

Mr Paul Burke

*Tentelow Lane Football Field, Osterley Sports Club, Southall, Middlesex,
UB2 4LW*

Conceptual Site Model: Environmental Setting and Site Design Report

Version 1 – Application

Application ref. *EPR/GB3204HS/A001*

Our ref. 73260

=====

Prepared by:

Mayer Environmental Ltd

Transport Avenue

Brentford

Middlesex

TW8 9HA

Tel: 020 8847 3637

Fax: 020 8847 3638

www.mayer-enviro.com



Contents

CONTEXT	5
Introduction.....	5
SOURCE.....	5
Site development	6
Historical development	6
Proposed development	7
PATHWAY AND RECEPTOR.....	7
Geology.....	7
Hydrology	8
Hydrogeology	8
Man-made subsurface pathways	9
Receptor and compliance points.....	9
POLLUTION CONTROL MEASURES.....	3
Mud and debris	3
Dust minimisation	3
Plant and machinery.....	3
Basal and side slope engineering	3
Capping.....	4
Restoration/ post closure controls.....	4
MONITORING.....	4
Surface water management	4
Weather.....	4
Gas monitoring.....	5
SITE CONDITION REPORT	5

CONTEXT

INTRODUCTION

Mr Paul Burke has been commissioned by Osterley Sports Club to construct a series of earth bunds for amenity improvement at Osterley Sports Club, Tentelow Lane Football Field, Tentelow Lane, Southall, Middlesex, UB2 4LW. Mr Burke is a contractor to the site, and currently holds a U1 and an S2 exemption for the site, to support enabling works including the construction of a temporary roadway. Mayer Environmental Limited have been commissioned to assist with the application for a bespoke environmental permit for the use of waste in a deposit for recovery operation for the site to enable the use of soils (inert/ non-hazardous materials) to construct the bunds. The permit application is for Use of wastes for reclamation, restoration or improvement of land in order to use – up to 100,000 tonnes (Tier3, A25).

A summary of the environmental management system – covering waste acceptance, nuisance and pollution management and operator competence has been provided, as has a site specific Environmental Risk Assessment (based on the Environment Agency risk assessment for the standard rules for the activity). The permit application requires the compilation of the Environmental Setting and Site Design Report (ESSD) to further examine the underlying geology, hydrology, hydrogeology and demonstrate there is minimal risk to these, and pollution controls in place through the design of the project.

SITE DETAILS

Address: Tentelow Lane Football Field, Tentelow Lane, Southall, Middlesex, UB2 4LW

National Grid reference: 514140 179350

Site plans: of the proposed bunds, a level distance diagram and a plan showing the permitted area boundary have been submitted with the permit application.

Planning permission: has been granted by Ealing Council (Ref. 173108VAR) for the site to include *use of clean naturally occurring material other than soil [topsoil], recovered from sites producing construction materials, operating within the environmental permitting regime or to materials management plans where appropriate*. Contact: James Potter, Contaminated Land Officer, London Borough of Ealing.

Environment Agency: Rob Devonshire (Hertfordshire & North London) – has been contacted for pre-application advice and advised that a bespoke permit application for deposit for recovery (activity A25) should be prepared, as the site lies within an Air Quality Management Area (London Borough of Ealing) and close to a Local Wildlife Site (Tentelow Lane Woodland and Meadow) and therefore does not meet the location screening criteria for the Standard Rules for the activity (SR2015 No39).

SOURCE

Reference: Landmark Information Group Envirocheck Report (73260.001)

SITE DEVELOPMENT

The purpose of the earth bunds is to;

Improve the experience of spectators, and the capacity for viewing of the pitches, benefitting the popularity and health of the club.

Abatement of noise from the pitches in play (the removal of the source of noise is not practicable in this scenario).

Create a more substantive boundary on the southeastern border of the pitches with the neighbouring farmers' cattle grazing fields. The pitches are also used for archery practice, and children will be deterred from crossing the fence line. *NB the farmer Mr Julian Sutton, Osterley Park Farm has been informed and is welcoming of the planned work.*

The banks on the northeastern and northwestern sides will provide additional security to the sports ground. These boundaries should prevent fly tipping, which has occurred in the past.

The whole project will provide a more secure and pleasant area for the public and for neighbouring housing on the northeastern and northwestern sides, e.g. for dog walking.

HISTORICAL DEVELOPMENT

(Historical Map Slice A 1:10,000)

(Historical Map Segment A13 1:1,250)

The land use on the site, and in the surrounding areas of the site have remained consistent from early mapping dates (1868), through the 20th century (1932, 1966, 1985 to 1999, to the present day (2018).

