



Appeal Decision

Hearing Held on 30 June 2020

Site visit made on 8 July 2020

by Lesley Coffey BA Hons BTP MRTPI

an Inspector appointed by the Secretary of State for Communities and Local Government

Decision date: 21st September 2020

Appeal Ref: APP/P1940/W/19/3243565

Employment land to the north of Maple Cross Lodge, Maple Cross, Rickmansworth, Hertfordshire WD3 9SE

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a refusal to grant planning permission.
 - The appeal is made by BCL (Maple Cross) LLP & Impact Property Development Ltd against the decision of Three Rivers District Council.
 - The application Ref 19/1179/FUL, dated 20 June 2019, was refused by notice dated 19 November 2019.
 - The development proposal is 2no. single storey warehouse Class B1c/B2/B8 units comprising a total of 16,590 square metres, including 1,986 square metres of ancillary B1a office space, access, landscaping and associated works.
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Decision

1. The appeal is dismissed.

Procedural Matters

2. The description above is taken from the application form, however the application was subsequently amended prior to determination. The amendments included a reduction in floorspace to 16,140 square metres including 1,986 square metres of ancillary B1a office floor space. The height of Unit 2 was also reduced from 12.5 metres at the eaves and 16 metres at the highest part to 10 metres and 12.5 metres respectively. I have considered the appeal accordingly.
3. Following the refusal of the application the appellant and the Council have continued to work together, as a consequence a number of changes have been made to the proposal. These changes include the submission of plan number 17019-C4P-AV-00-DR-A-0500 rev P14 which shows alterations to the access and parking arrangements and plan no 550987dpOct19FV06_TRP which shows the retention of additional trees adjacent to the access road. Plan T_17_1999 55-01 P14 shows the associated changes to the proposed drainage arrangements and was submitted during the course of the hearing. The Council expressed concern that the submitted plans had not been subject to public consultation and could be prejudicial to interested parties. The changes shown on plan no. 17019-C4P-AV-00-DR-A-0500 rev P14 involve alterations to the parking bays and the access into the parking and servicing area for both units. Traffic associated with the development would not be any closer to the surrounding residential properties. The proposed changes would enable the

retention of the majority of the trees adjacent to the access road. There were also changes to the Flood Risk assessment and the drainage strategy.

4. I am satisfied that the changes shown on these plans and the revised Flood Risk Assessment and drainage strategy would not be prejudicial to any party and would accord with the Wheatcroft principles. I have therefore determined the appeal on the basis of the revised plans.
5. The appellant submitted a unilateral undertaking under section 106 of the Town and Country Planning Act. This covenanted to make a payment of £17,725 to offset the loss of biodiversity and a contribution of £6,000 towards the implementation and monitoring of the travel plan. The Council considers that these contributions address the second and fifth reasons for refusal. These contributions are discussed later in this decision.
6. Prior to the commencement of the hearing the Council stated that reason for refusal 3 in relation to flood risk had been addressed through the additional information provided by the appellant. Nonetheless, interested parties remain concerned about these issues and they are discussed below.

Main Issues

7. I consider the main issues to be:

- The effect of the proposal on the living conditions of local residents including noise, air quality, increase in traffic, and parking in Maple Lodge Close;
- The effect of the proposal on the living conditions of the occupants of 19 Longmore Close with particular regard to visual prominence and loss of sunlight/overshadowing;
- The effect of the proposal on the trees on the site;
- The effect of the proposal on biodiversity with particular regard to potential de-watering;
- Whether the proposal would deliver a net gain in biodiversity, including its relationship with other biodiversity mitigation schemes;
- Whether any harm to heritage assets would be outweighed by the public benefits of the proposal;
- Whether the proposal would make satisfactory provision for surface water run-off with particular regard to the potential for flooding;
- The effect of the proposed piling on groundwater and the quality of the public water supply.

Reasons

8. The appeal site comprises an area of undeveloped open grassland, approximately 3.4 hectares in area. Whilst the majority of the site lies outside of the Green Belt, a small area of land near the eastern boundary comes within it, but no development is proposed in this area.
9. The eastern boundary is defined by the access road that links with Denham Way and serves other commercial uses nearby, including the Thames Water Treatment Works which lie to the south east. The eastern boundary is defined

by Maple Lodge Ditch. Together with the southern and western boundaries it is marked by mature trees and other vegetation.

10. The site is bound to the north/northwest by the Rivers Office Park and Hertford Place (subject to an implemented, but not yet built, planning permission for a hotel). Thames Water cricket pitch lies to the south. The residential properties of Longmore Close lie to the east on the opposite side of Maple Lodge Ditch, together with the residential properties of Maple Lodge Close. The Grade II listed properties known as Maple Lodge Barn and Maple Lodge Farm lie to the south east. All of these residential properties are accessed from Maple Lodge Close.
11. Denham Way (A412) runs north to south through Maple Cross connecting Rickmansworth to the north and West Hyde to the south. It also provides access to the M25 via Junction 17 (about 1.5km from the Appeal Site). The wider surrounding area comprises a mix of employment, residential uses, open space and agricultural land. Further south lies Maple Lodge Nature Reserve, a locally designated nature reserve and wildlife site.

Principle of development

12. A number of residents questioned the need for the proposed warehousing and suggested that the allocation of the site for employment purposes had not been fully considered. It was also suggested that the need for warehouse floorspace was based on reports that no longer reflected the current employment environment or local requirements. Ms Passingham submitted details of over 100 warehouses available for letting within a 30 minute drive of the appeal site. She suggested that these surplus properties should be refurbished and re-purposed before additional warehouse accommodation is permitted. Residents contend that the employment opportunities that would be provided by the proposed development would not meet the skills set of the local population.
13. It was also suggested that the impact of Covid-19 is likely to accelerate the move towards online shopping and therefore people will be downsizing their office accommodation. Should this occur, residents believe that there would be an even greater surplus of employment floorspace within the District.
14. As confirmed by the Framework, planning law requires applications for planning permission to be determined in accordance with the development plan, unless material considerations indicate otherwise. The development plan for the area includes the Core Strategy 2011-2026 (adopted 2011), the Development Management Policies LDD (adopted 2013) and the Site Allocations Local Development Document (adopted 2014). Mr Charles confirmed, on behalf of the Council, that all of the plans had been subject to public consultation and had complied with the relevant statutory requirements prior to adoption.
15. The employment strategy within the Core Strategy is underpinned by the Employment Land Study (2005) and the London Arc Study (2009), and the Employment Land Study Update (2010). Together these found that Three Rivers District should make provision for 2,378 additional jobs between 2006 and 2026.
16. Amongst other matters, Core Strategy policy CP6 supports development that provides an appropriate number of jobs to meet strategic requirements. It

seeks to focus employment uses within specific areas, including Maple Cross/Maple Lodge. The accompanying text explains that local evidence has been used to inform the detailed requirements for land or floorspace for economic development over the plan period. It indicates that on the basis of projected growth within the area the District cannot afford to lose anymore employment floor space within the industrial and warehousing sectors. Policy SA2 of the Site Allocations Local Development Document identifies the site as an Employment Area (Site Allocation SA2 E(d)).

17. I accept that the evidence that informed the Core Strategy is not particularly recent, however, the Council confirm that the appeal site remains an allocated site for employment purposes within the emerging Local Plan. Although I am unable to afford any weight to the policies within the emerging Local Plan, it would seem that the need for such employment floorspace persists.
18. I appreciate that there may be a surplus of office floorspace, and other employment floorspace within the District. Notwithstanding this, there is no compelling evidence to suggest that there is no longer a need for modern, flexible warehouse/industrial space such as that proposed. On the basis of the evidence submitted to the hearing I am satisfied that there remains a need for employment floorspace within the District, particularly such as that proposed.
19. At the present time there is no substantive evidence as to the effect of Covid19 on the need for industrial/warehouse floorspace either in this location or elsewhere within the country.
20. I conclude that the principle of development is acceptable and would accord with policy CP6 of the Core Strategy and SA2 of the Site Allocations Local Development Document.

