4 Doolittle Mill
Froghall Road
Ampthill
Bedfordshire
MK45 2ND

Tel: 01525 307060

Email: richard.earl@tgms.co.uk
Web: www.tgms.co.uk

PURLEY-ON-THAMES PARISH COUNCIL

SPECIFICATION FOR THE CONVERSION OF AGRICULTURAL LAND INTO A NATURAL TURF PLAYING FIELD ON LAND ADJACENT TO GOOSECROFT RECREATION GROUND, GOOSECROFT LANE, OFF BEECH ROAD, PURLEY-ON-THAMES, NEAR READING, BERKSHIRE RG8 8DR

31st August 2022 [Revision 2, 15th November 2022]

Specification reference: TGMS1228.2

Status: For Tender.
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REVISION RECORD					
Rev	**Date**	**Description**	**Prepared**	**Checked**	**Approved**
0	31/08/2022	Document Creation	RE		
1	04/10/2022	Amendments to the address and contact details	RE	MY	MY
2	15/11/2022	Further amendments to the address and contact details plus minor clarifications.	RE	MY	MY

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1. PART I: JCT 2016 MINOR WORKS BUILDING CONTRACT - PRELIMINARIES SUMMARY

1.1 PROJECT PARTICULARS

1.1.1 The Project

- Name: Goosecroft Recreation Ground Expansion Project.
- Nature: Natural turf pitch construction works.
- Location: Land adjacent to Goosecroft Recreation Ground, Goosecroft Lane, off Beech Road, Purley-on-Thames, Reading, Berkshire RG8 8DR.
- Length of contract: 16 Weeks.

1.1.2 Employer (Client)

- Name: Purley-on-Thames Parish Council
- Address: The Parish Office, Goosecroft Recreation Ground, Goosecroft Lane, off Beech Road, Purley on Thames, Reading RG8 8DR
- Contact: The Parish Office
- Telephone: (01189) 844507
- Email: clerk@purleyonthames-pc.gov.uk

1.1.3 Principal Contractor (CDM)

- Name: T.B.C.
- Address:
- Contact:
- Telephone:
- E-mail:

1.1.4 Contract Administrator and Designer

- Name: TGMS.
- Address: 4 Doolittle Mill, Froghall Road, Ampthill, Bedfordshire, MK45 2ND.
- Contact: Dr Richard Earl
- Telephone: 01525 307060
- Email: richard.earl@tgms.co.uk

1.1.5 CDM Administrator

- Name: N/A
- Address:
- Contact:
- Telephone:
- Email:

1.2 FORM OF CONTRACT

The form of contract will be the Joint Contracts Tribunal Ltd Minor Works Building Contract 2016 Edition incorporating all current published amendments.

The Clauses are scheduled within this document, but the Contractor must inspect the draft form for the full details of these Clauses and is to allow such sum/s as may deem necessary for carrying out the obligations and services required by the Contract.

All information contained within this document is subject to the conditions of the above stated contract.

1.3 THE RECITALS

1.3.1 First Recital

The work comprises re-grading earthworks and the construction of a cricket ground and football pitches.

1.3.2 Second Recital

All construction information is found in the specification section (**REF: TGMS1228.2**) and on the drawings scheduled in Table 1 below.

1.3.3 Third Recital

The Contractor is to supply the Employer with a copy of the priced Work Schedules.

1.3.4 Forth Recital

Is the Employer a 'contractor' for the purposes of CIS? **No.**

1.3.5 Sixth Recital

The Contract is not supplemented by a Framework Agreement.

1.4 THE ARTICLES

Article 2: Contract Sum: **TBC**

Article 3: ~~Architect~~/Contract Administrator: **TGMS**.

Article 4 The Principal Designer for the purposes of the CDM Regulations is the ~~Architect~~/Contract Administrator

Article 5 The Principal Contractor for the purposes of the CDM Regulations is the Contractor.

Article 7: Is dispute resolution to be by arbitration? **Yes**

1.5 CONTRACT PARTICULARS

Fourth Recital & Schedule 2

Base Date: **10 days before tender return date**

Fifth Recital

CDM Regulations **The project is not notifiable.**

Section 2.2

Works commencement date **TBC.**

Date for completion: **TBC.**

Section 2.8

Liquidated damages: **£50 per day or part thereof.**

Section 2.10

Rectification period: **12 months from the date of practical completion (seed in the ground).**

Section 4.3 Date of first interim payments

30 days from start date.

Section 4.3 Interim payments

95% of total work value up to practical completion.

Percentage of the total amount to be paid to the contractor on or after practical completion: **97.5%.**

Section 4.8.1 Final certificate and final payment

Supply of documentation for computation of amount to be finally certified: **3 months.**

Section 4.3 and 4.8 Fluctuations provision

Schedule 2 (Fluctuations Option): **Does not apply.**

Section 5.3

Contractor's Public Liability insurance: injury to persons or property – the required level of cover is not less than **£1 million.**

Section 5.4A, 5.4B and 5.4C Insurance of the Works.

Insurance of the works: **Option A Applies**.

Percentage to cover professional fees: **15%**

Section 7.2 Settlement of Disputes – Adjudication

The Adjudicator is: **Chartered Institute of Arbitrators**

Nominating body: **Chartered Institute of Arbitrators**

Appointor of Arbitrator (and of any replacement**): President or a Vice-President of the Chartered Institute of Arbitrators.**

Attestation

Method of execution: **By Deed.**

1.6 FORM OF TENDER

PROJECT TITLE: Goosecroft Recreation Ground Expansion Project.

We ..... (Tenderer's name to be entered) hereby tender and undertake to perform the whole of the works/services required in and associated with the Project for **Purley-on-Thames Parish Council** according to the Specification, Work Schedules, Preliminaries and Drawings examined by us for the firm price sum of:

.....(pounds)

.....(pence)

(£ : p) excluding VAT.

Further we are prepared, when called upon to do so, to enter into and sign a contract, the full terms of which we have read, for the due and proper completion of the works/services.

We understand that we are tendering at our own expense and that the Client is not bound to accept the lowest or any tender and that the client reserves the right to award the contract phase by phase.

We declare that we are not party to any scheme or agreement under which:

- we inform any other person the amount of our tender; and/or
- we have fixed the amount of any tender in accordance with a price fixing arrangement.

We accept that the Client is entitled to cancel the contract and to recover from us the amount of any loss resulting from such cancellation if it is discovered that there has been any corrupt or fraudulent act or omission by us which in any way induced the Client to enter into the contract.

We declare that all goods materials and workmanship will meet the appropriate British Standard Specification or British Standard Code of Practice issued by the British Standards Institution or equivalent European standard current at the date of the contract.

We undertake in respect of all persons employed by us or with whom we sub-contract to comply with the Disability Discrimination Act 1995 and the Commission for Racial Equality's Code of Practice issued under the Race Relations Act 1976 aimed at eliminating discrimination and promoting equality of opportunity.

