



**KNOWSLEY METROPOLITAN
BOROUGH COUNCIL**



**TECHNICAL ASSESSMENT REPORT
on the
SCHOOL PLAYING FIELDS
&
ASSOCIATED FACILITIES
at
PLANTATION PRIMARY SCHOOL
KNOWSLEY**

ISTeC Ltd

International Sports Turf Engineering Consultants

Date: 26/2/2014

Report Ref: Plantation_14

TECHNICAL ASSESSMENT REPORT
PLANTATION PRIMARY SCHOOL
KNOWSLEY



Site Assessment Visit of: February 24th, 2014

1.0 OVERVIEW

1.1 PROJECT BACKGROUND

i) The Client, Knowsley Metropolitan Borough Council (KMBC), has commissioned an independent assessment of all school playing fields and associated facilities in order to review the condition of pitches, changing facilities, parking and other aspects, opportunities for improvements, and to develop a strategic development plan.

There are 50 primary schools in the Borough, with Plantation being one of the larger, older ones, opened in 1966, with currently 590 pupils.

Head Teacher is Ian Hardman, Dep Head Anita Scott/Mary Worthington. Business Manager Debbie Bennett Tel: 0151 487 5678.

Site Manager is Gary Peel; 07957 944 641

ii) The site is located in the northern part of the borough, address: Plantation Primary School, Hollies Road, Halewood, Knowsley, L26 0TH (DCSF Number - 2039/4)

Google Earth co-ordinates are:

53°22'5.31"N 2°49'39.54"W

iii) The school was assessed following a briefing meeting with Debbie Bennett and Gary Peel.

The weather on the day of the visit was cloudy/sunny, recent showers, 7 degrees.

1.2 BRIEF

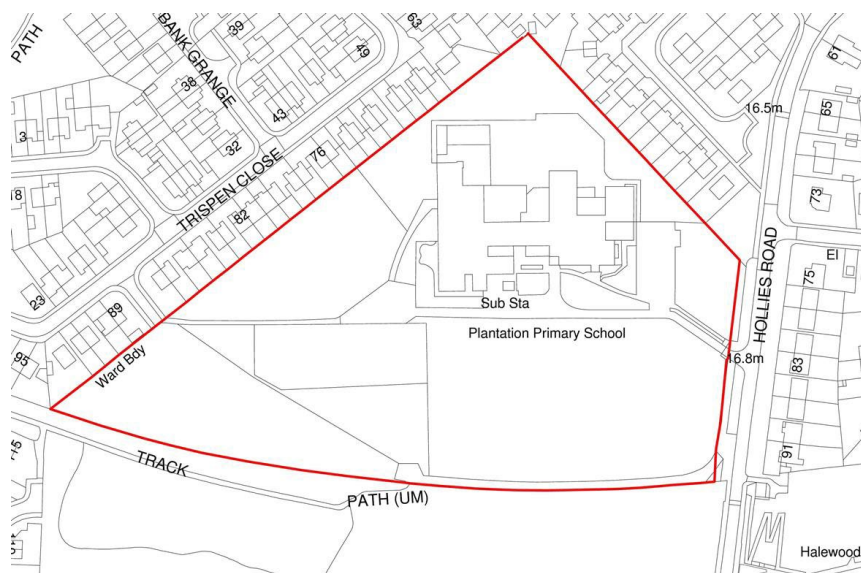
The specific aspects addressed are summarised as follows:

- ✧ Assessment of the natural grass and hard surfaced outdoor sports facilities, access, features and problems
- ✧ Changing facilities, parking and accessibility
- ✧ Suggestions for improvements, with budget costs

No specification, drainage plan or record of the pitch construction work has been forwarded, or surveys of the site or other historical information.

1.3 PROGRAMME

The intention is to complete technical assessment work by the end of March 2014. KMBC will then undertake a strategic assessment of the sites, and possible improvement works.