The effect of the proposal on the living conditions of local residents

Noise

21. Local residents are concerned that the proposed development would have an adverse effect on their living conditions due to noise. They raised concerns about the robustness of the submitted noise assessment, including the absence of a background noise level survey and that the predicted noise levels are lower than the existing noise levels recorded by residents.
22. The submitted noise assessment concluded that the proposed development would not give rise to noise above the Lowest Observable Adverse Effect Level (LOAEL). The assessment used Maple Lodge Farm, which was considered to be the most exposed property, as a receptor. The predicted noise levels at 19 Longmore Close, the closest dwelling to the appeal site, were also assessed and the findings were comparable. The Environmental Health Officer was satisfied with the methodology, the receptors, and the noise level criteria used within the assessment.
23. Policy DM9 of the Development Management Local Development Document (LDD) states that the Council will ensure that noise from proposed commercial, industrial, recreational or transport use does not cause any significant increase in the background noise level of nearby existing noise-sensitive property such as dwellings.

24. Paragraph 180 of the Framework states that planning decisions should ensure that new development is appropriate for its location. It advises that potential adverse impacts resulting from noise from new development should be mitigated and reduced to a minimum, and that decisions should avoid noise giving rise to significant adverse impacts on health and the quality of life.
25. Planning Practice Guidance acknowledges that there is not a simple relationship between noise levels and those affected. This is dependant on a number of factors including the time of day it occurs, the prevailing sound environment, and the nature of the noise itself. It confirms that a range of mitigation measures can be used to minimise any adverse effects of noise.
26. The Noise Policy Statement for England (NPSE) aims to avoid significant adverse impacts on health and quality of life; mitigate and minimise adverse impacts on health and quality of life; and where possible, contribute to the improvement of health and quality of life. It states that sustainable development is a core principle underpinning all government policy. It advises that there is a need to integrate consideration of the economic and social benefit of the activity under examination with proper consideration of the adverse environmental effects including the impact of noise on health and quality of life. It explains that this should avoid noise being treated in isolation in any particular situation i.e. not focusing solely on the noise impact without taking into account other related factors.
27. Residents consider that in the absence of evidence as to existing background noise levels the effect of the proposed development on living conditions cannot be properly assessed. Measurements taken by residents at 19 Longmore Close found noise levels during the evening period, of between 31.1 dBA and 32.7 dBA, inside the building with the windows ajar. This represents a fairly low level of background noise.
28. The appellant's predicted noise levels are based on absolute levels rather than relative noise levels (the difference between existing noise levels and those with the development once operational). Although the threshold for LOAEL is not fixed, the noise rating levels used within the noise assessment are typical, and the predicted noise levels fall below these thresholds for both daytime and night-time. It may be that some residents would notice a change in the noise environment, but such change would not be so significant as to give rise to a change in behaviour or quality of life. In these circumstances, a background noise survey would not alter the modelled noise levels or my conclusion that they would not exceed LOAEL.
29. Residents were also critical of the modelling inputs to the noise assessment, and were concerned that some of the modelled noise levels were lower than those they recorded.
30. The noise assessment was based on a number of assumptions. These included that the proposed buildings would be used as warehouses and would operate 24 hours a day. This represents the worst-case scenario in terms of noise. The predicted noise ratings used by the appellant were derived from archived data in relation to service yard activity measured at a number of sites. This information, together with traffic data, informed the appellant's model. The model also includes a 12 dB(A) penalty to allow for the tonal and intermittent nature of reversing sounders. No substantive evidence was submitted to indicate that these inputs are not representative or robust.

31. As explained above, the methodology and assumptions within the noise assessment were reviewed by the Council's Environmental Health Officer and found to be satisfactory. Some residents questioned the Council's expertise in this area, but no evidence was submitted to suggest that the Environmental Health Officer's views could not be relied upon.
32. Residents also submitted details of a noise reading from Intercity Logistics, a freight company in Hatfield. The recorded levels ranged from 55.5 dBA to 58.9 dBA. Ms Weston confirmed that the reading was taken at ground level at the building. No information was available in terms of background noise levels. In the absence of further detail I am unable to afford this information any substantive weight. Notwithstanding this, when the separation provided by the proposed buildings, and the distance of the service yard from the residential properties are taken into account, this reading does not suggest that the operational noise inputs used by the appellant cannot be relied upon.
33. Residents assessed the existing noise levels at 19 Longmore Close between the hours of 20:14hrs and 23:11hrs. The readings are about 1-2 dBA higher than the predicted noise levels. This represents a very small margin of difference within a low noise environment. Indeed BS 4142:2019 states "Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night". Accordingly, having regard to this advice, the professional qualifications of the consultants, and the views of the Environmental Health Officer, I have no reason to doubt the findings of the submitted noise assessment.
34. Moreover, in accordance with the advice in PPG¹, the layout of the site has been designed to minimise disturbance to surrounding residential properties through the location of service yards and car parking areas separated from the boundaries with residential properties by the proposed buildings, as well as the positioning of doors and windows. It is possible that the proposed buildings together with the improvements to the access road, which should encourage existing businesses to use the Denham Way access rather than Maple Lodge Close, may also mitigate some of the existing noise.
35. The Council and the Appellant have agreed draft conditions, which set maximum noise limits at both of the assessed receptors. These would ensure that even if the predicted noise levels are exceeded they would remain below LOAEL.
36. Residents were also concerned about noise levels from emergency plant. It was proposed that this should not exceed 10dBA above background noise levels. I am satisfied that this can be secured by way of an appropriate condition.
37. There were concerns that drivers on extended breaks may sit in their vehicles running air conditioning and heaters and this noise could be heard at the receptor properties.
38. Residents advised that they could hear vehicles visiting the Thames Water facility to the east of Maple Lodge Close. Vehicles visiting the premises would not be entitled to use Maple Lodge Close since it is not part of the public

¹ ID: 30-009-20190722 & ID: 30-010-20190722

highway. The appellant confirmed that he did not have permission to use it. The access to the site would be from Denham Way, and the existing road would be upgraded and the existing flooding issues addressed. The appellant also proposes a number of improvements to the access and to Denham Way. In the light of the improved access arrangements I consider it unlikely that vehicles associated with the proposed development would use Maple Lodge Close in preference to Denham Way. I therefore do not consider that the proposal would give rise to an increase in noise due to vehicles using Maple Lodge Close.

39. The Council confirmed both at the time of the application, and during the course of the hearing that it was satisfied with the submitted noise assessment. On the basis of the submitted evidence I have no reason to reach a different conclusion.
40. Taking all of the evidence submitted to the hearing into account, I am satisfied that provided the proposed development is used in the manner indicated within the noise assessment, whilst noise emanating from the future uses may be discernible to residents, it would not cause any significant increase in the background noise level, and would be unlikely to cause disturbance or adverse health effects.
41. I therefore conclude that subject to conditions to ensure that noise emanating from does not exceed specified levels, the proposal would comply with policy DM9, the NPSE, as well as the Framework and advice in PPG.

Air Quality

42. Residents are concerned that the proposal could have an adverse effect on air quality on Denham Way, including on children walking to and from The Reach Free School.
43. Mr Mountain submitted that the proposal would generate at least 81,000 additional vehicle movements a year, mainly by HGVs. He also suggests that the data and measurements within the Air Quality Assessment (AQA) cannot be relied upon due to the conclusion that the emissions are insignificant. It is unclear where the figure of 81,000 comes from.
44. LDD Policy DM9 states that development will not be permitted where it would have an adverse impact on air pollution levels. The Framework states that planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of AQMAs and Clean Air Zones, and the cumulative impacts from individual sites in local areas. It also advises that opportunities to improve air quality or mitigate impacts should be identified, through measures such as traffic and travel management, and green infrastructure provision and enhancement.
45. The local air quality management (LAQM) regime requires every local authority to regularly review and assess air quality in their areas. If national objectives in relation to air quality are not met, or at risk of not being met, the local authority concerned must declare an Air Quality Management Area (AQMA). Neither the appeal site nor the surrounding area of Maple Cross come within an AQMA. I am aware that emissions within the area have not been monitored and residents have requested an air quality monitoring station. Funding for this is

currently being pursued. The closest monitoring point is at Chorleywood near to M25 junction 18 and this comes within and AQMA for PM₁₀.

