

## **Consult QRD Ltd**

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11<sup>th</sup> March 2024

Dear Steve

### **Land East of Ansty Way – Response to Sport England Comments**

I am writing to address matters raised by Sport England (email dated 11<sup>th</sup> January 2024), in its role as a non-statutory consultee, in connection with the planning application for development on Land East of Ansty Way (LPA Ref: DM/23/2866).

I concur with Sport England's assessment that the proposed development will generate demand for sporting provision and that existing facilities may not have adequate capacity to meet this demand. Furthermore, Mid Sussex District Council has accounted for this scenario in both the District Plan (Policies DP24 and DP25) and in the Infrastructure and Contributions Supplementary Planning Document (SPD).

Consequently, the proposals deliver sports facilities to meet the identified need generated. Consult QRD's assessment of the demand generated by the development - and the proposed means of meeting this demand - have been based on the standards defined in Planning Policy and SPD, with reference to Mid Sussex Playing Pitch Strategy.

Sport England's consultee response to the planning application does however raise a number of points that we wish to address.

#### ***Outdoor Sports***

Firstly, it is encouraging to see that the National Governing Bodies for tennis and netball are supportive of the proposals. This reflects Consult QRD's early engagement to inform the development of the proposals for on-site provision. We have also engaged with representatives of England Hockey, although it is noted that they did not respond to Sport England's request for comment.

With regards to football pitch provision, a Playing Pitch Calculator (PPC) report has been identified as being used to assess demand calculated by the development. However, the report (and the methodology used) has not been made publicly available. Without this methodology there remain unanswered questions as to how the figures have been

derived. This detail needs to be made public so that the robustness of the methodology can be understood and agreed.

Notwithstanding the absence of the detail of the PPC report, the Consult QRD assessment of demand generated is based on the Council's own standards of provision. These result in a far higher assessment of necessary overall Outdoor Sports capacity than that produced in the PPC report.

In total, our use of the standards set out in the SPD, results in an assessed demand for approximately 5.9 hectares of Outdoor Sports Pitches, defined as *"Including tennis, bowling greens, sports pitches etc."*

It is acknowledged that as per Policy DP24, the Council's preference is for demand to be wholly accommodated within the development site, *"where appropriate in scale and impact"*. However, due to a number of constraints, provision exclusively within the site is not a practical solution in this instance. Consequently, as set out in the Supporting Statement, it is proposed that demand is satisfied through a combination of the following:

- On-site multi-sport facility serving hockey, tennis & netball. With capacity for other sports provided through a Gen2 surface on one of the hockey pitches (see Appendix 1 of the Supporting Statement).
- On-site natural turf football pitches located at the planned schools. Public access would be secured via a Community Use Agreement based on the Sport England template (see Appendix 4 of the Supporting Statement).
- Off-site investment to deliver a significant improvement in pitch carrying capacity (hours of use) and wider facilities at Beech Farm Field.

As set out in the Supporting Statement (Section 4.5) the on-site provision would total 3.4 hectares; of which 1.6 hectares would have floodlighting and artificial sports surfaces meaning that they could support more intensive use and have a utility far higher than an equivalent grass area.

Coupled with the proposed improvements at Beech Farm Field (6 hectares) - the condition of which is considered below - the development would deliver new and improved sports provision across an area of almost 9.5 hectares. Consequently, I am satisfied that the proposals for outdoor sports provision would provide more than adequate space to both support demand generated by the development and to benefit the existing resident population.

In support of this, it is important to note that Council's Community Facilities Project Officer (email dated 11<sup>th</sup> January 2024), considers that the off-site contribution at Beech Farm Field *"would enable the developer to comply with the quantity requirement for outdoor sport as outlined in Appendix A of the Development and Infrastructure SPD."*

### **Beech Farm Field**

Aside from its inclusion in the Local Football Facility Plan, the rationale behind the Football Foundation's preference for investment in Whiteman's Green over Beech Farm

Field is not clear, particularly as the owner of that site (Mid Sussex District Council), appears to be satisfied that Beech Farm Field is a suitable location for investment (in comments from the Community Facilities Project Officer).

Beech Farm Field is immediately adjacent to Whiteman's Green, and it is not at all clear how it would be less accessible to new residents, or indeed how it has been calculated that it is closer to the site of the proposed development.

Furthermore, any investment at Beech Farm Field associated with the proposed development at Land East of Ansty Way would not prevent Sussex FA, the Football Foundation and Mid Sussex Council working together to deliver a project to deliver investment at Whiteman's Green.

I note that the LFFP was published in May 2019; if Whiteman's Green was considered to be a priority site at that time, it is not clear why no progress has been made in the intervening period, particularly when the PPS (paragraph 3.4.1) suggests that the issues for football use were "*some depressions in the goalmouths*" and that there should be a "*watching brief...and improvements carried out if required*". This appears to be a relatively minor issue.

As summarised below, there are significant issues with pitch conditions at Beech Farm Field. Investment here has the potential to significantly increase utilisation when compared to the current carrying capacity.

Furthermore, I consider the fact that the same landowner controls the site to be a significant advantage as it will streamline the delivery of any improvements, enabling the Council to condition the delivery timeframes more effectively.

In my experience, Linking investment to a site outside of the control of the current landowner has the potential to complicate matters significantly, potentially leading to a delay in housing delivery and occupation.

### ***Commuted Maintenance Sums***

I note the comments relating to provision of lifecycle costs to support ongoing facility maintenance and would like to highlight Section 4.4 of the Supporting Statement. This provides a clear indication of my client's willingness, in consultation with the Council, to ensure that adequate provision is made for Commuted Maintenance Sums in accordance with the SPD.

### ***Sports Facility Design and Specification***

I agree with Sport England's comment that all facilities should be designed "*in accordance with Sport England and relevant NGB design guidance....*" This should be secured by condition as suggested by Sport England. This also appears to be the position of the Community Facilities Projects Officer.

Regarding Beech Farm Field, since the submission of the application, further technical work has been completed, with a Playing Field Performance Quality Standard Assessment

conducted by Natural Turf Solutions. The Assessment identified a number of issues relating to compliance with Performance Quality Standards, most notably to do with steep and inconsistent gradients, as well as nutrient deficiency, waterlogging and pooling.

This Assessment provides the starting point for the preparation of a detailed set of proposals for investment at Beech Farm Field. It is therefore considered that preparation of a detailed specification, including consideration of the appropriate layout and configuration, potentially including facilities for rugby union and/or cricket, would be secured by condition.

The Assessment is appended to this letter.

### ***Secured Community Use***

It envisaged that there would be secured community use of all facilities delivered in connection with the development, not just the school pitches. The logical starting point for this would be Community Use Agreements based on the Sport England template.

However, I note that this is drafted for education sites and assumes oversight by the relevant Local Authority (which may or may not be feasible due to budget constraints); therefore, some other mechanism may be more appropriate for the Beech Farm Field and on-site multi-sport facilities. The specific approach utilised would be agreed in consultation with the Council and other stakeholders at Reserved Matters stage.

