

Arsenal Football Club
Highbury Square,
Avenell Road, Islington
Environmental Appraisal

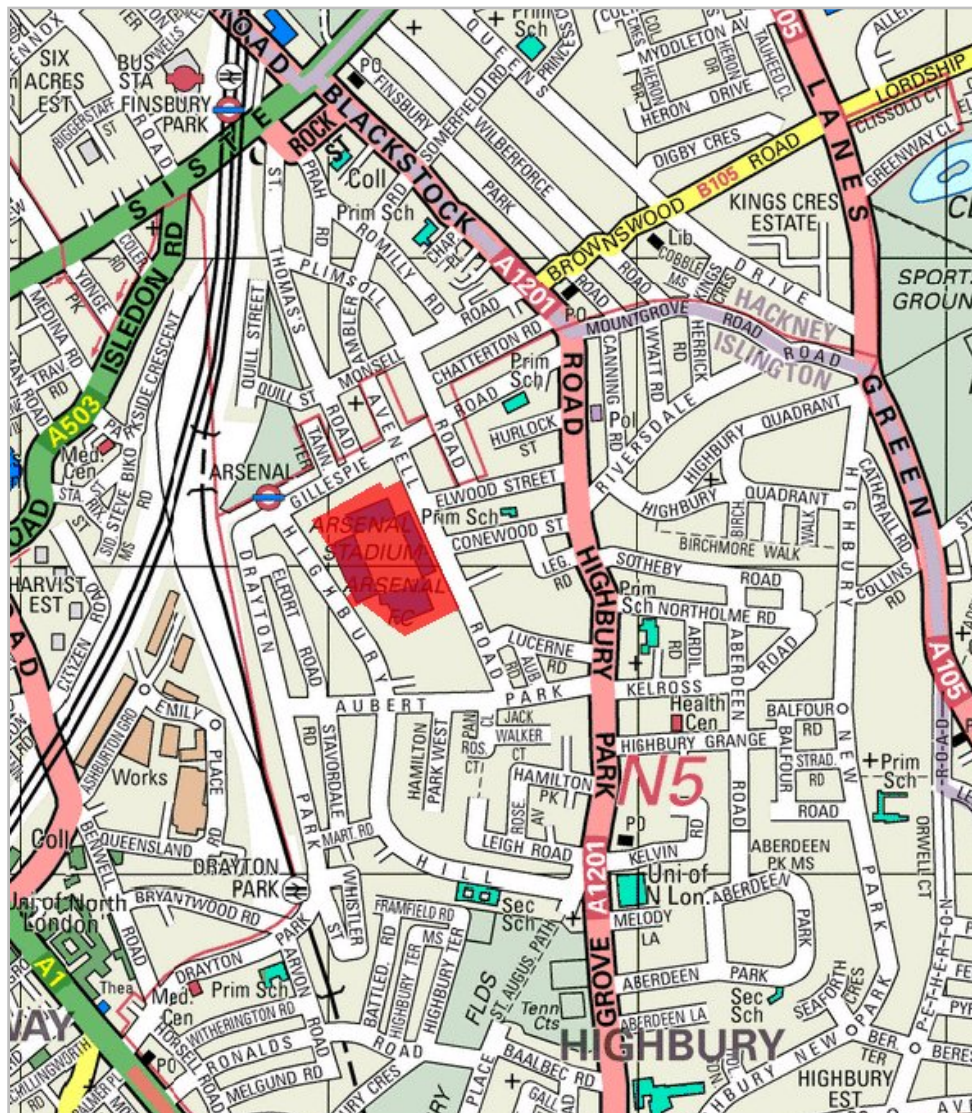
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1.0 Introduction

1.1 Hepher Dixon has been commissioned by Arsenal Football Club (AFC) to prepare an Environmental Appraisal of the proposed changes to the permitted Arsenal Stadium development, Avenell Road in Islington (see Figure 1.1). This Appraisal accompanies the detailed planning application submitted to London Borough of Islington Council (the Council) proposing a predominantly residential development including a community health facility, gym, nursery and retail unit referred to as Highbury Square. The proposed development is a redesign of a previous scheme, which was permitted as part of the proposals for a new stadium and related development at Ashburton Grove.

