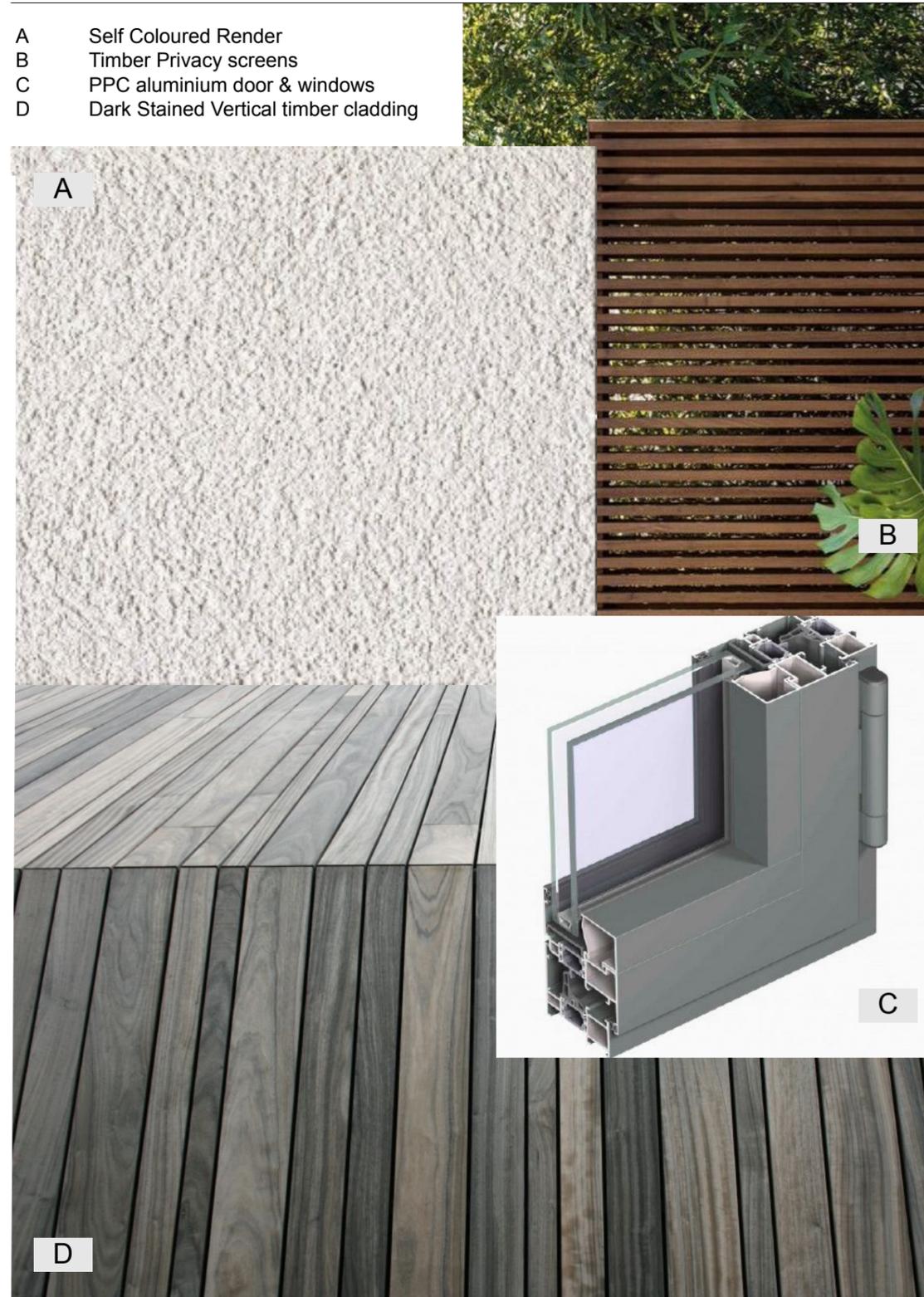


- A Self Coloured Render
- B Timber Privacy screens
- C PPC aluminium door & windows
- D Dark Stained Vertical timber cladding



The current dwelling is very much as it was originally constructed, with only minor alterations and, as such, is relatively poorly insulated, but constructed of sound and strong masonry, including internal cross-walls.

Our clients required additional space for their growing family needs and, whilst it is possible to extend at ground floor level, this would compromise the external space and relatively limited garden area. Whilst the roof is relatively spacious, the trussed rafter arrangement would mean conversion would require considerable additional structural alteration or replacement, which was not only less sustainable, but also beyond the budget. A more rational approach was therefore required. With the central spine wall being masonry, we found it was possible to insert some additional structure over one half of the building width, allowing us to remove a section and re-support the existing truss ties such that the remaining element still worked as a half-truss. By constructing it all in timber frame, we can ensure all elements are easily re-connected, whilst also keeping the weight on the existing foundations relatively small. There were a number of drivers to the best position for the new element, influenced by keeping the new bathroom over the existing one below, for simplicity of drainage, a stair that could slot between existing structure, and the new space to be positioned such that it was furthest from any sensitive boundaries, to prevent overlooking. This all led to positioning the new extension as a simple timber box over the north-east corner of the house. So, whilst it isn't a traditional response, it's a truly rational and the most sustainable one.

The design makes best use of natural light, putting living spaces on the lighter side of the house. This reduces the need for artificial lighting during the day, as well as adequate natural ventilation through the building. In addition to this, there will be an MVHR system installed to maintain good air quality whilst also reducing heat losses.

The new extension will be constructed predominantly using a highly insulated light weight timber frame and will comply with or exceed the current Guernsey Technical Standards (Building Regulations). All doors and windows will be replaced with high performance double-glazed thermally broken aluminium. In the future, as budget allows, the existing external walls will have an insulated render system applied, so this design allows for that. The oil fired boiler and tank will be removed and a new electric boiler installed, with the infrastructure improvements installed to allow for future solar PV & solar thermal panels on the roof.

All materials will be sourced through local supply agents and, where possible, embedded energy will be kept as low as possible through use of more regional material, keeping shipping distances to a minimum.

All new brassware will utilise water saving methods, such as aeration, to minimise water usage.

Waste

By avoiding roof removal, there is much less waste generated. The tiles that are removed will be set aside and the timber from the trusses re-used in partitions (ceiling ties remain in-situ). Any remaining waste removed from site will therefore be kept to a minimum and any material that can't be re-used on site will be separated out for recycling.