

Transparent photo voltaic panels on the greenhouse and glazing to the new circulation core. (Source: OnyxSolar)



Air source heat pump to be situated on the roof at Lion Chambers. (Source: Mitsubishi)



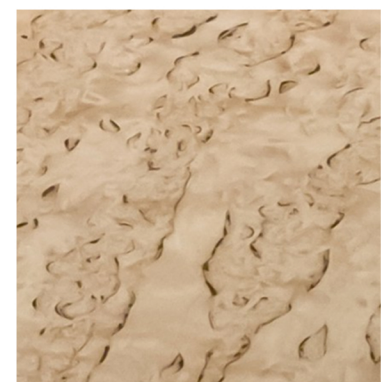
Rain water harvesting and irrigation system to water plants and garden roof. (Source: Envato Elements)



External Lighting. The award winning Grade I Piece Hall, Halifax external lighting scheme. Source: © Mark Sunderland Photography, Historic England.org



Woodwool fibre board have good insulation properties but also good acoustic properties. Source: Savoliti washers and wodwool board at www.mikewye.co.uk



Cork has perviously been used at the Lion chambers. It has good insulation and acoustic properties.

ENVIRONMENTAL DESIGN STRATEGY

ELECTRICITY

Transparent solar photovoltaics generating electrics for lights is proposed. Any surplus electricity generated to be sold to the grid. Glass, balustrades and even shading elements can generate energy through PV's. Additional energy needed can be bought from a renewable energy source from the main grid, for example, solar or wind.

VENTILATION

The kitchen and bathroom ventilation and extractor fans are situated through dedicated service cores throughout the building and also through existing chimney flues subject to survey. Natural ventilation is through openable windows fitted with safety restrictors.

HEATING

The heating is provided by air source heat pumps situated on the roof. Underfloor heating is also a possibility in the Lion Chambers, which helps to dry out the building. Traditional cast iron radiators are proposed to the Georgian building.

LIGHT

External lighting strategy: External lighting is proposed both for security and aesthetic reasons. Possibly up-lighters fitted on ground level. Internal lighting strategy: Use of energy-saving LED lights throughout the building.

ACCOUSTICS & THERMAL INSULATION

Wood wool fibreboard has both excellent insulation and acoustic properties. Cork which has previously been used in the Lion Chambers, also have good acoustic properties.

