Cornerstones Nursery, Blairgowrie, Design Statement (Rev P1)

(ref no.)

Overview

The proposal is to construct a detached, single storey child care facility in the grounds of, and adjacent to, the applicant's existing nursery establishment. This would cater for up to 40 children, during normal office hours, providing a light filled, open internal play area, with associated sanitary and food preparation facilities. Further, and of huge importance is the access to the large, outdoor, covered area and garden areas beyond. There is, and has been for some time, a local shortage of spaces for child care, and provision of such an environmentally stimulating facility is much needed.

Discussion

The proposal is to create a purpose built, eco friendly unit to give the children free and easy access to the outdoors. It will cater for children from 3 years old through to start of formal Primary education. The existing facility will then be exclusive to the younger children, though access to nature via the shared outdoor setting for all children, will be an integral part of the children's days. The nursery is currently classed as an indoor/outdoor nursery where freedom of movement is given.

The opening hours will be from 7.30-6pm. The extension of hours is to help parents who are working long days and parents that are now starting to commute again. The nursery will need to employ 2-3 extra staff to cater for the additional capacity. The nursery is experiencing significant demand for it's services. We currently have a waiting list and turn away families on a weekly basis. At the moment we have 15 families waiting for a space to become available.

Staff park on the street outside the nursery, which has a long road frontage providing ample space, aided by the adjacent residential properties having their own parking areas. There are no issues with parking or parents picking up and dropping off, as they are there for only a few minutes. Slightly staggered start and finish times, also dilutes traffic issues, and having a separate pedestrian entrance, closer to the proposed building, making use of the existing vehicular access gate, will speed up the drop & collection process. These measures also assist in maintaining smaller groupings of people from separate family units.

Site levels are to be altered only very slightly, by both lowering the higher area at the rear, to assist in reducing the building top line, but also marginally raising the areas to the fore of the facility, giving a more even play area, and greatly improving accessibility from the site entrance for all users. Access from the public entrance to the proposed building would be via a firm, level, water permeable surface.

The proposed footprint has been orientated so as to be back from the existing property building line, whilst making best efforts to avoid encroaching on existing boundary walls, retaining walls, and tree root areas. A Tree Survey Report is included with the submission, and the Site Services Drawing has the tree root areas shown, for context with the proposed footprint. This also maximises the play area to the front of the building, and minimises the over-shading from trees on the southern and eastern boundaries. Solar thermal gain via the southern glazing and solar PV panels, are important aspects of the energy consumption design.

The replacement of three trees, with native, and more appropriately proportioned species is proposed. The existing tree positions are too close to the proposed building, to ensure their future health is

unaffected. The two Lawson Cyprus would continue to grow to an even more unmanageable size, which may well impinge upon the adjacent stone boundary wall.

The Bhutan Pine, which is perched in a raised stone walled area, is of course non-native, and again is positioned too close to the proposed building to ensure its wellbeing, requiring its replacement. These would be replaced with Hazels, at each location. The Hazel will be a more visually appropriate species, giving a slower growing, shade tolerant, broad leaf, which can be coppiced to give an improved aesthetic, and useful crafting materials. The flowering, fruiting, and branch structure will provide a much improved wildlife habitat. Hazel has long been associated with wisdom, tales of which no doubt to be shared with and appreciated by the nursery children.

Consideration and indeed active encouragement of the local ecology, for the enrichment of the nursery school experience, is indicated by creation of log piles and use of stone filled gabions. Bat boxes will be installed on several of the existing trees, in addition to the fact that no likely bat roosting sites will be disturbed. An Ecological Survey has been carried out, and is included with the application.

The building structure has been designed to enable high volumes of zero ozone depleting and global warming potential insulation products to be utilised, through the use of timber “I” beams, which in themselves greatly reduce the quantity of timber to form the structure. The roofing and cladding are fully recyclable steel sheet and timber.

Externally, a simple pallet of Scottish Larch and steel sinusoidal cladding, both in shades of grey, are non-continuous, thereby reducing the visual mass of the proposed building. They are also both fully recyclable materials. The low, mono-pitched roof minimises the overall height, but is adequate to hide the solar PV panels from view, whilst not causing shading. These PV panels will play an important part in the reduction of carbon emissions, which will be demonstrated by SBEM calculations, during the Building Warrant phase. The PV power generated is expected to be approx 3000kWh per year, which would be around half the annual energy consumption, easily satisfying the requirement for at least 10% of the carbon reductions to by renewable sources.

Large glazed doors on the southern elevation, provide vast quantities of natural light and views to the vegetation and trees of the large play area, enable solar gain in the heating seasons to be captured internally, which the concrete slab will perform very well as a store/release, but are well shaded with the overhanging canopy to prevent overheating via noon sun in summer. The canopy also plays the essential role of providing a sheltered area for outdoor play in inclement weather. There is no glazing on the north elevation as the existing retaining wall would obstruct any views, and since there is no solar gain on this elevation, opaque elements achieve the optimal heat retention.

Rainwater will be retained on site, using an in-ground soak-away system. External lighting will be minimal, and downward pointing, such as the low level bollard lighting, utilising time switches to ensure operation only during occupation. Grass mat protection will also be utilised, to help minimise degradation of the grass play areas.

Internally, acoustic ceilings and hard wearing and underfloor heated flooring will provide a robust but comfortable environment for the children and staff. Sanitary facilities for the children and staff include enlarged and accessible toilets including externally accessed accessible facilities removing any sense of exclusion during much encouraged playing outdoors.

Heat and hot water to be provided by a small combi gas boiler. Gas is immediately available on site. A combi style boiler will avoid the need to store hot water, reducing scalding and legionella risks. The boiler need only be the smallest of units, which can modulate to low output, as the heating requirement for the building will be low (estimated to be approx 3kW @ minus 1^{o}C).

Conclusion

The need for this proposed building has come about as a result of insufficient places for families to access day care for their young children. This solution builds upon the existing successful nursery facilities, in a way that minimises the environmental impact during the construction and operational life of the building, and through to its eventual recyclable demolition. Adding to the external environment by introducing more native tree species, and creating habitat for wildlife, is very much part of the ethos of how the children learn, as they benefit from the excellent indoor and out door spaces. The visually low impact building is completely screened form view from outwith the site, due to the existing high boundary wall, and the wealth of mature trees. Staggered start and finish times has already helped to mitigate potential peak traffic, and the proposed use of the existing second public access point, along side bike and scooter rack provision, would be expected to widen the variety of traffic types and timings.

Appendices

1. Loonbrae Tree Survey
2. Loonbrae Environmental Assessment
3. Loonbrae Habitat Map

End of statement