Figure 1.1: Location of the Proposed Development.



Indicative location of the proposed development site (shaded red) may not exactly correspond with the application redline as submitted.

2.0 Content of the Appraisal

2.1 This purpose of this appraisal is to consider the effects of the proposed development on the environment. The appraisal considers the proposals against the requirements of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 and in the context of the permitted development for the site. The Appraisal report is structured in the following way:

- Screening of the proposed development;
- The site and setting of the proposed development;
- The Proposed Development and Changes from the Permitted Scheme; and
- Effects of the changes to the scheme on the environment.

3.0 Screening of the Proposed Development

- 3.2 The applicant does not believe that the proposed development is EIA development and does not require assessment in accordance with the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999. Therefore this document does not constitute an Environmental Statement for the purposes of those Regulations.

4.0 The Site and Surrounding Area

- 4.1 The proposed development site is located at the existing Arsenal Football Club Stadium. It is bounded to the east by Avenell Road, to the west by Highbury Hill, to the north by properties fronting onto Gillespie Road to the north and to the south it is bounded by Aubert Court. The surrounding area comprises mainly mid to late Victorian terraced housing fronting onto Gillespie Road and Avenell Road together with medium rise flats at Aubert Court. A small number of local retail premises are located on Gillespie Road. The nearest Conservation Area is at Highbury Fields, the boundary of which adjoins Aubert Park, about 150 metres to the south. There are no Listed Buildings in the immediate vicinity apart from the East Stand. However, Arsenal Underground Station, in Gillespie Road, about 50 metres to the west, is locally listed.
- 4.2 The Arsenal Stadium site covers an area of approximately 3.67 hectares and currently comprises a football pitch, four stands, a museum and shop, the Arsenal Sports and Community Centre (an indoor sports centre, incorporated within the South Stand, which includes an indoor football pitch and function room available for public use) and a number of residential properties on Highbury Hill.
- 4.3 Vehicular access is gained from Avenell Road. There are four main pedestrian accesses to the site; from Avenell Road, adjacent to the East Stand, under an arch at numbers 137 - 139 Highbury Hill, through a gap between numbers 187 and 191 Highbury Hill, and through a gap between numbers 115 – 121 Gillespie Road.

The Permitted Scheme

- 4.4 In December 2002 planning permission was granted for the redevelopment of the Arsenal Stadium site with a mixed-use development dominated by residential use. Overall, the redevelopment of Arsenal Stadium will provide 557 residential units, most within the 4 main buildings with the remainder in the development predominantly to the north and south of these buildings. The permitted development also includes a community health facility and a health club and nursery and office (B1) floorspace.
- 4.5 In total 476 residential car parking spaces are provided on the site, predominantly within a central underground car park with an additional car parking spaces being provided around the remainder of the site including those associated with the residential units for disabled residents and for use by the community health facility. The site is to be regraded, resulting in a reduction in ground level in the southern portion of the site and an elevation in ground level in the northern portion of the site.
- 4.6 Due to its heritage value of the East Stand it is retained. To make use of the retained stands in a manner compatible with the surrounding area they are converted to residential apartments. The East Stand is converted to provide 87 residential units on six storeys. The East Stand façade is retained with no significant change in the height or massing of the structure with the main bulk of the building remaining approximately 22.5m in height, 108m long and 19m deep with the roof extending to 26.5m. The West Stand is converted to provide

