Heathfield Primary School Information for Publishing

• **A basic description of the project and building.**
   The brief for Heathfield Primary School is for a ‘tandem’ build new school extension adjacent to the existing school as well as refurbishment to some of the existing premises. The scheme is developed on the basis that the current facilities for Heathfield Primary School are insufficient and outdated for a three stream school. The intention is to demolish an existing dining block which has reached the end of its life, increase sports facilities to cope with a school this size, create a new welcoming main entrance, incorporate a new dining area at the heart of the building and refurbishment of some areas of existing school, helping to bring the facilities to current education standards.

• **BREEAM Rating and score.** Hopefully ‘Excellent’

• **The key innovative and low-impact design features of the building:**
   As a 1920s school building, the key was to wrap the mass of the building to the rear has enabled us to control the size and scale fronting onto Heathfield Road which clearly announces the new extension and main entrance, without overpowering the existing elevation to minimise the environmental impact of the scheme.
   Surface water runoff from the new extension roof, car parking, and playground extension discharge to soakaways located within the car parking area and landscaping of the playground extension. This utilises Sustainable Urban Drainage principles to provide an appropriate level of treatment and storage provision for surface water runoff from various areas of the site.
   The car park construction utilises porous block paviours in the parking spaces, with infiltration of surface water into the existing ground. The use of a proprietary porous block paving system with a permeable sub-base will provide two levels of treatment to surface water runoff and a level of storage for extreme rainfall events. The use of infiltration will avoid any additional surface water discharge to the existing drainage system from this area of the site.
   Roof and playground extension surface water runoff is collected by a traditional gravity drainage system and discharged direct to the sub-base of the soakaways where a single level of treatment is provided before infiltrating the ground.
   The electrical design incorporates 120m2 of roof-mounted Photovoltaic (PV) panels which, it is anticipated, will produce approximately 12050 kWh of electricity per annum. PV panels convert sunlight directly into Direct Current (DC) electricity which is then converted to Alternating Current (AC) electricity and then integrated into the building’s electricity supply. A front end display unit will be positioned in the main entrance of the school providing information on the current PV activity. PV is distinct from other renewable energy technologies as it has no moving parts to be maintained and is silent.
   The air handling units (AHUs) which serve fresh air to the building utilise thermal wheel technology. A thermal wheel comprises a cylinder, packed with a suitable heat transfer medium, that rotates slowly within an airtight casing which bridges both the supply air and extract air ducts allowing heat to be transferred from the air being extracted from the building. Thermal wheels are generally quite compact and achieve high efficiencies due to their counterflow configuration - in this instance we expect efficiencies of 65% heat recovery to be achieved.
   The gym hall will be naturally ventilated via both electrically actuated low-level louvres and roof-light windows. As warm air is less dense than cold air it will rise vertically through the gym hall and exhaust naturally via the open roof-lights. As the warm air leaves the gym hall cold air is entrained into the space via the low level openings and this provides fresh air to the zone's occupants. As this cooler fresh air is warmed, via convective and radiant heat gains, it's density decreases and it begins to rise vertically through the space causing the whole ventilation process to repeat naturally.

• **Basic Building Cost** - £1,220/m2

• **Services Costs** - £276/m2

• **External Works** - £184/m2

• **Gross floor area - m2.** Rationalised/existing GIFA 2642m2. Extension GIFA 1721m2. Total 4183 m2
• **Total area of site** – hectares. 1.83ha in area

• **Function areas and their size (m²)**. Dining Room 254 m². Double Games Hall 400m² (200m² each), multipurpose meeting / community room 30 m².

  **NIFA (Net internal floor area)** for existing areas is 1594m²

  **NIFA (Net internal floor area)** for rationalised areas is 389m²

  **NIFA (Net internal floor area)** for new build areas is 1477m²

  Total NIFA is 3461 m²

• **Area of circulation (m²)** 720m² (17.3%)

• **Area of storage (m²)** 170m²

• **% area of buildings to be used by community (where relevant)**. Community able to use up to 976.8 m² between the dining room, sports area and multipurpose meeting room.

