DESIGN AND ACCESS STATEMENT, Including BREEAM

MAY 2021

PROPOSALS FOR RENEWAL OF MARBLE HILL PLAY CENTRES BUILDINGS AND LANDSCAPE

CONTENTS

1.0 INTRODUCTION

This is very much a Community-led project. The Marble Hill Park Playcentres has been valued by generations for providing desperately needed support for new parents, acting not simply as a play zone, but as a point of contact for advice and forming friendships for mutual support. This role is even more necessary for parents with children with Special Needs and is expanded in the new facility. The provision is as much a mental and physical health initiative as a simple and enjoyable set of spaces and education medium. The design utilises emerging approaches to design for learning, memory and movement, mental health, and special needs. The project is therefore very much part of the emerging role of public spaces, as "holistic mediums" now being put in place by English Heritage in the main park and House.

In this respect we have been assisted to a remarkable degree by English Heritage and London Borough of Richmond upon Thames Planning Department, and this has really represented a collective effort involving local councillors, local professionals and residents.

The proposal renews long-established play and nursery accommodation and greatly expands the facilities to include Special Needs. This has been necessitated by the poor state of the existing buildings, which were never intended for the purpose, having been built as maintenance sheds 50 years ago.

The buildings are beyond economic repair and do not meet today's expectations on minimum standards of space, safety and control of infection. Stringent requirements to permit renewal of facilities in Metropolitan Open Space have needed justification of priority need, minimised footprint and style sympathetic to the location. The Design exercise has been to reconcile a push for more floor and better space while being less obtrusive in the landscape.

The guiding principle in renewal has been to limit extent to the spread of the existing building mass, soften the roof profile and adopt cladding that is nature-friendly. In the new design, the existing users are rehoused in wings in approximately the same position as before, with an additional wing for Special Needs Music. Each use has its own entrance but can also control entry through a secure single point. This allows the building to operate elements at different times. Likewise, each use has its own designated and secure open space.

The user groups have been provided with child-friendly spaces where scale and enclosure invite exploration and provide comfortable small areas to sit and read or play. Shapes, colour and textures invite investigation inside and out. This is not simply child-centric...the experience is intended to allow parents and children (and staff) to share discovery. A spine

through the building allows parents to deliver children and socialise in an informal way. The aim is to have an environment that is a mutually supportive network.

The building has a shape designed to reflect the soft outlines of trees and is covered by a planted or "green roof" so the carbon footprint is minimised. The Building has aimed to achieve an energy efficiency rating of "excellent" with extremely high insulation. The building is constructed from timber as a renewable resource, and off-site prefabrication would enable time in construction to be reduced to minimise disturbance in the Park. The timber framework lends itself to a curved or vaulted roof, and this provides high ceilings and acoustically friendly spaces inside. Much is made of the health from sunlight, which boosts immunity and aids mood. With the hot summers we now experience , this now needs control with awnings in the outside areas. The extending covers result in floor space where there is little distinction between "outside" and "inside", and the users will naturally extend their experiences into the wider park and woodland outside.

Legal requirements are addressed per the table below:

Regulation	Requirement	DAS Reference
9. 3 (a)	Explain the design principles and concepts that have been applied to the development	See Section 4.0
9. 3 (b)	demonstrate the steps taken to appraise the context of the development and how the design of the development takes that context into account	See Section 3.0
9. 3 (c)	explain the policy adopted as to access, and how policies relating to access in relevant local development documents have been taken into account	See Section 18.0
9. 3 (d)	state what, if any, consultation has been undertaken on issues relating to access to the development and what account has been taken of the outcome of any such consultation	See Planning Statement: Community Engagement

9. 3 (e)	explain how any specific issues which might affect access to the development have been addressed.	See Sections 18.0

1.1 PROPOSED DEVELOPMENT: BUILDING DATA

The proposal is to replace the existing buildings with a new building of 796m2 (GIA) size to provide facilities for adventurous play, music therapy and support of special needs children and their families. Information on the proposed building is set out below:

	Existing	**Proposed**
Site	.39ha	.39ha
Building gross internal*	159.3m2 plus 42m2 covered area	ground 608m2, first floor 188m2 Total = 796m2
Building gross external	188.3m2	677m2, excluding glazed cover over external play
Glazed roof over external play areas and porch		122m2
Ridges across site	5.4m above ground	varying 4.3m, 5.0m and 6.5m**

** The curves and perspective effect will lower the apparent height. The most prominent ridge, seen adjacent to the park is 4.3m, considerably lower than the existing 5.4m.

Main overall dimension East-West 30.4m Main overall dimension North-South 30.4m.

Note the high level of shelter and sun awning for vulnerable children.

1.2 THE SIZE OF FACILITY

The Report on Very Special Circumstances makes the case for increase in usage to meet need and improve viability. However this results in more than simply a pro rata increase in area to match increased child numbers. Since the buildings were first used for Nursery, Part M requirement require disabled toilets, showers and safe storage. Special needs have specific requirements:

Movement of wheel chairs and turning circles

Group assembly of the same
Time-out spaces (stimulus and calming)
Free ranging spaces
Wash down and change facilities
Massage/therapy
Cookery
High parental interaction
Advisory role
Structured performance
One to one and group teaching without distraction.

Taking best practice by Kent County Council expert design brief [Appendix 73] this represents 5m2 per child. (Per the brief this includes need for special junior and senior toilets, medical room and shower, space for normal and nursery accommodation.) Extrapolating this provision to the SEND user groups would imply a building of 990m2 gross internal. However by multi-use of spaces around shift times this has been contained at 20% less.

In the course of consultations with officers, the original proposal of around 900m2 gross internal in alternative studies has been reduced down to 796m2.

There is a large degree of shelter. This is fundamental to the inside-outside ethos where there is no distinction between outside and inside. There is need for winter outside play under shelter, and sun awnings are increasingly important. Last summer verified this growing need.

The process of arrival of parents has its own need for secure passage inwards, buggy park under shelter and retreat indoors.

2.0 OPTION APPRAISALS

Following a spot repair assessment costed a year previously and proving a repair programme was impossible, 8 core options were examined in 2018/19 and costed. The labelling differs a little from Section 7 of VSC report because the latter is addressing the MOL strategic issues. The D & A report here assesses practical renewal problems. See Very Special Circumstances report for more information on MOL strategic options.

1. **Do nothing**: The buildings lack insulation, have inadequate electrics and no installed heating. Critical mass for income is insufficient with track record of unaffordability against rising overheads. Working temperatures do not meet environmental and union requirements. English Heritage is not in favour of any of the current buildings remaining if better suited buildings are possible.

2. **Refurbish only**: Any refurbishment would be inadequate in the buildings as they currently exist. They were originally built as maintenance sheds and as such, do not provide the space and support necessary for indoor play or adequate access for additional needs children.
3. **Refurbish and extend:** Problems of asbestos content greatly exacerbate pollution threat and health hazard extends to dust generation. As a result, refurbishment cannot be phased and closure would not be financially possible with the severe loss of income. Due to the impracticality of what exists, any extension would be smaller than that now proposed and therefore inadequate. The inefficiencies and distribution of the existing buildings result in a total accommodation after extension of only 390m2, which as the VSC report demonstrates, is totally inadequate and would be a more expensive per m2.
4. **Build ground floor only** A single level appeals in terms of management but can achieve only 580m2 gross internal floor area (gia) and severely prohibits planning for disabled. Wide corridors and doors, larger and dedicated toilets, changing and wash down, and various therapy needs all add to the floor area requirement. Floor area achieved within the spread of the existing, bearing in mind MOL constraints, renders this non-viable as all charity activities are necessary to create a truly inclusive environment and cannot be fitted in.
5. **Three Level Facility (Ground, first and basement)** While all necessary space can be achieved, management, fire escape and communication problems are exacerbated while access to outside is severely limited.
6. **New ground and limited first floor** There are constraints but sufficient floor area and future flexibility is achieved. The overall gross internal floor area has been reduced from earlier studies to 796m2. The design allows faster construction due to timber framing, with consequent lower on-site Contract Preliminaries.
7. **Build Ground Floor and Basement**. Basements introduce concerns over lack of natural light and inadequate means of escape in case of fire for special needs children. The possible floor area was 929m2 but much is lost in fire escape precautions. Staff supervision would be much more difficult.
8. **Phased development** This offers no layout advantage and proximity of construction to children while in use is a high safety hazard.