- residential units on six storeys. The retention of the West Stand façade results no significant change in the height or massing of the structure with the main bulk of the building remaining predominantly unchanged. The existing roof form and facades of both stands are retained.
- 4.7 The North and South Stands are replaced with predominantly 7 storey residential development in the form of buildings sited in the approximate locations of the North and South stands. The North Stand replacement would be approximately 136m wide, 17m deep and 20m in height at the rear facade. The building would therefore be approximately 1.1m lower than the existing North Stand and significantly smaller in mass. The South Stand replacement is approximately 99m wide, 17m deep and 20m in height.
- 4.8 At the northern boundary of the stadium site a three-storey row of ten single aspect B1 light industrial units is permitted. Between these buildings and the redeveloped North Stand is a landscaped pedestrian area, which together with a landscaped open square of approximately 400m² at the western end provides a pedestrian route leading from Avenell Road to Gillespie Road. To the east of this northern block is a four-storey development fronting onto Avenell Road. To the west of the northern block is a four-storey block adjacent to the access route to the western block.
- 4.9 At the southern boundary of the site, a terrace of residential units is located fronting onto the Aubert Court estate. This southern boundary terrace would be a four-storey development along the length of the southern boundary of the site. The existing route to the rear of Aubert Court provides access to these units. Between this terrace and the redeveloped South Stand is a further terrace of 3- storey mews-style, single aspect units. At the eastern end of these three blocks, linking them together and fronting onto Avenell Road is a four-storey building, which provides residential units and a 1050m² general practitioner's surgery building.
- 4.10 The central space, in which the football pitch is currently located, would be retained as a landscaped garden so that the setting of the buildings and a memory of their historical use are maintained and to provide private garden space that would be the central focal point for the development. The retention of this central space also affords the opportunity to provide underground parking beneath the existing pitch area. Access to this car park is taken via a ramp from Avenell Road located to the north of the existing East Stand.
- 4.11 Direct pedestrian access is taken from the car park to the East and West Stand conversions and the North and South Stand replacement buildings. The southern mews, west lower and upper gate residential units and the northern mews all have indirect access to the central area car park via the southern, western and northern blocks. The southern boundary terrace does not have access to the central area car park.
- 4.12 Access to the converted/redeveloped East, North and South Stands is from Avenell Road while access to the converted West Stand is from Highbury Hill and Gillespie Road (via a new square). A pedestrian access to the converted West Stand is retained beneath numbers 137 and 139 Highbury Hill. There is public access along

the walkways to the south and west of the landscape gardens. There is therefore an additional public access route available across the site.

- 4.13 The permitted scheme also includes a number of infill units on Highbury Hill, Gillespie Road and Avenell Road.

History of the Site

- 4.14 There is no evidence of prehistoric or Roman habitation in the area of the site; the earliest known settlement probably dates back to the Medieval period. The closest to the site being Highbury Manor some 400m to the south-east with Stroud Green 700m north and Tollington Manor 600m west. None of these locations includes any extant features. In the post-Medieval period the surrounding area was characterised by scattered agricultural settlement the most notable locally being Highbury House some 150m east of the site; again no extant features remain. By the late 18th Century the village of Islington had begun to develop as a residential suburb; a process that accelerated from the mid 19th Century and resulted in the terraced pattern of housing present today.
- 4.15 The site however remained undeveloped forming part of the grounds of Highbury College, a theological foundation. Arsenal FC operated on the site in 1913. The Aubert Court Estate was built to the south of the site after World War II.
- 4.16 The site is not known to contain any archaeological features, as recorded on the Greater London Sites and Monuments Record, and does not fall within any Archaeological Priority Areas. No finds indicative of any archaeological interest on the site have been made in the immediate vicinity. Site investigations carried out in 1994, on the site of the Arsenal FC warehouse in Drayton Park, revealed no evidence of activity earlier than the 17th century (pottery) and indicated that the ground had been consolidated in the 19th century. Disturbance during previous development of the site, including the installation of drainage and heating systems beneath the pitch, is likely to have damaged or removed a proportion of any remaining archaeological features.
- 4.17 The existing buildings on the site comprise structures associated with the football ground, together with a number of residential properties in Highbury Hill. Heritage interest centres on the stands, of which the East Stand is Grade II listed. This is an Art Deco building completed in 1936 by Ferrier and Binnie. It is largely unaltered, and a notable example of such a structure of the time. It also contributes substantially to the townscape of Avenell Road. The West Stand, also by Ferrier and of slightly earlier date, forms a visual complement to the East Stand but is not listed. The Highbury Hill entrance is contemporaneous with the West Stand. The North and South stands are modern, dating from 1992 and 1990 respectively.