Official boundary

2.0 SITE DETAILS

2.1 General Points

2.1.1 - **A layout of the site** has been produced from Google Earth Pro aerial imagery, attached in the Appendices. There are both grass and hard-surfaced sports areas. The grass pitch area is used seasonally for winter sports and athletics, with the hard-surfaced MUGA area used all year round. The areas are:

Grass Pitch Area:

8,420 sq.m total grassed playing field area . No pitches marked-out
Movable goal posts brought on from school storage or left on the field

MUGA Pitch Area:

380 sq.m & 220 sq.m MUGA 's marked out for two areas within 1200 sq.m playground

2 halls for sports, gymnastics, lunch, etc.

There are no floodlights.

Further school owned grassed area outside the Palisade fence to the south-west

There is a fenced-off nature trail for school use

There is a proposal to site a Private Childcare Provider within the school area. No plans made available for this.

2.1.2 Levels of Use - Basic information was given by the Site Manager on use. The playing field area is used for one hour per week for football in winter due to wet conditions, and for various uses during summer. MUGA areas used heavily.

The Business Manager stated that the school would like to use the grass pitch area through winter reliably, and would also want to improve the MUGA facilities to the rear of the school, with a more formal MUGA court. A further more detailed breakdown and projection of future use is requested from KMBC Leisure Services.

2.1.3 Boundaries - The school has a new secure palisade fence all around, installed in 2006, with the informal grass and public footpath beyond this. The grass playing field area is bounded by grass/tree/paths to the west and south, road to the east, and houses to the north.

The nature trail for school use is fenced-off. There are apparently no trespassing issues.



Security fencing to the perimeter

2.1.4 Access & Car Parking - The site is accessed off Hollies Road for the main entry, and Trispan Close for pedestrians and service vehicles.

The access road and car-park are in good condition, hard-surfaces, with approximately 40 formal places for cars, additional internal road/other area parking.

Maintenance and ambulance access is via the main access road .



Maintenance access gate, Trispan Road service access, & open access to the pitch

2.1.5 Accessibility - Disability access is good, flat, to pitch and MUGA.

2.1.7 Changing Facilities & Other- There are no changing facilities or showers in either of the schools.



Parking is in three areas



Grass areas outside the school security fence

2.1.8 Climatic Information - The school lies at an elevation of approximately 22m AOD, and within the zone of a maritime climate influence. The site falls within the climatic region 9 of the MAFF Ref Book 435. Key data:

- an annual average rainfall of 837mm
- average growing season 258 days (mowing need, wear recovery)
- grass drought days of less than 20 days (irrigation need)
- Mean last frost late April (affects seeding programme)
- Return to field capacity (soil saturation) - can be September, average in October.

The site lies within a relatively high rainfall area, and irrigation should only be needed for short periods for grass renovation work in summer.

Drainage and compaction on heavy soils is going to be a problem on pitches through the whole of the winter season, with a relatively early date of return to field capacity sometime in September/October potentially i.e. the start of the soccer/rugby season.

2.2 Soils and Levels

2.2.1 Soils – According to the Soil Survey of England & Wales, this part of the borough lies over predominantly:

- Salop Series – Slowly permeable, seasonally waterlogged fine loamy to clayey till. There are also areas of alluvial soils close to watercourses, and can be areas of sandy soils, especially in the northern part of the borough:
- Sollom Series - Well-drained humose sandy soils, can be affected by groundwater problems and high pH
- Blackwood Series - as above, but with less acidity problems

The site soil appears to be Blackwood Series in origin, clay loam but with quite a high sand content, and compactable with seasonal drainage problems under wear conditions.