We undertake not to transfer, assign, or sub-let any portion of the contract nor create any lien or charge on premises, goods or equipment connected with or forming part of the contract, without the written consent of the Client or its duly authorised officer.

We agree that if, before acceptance of this tender, an error in computation of the tender is detected in the priced document submitted by us we will be given details of the error and the opportunity of confirming the total tender sum or withdrawing the tender.

We agree that the insertion by us of any qualifications to this tender or any unauthorised alterations to any of the tender documents will not affect the original text but will cause the tender to be liable to rejection.

We agree that this tender will remain open for acceptance by the Client and will not be withdrawn by us for a period of 90 days from the last date fixed for the receipt of tenders or any notified extension thereof.

We certify that this is a bona fide tender.

Tenderer's Name

.....

Address

.....

.....

.....

Telephone

.....

Facsimile

.....

Signature*

.....

Name

.....

Date

.....

Witness

.....

Name

.....

Date

.....

* Where the Tenderer is an incorporated association the Company Secretary or a duly authorised Director should sign. In the case of a partnership a Partner should sign. In the case of an individual the Proprietor should sign.

2. PART II: DESIGN SPECIFICATION

2.1 INTRODUCTION AND SITE INFORMATION

Purley-on-Thames Parish Council wishes to construct a playing field on 2.66 ha of agricultural land adjacent to southern boundary of the existing recreation ground (Figure 1).

A site investigation and feasibility study was conducted by Dr Richard Earl of TGMS on the 14th of October 2020, and an abridged version of the report is appended for information.

2.1.1 Site location and access

Vehicular access to the site is via Goosecroft Lane which is off Beech Road. The grid reference for the centre of the development area is approximately: OSGB 465476, 175887. The nearest postcode is RG31 6XU.

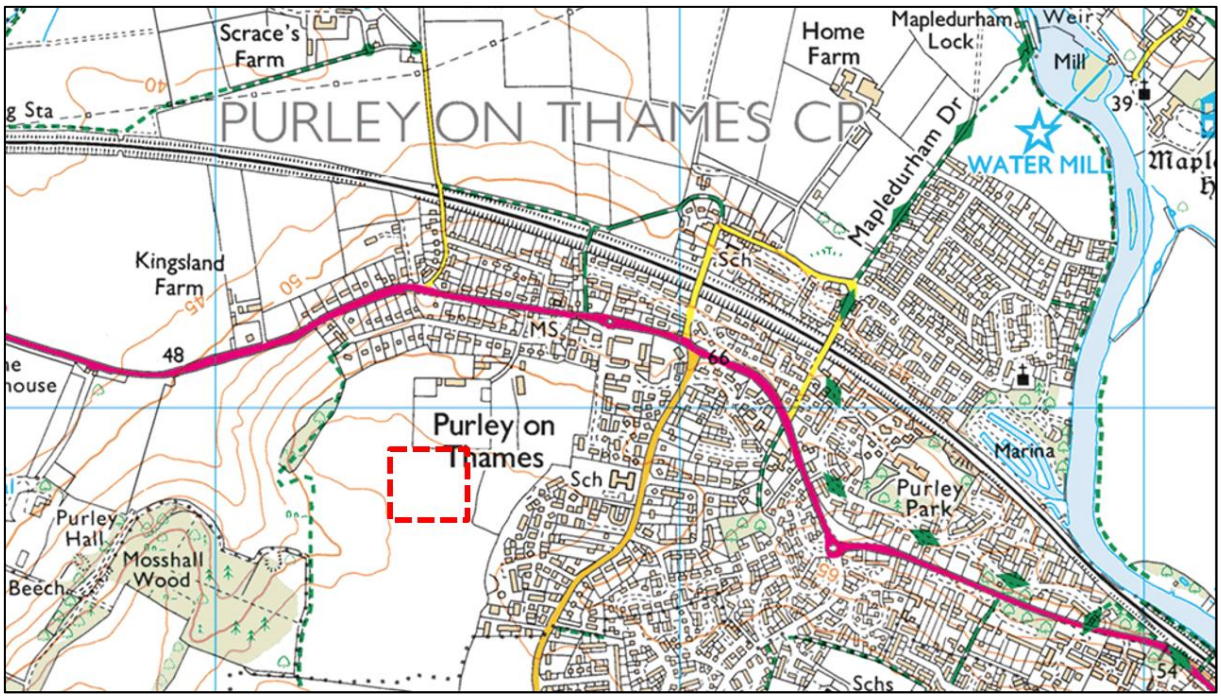

Figure 1. Site location (dashed red line). Location indicative only and not to scale.

The development proposal is for the construction of a new cricket facility with a five-pitch square plus one non-turf cricket pitch. The new outfield is to accommodate three winter games pitches of the following dimensions:

- 82 m x 50 m (Standard FA size for YouthU13/U14 9 v 9).
- 55 m x 37 m (Standard FA size for Mini-Soccer U9/U10 7 v 7).
- 37 m x 27 m (Standard FA size for Mini-Soccer U7/U8 5 v 5).

The development area is bounded by agricultural land to the east, south and west, and the existing recreation ground to the north (Figure 2).

