

**A report for North Hertfordshire District Council**  
**July-September 2017**

Part 1: Practicalities of smaller secondary schools and all-through school provision  
Part 2: Site area requirements for schools and consideration of allocated sites

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### **About PSE Consulting**

PSE Consulting Limited was founded in 2007 by Bruce Austen and Karen Hardacre. The company specialises in consideration of current practice and provision in education, health and social care and the planning and provision of future services.

Bruce Austen has a background in school place planning, vision and design guidance for the development and delivery of education capital projects and programmes, and the development of strategies for social infrastructure in planned developments.

His career successes include leadership of the reorganisation of primary schools and the entire reorganisation of special education in Bath & North East Somerset. This included leadership of the development of the award-winning Three Ways School in Bath.

Bruce was a key member of the team that developed and created Futures for Somerset (the Building Schools for the Future programme in the County).

He led on social infrastructure for the development of Chapelton of Elsick, an entirely new town in Scotland, plus Grandhome, a major extension to the City of Aberdeen.

Amongst numerous other projects, Bruce has been Education Design Advisor for UTC Swindon, The Deanery CE School, also in Swindon, Winterbourne International Academy, St. Mary Redcliffe & Temple School and Cotham School (all Bristol). He also wrote the vision and accommodation schedule for Writhlington School.

Bruce wrote the Primary Capital Strategy for the London Borough of Islington.

He has also provided advice on many occasions to housing developers regarding contributions to social infrastructure and brokered agreements with local authorities to ensure proper and timely provision.

Most recently he has led major capital projects in schools in London developing creative solutions and delivering new buildings to accommodate major increases in student numbers on exceptionally challenging school sites.

Until 2015, Bruce was a Governor of two secondary schools and a junior school so is able to understand the needs of schools from the perspective of school leaders.

## Executive Summary

North Hertfordshire District Council commissioned PSE Consulting to undertake two connected studies.

1. A review of any 'published evidence from respected sources relating to the efficacy of smaller-scale (4-5FE) versus larger (6+FE) secondary schools in terms of curriculum provision, educational outcomes, financial viability, deliverability and willingness of Academy Trusts to take on schools of different scales and formats, and any other relevant factors'
2. An assessment of the potential for delivering new school places on two allocated sites in the Local Plan. These sites are referred to in the plan as;

GA2 representing land off Mendip Way, Great Ashby

KB4 representing land east of Knebworth

It is the Council's intention that these sites could, with the use of adjoining Green Belt agricultural land for playing fields (both sites) and, at site KB4, some shared use of the adjoining Parish Recreation Ground, accommodate: (GA2) A 2FE Primary / 4FE secondary 'all through' school and (KB4) either a 4FE secondary school or a 2FE Primary / 4FE secondary 'all through' school

Part 1 of the report concludes that;

- There is no compelling evidence to show that secondary schools of 4FE or below cannot;
  - produce good educational outcomes,
  - provide a broad and balanced curriculum,
  - maintain themselves financially,
  - establish themselves as single-Academy Trusts or participate in Multi-Academy Trusts.
- Ofsted have made no definitive statement on the optimum size of secondary school in relation to levels of attainment or achievement.
- Ofsted inspections of a (time-limited) sample of smaller secondary schools report good or outstanding education provision and good or exemplary curriculum offers.
- C. 80% of smaller secondary schools (<630 students) are operating a balanced budget or a budget surplus
- Analysis of data shows that improved outcomes at GCSE and equivalents can be significantly above average at secondary schools within Multi-Academy Trusts with average KS4 cohort sizes of c. 120 students

Part 2 of the report concludes that;

- Relaxation of rigid adherence to Building Bulletin 103 area requirements is promoted by the DfE in the interests of promoting choice in state education. Combined with the absence of detailed guidance on site sizes for all-through schools, this provides Councils, proposers and developers with flexibility in considering new all-through provision.
- In addition to the flexibility encouraged by DfE and the limited information on site area requirements for all-through schools it is entirely possible to introduce greater areas of all-weather surface thus reducing site area requirements further.

- **Site KB4**

This is suitable in size for a stand-alone 4FE 11-16 secondary school and can also provide the minimum site area for an 11-18 secondary school.

Similarly the site could accommodate a 2FE primary school and 4FE secondary school on a minimum site area and at the mid-point of site area ranges.

Without site expansion KB4 cannot accommodate a 2FE primary and 4FE secondary with a post-16 provision.

Site expansion could potentially be achieved but this must be through absorption of existing public land into the site. Use of a site outside the control of a school is not recommended.

- **Site GA2**

This is suitable in size for a stand-alone 2FE primary school as set out in existing policy. The site can also accommodate a 4FE 11-16 secondary school but the gap between the site area requirement and the land available within the currently allocated site boundary is within a tight margin. The site cannot provide the mid-point site area for an 11-16 secondary school.

Inclusion of all-weather surfaces brings the site a size where it can accommodate an 11-16 school comfortably. However, it cannot provide a site for any other of the potential options without expansion of the site and this is a key consideration.

Expansion of the site appears possible to achieve.

Generally, each site offers potential for development of a school of one kind or another but only the reduction of site area requirements (through provision of all-weather surfaces) or an expansion of the sites allows development of wider options.

- Post-16 provision could be allowed for but there are significant doubts about the educational and financial viability of post-16 provision that relies almost entirely

on students of the new school staying on into post-16 education. If this becomes a critical issue, work should be commissioned from Hertfordshire Grid for Learning or another contractor to examine this issue in depth.

- Single-storey provision has some perceived advantages for primary-aged children but there is no clear evidence to support these perceptions. Many schools in England are >single-storey and, in addition to the reduction of footprint of buildings, there are also perceived advantages to learners and teachers of multi-storey provision.
- Shared facilities and common areas in co-located schools or all-through schools offer cost savings in buildings and maintenance and represent an effective use of space and funding. The extent of reductions in floor area and staffing costs will depend on the precise circumstances in which a school operates.
- All-weather surfaces offer options for a greater and wider range of use. The inclusion of all-weather surfaces reduces site area requirements. All-weather surfaces allow a school to generate income and to open itself up to the local community.
- A policy change should be made reflecting the fact that the indicated 4 ha. site at GA2 can only accommodate a 2 FE primary school. If there is a need for secondary provision at GA2 then the available site must be enlarged.