The location of the site itself appears within Osterley park (rural common land), with no specific recreational, or horticultural use from 1868 to 1961, when the site appears as a sports ground and had no other direct uses identified.

A sports ground and housing have been developed from the west boundary to the southwest of the site by 1932, but the site itself remains parkland. The site is first identified as a sports ground in 1961. The houses around Wolsey Close (northeastern corner from site) have been built by this date.

Other housing: there has been housing (Hanwell) from ~800m northeast of the site, beyond Warren Farm, across the Grand Union canal from the site since 1896, intensifying but not coming beyond the canal to the present day. Housing in Frogmore Green from ~600m southwest of the site has been there at least since 1886, extending up towards the site and along Tentelow Lane since the 1930s, outside the boundaries of Osterley Park. In the 1960s, this area develops into Norwood Green.

Osterley Park and farmland: in the 1960s the boundary of Osterley Park retreats from the southern area of the site to across the other side of Osterley Lane, and the interim land seems to be extended into from the Aviary Bourne and Warren Farm.

Industrial: By 1966 there is a factory and other industrial uses between the railway and canal the east of the site ~1km. A sewage works appears here along the railway line in 1896, but does not appear in 1920. There have been works (/motor works) ~500m northwest of the site since the 1930s, where the railway line splits. This has intensified and is now Great Western Industrial Park.

Sensitive populations: the location across the railway line ~400-500 metres northeast of the site has been the site of a hospital since 1868 (county lunatic asylum, hospital, lunatic alsylum and a small gas works appearing on the southeastern corner of that area in 1920). The asylum is Hanwell Mental Hospital by 1935, leading to a burial ground and allotments (and no gas works), Bernards Hospital in the 1960s, and Ealing Hospital by 1985 to present day.

Infrastructure: the Brentford Branch Railway (GWR) runs west to east within 200m of the northern corner of the site (showing from 1932).

PROPOSED DEVELOPMENT

The construction of the earth bunds will require almost exclusively material types 17 05 04 soil and stones (from construction and demolition sites) not containing hazardous substances. The material is chosen for its properties in construction – to achieve the design, the stability and integrity of the material is ideal. Using only topsoils for the creation of the bunds would not achieve the compaction needed and would risk erosion and instability.

A layer of topsoil (approximately 2 inches) will be used to cover and seed the bunds, to fill small holes and to provide a surface to allow grass seed to catch. Topsoil itself would be too porous to construct the mounds effectively.

The material is suitable for its intended purpose, and will not cause environmental pollution, as demonstrated below.

PATHWAY AND RECEPTOR

Reference: Landmark Information Group Envirocheck Report (73260.001)

GEOLOGY

(Geology 1:50,000 Maps Slice A)

Artificial ground – the site itself is not worked or made ground. The nearest section of worked ground is identified along the railway line ~200m north of the site, and ~500m southwest either side and under the M4 motorway. The nearest made ground lies just beyond these worked ground descriptions, associated with the railway, motorway and canal.

Superficial geology – the site lies on the Taplow Gravel Member, a deposit of natural origin comprising sand and gravel, locally with lenses of silt, clay or peat. The Taplow Gravels have historically been excavated for use in this area however, there is no evidence of this occurring in the geological and historic maps obtained. The site also lies close to the boundary of the Lynch Hill Gravel Member, a deposit similar in properties to the Taplow gravels.

Bedrock and faults – the site and surrounding area sit on the London Clay Formation, generally described as a silty clay. Below the London Clay the Lambeth Beds and the Chalk Group are present. The Chalk Group is generally classified as a Principal aquifer and is an important groundwater resource. The presence of the London Clay acts as a barrier to pollutants entering the chalk from the surface.

The BGS Geindex website was consulted to determine any local borehole records as no site specific ground investigation has been undertaken to date. Very few records are available within close vicinity to the site. The closest is located approximately 600m to the north east. It is referenced TQ17NW15, dated 1961 and records topsoil and made ground to approx. 2mbgl, underlain by clay, sands and gravels to around 5m bgl which in turn are underlain by the London Clay. Groundwater was encountered at around 2m bgl.

HYDROLOGY

(OS Water Network Map – Slice A)

The closest surface water feature to the site is the Grand Union Canal located 61m to the north. As the canal is likely to be clay lined, the site is unlikely to have any impact on it. The quality of the canal is classified as D (fair) by the EA.