Geology

- 4.18 The solid geology beneath the site comprises London Clay, Lambeth Group, Thanet Sand and Upper Chalk in order of increasing depth. The London Clay is anticipated to be between 25-30 metres thick and consists of cohesive, impermeable clays. The Lambeth Group is anticipated to be around 15 metres thick, comprising clays in the

upper part, inter-bedded with sands at depth and potentially becoming entirely granular at the base. The Thanet Sand is around five metres thick, comprising granular material. The Upper Chalk will be encountered at around 20 metres below OD, or approximately 50 metres below ground.

- 4.19 Construction of the Arsenal Stadium in 1913 involved extensive earthworks to create a level pitch. Material was excavated from the southern part of the site and placed on the northern part, where a layer of Made Ground up to about three metres deep is anticipated to occur. Material from excavation of the Piccadilly Line is also reported to have been used on the site. This Made Ground is likely to consist of well-compacted clay.

Ground and Surface Water

- 4.20 The Upper Chalk is highly porous and designated as a Major Aquifer. It has long been used as a source of water supply for London. The water table within the chalk currently lies at a depth of about 60 metres. However, the decline in water abstraction for industrial purposes over the past fifty years is allowing groundwater levels to rise by about 0.5 metres per annum. In the absence of further abstraction in order to control it, this rise will continue as far as the cohesive clay layers within the Lambeth Group, at about 35 metres below ground level.
- 4.21 The Thanet Sands and the granular fraction within the Lambeth Group are also water-bearing and are in hydrostatic continuity with the chalk. However, the cohesive fraction within the Lambeth Group, together with the overlying London Clay, provide an impermeable barrier between the aquifer and ground level. There is therefore no movement of groundwater between the two. The Made Ground is also unlikely to be water-bearing.
- 4.22 The nearest groundwater abstraction to the proposed development site is at Green Lanes, Stoke Newington, approximately 1.5km to the northeast. It is understood this is not currently used for public supply. Another groundwater abstraction is reported at 139 Drayton Park in the Council's Strategic Planning Guidance for that site, although this has not been confirmed.
- 4.23 Due to the urban nature of the surrounding area, there are no surface water features near the site.

Ecology

- 4.24 The Arsenal Stadium has no intrinsic ecological value. Its only open spaces comprise the pitch and paved areas used for circulation and parking. No protected species have been recorded on the site.

5.0 The Proposed Development and Changes from the Permitted Scheme

- 5.1 The proposed development site is shown on the application drawings and details of the proposed development are shown on Allies and Morrison Architects “Summary of Unit Mix” table.
- 5.2 The east and west stands replacement buildings remain largely unaltered at above ground level. These will be redesigned internally and as a consequence there will be some minor alterations to the exterior appearance. In addition, no changes are proposed to the infill development proposed in the permitted scheme apart from numbers 133 to 135 Highbury Hill.
- 5.3 The drawings illustrate that the mews style development permitted at the northern and southern parts of the site are to be reconfigured to form a series of six courtyards and connecting routes through the buildings that replace the north and south stands to the central garden area for four of these courtyards. There would be three courtyards to the north and three to the south of the central pitch area, with residential units located around these courtyards. The courtyards would be generally 19m wide and 35m and 26m deep in the south and north buildings respectively.
- 5.4 The drawings indicate that Block F at the southern boundary of the site is located some 20m from Aubert Court adjacent to Avenell Road and between 12m and 15m from Aubert Court along the rest of the boundary. The heights of these reconfigured buildings above Ordnance Datum are very similar to the permitted scheme. There is a small increase in the height to the frontage to Avenell Road and the mews access is moved north to the rear of the main stand replacement building. The South stand replacement is proposed to have three routes through to the central garden space.
- 5.5 The North and South Stand proposed replacement buildings would both have a footprint of approximately 16m by 95m and as previously permitted would be a maximum of seven storeys in height at the garden facade. The building towards the northern boundary is closer to the rear of properties along Gillespie Road than the permitted scheme by approximately 4m though is of a similar height. It is however, more than 3m further from the Gillespie Road residential properties than the Metrocolor building.
- 5.6 The south eastern part of the site adjacent to Avenell Road would be occupied by the community health facility similarly to the permitted scheme. Adjacent to this will be a retail unit of 174m² with residential units above. The northeastern part of the site would also accommodate a building, of a similar height to the existing residential properties, incorporating the basement car park access. In the northwestern corner of the site would be a 732m² nursery.
- 5.7 The proposed public footpath route running along the western stand frontage is now simplified as it would be routed from Avenell Road to Highbury Hill adjacent to the former south stand location. The route is more practical for local people and mirrors the more general grid pattern in the surrounding area.