Generally, the topsoil is a dark brown loam, high sand content but with sufficient clay to render it compactable and prone to muddiness, a very variable 100 to 500 mm deep, with a subsoil of light-brown firm clay loam, some problems with stone content. The pH is 6.9, or neutral. Soil investigation results:

A1 (auger)	0 to 0.5m	dark brown Sandy Clay Loam
	0.5 to 0.8m	light brown/orange Silty Clay
A2	0 to 0.3m	dark brown Sandy Clay Loam
	0.3 to 0.5m	light brown Silty Clay
	0.5 to 0.8m	light brown/pink Clay
A3	0 to 0.1m	dark brown Sandy Clay Loam
	0.1 to 0.4m	made ground, brick fragments and clinker
Trial Pit	0 to 0.3m	dark brown loose topsoil
		pH 6.9
		fine grass roots to 80mm



Soil pit showing structured but damp topsoil, firm to sticky subsoil

Below - Auger holes 1, 2 & 3





2.2.2 Levels – The general levels of the currently used playing field area is good in terms of gradient and even-ness, sloping south-west to north-east. From the spot-levels taken has given the following overall gradients:

- There is a fall from west down to east of around 1 in 75 to 80
- There is a cross-fall of approximately 1 in 180 , south down to north

Note that levels given on the plan are to a temporary bench mark, not Ordnance Datum. The field is within Sport England gradients, but the better orientation for the U11 7v7 pitches is north-south for optimum gradients.

2.3 Vegetation

2.3.1 - Grass cover reasonable, patchy, with some wear within the designated pitch area , the damp conditions restricting play. Cover is good, up to 80% overall grass cover, 5% weeds, 15% bare. Ground conditions are spongy, some standing water to the north-west.

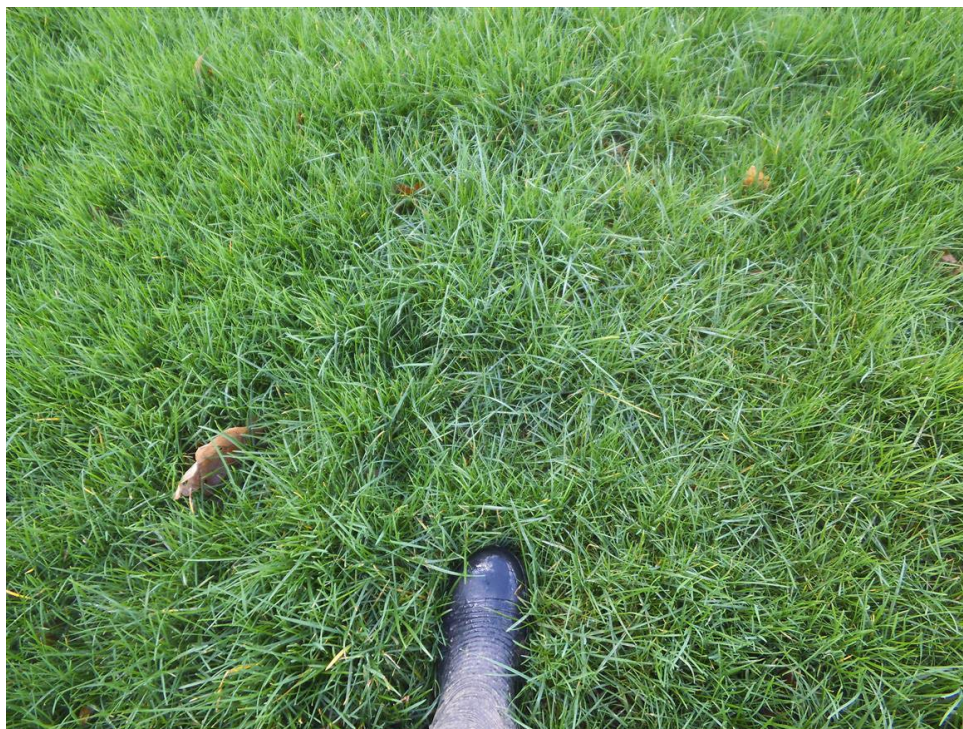
The sward is of predominantly Perennial Ryegrass, presumed to be a sportsfield variety, with finer grasses. Weeds are present up to approximately 5% composition of the sward, including daisy, plantain, dandelion, extensive moss indicating long-term damp surface conditions.