The closest river is located approx. 300m to the south and is an unnamed tributary to the lake in Osterley Park and further on to the River Brent.

The closest surface water abstraction is located 565m to the south east from the unnamed tributary and is recorded as water abstraction for commercial/industrial/public services: drinking, sanitary, cooking and washing (small garden) and also for spray irrigation.

(Site Sensitivity Context Map – Slice A)

The site is within an area with Potential for Groundwater Flooding to occur at the surface, and a small section (where the car park and Club House are) with Potential for Groundwater flooding of Property situated below ground level.

The site is not within (>200m away) from the edge of any area at risk of flooding from Rivers (Extreme Flooding from Rivers or Sea without Defences, Zone 3).

HYDROGEOLOGY

(Site Sensitivity Context Map – Slice A)

Aquifer characteristics

Groundwater vulnerability – the site is in a section of High-Intermediate Soil Class over a Principal Aquifer (Highly Permeable). The Bedrock Aquifer Designation is Unproductive Strata.

The site is not in a Source Protection Zone.

There are no abstraction wells within 500m of the site. The closest record details boreholes used for pump and treat for remediation at a position located 523m to the north. Information on the strata that the remediation is focussed on is not provided.

Groundwater flow

No information has been obtained on the groundwater flow. However, it is assumed to be to the south towards the surface water feature.

Groundwater Quality

No site specific information on groundwater quality is currently available.

MAN-MADE SUBSURFACE PATHWAYS

No subsurface pathways such as underground utilities are known to be present under the site.

3 Environment Agency identified historic landfills have been identified. The closest is located approx. 500m from the site to the west.

2 Boreholes (BGS Boreholes Depth 0-10m) are identified, along the railway line, > 300m from the site to the west-northwest and east-northeast respectively.

RECEPTOR AND COMPLIANCE POINTS

Groundwater

As the materials proposed to be used to construct the bund will potentially only contain non-hazardous pollutants, if any, then the compliance point will be the southern boundary of the site.

The only potentially significant secondary groundwater receptor identified is an abstraction well located 565m south-east of the site that is listed as being used for drinking, sanitary, cooking and washing uses.

Surface Water

Canal to east-northeast (Grand Union) ~500m

Inland river to south ~300m

Amenity (Nuisance and Health Issues)

Potential receptors include:

- Local residents – residential housing is located adjacent to the western site boundary on Wolsey Close and to the north on the opposite side of Tentelow Road.
- Dog walkers using the adjacent area
- Local road users
- Future site users – spectators using the bunds to view sports matches.
- Farmer on the adjacent land.

A local nature reserve at Long Woods located approximately 1km to the south east of the site. Due to the distance from the site the proposed works and bunds are unlikely to have any impact on this receptor.

The site is located within an Air Quality Management Zone.

Source	Potential Pathways & Impacts	Potential Receptors	Consequence	Probability	Risk Rating	Comments on Linkage Significance
Construction of bunds using clean excavated soils 17 05 04	Noise & vibrations from vehicle movements – both constructing the bunds and delivering the soils to site	<ul style="list-style-type: none"> Local Residents Farmer Dog Walkers 	Mild	Likely	Moderate/ Low Risk	The impact will be for a limited time only during the construction phase and only during working hours
		<ul style="list-style-type: none"> Air Quality Management Zone 	Mild	Unlikely	Low Risk	Due to the use of clean materials the risk of harmful dusts is low. No processing or combustion processes to be undertaken on site.
		<ul style="list-style-type: none"> Local Road Users 	Mild	Likely	Moderate/ Low Risk	There will be increased vehicle movement on local roads but good logistics and limiting deliveries to working hours and outside of rush hour will limit the impact. Wheel washing will be used to limit mud impact on local roads.

	Dust arising from bund construction – inhalation of dust particles a potential pathway	<ul style="list-style-type: none"> Local Residents Farmer Dog Walkers 	Mild	Likely	Moderate/ Low Risk	All work will be undertaken during working hours and dust suppression measures will be used during dry weather to limit dust generation.
		<ul style="list-style-type: none"> Site Workers 	Mild	Likely	Moderate/ Low Risk	Risk to site works to be controlled using PPE and dust suppression
Bunds in place constructed with clean excavated soils 17 05 04. To be covered with imported topsoil to enable grass seeding.	Direct Contact with soils	<ul style="list-style-type: none"> Site Users 	Mild	Low Likelihood	Low Risk	Site users unlikely to come into contact with soils as they will be covered by topsoil and grass In addition the soils will be tested to confirm suitability for use and no sharps (eg. glass fragments) are present.