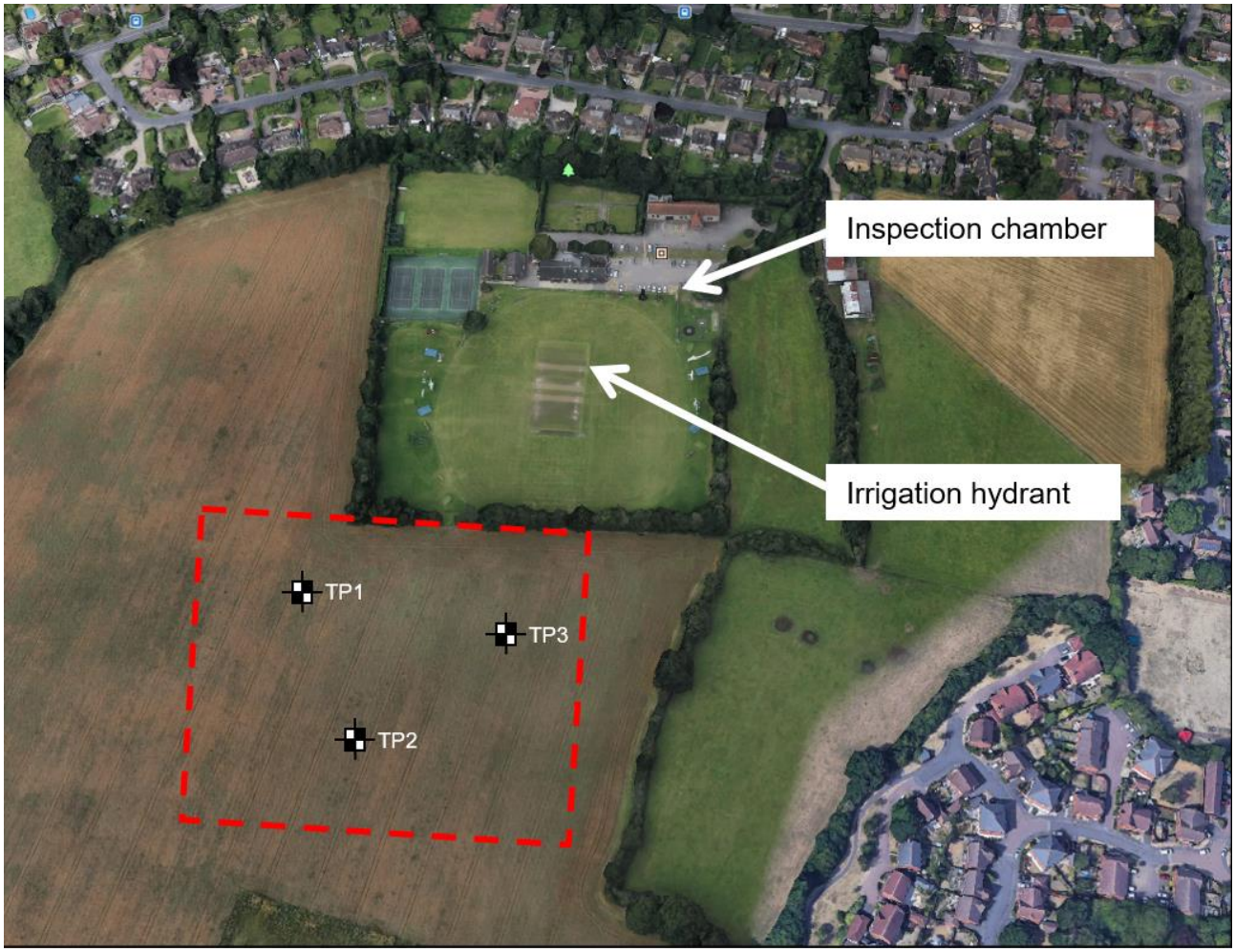

Figure 2. Site overview. The red hatched line demarcates the extent of the site (indicative and not to scale). TP1 – TP3 mark the approximate locations of the test pits.
(Aerial photograph courtesy of Google Earth Pro).

2.1.2 Arrangements to visit the site can be made by contacting

Organisation: Purley-on-Thames Parish Council
Contact Number: (01189) 844507
Email: clerk@purleyonthames-pc.gov.uk

2.2 GENERAL SCOPE

The work proposed in this specification shall be as follows:

PART A EARTHWORKS AND ESTABLISHMENT

- Transport and preliminaries
- Site clearance (spray off existing vegetation using a total herbicide).
- Cultivation to a depth of 300 mm.
- Topsoil strip and removal to temporary stockpile on-site.
- Site remodelling via balanced cut and fill earthworks to establish new levels.
- Placement and grading of preserved topsoil.
- Stone removal from the topsoil.
- Cultivation to restore levels.
- Stone burial.
- Surface grading.
- Placement and grading of a 50 mm deep rootzone carpet.
- Fertiliser application.
- Seeding.
- Reinstatement of damage.
- Production of as-built survey, O&M Manual and H&S File.

PART B: CRICKET SQUARE CONSTRUCTION

- Preliminaries.
- Setting out.
- Construction of a five-pitch cricket square.
- Prepare seedbed.
- Fertilise.
- Seed.
- Installation of a water supply to the existing and new squares.
- Removal of spoil from site.

PART C: NON-TURF CRICKET PITCH

- Supply and install a non-turf cricket pitch suitable for match play [30 m x 2.74 m] to meet with ECB performance standards for non-turf cricket pitches intended for outdoor use.
- Removal of spoil from site.

PART D INITIAL AGRONOMIC MAINTENANCE [OUTFIELD]

- Preliminaries.
- Mowing
- Fertiliser application.
- Selective herbicide application (if required).
- Overseeding (if required)
- Aeration / decompaction.
- Pest and disease control (if required).
- Supply and installation of pitch corner markers.

PART E: INITIAL AGRONOMIC MAINTENANCE [CRICKET SQUARE]

- Preliminaries.
- Mowing
- Fertiliser applications
- Herbicide (if required)
- Pesticide/Fungicide application (if required)
- Rolling
- Verti-cutting
- Scarification
- Spiking
- Over-seeding

- Topdressing

Please refer to the Schedule of Drawings (Table 1) for the land drainage design.

Table 1 Schedule of Drawings.

Drawing No.	Title
Tgms1228.2-1	Goosecroft Recreation Ground - Proposed and Existing Levels
Tgms1228.2-2	Goosecroft Recreation Ground - Earthworks Isopachytes

General Notes

- All earthworks to be carried out using equipment fully equipped with laser grade control.
- All ancillary equipment to be fitted with low ground pressure tyres.
- Diesel or any other deleterious matter shall be prevented from contaminating the site etc. Any such matter allowed to pollute the site shall be removed together with all affected soil and/or plant material and carted to tip at the Contractor's own expense. Any material necessary to make good the soil formation or plant material will be provided by the Contractor and will be of the type and quality of the original material prior to damage, and must be approved by the Contract Administrator.
- Stones are a particular safety hazard and are a key component of Performance Quality Standards. The Contractor should note that the imported materials must not include stones or any material outside the specified particle size distribution.
- Provisional sums will not be considered as a compliant bid, and the specification must be achieved for the price stated by the Contractor in the tender return documents.
- It is the Contractor's responsibility to conduct searches to determine the presence of any services and utilities running through, over and/or around the working area. Contractors should conduct site investigations to determine the location of any service or utilities as per good health and safety procedures. All this should be before the commencement of any work on site.
- Prior to start on site, the Contractor shall prepare a photographic Schedule of Condition and agree same with the Contract Administrator.
- The works listed below are not necessarily to be conducted in chronological order. It is the responsibility of the contractor to implement all items specified to the desired standards irrespective of the order that they are presented in this document.

2.3 DETAILED SPECIFICATION

PART A: EARTHWORKS, DRAINAGE AND ESTABLISHMENT

Item **Operation**

P1 The Contractor shall allow for all necessary fencing and signage in order to secure the working and site compound areas and haulage routes in order to protect members of the public from the works. It is anticipated that Heras fencing shall be used to demarcate the working areas and site compound. Footpath crossing points shall be marked appropriately. The location for deep excavations (e.g. inspection chamber construction) shall be protected with Heras (or similar) fencing.

P2 The Contractor shall allow for compliance with all relevant Health and Safety regulations including the Construction Design and Management regulations (CDM) 2015. This shall include performing the role of Principal Contractor.

P3 The Contractor shall allow for the provision of all welfare facilities for staff.

P4 The Contractor shall allow for the mobilisation and demobilisation of all necessary plant to complete the project.

P5 The Contractor shall allow for compliance with all Conditions of Contract.

P6 The Contractor shall locate and mark the path of the electrical cables in and around the project area. The Contractor will be responsible for making good any damage caused by construction.

A1 Setting out

A1.1 The Contractor shall set out the working area.