### ***Additional Off-Site Capital Contributions***

I note the inclusion of a Sports Facilities Calculator (SFC) financial contribution assessment in support of Sport England's letter, and the Football Foundation's consideration that there should be a financial contribution towards 3G pitch provision.

However, it is important to reiterate that Sport England's comments are on a non-statutory basis. Therefore, its comments in this area are merely a recommendation (as correctly noted by Sport England), and, particularly in the case of the Indoor Facilities, they do not appear to take account of any spare capacity at existing facilities.

Furthermore, and perhaps of greater importance, specific contributions towards indoor sports facilities and/or a 3G pitch are not required under local planning policy or the SPD.

Therefore, the policy basis for the Council to request a contribution towards indoor sports and/or 3G pitch provision is unclear, particularly when the application proposes a significant level of investment that would deliver (and facilitate) a range of indoor and outdoor sports facilities.

### ***Active Design***

The comments relating to Active Design guidance are noted. Indeed, they have already been used as an important resource to inform the development of the masterplan, as set out in the Design and Access Statement.

They will continue to be used in the refinement of the proposals at Reserved Matters stage, along with other important guidance prepared by organisations such as Make Space for Girls.

### **Conclusion**

In conclusion, I consider it abundantly clear that the proposals for on and off-site facility provision have been developed with reference to the relevant adopted policies and SPD.

The proposals demonstrate a commitment to deliver appropriately scaled facilities, designed in accordance with relevant guidance, and proposed in response to identified need and addressing shortfalls that would benefit new and existing residents. These would be supported by policy-compliant Commuted Maintenance Sums and have secured community use.

To provide comfort and security to all relevant stakeholders, including Sport England and NGBs, these matters can be addressed through a combination of the Section 106 Agreement and planning conditions.

Yours sincerely

A handwritten signature in black ink on a light yellow background. The signature is stylized and appears to read 'Richard Grady'.

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### **Appendices**

- Appendix 1 – Natural Turf Solutions Report – Beech Farm Field

**Beech Farm Field**  
**Playing Field Performance Quality Standard Assessment**



Natural Turf Solutions  
SPORTS PITCH CONSULTANTS



Document Control			
<b>Site</b>	Beach Farm Field Haywards Heath RH17 5HY		
<b>Client</b>	Will Adams SDP Bunton Barn Bunton Lane Bolney Haywards Heath RH17 5RE		
<b>NTS project code</b>	219		
<b>Document title</b>	Playing Field Performance Quality Standard Assessment		
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## Introduction

NTS have been instructed to undertake appropriate site surveys and/or investigations to produce a Playing Field Performance Quality Standard Assessment and Feasibility Study with recommended works, accompanied by a budget estimate for the improvement to the grass pitches at Beach Farm Field, Haywards Heath, RH17 5HY. The works are linked to residential development works within the area that NTS are not privy to.

Proposals and works for new facilities are prepared with reference to relevant guidance, including:

- Sport England Design Guidance Note – Natural Turf for Sport
- FA Guide to Pitch and Goalpost Dimensions

The core anticipated areas of work are as follows:

1. Targeted soil sampling, guided by the site and soil variability for subsequent laboratory analysis to evaluate a range of soil characteristics. These may include:
  - Soil texture (i.e., sand, silt and clay content).
  - Topsoil depth.
  - Make-up of subsoil.
  - State of compaction.
  - Water content at different depths below the surface.
  - Nutrient status (P, K, Mg) and pH.
2. The fundamental issues that affect the sites (e.g., adverse topography, ground water table, temporary water table, low permeability, compaction).
3. Development options and layouts have already been proposed and represented.
4. Indicative construction costs for budgetary purposes.

This report aims to be beneficial in the decision-making process and help form a basis for a future scheme design, which is critical to facilitate the production of works information and pricing documentation for the project.

This report has been prepared following initial client liaison, preliminary design work, but without the benefit of all factual site surveys and reports. A topographical has been produced for the site to assist with the works. All other information is derived from general historical geology of the area with soil samples and testing undertaken as appended.

NTS inspected the site on 12th October 2023 and the areas were surveyed to produce the relevant data and information to inform this feasibility study. Each site has specific factors that will influence design solutions and project parameters. An assessment of the current pitches was undertaken to provide a baseline for improvements to the natural turf pitches. The assessment was based on the current Grounds Management Association (GMA) Performance Quality Standards table (PQS), which provides a minimum quality standard for the construction and maintenance of pitches.

The proposed area has been quantified and a site report compiled by using the following methods and has not been judged through observations taken while a game has been in progress:

- Visual Assessment of grass coverage to approximately measure the percentage of grass species, weeds, pests and diseases.
- Visual Assessment of profile, sample extracted a profile down to 300mm.
- Penetrometer test of soil compaction,
- Laboratory tested soil samples of the pitch.
- Assessment information measured using Performance Quality Standards which are set out by GMA / FA / Sport England.

A full copy of the standard can be seen on <https://thegma.org.uk/>.

The objectives of this work are as follows:

- To undertake a baseline Performance Quality Standard Assessment using appropriate guidelines.
- To undertake a detailed site investigation to characterise the underlying soil profile, current agronomic condition of the pitches, topography of the site and its impact on drainage and any potential outfall arrangements.
- To prepare development options for improving the existing playing field.
- To derive indicative construction costs for budgetary purposes and present costed options where applicable.

A variety of assumptions have been made whilst producing this report, which should be considered further during final design and project procurements stages.

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NTS have made all clients aware of the currently known risks and constraints of the scope of works and shall reiterate our opinion concerning perceived project risks within relevant sections of this study, albeit such risks and further requirements are not exhaustive and further elements should be taken into consideration as/when the project develops and progresses.

A RAG (Red/Amber/Green) status approach has been presented to convey the relative risk assessed against each item and / or issue, as follows:

Table 1 – RAG (Red/Amber/Green)

RED	Immediate action needed as the issue(s) deemed to constitute a direct and significant threat to the project or present a risk to one or more party
AMBER	Issues identified that have the potential to develop into red alert status
GREEN	Items that are compliant, agreed, acceptable and present no risk to the project or the key parties

The following table shows the sequence of events required for a successful sports pitch improvement project. The Project Management and Supervisory duties are of particular importance in ensuring the implementation of a successful scheme.

Table 2 – The essential stages of a successful pitch improvement project.

Item	Description
Feasibility Study and Report based on the PQS	Desk study and field assessment of pitch quality including recommendations and outline costings for capital improvement works
Design and Specification Document	Detailed design drawings, materials and workmanship specifications and a Bill of Quantities. The 'Specification' is a stand-alone document used for the competitive tendering process and contract management purposes
Project/Contract Management and Works Supervision	To oversee the technical and logistical aspects of the project and manage the contract. To supervise the construction works and react to unplanned events
Maintenance Inspection Visits	Post-construction inspection visits

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## Site Constraints Review

### Site Location & Proposals

Existing pitches at Beach Farm Field, Haywards Heath, RH17 5HY.

