with CCC on	Disagreed with the Council that the proposed outbuilding was not incidental to the enjoyment of the dwellinghouse.Disagreed that the size of the outbuilding was not unreasonabe and was reasonably required to fulfill the intended purposes of the outbuilding
Costs Decision	None

Telecommunications Apparatus Outside Lawford Mead School Trent Road Chelmsford Essex

Reference	22/01592/TEL56
Proposal	Installation of a 15m phase 9 slimline monopole and associated ancillary works.
Appeal Decision	Appeal Dismissed - 30/06/2023

Key Themes	Impact of mast on highway safey impact of mast on security of school pupils and staffif this harm is outweighed by public benefit
Agreed with CCC on	Agreed that proposal would result in unacceptable harm to highway safety. Agreed that the proposal would lead to unacceptable security risk to studens and staff of adjacent school.
Disagreed with CCC on	None
Costs Decision	None

Householder

55 Linge Avenue Broomfield Chelmsford CM1 6BY

Reference	22/02142/FUL
Proposal	Proposed garage conversion. Construction of ground floor side extension, first floor side extension with a rear dormer. Internal and external alterations.
Appeal Decision	Appeal Dismissed - 14/07/2023
Key Themes	- impact on character of the area - impact on amenity of neighbouring properties
Agreed with CCC on	- the impact would be adverse on the design and character of the street and the house- the first floor extension would adversely impact the amenity of neighbouring properties, in particular outlook and may result in some overshadowing
Disagreed with CCC on	- nothing
Costs Decision	None

74 Park Lane Ramsden Heath Billericay Chelmsford Essex CM11 1NH

Reference	23/00226/FUL
Proposal	Proposed garage
Appeal Decision	Appeal Dismissed - 09/08/2023
Key Themes	Impact on character of area
Agreed with CCC on	Harm to the street scene and character of area
Disagreed with CCC on	
Costs Decision	None

ENFORCEMENT APPEALS

Total Appeal Decisions Received	1	
Dismissed	1	100%
Allowed	0	0%
Split	0	0%

Written Reps

The Royal Tiger Southend Road Rettendon Common Chelmsford Essex CM3 8EE

Reference	21/00211/ENFB
Proposal	Without planning permission, the construction of an extension.
Appeal Decision	Appeal Dismissed - 14/08/2023
Grounds of Appeal	Development is harmful to the character and appearance of the site and surrounding area.
Agreed with CCC on	Development out of keeping with their rural context.
Disagreed with CCC on	
Costs Decision	None