A2 Site clearance and enabling works

A2.1 Spray off the existing vegetation in the working area with an approved, systemic, non-residual total herbicide in accordance with the manufacturer's instructions and an appropriate COSHH assessment by qualified personnel. A period of 14 days shall elapse between spraying and undertaking cultivations to allow sufficient time for the vegetation to senesce. A second application of total herbicide may be required just prior to cultivation to ensure complete vegetation control.

A3 Topsoil cultivation and removal

A3.1 When ground conditions are suitable (topsoil in a dry and friable state), the working area shall be rotary cultivated in order to incorporate any remaining organic matter residue and to provide a suitable tilth for stripping.

A3.2 Under suitable ground conditions (i.e. topsoil in a dry and friable state), the topsoil shall be stripped from the development area and removed to a stockpile on-site for re-use. Only true topsoil shall be stripped which shall not be contaminated with subsoil. This is assumed to be in the region of 300 mm however topsoil depths may be variable. It is understood that land immediately adjacent to the site will be made available to accommodate a temporary stockpile to avoid "double handling".

A3.3 The topsoil shall be piled at a height no greater than 2.5 m and carefully consolidated to ensure minimal infiltration of rainwater.

A4 Cut and fill remodelling earthworks

A4.1 Please refer to drawing **TGMS1228.2-1** for proposed and existing levels, and drawing **TGMS1228.2-2** for Isopachytes. All earthmoving equipment shall be fitted with laser grade control to ensure that the specified formation levels of are achieved.

A4.2 Cut and fill and re-grading operations shall be carried out when the existing subsoil material is below its plastic limit. The subsoil/fill material shall be compacted into place in layers of not more than 150 mm thickness to a density similar to that of the undisturbed subsoil.

A4.3 The formation surface and surrounding areas shall be graded to even, flowing contours such that there are no deviations >30 mm beneath a 2 m straight edge.

A4.4 The completed formation surface shall form a smooth transition with adjacent areas of the site. There shall be no slopes greater than 1:3.

A4.5 The resulting cuttings and embankments shall be trimmed to the appropriate gradient with even contours.

A4.6 The subsoil shall be loosened (i.e. subsoil cultivation using a winged cultivator, shakaerator or similar approved machine) in two directions in order to alleviate compaction and remove any smear that may have resulted from the earthworks.

A4.7 Following loosening, the subsoil shall be lightly tracked using low ground pressure tracks to consolidate but not overly compact the formation surface.

A4.8 Following tracking, the surface level uniformity of the subsoil formation surface shall achieve a tolerance of no more than a 30 mm deviation beneath a 2 m straight edge.

A5 Topsoil return

A5.1 Following final grading and trimming of the subsoil, the stockpiled topsoil shall be spread over the development area with minimal trafficking including embankments and batter slopes.

A5.2 A stone separation operation shall be undertaken to remove as many stones >20 mm in any dimension as practical from the upper 100 mm depth of topsoil by stone picking or in-situ stone separation techniques. This shall be undertaken with a modified potato harvester, beech cleaner or other suitable approved equipment and may require multiple passes. The stones shall be disposed of on-site as part of the access track construction. The contractor should make themselves aware of the stone content prior to the works commencing.

A6 Cultivations

A6.1 The topsoil in the development area (i.e. pitches, embankments and surrounds) shall be lightly cultivated to a depth of 100 mm in order to restore surface levels and blend some topsoil in the sand backfill above the lateral drains to reduce the risk of settlement and to improve water and nutrient holding capacity.

A6.2 Any stones greater than **20 mm in any dimension** shall be removed from the top 50 mm of the surface by stone burial techniques. **No sharp stones, pottery, ceramics or glass** shall be present in the upper 50 mm of the surface on the pitch areas.

A6.3 Surface level uniformity of the finished surfaces shall achieve a tolerance of:

- no more than a 10 mm deviation beneath a 2.0 m straight edge on the playing surfaces and safety margins, and
- no more than 20 mm deviation beneath a 2.0 straight edge elsewhere.

A7 Rootzone carpet installation

A7.1 A 50 mm deep rootzone carpet shall be placed and graded over the outfield.

A7.2 The rootzone material shall be of the following specification:

7.2.1 Comprise 80% sand compliant with the following grading:

- V. coarse sand (2.0 – 1.0 mm) <5%
- Coarse sand (1.0 – 0.5 mm) 10 – 20%
- Medium sand (0.5 – 0.25 mm) 55 – 70%
- Fine sand (0.25 – 0.15 mm) 10 – 20%
- V. fine sand (0.15 – 0.05 mm) <5%

7.2.2 The sand shall be non-saline (electrical conductivity < 0.75 dS m^{-1}) and contain less than 0.5% (w/w) $CaCO_3$.

7.2.3 The rootzone shall also:

- Comprise 20% sandy soil.
- Contain a minimum organic matter content of 2% (LOI)
- Incorporate a slow-release fertiliser
- Have a capillary rise of no more than 250 mm at a dry bulk density of 1.65 Mg cm^{-3}
- Have at least 15% air-filled porosity in the top 50 mm of the capillary rise
- Have a hydraulic conductivity of at least 100 mm h^{-1} at 30 cm tension and a dry bulk density of 1.60 Mg m^{-3}

7.2.4 The Contractor shall supply an independent laboratory report on the proposed rootzone to include a particle size distribution (with appropriate sieve sizes to determine 7.2.1, calcium carbonate content, pH, organic matter content, saturated hydraulic conductivity and air-filled porosity at the stated dry bulk density.

A7.3 The rootzone shall be placed to a consolidated depth of 50 mm over the playing field.

A7.4 Incorporation of rootzone amendments is to be agreed with the Client but may include;

13.4.1 TerraCottem at 25 g m^{-2}

13.4.2 Zeolite at 200 g m^{-2}

13.4.3 STEP-Hi-Mag mini-granular fertiliser at 10 g m^{-2}

13.4.4 Vaminoc-G granular mycorrhizal fungal inoculant at 200 kg ha^{-1}

13.4.5 Sierrablen Plus Active 4-5 month controlled release fertiliser at 35 g m^{-2}

A7.5 The rootzone shall be consolidated (but not overly compacted) to achieve a dry bulk density of approximately 1.5 Mg m^{-3}.

A7.6 Once placed, the rootzone shall be graded such that the surface level uniformity shall achieve a tolerance of no more than a 10 mm deviation beneath a 2.0 m straight edge.

A8 Fertiliser application

A8.1 The cultivated area shall be fertilised with an appropriate pre-germination fertiliser of 10:15:10 formulation at a rate of **70 g m^{-2}** at least 3 days prior to seeding. This should be lightly worked into the seedbed during final cultivations.

A9 Seeding

A9.1 A suitable 100% Perennial Ryegrass seed mix shall be drilled @ **50 g m^{-2}** in at least three directions. The seed mix shall be made up from at least three varieties each with a

minimum rating for the mean of live ground cover and visual merit of 7.0 as listed in the latest BSPB Turf grass Seed Book, Table S1: Perennial Ryegrass, Sports Uses.