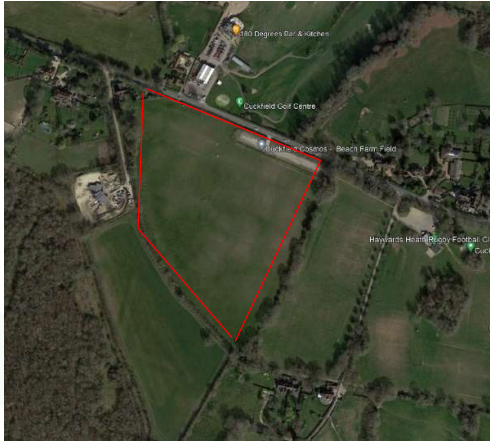


Figure 1 – Existing Beach Farm Field site

### Planning Context

It is known that any improvements would be associated with wider residential development. We understand that the improved pitches at Beech Farm Field are intended to provide improved capacity to help meet need generated by the development, and that any improvement works would be funded by the developer. NTS are not party to any detailed aspects of these proposals.

Dependent on the agreed works then permission for any earthworks or drainage works for improvement to the area may well be needed with Mid Sussex District Council. The site falls within an area of outstanding natural beauty and some potential works may well impact surrounding tree lines, hedge lines and require some ecology works and other potential survey works or details. If more extensive re-level or drainage works were implemented in the fields, then planning permission or other permission would be required.

### Site classification & Survey Review

Soilscapes online shows the development area of the site comprises Slightly acid loamy and clayey soils with impeded drainage.

*Cranfield Environment and Agrifood also show the geology of the site and development area:*

- 572i CURTISDEN -Silty soils over siltstone with slowly permeable subsoils and slight seasonal waterlogging.
- 36 Cretaceous and Jurassic siltstone and sandstone

*Local Geology results:*

- *Superficial – no data available*
- *Bedrock geology - Cuckfield Stone Bed - Sandstone, calcareous. Sedimentary bedrock formed between 139.4 and 133.9 million years ago during the Cretaceous period.*

*Initial Site Investigation Works:*

Historic boreholes some 700m west and north east of the site show clay to 3m depth with sandstone beneath.

Soils generally CLAY layers with impeded natural drainage through the underlying subsoil.

### Geomorphology and climate

Climate data obtained from the Flood Estimation Handbook (FEH) indicate that the standard period average annual rainfall (SAAR) is 831mm (700-800 mm/year for this catchment), both of which are below the national average of 855 mm/year.

Modern coarse sand topsoil materials allow hydraulic conductivity of  $6 \times 10^{-3}$ . The Sport England requirement requires 25mm/hr hydraulic conductivity but does not specifically state or go into longevity of a storm period or event. Natural turf pitches are generally designed to allow

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100mm/hr through time. Appreciation to the extent of flash floods, prolonged rainfall periods and assurance of retaining surface water upon the site so that it does not become detrimental to flooding to properties and facilities further down stream.

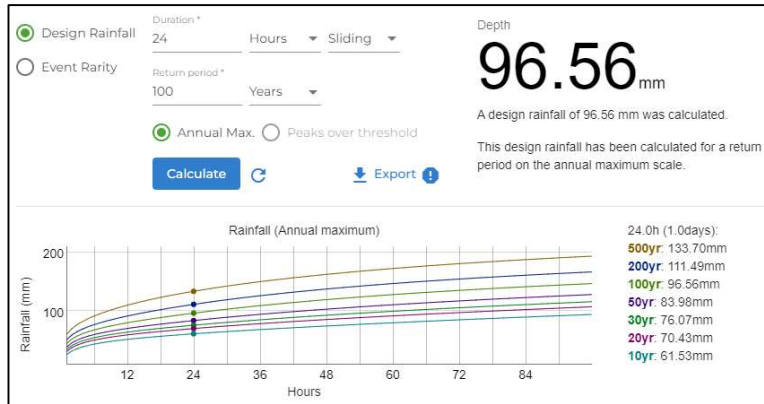


Figure 2 –Rainfall modelling

### Flood Risk

The sites fall within a Flood zone 1. This zone comprises land assessed as having a less than 1 in 1,000 annual probabilities of river or sea flooding (<0.1%). The likelihood of flooding from the rivers or the sea at the proposed development site is very low.

### Pitch Orientation

Sport England’s recommendation of the preferred main playing direction for pitches should follow an approximate North to South orientation (between 345° and 15°) because of the setting sun and to resist players affected by the sun set.

The layout and orientation of pitches has varied over the years. In the past the field has been shown to hold several pitches that are a mix of east to west and north to south. An illustrative layout of historic pitch layouts is displayed within NTS219 02 - Existing Gradients.

### Any historical site information / details

The site is largely unchanged with issues with the levels to the eastern section of the field being evidenced back to the 1880s. From google earth imagery it appears that the site was changed from an agricultural field to a playing field between 2001 and 2005 with a new access and informal car park into the field.

Records show areas to the west boundary of the site being a historic landfill (figure 3).



Figure 3 –areas of historic landfill

The historic landfill appears to be outside the curtilage of the field under inspection.

### Any known easements or rights of way

None known to date. The proposed sites are private land but are openly accessible and PROW or other unknown factors may require further thought and attention.

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### Unexploded Ordnance Risk

We have reviewed a UXO map at <https://zeticauxo.com/downloads-and-resources/risk-maps/> and the area is at low risk on the London Bombing Density scale.

### Coal Authority

We have reviewed the Coal Authority web site, to determine if the site is located within an area which has been affected by coal mining or brine extraction.

The web site advises the site is not located within an area affected by past or present coal mining, or minerals worked in association with coal or indeed brine extraction. We can confirm your boundary is:

- located off the coalfield
- not within the Cheshire Brine Compensation District

The area has no risk.

### Services and Utilities

Statutory services records have not been commissioned and greater understanding of any impacts of this would be required as the project progresses. Information on the source of any needed water or electrical supply to serve any other features would also be required as the project progresses.



## Condition of the Ground

### Ground Conditions of Existing Sports Pitch Locations

#### *Soil Profiles*

Identifying specific target points, several profiles were taken. All profiles had similar physical characteristics and the arising soil was sent off for analysis. Results from these tests include soil texture and dry bulk density.

There was a Sandy Clay Loam made up of:

- Soil test 1 - 51% Sand (2.00 - 0.063mm), 30% Silt (0.063 - 0.002mm) and 19% Clay (< 0.002mm).
- Soil test 2 - 54% Sand (2.00 - 0.063mm), 29% Silt (0.063 - 0.002mm) and 17% Clay (< 0.002mm).
- Soil test 2 - 53% Sand (2.00 - 0.063mm), 30% Silt (0.063 - 0.002mm) and 17% Clay (< 0.002mm).