The ground is saturated, but with generally no standing water. Sward height was 50mm on the pitch. The area outside the marked pitch is less patchy, has more weeds, the upper north-west section being particularly wet with much standing water and sward height up to 120mm.

The surface would not be acceptable under Sport England requirements without improvements to the surface composition of the sward, and some other additional routine treatments.



Above & below - Typical playing field surface, pitch and off-pitch areas



2.3.2 - Maintenance Aspects. There is currently a need for higher inputs. The maintenance is carried out by the Council in-house contracting organisation. Information on this is given on the overview report accompanying the individual site reports.

There was apparently a seaweed application carried out on part of the site a few years ago, the effects of which normally last for a year.

2.4 Drainage

No evidence was found of under-drainage from aerial photos, local knowledge or from the site investigation. A single manhole cover is visible within the field adjacent to the service road but unable to lift cover, presumed to be the outfall point for any existing or future drainage.

The school owned grassed area outside the palisade fence; the north-west section has historically flooded with run-off to the neighbouring gardens to the northern boundary. A relief drain was installed within the last 2 years which runs along this boundary then underground to a new manhole in the school yard which outfalls then to the north.

Further assessment needs to be carried out, beginning with lifting the manhole cover in the corner of the field, and tracing of and land-drain found and the main system and ultimate outfall.





Manhole cover, north-east corner field



Boggy area, off-site northern grass field



Presumed outfall for the northern cut-off drain

2.5 Non-Grass Outdoor Sports Areas

MUGA areas area marked within the playground for general play with various markings. Main Tarmac playground to north of the school building has numerous manholes and drains. There are some standing water issues due to irregular surface gradients.

Other Points

2.6.1 - Services - It is assumed that KMBC will obtain plans or otherwise arrange for location of cables, plotting the line of the drains, etc. in due course. No known services within the grassed area according to the site manager.

2.6.2 – Planning & Other Consents - It is assumed that that KMBC will obtain all necessary planning consents for any planned work requiring further permissions

2.6.3 – It is assumed that there are no ecologically sensitive areas, contamination, mineshafts, archaeological features or other factor affecting the site.

2.6.4 – Further information that would be useful to have from the client includes as detailed a breakdown as possible of the usage levels expected or aspired to by the school and community use combined; hours per week per pitch and age groups involved.



Hard surfaced /play area

3.0 DISCUSSION

In general, the playing field area is quite large, has reasonably good soil conditions, good gradients, is secure, but with significant drainage problems. The outfall needs to be checked, but it would appear that installing a piped drainage system to the field would be feasible and enable a lot more winter use, more reliably.

Community use may be an option if the playing field is drained, and there is scope to utilise two small areas beyond the security fence for small-sided pitches. There appears to be excess space overall for other purposes, if required, e.g changing facilities, a synthetic pitch area or similar.

3.1 Layout Options

1) There is scope to drain and renovate an area within the security fence large enough for:

- Two or three Under-11 pitches, a senior pitch overlay
- Two U-8; pitches on the current informal grass

These options are shown on plan in the Appendix.

FA Recommended pitch and ball sizes from 2013/2014

Age	Format	Ball Size	Pitch Size (yards)	Pitch Size (metres)	Goal Size (feet)
U7	5 v 5	3	30x20 to 40x30	27.43x18.29 to 36.58x27.43	12 x 6
U8	5 v 5	3	30x20 to 40x30	27.43x18.29 to 36.58x27.43	12 x 6
U9	7 v 7	3	50x30 to 60x40	45.72x27.43 to 54.86x36.58	12 x 6
U10	7 v 7	4	50x30 to 60x40	45.72x27.43 to 54.86x36.58	12 x 6
U11	7 v 7 (Primary Sch.)	4	50x30 to 60x40	45.72x27.43 to 54.86x36.58	12 x 6
U11	9 v 9	4	70x40 to 80x50	64x36.58 to 73.15x45.72	16 x 7 to 21 x 7

2) Regarding non-grass areas, scope exists to add or convert perhaps part of the macadam and/or grass area to an STP (synthetic turf pitch) surface if preferred, with floodlighting, particularly if community use is to be targeted.