The choice of Option 6 above (New group and limited first floor) is considered appropriate as a result of the reduced mass, low profile and curved sedum (planted) roofs and the variation in rooflines to achieve a less monolithic effect.

3.0 DESIGN: CHOICE OF OPTION

The constraints and influences explained above lead the building design

The Option chosen (new build of ground and limited first floor) has least effect on the MOL by confining itself to the spread of the current buildings. ***These current buildings are in English Heritage's opinion, intrusive, and were built as garaging for maintenance vehicles in the 1960's and are unfit for its purpose.*** The new design seeks to be less conspicuous and more sympathetic to the setting.

4.0 DESIGN: PHILOSOPHY

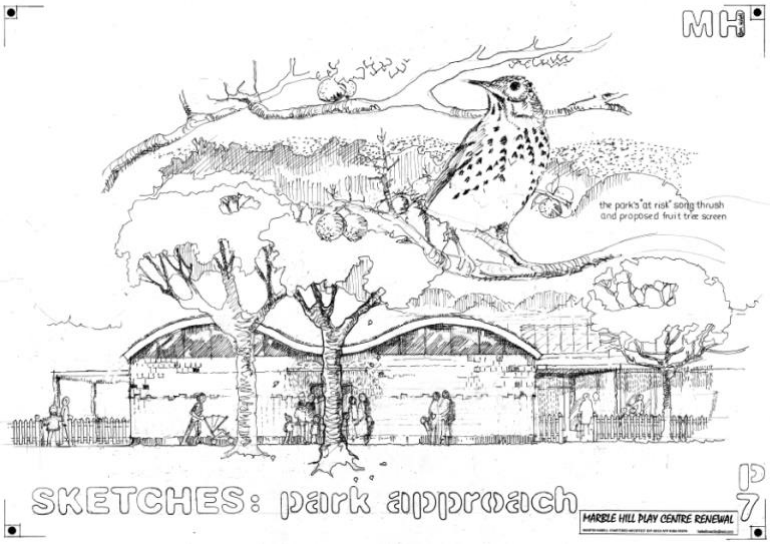
4.1 Icons and idioms

Symbolism is not a luxury, it underpins how we perceive our environment, it enriches it; and so those youngest of humans need reinforcement by imagery of what is important and of value. This subtle imprinting shapes development.

Too often a child's first perception of care and educational buildings is formed by an anonymous institutional building style based on a single minded pursuit of physical practicality. In early years, however, the senses are developed against emotional and perception backdrops: The baby crawling and then clambering with parent close, the toddler climbing and snuggling into corners with varying proximity to adults. Then the older child, perhaps with different needs of adult help and anxious to challenge themselves. Here there is an opportunity to have an expressionistic style that from the outset adopts a child scale and offers soft and interesting forms that are welcoming and reassuring.

Play is simply self-driven learning and challenge. This is particularly appropriate where the spectrum of emotional and cognitive need is wider than normal and special needs require gestures and forms that calm and reassure.

At its simplest, the building form copies nature in shapes and materials. The roofs imitate the flap of wings in flight. This is no accident as the imagery of a bird released from human hands to fly up and free is exactly the ambition of how the facility will serve children. Yet the design approach also allows the curve of roofs to mimic the backdrop of tree crowns that are the very nature of Marble Hill Park.



4.2 Child-led

The child's perception of space on entry is important. It should speak of opportunity but not be alien. The main spaces are large volumes, broken down with retreat alcoves which are raised to allow toy stores under, and placing the child's eye level at the same level as a kneeling adult's.

Some walls are curved in multi directions: undulating in a form reminiscence of the body. The tops of ancillary rooms are clamber ledges suitable for the bigger adventure play children.

Sensory rooms are available which can allow (One O'Clock) parents to quietly bond and calm children, and in Skylarks and OKMT children can take time out from sensory overload.

In the special needs area distraction is a problem and so the Skylarks alcoves have small optics (circular windows)that do not overtly advertise views of what is going on outside to distract from concentration inside, but increase enrichment and serve curiosity.

4.3 Parents

It is perhaps counter-intuitive to aim to be child-led by providing for the parent, but local neighbourhood knowledge has always credited the One O'Clock Club with vital support when raising small children and tiding parents over stressful times. There is much emerging research showing that a parent suffering emotional or financial stress or depression, inadvertently projects this onto their children to manifest in various child disorders.

The Centre will play a key role in advising and supporting parents, such as discrete advisory office in Skylarks. The support is therefore twofold: direct expert advice and

informal socialising. The latter is achieved by a spine through the whole building that opens out at parent zones for chat and coffee, providing relaxation and mutual support.

The child to adult proximity varies according to age, but also according to special needs. The design allows a flexible parent child relationship, and adults can sit close by and see into the play spaces.

4.4 Music

The Otakar Kraus Music Trust is an important ingredient. It brings expressionistic art form into the whole building and while the Trust can separate itself for lessons, etc., it can also open up to share performance. The core suite joins to a performance hall on the ground and use of a practice hall at first floor level.

4.5 Cross-fertilisation

It is an ambition that music will permeate the whole facility and encourage all children to get involved. Likewise room at first floor, there can be painting and creative classes available to all. It is envisaged that the building is a hub. It will introduce new interests that children can follow up across the community. In a nature filled environment containing the House, the Play Centre and linking woods to Orleans House facilities, all will work together and extend to performance by children in the grounds.

5.0 MOL: DESIGN IMPLICATIONS

5.1 AN UNOBTRUSIVE BUILD

English Heritage has concerns over the current structures, considering the bright colour and aggressive form obtrusive and unsympathetic to the setting of Marble Hill House. The 10 year management Plan fully approved in March 2019 states: *"The area is municipal in feel."* Much more sympathetic and discrete, the gentle curves of proposed low roofs and natural colours greatly enriches the ambience of the area, blending into the trees.

The leading masses at South, adjacent to the Park are lower than the existing buildings, and rise only for a portion at the rear, where there is an extensive backdrop of much higher buildings and trees. The proposal has no effect on the skyline, and the sedum-covered roof curves echoing the tree crowns behind, fade into the background.

5.2 MINIMUM FOOTPRINT

The starting point for the physical planning has been to extend no further East or West, North or South than the existing spread of buildings. As a result perception when seen from various points in the park is no greater than currently; indeed the modelling results in lower visual impact. The footprint is largely confined to existing hard surface.

6.0 NURSERY INCLUSION - PLANNING POLICY, PERMANENCE OF ABODE AND SUSTAINABILITY

A children's nursery is by nature a very local event and moving elsewhere, extending travel distances and traffic, defeats the Planning Policies on sustainability. For this reason alone vacating a site that is one of the few premises that has been used for generations, is short sighted and a false economy, very damaging to Child Care, Early Years Education Support and Special Needs support.