46. Although the establishment of an air quality monitoring point in the locality is under consideration, it is not in place, and at the present time there is no evidence to indicate that the mandatory limits within the Air Quality Standards Regulations 2010 (AQS) have been, or are at risk of being, exceeded. Indeed, the accompanying text to policy DM9 states that the District has a generally high environmental standard and that air pollution levels are below national targets.
47. At the present time there is no evidence to indicate that vehicle emission levels within the area are high or that existing air quality within the locality is poor. Consequently, the proposal does not come within the circumstances where PPG considers that air quality may be relevant to the development management process.
48. The submitted AQA assesses both noise and dust emissions during the construction and operational stages. During construction there is potential for dust emissions, particularly during the earthworks stage. The assessment sets out a series of mitigation measures in relation to site management and communication, as well as practical measures to limit the spread of any dust. Subject to the implementation of these measures, the residual impacts from the construction phase are unlikely to be significant. I am satisfied that the measures outlined can be secured by way of a condition requiring the submission of a dust management plan.
49. Residents are concerned that the proposal would add to the existing unmonitored PM_{2.5} and PM₁₀ from gravel extraction and HS2 traffic in the locality. I am aware of the correspondence forwarded by Ms Bradley regarding dust emissions for the HS2 site nearby and acknowledge the concerns of local residents in relation to this matter. Notwithstanding this, the appeal scheme is very different in scale from HS2, and subject to the implementation of the measures within the AQA would be unlikely to give rise to similar adverse effects during construction.
50. The proposal was screened using the Institute of Air Quality Management and Environmental Protection UK two stage screening process, to determine whether a detailed road traffic emissions impact assessment was required. The screening was based on the trip generation rates within the Transport Assessment. The AQA was subsequently updated to take account of the floorspace proposed.
51. The access road is located a short distance south from the junction with the M25. The sensitive receptors are located on Denham Way to the south of the site access road. Based on the Transport Assessment there would be 158 trips in this direction, of which 23 would be HDVs. This figure falls considerably below the threshold for detailed assessment.
52. Potential air quality exceedances are generally assessed using peak hours. Children walking to The Reach Free School are likely to do so during the morning peak hour. During this period the overall increase in vehicles using this part of Denham Way would be low, and the number of additional HGVs would be extremely low. In these circumstances, taken together with the absence of any clear evidence to indicate that air quality in this location is

poor, I am satisfied that any additional emissions as a consequence of the proposed development would be unlikely to adversely impact on children walking to school.

53. Therefore, on the basis of the available evidence, I do not consider that the proposal would have an adverse effect on air quality levels within the area. Should the proposed air quality monitoring point indicate that there is the potential for AQ5 to be exceeded the Council would be required to put an AQMA in place. However, based on the evidence submitted to the hearing, there is no reason to suppose that this is the case.
54. It was suggested at the hearing that the AQA must be flawed since it found the annual emissions to be 'insignificant'. However, its purpose is not to quantify the overall emissions from vehicles using the site, but the impact of emissions on the concentrations of pollutants. The AQA was professionally prepared by a member of the Institute of Air Quality Management who was also a member of the Institution of Environmental Sciences. It was also checked by a similarly qualified professional and scrutinised by the Council's Environmental Health Officer. I have no reason to doubt the expertise or integrity of these professionals, or the conclusions of the AQA. No substantive evidence was submitted to indicate that it was flawed in any way.
55. Mr Mountain also referred to the *Gladman Developments Ltd v SSCLG and Swale BC*, [2017] EWHC 2768 (Admin) judgement. However, the circumstances of that case were markedly different from this appeal in that the development concerned was located within an area where there was an identified adverse effect on an AQMA. The challenge to the decision concerned the inspector's findings with regard to the effectiveness of government policy and other mitigation proposed with regard to reducing pollution. In this appeal there is no evidence to indicate that air quality is unsatisfactory at the present time, or that the appeal scheme would have an adverse effect on air quality. Therefore this judgement does not alter my conclusions above.

Traffic, Parking and Safety

56. Local residents were concerned that the proposal would lead to increased parking within Maple Lodge Close by drivers and employees from the proposed development. In the past this has given rise to damage to the pavements and they consider that it also represents a risk to pedestrians. At the hearing the Highway Authority confirmed that Maple Lodge Close is privately owned and that it does not have any power to control the manner in which it is used. Consequently, any measures in relation to the use of Maple Lodge Close for parking or access would be the responsibility of the owner and/ or those responsible for the management of the road.
57. Parking standards are set out in policy DM13 of the LDD. The adopted standards specify the parking provision for different uses and advise that in general the lower end of each range should be applied. The appeal site comes within zone 3 where it is expected that between 50 and 75% of the indicative demand-based standard is provided.
58. The Framework requires proposals for new or expanded distribution centres to make provision for sufficient lorry parking to cater for their anticipated use. Parking provision for the appeal scheme has been provided on the basis of a B8 use (the use likely to require the greatest number of vehicles). The proposed

provision represents about 74% of the maximum provision and accords with the upper end of the range within zone 3.

59. At the hearing the appellants confirmed that they were satisfied that the proposed level of parking provision would meet their needs. The proposal would provide parking and servicing space in accordance with the Councils adopted standards. There is no compelling evidence to suggest that this would be unable to accommodate the parking demands arising from the proposed uses.
60. The proposal is for a 24-hour operation and therefore it would not be necessary for commercial vehicles to wait outside of the site, or within Maple Lodge Close waiting for the business to open.
61. Residents advise that vehicles from the businesses to the north of the appeal site sometimes use Maple Lodge Close, especially when the existing access road is flooded. The appeal proposal includes measures to improve and upgrade the existing access road and the junction that serves both the appeal site and the nearby commercial properties to the north. Furthermore, the appellant would not have the right to use the Thames Water Road and Maple Lodge Close. I therefore consider that the access road would be more attractive than currently and the proposal would be unlikely to lead to any additional use of Maple Lodge Close.
62. Concern was also expressed that the additional vehicles using the access road would be detrimental to the safety of children walking to school. The proposal includes provision for a toucan crossing for pedestrians and cyclists at the junction with Denham Way. I appreciate that some children may not use the crossing or wait for signals to change, nonetheless this would represent an improvement in terms of pedestrian safety.
63. Overall I conclude that the proposal would not have an adverse effect on the living conditions of local residents and would comply with LDD policies DM9 and DM13, as well as the relevant policies within the Framework.