Topsoil depths were consistently between 200mm-300mm and thatch build up to 20mm in some areas to the south and east of the site. The entire field was waterlogged with many areas severely pooling. The pitch to the north west and the rugby areas to the east along with the boundary of the west of the site were heavily waterlogged and pooling water in areas. The rugby pitch and training areas were severely damaged and churned up and in poor condition. There are heavy signs of layering within the profile and evidence (grey/brown mottling) that the top of the profile had sat wet for extensive periods of time.

Penetrometer readings confirmed that the initial 100mm soil was heavily compacted within the profile limiting root growth and oxygen / water movement. Each core showed signs of decaying roots and anaerobic conditions to the eastern flattened area along with many areas of the west.

Regarding surface levels many areas are of a low standard having hollows and divots across the site. Movement of water into these depressions causes a continuing migration of soils and further increases the size of the depressions.

Areas were excavated to depths of between 300mm to 700mm with the pits all having topsoil depths no greater than 300mm with clay subsoil beneath.

#### Nutrient status

A topsoil soil analysis was taken, and the site has a pH levels reading at 6.7, which is reasonable for sports turf grasses such as Perennial Rye Grass which performs best at 6.5. Tests show that the soil has deficiencies in the required nutrients that is vital to maintain grass plant growth.

#### Topography

The approximate pitch gradients are shown within the attached plan NTS219 02 - Existing Gradients. The area to the east of the site has a humped feature through the centre of the main rugby pitches and training areas. The area flattens off through the centre and then gradients run off severely to all directions. The flattened area is the most severely impacted by waterlogging and surface damage with loss of grass growth.

The area to the north between the car park and pitches pools significantly with water depth of up to 350mm within a 15m area from the car park along its entire stretch when visiting site.

The northwestern and western football pitches were heavily saturated and waterlogged during the visit. Any usage during this period would cause significant damage to the pitches and areas and fixtures at that time should have been cancelled (it should be noted that the period of October to December 2023 has been one of the wettest in many years with prolonged rainfall and flash floods throughout the UK causing more severe issues and concerns than previous years).

Areas to the south and west are very steep and outside of the PQS standards that require:

- Cross field gradients PQS 2.5% requirement.
- The longitudinal gradients PQS 1.25% requirement.

All other areas are variable in levels and gradients as the field has been retained within its natural condition from when being converted from an agricultural field. All pitches and areas have altering gradients, levels and issues.

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## Grass Coverage

Although general vegetative coverage over the west of the site was good it was generally dominated by undesirable grasses for sports application and weeds. The eastern side of the site was severely churned up with significant bare areas with no vegetative cover.

The typical usage of the pitches is unknown but given the field was heavily saturated and waterlogged in many locations along with excessive weed and undesirable grass growth it is assumed that if/when used regularly the pitches would further suffer from loss of turf, becoming more severe, as is already the case with eastern parts of the site.

There are many minor or more in depth works that can be undertaken to correct these issues dependent on number of factors (can the entire field be out of action for 12 months, budget and other potential client needs and aspirations) but the importance of the type of grass used is one critical variable amongst many. Annual Meadow Grass is considered a weed grass within the sports turf industry but is present in a large percentage of sports surfaces all over the UK. Poa annua has poor root growth in consolidated soils and as root growth is one of the main elements that help bind a pitch together and prevent diverts occurring, the amount of Poa annua and other weeds and grasses are excessive and need to be altered and controlled. Poa annua has poor wear tolerance, poor colour in low nutrient level soils and is a host for several turf diseases. In drought conditions Poa annua is the first grass variety to die off. The use of perennial ryegrass (Lolium perenne) for sports turf has increased in recent years. It is one of the most versatile of all turf grass species and has a fast growth and recovery time which suits most modern demands, needs and pressure for use. Assessments during summer drought conditions, frost, snow or heavy winter rain conditions would alter the results and condition of the areas.

For sports turf, perennial ryegrass is used alone or in combination with other grasses and recent improvements in turf cultivars include improved disease resistance, high temperature tolerance, and enhanced colour. European evaluation trials showed that the grass has an increased tolerance to close mowing and is appropriate for winter games surfaces as it is more wear tolerant.

Plant health was at a poor level with decaying root growth to a depth of 60/80mm.

## Drainage

There is no drainage system over the pitches and the timeline on the satellite mapping show no system over the years. The fields become very waterlogged and during the site visit were having severe issues with waterlogging and drainage (it should be noted that the period of October to December 2023 has been one of the wettest in many years with prolonged rainfall and flash floods throughout the UK causing more severe issues and concerns than previous years).

Infiltration testing was undertaken when onsite with no drainage being possible. The soil was saturated and waterlogged in all locations and exasperated with all pores and voids filled with water not enabling any further natural infiltration and limiting oxygen movement to the roots.

## Pitch size and orientation.

It is difficult to gauge the existing pitch types and layouts over the area due to the south and eastern areas being damaged and markings not being visible and the time of the visit and google earth showing several variable layouts over the years. No formal rugby posts are set to the east of the site, but faint markings and training grids are present. The south and west of the site appears to hold:

- 1no. adult sized pitches
- 1no. U15/16 / adult sized pitches
- 1no. reduced 9v9 pitch
- 1no. reduced 7v7 pitch
- 2no. reduced 5v5 pitches

As noted, it is difficult to gauge the actual pitch areas and sizes and NTS have taken some information from site and further information from historical mapping to come up with an approximate layout and number of pitches. Before progressing to greater stages of works then liaison and clarification would be needed from the end users and stakeholders to determine the preferred layout to best serve the site and users.

## Equipment & Maintenance

There is no information on any maintenance that is undertaken over the area and there is no evidence of maintenance equipment on the site. Before progressing to greater stages of works then liaison and clarification would be needed from the end users and stakeholders to determine the current level of maintenance along with the long-term plans for maintenance, potentially supported by a Commuted Maintenance Sum.