	Leaching of potential contaminants	<ul style="list-style-type: none"> • Groundwater 	Mild	Unlikely	Low risk	<p>The risk to the underlying aquifer within the sands and gravels is considered to be low. The materials used to construct the bunds will be inert and the compaction of the bunds and covering with topsoil and grass will limit any rainwater infiltrating through the bunds and into the ground below. Although the sands and gravels are classified as a Principal aquifer they are considered to be of low sensitivity and use in an urban area such as this. The underlying chalk aquifer is considered to be protected by the presence of the London Clay.</p>
--	------------------------------------	---	------	----------	-----------------	--

POLLUTION CONTROL MEASURES

MUD AND DEBRIS

No vehicles will be allowed to leave site tracking excessive mud. The site will not be in operation on very wet days. A temporary roadway is provided throughout. A wheel wash will be established (Rhino), and a jet washer will be available to clean wheels on arrival/ departure.

DUST MINIMISATION

The likelihood of dust being raised from the activity is minimised by use of the temporary roadway, provided for all delivery vehicles, and kept damp and free of mud and debris using a wheel wash. The speed limit will be 5mph. A roadsweeper vehicle will also be available if required.

PLANT AND MACHINERY

PM10 is a measure of respirable harmful dusts, arising from industrial or economic activities. The likelihood of harmful dusts being raised from this activity is low, as the construction is from clean earth materials. There are no processing or combustion activities on site.

There will be mobile plant operating on site, running on diesel, and delivery lorries entering site. The planned works have been assessed by Ealing Council and approved. Precautions against raising normal earthworks dust has been described below. Neighbours and workers are not at risk from air quality impacts from this activity.

The following diesel powered machinery will be used:

1x 360° excavator

1x tipper lorry (9 tonne)

Jet wash

Road sweeper (if required)

2000 litres of red diesel will be stored on site for use by mobile plant. This will be maintained in drums with shut-off hose connection and a spill kit provided.

There will be no processing activities (e.g. screening or crushing) conducted on site.

The topsoil layer will be seeded by hand and raked in.

BASAL AND SIDE SLOPE ENGINEERING

The base for the bunds is flat ground – (grassed sports ground). The bunds will be constructed on level surface, from surface level up. There will be no excavation and the current surface level is ground level and up to 1m below. The bunds will reach approximately 2.4 metres in height.

The gradient and construction, and usability of the bunds for spectators will be advised and signed off by Ealing Council – checked after the first 20m of slope (shoulder) has been created, and at regular intervals.

CAPPING

The bunds will be capped with topsoil (~2 inches) and hand seeded. The timing of the grass seeding will be approved by Ealing Council in accordance with planning condition 4 (ref. 173108VAR).

The material used to construct the bunds will be excavated material sourced from building sites. Soil analysis reports are available from the sites of origin. Mr Burke will review reports and specify the cubage of material wanted, ensuring the material is clean and that no contaminated soils will be used on site. A tipper and 360° excavator will be used to shape and instate the bunds.

The size of the bunds is shown on the site plan, and the bunds are designed to reach maximum 2.5m above ground level on the eastern and southern sections.

Up to 100,000 tonnes will be required.

RESTORATION/ POST CLOSURE CONTROLS

The bunds will be finished with a hand seeded layer of grass. All temporary infrastructure (office and roadways) and plant (tipper and excavator), diesel tank and wheel wash will be removed, and either disposed as appropriate or sold for onward use. Ealing Council and Osterley Sports Club will assess the site and verify the work has been completed to a satisfactory standard.

MONITORING

SURFACE WATER MANAGEMENT

There will be no abstraction from or discharge to any surface or groundwater.

Any water used will be fresh water from taps/ hose pipe, and attenuated by the ground.

Potable water will be used to wash vehicle wheels and dampen the temporary roadway.

WEATHER

The site will not be operated when excessively wet. The work is planned primarily for the summer months, and dust remediation measures are in place for dry weather.

Temporary roadway and a wheel wash are installed, including for wet weather.

GAS MONITORING

Gas monitoring is not required as construction of bunds and deposit for recovery is at surface level and involves no excavation. Bund locations on site surfaces are at ground level and 1m below. (Gas monitoring is required >2m below ground level).

SITE CONDITION REPORT

A site condition report has been compiled in accordance with the environment agency template, and submitted as a separate document with the permit application (73260 Site Condition Report).