• **Predicted electricity consumption** – 32.2 kWh/m²

• **Predicted fossil fuel consumption** – 112.3 kWh/m²

• **Predicted renewable energy generation** – 7 kWh/m²

• **Predicted water use** – 2.6 m³/person/year

• **% predicted water use to be provided by rainwater or greywater** N/A

• **The steps taken during the construction process to reduce environmental impacts, i.e. innovative construction management techniques** –

  Within the temporary site office and canteen areas, Mansell have incorporated recycling bins for the separation of the following debris: Paper, plastic bottles / cups and drinks cans. All operatives are encouraged to dispose of debris in the manner.

  Separate skips will be brought to site for the segregation of waste, most commonly; general builders debris, timber and metal. However, a separate skip will be brought in for plasterboard debris. All skips brought to site will be fully closed, to prevent unauthorised access / debris items being blown out / disturbed by vermon.

  The building has undergone a full Asbestos strip-out, although several items remain and are identified within the Site Induction. We have been advised that the client will remove the remaining asbestos items within the existing building prior to our commencement of the refurbishment element of the existing areas. All operatives who may be affecting the fabric of the building must undertake Asbestos Awareness Training, by a UKATA accredited organisation. If any asbestos is to be removed by Mansell / Subcontractor must be ARCA Registered. This is not expected due to the client’s intention to remove via another organisation.

  The client has appointed an Ecology survey of the existing site and building. Bats, have been found roosting within the fabric of the building previously and if any are uncovered during the duration of the works, the activity must cease until the bat has left the roost. Bat bricks are to be procured and incorporated into the external envelope.

  Noise assessments will be undertaken for each activity which will create excessive noise. Other methods or plant items will be considered where appropriate and measures implemented to reduce noise at source, including enclosures and regular servicing of tools. Training will be undertaken for those exposed to noise and tool box talks provided throughout the works to re-emphasis requirements.

  Suitable PPE will be provided and supervision allocated to ensure correct PPE is worn during the task.
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At certain days / times throughout the duration of the works the school may undertake assemblies / presentations etc in adjacent areas of the existing building. At these times, there may be a requirement to stop certain activities to minimise the disturbance to the school users / pupils.

Actions required during these times may include:

1. Cease use of telehandler and other large plant items. (Excessive reving / reversing alarm)
2. No alteration or building of system scaffolding items

No percussion or powered tool use. Eg, no drilling or grinding / cutting with motorised rotating wheel.

The site is positioned with a residential area immediately to the Northern boundary. Due to this close proximity, we will make all possible attempts to reduce noise outwith normal working hours, Eg 07:30-18:00hrs Monday to Friday. E.g:

1. All site generators will be switched off at end of working day.
2. No power floating of concrete slabs after the working day.
3. Reduce the amount of noisy activities undertaken at the weekend.

There are existing combined foul and surface water sewerage systems around the perimeter of the existing building. (Reference the attached site plan which identifies the existing & new foul and surface drainage.) A bunded area will be created around any diesel brought to site, or alternatively the diesel tanks will be double lined to prevent any possible contamination of existing drainage systems. This requirement will be made informed to all subcontractors who will bring fuel on to the site. Storage of all fuel / diesel will be undertaken in accordance with SRCA 6.

Drainage areas will be checked out for the presence of vermin in particular rats and advice handed out with regards to Leptospirosis (Weils Disease).