Living Conditions -19 Longmore Close

64. 19 Longmore Close is separated from the appeal site by Maple Lodge Ditch and the side garden to the property. It is a two storey property with a shallow pitched roof. I understand that part of this area previously comprised Council amenity land and the trees on it were removed by the Council. At the present time it comprises a lawned area that extends to the ditch. There is vegetation along both sides of the bank and this filters views of the appeal site.
65. Unit 2 would occupy the land on the opposite side of Maple Lodge Ditch and would align with the flank boundary of 19 Longmore Close. At its closest point it would be separated from 19 Longmore Close by a distance of about 25 metres. It would be about 97 metres in length and approximately 66 metres deep. The proposed building would have a height of about 10 metres at the shoulders rising to a ridge height of 13.5 metres. The finished floor level of the proposed building would be about 0.8 metres above the existing ground level.
66. At present the occupants of 19 Longmore Close benefit from a view over the open grassland that comprises the appeal site. This would be replaced by a view of unit 2. Such views would be filtered by existing and proposed vegetation, although in winter months the benefit of this screening would be

- reduced. There would be a significant change in outlook, particularly when using the garden. At the hearing the Council suggested that a reduction in the height of the south west corner of the building would reduce the impact on the occupants of 19 Longmore Close. However, given the length and overall height of the building, as well as its position relative to 19 Longmore Close, I am not convinced that the suggested modification would have a significant impact on the amenities of the occupants of 19 Longmore Close.
67. Due to the location of the proposed building to the east of the flank boundary it would be clearly visible and the outlook of the occupants of 19 Longmore Close would change. The impact on views from the house would be more limited, but from within the garden there would be a loss of view over open land of the appeal site. The existing vegetation along the boundary would provide some screening, and it is proposed to supplement this as part of the landscape scheme. This would filter views of the proposed building. The suggested conditions include the submission of a landscape management plan which would ensure that the planting would remain in the long term.
68. As noted by the appellant, the siting of the proposed buildings is comparable to the existing context and relationships between the employment and residential areas. In particular, the Skanska building is situated 18.3m from the facing flank of the nearest residential properties, and is closer to the rear of the gardens of the residential properties in Franklins by comparison with the appeal scheme.
69. In general, the Courts have taken the view that planning is concerned with land use in the public interest, so that the protection of purely private interests such as the impact of a development on a view from a neighbouring property, are not generally regarded as a material planning consideration. Having regard to the distance and position of the proposed building in relation to the flank boundary of 19 Longmore Close, I consider that although it would be visible there would be sufficient separation to avoid an overbearing effect on the outlook of the occupants.
70. The submitted sunlight analysis includes 3 views where the existing and proposed conditions have been modelled at 2 hour intervals from 9am to 5pm on 21st March, June, September and December. The sunlight analysis was undertaken prior to amendments to Unit 2 and therefore the impacts shown would be greater than with the appeal scheme. The appeal site is situated to the north west of Longmore Close and as such the proposal would not add significantly to the existing overshadowing.
71. I therefore conclude that although there would be a change in outlook for the occupants of 19 Longmore Close, the proposal would not harm their living conditions and would not conflict with Core Strategy policy CP12 which seeks a high standard of design.

The effect of the proposal on the trees on the site

72. Although the reason for refusal referred to LDD policy DM1 which concerns residential development and layouts. The proposal is for an employment use and it was agreed at the hearing that policy DM12 is not relevant in the context of this appeal.

73. Core Strategy Policy CP12(b) expects the design of development to conserve and enhance natural assets. Amongst other matters Development Management Policy DM6 requires that proposals for new development seeks to retain trees and to include new trees and other planting to enhance the landscape of the site and its surroundings as appropriate. This approach is consistent with paragraph 170 of the Framework.
74. A Tree Preservation Order (TPO) safeguards trees along the eastern and southern boundaries of the site. These trees comprise predominantly older trees along the eastern boundary, whilst those along the southern boundary comprise Oak, Sycamore, Hawthorn, and Ash trees.
75. The tree survey submitted with the application identified 70 trees and tree groups. The proposal as considered by the Council proposed the removal of 30 trees. The scheme was amended both during the application process and following the determination of the application. The current iteration of the scheme in so far as it relates to trees is shown on plan no 17019-C4P-AV-00-DR-A-0500 rev P14. This revised layout makes minor amendments to the access and car parking layout for Unit 2 which avoids the requirement for TPO trees, except for T38, on the eastern boundary to be removed and proposes the use of no dig methods. The drainage proposals have also been amended and are now proposed to run outside of the RPA of these trees.
76. Although there were differences between the parties in relation to the categorisation of the trees within the survey, due to the changes to the scheme this matter no longer has implications for the proposal. The Council's remaining concerns relate to the appellant's approach to the calculation of root protection areas (RPA) for multi-stemmed trees, the accuracy of the plans and the suitability of the cellular confinement system for a service yard.
77. The appellant calculated the RPAs on the basis of the guidance within *BS5837: Trees in relation to design, demolition and – Recommendations*. This provides guidance for the calculation of RPA, and advises that the RPA for each tree should be plotted as a circle centred on the base of the stem, but where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, the shape of the RPA should be modified based on an arboricultural assessment of likely root distribution. It also provides guidance on the calculation of RPAs for multi-stemmed trees.
78. The parties differ as to the RPA for T43 which is located close to the bell-mouth for the access to unit 2. The appellant assessed it as a three stemmed tree on the basis that one stem is dead. The calculation within the submitted tree schedule would appear to be carried out on the correct basis.
79. The Council also consider that the RPA should be off-set from the road to account for the impact of the existing road on the RPA. The road does not appear to have been disturbed by the roots of the trees on the appeal site, equally, the canopies of the trees do not appear to have been limited by the presence of the road surface. It is commonplace for tree roots to extend under roads, and it is not proposed to excavate in this area. The existing road will be repaired and the surface would be built up rather than down. BS5837 states that where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, the RPA should be modified to reflect a soundly based arboricultural assessment of likely root distribution. There is limited evidence

to indicate that the RPA of the trees has been influenced by the presence of the road.

80. It is proposed to use a cellular confinement system for the surface of the service yard and the proposed footpath. Evidence submitted by the appellant confirms that this would be suitable for use within the service yard area. Provided it is correctly specified there is no reason why it would deform on the vehicle turning area, thus giving rise to compaction within the RPA. Whilst there is some variation in the level of the proposed footpath this could be accommodated by the cellular confinement system. Although there may be some minor encroachment within the RPA of some trees this would be within the tolerances of BS5837.
81. A detailed Arboricultural Method Statement could be secured by conditions. This would ensure that the trees were safeguarded during the construction period. There are a number of mature trees on the site, including several category U trees. The appellant proposes a health and safety survey of all the trees on the site to identify those at risk of collapse. The removal of, or works to the trees protected by the TPO would require consent from the Council. Therefore, should any of these trees fail or be removed, the Council would be able to specify a replacement tree.
82. I therefore conclude that the proposal would not have an unacceptable effect on the trees on the site and would comply with policies CP12 (b) and DM6.

Biodiversity

83. Maple Lodge Nature Reserve is a local wildlife reserve situated close to the appeal site. It extends to about 40 acres and comprises lakes, marsh, hedgerows and wooded plantation and is managed by the Maple Lodge Conservation Society. The Maple Lodge Conservation Society is concerned that the proposal may have implications for water levels within the nature reserve and this could have consequences for wildlife.
84. All parties accept that the quality and volume of water reaching the lakes is important. The lakes are believed to be formed by historic gravel extractions, but the hydrology of the lakes, including the mechanism by which they are recharged, is not well understood. Evidence submitted by Maple Lodge Conservation Society shows that the levels of water in the lakes do not correlate readily with rainfall and therefore it is suggested that they may be reliant on groundwater levels.
85. Mr Purcell acknowledges that from time to time the level of water within the lakes fluctuates. Although the mechanism for this is not fully understood, data from Affinity Water suggests that it is influenced primarily by the water within the gravel aquifer. Consequently, it is considered important to maintain the groundwater levels within the gravel aquifer.
86. The revised Flood Risk Assessment, based on the amended drainage proposals concludes that there would be in negligible difference in surface water run-off as a consequence of the proposal. The Lead Local Flood Authority (LLFA) shares this view. However, Maple Lodge Conservation Society remain concerned that the proposal may impact on groundwater levels and thereby the water levels within the lakes.