The VSC report refers to local nursery closures and these are due to the same cost problems MHPC face. Occupying vacated nursery premises elsewhere does not improve the necessary critical mass, income and wider SEND benefit, and the move itself is unaffordable. This proposal is saving two valuable SEND charities that have sought new accommodation for some years and consolidates a known use where no other use can exist.

Paragraph 3.1.23 of the adopted Local Plan states that there is a continuing need for additional school and nursery places across the borough. Therefore, Policy LP28 of the Plan states that Proposals for new or extensions to existing social and community infrastructure (including nurseries) will be supported where:

1. it provides for an identified need;

2. is of a high quality and inclusive design providing access for all; and

3. where practicable is provided in multi-use, flexible and adaptable buildings or co-located with other social infrastructure uses which increases public access.

No other action to that proposed could better meet the requirements of Council Policy.

Closure and reopening has a high cost penalty and purchase of a site elsewhere is unaffordable. The VSC Report demonstrates the lack of alternative premises.

The Nursery tenant as a private provider is vital to subsidising the whole charitable provision. Its inclusion provides a complete age range, supports working parents, enables a holistic solution that is inclusive of all children on the cognitive spectrum.

The range of sustainability achievements is covered in the BREEAM Appendix at Section 22.0.

7.0 FLEXIBLE USAGE

The planning officers have emphasised that the design must maximise the use of the asset for the community. Flexibility by time-sharing has been the key. The spaces link so that the differing charities can fold back partitions to throw spaces together and shift-use allows multiple uses. Examples include:

- Nursery tenant can expand south into part of the One O'Clock floor space and also use One O'Clock external play by arrangement.
- Skylarks and OKMT can swap the room uses and also expand to utilise some of the flexible large areas in the Adventure Play suite and multi-use room at first floor level.
- Cookery classes can be expanded into the adjacent multiple use space at first floor which can also be used for dance and movement, choir, general music, drama etc.
- Parental advice and staff training has adequate space that ensures the facility builds skills and knowledge in the community.
- A community use agreement will be put into effect so that usage of the building can be extended to other charitable or community groups needing local space. (See draft Community Use Agreement at Appendix 59)
- A Space Sharing and Use Proposal table shows the potential crossover and flexibility. See Appendix 60.

8.0 USER AREA REFERENCES AND GUIDE TO PERFORMANCE

The design brief has been guided by the following requirements. Further information on specific groups who will use the space is set out below.

1. **Regulations 2012**

Under 2 years	3.5m2 /child
Ages 2-3 years	2.5m2/child
Ages 3-5 years	2.3m2/child
Older children?	N/A
Exterior	9m2/child

Industry criticise the inadequacy of the older child allowance and lack of specificity. The dominant factor is the need to cater for physically and cognitively disabled children and provide enough year-round space for adventurous play for older children.

2. **KCC Early Years design Brief Nov 2011 Sayer. M, Knowles H. Bushell, Appendix 73**

This proposes best practice for 26 children (not disabled) as:

Teaching Area	70m2
Kitchen/Servery	10-12m2
Pupil Toilets	12m2 (BS 8300)
Disabled toilet/staff	6m2 (BS8300)
Shower	3m2
Entrance/coats	8m2
Resource Centre	4m2
Medical room	4m2
Total	129-131m2 for 26 children

On the same calculations it recommends 261m2 exterior space.

3. Early Years Foundation Stage: Government Paper EYFS for children birth to 5 years

4. Special Educational /Health Needs : Government Paper "supporting pupils at school with medical conditions" Dec 15. It states in intro para 3 "some children with medical conditions may be considered disabled under the definition of the Equality Act 2010.....Some also have Special educational Needs (SEN) .....In such cases the duties of the Local Authority under educational needs and disability code are referred by the paper to" Special Educational Needs and Disability (SEND) Code of Practice.

5. SEND Code of Practice 0 to 25 years. Government UK Dept of Education Jan 2015

6. POLLUTION: Central Office of Public Interest (COP) : Pollution records.

9.0 DESIGN ATTRIBUTES

The following design attributes have informed the design of the buildings:

- **Child scale**: Small scale alcoves for retreat and quiet, flowing spaces
- **Emotional needs provision**: Stimulation/ Calming in specialised zones differing in scale
- **Medical/physical support**: Medical support therapies for disabilities e.g. lungs and limbs
- **Developing the neural networks**: Different challenges and alternative achievement routes
- **High health credentials**: Reduced pollution and ability to future retro fit a/c + filtration, Diet control and education, stress relief and counselling,
- **Minimise solar harm**: Maximised shading by electric extending awnings and solar glass, retain tree shading
- **Infection protection**: Minimise dust and using antibacterial surfaces/wash ability
- **Parent & child support**: Maximising support and relief

- **Nature-oriented**: Embracing nature to educate, explore and experience
- **Low carbon**: Locality of material sourcing, renewable resources, etc
- **Play through challenge**: Themed landscape with water, climbing etc
- **Landscape emphasis**: Internal and external space continuity

10.0 SPECIAL NEEDS: THERAPY, CHANGE AND WASHDOWN

Some user groups require changing and assisted washdown and toileting. This requires space and hoists. It is also important that the location is discrete and not part of the general areas to preserve dignity and avoid embarrassment. Located at first floor, the whole suite has massage tables, assisted therapy bath, and beyond an assisted change, shower and toilet. Hoist use applies to all the suite. Equipment will be finalised close to building completion to meet the perceived needs. All served by hoist.

The potential equipment shown on the drawings is:

- Lift: 8 person wheel chair e.g. Pickering MDGO! range
- Therapy bath : Arjo Rhapsody with hydro massage
- Hoist: Molift mover180 hoist/sling
- Massage tables: One or two fold away 1.8X 0.6m
- Wheelchair shower: level entry with carer splash protection
- Disabled W.C.s: All with Doc M kits.

All of the above are indicative to demonstrate future-proofing and will be subject to assessment of needs at the time.

11.0 SENSORY SUITES

These exist in the One O'clock club for mothers and babies and in the Skylarks accommodation. Known also as Snoezelum, they are spaces that can tune down or up the visual, tactile and acoustic sensory load to calm, interest or stimulate children. Time-out spaces are vital to the provision. Provision varies and can be electronic light effects, music, textures, patterns and effects.

12.0 SUSTAINABILITY FEATURES & BREEAM

The design and drawing specification have now been pre-assessed by BREEAM experts Syntegra and achieve in excess of the benchmark for excellence. See supporting document at Appendix 16.