- 5.8 Vehicular access to the site for residents will be, as with the permitted scheme, via a two-way ramp at the northeastern corner of the site from Avenell Road. The only on site parking will be six parking bays provided in relation to the wheelchair housing units in the northern building. Bicycles can access the site at all pedestrian access points and secure cycle parking will be provided around the basement and in at grade cycle stands within the north and south buildings as well as the nursery forecourt.
- 5.9 The car park is proposed to extend underneath the north and south stands replacement buildings rather than being located only beneath the existing pitch area. A total of 558 spaces will on the site compared with 476 in the permitted scheme. The permitted scheme also provides a total of 557 units (including peripheral residential units), the changes outlined above allow the provision of 711 units, and this is an increase of 163 units. The increase in units is brought about by a change in the number of the various size units proposed and this is set out in the following table. This change also reduces the ration of car parking spaces to residential units from 0.86 spaces per unit down to 0.78 spaces per unit.

Table 5.1: Permitted and Proposed Unit Numbers by Unit Type

Unit Type	Permitted Number*	Proposed Number
Studio Apartment	0	8
1 Bedroom	182	352
2 Bedrooms	302	334
3 Bedrooms	56	16
4 Bedrooms	9	1
Total	549	711

*Excludes peripheral residential units except numbers 133 – 135 Highbury Hill

- 5.10 It is clear from this that there has been a reduction in the number of 3 and 4 bedroom units of 48 and an increase in 1 and 2 bedroom units of 202 units and the addition of eight studio apartments.
- 5.11 The proposed scheme includes the 1991m² of gym/health club use, which is an increase of 990m² compared with the permitted scheme. The area of the community health facility has increased by 167m² to 1217m² and nursery floorspace has increased by 102m² to 732m² although the external space has reduced by 75m² to a figure of 200m². The revised proposal does not include Use Class B1 floorspace.

6.0 The Effect of Changes to the Permitted Development

6.1 The following sections consider how the proposed development would affect the surrounding environment. These effects are considered in the context of the impacts assessed with regard to the permitted scheme so that the effects can be determined in the context of the effects of the permitted scheme.

Emissions

6.2 Potential emissions include air pollution and noise.

6.3 The construction impacts of the permitted scheme were determined to be considerably below the National Air Quality Standards (NAQS) for carbon monoxide and nitrogen dioxide. The impact of the increased basement size and other construction as a result of the proposed scheme are not likely to result in a NAQS objectives being breached and therefore significant impacts are not anticipated. As the same routes would be used for the removal of material from site that are proposed in relation to the permitted scheme the effect of fugitive dust emissions is not expected to be significantly in excess of those associated with the permitted scheme and would be controlled by the implementation of a Construction Environment Management Plan as proposed in relation to the permitted scheme.

6.4 Operational impacts of the permitted scheme were assessed determined to give rise to very slight increases in nitrogen dioxide and particulate matter with levels staying below NAQS objectives and no change in benzene and carbon monoxide, which would remain below NAQS objectives levels. The proposed development increases car parking overall by 82 spaces. An increase of this size is not likely to give rise to a breach of the NAQS objectives stated.