3.2 Renovation & Maintenance

The turf requires additional fertilising, weed and pest control, overseeding, and other standard annual operations, preferably after drainage has been installed.

4.0 RECOMMENDATIONS

4.1 Install a new drainage system to the whole of the fenced playing field area, to allow various pitch layouts in future.

4.2 The maintenance programme needs to be re-assessed and improved to bring the grass pitch back up to Sport England standards, which they currently fail on due to turf conditions, and

to then maintain the desired quality levels. This will be more successful following installation of new drainage.

4.3 Assess the option of upgrading a hard-surfaced MUGA to an STP (synthetic) surface.

5.0 BUDGET COSTS

The following costs are estimated on the basis of recent rates, and are net of VAT, fees, disbursements, etc.:

Grass Pitch Area

Pitch renovation, single pitch playable area of approximately 8,000 sq.m. To involve:

- a) New drainage system, allow 1500m drainage at a 5m spacing.
- b) Overseeding, weed control, fertilising, sand topdressing, some stone clearance and re-seeding

Allow £17,500

OPTION 1 - new STP surface on the current MUGA or grass area, estimated 1,800 sq.m, to form 2nr. 30 x 20 small-sided soccer pitches and multi-use area

Allow £80-100,000

Add:

- Additional floodlighting, fittings, etc; to be determined
- Changing facilities if an academy set-up is considered
- Fees and disbursements
- Contractor overheads and additional amount for 'difficult' sites, safety fencing during the construction works, seasonal variations, etc.
- Suggested minimum 10% contingency amount to add

6.0 SUMMARY

The assessment carried out on the sports pitch area and associated facilities on behalf of KMBC reviewed the existing facilities as developed for the site as a primary and nursery school for 3 to 11 year-olds.

Recommendations are given for the drainage and renovation of the grass pitch area, to bring this back to standard quality conditions after an apparent period of low-level maintenance and minimal winter use due to wet turf surface condition problems primarily.

The current pitch area has reasonably good soil conditions, and gradients, but is not used very often in winter due to the grass cover problems, and fails Sport England guideline parameters.

A new drainage system is required, either to just the currently used small pitch area, or whole playing field, depending on school requirements. If to the whole grassed area, a senior pitch and combination of junior pitches would be possible, with small soccer academy potential.

The school uses their MUGA areas extensively. Options are given in the budget costs section for upgrading the grass surface, and a new synthetic surface to part of the MUGA areas may be beneficial, considering the daily use these areas take, especially if additional community



use is
intended at some point in the future.

The addition of small pitches beyond the security fence is also an option, shown on the layout option plan.

Further information required:

- A detailed breakdown of use levels intended or expected would be useful in assessing the options available to using the sports areas more.
- Position, levels/status of the existing drainage in the area, outfall options, services, etc.,

Project Risks:

The playing field site is relatively low risk in terms of health and safety issues.

NB – Please note that no part of this report constitutes a specification for currently planned or future works, nor does it constitute a report on health and safety features of the site. Only aspects noted during the assessment are noted for action, but other points for action may exist. KMBC are presumed to have in place a mechanism for identifying these health & safety issues on a suitably periodic basis.