PQS Assessment

Table 3 – Performance Quality Standard Tables and Performance Summary

Performance Standard		Unit		Elite	High	Advanced	Good	Basic	Poor
1	Length of grass/cutting height	mm	Range	22-30	25-35	25-50	30-60	30-70	<22 & >70
2	Total ground cover	%	Min	95	90	80	70	60	<60
3	Desirable grasses	%	Min	98	90	80	70	60	<60
4	Undesirable grasses	%	Max	2	10	20	30	40	>40
5	Bare Areas	%	Max	5	10	20	30	40	>40
6	Weeds	%	Max	0	3	5	10	15	>15
7	Pests & Diseases	%	Max	2	3	5	10	15	>15
8	Thatch	mm	Max	0	3	5	10	15	>15
9	Root depth	%	Min	100	100	90	85	70	<70
10	Rootzone / soil profile* (Assessed as virgin topsoil material)	mm	Min	200	150	125	100	90	<90
11	Goal posts	Visual	Compliance	Compliant	Compliant	Compliant	Compliant	Compliant	Non-Compliant
12	Line marking	%	Min	100	95	90	80	70	<70
13	Hardness	g	Range	75-90	65-120	55-140	35-200	35-200	>
14	Infiltration rate/hr	mm	Min	150	50	10	5	2	<2
15	pH	No	Range	5.5-7	5.5-7	6-7	5-8	5-8.5	< 5.5 & >8.5
16	Soil qualities - Phosphate	Index	Range	2-3	2-3	2-3	2-4	2-5	<2 & >5
17	Soil qualities - Potash	Index	Max	2-3	2-3	2-3	2-4	2-5	<2 & >5
18	Pitch surface levels/evenness	mm	Max	5	10	15	20	25	>25
19	Surface debris	%	Max	0	1	2	3	5	>5
20	Gradient: Length ways (dependent on how it is marked)	%	Range	< 1:200	< 1:200	1:200 – 1:150	< 1:100	1:100 – 1:80	> 1:100 – 1:80
21	Gradient: Across the pitch (dependent on how it is marked)	%	Range	< 1:200	< 1:200	1:200 – 1:150	< 1:100	1:80 – 1:50	> 1:80 – 1:50

## Conclusions

### Existing Playing Fields Conclusion

The results of the PQS analysis are generally showing the area to be poor to good in most areas; the soil type and structure being identified as a sandy clay loam could be improved upon through greater maintenance regimes and works that will offer vast improvements to assist in correcting some of the site concerns and issues. However, there are several matters present that are interlinked and causing issues over the site. The levels and gradients are very inconsistent and are causing specific issues to the eastern area, north and the northwestern football pitch that hold water and become waterlogged and pool in areas. Ideally these areas would be re-graded and rectified but doing so may create risks of hitting ground water or directing surface water to other areas of the site, causing those areas of the field to become worse. The re-grading and profiling of the pitches will be possible and beneficial to the pitches, but it must be made clear within this feasibility stage report that the exact detail of the location and size of the pitches would be indicative until geotechnical survey work is undertaken to understand if ground water is present that would enable the production of a site wide cut/fill design and operation.

It is also prudent to understand that the introduction of drainage systems to all the pitches will result in a need to allow for sufficient attenuation and design proposals to control water within the site prior to allowing it to move on to a positive means of an outfall.

There is currently no information on a positive outfall location that can be used and there is no known natural watercourse present within the area to date. Holding ponds or underground storage tanks would need to be considered to mitigate against certain storm events. Such features would take up some "potential" playing field space and would need to be considered in consultation with relevant stakeholders and permissions for the scheme.

The northern / western and southern boundaries of the site have gradients that become very steep and inconsistent that would have an impact on the playing performance. Ideally the overall playing field would be re-profiled and developed.

Greater understanding of ground water table, drainage calcs / volumes along with evidencing positive outfalls are needed to progress the scheme to a full design solution.

Re-grading the pitches would take them out of action for 12 months, the implications of this for existing users would need to be considered by relevant stakeholders (note the establishment period could be sped up with the introduction of irrigation. However, it is unlikely and unrealistic that irrigation would be made available for so many pitches).

Areas of the field that are impacted by waterlogging and pooling would benefit from drainage systems to remove water from the surface. This would have a knock-on effect in requiring increased maintenance works and cost throughout the life of the pitches along with ideally having irrigation systems in place to deal with the summer drought periods. This will evidently need greater consideration, survey works (evidencing positive drainage outfalls and water supplies and pressures etc) and design along with permissions to control surface water prior to sending off to a local positive and permissible outfall. In the ideal scenario the entire field would be drained and this would need to be discussed further in terms of initial and ongoing cost and sustainability for the end user.

With consideration of the information to hand and the site assessment, it is believed that the main issues will be:

- Surface gradients / undulations are apparent and issues with various irregular gradients present over the areas.
- Deficiencies in nutrients that are unbalanced.
- Known waterlogging or holding water.

It is difficult at this time to offer clear guidance and steer on a final proposal in terms of number, size and location of pitches until further discussion and survey works took place. At present NTS feel options and solutions need further discussion to be explored and considered to progress the project to a final decision but have developed a high end option to re-profile and drain various areas for initial consultation and consideration prior to greater progression of the scheme based upon NTS219 05 - Indicative Layout Plan:

- Cut back vegetation (Outside Bird nest times) and treat the area with herbicide (Follow all present legislation with pesticides)
- Improve surface gradients with topsoil strip, subsoil re-grade (note areas will vary and range dependent on agreed works and the levels, ground water table, gradients need to be altered accordingly as the project progresses)
- Stone removal of the area
- Return topsoil to the graded formation layer.
- Cultivate and de-compact topsoil allowing some re-grading over undulations and surface issues.
- Stone removal of the area
- Amelioration of sand within the topo profile (sand spec of coarse/fine etc percentage to be defined from further survey and lab analysis).
- Compaction through vertical aerator with 26mm solid tines with full heave or rotating blade to a minimum depth of 250mm. Maximum depth is controlled by the profile.

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- Linear Decompaction works
- Further Stone removal and bury of the area
- Seed the areas using a disc or dimple seeder. It is vital that the equipment used enables a soil to seed connection. Sow in two directions and bare areas three ways. Consider 30% of Tetraploid Ryegrass to improve wear tolerance.
- Drag mat or brush the surface.
- Apply granular fertiliser to the area
- Surface establishment of the pitch with 12 months maintenance regime to include altering Soil Chemistry

To the remaining pitches highlighted on NTS219 05 - Indicative Layout Plan. Further discussion is needed with various parties to decide upon the preferred location and scope of works.

With the implementation of drainage, it is pertinent to highlight that drainage backfill is prone to settlement over time and regular sand top dressing will be required. Settlement is not uniform and occurs in sections when soils expand, shrink and move with drying and freezing processes. There are significant positives with the introduction of such drainage systems into areas and the project scheme and budget can allow for an additional sum of money to ensure increased maintenance is implemented over a 5 year period to ensure any issues that may occur through the first few seasons of installation are adequately dealt with and to enable that the newly developed sports pitches are retained to a high standard that would serve the site for many years beyond. Greater assessment of site survey works and design on drainage and attenuation requirements will be needed to develop an accurate scope of works and cost and NTS have made high level assumptions for now within the reporting.

Natural turf pitches rely on weather conditions to enable and encourage good growth. Drought periods in the UK are becoming more severe and to ensure that pitches with drainage systems continue to be usable and do not have any severe undulations and areas of settlement that may cause injury; then irrigation systems would ideally be implemented. Irrigation is important for usage to soften the surface soils to reduce harm to the ground during play. Currently irrigation services have not been fully considered. A basic system would need a storage tank, pump and associated components for self-travelling sprinklers that could cost approx £50-80k (survey works and information needs to be gathered on the source of utilities and additional supplies and associated works). If irrigation was implemented, then using water from potable source contradicts the growing climate concerns and issues during drought periods and it would be prudent to look into sourcing water through a borehole extraction. A borehole could allow free 20m<sup>3</sup> water/day but further survey works and testing of the geology in the region would be needed. The process for the design and implementation of a borehole is approx £20-35k. It is unlikely that all pitches would enable irrigation but a set up to allow a portable sprinkler system could be added to the central northern access area of the site that could then serve all pitches to ensure high wear areas gain irrigation and a greater chance of growth and establishment through the summer months out of season. At present NTS have just placed a provisional sum for this item to be determined more accurately as the project progresses.

