



Sustainable schools in Suffolk - the way forward.

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Sustainable schools

- Using our resources wisely
- Latest new primary school
- The next projects

Abbots Green Community Primary School



 Suffolk County
Council

FARRANS
Building & Civil Engineering Contractors

A.C. WEBB
ELECTRICAL CONTRACTORS

BOWER FULLER
Mechanical Contractors

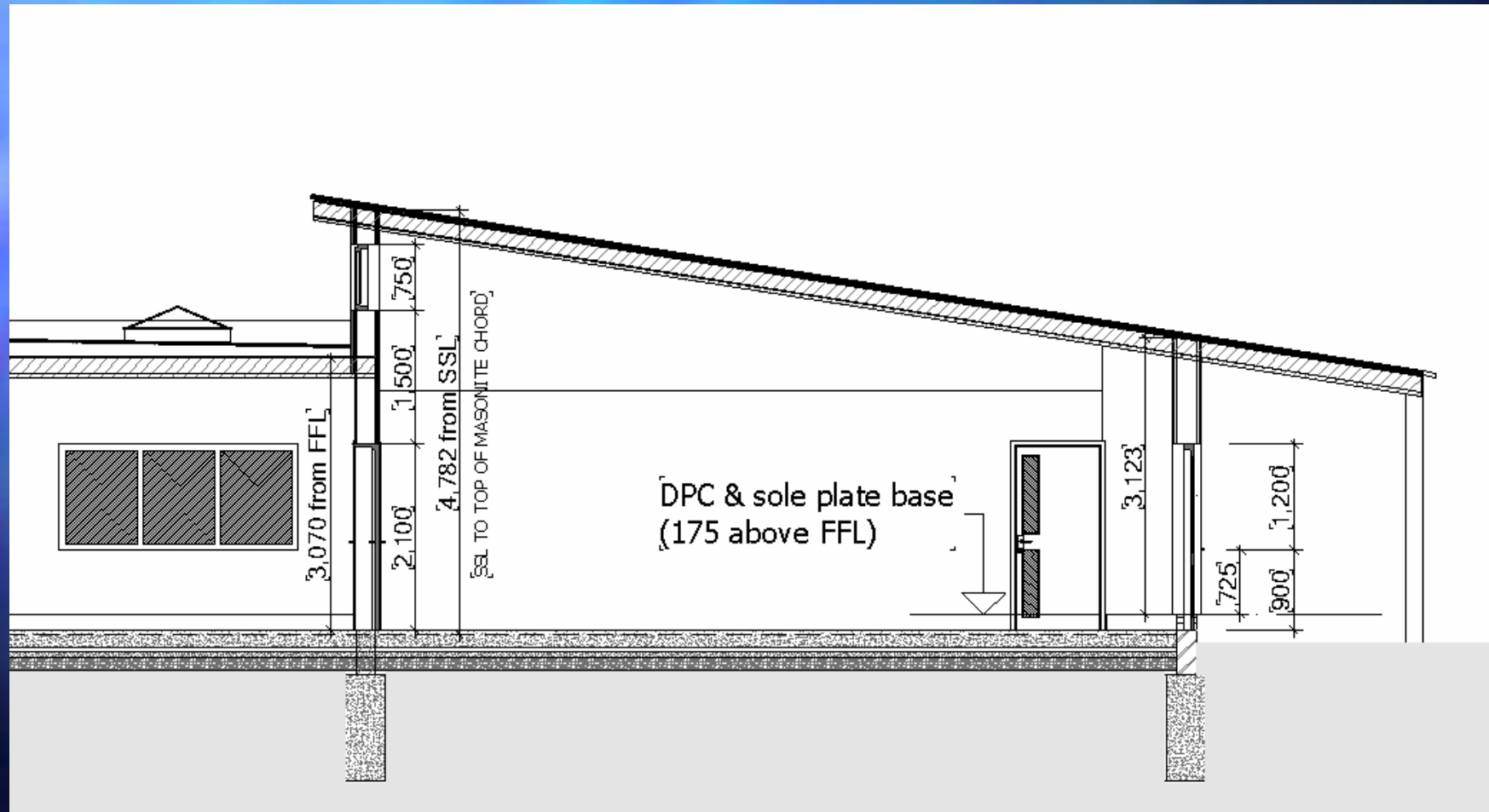
J.P. Chick & Partners Limited
Consulting Civil & Structural Engineers