87. The appellant explained that de-watering of the ground would be required for the installation of the interceptor and the attenuation tank. The installation of these structures is anticipated to take between two and four weeks. It was stated that measures could be put in place to monitor water during this period, and any water extracted during this process could be discharged into the Maple Lodge Ditch which would then assist with feeding the lake.
88. There was also concern that contaminants from the site could enter the water system and adversely affect the ecological interest of Maple Lodge Lake. It is proposed to install a silt-buster to avoid contaminants from the ground entering the water system. On the basis of the current proposals the appeal scheme would be unlikely to have a significant effect on water levels at the lakes, other than over a short period of time when the interceptor and attenuation tank are installed. The measures suggested by the appellant would ensure that even during this limited period there should not be a significant effect on the lakes as a consequence of the proposal.
89. The suggested conditions include the submission of a method statement, this would enable further detail as to the measures required to maintain the quality and quantity of water reaching the lakes. On the basis of the submitted information I am satisfied that subject to appropriate mitigation measures the appeal scheme would not have a significant effect on the lakes either in terms of de-watering or the introduction of contaminants.
90. Policy CP9 of the Core Strategy states that the Council will seek a net gain in the quality and quantity of green infrastructure, through the protection and enhancement of assets and the provision of new green spaces. Policy DM6 of the LDD advises that development should result in no net loss of biodiversity value across the district as a whole. This approach is consistent with paragraph 170 of the Framework, which seeks to minimise impacts on, and providing net gains for, biodiversity, whilst paragraph 175 states that while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.
91. The ecological survey found that the site consists of predominantly semi-improved grassland. At the time of my visit it was over knee height, but I understand that it is regularly mown. The trees and hedgerows around the boundary and particularly the area adjacent to Maple Lodge Ditch provide the main ecological interest of the site.
92. Herts and Middlesex Wildlife Trust reviewed the findings of a survey by a local resident undertaken shortly before the hearing. It questioned the timing and findings of the appellant's assessment. It submits that based on the information provided by the resident and Maple Lodge Conservation Society there is likely to be priority grassland habitat on the site. It also considers that the species on site would appear to be more consistent with National Vegetation Classification (NVC) community MG5, a priority habitat.
93. The ecological report reviewed previous assessments and took account of specific species and habitat surveys which took place between 2009 and 2019. At the hearing Mr Cooke stated that there had been about 35 visits to the site over a three year period and the habitat had been assessed throughout this time. In addition, a NVC survey had been carried out in 2017 and found no

priority habitat on the site. The Council and Herts Ecology were both satisfied with the submitted ecological assessment.

94. At the hearing Herts Ecology acknowledged that there had been an error in their initial comments to the Council. It was confirmed that the site had been surveyed in both 1992 and 1996 and this provided the baseline information for their assessment. Although the appeal site included some section 41² species of invertebrates that are also found within the nature reserve these were not particularly uncommon species.
95. Whilst I have no reason to doubt the findings of the survey submitted by Maple Lodge Conservation Society, surveys provide a snapshot in time and are dependent on a number of factors, including the time of year, the weather and the condition of the site, consequently, differences between surveys are not uncommon. The appellant's ecological assessment is consistent with previous reports and surveys, over a considerable period of time and is based on a rigorous and detailed assessment, including a NVC survey. It also took account of the species on the nearby Maple Lodge Wildlife Site. I therefore consider that it provides a reliable assessment of the ecological interest on the appeal site.
96. The proposed development will result in the loss of much of the existing grassland, however, the hedgerows and Maple Lodge Ditch will be retained. The proposals include an 8 metre deep buffer zone adjacent to Maple Lodge ditch. It is intended that this area will be managed and enhanced in order to promote biodiversity. A number of other measures are proposed which would protect and/or enhance biodiversity on the site. Since the assessment was prepared the proposals have been amended and the trees towards the eastern boundary of the site will largely be retained. The retention of these mature trees would be beneficial to biodiversity. The appellant has also submitted a unilateral undertaking that proposes the sum of £17,725 towards off-site biodiversity enhancements.
97. The appellant submits that the enhancements on site, together with the financial contribution would deliver a biodiversity net gain. It was intended that the financial contribution would be used at Maple Lodge Wildlife Site. However, concerns were raised as to whether this would be an appropriate use of funds given the recent work that has taken place at this location. Therefore the unilateral undertaking proposes that the funds be used towards the creation and future management of species rich grassland.
98. Mr Dodds, on behalf of the Wildlife Trust, submitted that in order to ascertain whether the proposal would deliver a biodiversity net gain, a biodiversity metric should be used, in accordance with best practice. His view was that any loss and gain should be measurable.
99. Hertfordshire Ecology explained that while it generally supported the use of the DEFRA metric, at the time at which the application was assessed they were not confident of it, and therefore it was assessed based on their expert judgement. The financial contribution represents the cost of recreating a 2.26 hectare area of species rich grassland and maintaining it for 25 years. This represents 2/3 of the area of that lost at the appeal site plus 10% additional to represent a net gain.

² Natural Environment and Rural Communities Act

100. I agree with Mr Dodds that the benefits arising from the proposal are not measurable and that it may be beneficial to use a metric such as that produced by DEFRA. However, the use of a metric is not mandatory. The proposal includes mitigation and enhancement measures on the appeal site as well as sufficient funds to provide an area of grassland of greater ecological interest than the appeal site and to maintain it for 25 years. The appeal scheme would provide a more coherent ecological network within the site as consequence of the enhancements adjacent to Maple Lodge Ditch. Given that the appeal site has low ecological interest overall and does not comprise any priority or protected habitats, I consider that the measures put forward by the appellant, including the planning obligation would combine to provide a net biodiversity gain. Consequently the proposal would comply with Core Strategy policy CP9 and LDD policy DM6, as well as the advice in the Framework.

Flooding

101. With the exception of a narrow strip to the eastern and southern boundaries the appeal site lies predominantly within flood zone 1 and therefore has a low probability of fluvial flooding. The proposed buildings are located wholly within flood zone 1.
102. Policy CP12 of the Core Strategy states that the Council will expect development proposals to be resilient in terms of flooding and to use flood resistant design, in order to take account of climate change. Policy DM8 of the LDD advises that development will only be permitted where it would not be subject to an unacceptable risk of flooding and would not unacceptably exacerbate the risks of flooding elsewhere. It also requires development to include sustainable drainage systems. This approach is consistent with the Framework.
103. During the course of the appeal process the appellants submitted further information in relation to flooding matters. On the basis of this information the Lead Local Flood Authority (LLFA) is satisfied the proposal would not be at risk from flooding, and would be unlikely to give rise to an increased risk of flooding elsewhere. It is satisfied that the detailed management in respect of surface water management can be achieved through the use of suitable conditions.
104. Residents are also concerned the drainage strategy proposed by the appellants requires a high degree of maintenance and that it is unclear who will be adopting the maintenance of these systems for the lifetime of the development. It is a requirement of the LLFA that details of the future management and maintenance of the SUDS will need to be submitted for approval. These details can be secured by way of a condition.
105. There was also concern that the appellant has failed to address what would happen in the event that any one of the SUDS components should fail. The appellant explained that this was an improbable scenario and the LLFA agreed. The interceptors and hydro-brake would be subject to regular maintenance. Should the drain collapse for any reason it would be treated as an emergency repair.
106. The Flood Risk Assessment considers the residual risk arising from a storm event that exceeds the design event, or in the event that the local drainage system fails. The drainage system has been designed to accommodate the 1 in 100-year storm event plus a 30% allowance for climate change. This, together

with the design and layout of the site, would assist with managing the residual risk from any exceedance/failure. The LLFA explained that details of the products used and their maintenance could be enforced through conditions. At the hearing the LLFA confirmed that following the receipt of additional information it was satisfied with the Flood Risk Assessment. It also confirmed that failure of the SUDs system would be very unlikely and the site would flood first.

107. Residents advised that there were trees and other vegetation obstructing Maple Lodge ditch at the present time and were concerned that it may not be capable of accepting the excess water from the appeal site. The appellant proposes to clear the vegetation within the part of the ditch adjacent to the site. This would be done under licence from the Environment Agency. Any blockages or obstructions to the ditch away from the appeal site would be the responsibility of the relevant landowner who would have a responsibility to ensure that that flows are not obstructed. Moreover, water from the appeal site would be discharged at a controlled rate into Maple Lodge Ditch.
108. I therefore conclude that subject to compliance with conditions in relation to the detailed design of the drainage system, and satisfactory safeguards in relation to the management and maintenance of the SUDs the proposal would not be at risk of flooding or increase the risk of flooding elsewhere. It would therefore comply with Core Strategy policy CP12 and policy DM8 of the LDD.