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## Cost Estimates

Item Description	Quantity	Unit	Rate (£)	Cost (£)
<b>Site Preparation</b>				
Contract Compliance & Site Establishment	1	Item	inc	inc
				Carry forward to Contract Sum Analysis £60,000.00
<b>Site Clearance and Excavation Works</b>				
Apply total herbicide and cultivate	28522	m <sup>2</sup>	£0.20	£5,704.40
Strip topsoil to area (300mm)	8557	m <sup>2</sup>	£2.00	£17,114.00
Undertake Cut/Fill	1	P.S.	£32,000.00	£32,000.00
laser trim	28522	m <sup>2</sup>	£0.48	£13,690.56
Redistribute the topsoil over the development area	8557	m <sup>2</sup>	£2.00	£17,114.00
Stone Picking	28522	m <sup>2</sup>	£0.09	£2,566.98
				Carry forward to Contract Sum Analysis £88,189.94
<b>Drainage and Surface Establishment</b>				
Provisional sum for attenuation basins and drainage outfalls	1	item	£150,000.00	£150,000.00
Supply and install 160mm sealedoutfall drains	60	m	£44.00	£2,640.00
Supply and install 160mm main drains	914	m	£33.00	£30,162.00
Supply and install 80mm lateral drains (5m)	6651	m	£12.00	£79,812.00
Silt Trap Inspection chamber below ground level	20	item	£450.00	£9,000.00
Sand Amelioration (30mm)	855	m <sup>3</sup>	£85.00	£72,675.00
Primary cultivations to form surface grade including stone removal/burial	28522	m <sup>2</sup>	£0.25	£7,130.50
Final cultivation and prepare seedbed	28522	m <sup>2</sup>	£0.35	£9,982.70
Supply and apply seedbed fertiliser at 70g/m <sup>2</sup>	1	item	£6,500.00	£6,500.00
Supply and apply grass seed at 35g/m <sup>2</sup>	1	item	£6,000.00	£6,000.00
koro TopDrains	28522	m <sup>2</sup>	£3.10	£88,418.20
Aeration	2	item	£2,500.00	£5,000.00
Reinstatement of damage	1	item	£2,500.00	£2,500.00
Provisional sum for portable irrigation systems	1	item	£120,000.00	£120,000.00
				Carry forward to Contract Sum Analysis £589,820.40
<b>Indicative maintenance over 12 month period (inc adult and 2no. 5v5 pitches)</b>				
Initial Establishment	1	item	£3,500.00	£3,500.00
Mowing	1	item	£10,000.00	£10,000.00
Fertiliser (3 applications)	1	item	£10,800.00	£10,800.00
2no. Weed control	1	item	£2,500.00	£2,500.00
2no. Over seeding	1	item	£12,000.00	£12,000.00
2no. Aeration	1	item	£3,000.00	£3,000.00
2no. Sand topdressing (29,797sqm of 6mm)	1	item	£30,000.00	£30,000.00
Pest and disease control	1	item	£2,000.00	£2,000.00
Pitch Line Marking	1	item	£2,000.00	£2,000.00
				Carry forward to Contract Sum Analysis £75,800.00
<b>Indicative maintenance for year 2 and 3</b>				
Fertiliser (3 applications)	2	item	£10,800.00	£21,600.00
2no. Weed control	2	item	£2,500.00	£5,000.00
2no. Over seeding	2	item	£12,000.00	£24,000.00
2no. Aeration	2	item	£3,000.00	£6,000.00
2no. Sand topdressing (29,797sqm of 3mm)	2	item	£30,000.00	£60,000.00
Pest and disease control	2	item	£2,000.00	£4,000.00
Pitch Line Marking	2	item	£2,000.00	£4,000.00
				Carry forward to Contract Sum Analysis £124,600.00
<b>Provisional Sum for Survey and Design Works and Fees</b>				
Site Specific Survey Works	1	item	£35,000.00	£35,000.00
Professional fees and Services	1	item	£50,000.00	£50,000.00
				Carry forward to Contract Sum Analysis £85,000.00
<b>Total</b>				<b>£1,023,410.34</b>
Contingency 10%				£102,341.03
<b>Sub Total</b>				<b>£1,125,751.37</b>
VAT (20%)				£225,150.27
<b>Grand Total</b>				<b>£1,350,901.65</b>

\*Maintenance works are considered provisional sums for year 2 and 3. Some consideration for improvement to site maintenance equipment would be prudent and would require further discussion.

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*\*\*Further costs of any associated access, fencing, services, and land purchases amongst others will need to be added to the overall construction costs stipulated above.*

**Project Progression Works**

The process for the works will be:

- Further client, end user and stakeholder consultation to inform the design stages.
- Variety of required survey works to supplement design and planning requirements (*GI, drainage, Landscaping and planting scheme (BNG), ecology, tree survey, utility etc*)
- If required/desired, further investigative works into water supplies and upgrades.
- If required/desired, further investigative works into the potential of borehole extraction.
- Development of design drawings and information for any permissions
- Development of design drawings, specification and tender documentation for all elements
- Review of tender returns from interested and competent parties
- Project administrative duties and project management throughout construction (pre start, progress, handover meetings with admin of variations / valuations and all JCT contractual duties).
- Key stage inspections throughout works to *sign off progression against specification and project requirements throughout*
- *Sign off works and oversee 12 months defects period prior to signing off retention monies*