A9.2 Prior to seeding, mix the seed with a mycorrhizal coating at a rate of 3 kg ha^{-1}.

A9.3 The seed shall have a certified germination of not less than 80% and a certified purity of not less than 90%. Total weed seed content shall not be more than 0.5% and the total content of other crop seeds shall not exceed 1%.

A10 Reinstatement of damage

A10.1 All damage caused by plant and vehicle movement to the playing fields and identified / agreed with the Contract Administrator shall be made good by:

10.1.1 Cultivating the affected area to below the depth of damage using a rotary cultivator or similar equipment. Care must be taken with the timing of this operation to avoid smearing on the base of the cultivation. Any weeds, rubbish and stones over 20 mm gauge must be removed and disposed of on-site as directed by the Contract Administrator.

10.1.2 A seedbed should then be prepared using a power harrow.

10.1.3 Pre-seeding fertiliser (10:15:10) to be applied @ 70 g m^{-2} over the reinstated area a minimum of 5 days prior to seeding.

10.1.4 A suitable Perennial Ryegrass dominated seed mix shall be drilled at a rate of 35 g m^{-2} in two directions. The seed mix shall be made up from at least three varieties each with a minimum rating for the mean of live ground cover and visual merit of 7.0 as listed in the latest BSPB Turf grass Seed Book, Table S1: Perennial Ryegrass, Sports Uses.

10.1.5 The seed shall have a certified germination of not less than 80% and a certified purity of not less than 90%. Total weed seed content shall not be more than 0.5% and the total content of other crop seeds shall not exceed 1%.

10.1.6 The finished levels for seeding shall, unless otherwise indicated on the drawings, be perfect to the surrounding contours and 25 mm above any adjacent hard surfaces.

A11 As-built survey, O&M Manual and H&S File

A11.1 An as-built/laid survey of the construction shall be carried out and provided to the Client in both pdf and dwg formats. The survey should indicate the location and type of all materials used including the drainage and the relevant diameters and depths of the installation.

A11.2 Information on materials and methods used, and the operation and maintenance of all systems. This should be provided to the Contract Administrator for inclusion in the O&M manual and H&S files as per the requirements of CDM 2015.

PART B: CRICKET SQUARE CONSTRUCTION

Item	Operation
P1	The Contractor shall allow for all necessary fencing and signage in order to secure the working and site compound areas and haulage routes in order to protect members of the public from the works. It is anticipated that Heras fencing shall be used to demarcate the working areas and site compound. Footpath crossing points shall be marked appropriately. The location for deep excavations (e.g. inspection chamber construction) shall be protected with Heras (or similar) fencing.
P2	The Contractor shall allow for compliance with all relevant Health and Safety regulations including the Construction Design and Management regulations (CDM) 2015.
P3	The Contractor shall allow for the provision of all welfare facilities for staff.
P4	The Contractor shall allow for the mobilisation and demobilisation of all necessary plant to complete the project.
P5	The Contractor shall allow for compliance with all Conditions of Contract.
P6	Preliminaries within the Work Schedules (Part A) refers to the entire project encompassing all parts of the specification and maintenance i.e. there should be one value for prelims for the entire works.

B1 Setting out

B1.1 The Contractor shall set out the working area. Please refer to Drawing No. **TGMS1228.2-1** for details.

B2 Construction of a five-pitch cricket square

B2.1 The area for the cricket square shall be excavated using laser-controlled equipment to produce a surface level 150 mm below proposed finished levels (cricket square to be 25 mm higher than outfield surrounds. The topsoil arisings shall be disposed of on-site. The formation surface shall be consolidated and then lightly cultivated to produce a suitable keying surface to accept imported cricket loam. The cricket square should be constructed on a single plane to match the levels of the surrounding outfield.

B2.2 The formation surface shall be consolidated and then lightly cultivated to a depth of 10 mm to produce a suitable keying surface to accept imported cricket loam. The cricket square should be constructed on a single plane to match the levels of the surrounding outfield.

B2.3 Following this, 50 mm depth, at a dry bulk density of 1.65 Mg m^{-3}, Surrey Loams Limited's Cricket Construction Base Loam shall be placed onto the prepared formation surface.

B2.4 The formation surface shall be consolidated and then lightly cultivated to a depth of 10 mm to produce a suitable keying surface to accept imported cricket loam. The cricket square should be constructed on a single plane to match the levels of the surrounding outfield.

B2.5 Following this, 100 mm depth, at a dry bulk density of 1.65 Mg m^{-3}, of Surrey Loams Limited's GOSTD 125 cricket loam (screened down to 4 mm) with a soil binding strength of no less than 60 kg (Motty test) shall be placed onto the prepared formation surface.

B2.6 The loam should be laid in layers of no greater than 50 mm, with care taken to ensure the layers are well keyed into each other (including into the underlying topsoil) through the use of a spiked harrow, sheep's-foot roller or similar implement. Each layer shall be firmed through tracking prior to spreading the next layer. The final layer should be graded to a precise level with a tolerance of no more than 5 mm deviation under a 3.0 m straight edge. The cricket square should be 25 mm higher than the surrounding outfield and feathered into the outfield.

B2.7 Once the proprietary cricket loam is laid, the square shall be firmed such that a final average dry bulk density of 1.65 Mg m^{-3} is achieved throughout the top 75 mm depth once the square has established.

B2.8 All spoil shall be disposed of on-site.

B3 Final seedbed preparations, fertiliser application and seeding of the cricket square

B3.1 Once the full depth of loam has been laid and firmed, the surface should then be lightly raked in 2 directions and any stones removed. A pre-seeding fertiliser such as 6:9:6 amenity approved granular fertiliser should be incorporated in the seedbed at a rate of 70 g/m^2.

B3.2 The cricket square should be sown at a rate of 50 g m^{-2} in a union-jack pattern using a grass seed mixture of Dwarf Perennial ryegrass containing at least 3 cultivars with a mean score of 6.5 or more in the Mean Score of Shoot Density, Fineness of Leaf, Slow Regrowth and Visual Merit as listed in the latest BSPB Turfgrass Seed Book for a mowing height of 10 – 15 mm (Series L).

B3.3 The seed shall have a certified germination of not less than 80% and a certified purity of not less than 90%. Total weed seed content shall not be more than 0.5% and the total content of other crop seeds shall not exceed 1%.

B4 Installation of a water supply to the cricket square

B4.1 Supply and install a mains-fed 10,000 L tank and pump system on a suitable concrete pad, to supply sufficient water to irrigate the cricket squares at a pressure suitable for the delivery of water over a minimum of four adjacent pitches using a travelling spinning head irrigator. The system must provide WRAS Category 5 backflow protection. The supply to the tank shall be metered for the purposes of determining the proportion of water supply to the property used for irrigation purposes. **N.B. The pump system should be sized to irrigate the two cricket squares simultaneously if required.**

B4.2 A 63 mm diameter water pipe (polyethylene), rated to at least 5 bar pressure shall be installed at a minimum depth of 750 mm leading to both the existing and new squares [Location of water supply to be confirmed on site].

