

Fig 6.1: Author's sketch indicating the 'box' tower



Fig 6.2: Constitutional Court and Constitution Hill _ Johannesburg. OMM Design Workshop & Urban Solutions Architects and Urban Designers.

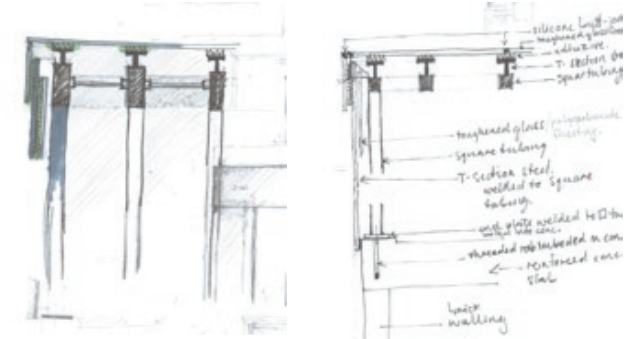


Fig 6.3: Falls Leisure Centre _ Belfast. Kennedy Fitzgerald & Associates.



Fig 6.4: Fitzwilliam College Gatehouse and Auditorium _ Cambridge. Allies and Morrison.

Polycarbonate/Perspex Tower

Section A_A, Detail 1 and Detail 4, of the design drawings show the polycarbonate/perspex box which has been placed on top of the proposed STDC building. This 'box' houses a staircase that takes the users to a landscaped roof space. The light structure also generates height on the western edge of the building to match the height of the neighbouring building.

This structure needed to be as light as possible, so that the transferring loads would be minimal. The reason for this is that the loads on its eastern edge have to be transferred vertically down the steel columns onto the coffered slab, then horizontally through the beams into the concrete columns on the western edge. Its vertical loads on the eastern edge are not directly transferable through the structure into the ground.

Fig 6.5: The hydraulic arm that rotates the louvers: Authors sketch

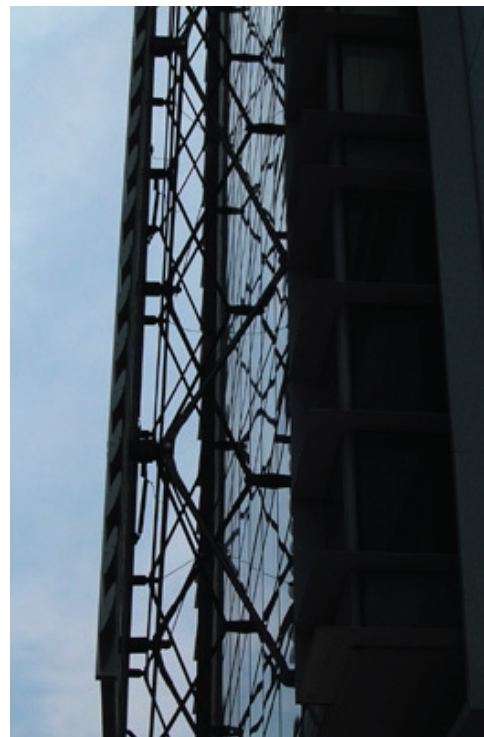
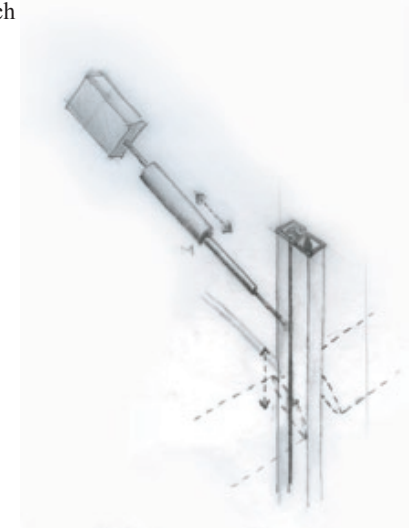


Fig 6.6: Discovery Health Head Office Extension _ Johannesburg. Paragon Architects. (images by author)

Shading System

The proposed STDC building makes use of different glazing systems. Although the site is deep and narrow (70m north-south, and 21m east-west) and neighbours tall buildings, a computer-generated 3D model showed that some of the glass façades received direct sunlight. At the discretion of the designer, it was decided to make use of a louvre system to shade these façades. Some areas on the façades were left uncovered, but these areas only receive minimal amounts of sunlight (less than one hour per day) at large angles.