6.5 The noise assessment of the permitted scheme found that construction noise and vibration would not be significant. As the proposals are anticipated to employ very similar construction practices and have a similar construction period it is not anticipated that the noise effects of the proposed development would be significantly different from those of the permitted scheme.

6.6 The increase number of car parking spaces would give rise to the possibility of increased traffic movement associated with the proposed development. However, the permitted development gave rise to a maximum increase in traffic related noise of 1.4dB LA10 18hr it is not anticipated that the modest increase in parking proposed would be significant in itself nor would it increase noise levels to a level at which it would be significant.

6.7 The proposed development would introduce a modest number of additional residents into the area and these residents could be subject to any noise associated with the operation of the new stadium at Ashburton Grove. However, the layout of the proposed development would result in most residents being separated from the routes anticipated to be taken by spectators making their way to and from the new stadium and so the effect on new residents would be minimal.

Cultural Heritage

- 6.8 The site is not known to contain any archaeological features. No finds indicative of any archaeological interest on the site have been made in the immediate vicinity. Site investigations carried out locally in 1994 revealed no evidence of activity earlier than the 17th century (pottery) and indicated that the ground had been consolidated in the 19th century. Disturbance during previous development of the site, including the installation of drainage and heating systems beneath the pitch, is likely to have damaged or removed a proportion of any remaining archaeological features. Therefore although the area of the basement has increased in size it is unlikely that there will be additional impact to that concluded in the 2001 Environmental Statement.
- 6.9 The internal changes to the East and West Stand to accommodate the reconfiguration of units within the scheme and the changes to the built form in the northern and southern parts of the site will not materially affect the appearance and setting of the East Stand beyond that considered acceptable in relation to the permitted scheme. Therefore effects of the proposed scheme are not considered to be significantly different from those associated with the permitted scheme.

Land Contamination and Hydrogeology

- 6.10 The history of the site indicates that contamination can be expected to be very limited. A worst-case assumption in relation to the permitted scheme assumed that 5% of excavated material would be contaminated. As is required in accordance with the permission for the existing redevelopment proposals any contaminated material found would be handled in accordance with relevant Regulations and best practice and site construction operations would be in accordance with COSHH and other relevant Regulations and a best practice including a Pollution Incident Control Plan.
- 6.11 In view of the low probability that residual contamination will be encountered on the site, and the presence of a substantial thickness of clay overlying the chalk aquifer, the contamination risk to this aquifer is considered to be negligible. It is anticipated that construction methods for the proposed development would be very similar to or the same as those proposed in relation to the permitted scheme and therefore risks to ground water posed by the proposed development are also considered to be negligible.
- 6.12 The risk of any contamination found on the site to the people or the water environment can be expected to be the same as anticipated in relation to the permitted scheme and therefore can be managed in the same way so as not to pose a material risk to sensitive receptors.

Drainage

- 6.13 There are no open or culverted watercourses in the vicinity of the site. The area around the stadium is not identified by the Environment Agency as an area liable to fluvial flooding. It is proposed that the surface water drainage from the site is discharged into the existing surface water drainage sewerage system. This system

is maintained by Thames Water Utilities. It has been agreed with Thames Water Utilities that discharges will be on a like for like basis. This has not required any flow attenuation however 1068m³ of on site surface water storage capacity to accommodate a 1:100 year rainfall event is proposed which accords with the Environment Agency's approach to addressing flood risk at the application site.

Ecology

- 6.14 The Arsenal Stadium has no intrinsic ecological value. Its only open spaces comprise the pitch and paved areas used for circulation and parking. No protected species have been recorded on the site.