## 1 Aims

The report does not intend to set out advantages of smaller secondary schools but aims to assess whether there are educational, financial, social or organisational disadvantages of such schools.

Furthermore, the report does not set out to argue the merits of development at either KB4 or GA2. It simply assesses the practicality of school developments of various types at each site.

Comments regarding single-storey schools, all-weather pitches and all-through or co-located schools are derived from our experience in developing new school provision.

## 2 Background

In order to establish the background to a study focussed on school size it is necessary to examine the range of secondary school sizes in England. Wales and Scotland are not considered here as these countries have different educational systems and different curriculum offers from those in England.

### *School size in England*

There are 3,408 state-funded secondary schools in England. The table below shows the composition of this figure and is drawn from the Statistical First Release January 2017 entitled "Schools, Pupils and their Characteristics: January 2017 - Local Authority Tables"<sup>1</sup>

*Table 1: Types of state-funded secondary school: January 2017*

Category	Number of institutions	NOR	Average NOR
LA maintained schools			
Comprehensive	948	914,286	964
Selective	23	23,380	1,017
Modern	41	32,203	785
Non-selective	4	2,491	623
Unknown	64	26,739	418
<b>Total LA maintained schools</b>	<b>1080</b>	<b>999,099</b>	<b>925</b>
Academies	2090	2,146,929	1,027
City Technology Colleges	3	3,902	1,301
Free Schools, UTC, Studio Schools	235	73,159	311
Total	3408	3,223,089	946

As can be seen from Table 1, the mean average size for a state-funded secondary school in England is 946. This equates to just over 6FE. However, the figures are affected by the inclusion of University Technical Colleges, Studio Schools and Free Schools. This category of institutions is unusual as Studio Schools were typically

<sup>1</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/622372/SFR28-2017\\_LA\\_Tables.xlsx](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/622372/SFR28-2017_LA_Tables.xlsx)

developed for 300 students only, UTCs serve only the 14-19 sector and many Free Schools are in the early years of their development and so will not yet be at full capacity. Excluding these institutions leads to higher average numbers on roll of 992 which equates to 6.6 FE.

It should also be noted that, of the 3,408 institutions, 2090 are Academies which represents c. 69% of the total. Excluding the 238 Free Schools, UTCs and Studio Schools and the three City Technology Colleges brings this proportion to c. 66%

Analysis of the statistics shows that in only one Local Authority area is there an average size school (Academies and Maintained Schools) operating below 6FE. This is the Isles of Scilly which can be discounted as there is only one school in the Authority.

In reply to a 2013 Freedom of Information request regarding secondary school size the Department for Education (DfE) was able to respond on the basis of school census information from January 2012<sup>2</sup>. At that date there were 3,268 state-funded mainstream secondary schools.

317 of these schools had between 1 and 500 students on roll representing 9.7% of all secondary schools. This demonstrates that a significant proportion of secondary schools can and do operate (at least in 2012) with far fewer students than the 6FE/900 students model.

### **3 Educational issues in smaller secondary schools**

Above all other considerations of finance and organisation must come the educational experience and outcomes for students. In our searches of the Ofsted website and reading of inspection reports there is no evidence to suggest that smaller secondary schools are disproportionately represented amongst Grade 3 schools (requiring improvement) or Grade 4 schools (inadequate and/or requiring special measures). Some smaller secondary schools have received Grade 1 (Outstanding) judgements. This may not be because of the smaller size but clearly smaller numbers on roll do not appear to have a negative effect on educational outcomes or the judgement of Ofsted.

Furthermore, there is no evidence that smaller secondary schools are unable to offer a broad and balanced curriculum. Some schools of all sizes will make conscious decisions to limit the range of options available and/or promote a more academic path for students but the reasons for these decisions do not appear to be generally related to school size.

In 2002 the Local Government Association (LGA) commissioned research on the optimum size of schools. This was published by the National Foundation for Educational Research and the LGA under the title "The impact of school size and

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<sup>2</sup> <https://www.gov.uk/government/publications/number-of-secondary-schools-and-their-size-in-student-numbers>

single-sex education on performance”<sup>3</sup>. The report states that “It would be possible to infer that...in order to maximise performance, comprehensive schools should be 6FE **and** single-sex (emphasis added). However, although medium-size schools obtained the best results on all GCSE outcomes, the differences (while statistically different) were very small”.

Despite this finding some Local Authorities adopted a model of 6FE/900 students as a minimum standard<sup>4</sup>. It can be inferred that financial, organisational or even property factors played a significant role in the adoption of this policy. Naturally this did not mean that schools with fewer than this claimed optimum number were closed or that schools were not opened with fewer than this number as the planned capacity.

In 2004, the Institute of Education published a report entitled “Secondary School Size: A Systematic Review”<sup>5</sup>. The review drew from banks of knowledge and research in 31 countries including England and looked at a period between 1990 and 2004. On this basis we can say that the review is one of the most comprehensive assessments of the effect of school size on outcomes and experiences. Whilst raising more questions and avoiding definitive statements the report states “The majority of ...studies do not report any statistically significant association between school size and achievement” although it is worthy of note that “There is a consistent relationship between student engagement and participation in school and school size; student engagement and participation was greater in smaller schools”. The report recognises the limitations of its remit and implies that school size is not the key factor in determining or promoting positive social, educational and economic outcomes. The authors state that the review seems to refute some of the more prevalent myths regarding the advantages and disadvantages of smaller and larger schools and notes that the relationship (between size and outcomes) is much more complex.

Given the apparent weight attached to school size in debates about school organisation it is significant that no major research appears to have taken place on the issue since the 2004 Institute of Education publication. We infer that other factors such as developing school leadership, curriculum changes, stronger teaching and changes to pedagogy have become more of a focus in the ongoing debate about improving student outcomes.