B4.3 At the cricket square end, connect pipe to an aluminium standpipe/hydrant fitted with a gate valve and quick coupling (e.g. Geka) housed in a lockable, pre-cast plastic irrigation chamber sunk into the ground such that the top of the box is 20 mm lower than the surrounding grassed surface. The top of the box should be covered with synthetic turf to form a level surface with the surrounding ground/grass.

B4.4 The Contractor is responsible for the connection of the irrigation system to the mains water system as per the requirements of the current Water Supply (Water Fittings) Regulations.

B4.5 The Contractor is responsible for the safe connection (in accordance with all relevant legislation) of the irrigation pump to the mains electricity supply and supply and commission a suitable control system.

B4.6 Removal of spoil (on-site)

PART C: NON-TURF CRICKET PITCH [2.74 m x 30.00 m]

Item **Operation**

P1 The Contractor shall allow for all necessary fencing and signage in order to secure the working and site compound areas and haulage routes in order to protect members of the public from the works. It is anticipated that high visibility mesh fencing shall be used to demarcate the working areas. The site compound shall be secured with Heras (or similar) fencing. Footpath crossing points shall be marked appropriately. The location for deep excavations (e.g. inspection chamber construction) shall be protected with Heras (or similar) fencing.

P2 The Contractor shall allow for compliance with all relevant Health and Safety regulations including the Construction Design and Management regulations (CDM) 2015.

P3 The Contractor shall allow for the provision of all welfare facilities for staff.

P4 The Contractor shall allow for the mobilisation and demobilisation of all necessary plant to complete the project.

P5 The Contractor shall allow for compliance with all Conditions of Contract.

P6 Preliminaries within the Work Schedules (Part A) refers to the entire project encompassing all parts of the specification and maintenance i.e. there should be one value for prelims for the entire works.

C1 Setting Out

C1.1 The Contractor shall set out the working area. Please refer to Drawing No. TGMS1228.2-1 for details.

C2 Construction Of Non-Turf Cricket Pitch [2.74 m X 30.00 m]

C2.1 Supply and install a 2.74 m x 30.00 m non-turf cricket pitch [Match Standard] in the location indicated on Drawing No. TGMS1228.2-1. The artificial pitch shall be an ECB approved pitch system. Details of ECB approved suppliers and installers can be found at: https://resources.ecb.co.uk/ecb/document/2021/09/09/6dc5aac8-ef1c-4a29-a5ea-7fbe2a54d07d/ECB-Approved-NTP-Systems-_-Suppliers-100120.pdf

C2.2 The Contractor shall comply with the ECB's Code of Practice and Technical Requirements for the Design and Installation of Non-Turf Cricket Facilities which can be found at: https://platform-static-files.s3.amazonaws.com/ecb/document/2016/08/29/2e1f7dbb-1eab-4a62-87b6-c544be7bf0b8/Code_of_practice_non_turf_cricket_facilities.pdf

C2.3 A single performance pad system is anticipated comprising synthetic turf laid on a performance pad over unbound mineral over a stone base formation. All arisings shall be disposed of on-site in a location agreed with the Contract Administrator. Details and specification of the proposed non-turf cricket pitches must be submitted with the completed tender submission. The selection of non-turf cricket pitch will be subject to approval by the Contract Administrator or their representative.

C2.4 The non-turf cricket pitch shall be installed at a consistent grade and level to tie in perfectly with the surrounding outfield and natural turf cricket square.

C2.5 The non-turf cricket pitch shall conform to the "Performance Standards for Non-Turf Cricket Pitches Intended for Outdoor Use [TS6]" published by the ECB with respect to requirements for performance, construction, materials and product identification. The required standard is Club/Recreational. The Contractor will be required to undertake performance testing of the pitch after 200 hours of use in accordance with the methods identified in the above-mentioned document using an ECB approved test house.

C2.6 The Contractor shall provide a warranty for these works as follows:
Workmanship: 1 Year.
Synthetic materials: 5 Years.
Base materials: 10 Years.

C2.7 The Contractor shall supply an O & M manual for the non-turf cricket pitch to facilitate their future maintenance.

C3 Reinstatement of damage

C3.1 All damage caused by plant and vehicle movement to the playing fields and identified / agreed with the Contract Administrator shall be made good by:

3.1.1 Cultivating the affected area to below the depth of damage using a rotary cultivator or similar equipment. Care must be taken with the timing of this operation to avoid smearing on the base of the cultivation. Any weeds, rubbish and stones over 20 mm gauge must be removed and disposed of on-site as directed by the Contract Administrator.

3.1.2 A seedbed should then be prepared using a power harrow.

3.1.3 Pre-seeding fertiliser (10:15:10) to be applied @ 70 g/m^2 over the reinstated area a minimum of 5 days prior to seeding.

3.1.4 A suitable 100% Perennial Ryegrass seed mix shall be drilled at a rate of 35 g/m^2 in two directions. The seed mix shall be made up from at least three varieties each with a minimum rating for the mean of live ground cover and visual merit of 7.0 as listed in the latest BSPB Turf grass Seed Book, Table S1: Perennial Ryegrass, Sports Uses.

3.1.5 The seed shall have a certified germination of not less than 80% and a certified purity of not less than 90%. Total weed seed content shall not be more than 0.5% and the total content of other crop seeds shall not exceed 1%.

3.1.6 The finished levels for seeding shall, unless otherwise indicated on the drawings, be perfect to the surrounding contours and 25 mm above any adjacent hard surfaces.

PART D: 12 MONTHS INITIAL AGRONOMIC MAINTENANCE [OUTFIELD]

Item **Operation**

P1 The Contractor shall allow for all necessary fencing and signage in order to secure the working and site compound areas and haulage routes in order to protect members of the public from the works. The site compound shall be secured with Heras (or similar) fencing. Footpath crossing points shall be marked appropriately. The location for deep excavations (e.g. inspection chamber construction) shall be protected with Heras (or similar) fencing.

P2 The Contractor shall allow for compliance with all relevant Health and Safety regulations including the Construction Design and Management regulations (CDM) 2015.

P3 The Contractor shall allow for the provision of all welfare facilities for staff.

P4 The Contractor shall allow for the mobilisation and demobilisation of all necessary plant to complete the project.

P5 The Contractor shall allow for compliance with all Conditions of Contract.

P6 Preliminaries within the Work Schedules (Part A) refers to the entire project encompassing all parts of the specification and maintenance i.e. there should be one value for prelims for the entire works.

D1 **Mowing**. The Contractor shall carry out the first cut with a rotary mower when the grass has reached a height of 50-60 mm. The first three cuts shall maintain the grass at 50 mm. Checks for stones; hand–picking shall be carried out, if necessary, before each cut. After the first three cuts, the Contractor shall gradually reduce the cut height to 30 mm, never removing more than 1/3rd of the leaf blade, with low ground pressure cylinder mowing equipment for the remainder of the contract period. During this period the grass must never be allowed to exceed a height of 50 mm unless ground conditions are too wet for cutting. It is anticipated that **30 cuts** will be required in total.