Heritage assets

109. The appeal site lies to the north of Maple Lodge (known as Maple Lodge Farm), a Grade II listed farmhouse which mostly dates from the 19th century although it incorporates elements of an earlier 17th century timber framed building. It is listed for its historic and architectural value. The farmhouse is generally enclosed by high hedgerows and tree cover, with only parts of the roofscape and boundary wall visible from the public domain.
110. A former barn to the west of Maple Lodge Farm is also Grade II listed. The barn is believed to date from 17th century and has been converted to residential use. A further barn located South of Maple Lodge Farm has been converted to residential use. Although it is not listed the Council suggest that it could be considered an undesignated heritage asset and that it provides evidential and illustrative value regarding the former use of Maple Lodge Farm as a farmstead.
111. Section 66 (1) of the Planning (Listed Buildings and Conservation Areas) Act 1990 requires that in considering whether to grant planning permission for development which affects a listed building or its setting, the decision-maker shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.
112. Core Strategy policy CP10 states that the Council expects all development proposals to conserve and enhance natural and heritage assets. Policy DM3 of the LDD states that there will be a presumption in favour of the retention and enhancement of heritage assets and putting them to viable and appropriate uses.

113. Paragraph 193 of the Framework advises that when considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. Whilst paragraph 194 states that any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification.
114. The significance of Maple Lodge is derived from its age and degree of intactness, in particular the plan form and remnants of the earlier timber structures. Together with Maple Lodge Barn it also derives significance from its illustrative value, with regard to the previous agricultural use of the locality. The Council consider that the proposal would result in less than substantial harm to Maple Lodge Farm and that it would be at the lower end of harm.
115. As acknowledged by the Council, Maple Lodge Farm and Maple Lodge Barn have previously been harmed by the construction of the dwellings on Longmore Close, Maple Lodge Close and Franklin's, as well as the commercial units on Denham Way. These have undermined the isolated setting of these listed buildings which now occupy the periphery of an established residential area. In addition, the residential use of both buildings and their curtilages further diminishes the illustrative value of these properties. The Chiltern Sports and Social Club and Maple Lodge Water Treatment Works to the south east have also had an impact on the setting of the listed buildings through altering the function of the surrounding landscape.
116. Evidence from historic maps submitted by the appellant show that the land associated with the farm extended to the north-west, west, south and south-east of Maple Lodge, but that the appeal site and land to the north was not associated with the farm. The Council accepts that the site did not have a functional or an ownership relationship with the appeal site, and that there is a lack of immediate inter-visibility between the appeal site and Maple Lodge. However, it considers Maple Lodge Farm to be part of a network of isolated farmsteads that were distinctly separate from the settlement of Rickmansworth to the north.
117. The appeal site is separated from Maple Lodge Farm by the open space that serves Longmore Close, as well as the cricket ground to the south of the appeal site. There are extensive areas of open space to the south of Maple Lodge Farm that include land that once formed part of the farm-holding. Although Maple Lodge Farm may have originally formed part of a network of isolated farms as suggested by the Council, this is not evident within the existing landscape. The appeal site is separated from Woodoaks Farm by the residential and commercial development to the north and east of the appeal site, as well as by Denham Way itself. There is no inter-visibility between the two, and even when viewed from Denham Way, due to the screening provided by the existing vegetation public views south of the junction with the access road are limited. I therefore do not agree that the proposal would further diminish the rural setting of Maple Lodge Farm or detract from the way in which the listed buildings are understood and experienced.
118. Maple Lodge Farm occupies an enclosed and relatively secluded plot with mature trees to the boundary with the appeal site. Due to the absence of built development on the appeal site, at the present time, there is no inter-visibility between the appeal site and Maple Lodge. The proposed building would extend

above the treeline to a limited extent, but would not be a prominent feature on the skyline due to the screening provided by the trees. Nonetheless, it is possible that from some vantage points the proposed buildings would be noticeable to the occupants of Maple Lodge Farm, particularly during winter months when the trees are not in leaf. These limited views would not detract from the architectural or historic significance of Maple Lodge Farm or Maple Lodge Barn.

119. Public views of Maple Lodge Farm are limited, and the proposed development would not be viewed in conjunction with the listed buildings. Vehicular movements associated with the proposed development would not be visible from Maple Lodge Farm. Any external lighting, including street lighting would be a considerable distance away. I acknowledge that the impact on the setting of a listed building is not confined to any views and/or inter-visibility, and can include other environmental factors such as noise, dust, smell and vibration.
120. Mr Samuels, the occupant of Maple Lodge Farm, submitted that the effect of noise on a heritage asset was different to the effect of noise on other properties and greater weight should be given to such harm. I agree that the effect of noise on living conditions differs from the effect of noise on the significance of a heritage asset. In this context the issue is not whether noise would be noticeable, but whether it would affect the significance and/or setting of the asset.
121. As noted above it may be that some noise from vehicles using the appeal site is noticeable at Maple Lodge. However, this would be at a low level, and having regard to the historical use of the property as a farm, I do not consider that such noise would detract from the historic interest or significance of the property.
122. The existing development in the locality of Maple Lodge Farm and Maple Lodge Barn, together with the domestic use of these properties has significantly harmed their setting. I have given careful consideration as to whether the proposed development would further detract from the significance and setting of these buildings, and I conclude that it would not.
123. I agree with Mr Samuels that the economic viability of the proposal does not justify the harm to the asset. Nevertheless, in this case I have found that the proposed development would not give rise to any harm to the heritage asset.
124. Mr Samuels referred to the *R (Forge Field Society) v Sevenoaks District Council* [2014] EWHC 1895 (Admin) and *Barnwell Manor*³ judgements which found the need to give great weight to any harm to heritage assets in the planning balance as required by s66(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990. However, in this case I have found that the proposal would not harm the heritage asset.

Piling and Groundwater

125. The appeal site comes within Source Protection Zone 1 (SPZ1). This provides public drinking water through a number of chalk abstraction boreholes

³ *Barnwell Manor Wind Energy Ltd v East Northants DC, English Heritage, National Trust and SSCLG* [2014] EWCA Civ 137.

operated by Affinity Water Limited. The site is located upon a secondary gravel aquifer above a principal chalk aquifer.

126. Affinity Water operate three chalk abstraction boreholes within the vicinity of the appeal site. Together these provide 50 million litres of water per day and serve a population of 300,000. Affinity Water has a statutory duty to supply water and is under legal obligations to ensure that the water is of a wholesome quality.
127. Although Springwell pumping station is the closest to the appeal site, it operates in conjunction with Mill End and West Hyde pumping stations. Affinity Water considers that dependant on abstraction rates these could all be adversely affected. Any risk of contamination has the potential to result in the cessation of abstraction until the risk has been eliminated. This could result in a disruption to supply and in such circumstances Affinity Water may need to import water from elsewhere.
128. Both parties acknowledge that there is a potential risk to water supply from piling, but they differ as to the extent of the risk and whether it can be adequately managed or mitigated by way of conditions. The appellant considers the risks to be minimal and capable of mitigation and is confident that any risks could be adequately managed by conditions.
129. Affinity Water considers that there is insufficient information to assess the impact of the proposal on the public drinking water supply. It states that the flow paths and flow rates within the chalk between the site and three public water supply sources is not fully understood. There is also insufficient evidence in relation to the hydraulic connectivity between the primary and secondary aquifers and the levels of naturally occurring manganese in the gravel aquifer. It considers that in the absence of further evidence, given the naturally occurring manganese and other potential contaminants, the risk cannot be assessed, and therefore it cannot have confidence that it can be adequately mitigated. Amongst other matters, Affinity Water consider that additional observation boreholes need to be provided in order that the inter-connectivity between flow paths, as well as an accurate assessment of travel time for flows and hydraulic connectivity can be made, and also allow for monitoring.
130. Discussions between the parties have been on-going, and in order to progress this matter the appellant prepared a Groundwater Framework Agreement. This includes a number of conditions that seek to address Affinity Water's concerns. Affinity Water is not a statutory consultee and is concerned that it may not be adequately consulted when details are submitted to discharge any conditions in relation to water supply. However, it was agreed at the hearing that the conditions could be worded in a manner to ensure that the views of Affinity Water would be submitted to the Council.
131. LDD Policy DM9 states that development on, or near to, former landfill sites or on land which is suspected to be contaminated, will only be permitted where the Council is satisfied that amongst other matters there will be no adverse impact on the quality of local groundwater or surface water quality.
132. Where the potential consequences of a development or activity are serious, or irreversible, the Environment Agency will adopt the precautionary principle to manage and protect groundwater. The "*Environment Agency's Approach to Groundwater Protection*" (February 2018) sets out its approach to managing

and protecting groundwater. It seeks to regulate activities that may impact groundwater resources and to prevent and limit pollution.