#### **4 Financial issues in smaller secondary schools**

In December 2016 the National Audit Office published a report entitled “Financial sustainability of schools”<sup>6</sup>. The report was initiated as part of the wide-ranging

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<sup>3</sup> <https://www.nfer.ac.uk/publications/91014/91014.pdf>

<sup>4</sup> <http://news.bbc.co.uk/1/hi/education/8255341.stm>

<sup>5</sup> [http://eppi.ioe.ac.uk/cms/Portals/0/PDF%20reviews%20and%20summaries/s\\_s\\_rv1.pdf?ver=2006-03-02-125040-877](http://eppi.ioe.ac.uk/cms/Portals/0/PDF%20reviews%20and%20summaries/s_s_rv1.pdf?ver=2006-03-02-125040-877)

<sup>6</sup> <https://www.nao.org.uk/wp-content/uploads/2016/12/Financial-sustainability-of-schools.pdf>

debate about future funding for schools and the impact of Government spending decisions.

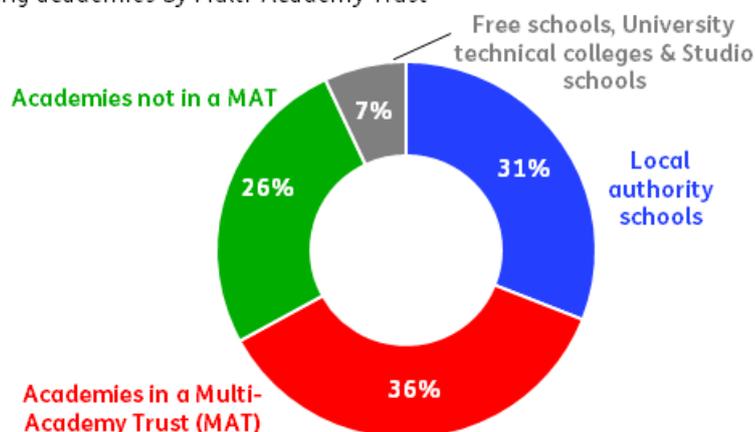
The report specifically considers school size and questions the viability of smaller secondary schools. The NAO state that small schools “are less likely to be able to benefit from economies of scale” and notes that, in 2014-15, 21% of secondary schools with fewer than 630 students were running a budget deficit compared to 9% of schools with more than 1,178 pupils. However, by definition this means that 79% of smaller schools are running a balanced or surplus budget. The factors that go toward a school facing exceptional financial pressures may be partly related to the school size but there is no compelling research evidence to support a conclusion that smaller schools are inherently financially unsustainable.

## 5 Academies and Free Schools

Academies are the principal organisational form of secondary school in England and Free Schools are an additional subset. Academies have been part of the educational landscape since 2000. A majority of secondary Academies are within a Multi-Academy Trust (MAT). Evidence included as background to the February 2017 Education Select Committee report stated that in March 2016 there were 973 MATs. Of these 252 were single-Academy Trusts and a total of 681 MATs operated three schools or fewer.

### Types of secondary school in England

Including academies by Multi-Academy Trust



Source: Department for Education EduBase (May 2017) and 'Open academies and academy projects awaiting approval: March 2017'



There have been concerns over the willingness and capability of MATs to incorporate small schools. These concerns were focussed particularly on very small rural primary schools but drew attention to the issues surrounding smaller secondary schools too. The Select Committee noted “Certain areas of the country are struggling to attract new sponsors and small rural schools, largely in the primary sector, are at risk of becoming isolated. There is also growing concern for ‘untouchable’ schools which

Trusts refuse to take on. The Government should ensure that schools which are under-performing are not left behind by a programme which was originally designed to support such schools”

In itself, a MAT is no guarantor of good educational and financial performance. The Education Policy Institute’s (EPI) report “School performance in multi-academy trusts and local authorities–2015”<sup>7</sup> states that “There are undoubtedly high-performing multi-academy trusts that are sustaining high rates of progress for their pupils [ ... ] but the picture is far from consistent and joining a trust is not guaranteed to drive improvement.”.

Most MATs contain schools of different types and serving different age ranges. It is not uncommon for a MAT to operate a number of primary schools acting as ‘feeders’ to a single secondary school. In March 2016 c. 60% were operating schools across sectors.

The Free School Programme has also increased the number of institutions that operate on an ‘all-through’ basis where children join the school aged 3 and leave at 18<sup>8</sup>.

There are Academies operating with fewer or far fewer students on roll than the 6FE/900 student model. For the purpose of this report we looked for examples of Academies with fewer than 4FE/600 students on roll. We disregarded Academies that are defined as ‘Alternative Provision’, special schools, UTCs, Studio Schools and Free Schools.

In the time available we were able to identify some interesting examples of small or very small secondary schools which by the usual measures are providing effective, efficient education and serving a need in their communities.

## **6 Sample Schools**

### **6a Fairfield School, Herefordshire**

Fairfield is an 11-16 provision based in Peterchurch in Herefordshire<sup>9</sup>. The village is approximately 9 miles from the City of Hereford. Over the period 2006 to 2013 the School was inspected by Ofsted on three occasions. On each occasion the School has been rated as ‘Outstanding’. As of 2017, there are 478 students on roll.

Brief analysis of recent Ofsted reports<sup>10</sup> shows that at various points, the school admitted a greater than average proportion of students with special educational needs. The 2006 Ofsted report states that “The curriculum is outstanding. In Years 7 to 9 it is broad and balanced, in Years 10 and 11 it is exemplary”. In 2013, this point is reiterated. Nowhere do Ofsted comment on the size of the school except as a

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<sup>7</sup> <https://epi.org.uk/wp-content/uploads/2016/07/school-performance-in-multi-academy-trusts.pdf>

<sup>8</sup> <http://www.telegraph.co.uk/education/educationnews/10654655/Record-surge-in-the-number-of-all-through-schools.html>

<sup>9</sup> <http://www.fairfield.hereford.sch.uk/>

<sup>10</sup> <https://reports.ofsted.gov.uk/inspection-reports/find-inspection-report/provider/ELS/116944>

descriptor and the inspectors consistently attribute the success of the school to good leadership and high-quality teaching. The pupil-teacher ratio is almost precisely that found nationally.<sup>11</sup>

The OFSTED inspectors report that Fairfield is a highly inclusive school. Fairfield generally admits new students from each of four primary schools in the areas. The five schools regularly meet and share ideas, working closely together from time to time on particular projects. In its 2009 OFSTED report Fairfield was particularly praised for those of its science lessons undertaken in classes of 60 showing an innovative use of space, staff and student time and flexibility of lesson organisation and course development. In 2012 Fairfield was part of a group of ten schools involved in a Department study of innovation in small secondary schools.