Sections A:A, C:C and Detail 2 of the design drawings shows the system that is proposed for the building. This is the same system used on the Discovery Health building in Sandton,





Fig 6.7 - 6.12: Clearwater Shopping Centre _ Johannesburg. (images by author)

Glazing System

The proposal for the project called for a readable building that would interact with the pedestrian, bringing the art of dance down to public level. This was the main determining factor in creating a public space in front of the building, and making use of large glazed façades. The entrance to the building sits in the centre of the site, within the proposed public space. This central portion of the site becomes the area of orientation within the building. From here circulation spreads into a linear route along the length of the building as well as vertically.

This portion of the eastern façade (see Section E:E & Detail 7) receives ample shading from the neighbouring building as well as the main staircase which projects into the public space. It receives minimal sunlight and was therefore left open, uncovered by louvres.

For this system the author looked at the glazing system used at Clearwater Shopping Centre in Johannesburg. The system makes use of horizontal, rectangular steel sections welded onto a T-section brace-member which is in turn connected to concrete columns. Aluminium frames are connected to the steel sections with bolts. These aluminium frames relate to the horizontal steel section only. The glass panels are then butt-jointed vertically.

This part of the building shown in Section E:E indicates the use of multi-volume spaces. The western edge of the roof slab indicates the inclusion of a glass roof (Detail 5). Various examples of the treatment of such roofs were looked at.



Fig 6.13: Discovery Health Head Office Extension _ Johannesburg. Paragon Architects



Fig 6.14: Courtyard Building, Fitzgerald Museum _ Cambridge. John Miller + Partners.



Fig 6.15: The Performance Academy _ Newcastle Upon Tyne. RMJM LTD.

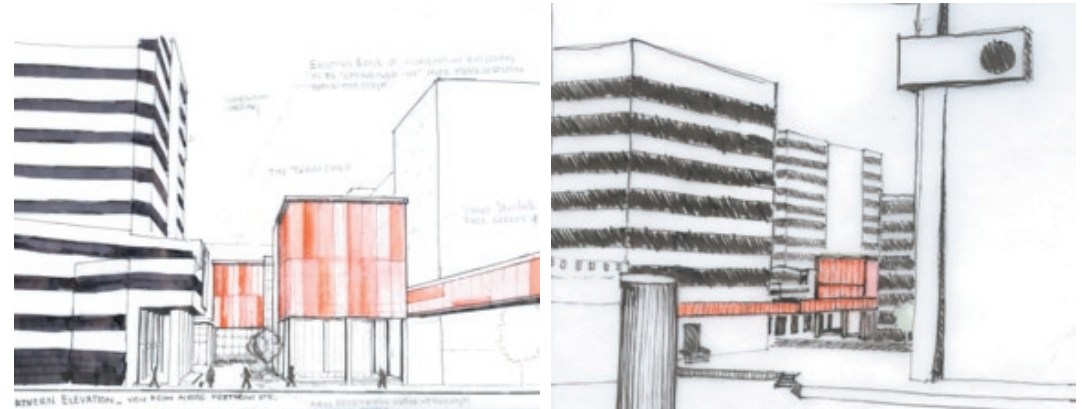


Fig 6.16 & 6.17: Concept sketches of the building as a 'beacon': by author.

LED and Glazing System

The proposal for the study area of the thesis which was derived from the context analysis indicates that the site on which the STDC building sits is a 'landmark' or focal point within the area as it is located at the southern tip of a pedestrian spine running through Strijdom Square. With this in mind, the decision was made to treat the building as a beacon of attraction. The project called for a building that would have a strong presence both during day and at night. This inspired the idea to make use of bold colours and lighting.