Spill Procedure

**Inform** - the Project Manager or Site Manager

**Evaluate** - the extent of the spillage / release and instruct an evacuation if required

**Inform** - Fire Brigade / Local Authority / SEPA / Client as necessary (Refer to Emergency Arrangements Notice for Phone Numbers)

**Inform** - Regional SHEQ Manager by Telephone Tina Ambler 07896 173836

**Contain** - Block / protect nearby drains or manholes, particularly surface water drains, with absorbing materials from the spill kit

**Refer** - to COSHH Register / COSHH Assessments / Data Sheets

Soak up materials still on the surface by absorbing materials from the spill kit

Inspect any nearby ponds / watercourses for signs of contamination

Scrape up any contaminated material / soil, store on plastic sheeting and cover

All materials should be collected and disposed of as 'Special Waste' See SRCA 18

Record all possible affected persons working within close proximity to the spillage or release.

Dust suppression equipment will be used in conjunction with breaking out / cutting of concrete based products to minimise the build-up of dust. This will involve the use of water suppression. Collection bags and or vacuum’s must be utilised for sawing, electric planning, routering of any timber, plywood, mdf boards etc. Mansell preference is to undertake these types of activities outside, rather than inside the building.

During AMES taping / decoration works, appointed subcontractor to utilise vacuum cleaner attachment and / or dust sheets when sanding walls ready for painting.

Externally, Mansell completed the car park and used as a storage facility, which greatly enhanced the cleanliness and appearance of the site during the construction of the works. By the installation of the hardstanding to the areas, dirt, mud, sludge and dust was greatly reduced.

However, when necessary, Mansell used a road brush to clean down the hardstanding areas of the site and the areas of Doon Road. Moreover any dust was dampened down on dry and windy days to prevent dust clouds exiting the site and causing a nuisance to third parties.
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In order to connect the existing building to the new structure, the existing slate roof was removed. This reduced the effectiveness and weather integrity of the existing roof. Mansell therefore created a temporary roof covering and monitored throughout the period until the permanent roof was in place. A wet vac was positioned within the school to enable any water to be quickly removed. The school janitor advised Mansell directly to deal with any egress problems.

**Sun Protection**
All operatives must wear clothing made from close-woven fabric, such as long sleeved workshirt, which will stop most of the sun’s UV light. A safety helmet will provide some shade to the head. A hanging flap will protect the back of the operatives neck. Sun protection cream is located within the washroom for operatives use.

**Pigeons**
All pigeon droppings or droppings from other birds or bats are to be removed in a safe manner. A suitable organisation will be appointed and the Mansell will ensure that the correct PPE will be worn in accordance with the applicable COSHH assessment.

**Sharps / Contaminated Needles**

There may be the presence of contaminated sharps / needles / syringes around the perimeter of the site within one of the many darkened recesses / beneath stair features etc. If any ‘sharps’ are found or if anyone comes into contact with a sharp, they must report to Mansell management immediately.

**Deliveries**
1. All deliveries must be in accordance with the procedures detailed within the Mansell Project Management Plan.
2. Mansell will make attempts to turn vehicles on the site, thus allowing them to exit the site in a forwards direction. Where this is not possible all reversing vehicles must have a trained banksman to assist with the reversing procedure.
3. Vehicles must access / egress the site outwith the school circulation times.

**Site operative and visitor parking**
Due to storage requirements, there will be no site parking within the vicinity of the site. Operatives will therefore be limited to park on the adjacent nearby roads. However, Mansell will ensure that:
1. Operatives and visitors do not park immediately in front of the residents driveways and those residents always have clear views to access / egress driveways.
2. Doon Road immediately in front of the site entrance is not blocked with parked vehicles thus allowing large articulated lorries to access and egress the site.
3. Operatives and visitors cars must not park up on the pavement.

**Litter**
1. Mansell operative will collect and dispose of all litter which enters the site via the school playgrounds / sports pitch.
2. Mansell operative will collect and dispose of all litter found in the area where the site operative and visitor cars are parking.

• A list of any social or economically sustainable measures achieved/piloted the site was registered with the Considerate Constructors scheme and scored 35 average. Photovoltaic cells on roof to generate electricity. Allocation of cycle shelter on site and bike hoops near the entrance to promote sustainable travel to the area.