Design

- Passive solar design
- Natural ventilation
- Daylight
- Thermal mass



Cross flow natural ventilation



Night cooling: low level inlet



External grille



Closed



Open

Night cooling: high level outlet



Construction



■ Structure

- Pre-fabricated cassettes
- FSC certified softwood timber studs
- sheathing panels
- battens

■ Insulation

- Warmcel recycled waste newspaper insulation

Walls

- External cladding
 - softwood cladding
 - render
- Internal dry lining
 - gypsum bonded wood particle board



Roof

- Extensive green roof



Finishes

- Ceilings
 - wood fibre bound with cement
- Carpets
 - 100% nylon tiles



Photovoltaic system

- 68m² photovoltaic modules
- 9.975kW
- dti solar PV grant



Solar water heating

- 10m² vacuum tube solar collectors
- 300 litre solar cylinder
- 500 litre DHWS cylinder
- BRE dti Clear Skies renewable energy grant



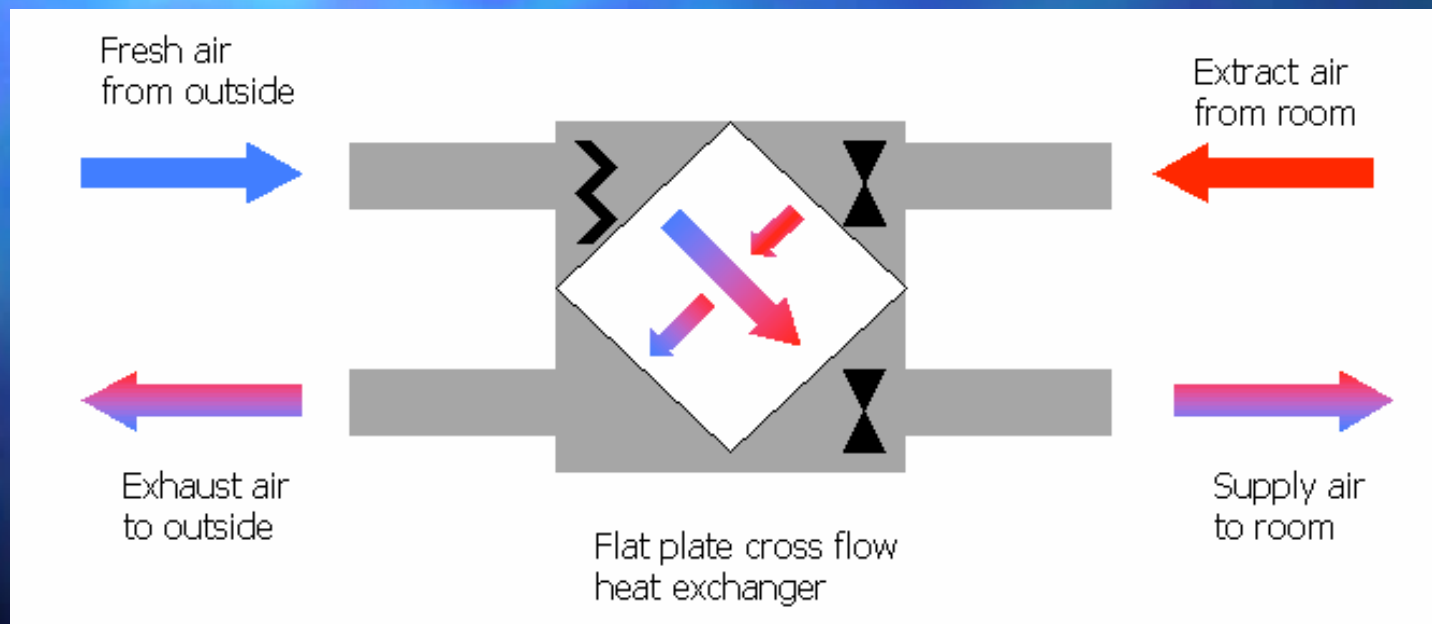
Rainwater



- 327m² flat roof area
- Ultra-violet disinfection
- Flushing WC's and urinals

Heat recovery mechanical ventilation

- ICT room
- Internal rooms
- Changing rooms



Wind turbines

- Beaumont CP School
 - 6kW turbine
- Abbots Green CP School
 - future installation
 - cable duct
 - inverter, isolators, etc.



Woodchip-fired boilers



- New primary school at Rendlesham
- New primary school at Stowmarket
- Boiler replacements at 4 schools

Conclusions

- Cost
- Environmental benefits
 - sustainable construction materials
 - reduced fossil fuel consumption
 - reduced emissions
- Education

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