At first the design included the use of iodized glass in shades of pink and red. Since the glass needed to be protected from sunlight, especially on the northern façade (which is visible from Strijdom Square), it would have been a shame to hide the glass away. Therefore, the design now incorporates an LED lighting system. The glazing system is built up of horizontally orientated glass panels at random widths. These panels are a combination of randomly placed translucent and clear glass. The LED lights are then positioned behind a bulkhead ceiling in relation to the translucent panels. These panels then light up at night and the building becomes a true beacon.



Fig 6.18 & 6.19: Sentinel Office Development _ Glasgow. Gordon Murray and Alan Dunlop Architects.



Fig 6.20 & 6.21: The layered facade: by author.

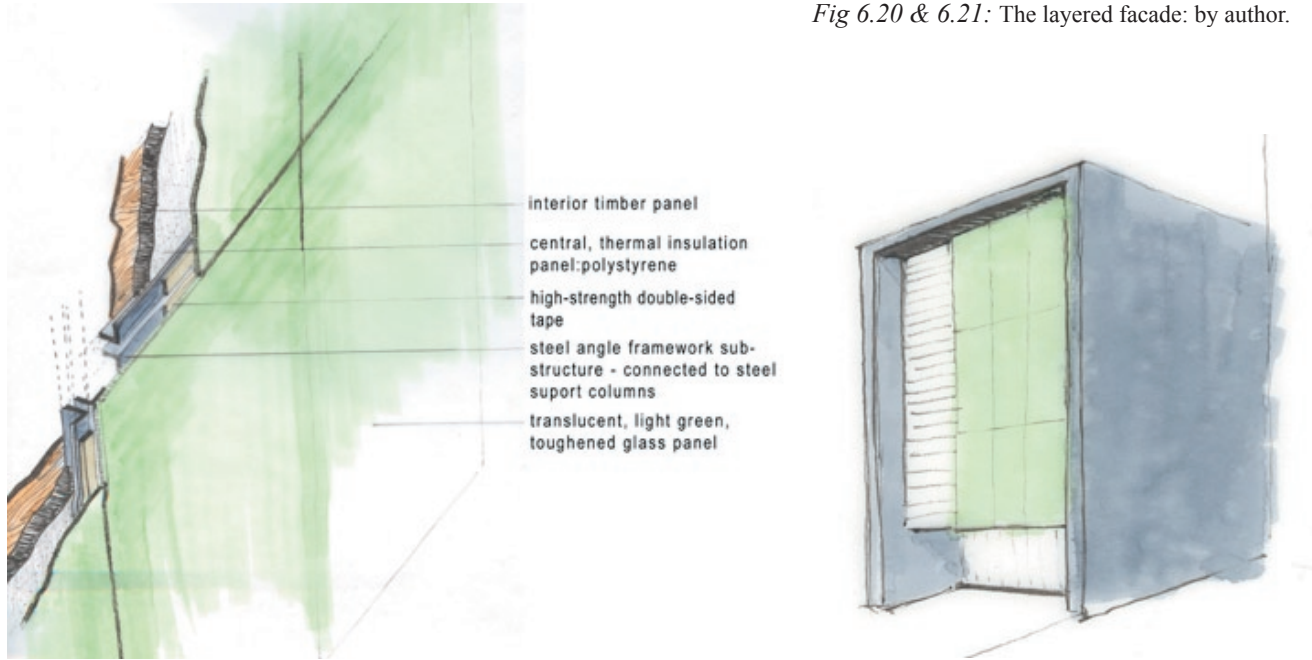


Fig 6.22: Timber venner - glass panels at Seewurfel _ Zurich. Camenzind Evolution.