The scheme will:

- Maximise floor use of the construction to achieve enhanced efficiency and improve land use with flexibility being key. Flexibility is an important sustainability criterion, because it ensures maximum use of footprint without dissipating this over a wider area harming the environment.
- Maximise natural air circulation through height differential to achieve convection and through-passage of air.
- Retain surface water on site using hold–back measures.
- Examine the heat recycling of hot water
- Minimise CO2 emission
- Maximise passive insulation by up to 400mm insulation to walls, 300mm to roofs. Subject to further calculations.
- Reduce water waste by tap control and off site prefabrication.
- Use renewable SE of UK timber to limit materials trucking.
- Work with rangers to reuse felled Park timber for play
- Minimise soft ground taken up by building.
- Avoid Legionnaires Disease hazard. While recycling surface water seemed Policy-compliant (water barrels) this is viewed as a health hazard for children. This could be implemented in areas that aren't accessible to children (i.e. plant rooms) and used for landscape maintenance, subject to detailed design.
- Maximise natural energy retrieval by Ground Source heat pump practicality being investigated
- Use sedum planted roofs to maximise wild /insect life
- Use natural wood cladding i.e. shingles and boards
- Use triple glazing and solar glass or similar for heat retention
- Maximise external shading to protect children from sun and buildings from heat gain
- Provide maximum use of foot access and public transport as at present
- Promote health by hygienic wash down heated floors, dietary measures, cleaner air and counselling and support for parents.
- Promote ecology understanding to children through experience, environment and learning in conjunction with English Heritage's programme for the whole park
- Innovate by use of space to provide therapy and inclusivity

Full details can be seen in BREEAM Appendix, Section 22.0

13.0 ACOUSTIC IMPACT

13.1 External

Sound meter readings were taken on 26/9/18 at 9am, 1/10/18 at 1pm, 3/10/18 at 10am, 24/11/18 at 9:15am, and 23/7/19 at 2:30 pm. A TACKLlife SLM)1 sound meter was used.

Readings were at 3 points along the service lane abutting homes to Beaufort Road. The readings were 48 - 50 decibels with an increase to 78 decibels when the maintenance mower passed.

A 50 decibel reading coincided with two children's football matches on adjacent pitches beyond.

On one occasion an adjacent gym class at the corner in the park pushed the level to 59 decibels. The highest ambient, non-peak level, was during men's football matches on adjacent pitches at 62 decibels.

When the adventure play was in use the external reading was 55 decibels.

Given that the general usage of the grounds remains the same one can conclude that external noise generation will not exceed the level at present.

With regard to music internally (Otakar Kraus Music Trust) and given the high insulation level of the walls, it is unlikely that there would be any permeation through the fabric. Windows and folding glazed doors will be triple glazed to acoustic attenuation requirements.

Glazing is important for growth and health, restricting widows is harmful and cannot be compensated for. In particular vitamin supplements do not perform as well as daylight on the skin (Vitamin D). The proposal is that natural light will be maximised, and to control sound external tests will be made conducted and if the noise level significantly rises above the general ambient level of 55 decibels at the boundary then management will ensure closure of windows.

13.2 Internal

There are two aspects. The general planning has all partitions insulated to control space to space acoustic spread. This also incorporates multi-surface and shapes to control reverberation. The music rooms will have this plus acoustic linings if found necessary.

14.0 CLIMATE AND HEAT

The facility has experienced high exposure to sun in the last years and a requirement for shade and water play is part of the provision. In 2019 Public Health England issued advice for Early Years stating the country was now at Level 2 at 32 degrees plus .

The National Education Union calls for a maximum internal temperature of 26 degrees and the World Health Organisation sets the maximum at 24 degrees and states over 26 degrees is unacceptable.

Minimum WHO temperature is stated as 16 degrees.

The Building is designed to achieve maximum heat control through passive means and sub metering to manage energy consumption. The high insulation, high ceilings and ability to achieve venting at high and low levels on all facades enable a great deal of non-mechanical control. In addition, as the climate warms or standards are increased, air conditioning and air filtration can be retro-fitted(see section on plant).

It is worth noting that none of these standards are even closely approached in the current accommodation and staff have commented on the cold internally during winter.

15.0 PLANT ROOM AND TRUNK ROUTING

The plant housing is at first floor accessed both internally and externally. It is set behind the upper East facade of louvres. The roof curves are deliberately left clear of any protrusions and the provision for plant is within the curved roof structure at first floor, deliberately hidden; intake and venting through the end flanks away from general public view. This includes provision for air cooling or conditioning either when built or retro-fitted (as a result of higher summer temperatures which have been a growing problem.) When a/c plant is to be installed the trunking can be run as visible feature tubes at high level through the spaces and down the circulation spine in the ceiling. Further technical design will allow for this to be retro-fitted.

16.0 OCCUPANCY

The average estimated typical child and staff occupancy across a week will be

	MON	TUE	WED	THU	FRI	SAT/SUN
OOC	34	34	34	34	34	30
Nursery	28-45	20-48	28-50	28-50	28-50	0
AP	42	42	42	42	42	42
Skylarks	40	40	40	40	40	40
OKMT	40	51	51	51	23	20

It should be noted that these figures, provided by MHPC, can only be best predictions anticipating growth to meet need. It should also be noted that occasional larger scale gatherings will occur. It is important to understand that these total figures are rationed through the day by lower actual occupancy at any one time.

In quantifying the effect of new occupants this can be gauged from the fact that OKMT will have 7-12 children at any one time, peaking on Thursday at 11 and Saturday at 12. Choirs of larger numbers will occur monthly.

17.0 TRAFFIC, PARKING, PUBLIC TRANSPORT AND PEDESTRIAN ACCESS

The site is at the focus of a network of safe pedestrian routes. This is the predominant access means by parents. In the survey conducted by Vectos in August 2018, responses indicated that only 10-15% of park users had travelled by car.

The Transport Accessibility document (Appendix 14) shows the percentage of Playcentre users by area (as responded in our 2018 survey) - most of whom are local residents. Local transport is rated as PTAL 4 (good connection).

A full Transport Assessment and Travel Statement will be instigated.

Buses

The Richmond Road has good bus services: H22, R70, 33, R68, 490. St Margarets Station is 0,59 miles.

17.1 Pedestrians

A virtually traffic-free pedestrian route exists close to the river from Twickenham town Centre, through Orleans Gardens and across Marble Hill Park. Traversing Marble Hill Park from the East from Richmond Road is also traffic-free.

17.2 Cars

The case has been made to Officers that the proposals sit within the area of the Vectos Report accompanying the 18/2977FUL application (Appendix 13). Furthermore, key additional users Skylarks already uses the Park car Park to use Cross Ways.

The 76 bay car park has room two additional bays as it is currently planned and further increased capacity by remarking the bays. English Heritage have stated that they may instigate this. They also state that they have an informal arrangement with Orleans Park School for overflow parking.

18.0 ENTRANCE AND ACCESS

All the different user groups have their own entrance with a dedicated pram/wheelchair covered park. This joins to glazed external play areas which in turn link to electric awnings. All accomplished on a gs frame or similar)with shaped timber posts. There is also a single shared entrance directly off the South pedestrian path. This leads directly to the spine and parent social areas.

The One O'Clock Club has a large open space with storage and sensory room off it, and direct access to the parent zone and cafe. It also encompasses the North side of the East wing and this is a shared space where Nursery can expand by arrangement.

The Nursery tenant occupies most of the East Wing and has its own dedicated entrance, play room, sleep area, kitchen and toilets, and an adjacent parent zone linked to the others along the spine.

Adventure Play at the South West side has the most inside-outside all weather use. It has toilets easily accessible from outside. Internally there are clamber ledges and alcoves.

Skylarks share some of Adventure Play's space by use of folding partitions. This allows it to maximise use of reclusive spaces in the low arches. It provides play areas and private advice areas.

Skylarks shares functions with OKMT as user groups are similar or identical. The spread of accommodation extends upstairs. Skylarks has a cookery class room which can also serve into the adjacent practice room. Likewise It shares wash down and change facilities and massage therapy for disabled with OKMT. Cross benefit may result in cookery supplying the adventure play tuck shop.

OKMT has its own suite of practice rooms at ground, as well as access to the first floor. A centre piece is the piano room on the north face which on occasion opens up into the Performance Hall by use of folding partitions. The performance room has proportions of approximately 1:2:3 (note the high ceiling) which is suited for music.

