Technical Forum

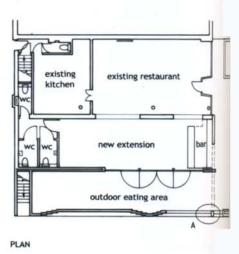
Palmiro restaurant, Manchester

A brick wall, inspired by Carlo Scarpa and incorporating a brick beam which spans over 5metres, is examined in detail by Susan Dawson









Structural Engineer: Buro Happold. Manchester Quantity Surveyor: Simon Fenton Partnership

Newsham Park Windmill, Liverpool



Spinney House, Liverpool



Construction on the Silver Jubilee Bridge (Runcorn Bridge) begins



Tate & Lyle Sugar silo, Liverpool





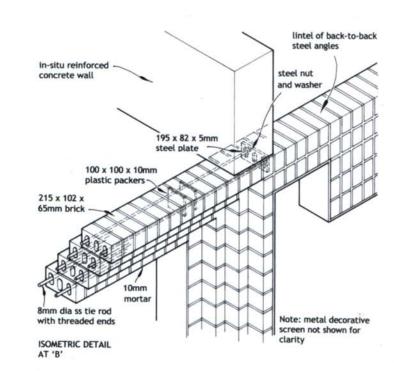
Maurice Shapero's design for Palmiro, an Italian restaurant in Chorlton, Manchester, has extended the restaurant interior and created an outside dining area on a former car park. The design reflects the owner Stefano's Venetian roots and in particular his admiration for Carlo Scarpa. In the new interior, the division between old and new is clear; the original external wall, cut away in parts, divides the old dining room from the new, creating two intimate spaces and allowing the new space to become a bar when needed. The outside dining area is enclosed with a wall of stack-bonded brickwork recessed in both horizontal and vertical planes. It frames a large opening, partly infilled with a delicate screen of galvanised steel angles; it also frames a gate at the far end and a side entrance to the restaurant at the other end.

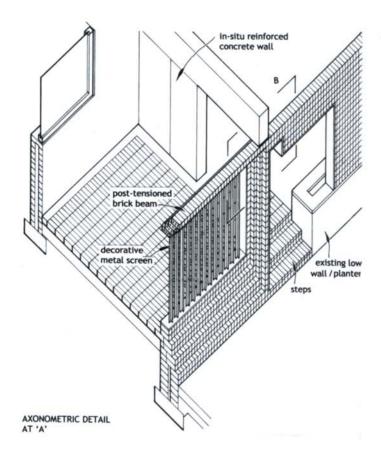
The design of the wall is permeated by the influence of Scarpa - parts of the Brion tomb - and also of Frank Stella, the artist. As Shapero explains: 'We wanted to create a wall with depth, a wall of material substance and spatial capture. Emanating from this criteria, three notions appeared: a series of paintings by Frank Stella, studies in orangey-brown stripes defining and winding around a surface: Scarpa's stepped wall motif and the use of a three dimensional Cartesian grid to give depth. Brick became the common denominator; Stella's paintings even have grey lines in-between the orangey brick coloured stripes. The cellular nature of brick is easily buildable in terms of stepping, and the brick is conceptually an expression of a three-dimensional co-ordinate system'

A stepped brick beam spans 5metres over the large opening; the outer holes of each of the bricks were filled with stainless steel rods which were then prestressed to create the beam. The large gated opening is spanned in a similar way but the brickwork over the side entrance to the restaurant is supported on back-to-back galvanised steel angles. Internally the positive of the negative recesses resolves itself in a series of mantelpiece like stepping plates. Stefano sits candles on the tops in the summer evenings, creating a fireplace-like sense of tradition.

Structural engineer Buro Happold describes the brick beam in detail

The structural design for the brick wall was achieved by horizontally pre-stressing the brickwork to brick beams spanning between the vertical piers. The brickwork was constructed with bed faces vertical and with 10mm rigid plastic packers concealed within the vertical joints. 8mm diameter stainless steel rods were passed through the core holes of each of the four stepped brick courses and connected at the ends to 5mm stainless steel endplates. The pre-stressing rods were passed through the brick core holes un-bonded with the last two bricks at each end being mortar-filled to accommodate the increased local stresses in the region of the anchorages. Initial tightening of the rods was undertaken while the mortar was still fresh in order to ensure full contact between the plastic packers and the brick faces. After 7 days the required mortar strength was achieved, the pre-stressing of the rods was completed and all propping removed.





Preston Bypass, Britain's first motorway opens



Le Corbusier exhibition at Walker Art



1960 Oxford Road Station, Manchester



1961 St Mary's Church, Leyland, Preston Weightman and Bullen