Cladding Panels

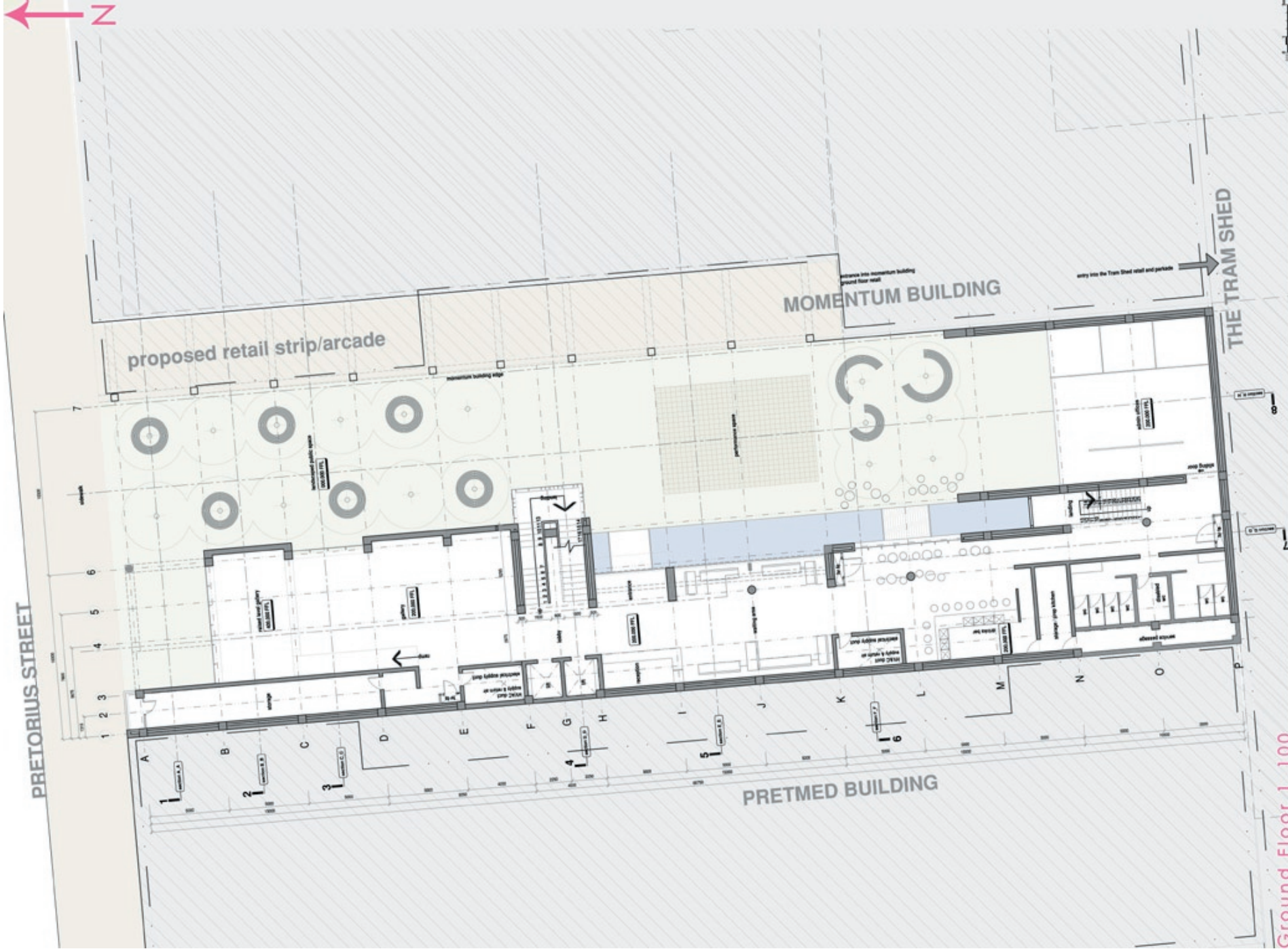
The southern block of the proposed building is physically 'separated' from the main portion of the building by a staircase shaft. It was decided to treat this block differently than the rest of the building and thereby highlight the separation. The block houses an admin office on ground floor and two dance studios on first and second floor.

The design for this portion of the building called for a 'sleek' cladding system, one that would provide the building with clean and defined lines (see Section H:H and Detail 9 of design drawings). The system uses light-green, frosted glass panels that are connected to a steel framework with high-strength, double-sided tape. The steel framework is then connected to steel fins which in turn connect to steel support columns inside the building. The cladding system is made up of layers that include a central polystyrene insulation layer and an interior-finish layer of timber-veneered MDF building boards.