There are ancillary rooms for the Marble Hill Playcentre admin/staff**.**

19.0 FIRE AND SECURITY

19.1 Fire Escape

While a simple, part single and part two-floor, building would normally not have onerous fire precautions, the user group, with its special needs categories, demands a more considered approach.

The first floor is served by a single stair which generally meets the escape in one direction only requirement on maximum travel distances of 12.2m. This stair discharges to the outside. Normally this would be acceptable and often the fact that

there is only a single floor above ground allows fire officers to take a view that there is rescue and escape options from those windows..

The approach in more problematic scenarios is to adopt a “managed escape” policy. This starts with the premise that the normal reactions of people to flee away from fire in natural self-preservation, do not apply where overwhelming emotive or cognitive aspects hinder this.

Children may rush towards fire and smoke, parents or staff may pursue them. Wheel chairs may block escape routes, staff may run in opposite directions from fleeing children or be surrounded by an ushered group.

“Managed escape” requires fire behaviour protocols that ensure occupants are progressively evacuated to safer areas and then out. This allows Disabled chair handling. This can be supplemented by sprinkler systems but discharging wet vulnerable children into cold winter air is a hazard in itself. Discussions with fire officers will be undertaken.

In a further move to address fire, an alternative supplementary first floor escape route extends from the south facade round to the north. This is also the plant room access to the outside the building and has its own external stair.

19.2 Security

The conflicts of security and need for speedy self-evacuation are touched upon in the preceding paragraph

Some special needs children head off from supposedly secure zones. Locked doors compromise escape in case of fire. Discussions will be held at later stage on electric/magnetic emergency release door mechanisms to parts of the building. Staff and management procedures will be discussed.

The potential for an electric gate at the boundary of the English Heritage property is covered in the Heads of Terms document and details for this remain to be agreed.

20.0 LANDSCAPE, ECOLOGY, TREES, MOL VISUAL IMPACT AND HISTORIC SETTING

20.1 Landscape

The landscape form is described by Terra Firma. It aims to upgrade the outdoor play, keeping the same zones as current but redefined, with the Adventure Playground with its robust structures to the West and the One O'Clock Club to the East and Nursery at North. The new incumbents Skylarks and OKMT are to the North West.

The landscape design should also be understood in relation to Terra Firma's MOL impact analysis. *See the separate Landscape and Visual Impact Appraisal by TERRA FIRMA incorporating photos (Appendix 7).*

20.2 Ecology

The expert report by **The Ecology Co-Op** states:

- The current buildings are assessed as having low potential to support bats.
- No bats were seen during a dusk emergence survey
- No notable protected species have been identified.
- The grass, hard standings and buildings have an inherently low ecological value.

See the separate Ecology report by The Ecology Co-Op in Appendix 11.

20.3 Trees

The Tree survey and report concludes there is no harm to trees. In discussion at Full Planning stage with Tree Officers regarding proximity to root protection zones, an evaluation of the BS guidelines in situ will eventually take place. This will take into account existing structures in the zone, and if necessary propose mitigation measures such as hand digging and special design of slab and foundations to be incorporated.

At present the recommendations are that two crab apples and one hornbeam might be removed for better tree management reasons after “further evaluation” and these are well away from new buildings. In addition, proposed action is pruning and removal of deadwood.

As regards root protection areas (RPO) the Arboricultural report in Para 4.6 states the formula for calculation and in 4.62 states that there may be modifications to the notional circle indicated on consideration of pre-existing structures.

UPDATE MAY 2021:

In response to tree experts requesting updated arboricultural information, a new report was generated in May 2021.

As evident in the report, it is our position that provision in the existing drawings, this Design and Access Statement and all landscape reports already accord with the Standard (BS 5837 2012), and there is minimal intrusion on root protection zones. The Appendix 10 Arboricultural Report Section 7.2/1 also states that limited excavation within an RPA might be acceptable, given mitigating circumstances, and the updated report reflects this position. It should be noted that the

planning application is governed wholly by "Very Special Circumstances" in MOL which fix the building in size and position so movement as a whole isn't viable. Should mitigation measure be required, a Method Statement can be submitted as a condition.

The currently proposed light-weight framed structure is approximately 10m from the tree trunks and already minimises ground beam dimensions (if any). Subject to further report now being submitted, a range of options for foundation treatment are available if required by Tree Officers and Arboriculturist, such as:

1. Hand dug investigation and root wrapping
2. Pile and Void within the RPA
3. Displacement of piles to outside RPA and an upturned ground beam and aerated void
4. Cantilevered slab over aerated void.

These and other approaches would maintain aeration, soil permeability and allow rain penetration.

*See separate arboricultural report by Bernie Harverson (Appendix 10 and updated report submitted May 2021)***.**

20.4 MOL and Visual Intrusion

The starting point for all negotiation with English Heritage and the Borough Planners has been that the building cannot spread further than the existing Southern, East , West and North extent of the existing. This is an overriding consideration when evaluating MOL harm and benefit.

English Heritage agreed that positioning on the existing wall positions was desirable.

The setting of the Grade 1 House is a major consideration, however, given the lower and more muted closer elevations of the proposed new buildings, the result is an improvement.

English Heritage has made full provision in its approved application for new planted belts of fruit trees. The approved drawing 581 PL L 36A shows an approximate 15-20m deep swath along the whole of MHPC's southern boundary. This is on EH land and part of its own works. Section 7.4.4 page 61of the 10 year Maintenance Plan states the East Meadow north belt is *"to screen views of intrusive features and increase visual and biodiversity interest."* This submission maintains that the spread and crowns of the newly planted fruit trees will greatly aid concealment.

Section 7.4.5 no 4 states regarding the Car Park and playgrounds:

- Preserve the significance of the core landscape

- Improve orientation and way finding to create a hub for visitors
- Planting along the north and east edges will be thickened up and a new path from the car park to the river constructed following a more attractive winding route along the historic boundary.

The belt is in the ownership of English Heritage and dialogue will continue but it is anticipated that any minor changes such as shape of fence and bolstered tree planting can be agreed on site as the scheme progresses to Tree officer satisfaction. Landscapers Terra Firma will liaise with EH.

20.5 Historic setting

Planning Application 18/2977/FUL by English Heritage noted the unsympathetic nature of the current nursery buildings to the historic House setting. EH has supported the more organic build form and the use of natural and muted colours to surfaces seen from outside the Park.

Even in winter there is no direct line of sight between Marble Hill House and the Nursery, as three lines of trees intervene. The 10year master Plan tabled states that the perimeter tree bank at south of the nursery will be reinforced.

It is hoped that by arrangement with EH this can be maximised to achieve a true woodland setting for the facility.

More information about heritage and archaeology is available in the Planning Statement.

21.0 CONSTRUCTION AND MATERIALS AND QUALITY

21.1 Building components

The building is planned as a natural resources concept using locally sourced (e.g. New Forest) timber. The design allows for glulam beams and posts but these may not be necessary with further structural investigation with a supplier, The walls are 400mm with a high level of thermal insulation.

The roofs are composite timber ply/insulation shells .

The cladding is a mix of timber shingles and plank in natural colour, some arranged into symbolic shapes. In part thru-colour render may be used.

Windows will be dark colour hue framed cca or approved to ensure a high maintenance life and the folding screen door/windows to the outside area will match. These are joined to an external gst framework supporting glazing or electric awnings. The posts are shaped oak with gst brackets.

The low arcs over alcoves are composite shells with “porthole optics”

Internally some partitions are in places shaped in an undulating form to provide comfort and tactile interest to exploring fingers.