In summary, Fairfield is an example of a smaller secondary school developing innovative behaviours. These are clearly a necessity for such a small school but it is a further indicator that educational and social outcomes can be of the highest standard even in smaller schools.

#### **6b St Mark's CE School, Bath and North East Somerset**

St Mark's Church of England School<sup>12</sup> is an 11-18 school within the City of Bath and is one of the smallest secondary schools we identified. It is part of the Bath Education Trust, an organisation including mainstream secondary schools (including a Catholic school), a special school and a Studio School. In the period 2002 to 2015 the school has been inspected by Ofsted on five occasions<sup>13</sup>. It has always been an exceptionally small secondary with numbers rarely above 300. The school works in partnership with other Trust schools and post-16 students attend a joint provision at St Gregory's Catholic School in Bath.

The most recent Ofsted inspection in May 2015 noted;

- The proportion of disadvantaged students is above average
- The proportion of students with special educational needs is above average
- The proportion of students joining/leaving in-year is well above average
- The proportion of students eligible for Year 7 catch-up funding is above average
- Many students join the school with attainment below that expected for their age

The school was judged as Grade 2 (Good). At January 2017 there were 192 students on roll.

Ofsted reported that "The range of subjects in the school's curriculum is broad, flexible and responds to the interests and ambitions of all students"

St Mark's success is particularly worthy of note given the prior attainment of students, the numbers of students who are disadvantaged by economic circumstances or special educational need and high turnover of students. It

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<sup>11</sup> <https://www.compare-school-performance.service.gov.uk/school/140868?tab=workforce-and-finance>

<sup>12</sup> <http://www.st-marks.org.uk/>

<sup>13</sup> <https://reports.ofsted.gov.uk/inspection-reports/find-inspection-report/provider/ELS/109328>

demonstrates further that even a very small secondary school can provide a high-quality education where it is able to work in partnership with other schools.

### **6c The Sele School, Hertfordshire**

The Sele School is in Hertford. Sele converted to Academy status in 2012 and the school was almost immediately inspected by Ofsted<sup>14</sup>.

The inspectors judged the school to be Grade 2 (Good). The report noted that school as being smaller but otherwise made no reference to the size of the school.

The report states that;

- Around 25% of students are eligible for pupil premium which is above average
- The % of students with statements of special educational needs is above average
- More students than average join the school at times other than in Year 7.

At that time the curriculum was described as having “..more than sufficient variety and depth to be attractive to students” and allow(ed) staff to teach imaginatively”

The most recent inspection was in March 2017. This was a short form inspection and judged that the school had retained its status as a ‘Good’ school

## **7 Secondary schools with features of a 4FE**

We also analysed data regarding secondary schools with a cohort size of c. 120 within MATs<sup>15</sup> (see tab ‘Improvement Measure KS4 2015’). This data is of value as, although the individual school may have a number on roll above 4FE/600 students, the cohort presented for exams is of the general size found in a 4FE secondary school. Even amongst some of the larger Academy Trusts, the KS4 cohort for 2015 was at or around 120. Examples are The Harris Federation, a longstanding Trust with 19 schools with ‘end of KS4’ students. In 2015, the average KS4 cohort size taking GCSEs or equivalents in a Harris Federation Academy was 121. DfE analysis shows that improvement in GCSE and GCSE and equivalents outcomes were ‘significantly above average’

A further example can be found with the ARK Schools Trust. This covers 17 Academies serving ‘end of KS4’ students and again shows outcomes on GCSE and equivalents as ‘significantly above average’. The average end of KS4 cohort size at ARK Schools was 105.

We do not attribute the improved performance to size of cohort. We simply recognise that large MATs are able to bring forward students in an average cohort size of c. 120 and demonstrate improved performance on GCSE and equivalent measures.

One further consideration following this analysis is the relative maturity and overall size of the MAT. A well-established MAT (such as Harris or Ark) will have developed

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<sup>14</sup> <https://reports.ofsted.gov.uk/inspection-reports/find-inspection-report/provider/ELS/138484>

<sup>15</sup> <https://www.gov.uk/government/statistics/multi-academy-trust-performance-measures-2015-to-2016>

and refined its educational offer and curriculum delivery. Furthermore, a larger MAT will have achieved economies of scale which enable it to absorb smaller and/or underperforming schools.

## **8 Part 1 Conclusions**

Ofsted have not concluded that smaller secondary schools provide a poorer-quality educational experience or produce worse levels of attainment and achievement as a result of their number on roll

The National Audit Office has recognised that 79% of secondary schools with fewer than 630 students operate a balanced budget or have a budget surplus

The Education Select Committee has not commented unfavourably regarding school size.

Multi-Academy Trusts do include smaller secondary schools within their remit.

Some Multi-Academy Trusts present KS4 cohorts for GCSE examination with c. 120 students.

No major research into the effect of school size has been undertaken in England over the last fifteen years and we argue that this is as a result of the inconclusive outcomes of that research and the development of competing and more fruitful ideas as to the reasons for success or underperformance of schools.

## Part 2: Space requirements and options for new school provision

### 9 The Brief

PSE Consulting were asked to;

- carry out a review of school space standards as set out in BB103 to advise on the land requirements for the provision of a) a 4FE secondary school and b) a 2FE primary / 4FE secondary 'all-through' school. This is to include consideration of factors which may produce a range of site size requirements
- assess any ranges contained within the school space standards for different elements of provision
- consider the merits of the provision of single vs. two storey buildings
- consider the scope for shared facilities within all through schools – communal spaces, non-teaching areas etc.
- consider the provision of MUGA(s) vs. grass playing fields  
*N.B. Here we have included an assessment of all-weather surfaces and not simply MUGAs*
- consider post-16 provision accounting for the fact that Hertfordshire County Council policy is that that secondary schools are inclusive of 6th form provision

Consideration of the above against the proposed secondary education strategy in the submitted North Hertfordshire Local Plan for two housing-led allocation sites: north-east of Great Ashby (Site GA2) and east of Knebworth (Site KB4) including:

- a. A high-level review of any relevant physical factors (e.g. topography of sites and relevant adjoining land) through desk-top analysis and / or site visit
- b. An indicative scheme submitted by landowners of site KB4 in response to the Local Plan consultation
- c. The current requirements for education provision as drafted in policy and / or suggested in the supporting text having regard to opportunities for the identified land requirements to be accommodated in part through: i. playing field provision beyond the allocation boundary in the Green Belt (site GA2 and site KB4); and / or ii. shared use of adjoining recreation ground facilities (KB4)

Conclusions and recommendations in relation to deliverability and/or any amendments required to the policy requirements currently included in the plan.