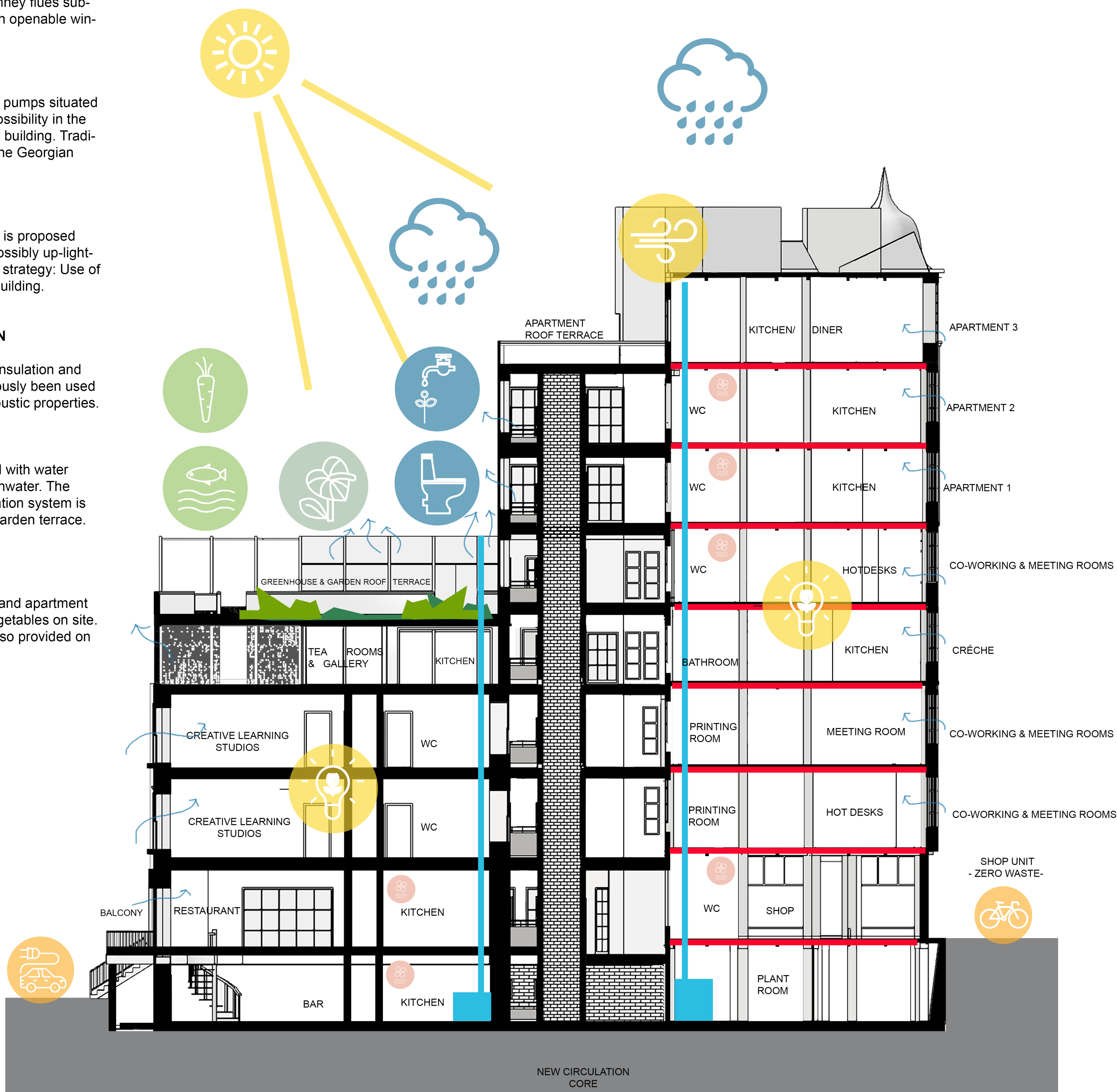
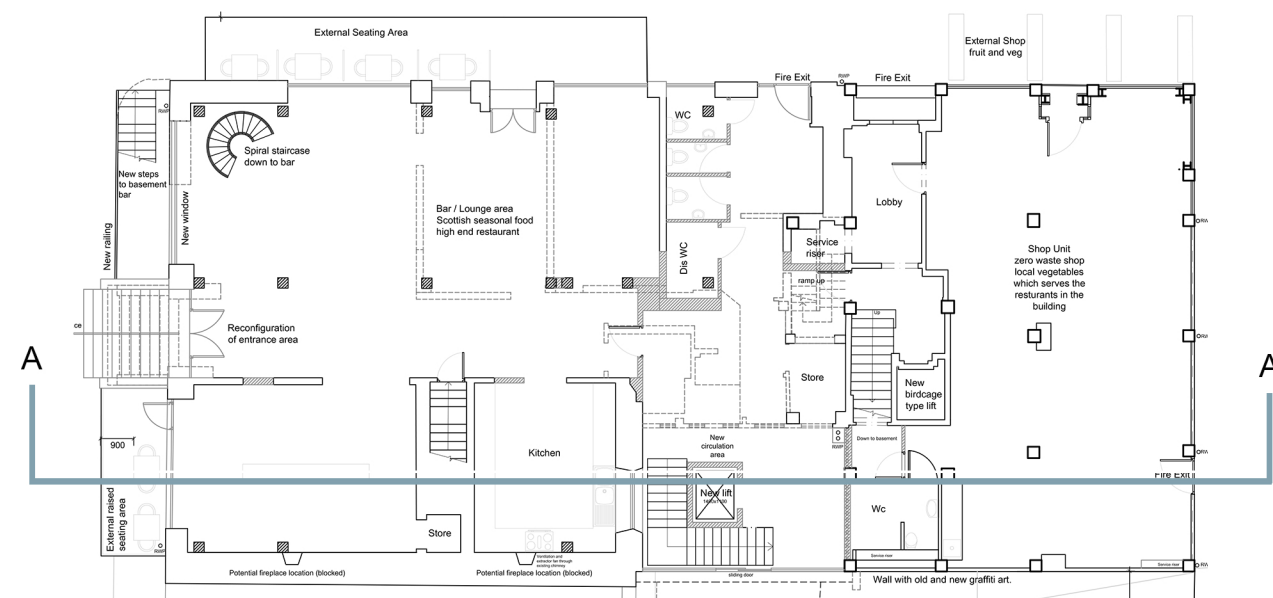
WATER

A rainwater harvesting system is proposed with water tanks. The WC's are to be flushed with rainwater. The drinking water from mains supply. An irrigation system is also proposed to water plants in the roof garden terrace.

FOOD

A greenhouse is provided for the eateries and apartment owners who will be provided with fresh vegetables on site. A Zero waste shop with local produce is also provided on site on the ground floor shop unit.

- Rainwater tank for rainwater collection to flush WC's
- Underfloor heating
- Mechanical Ventilation & natural ventilation through
- Electrical charging point for vehicles
- Bike racks
- Airsource heat pumps
- Solar energy (PV's on glass roofs, balustrades, windows etc.)
- Energy efficient LED lights throughout the buildings.
- Rainwater harvesting to flush WC's
- Rainwater harvesting / irrigation system to water plants
- Garden terrace
- Aquaponics
- Providing restaurant with local vegetables from the greenhouse.



ENVIRONMENTAL SECTION

INTERIOR VISUALS



INTERIOR OF THE TEA ROOM / GALLERY



INTERIOR OF THE RESTAURANT



INTERIOR OF THE BAR