Floors will be sheet vinyl with woodland icons embedded, The skirting will be coved to maintain hygiene.

Kitchen extracts discharges on the south or opposite side from Beaufort Road.

21.2 Construction methodology

The programming, trucking routes and hoarding will be submitted at a later date when English Heritage’s timeframe and methodology on its own works are known. Aspects of importance are public protection, truck access, construction hours. A Construction Management Plan Draft has been submitted with this planning application. (Appendix 15)

21.3 Quality of facility

The architect, Martin Habell, is known internationally for his work on care and therapeutic environments, having designed and built in the UK, USA and Europe. His work has been recognised by a range of awards over his career and by publication in academic papers. Unusually his work has been recognised by a Fellowship of the Royal Society of Health.

After qualifying in architecture with a Double First, architectural Competition success began at the age of 28 in winning the Millbank competition for the Crown Commissioners; at the time the largest competitive design project world-wide. Since then, wins have included Tower of London retail facilities, waterside housing , hospitals and general and specialised housing as well as published designs such as the Paris Arch entry and Building Design's publication of his Total Care Unit. Completed work has won national awards such as Best Design from Observer and Times Newspapers, What House awards, and the Boston Globe prize for work in the USA. Work in the UK has won RIBA Best Design awards and for design for the disabled.

He has won the Pinder prize twice and a number of other awards have recognised work demanding a sensitive approach in Conservation Areas and with Listed Buildings.

Clients have included: Welcome Trust, BUPA, PPP. Many Housing Associations, Lord Mayor Treloar Hospital Trust, A range of Health Trusts, Diss School Trust, City of

London, Austrian Industries, Falklands Islands Government, Guildhall School of Music. Roehampton and District MHT, Brighton University.

Relevance to Marble Hill

Martin Habell was recommended by English Heritage for the Marble Hill Playgroup renewal. He was responsible for the changed submission by English Heritage for the Old Coach House, his design for an alternative cafe was adopted. He therefore knows the planning and user constraints very well.

Awards include:

- Best Regional Building
- Boston Globe Newspaper USA
- Best Development Britannia
- The Guardian Citation 2001
- CTC Conservation Award
- Pennylands, Milton Keynes, housing second prize
- Pinder Prize (twice)
- RIBA International Millbank Competition Equal first prize
- RIBA/DOE Design for disabled
- RIBA/DOE Good Design Best development SE region
- Sunday Times Newspapers Best developments 2000 and 2001
- TWBC Conservation Award
- WDC Conservation Award
- Elected Fellow of the Royal Society for Public Health with range of published academic papers on various special needs
- Currently supervising phd design research with University of Loughborough

22.0 BREEAM APPENDIX

BREEAM consultants have been retained to provide Pre Assessment of this Design Stage. Currently assumed to be BREEAM for England,2018 non domestic buildings, Table 2.2 Preschool and Education. Noting the document's statement page 18 *"The Design Stage (DS) is optional and can be used to demonstrate a building's performance at the design stage of the life cycle.....the BREEAM rating at this stage is labelled "interim" because it does not represent the building's final new construction BREEAM performance."* They apply BREEAM version for England 2018, Technical Manual, addressing table 2.2 Pre-school and school.

The following are the characteristics of the scheme earning credits:

PROJECT SUMMARY RELEVANT TO BREEAM

The Play Centre is situated in Marble Hill Park, Richmond Road, Twickenham. The leasing charity acts under the landlord English Heritage. The play centre site consists of 4 buildings dating from the early 1960's built as park maintenance sheds. It has run as a baby and mothers group (0 -2 years), children's nursery (2-5years) and adventure play (5-15 years). It consists currently of 4 scattered buildings deemed at end of life by professional survey.

The proposal aims to increase floor area and usage to restore viability and to do this will also include specialist accommodation for special needs children and young adults which will move in from elsewhere.

Key features of the scheme are: meeting the crisis of shortage of nursery and special needs uses, multi-use of spaces, learning and health enhancement, organic form using natural materials, sustainability credentials, a nature setting and the ecological theme.

The site is 0.39ha and largely of grass and play equipment, and containing 4 scattered brick, mono-pitched roof buildings of 0.023ha *which are unfit for purpose*. They are in very poor repair, having no insulation, are single glazed with un protected internal services and no installed permanent heating. The accommodation is deficient in provision such as change and wash down, and disabled features. The operation is a charity and has incurred losses in recent years that have been bailed-out by Trustees and the facility cannot continue without an increase in critical mass to become viable.

BREEAM SD 5078 EDUCATION BUILDING TYPES "SCORING AND WEIGHTING"

BREEAM Appendix B Education Building Types covers Nursery schools and crèches. It also covers "Children's Centres" described as: *"multi agency service hubs where young children and their families can receive early education, full day childcare, parental support and child and family health services...."*

It goes on to state that as regards *"Acute Special Educational Needs (SEN), the scheme has not been specifically tailored to assess acute SEN schools.....Acute SEN schools are defined as "Other Building Type" and assessors need to consider carefully all the Breeam issues affected by special facilities."*

Alongside standard baby, nursery and adventure play activities, the facility will have use designations of "Acute Special Education Needs (SEN), Emotional and Social Difficulty (BEDS) and communication and interaction difficulty: Autistic Spectrum Disability (ASD)." The facility takes all children from 0 to 15 in play, learning and education with some facilities for Special Needs providing parental support, health therapy and music with the latter at times up to age 35. All operating on specific day and time slots.

BREEAM Target

The scheme aims towards achieving *"Excellent"* rating and if possible with a BEEAM expert from the outset, an *"Outstanding"* rating.

The scheme seeks *the available additional credits for using a qualified BREEAM advisor from the start*. i.e. the Planning Application.

HEALTH AND WELLBEING

CO2 , NO2 and particulates

The site is situated ***far away from main roads and traffic***, meeting a major concern of Mayor of London Policy for child nurseries. Richmond Road is a Borough designated low pollution route. The location benefits from pedestrian walks to the play centre away from roads and in green space alongside , and close to the riverside from Richmond town centre and from Twickenham centre. The NO2 level recorded by the Central Office of Public Interest is 32m/m3 Compared to 35-36m/m3 elsewhere in the Borough and some locations exceeding the WHO legal limit of 40m/m3.

Global warming effect

The building is designed to have air conditioning retro fitted to cool and filter air. The plant room is at first floor on the East side allowing later installation of feature ducting through the building,

To date child exposure to direct sunlight has become an increasing problem in heat waves. ***Maximum shading by permanent and electric extending blinds*** to external areas protect children and shade windows

Thermal Comfort

Heating will be under floor to ensure crawling and recumbent children and parents are in a comfort zone.

Daylight

Natural daylight is maximised in the building by ***large areas of glazing and controlled by external shading.*** The availability of large ***external play areas increases children's benefits from fresh clean air, sunlight and daylight.*** The landscaping includes protective shading.

Vitamin deficiency

Research shows that dietary supplements for vitamin deficiency are much lower in efficacy than natural light. English summers are warmer now and with often high intensity sun, and so ***mitigation by shading systems and water play is important***. This is a fundamental feature of the design.

Acoustics

This is a park setting **without major public roads as a noise source.** Sound readings have been taken around the site that demonstrate ***no increase in sound level to neighbours.***

Interiors have high curved ceilings and wall modelling to ***reduce echo/reverberation effect*** and the music area has a through-void to roof (double height) ***to improve music acoustics.***

The ambient park use generates approximately 50 db and peaks at adjacent football matches at 62db. The occasional passing mower generates 62db. The facility itself is not expected to generate any more noise than currently, as the same uses continue. The triple glazing and high insulation ensure sound containment.