## 10 Background

The key document for considering the space requirements of schools is Building Bulletin 103: Area Guidelines for Mainstream Schools (BB103)<sup>16 17</sup>. Crucially the associated guidance states that “...in line with policies which seek to increase choice and opportunity in state funded education, these guidelines will not necessarily have to be met in every case and should always be applied flexibly in light of the particular circumstances”.

Nevertheless, these standards should be the benchmark against which potential schemes are considered as they represent current good practice and the accumulation of design and space data from a vast range of projects.

## 11 Land requirements

BB103 contains a series of formulae regarding the site size required for a variety of schools.

Guidance states that, where an all through school of >750 on roll is being planned, then the sum of the building areas site for the component primary and secondary elements should be used. Naturally, a school serving such a wide age range will have some duplication of areas. Unnecessary duplication is discussed below. No statement is given regarding the overall site area in these circumstances. This provides proposers and developers with flexibility in considering new all-through provision. A starting point is to combine the site requirements for each ‘school’ of the planned size.

Appendix A includes the site area calculation for;

- A 2FE primary school (only to allow combined options to be developed)
- A 4FE secondary school
- A 4FE secondary school with a post-16 provision.  
Post-16 numbers are calculated based on 90% of Y11 staying on into Y12 and 90% of Y12 staying on into Y13. See comments below in relation to the viability of a post-16 provision of this size.
- A combined 2FE primary/4FE secondary school
- A combined 2FE primary/4FE secondary school with post-16 provision

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<sup>16</sup><https://tinyurl.com/meawyvo>

<sup>17</sup><https://tinyurl.com/y8ya9wh2>

N.B. No allowance has been made for either site to accommodate a daycare/nursery facility. If this were to be included in a developed option then location and precise area requirements would need to be considered against the impact on the overall site and buildings layout.

The formulae are set out in a headed column to show the basis of calculation

In judging the capacity of each of the proposed sites to accommodate each variant of school we have introduced a margin to allow for any unusable area. We argue that a site is acceptable for consideration against each option where the calculation shows there is headroom of 10% or more. These options are marked in green. Sites above the absolute minimum but with <10% lower headroom are marked as amber. All other options are marked as red.

We have calculated minimum site, maximum site and the mid-point for each formulae. It is unlikely that the maximum site area would be required but the mid-point or above is generally a reasonable option. Generally speaking, we make no comment on the maximum site option. The maximum site could be required if the school site were also planned to accommodate other social infrastructure (e.g. day care, healthcare, community facilities open during and outside school hours or where additional provision is required for learners with special educational needs).

In relation to sports and PE provision it must be noted that the School Premises Regulations 2012 stipulate only that “Suitable outdoor space must be provided in order to enable; a) physical education to be provided to pupils in accordance with the curriculum and b) pupils to play outside”.

DfE guidance states that the introduction of all-weather sports and PE pitches means that the area can count as twice the size. However, we have taken a cautious approach and allowed for the introduction of a single standard size football pitch. The other advantages of AWP as a resource are discussed elsewhere in this report.

## **12 The Sites**

At GA2, we were asked to consider an indicative 4 ha. site (outlined in blue) within the proposed allocation (outlined in red) with various adjoining parcels of land within the site and extending into the Green Belt. These are outlined in orange and green.



Taking into account the area outlined in orange the site is equivalent in size to KB4 and, having visited both sites, this combined area appears to be a more suitable site than KB4. The site is almost level across large sections and this gives it a 'deliverability advantage' that may not be the case at KB4. However, this relies entirely upon including the additional land. Were it possible to include some or all of the 2 ha. site (outlined in green and) and/or the 2 ha. site outlined in orange then this location provides the greatest flexibility for considering future education provision.

At KB4, PSE were asked to consider representations submitted in response to the Local Plan showing a 5.7 ha. site adjoining a recreation ground. The Council report that any use of the recreation ground would be in addition to the 5.7 ha. site. However, the levels in this area appear more challenging thus giving rise to the 'deliverability advantage' discussed above. The configuration of the site would, in our opinion, also make a cohesive layout less easy to achieve. We strongly advise taking no account of the adjoining recreation ground. Safeguarding of young people cannot be assured where areas are also open to the public. Only areas that can be secured entirely should form part of a school site.



An indicative scheme for a school has been provided by the landowner and we comment on this below.

### **13 The Options**

#### *The 2FE Primary calculation*

This is not an option in the strictest sense for the sites being considered in this report as it is not proposed as a stand-alone school. Calculations are only included in order to develop options for all-through schools or co-located schools.

#### *The 4FE Secondary Option*

N.B. Part 1 of this report shows that a 4FE secondary school is educationally and financially viable and that schools of this size represent a small but important fraction of all secondary schools in England.

#### *Conclusions*

**KB4:** A 4FE secondary can be accommodated at KB4. This leaves a comfortable margin in all scenarios. There is no requirement to introduce all-weather surfaces in order to make the school fit. Nor is there a requirement to increase the site area.

**GA2:** GA2 can also accommodate a 4FE secondary school but only at the minimum site area. At the mid-point the area required exceeds that available by 10%. Only by the introduction of all-weather surfaces can the area requirement be brought back below the site area and, at the mid-point, this leaves a shortfall of 6%. In order to create a comfortably sufficient area it would be necessary to include some of the adjoining land.

#### *The 4FE Secondary with post-16 Option*

##### *Conclusions*

**KB4:** The minimum site area can be achieved with a substantial margin. At the mid-point the site begins to become restricted but there remains a 3% margin. The introduction of all-weather surfaces makes the mid-point much more viable.

