Hiltingbury Junior School – Recladding and re-roofing

Overview

1. At the Executive Member for Commercial Strategy, Human Resources and Performance on 17 March 2021, £1.546m of funding was agreed for re-cladding of Hiltingbury Junior School.

2. That project is brought back to the Executive Lead Member for Universal Services on 23 January 2023 to request further funding be made available from the unallocated provision within the 2022/23 Schools Condition Allocation (SCA) grant, allowing the project to encompass a broader scope of works and progress as a 'towards carbon net-zero pilot' SCOLA recladding project.

3. Hiltingbury Junior School is situated adjacent to Hiltingbury Recreation Ground between Hiltingbury Road and Pine Road in Chandlers Ford. The Junior school is of SCOLA 2 system build and was constructed in the early 1970's. The building is steel framed with a façade of brick, single glazing and cement panel boards.

4. When originally proposed to the Building's Land and Procurement panel in March 2021, the intent had been to deliver a project using HCC's long-established approach to replacing the external envelope of these system-built buildings to improve thermal performance, enhance safety and improve teaching environments. However, in the 21 months since approval, Property Services have continued to review how these buildings (that represent around 35% of the overall Hampshire schools estate), could through their careful refurbishment, take greater steps towards reducing embodied carbon and improving climate resilience.

5. As such, at the Buildings Land and Procurement Panel on 6 April 2022, proposals were set out and agreed to develop a pilot project for the recladding of an existing SCOLA school using low-carbon construction, including the installation of heat-pump heating. Hiltingbury School was selected as an appropriate candidate; with scoping already progressing on many of the necessary elements within its core scheme. Proposals for the project have since been developed to give the building its intended new lease of life whilst meeting the key objectives of the pilot:

    - To create a learning environment resilient to the environmental impacts of 'a 2°C rise by 2050'

    - To deliver a project in which the operational energy is <70kWh/m²/y – in line with the RIBA 2030 Challenge target for new-build schools for 2025.

- To establish a low embodied carbon benchmark for a comprehensive SCOLA re-clad and refurbishment project.

6. The revised proposals will replace and upgrade the roof finishes, the existing window systems and reclad the entire envelope of the building. To meet the Building Regulations the proposals also incorporate Natural Ventilation and Heat Recovery (NVHR) units to optimise the internal temperature of the classrooms, with night-time purging and brises soleil shading fins on the southern facade to minimise heat gains in the summer. The proposals also include the replacement of the existing lighting with LED fittings to reduce energy use and the temporary removal and replacement of the existing Solar PV array upon completion of the roofing works.

7. Thermal modelling has been carried out to test the proposals using precited 2050 weather data. The proposals seek to ensure that the indoor temperature of the teaching spaces will not rise above 28ºC for more than 120 hours per year in accordance with the Building Regulations.

8. Taking account of the improvements to the building's fabric outlined above the operational energy in use is predicted to be 61kWh/m²/y which is well within the RIBA 2030 Challenge target for new-build schools for 2025 at <70kWh/m²/y.

9. Key revised areas of scope include a number of measures to reduce the embodied carbon within the materials used, these include the use of an engineered timber structure to support the new cladding, natural fibre insulation and composite timber/aluminium double-glazed windows and doors. Calculations estimate a potential 70% improvement in embodied carbon, versus the traditional SCOLA reclad specification.

10. There is also an aspiration to instal a ground source heat-pump to decarbonise the schools heating, subject to a successful grant application. A bid for grant funding has been submitted to Salix under phase 3 of the Public Sector Decarbonisation Scheme (PSDS3). The PSDS3 scheme requires nominating authorities to fund the cost of the like for like replacement of the existing system, with the grant funding the additional cost of the lower carbon solution. The outcome is expected at the end of January 2023, and therefore provision has been made within the overall funding request to enable this element to progress without delay. If unsuccessful, the project will continue without replacement of the heating system and that element of cost will be reconciled and returned to the overall programme for use on other projects.

11. The school site will remain in use during the construction period and local management arrangements will be put in place to manage the health and safety impact to all users. The work is planned to be undertaken in three phases with modular classrooms used to decant the areas where the

contractor will need to work. It is proposed that the hall and kitchen works are completed during the school summer holidays to minimise disruption.