Internal stud walls will have insulation to contain sound. Music rooms will have acoustic isolation fixings to walls and door sealers.

Diet

Children at particular times and for varied uses will have ***meals provided by dedicated food sources and preparation***: Nursery kitchen, General kitchen and by healthy snacks from tuck shop and cafe.

The use of ***diet control*** can address early dangers of child obesity, diabetes in later life and vitamin deficiency

Diet education

Classes in cookery and healthy eating are provided for in a teaching kitchen suite.

Mental Health

The facility aims to *support parents with Special Needs and common child rearing stresses and problems*

SEN, BEDS and ASD

Special needs will be a new provision addressing Acute Special Education Needs, Emotional and Social Difficulty, and Communication and interaction difficulty: Autistic Spectrum Disability. This is provided across the spectrum and assists mental and physical development

Indoor air

The park setting ensures *fresher air than normal urban settings, fed by South West winds across Richmond Park and the River Thames green corridor. There is a designed-in option to install air filtration to address allergies.*

CO2 and NO2 pollution

The park location is well away from the pollution and particulates so internal and external play is the best that can be achieved.

Water quality

Water intake can be controlled by staff and is all supplied from the mains.

Infection control

The design will *avoid crevices harbouring dust* which are a breeding ground of microbes. The *floors will all be washable, smooth, and with coved skirting* to achieve maximum infection control. *Advice on need for inoculation* such as measles and mumps will be constant. Covid-19 protocols will be more easily implemented.

Lighting

External lighting will be hooded to avoid bat feeding disturbance and neighbour nuisance. Internal artificial lighting will be *low energy.* In snoezellums (stimulus rooms) lighting will be varied on programme to *achieve mood adjustment.*

Lighting will be daylight-linking presence detection and user control.

Sub metering

The energy consumption will be monitored and shown on *screen displays of use throughout the building* to assist management of energy use and to maximise economical use.

ENERGY CONSERVATION

An *"A" rating* for EPC (energy performance certificate) will be achieved. The building will be heated using *Combined heat and power system* (CHP Trigen system or similar) utilising recycled cooking oil as best choice or rapeseed oil. Energy efficient systems will be used in lighting and generally.

Energy control and sub metering

As described under management section above.

Insulation and blinds

The scheme aims to conserve energy by *emphasis on major passive measures*:

High insulation of building skin by proposing:

400mm thick in the timber framed walls are allowed for as the base for calculation and these may be reduced if the necessary U value for Outstanding is achieved at a lower thickness.

300mm thick in a ply sandwich with additional sedum planting to the exterior. Comment on composition is as for external walls.

Use of Pilkington Z or K glass triple glazing.

External blinds to control solar gain

External wall and roof design will be evaluated according to different compositions and the resulting SAP ratings. As example before calculations enable detailed design: Pilkington EnergyKare triple glazing achieves 0.6 W/m2 K U value, Just 120mm stud wall with57.5mm insulated pl bd can achieve 0.13 W/m2 K u value.

Additional Energy reclaim option evaluation

Heat reclaim from waste water will be evaluated

Ground source heat reclaim will be evaluated for BREEAM credentials against oil based as a comparator.

TRANSPORT

A ***travel plan*** will be instigated addressing staff and parents and encouraging pedestrian access.

The car park already exists and therefore there is no loss of green space to cars. Current users have use of the car park and one of the new users Skylarks also uses this car park already, and so car vehicle impact will be minimal

The site is well served by public transport having a choice of bus routes across the Borough, and St Margarets Train station within short walking distance at 0.59 miles. Busses are: H22,R70,33,R68,400,390.

The adjacent public car park provides easy child delivery and the proposed disabled bays will enhance delivery for disabled.

The location is well suited for pedestrians and push chairs.

WATER

Water supply will be reused. Consumption will be monitored. Although Grey Water systems have been considered to recycle water, the dangers of infection for vulnerable babies and children through storing or through maintenance mistakes has led to a health and safety conclusion that this is inappropriate. However, rain water recycling will be considered as noted above.

However, minimum waste of water will be achieved by infrared control products such as cistermiser. Leak detection measures will be investigated.

Natural water (rainfall) will be subject to hold-back measures.

WASTE AND RECYCLING

Recycled construction aggregates will be used, and the demolished building concrete and brick will also be reused to achieve in excess of 80% recycled.

The waste collection uses existing services operated by the English Heritage for the Park

Sewage will connect to the existing play centre sewer from the site to the public sewer.

The site is assessed by planning officers as being above river flood levels. So pollution threat from flood is not a factor.

POLLUTION: CO2, NO2, NOISE

The site is located 150 meters from the main Richmond road with building itself 220 meters from the road. The risk from NO2 and CO2 is greatly reduced. While the car park is closer, it does not admit the high polluting diesel trucks and busses.

The site has the lowest recorded NO2 pollution levels in the Borough. Itis registered at 32m/m3 . The WHO legal limit is 40m'm3 and all recorded school sites in the Borough exceed this ,typically at35- 36m/m3 and certain examples being above the legal limit such as in Heath Road at 45.6m/m3 (reference COP)

The ambient sound has been recorded at 55db generally peaking when maintenance mowers pass the facility

In addition the site is a natural environment of green space with trees taking up CO2 and fresh wind blowing in from the South across Richmond Park and up the river.

LAND USE AND ECOLOGY

No alternative to new build

The Very Special Circumstances report prepared for the Council demonstrates that a range of Options were examined and costed, from refurbishment to extension and varieties of new build.

Evidence has been submitted that no alternative locations exist, and even if they did, a move to them would be financially impossible and leave a vacated empty building of restricted use.

Only new build to include more uses was proved to be viable.

No ecological loss

The Constraints of Impact in MOL have dictated a spread of building no further than current buildings. This has been accepted by the Planning Officers. *There is no loss of green soft landscape.*

The ecology report demonstrates no threat to bats or endangered species.

Ecology gain

Re-landscaping, natural wood play equipment, Nature and ecology theme to child play. Programmes of ecology experience in conjunction with Park management are planned.

MATERIALS

The materials are intended to be natural and replaceable. Timber framing will be sourced from South East England (e.g. New Forest) to reduce trucking. All material will be robust. Cladding will be timber shingles and panels. Plasterboard will be pre-cut. Minimum 80% recycled aggregates will be specified. PVC minimised. Park, managed tree action may lead to surplus tree trunks to be used as play equipment.

INNOVATION

Use of space as therapy

The building uses the research findings (published in the Journals of the Royal Society for Public Health) to use spaces of different character to create therapeutic environments.

Addressing parent and child problems simultaneously

By encouraging mutual parental support, expert advice and creating fertile occasions for parent child bonding and learning etc for adults and creating a range of environments such as open play, quite, and stimulating (e.g. snoezellums)

Open and enclosed

Losing the distinction between inside and outside play.

Nature and Ecology

The centre management and English Heritage aim to join together in ecology programmes for children and adults to learn about nature across the whole park. This will include the bat and endangered species (see ecology reports) . The project's sedum roof will provide habitat for insect life, and feeding for bats and birds.

BREEAM accredited professionals

Will be used throughout the design process.

Contractors

A Considerate contractor scheme will operate.