**End of document**

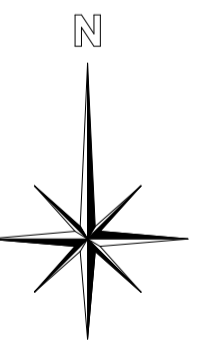
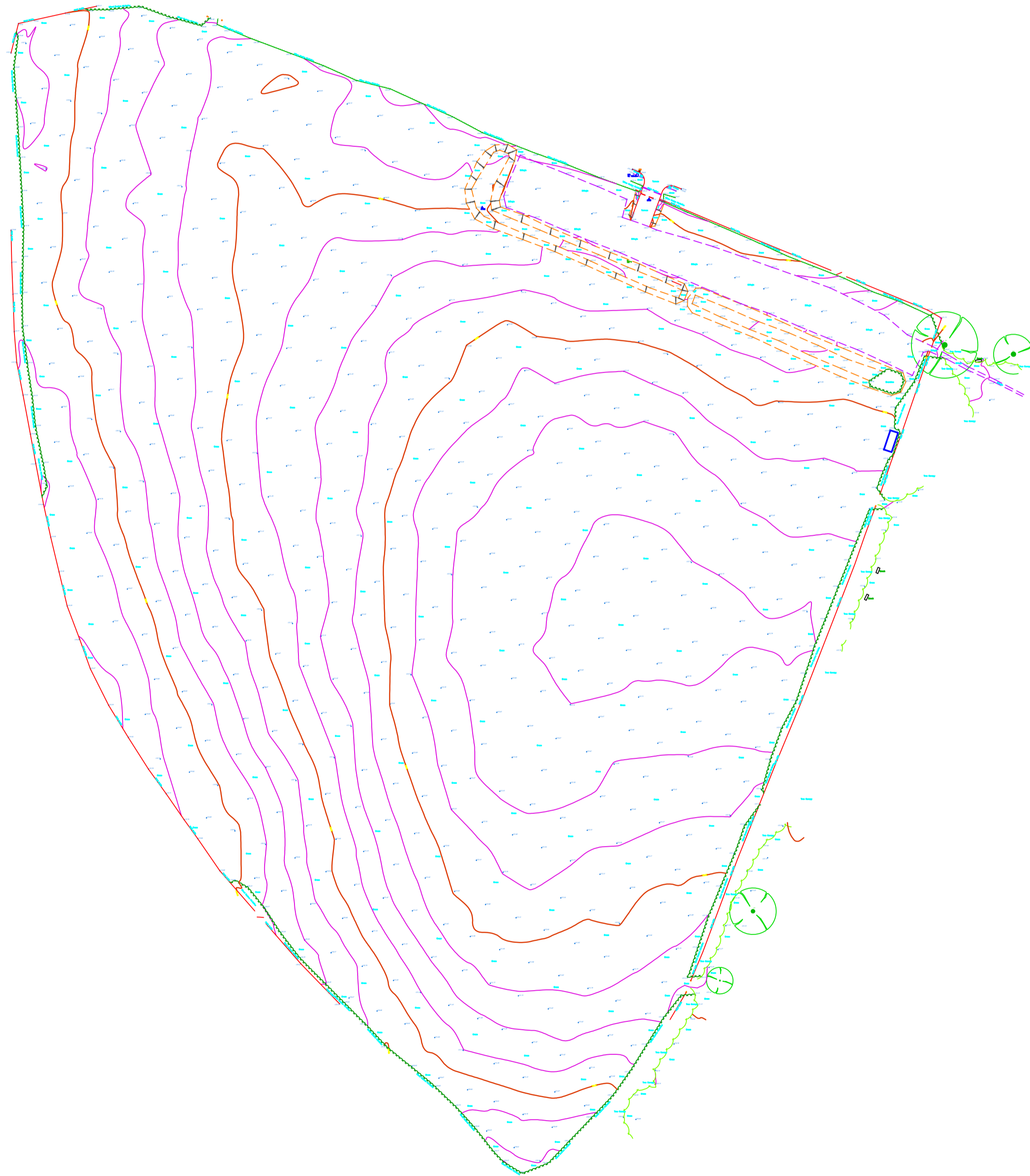
Published by	Wesley Bugg, Consultant
Signature	<b>W.Bugg</b>
Issued	17/01/24

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# Cuckfield Playing Fields

Sports Pitches



REV	DESCRIPTION	REV	CK	DATE
00	FEASIBILITY ISSUE		WB	16/01/24



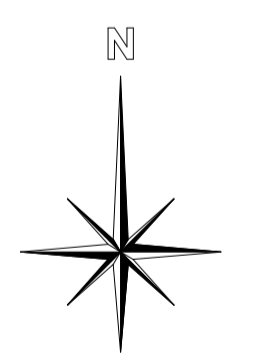
AUTHOR  
WB

TITLE  
**Cuckfield Playing Fields**  
Sports Pitches  
*Topo Survey*

PROJECT	SCALE	SIZE
NTS219	NTS	A1
DRAWING No	REVISION	
01	00	

# Cuckfield Playing Fields

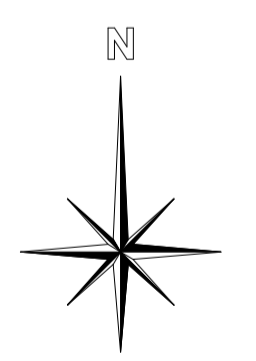
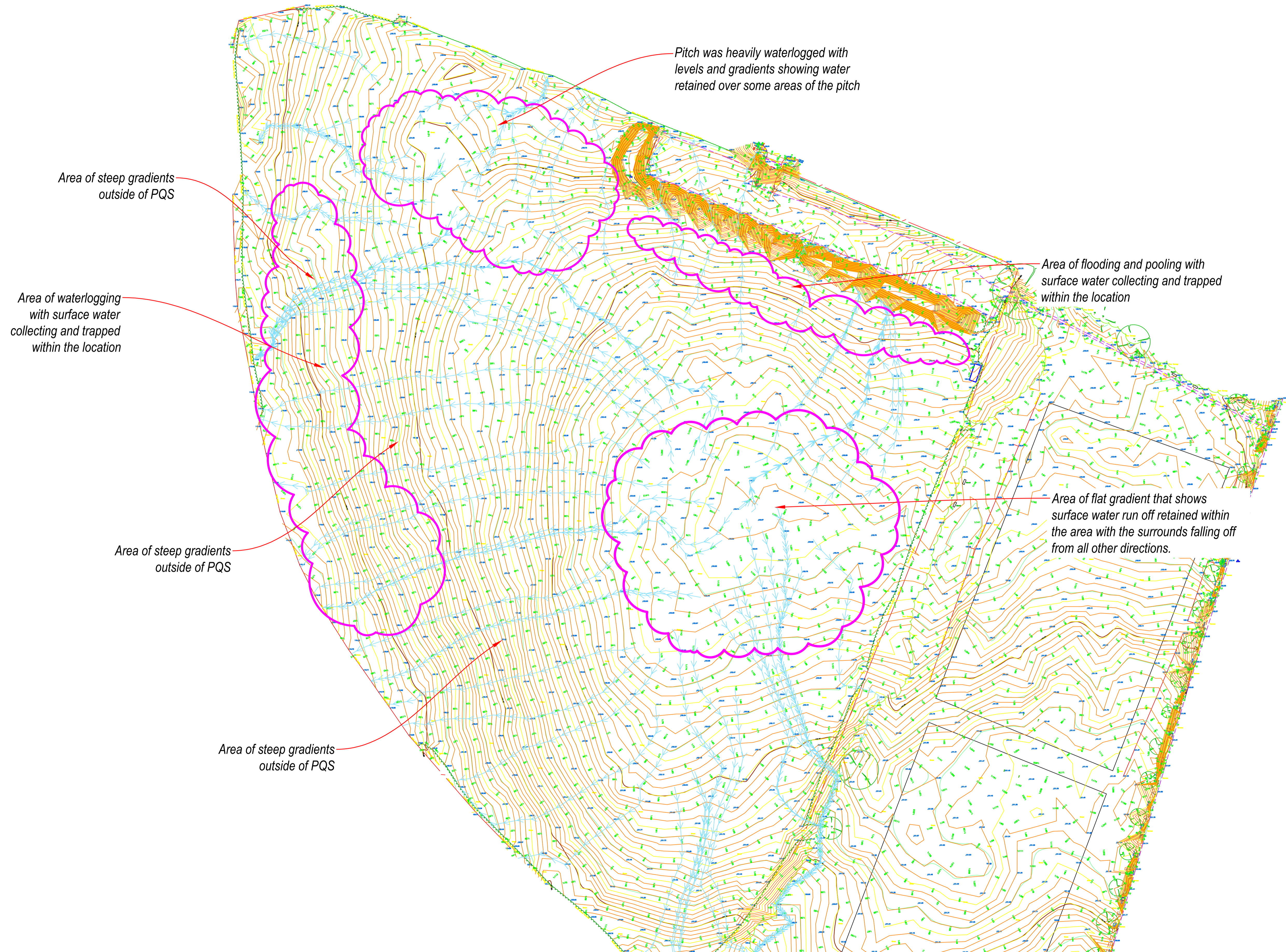
Sports Pitches