D2 **Granular Fertilisers**. The contractor shall allow for supplying and applying the following fertilisers (May to October). Applications at the beginning of establishment will depend on sowing date and weather conditions. Plan for the application of fertiliser to commence 4 weeks after grass establishment using the following programme as a guide:

Month	Fertiliser (%)					Quantity (kg ha^{-1})
	N	P_2O_5	K_2O	Mg	Fe	
May	12	6	6	0	0	350
June	12	6	6	0	0	350
Aug	12	0	9	0	1.0	350
Oct	4	4	8	2.0	4.0	350

Fertiliser shall be applied uniformly using calibrated mechanical equipment and irrigated in if no rain has fallen within 48 hours of application.

D3 **Liquid Fertiliser**. Supply and apply liquid fertilisers as follows:

GS Consolidate Plus 100 litres
GS BioCarb 25 litres

In 600 litres of water to give an even coverage on two occasions approximately two weeks after emergence and again 4-6 weeks later. Both products available from Growing Solutions Ltd, Farington, Lancs.
www.growingsolutionsltd.co.uk

Liquid fertiliser shall be applied uniformly using a calibrated sprayer.

D4 **Slow-release granules**. Slow-release granules such as Symbio Caviar 10-0-4 containing nutrients, fulvic and humic acids and amino acids shall be applied at a rate of 350 kg ha^{-1} on two occasions between June and August.

D5 **Plant Growth Regulator**. The contractor shall supply and apply Syngenta PrimoMAXX with liquid feed as per the manufacturer's label and relevant pesticide regulations at 0.4-0.6 L ha^{-1}. Timing to be after two true leaf emergence and 80-90% ground cover.

D6 **Weed control (if required)**. The contractor shall plan for the application of an approved selective herbicide 6 months after establishment. This shall be applied at least two weeks after any fertiliser treatment and at a time when grass growth is strong and healthy. Do not apply herbicide during periods of potential turf stress i.e. if the weather is hot and dry or if the weather is frosty. Apply herbicide strictly according to the manufacturer's label recommendations.

D7 **Overseeding (if required)**. The development area shall be overseeded using the same seed mixture as that used in the original establishment of the site at a rate of 25 g m^{-2}.

D8 **Decompaction**. Verti-drain the development area on two occasions (April and September) when ground conditions are suitable (sufficient water content to allow penetration of Verti-drain tines to full operating depth).

D9 **Pest and disease control (if required)**. Pest and diseases should be controlled using an approved control agent.

D10 **Marking Out**. The Contractor should allow for the initial line marking of the pitches on one occasion prior to handover. All lines should be in proprietary approved white line marking paint, without the mixing of herbicides or growth regulators.

D11 **Corner markers**. The square and pitch corners shall be marked using Pliflix markers or similar.

PART E: 12 MONTHS INITIAL AGRONOMIC MAINTENANCE [SQUARE]

Item Operation

P1 The Contractor shall allow for all necessary fencing and signage in order to secure the working and site compound areas and haulage routes in order to protect members of the public from the works. The site compound shall be secured with Heras (or similar) fencing. Footpath crossing points shall be marked appropriately. The location for deep excavations (e.g. inspection chamber construction) shall be protected with Heras (or similar) fencing.

P2 The Contractor shall allow for compliance with all relevant Health and Safety regulations including the Construction Design and Management regulations (CDM) 2015.

P3 The Contractor shall allow for the provision of all welfare facilities for staff.

P4 The Contractor shall allow for the mobilisation and demobilisation of all necessary plant to complete the project.

P5 The Contractor shall allow for compliance with all Conditions of Contract.

P6 Preliminaries within the Work Schedules (Part A) refers to the entire project encompassing all parts of the specification and maintenance i.e. there should be one value for prelims for the entire works.

E1 **Mowing**. Once the seed has germinated allow the sward to grow to 40 mm height before cutting the area with a rotary mower to tip the leaf blades. After the initial grass cut, keep the grass topped at a height of 30 mm with a pedestrian rotary mower for the next three cuts. Reduce height of cut to 25 mm with a pedestrian cylinder mower and maintain at this height until April. In April, gradually reduce height of cut from to 25 mm to 15 mm and maintain for the remainder of the contract period, unless otherwise instructed. Allow for **40 cuts** in total. Never allow the grass to exceed a length of 5 mm above the cutting height. All clippings to be boxed-off for disposal on-site as directed by the Contract Administrator.

NB. The initial mowing of the cricket square shall be with a pedestrian rotary mower with a roller or hover action. Narrow wheels should be avoided to prevent wheel ruts.

E2 **Fertiliser**. The Contractor shall allow for a sufficient number of fertiliser applications to maintain healthy growth and colour throughout the contract period. Plan for the application of fertiliser to commence four weeks after grass establishment using the following programme as a guide:

Nov 5:5:10 + Fe at 350 kg ha^{-1}
Mar 12:6:6 at 350 kg ha^{-1}
Jun Controlled release fertiliser 14:4:14 at 350 kg ha^{-1}
Sep Controlled release fertiliser 10:5:15 @ 350 kg ha^{-1}

E3 **Weed control**. The Contractor shall plan for the application of an approved selective herbicide 6 months after establishment. This shall be applied at least two weeks after any fertiliser treatment and at a time when grass growth is strong and healthy. Do not apply herbicide during periods of potential turf stress i.e. if the weather is hot and dry or if the weather is frosty. Apply herbicide strictly according to the manufacturer's label recommendations.

E4 **Pest & Disease Control if required)**. Pest and diseases should be controlled using an approved control agent. All pesticides should have the relevant DEFRA, MAPP or HSE number on the label of the container to prove compliancy with UK regulations.

E5 **Verti-cutting**. Verti-cut the square in two directions on a monthly basis from May to September (6 occasions in total).

E6 **Scarification**. Close mow the cricket square to 5-10 mm in September (year following construction) and then scarify using a Graden (or similar) working 3 mm into soil surface. Remove arisings to disposal on-site by blowing or brushing.

E7 **Spiking**. Following scarification, the square should be spiked, working to a depth of approximately 150 mm. This should only be undertaken under suitable ground conditions following the guidelines produced by the IOG and ECB (TS4).

E8 **Over-seeding**. Over-seed the square after scarification at a rate of 25 g m^{-2}. Use the same mix as that detailed for establishment.

E9 **Topdressing**. Top dress the square in the September (approx. 12-months after establishment) at the rate of approximately 100 kg/strip using an identical specification of loam to that used in the original construction. Work the dressing into the surface.