Construction

Timber framing (sourced from SE England) will allow prefabrication off site and speedy construction. Minimising disturbance. The further use of timber in shingles and general cladding is a credit earner in Bream

Land use consolidation

Bringing multiple uses together from other sites to maximise efficiency in one development re-uses a brown field site, offering much more on the site than previously.

Health, security and safety

A complete environment to enhance all aspects

Inclusive

The concept brings together children of all abilities and also their parents.

Heritage asset

English Heritage and Historic England both support the proposals as being an improved setting for the Grade 1 Listed Marble Hill Park.

Community Asset

The proposal meets a crisis need in the Borough. Evidenced in the VSC report.

BREEAM CONCLUSION

This project uses its unique nature location to educate on ecology, foster physical and mental health and be a lead in sustainability. This is a natural extension of child care, education and Special Needs.

23.0 OUTLINE ILLUSTRATIVE SPECIFICATION APPENDIX

SUMMARY OF INFORMATION IN MAIN REPORT

The specification is outline and preliminary to offer an idea of intent. It is not exhaustive. All will be subject to appraisal at a later stage with discussion with experts and suppliers.

23.1 SPECIFICATION

National Building Specification (NBS) to apply and RIBA Standard Forms of Agreement.

23.2 STRUCTURAL SYSTEM

Timber Frame to allow off-site component manufacture and speed of erection and offering scope for an increase in insulation (BREEAM credits) and running costs saving.

At Outline Design stage, a notional 400mm wall is indicated to maximise insulation, with appropriate moisture membranes positioned to counter condensation. Size to be adjusted once the requirements in performance to achieve BREEAM “Excellent” or preferably “Outstanding” is known.

TRADA recommendations applicable.

Internal partitions to be timber with acoustic insulation. Partitions may be load bearing.

A Structural 3m grid allows for post support but structural engineering assessment may indicate this is unnecessary. Posts may be glulam composition and may be related to glulam beams if necessary

23.3 SUSTAINABLE CONSTRUCTION

Minimum 80% recycled aggregates (BREEAM credits) and utilizing demolition material.

Timber sourced from South East England to reduce trucking (BREEAM CREDITS)

Safety evaluation of trucking approach.

Considerate Contractor rating and full liaison with English Heritage on working process.

23.4 ROOF

Composite shell roof in timber skin with internal insulation. Ventilation of voids to be evaluated.

Internal skin to be timber ply or appropriate internal finish, possible insulating, as appropriate.

Water proofing to technical recommendations .Moisture barrier to technical recommendations

Externally, sedum proprietary roof system on curves to lowest curve limits recommendations. Appraising Green Roof Research by the National Federation of Roofing Contractors. NFRC relevant examples, Colonell School to 45 degrees and West ham Garage. Roofmats with wild flowers, sedum herbs etc.

23.5 EXTERNAL WALLS

See Structural system, but external finish to be timber shingles to recommendations. Consideration to be given for South elevation on the boundary to have an approximate 2m lower level in flush board (with shingles above). Anti-vandal measures: coated with anti-graffiti to guard against damage through impact and disturbance.

23.6 GROUND FLOOR

Insulated concrete floor with screed and integral floor heating to recommendations.

Finish to be sealed joint vinyl with coved skirtings for wash down. Finish to have let-in pictures on animal or woodland theme and animal tracks to important places.

Floor finish to be non-slip and special attention to how this could be compromised by food or liquid spillage.

23.7 STORES

Stores in base of alcove platforms, and in built-in cupboards. Additional storage to be in free standing furniture as deemed appropriate.

External stores to be added as appropriate.

Longer term stores: During the technical stage evaluate opportunity for storage between roof underside and over smaller rooms such as toilets, tuck shop, cafe, kitchen offices and therapy rooms. Drop-down ladder access.

23.8 FIRST FLOOR

Subject to recommendations, a timber floor with vinyl and covings as ground floor without pictures.

Insulation to meet noise transmission requirements.

Under surface of roof (ceiling) plasterboard.

23.9 INTERIOR DESIGN

Specialist design specification to address child-friendly textures, lighting, handles, screens etc with attention to Special Needs in liaison with staff.

Generally: plasterboard to robust standards. Music rooms to have attenuating battens to contain noise. Seal to doors. Some play rooms to have timber curved profiling with spacers.

23.10 KITCHENS

To be specified by catering contractor to client brief.

23.11 WINDOWS

Evaluate types of thermal controlling triple glazing in z or x glass as by Pilkington (or alternative). Argon gas infill. Frames in chambered colour coated aluminium, Colour to be muted (e.g. Forest green).

Random placed “porthole” windows to alcoves, varying sizes.

Sliding/folding doors to have integral opening window units to allow fine control of ventilation.

23.12 DOORS

Internal: fire doors as required to regulation and fire officer. Consideration to be given to a vinyl wash down finish for hygiene and colour. View panels to all, mainly circular.

External doors to be as windows, without opening light.

Doors will be sized to allow wheelchair passage.

23.13 DOOR FURNITURE

To be researched for disability and security aspects. Copper finish (as in hospitals) to neutralize microbe infection to be evaluated on a cost/health benefit assessment bearing in mind vulnerable occupants.

23.14 DISABLED TOILETING AND ABLUTIONS

Doc M will apply and Doc M packs provided for disabled wheelchair toilets and wash down facilities: having: Appropriate swing-down grab rails, splash guards etc.

Consideration must be given to non-adult use and how children would be assisted by installations, heights and /or helpers

TODDLERS TOILETING AND ABLUTIONS

Child size sanitary ware to OFSTED requirements.

Nursery to have low height screening to allow supervision.

23.15 FIRE MEASURES

Fire Officer recommendations concerning alarms and escape distances, fire doors etc. Managed escape principles to be discussed because of Special Needs and vulnerable.

Security for Special Needs may compromise freedom to escape: Subject to evaluation internal and external doors may be on electronic hold-open control with closure triggered by fire to encourage freedom of movement through common areas.

23.16 POWER

CHP (combined heat and power unit) to M&E recommendation. Fuel preferably by recycled kitchen Oil to maximise BREEAM credits.

Ground Source retrieval will be investigated, if appropriate with CHP and cost effective.

23.17 ELECTRIC / WATER

Sub metering of power and lighting to allow room by room monitoring to reduce running costs (BREEAM credits)

Infrared water control to avoid waste water (BREEAM credits)

Grey water recycling is not to be used due to infection risk to vulnerable.

23.18 POWER

All services concealed and power outlets at high (adult) level with anti-tamper.

Consideration on reconciling lower outlets and controls with child tampering and wheelchair needs.

23.19 LIGHTING

To be low energy and controlled by dimmers (BREEAM credits). Mood lighting to be designed.

23.20 RAIN

Guttering to curved roofs as needed, in purpose manufactured galv steel or aluminium.

Hold back measures to retain water. e.g. holding tank. (BREEAM credits)

Water buts are not to be used due to legionnaires disease risk.

23.21 EXTERNAL PERMANENT SHADING

Solar shielding glazing to roof. Framing in colour coated aluminium. Muted colour e.g. forest green. Posts to be timber to profile, in sockets. Anti-collision foam addition to be considered.

23.22 EXTERNAL EXTENDING SHADING

As for Permanent shading but instead of glazing over, there are electric extending awnings.

23.23 EXTERNAL LANDSCAPE

Designed by accredited experts for child play.

Safety evaluation of risk by play under trees. Evaluation of wet weather risk on boarded structures.

Evaluation of movement triggered external light for all staff routes when exiting at night. Lighting to be shaded to address nuisance to neighbours and bats

23.24 SECURITY SYSTEMS

Evaluate CCTV to all external areas.