12. A Planning application was submitted in December 2022 and a decision is expected in early 2023. The works will be procured through the Minor Works Framework and are anticipated to commence on site at Easter 2023 with the works completing in the spring 2024.

Climate Change Impact Assessment

13. Hampshire County Council utilises two decision-making tools to assess the carbon emissions and resilience impacts of its projects and decisions. These tools provide a clear, robust, and transparent way of assessing how projects, policies and initiatives contribute towards the County Council's climate change targets of being carbon neutral and resilient to the impacts of a 2℃ temperature rise by 2050. This process ensures that climate change considerations are built into everything the Authority does.

14. The Adaptation Project Screening Tool identifies that the existing buildings will be highly vulnerable to future extreme heat, rain and wind events that will occur with the climate consequences of a global average 2℃ temperature rise by 2050. The project will incorporate the following features to mitigate the impact of extreme weather events:

    - Replacement of the single glazed windows and doors with new double-glazed units with solar glazing, which will reduce excessive heat gain whilst maintaining a good standard of daylight.
    - Provision of Brises Soleil shading fins on the southern facade to reduce solar gains.
    - Natural Ventilation and Heat Recovery (NVHR) units to optimise the internal temperature of the classrooms, with night-time purging reducing excessive heat gain.
    - Existing roofs will be over-roofed with tapered insulation to improve the thermal performance of the building, with new external rainwater goods to provide resilience to increased rainfall.

15. The carbon mitigation tool does not calculate emissions for refurbishment projects so is not applicable. However, the project will incorporate the following features to reduce energy consumption and embodied carbon to mitigate the impact of climate change:

    - Recladding the external walls with brick slips to the ground floor and timber cladding to the first floor, incorporating natural fibre insulation to improve the thermal performance of the façade and reduce embodied carbon.

- The recladding is to be supported on an engineered timber structure to reduce embodied carbon.
- Replacement of the single glazed windows and doors with new composite timber/aluminium double-glazed units which will improve the thermal performance and reduce embodied carbon whilst maintaining a good standard of daylight.
- Existing roofs will be over-roofed with tapered insulation to improve the thermal performance of the building.
- Replacement of existing lighting with LED (part funded by school)
- Removal and replacement of the existing Solar PV array upon completion of re-roofing.

Finance

14. This project is brought back to the Executive Member for review due to the increased cost associated with the revised scope of works associated with the pilot project. The additional approval includes £280,000 of SCA necessary to support a PSDS3 bid, however should this be unsuccessful, £280,000 will be returned to the overall programme for use on other projects.

15. The CCBS Climate Change Investment Programme has approved an allocation of £200,000 to support the development of the pilot scheme which forms part of the overall funding.

16. The Executive Member is requested to approve the allocation of a further £1,765,000 of SCA to progress the project to completion. The updated value of this 'Key Project' to be notified to Cabinet is now £3,811,000.

17. The funding currently approved for this scheme is as follows:

Financial Provision for Total Scheme	**Buildings £**	**Fees £**	**Total £**
School Condition Allocation (SCA) (approved at EMCSEP 21.01.2022)	1,327,039	218,961	1,546,000
Total			**1,546,000**

18. The revised anticipated cost for this project and amended proposed funding for the scheme is now as follows:

Financial Provision for Total Scheme	**Buildings £**	**Fees £**	**Total £**
School Condition Allocation (SCA) 2021/22 (Original works)	1,327,039	218,961	1,546,000

CCBS 22/23 R&D – Climate Change Investment Programme	171,674	28,326	200,000
School Condition Allocation (SCA) 2022/23 (scope complexity and cost pressures)	1,274,678	210,322	1,485,000
Public Sector Decarbonisation Scheme (PSDS3)	257,511	42,489	300,000 *1
School Condition Allocation (SCA) 2022/23 (contribution for PSDS3 grant)	240,343	39,657	280,000 *1
Total	**3,271,245**	**539,755**	**3,811,000**

*1 the £300,000 PSDS3 grant and £280,000 SCA additional contribution, £580,000 total, will be omitted from the projects scope if PSDS3 bid is unsuccessful.

Appendix 3A – Project Appraisal Drawing