Signed:

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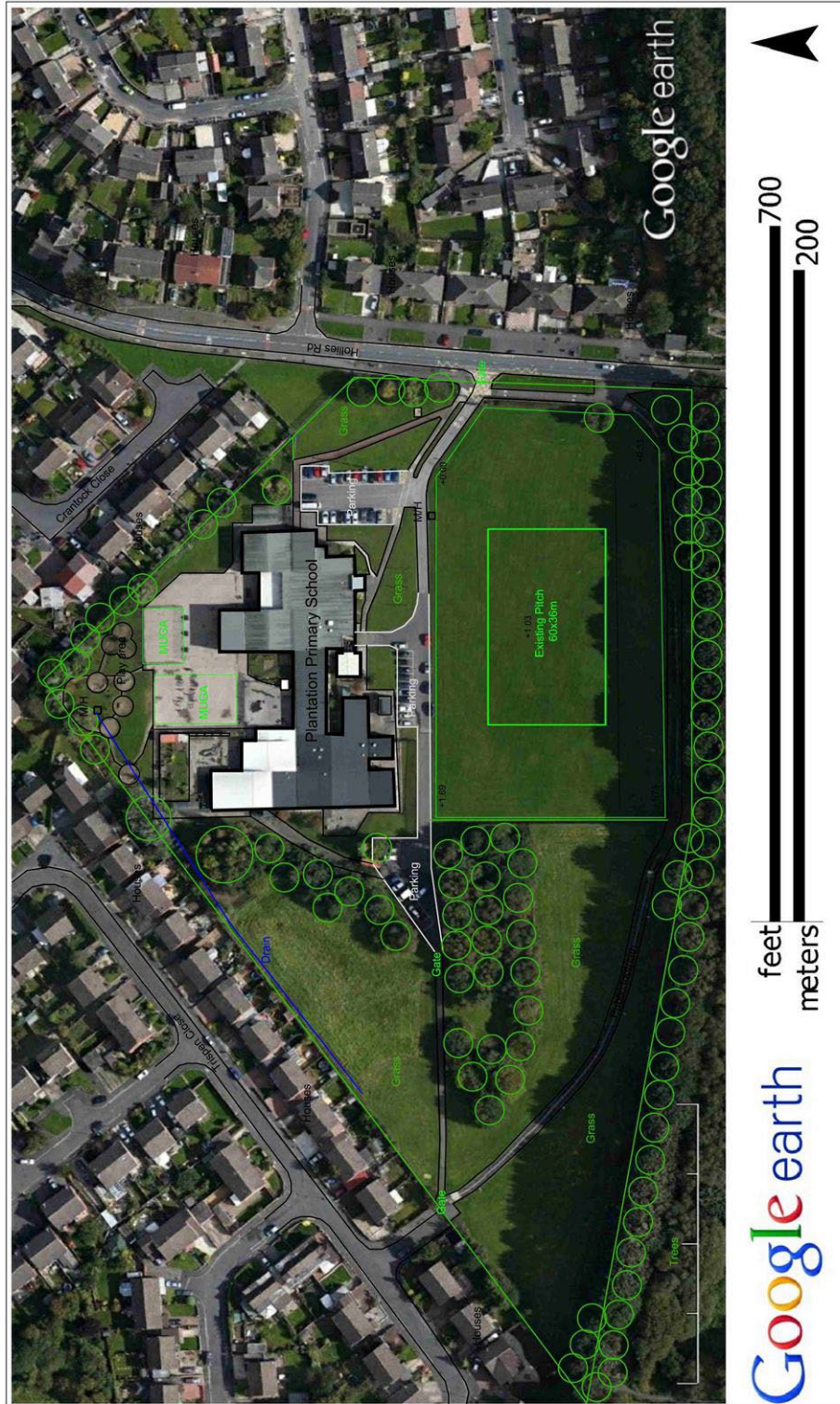