**GA2:** Even the introduction of all-weather surfaces fails to overcome the fundamental undersize of a 4ha site. Only introduction of wider areas of all-weather surfaces or an extension to the site through inclusion of adjoining land would allow this option to be pursued.

#### *The 2FE Primary/4FE Secondary Option*

##### *Conclusions*

**KB4:** This option could be accommodated but only the minimum area could be achieved. At the mid-point there is a shortfall of 8%. It is conceivable that a design could be developed that overcame this shortage.

**GA2:** Only introduction of wider areas of all-weather surfaces or an extension to the site through inclusion of adjoining land would allow this option to be pursued.

#### *The 2FE Primary/4FE Secondary incl. Post-16 Option*

##### *Conclusions*

**KB4:** The use of all-weather surfaces would probably allow this option to be accommodated at the minimum size although there is a 3% shortfall. The mid-point cannot be achieved without wider areas of all-weather surfaces.

**GA2** The minimum site area cannot be achieved by a substantial margin on a 4ha. site. Only with a significant or very significant extension to the site could this option be pursued. However, were this extension possible then the site is equivalent to or greater in size than KB4. Extending the school site into the Green Belt allows the minimum area to be achieved with ease and the mid-point is achievable but with an 8% margin.

## **14 Post-16 provision**

Hertfordshire County Council has a policy that secondary schools are inclusive of 6th form provision. However, in March 2016 the DfE published guidance aimed at Academies wishing to add post-16 provision to an existing school<sup>18</sup>. This does not match precisely the circumstances under discussion in this report but nevertheless acts a touchstone when considering absolute size of post-16 provision, the range of A Levels/Level 3 qualifications available to students and the effect on an overall school budget of a post-16 provision of c. 200 students.

The guidance implies a minimum student number of 200 is required to ensure breadth of the educational offer and a low or zero impact on the overall school budget.

Our calculations produce 204 students and this calculation is based on a 90% stay-on rate from Y11 to Y12 and 90% of the resulting Y12 staying on into Y13. In our opinion it is doubtful whether a 4FE secondary school could and would generate sufficient post-16 students without compromising the educational offer and/or requiring cross-subsidy from elsewhere in the school budget.

The offer made by other post-16 options in the area are outside the remit of this report. However, the DfE do emphasise the need for partnership across institutions, the prevention of unnecessary duplication of learning programmes and the importance of new provision having no negative impact on existing providers.

We recommend that, if this option is pursued, further research is commissioned from Hertfordshire Grid for Learning (HGfL) or another consultancy in order to test the educational and financial viability of a new post-16 provision at either KB4 or GA2.

Note: HGfL will have detailed knowledge of other providers in the area which may be harder for another consultancy to bring to the project

## **15 Single storey and two or more storey schools**

Many primary schools throughout the UK are in buildings above a single storey. There are perceived advantages to single-storey and to multi-storey primary school buildings but there is no major research that shows educational or social benefits or disadvantages of either format. As such, decisions on the format of a school should be taken in light of planning policies, general aesthetic appeal and the larger footprint occupied by a single-storey school. This latter point has an effect on the capacity of a given site to accommodate a school.

Arguably, a single-storey building is less dominating for the youngest children and feels more of a welcoming environment at smaller-scale. Some argue that it creates

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<sup>18</sup> <https://tinyurl.com/zakyxhr>

a more 'domestic' feel for young children. Approximately 80% of the UK population live in houses rather than flats so obviously this is contrary to the actual home environments of most children.

Single-storey buildings do mean that all children have direct access to the outdoors and this can provide opportunities for outdoor learning and learning through play especially for those in the earlier years of their primary education.

A two-storey building or even three-storey building obviously occupies a smaller footprint so there are advantages where sites are small or constrained. This is particularly valuable in high-density urban locations but can also be valuable in suburban or rural areas where land may be difficult to obtain or where access is difficult from existing roads.

There are perceived benefits of multi-storey primary school buildings as they provide a sense of progression in education for children as they move between Year Groups and/or Key Stages. Moving up a year or Stage is mirrored by a physical move upward in the building.

Almost all secondary schools are two storeys or more. This is quite acceptable and often aids with the development of faculties/departments with a distinctive identity and ethos. It also offers a greater opportunity for the development of traditional or more creative adjacencies between curriculum areas.

In an 'all-through' setting thought should be given (with due consideration of planning issues and basic aesthetics) to placing a multi-storey secondary school above a single or two-storey primary school. This minimises land use further and adds to the sense of progression felt by learners as they move up the building. We recognise there are sensitivities regarding visual impact in rural edge areas such as those under discussion in this report and therefore planning policies would be paramount in considering the practicality of this. Nevertheless, there are no compelling reasons to avoid it on educational grounds providing the overall building promotes connectivity between curriculum areas and students.

We recommend that any feasibility studies or design development on either KB4 or GA2 assumes >single-storey primary and secondary provision.

We recommend that any feasibility studies or design development on either KB4 or GA2 consider the practicality of secondary provision being directly above primary provision.

## **16 Shared facilities within all through or co-located schools**

It is entirely acceptable for there to be two or more schools within one building or occupying a single site. These are known as co-located schools and offer some of the benefits of an all through school in terms of shared resources and efficient use of land. Generally speaking co-location allows and encourages the sharing of car

parking areas, access to the schools, and can also support a shared Reception area and administration offices. Co-located schools will often appoint a single Site Services Manager and Site Services Team, thus reducing overall staffing costs through avoiding duplication of these roles. This has no direct impact on the educational offer made by a school but frees up funds for learning and teaching.

However, where two schools occupy the same building and site it is sensible to consider the potential of an all-age school. As stated above in relation to co-located schools, greater cost effectiveness can be achieved through the appointment of administrative and support staff who serve a single school at a lower cost than the equivalent roles for two separate schools. It can also promote economies of scale in terms of catering, repairs and maintenance. Crucially, it can promote the appointment of teaching and support staff to work across phases allowing professionals to share expertise with a wider number of colleagues.

In a situation where recruitment of Headteachers and school leaders is proving more challenging, and where it is becoming more common for Headteachers (via Multi-Academy Trusts) to act as Executive Principals, an all age school is able to offer a greater challenge, a greater opportunity to improve educational and social outcomes and (usually) a higher salary.