133. It states that within SPZ1, the Environment Agency will normally object in principle to any planning application for a development that may physically disturb an aquifer. Schemes that present a hazard to groundwater resources, quality or abstractions are required to provide an acceptable hydrogeological risk assessment (HRA) to the Environment Agency and the planning authority. If the HRA identifies unacceptable risks then the developer must provide appropriate mitigation.
134. Affinity Water is concerned that the proposed piles could create pathways between shallow gravel groundwater and deep chalk groundwater. This could potentially allow naturally occurring manganese and other contaminants, present in the gravel aquifer, to migrate to the chalk. The piling also has the potential to create turbidity that may necessitate the public water supply to be shut down, and also block significant fissures to create a "curtain" effect. This in turn, could cause the flow paths to change around groundwater sources, and may require greater drawdown for the same output.

Manganese and other contaminants

135. Manganese is a naturally occurring metal found in rocks and minerals. It is not considered a pollutant but is regulated in drinking water as it can form a black sediment which affects the appearance of water and can cause staining. Affinity Water explained that it is very difficult to address manganese within the water supply. To do so requires significant investment and therefore they seek to avoid it where possible. Although there is some existing manganese leakage at Mill End the concentration is very low and can be managed.
136. The concentration of manganese beneath the appeal site, and whether this could be mobilised through the chalk aquifer, is unknown. However, on the basis of local knowledge and observations Affinity Water believes that the secondary aquifer is likely to have high naturally occurring manganese concentrations. Therefore there is a potential for piling activities to create pathways that would transport manganese between the shallow aquifer and the underlying chalk aquifer. It therefore seeks a Detailed Quantitative Risk Assessment (DQRA) report to quantify risks to groundwater quality from the transport of manganese at the site to the Chalk Aquifer.
137. The appellant accepts the need for a DQRA but considers that this information can be provided following a grant of planning permission. In support of this position the appellant states that investigation works have shown that there is no distinction between the groundwater in the upper deposits and the chalk aquifer, thus the piling activities would not alter the potential for the transport of manganese between the aquifers. Affinity Water advised that there are other areas in the Middle Colne Valley where the chalk aquifer is hydraulically disconnected from the gravel aquifer. It believes that there is insufficient evidence in respect of the concentration of manganese beneath the appeal site and the extent to which it could be mobilised through the chalk aquifer to support the appellant's position.
138. The site is also adjoined by a landfill site to the north. Affinity Water state that made ground associated with the landfill site includes glass concrete, and tile, as well as cyanide and nickel at leachable concentrations. The appellants

state that the appeal site lies outside of the landfill boundary, moreover the made ground in this location is shallow, and piling would not risk introducing contaminants from this site. The potential for the transport of these contaminants would depend on the extent to which the aquifers are hydraulically disconnected at the present time.

Turbidity

139. Piling has the potential to create turbidity in groundwater. Turbidity is not regulated as a pollutant by the Environment Agency, but water suppliers must ensure that turbidity is below 1 NTU at the point of treatment.
140. The appellant states that the risk of turbidity would be restricted to the area surrounding the piles and would be likely to be temporary. It would depend on the number and depth of piles, the speed of piling and method used.
141. The appellant suggests that it would be possible to manage this risk through the piling method statement. It is intended that this could include a number of measures such as restricting the timing of piling so that it does not occur when the public water supply is being pumped; regulating the rate of piling by specifying the number of piles to be constructed on any one day, and the areas where piling could take place. The turbidity in groundwater would be monitored throughout the piling operation to provide an early warning of turbidity.
142. Affinity Water considers that in the absence of any further information in relation to local hydrogeology and details, such as the depth of the proposed piles and the method to be used, the effect on other abstractions nearby cannot be understood. It explained that although various mechanisms can be used to treat turbidity, including switching off the supply, and ultimately installing a turbidity treatment plant, the effect of the proposal on turbidity and the effectiveness of any mitigation measures cannot be assessed without further information, including evidence of travel times and flow paths. Moreover, whilst it would be possible to turn off the supply, it would not be possible to turn off all supplies at once. Therefore if the flows to the different boreholes were interconnected, consideration would need to be given to other remedies.
143. It also has knowledge from the nearby HS2 works, which although very different in scale, found that a single borehole could give rise to turbidity at the pumping station even where the flow path remains the same.

Groundwater Flow

144. Affinity Water considers that due to the nature of the underlying chalk there is a risk that the proposed piles could intercept a major fissure /flow path and could divert or block the flow of water into the aquifer. Given the intended proximity of the piles to each other, should this happen at a number of locations then a curtain effect could occur, especially since the piling would take place in the top layer of the chalk which is more productive because it has more fractures. If the flow path is obstructed there could be a loss of yield and it may be necessary to pump harder. This in turn could increase the leakage of manganese from the gravel/top part of the chalk where piles would be located.
145. The appellant considers the risk to ground water flow is low and once complete the piles will have an imperceptible impact on groundwater. They submit that since water can move around obstructions, piling would not result in a change in ground conditions. Moreover, the adits that serve the Springwell

and Mill End pumping station would not be impacted by the piles since they are at a lower level. The appellant states that displacement piling, which is the preferred method, could result in between 0.42% and 1.06% of the PWS abstraction volume being slowed down or diverted through the piled zone.

146. The parties agree that further investigation, including a DQRA, is required prior to the commencement of works. The appellant considers that this can be addressed through the suggested conditions, particularly since the risk is minimal. Affinity Water disagrees. It advised that in the case of other applications it had been involved with, these matters had been resolved before planning permission was granted. It considers that there is insufficient information at the present time to assess the nature and level of the risk, the validity of the assumptions on which the appellant relies, or to provide confidence that any risk can be adequately mitigated.
147. The parties agree that the use of piles will be necessary to construct the proposed buildings. The suitability of the piling method depends on a number of factors such as the hydraulic connectivity between the aquifers, the concentration of contaminants, and the existing flow pathways and travel times, as well as the depth of the piles. The appellant indicates that the piles would be about 12 metres deep and has provided an indication of the number and the depth of piles based on the findings of the Supplementary Site Investigation Report. Notwithstanding this, the Supplementary Site Investigation Report identified a potential dissolution feature, and without further work it is unclear whether deeper piles may be required.
148. The appellant's preference is for displacement piles, these would have the benefit that there would be less wet concrete to block fissures thereby minimising the impact on the permeability of the aquifer. They would also reduce the risk of turbidity. However, the suitability of this method would depend on the extent of the hydraulic connectivity between the aquifers and the potential for the transport of manganese and other pollutants.
149. Whilst Continuous Flight Auger (CFA) piles would be likely to deliver a safer solution with respect to the transport of contaminants, it would be less satisfactory in terms of its effect on turbidity and the flow paths. At the present time there is insufficient information in relation to the potential for manganese to enter the public water supply. As explained by Affinity Water this would have serious consequences for the public water supply and would need to be addressed and mitigated. Without knowing the extent of the risk, which in turn would be dependent on both the hydraulic connectivity and the flow paths, Affinity Water consider that it is not possible to mitigate against this risk.
150. At the present time there is only very limited evidence as to the flow paths both from the appeal site and between the three pumping stations as well as the travel times within the chalk aquifer. Other works nearby have indicated that there is a potential for contamination. In the absence of this evidence, and more particularly evidence to indicate how the three boreholes relate to each other in both the primary and secondary aquifers, there is insufficient information to be confident that the risk would be confined to the Springwell pumping station, and even if this were the case that the risk could be appropriately managed.
151. I have given careful consideration as to whether these concerns can be adequately addressed by conditions in a manner that would ensure that the

public water supply is safeguarded. I have also had regard to paragraph 183 of the Framework which states that planning decisions should focus on whether the proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes).