The Local Economy

- 6.15 The assessment of the economic effects of the permitted scheme identified that the construction of the scheme would create in excess of 300 jobs. The proposed development can be expected to provide a very similar number. The small increase in development proposed may generate a small number of additional construction jobs but this increase could not be considered to be a significant increase.
- 6.16 The expenditure by residents of the permitted development was determined to give rise to around 76 jobs. The proposed scheme includes an additional 154 units and has a larger resident population and can therefore be expected to support an increased number of jobs locally through residential expenditure. The proposed scheme includes the 1991m² of gym/health club use, which is an increase of 990m² compared with the permitted scheme and can be expected to support approximately twice as many jobs as the permitted gym/health club. The area of the community health facility has increased by 167m² to 1217m² and nursery floorspace has increased by 102m² to 732m² although the external space has reduced by 100m² to a figure of 200m². The revised proposal does not include Use Class B1 floorspace but does include 174sq m of retail (Use Class A1) floorspace. From this a small decrease in jobs as a result of the proposed development is anticipated as a result in the loss of B1 floorspace, this is offset to a degree by the increased D2 floorspace, provision of retail floorspace and the number of indirect jobs supported by expenditure of the increased resident population of the proposed scheme compared with that of the permitted scheme. This decrease would be small in the context of the Arsenal Stadium redevelopment and would be offset entirely by changes in the overall Arsenal proposals.
- 6.17 The proposed retail floorspace is provided in one unit adjacent to the community health facility, which is of a size typical of those on the local area. It is anticipated that these stores will provide a service to the new resident population as well as the existing residents in the area and could provide a service associated with the health centre. As such it is expected that they will be complimentary to existing retail operations in the area.

Social Amenity

- 6.18 The proposed development includes improved facilities for residents than previously permitted, which is likely to slightly reduce demand on surrounding

existing facilities. However, the effect on surrounding facilities can be expected to be a negligible change to the identified effects of the permitted AFC proposals overall.

- 6.19 It is clear from Table 3.1 that that there has been a reduction in the number of 3 and 4 bedroom units of 48, with the largest reduction being in 3 bedroom units; and an increase in 1 and 2 bedroom units of 202 units, with the largest increase being in one bedroom units. The following table 4.1 sets out the number of the different unit types along with the typical number of occupants per unit type to determine the probable change in occupancy of the permitted and proposed developments.

Table 6.1: Occupancy of the Permitted and Proposed Schemes

Unit Type	Assumed Occupancy per Unit	Permitted Scheme*	Proposed Scheme
Studios	2	-	16
1 Bedroom	2	364	704
2 Bedrooms	3	906	1002
3 Bedrooms	4	224	64
4 Bedrooms	5	45	5
Total		1539	1791

*Excludes peripheral residential units except numbers 133 – 135 Highbury Hill

- 6.20 It is evident from the above table that, based on the assumed occupancy per unit given, the shift to smaller units (one and two bedrooms) in the proposed scheme would give rise to 252 additional residents compared with the permitted scheme. It can be expected that given the change to smaller units away from larger family units that there would be a shift in the make up of the new residents towards an increase in adults and a consequent reduction in the number of children.
- 6.21 Although it is anticipated that the vast majority of the additional occupier will be above school age the additional units could potentially increase demand on local schools. The assessment of the permitted scheme identifies capacity in schools in the local area. An update of this information using data derived from the Islington School Organisation Plan 2003 – 2008 based on 2003 data, which is the latest available indicates that there is spare capacity within the study area defined in regard to the permitted scheme. A total of 1251 spare primary school and 764 secondary school places exist. The smaller unit size proposed in the revised proposals can be expected to result in a less than pro-rata increase in children compared with the permitted scheme. Therefore it is anticipated that the number of children resident on the site will be significantly less than the identified number of existing school places within the study area. The proposals can be expected not to result in a significant impact on educational places in the study area.
- 6.22 The proposed scheme includes a new health care facility. It is anticipated that a proportion of the residents of the site will come from within the Borough and will already have health care arrangements in place and these arrangements may be retained through personal preference. Based on the national average General Practitioner patient list of 1900 patients it is anticipated that sufficient capacity will be provided to meet the demands for additional GP services generated by the

proposed development and so no significant adverse impact is anticipated on health facilities as a result of the revised proposals.