An all-age school will also offer primary-aged children planned access to specialist facilities that are almost always absent from primary schools and is likely to have a much greater range of potential options for community use (adult learning, sports, leisure facilities). Finally, an all-age school can promote formal or informal mentoring by older students of younger learners, allowing them to act as role models with a consequent impact on their own behaviours.

On the basis of the above, where land is available for the development of an all-age school, there are compelling educational and financial reasons to consider the provision of this type of joined provision.

## **17 All-weather surfaces and grass playing fields**

Grass playing fields offer a unique experience for young people and opportunities to compete, play and socialise on grass are to be welcomed. However, it is inevitable that grassed areas become difficult or impossible to use in either very hot and dry conditions (where the surface will become uneven and potentially hazardous to play on) or where there has been heavy rain (where the surface will become muddy and inhibit normal competition or recreation). Furthermore, grass pitches in schools are only assumed to be of a standard that supports seven hours usage a week<sup>19</sup>. Given the large area that grass playing fields occupy on any school site it is reasonable to argue that a significant minority or even majority of sports and PE provision should be of a higher standard and available for use for a greater period of time each week. Ideally a school would have both options available for use as a games/sports area. In

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<sup>19</sup> <https://tinyurl.com/jqxzml9>

any event, all schools should have some grassed area for play and socialising but this does not necessarily have to be the principal games/sports area.

Where sites are constrained the introduction of an all-weather surface means that people can, in almost all conditions, have access to the PE curriculum and participate in beneficial physical activities. This is acknowledged in BB103 and in guidance from Sport England. "The area of all-weather pitches can be counted twice for the purposes...as they can be used for significantly more than the seven hours a week assumed of grass pitches<sup>20</sup>." The fact that the area can be used at almost all times means that the requirement for very large areas of grassed playing fields is reduced.

The inclusion of an all-weather surface for organised and informal games and sport has three principal beneficial effects. Suitably marked, a pitch of this size can make provision for a wide variety of sports and games and, if an all-through school is being considered, is suitable for use by all age groups. Furthermore, as the area can be used heavily, it offers the potential for hire to local sports clubs and for less formal sports and recreation. This creates an income stream for the school.

By themselves, these two benefits are sufficient advocates for the inclusion of all-weather surfaces. As such, all-weather surfaces should not be regarded as an unfortunate necessity at a school site but a major improvement on the traditional grassed pitches.

The third and wider effect is that it ensures that local people are able to benefit from the facilities of a major public building in their community.

## **18 The strategy**

Policy SP10 of the Local Plan Submission sets out the Council's aim of maintaining and creating 'healthy communities'. This specifically refers to the making of new education provision in appropriate and accessible locations. Reference is also made to community, cultural, leisure, sport and recreation facilities and a school is ideally placed to offer a contribution to meeting all of those needs. Therefore, consideration of sites KB4 and GA2 is entirely consistent with the policy framework.

A smaller secondary school alongside a primary school offers the greatest chance of meeting the expectations set out in the policy. For the reasons set out above there are good educational, financial and social reasons for making this a joint provision in the form of an all-through school. There is also a strong case for saying that an all through school represents a good use of land (a finite resource) and is in keeping with general and specific environmental good practice.

We recommend that the Council commit itself to participation in a feasibility study at the appropriate time for an all through school on KB4 taking into account the potential for extending the site.

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<sup>20</sup><https://tinyurl.com/y7zqjpyf> (page 39)

We recommend that the Council makes a judgement regarding a site extension at GA2. Subject to confidence about a site extension, a similar commitment to participation in a feasibility study should be made for GA2.

*Topography of sites and relevant adjoining land*

We have visited both sites in order to establish a clear understanding of the qualities and disadvantages of each site. GA2 is relatively flat and in itself this makes it a more viable and cost effective option. Furthermore, from the marked up aerial photograph and the evidence of the site visit, it would be technically and physically possible to expand the 2 ha. site outlined in orange and all or part of the adjacent 2 ha. site in the Green Belt. If all of these areas could be absorbed into the school site entirely then this makes GA2 an even more attractive option.

As stated above KB4 could offer an extensive site option. However, topography and levels on the current site and layout are probably more challenging and the benefits attributed to the use of the adjoining recreation ground cannot be realised.

**19 The indicative scheme**

The proposal put forward by the landowners is insufficiently detailed for a full appraisal.

Early comments are that the school should not 'turn its back' on the community it intends to serve. Ideally the building should have an equal face and offer a unifying presence for existing and future residents.

It is unclear whether the building is to provide for secondary students only or represents an 'all-through' option.

No building area is given so it is impossible to say whether the proposed form has sufficient floor area to comply with the guidance in BB103.

No Schedule of Accommodation has been produced so it is impossible to judge whether the right combination of spaces can be provided nor, in the absence of confirmation that this is an all-through school, is it possible to judge the potential for shared areas and more efficient use of internal and external space.

The position of the building on the site should take account of the necessity of opening the site and building after school hours and during weekends and holidays. A twin access will be required in any event.

Consideration should be given to the orientation of the building in order to prevent solar glare.

We recommend that, if this option is pursued, further design options are developed involving an architect with specialist expertise in the design of schools.

## **20 Use of recreation ground / Green Belt**

We consider these two points together as there are common themes. We consider the use of open space which is outside the control of a school and accessible partially or entirely to the general public to be unacceptable on grounds of safeguarding.

At KB4 use of a recreation ground would mean that children would be playing in an area that could not be maintained with complete assurance of safety. Litter of various kinds could accumulate, there may be broken glass on the site and the walking of dogs on the area creates actual hazards. Unless an area of the Recreation Ground could be absorbed into the school site or be made physically secure and exclusively for the use of the school we would not recommend considering the use of this area when assessing viability of options.

At both sites, if land in the Green Belt can be secured legally and physically for an exclusive use for school playing fields then this would become acceptable.

We recommend that any area available for unplanned or uncontrolled public use be excluded from consideration.