APPENDIX 1

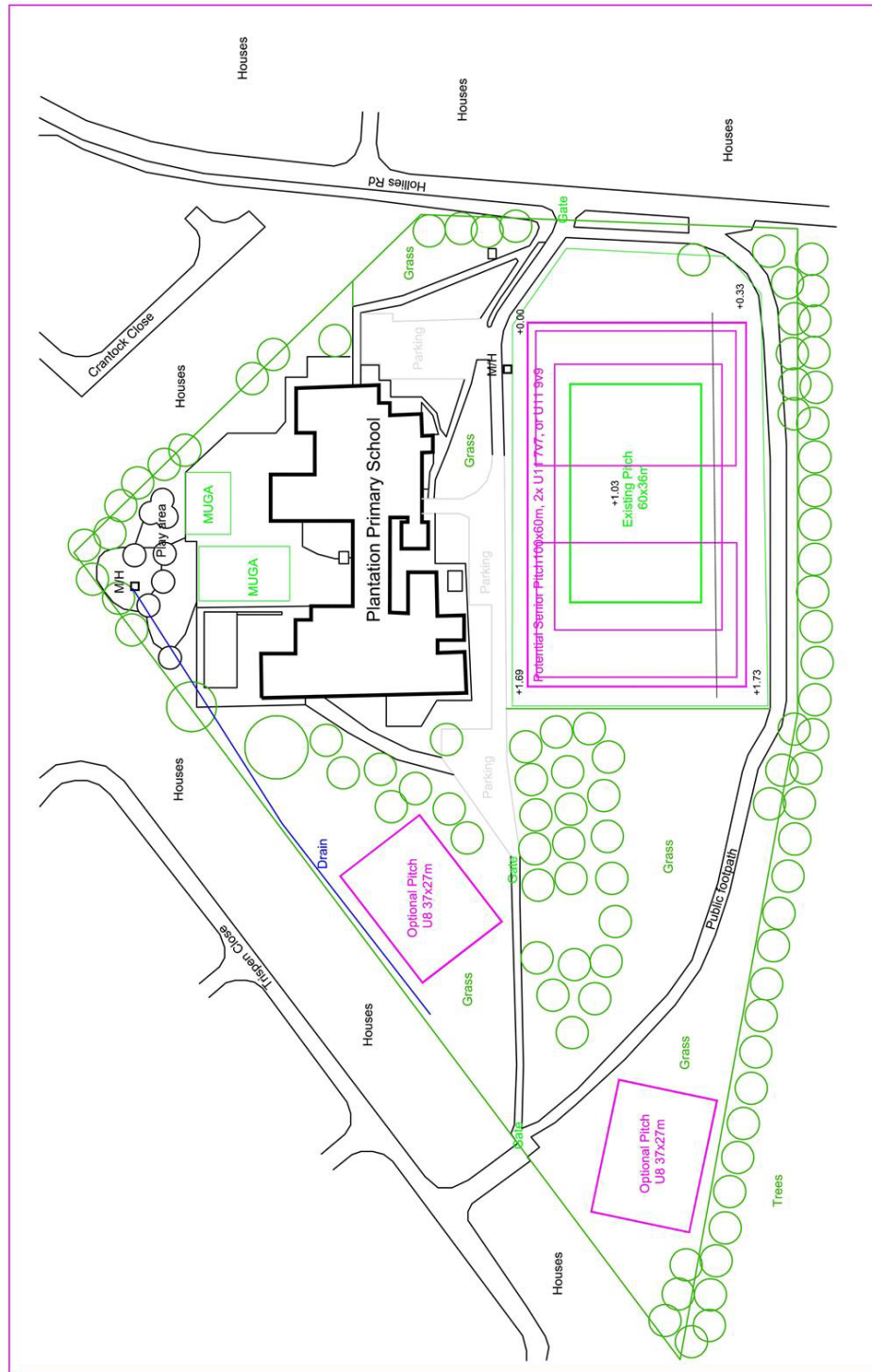
A) SITE LAYOUT

(from Google Earth Pro imagery)

KEY: *Green outline shows both grass and other sports areas*



KEY: **Green outline** shows both grass and other sports areas
Magenta lines show proposed new pitch area



APPENDIX 2 Photographic Record

All key photos included in the above report