- 6.23 The proposed development is not significantly taller than the permitted scheme. It is therefore unlikely that impacts on TV signal reception would be significantly different to those identified in relation to the permitted scheme even when taking into account the altered relationship between the proposed development and the existing properties along Gillespie Road and Aubert Court.
- 6.24 Analysis of the potential for effects on daylight and sunlight to properties on Gillespie Road and Aubert Court was identified in the original ES. Analysis of the redesign of the buildings adjacent to these properties has demonstrated that the potential effects identified in relation to the permitted scheme have been designed out of the revised scheme in regard of the Gillespie Road property. A minor effect is noted in relation to an area of Aubert Court. However, the affected properties are thought to be dual aspect with bedroom, kitchen and toilet areas at the northern side of the building. These areas are considered to be less important than living room areas in terms of daylight requirements. On this basis it is considered that the effect on daylight to these units would not be significant.

Transport

- 6.25 The transport assessment of the proposed changes to the development considers the effect of the increase in the number of residents and the number of car parking spaces available. It identifies an increase of 280 vehicle movements per day. This results in an increase of 15 trips in the AM peak and 14 trips in the PM peak.
- 6.26 No change is predicted in the traffic generation associated with the nursery. Additional trips are expected in relation to the health club but these are anticipated to be pedestrians and cyclists. No car trips are anticipated in relation to the community health facility and consequently the peak traffic generation remains unchanged as a result of these uses.
- 6.27 To determine whether this increase in trips would be significant the trip generation of these various uses throughout the day is assigned to the local road network. The analysis of the proposed car park junction with Avenell Road during peak periods found that it would operate within capacity and no queues are expected on Avenell Road. This indicates that a significant effect on traffic congestion would not be likely as a result of the proposed development. It was also determined that the vehicular access junction to the site would operate safely. Analysis of routes taken by vehicles to approach the car park indicates that most traffic is likely to use Elwood Street or Aubert Park.
- 6.28 The increase in residents at the site would increase loading on the existing bus and underground rail services. However, there is sufficient capacity in both these transport services to accommodate demand generated by the proposed scheme. Therefore no significant effect on the public transport network is anticipated.
- 6.29 The basement has increased in volume by very approximately 18,300cu m. This equates to additional 1830 lorry loads or 3660 lorry movements. Total vehicle

movements to and from the site have been estimated in relation to the permitted scheme to be some 60,000 movements. An additional 3660 represents a 6% increase and this equates to an extra lorry trip per hour during months 4 to 10 and would result in 14 vehicles per hour in the 2 month peak period of construction traffic in months 8 and 9, based on SDG's assessment of construction traffic. Therefore a significant adverse effect on transportation is not anticipated.

Townscape and Visual Amenity

- 6.30 The assessment of the permitted scheme found that it would conserve the essential form of the stadium and that the character of the area to the north and south of the site would also remain essentially unchanged. As the proposed changes to the scheme retain the form and scale of the stadium and retain the height and mass relationship with the development to the north and south of the site the changes would not give rise to a significant change in the effect on the surrounding area. The effect of the changes to the scheme on the urban character of the proposed scheme will be negligible.
- 6.31 There are a number of design changes proposed these are predominantly located within the development site and many would not be readily visible from the public realm around it. While there are changes to the proposed built form at the periphery of the site these are of similar scale to those of the permitted scheme. As the built scale of development proposed is very similar to that of the permitted scheme changes to the extent and affect on views from the surrounding area will be negligible from those assessed and found to be acceptable in relation to the permitted scheme.

7.0 Conclusions

- 7.1 This environmental appraisal considers the change in environmental effect caused by changing the permitted Arsenal Stadium development to that now proposed. Overall the change is unlikely to have any significant effect and, in most cases, will be negligible. As a result there is no requirement for formal environmental impact assessment and is considered to give rise to acceptable effects on the environment.