152. The purpose of the suggested conditions would be to clearly identify the risk and then to propose suitable mitigation. Although the appellant considers the risk to the public water supply to be minimal, this is based on a number of assumptions that have not been tested. On the basis of the available evidence the extent of the risk and whether it can be adequately mitigated, together with the extent of any residual risk, is unknown. As explained by Affinity Water the three pumping stations are connected and the resolution of one issue may have consequences for another, for example changes to the draw down rate could affect the travel time in terms of turbidity, or even the extent to which manganese is drawn into the water supply.
153. Having regard to the precautionary approach set out in "*Environment Agency's Approach to Groundwater Protection*," I am not persuaded that sufficient evidence has been submitted to demonstrate that the risk to the public water supply could be adequately mitigated. The consequences of disruption and/or contamination to the public water supply could have significant consequences, not only for Affinity Water, but also for the population this supply serves. I therefore conclude that the proposed piling would have an unacceptable effect on groundwater and the quality of the public water supply and would fail to comply with policy DM9.
154. I am aware that the Environment Agency did not object to the application and stated that the submitted documents provided it with confidence that it would be possible to suitably manage the risk posed to controlled waters. It noted that further detailed information will be required before built development is undertaken, but that requiring it at this time would place an unreasonable burden on the developer at this stage. However, it is unclear whether it was aware of Affinity Water's concerns, moreover, the Environment Agency is generally concerned with wider environmental impacts in terms of contamination rather than the impact of the proposal on public water supply. Accordingly, the views of the Environment Agency do not justify a different conclusion.

Other matters

155. A Framework Travel Plan was submitted during the course of the application. This seeks to minimise reliance on single car occupancy and encourage the use of alternative sustainable modes of transport that would minimise the environmental impact on local neighbouring roads. It proposes a number of measures and targets in relation to modal split, as well as the appointment of a Travel Plan Co-ordinator. I agree with the Council that the Framework Travel Plan is generally acceptable. On the basis of the evidence submitted to the inquiry, I am satisfied that the contribution sought by the Council towards the monitoring of this plan would comply with the statutory tests.

Planning Balance

156. Planning law requires that applications for planning permission are determined in accordance with the development plan, unless material considerations indicate otherwise.
157. I found above that the proposed use of the site and the principle of development accords with the policies of the Core Strategy, the LDD and the Site Allocations LDD. This matter adds substantial weight in favour of the proposal. I concluded that the proposal would not harm the living conditions of surrounding residents in terms of noise, air quality or parking. It would also be acceptable in terms of the effect on the trees on the appeal site and would not be at risk from flooding or increase the risk of flooding elsewhere. In addition, it would not harm the setting of the heritage assets and would deliver a net biodiversity gain.
158. The proposal would provide a number of benefits, including the provision of warehousing to meet an identified need. The employment floorspace provided would make a significant contribution to the need identified by the South West Herts Economic Study (2018) and the development plan. It would also create about 292 full-time jobs and 108 jobs during construction. In addition, there would be about 179 indirect full-time jobs and 98 indirect construction jobs. This is identified as a priority for sustainable development by the Core Strategy (2011). These jobs would benefit the local economy due to those employed at the site making use of local businesses. I afford these benefits considerable weight particularly in the current economic climate.
159. There would also be benefits in terms of the improvements to drainage and the access road which would make it less susceptible to flooding, and improvements to the local highway network through the proposed highway works, including the provision of a Toucan crossing.,
160. The effect of the proposal on the public water supply is a material consideration of considerable weight. For the reasons given above, I am not persuaded that this matter can be satisfactorily addressed by way of conditions.
161. Paragraph 7 of the Framework states that the purpose of the planning system is to contribute to the achievement of sustainable development. The potential to adversely affect the public water supply would not be consistent with the environmental objective of sustainable development. It would also fail to comply with the social objective in that it would fail to foster a well-designed and safe built environment. Economically it could give rise to significant additional costs to Affinity Water which may be passed on to the public. Therefore, looked at in the round I do not consider that the proposal would be sustainable development.
162. Whilst the proposal accords with some of the policies within the development plan, it fails to comply with the overarching policy Core Strategy policy CP1, which requires all development to contribute towards the sustainability of the District, and seeks to manage and reduce the risk of and from pollution, including water pollution. It would also fail to comply with policy LDD policy DM9. I therefore conclude that the proposal fails to comply with the development plan as a whole.

163. I acknowledge that planning decisions should generally focus on whether a proposed development is an acceptable use of land. However, in this instance whilst recognising the benefits of the proposal, due to the risk to the public water supply and failure to comply with the development plan as a whole, I conclude that the appeal should be dismissed

Conclusion

164. For the reasons given above I conclude that the appeal should be dismissed.

Lesley Coffey

Planning Inspector

APPEARANCES

FOR THE APPELLANT:

Saira Kabir Sheik QC instructed
by Avison Young

Tim Sturgess	Planning Consultant
Phillip Barlow	
Mitch Cooke	
Hannah Fraser	
Kathryn Sather	
Tim Street	

FOR THE LOCAL PLANNING AUTHORITY:

Tony Charles
Claire Westwood
Phillipa Roberts
Charlotte Kemp
Maria Kitts
Ilias Karaponos
Alister Legatt
Simon Richards
Adam Whinnett

INTERESTED PERSONS:

Carolyn Weston	Maple Cross and West Hyde Residents Association
Rita Jones	Maple Cross and West Hyde Residents Association
Matt Mountain	Maple Cross and West Hyde Residents Association
Alan Divall	Maple Cross and West Hyde Residents Association
Keith Pursall	Maple Lodge Conservation Society
Matt Dodds	Herts and Middlesex Wildlife Trust
Judith Passingham	
Paul Samuels	
Barbara Paskins	
Roger Dewey	
Pearl Perry	

DOCUMENTS SUBMITTED TO THE HEARING

- 1 Map showing location of boreholes (Confidential) submitted by the Council
- 2 Plan showing highway boundary submitted by Highway Authority
- 3 Schematic of aquifers submitted by the Council
- 4 Submission on behalf of Rita Jones
- 5 Comments on hearing evidence submitted by Maple Cross and West Hyde Residents Association (MCWHRA)
- 6 Schematic of appeal site submitted by Judith Passingham
- 7 Information regarding Balloons submitted by Pearl Perry
- 8 Information regarding noise readings at Hatfield site submitted by MCWHRA
- 9 Historic England: The setting of Heritage Assets guidance submitted by appellant
- 10 Comments on tree at Longmore Close submitted by MCWHRA
- 11 Submission on behalf of Karen Bradley
- 12 Appellants response to MCWHRA comments
- 13 Note confirming the need for additional employment land submitted by the Council
- 14 Green Belt overlay plan submitted by the appellant
- 15 Updated drainage plan T_17_1999-55-01-P14 submitted by the appellant
- 16 Further submission dated 3 July from MCWHRA
- 17 Submission on behalf of Gary Armstrong
- 18 Draft conditions agreed by the Council submitted by the appellant
- 19 Comments on the draft conditions submitted by Maple Lodge Conservation Society
- 20 Comments on draft conditions submitted by MCWHRA
- 21 Submission on behalf of Matt Mountain
- 22 Submission on behalf of Martin Stuart
- 23 Further updated drainage plan T_17_1999-55-01-P15 submitted by the appellant