00	FEASIBILITY ISSUE	WB	16/01/24
REV	DESCRIPTION	REV CK	DATE
<b>NTS</b> Natural Turf Solutions SPORTS PITCH CONSULTANTS			
AUTHOR WB			
TITLE <b>Cuckfield Playing Fields</b> Sports Pitches Existing Gradients			
PROJECT	SCALE	SIZE	
NTS219	NTS	A1	
DRAWING No	REVISION		
02	00		

# Cuckfield Playing Fields

Sports Pitches

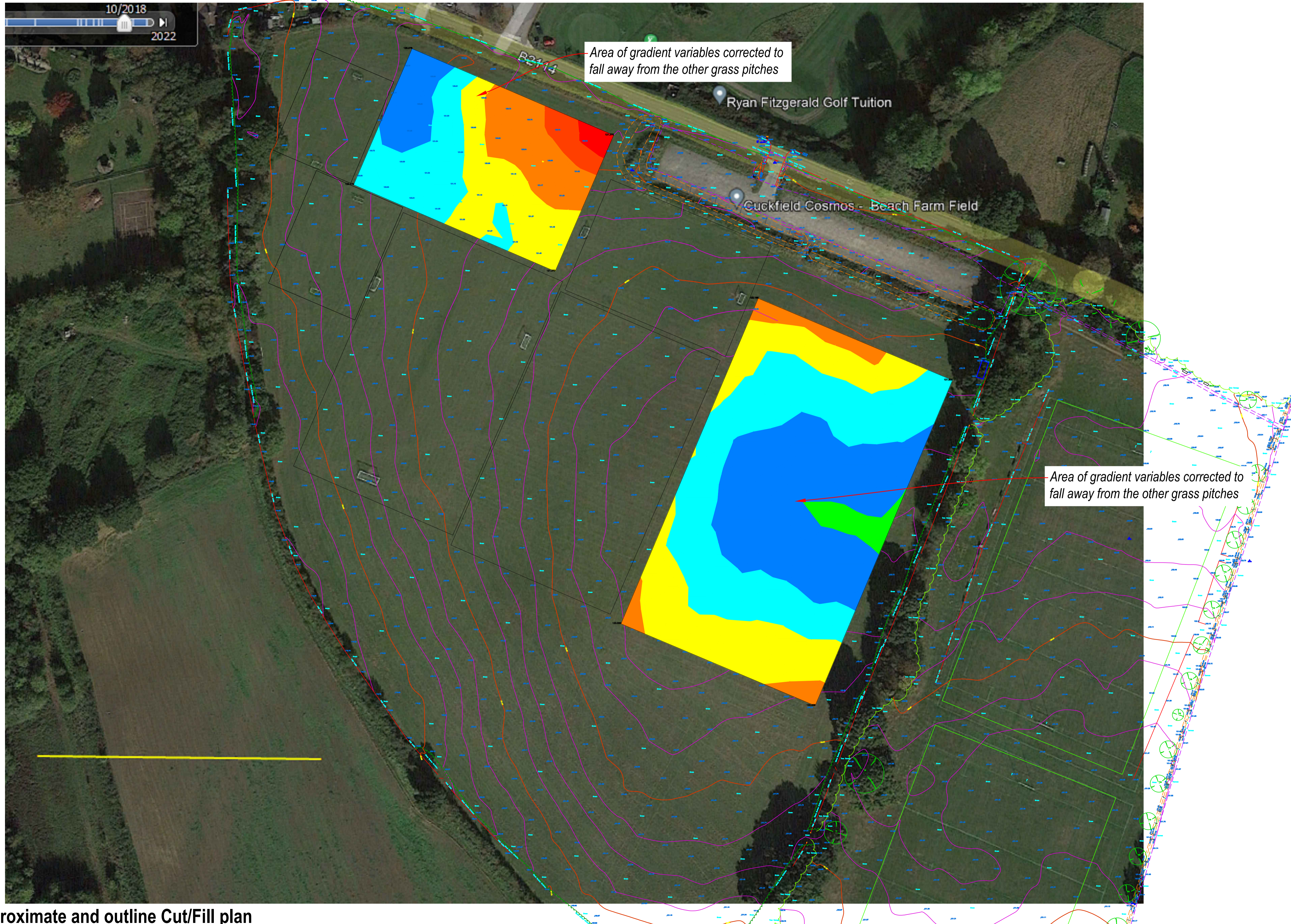


00	FEASIBILITY ISSUE	WB	16/01/24
REV	DESCRIPTION	REV CK	DATE
<p><b>NTS</b>                  Natural Turf Solutions                  SPORTS PITCH CONSULTANTS</p>			
AUTHOR			
WB			
TITLE			
Cuckfield Playing Fields			
Sports Pitches			
Surface Water Run Off			
PROJECT	SCALE	SIZE	
NTS219	NTS	A1	
DRAWING No	REVISION		
03	00		

# Cuckfield Playing Fields

Sports Pitches

CUT Depth Bands			
Band 1	-0.00	-	-0.50
Band 2	-0.50	-	-1.00
FILL Depth Bands			
Band 1	0.00	-	0.50
Band 2	0.50	-	1.00
Band 3	1.00	-	1.50
Band 4	1.50	-	2.00



Approximate and outline Cut/Fill plan

REV	DESCRIPTION	WB	CK	DATE
00	FEASIBILITY ISSUE			17/01/24

**NTS**  
Natural Turf Solutions  
SPORTS PITCH CONSULTANTS

AUTHOR: WB

TITLE: **Cuckfield Playing Fields**  
Sports Pitches  
Indicative Earthworks Plan

PROJECT: NTS219	SCALE: NTS	SIZE: A1
DRAWING NO: 04	REVISION: 00	