## **21 Conclusions, recommendations and amendments to policy.**

Our approach has allowed a margin of -5% to +10% in order to allow for particular topography, unusable areas, site shape, access issues, levels (even a slight slope can be problematic) and any site features that have to be retained (ponds, trees, ancient hedges etc.). Any or all of these issues may be present on the existing KB4 site or the potentially expanded site at GA2. Only full feasibility studies will determine whether our margins are insufficient, suitable or generous.

On balance, having visited the sites the GA2 site represents an opportunity to extend into adjoining areas in order to create a school site of the right size for all options under discussion. We recognise that this would mean a major additional inclusion of land and have no comment on the potential for success against that objective. Recognising that further intrusions in to the Green Belt will be the subject of debate in the future, GA2 also allows room for expansion of a school. On this basis, the site is more 'future-friendly' than KB4

KB4 represents an opportunity but prevents free consideration of all options due to the probable difficulty of absorbing areas of the recreation ground into the school site. This site can only be considered if there is no post-16 provision on site. It also means there is almost zero prospect of expanding the primary or secondary school at any point in the future. This should be a key consideration.

We recommend no change to Policy SP10

We recommend a change to Policy SP18 (c) which should recognise that, whilst the 4 ha. site provides (more than) sufficient land for a 2FE primary school, any co-location or all-through school would need an extended allocation. The policy should seek to allow for all options to be considered in partnership with the Local Education Authority and landowners. The current wording implies that secondary provision could be made within the current allocation in addition to meeting the need for primary places

We recommend that the Council consider the present allocations at KB4 and GA2 with a view to the probable expansion of the school(s) at a later date.

## **Glossary and terminology**

Like every discipline and profession the educational landscape has its own terminology. This report is focussed on school size and school size can be referred to in a variety of ways.

### *AWP (All-weather pitches)*

A manufactured 'grass' or rubberised surfaces able to be used for organised games and sports. The effect of including all-weather surfaces on a school site, in terms of a reduction in site requirements and wider value, is discussed below

### *Forms of Entry (FE)*

The report makes reference to schools by forms of entry. A form of entry is generally defined as 30 students. This is a common reference point for all school place planning in England. Where a school operates a post-16 provision (commonly referred to as 6<sup>th</sup> Form) this does not feature in the FE calculation.

### *MUGA (Multi-use games area)*

This is usually a hard-surfaced area marked out to allow a variety of organised games and sports. In most schools this acts as a play/social area at breaks as well as a timetabled space for PE. It may also be an all-weather pitch (see below)

### *Numbers on roll (NOR)*

The number on roll (NOR) refers to the numbers of learners attending a given school at a given time.

For clarity, for secondary schools, this means;

4FE - comprising  $(4 \times 30) \times 5$  Year Groups = 600 NOR

5FE - comprising  $(5 \times 30) \times 5$  Year Groups = 750 NOR

6FE - comprising  $(6 \times 30) \times 5$  Year Groups = 900 NOR

8FE - comprising  $(8 \times 30) \times 5$  Year Groups = 1200 NOR

For primary schools the number of children per form of entry is also 30 but, there are seven Year Groups;

1FE – comprising  $1 \times 30 \times 7$  Year Groups = 210 NOR

2FE – comprising  $2 \times 30 \times 7$  Year Groups = 420 NOR

In the 'all-through' scenario discussed above and below this would mean an 'all-through' school for 1020 young people. No provision has been made for on-site early years provision. In this report inevitably we refer only to the planned number on learners expected at a school

### *Planned capacity and Net Capacity*

Net Capacity is used to assess the total places available in a school. This is a methodology developed by the Department for Education.

*Stay-on rate*

This refers to the numbers of Year 11 students remaining in a school to begin A Level or other Level 3 qualifications in Year 12 and the proportion of students moving to Year 13 from Year 12.

## Appendix A

Site Area Calculation			KB4 Site Area	GA2 Site Area	Area required (after reduction for 1 x football AWP)	KB4 Site Area	GA2 Site Area	GA2 Site Area	GA2 Site Area
			57000	40000		57000	40000	80000	80000
Option and site areas	Formulae	Learner numbers and areas	Source: Nigel Smith	Source: Aerial Photograph (marked up)	Source: Sport England September 2015. Adult football pitch is 64 x 100	Source: Nigel Smith	Source: Aerial Photograph (marked up)	Includes orange outline and adjoining Green Belt	Reduction for AWP. Includes orange outline and adjoining Green Belt

2FE Primary									
		420							
Minimum site area	33.3 x NOR + 2000	15986			N/A				
Maximum site area	42 x NOR + 2400	20040			N/A				
Mid point		18013			N/A				

Soft PE component	20 x NOR	8400			0				
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4FE Secondary									
		600							
Minimum site area	50 x NOR + 9000	39000	32%	3%	32600	43%	19%	51%	59%
Maximum site area	63 x NOR + 11000	48800	14%	-22%	42400	26%	-6%	39%	47%
Mid point		43900	23%	-10%	37500	34%	6%	45%	53%

Soft PE component	35 x NOR + 6000	27000			20600				
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4FE Secondary and post-16									
		804							
Minimum site area	50 x NOR + 9000	49200	16%	-23%	42800	25%	-7%	39%	47%
Maximum site area	63 x NOR + 11000	61652	-8%	-54%	55252	3%	-38%	23%	31%
Mid point		55426	3%	-39%	49026	14%	-23%	31%	39%

Soft PE component	35 x NOR + 6000	34140			27740				
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## Combined Options

2FE Primary/4FE Secondary									
		1020							
Minimum Site Areas Combined		54986	4%	-27%	48586	17%	-21%	31%	39%
Maximum Site Areas Combined		68840	-17%	-42%	62440	-9%	-56%	14%	22%
Mid point		61913	-8%	-35%	55513	3%	-39%	23%	31%

Soft PE Combined		35400			29000				
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2FE Primary/4FE Secondary incl. post-16									
		1224							
Minimum Site Areas Combined		65186	-13%	-39%	58786	-3%	-32%	19%	27%
Maximum Site Areas Combined		81692	-30%	-51%	75292	-24%	-47%	-2%	6%
Mid point		73439	-22%	-46%	67039	-15%	-40%	8%	16%

Soft PE Combined		42540			36140				
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## Early Years

Based on Schedule for 56 places		921
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