E10 **Rolling**. Commence pre-season rolling in accordance with the Cranfield Guidelines https://www.durhamcricket.co.uk/wp-content/uploads/2017/10/guidelines-for-rolling-in-cricket-10409.pdf This should be based on rolling on a little and often basis, gradually increasing the weight of the roller as the square begins to dry out. Do not roll if the soil is too wet as this will at best be ineffective and at worst will corrugate the surface of the square. There should be no more than 4 passes over the same strip of the square during a rolling session and the square can be rolled in any direction but in preparation for play rolling should be carried out in the direction of play only. Ideally, the soil should be allowed to dry out in between rolling sessions.

As a guide allow for the following:

- Feb – early May: 20 hours over 5 occasions.
- Early May – September: 20 hours over 5 occasions

2.4 WORK SCHEDULES

Please refer to the accompanying MS Excel spreadsheet:

Tgms1228.2 Goosecroft Pitchworks Work Schedules 31 08 22.xlsx REV1 04 10 22

2.5 INDICATIVE WORK PROGRAMME

The timing of the project is critical - it is essential that earthworks only take place in good, dry ground conditions, which limits the window for these works to the late spring / summer. Grass is ideally sown in early autumn to maximise the balance between moisture and temperature. The grass must be allowed to establish a healthy and deep root network and mature canopy to resist the stresses applied once in use.

For this reason, the project should follow the proposed timetable. Deviation from this (for example starting the project in Autumn) carries significant risk of delays to the programme and could extend the project into Year 3. Earthworks must not be completed in poor ground conditions, which typically excludes October-April and the majority of May.

Indicative construction programme – Purley-on-Thames

	Year	YEAR 1												YEAR 2												YEAR 3											
	Month	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Ideal project timescale	Mobilisation of Contractor(s)																																				
	Site preparation																																				
	Earthworks																																				
	Installation of Cricket Square																																				
	Grass Establishment																																				
	Maintenance period																																				
	Start play (football)																																				
	Start play (cricket)																																				

Cricket squares generally require an 18-month maintenance programme to assist with the consolidation of cricket loams. Ball performance on cricket squares in their infancy will be characterised by low and slow ball bounce until a period whereby the soils have consolidated sufficiently. Cricket square performance will improve annually provided the requisite maintenance regimes are implemented.

2.6 DESIGNERS ASSESSMENT OF RESIDUAL RISK

2.6.1 The project:

- Name: Goosecroft Recreation Ground Expansion Project.
- Nature: Natural turf pitch construction works.
- Location: Land adjacent to Goosecroft Recreation Ground, Goosecroft Lane, off Beech Road, Purley-on-Thames, near Reading, Berkshire RG8 8DR.

2.6.2 Nature of work:

PART A EARTHWORKS AND ESTABLISHMENT

- Transport and preliminaries
- Site clearance (spray off existing vegetation using a total herbicide).
- Cultivation to a depth of 300 mm.
- Topsoil strip and removal to temporary stockpile on-site.
- Site remodelling via balanced cut and fill earthworks to establish new levels.
- Placement and grading of preserved topsoil.
- Stone removal from the topsoil.
- Cultivation to restore levels.
- Stone burial.
- Surface grading.
- Placement and grading of a 50 mm deep rootzone carpet.
- Fertiliser application.
- Seeding.
- Reinstatement of damage.
- Production of as-built survey, O&M Manual and H&S File.

PART B: CRICKET SQUARE RE-LOCATION

- Preliminaries.
- Setting out.
- Construction of a five-pitch cricket square.
- Prepare seedbed.
- Fertilise.
- Seed.
- Installation of a water supply to the existing and new squares.
- Removal of spoil from site.

PART C: NON-TURF CRICKET PITCH

- Supply and install a non-turf cricket pitch suitable for match play [30 m x 2.74 m] to meet with ECB performance standards for non-turf cricket pitches intended for outdoor use.
- Removal of spoil from site.

PART D INITIAL AGRONOMIC MAINTENANCE [OUTFIELD]

- Preliminaries.
- Mowing
- Fertiliser application.
- Selective herbicide application (if required).
- Overseeding (if required)
- Aeration / decompaction.
- Pest and disease control (if required).
- Supply and installation of pitch corner markers.

PART E: INITIAL AGRONOMIC MAINTENANCE [CRICKET SQUARE]

- Preliminaries.
- Mowing
- Fertiliser applications

- Herbicide (if required)
- Pesticide/Fungicide application (if required)
- Rolling
- Verti-cutting
- Scarification
- Spiking
- Over-seeding
- Topdressing

2.6.3 Timescale for works:

16 Weeks + initial agronomic maintenance.

2.6.4 Existing drawings:

See Table 1 above.

2.6.5 Existing environment:

The site is an agricultural field.

2.6.6 Residual risk to construction workers:

1. Tetanus.
2. Injury from vehicle movements in and around site.
3. Excavations >0.5 m.
4. Potential fall hazard from exposed trenches prior to backfilling.
5. Fertiliser application.
6. Herbicide application.
7. Materials handling, including bulk materials handling.

2.6.7 Residual maintenance risks:

1. Handling, storage and application of pesticides.
2. Handling, storage and application of fertilisers.
3. Dust (soil).
4. Manual handling.
5. Use of machinery including tractors, mowers, rollers and others.
6. Vibration.

2.6.8 Residual operator risks:

1. Risk of acute and chronic sport injury – this risk has been minimised through the use of industry approved products and systems, material selection, the use of industry best practice design and the use of performance testing. It is the Client's responsibility to maintain the surfaces following pitch handover so that these performance and safety standards are maintained.
2. The use of sports facilities during the construction phase (this risk is owned by the Contractor and the Client and behaviour; coordination and communication are as important as physical control measures such as fencing and signage).

2.6.9 Construction materials that are hazardous to health:

1. Fertiliser
2. Soil
3. Herbicide
4. Cement

2.6.10 Site wide elements:

The working areas and haul routes shall be fenced with Heras fencing, or similar, to delineate these areas. This fencing shall be maintained until handover to the Client.

2.6.11 Method statements & risk assessments to be provided by contractor:

1. Cut and Fill earthworks
2. Topsoil return
3. Stone separation
4. Herbicide application
5. Fertiliser application

2.7 METHOD STATEMENTS

ITEM	Brief method statement (Continue on additional sheets if required)	Type / name of equipment you intend to use	Is equipment owned by the contractor?	Is equipment rented?	Will work be sub-contracted?	How many staff will be on site?
1. Cut and Fill earthworks						
2. Topsoil return						
3. Stone separation						
4. Herbicide application						
5. Fertiliser application						

2.8 SUBCONTRACTORS

Please specify the names and contact details for any subcontractors that you intend to use during the project (please continue on a separate sheet if necessary):

Name:	Contact Details:	Role:

2.9 REFERENCES

Please provide references from three recent (last 2 years) schemes where you have carried out work of a similar nature and value. Please give name, address and telephone number for the referees.

Name:	Contact Details:	Nature of work / project value (£):

2.10 CONFIDENTIALITY

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2.11 CONTACT DETAILS

TGMS
4 Doolittle Mill
Froghall Road
Ampthill
Bedfordshire
MK45 2ND

Tel: 01525 307060
Mob: 07736 476300
Email: richard.earl@tgms.co.uk