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presentation panels

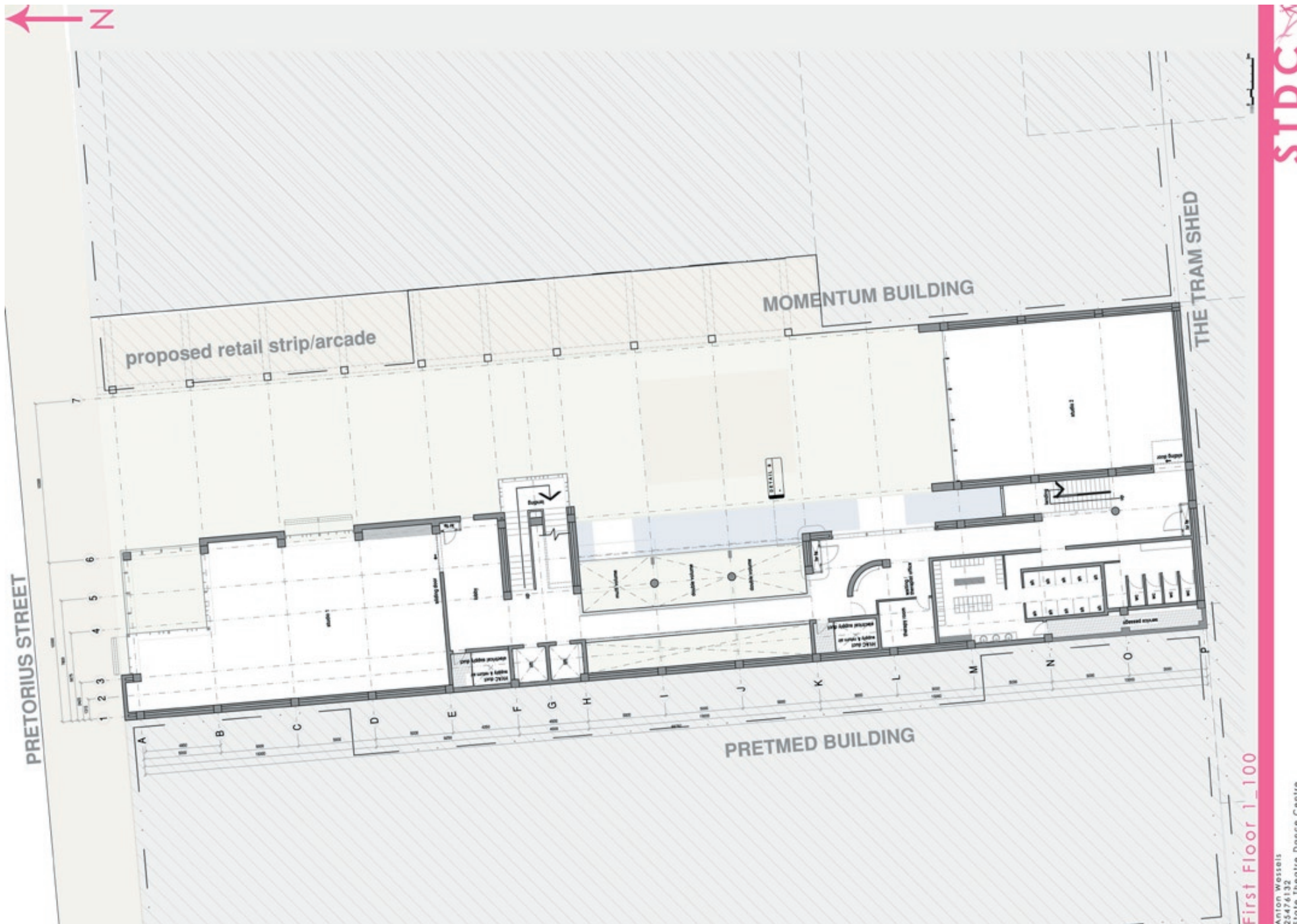




Ground Floor 1_100

Anton Wessels
20476132
State Theatre Dance Centre

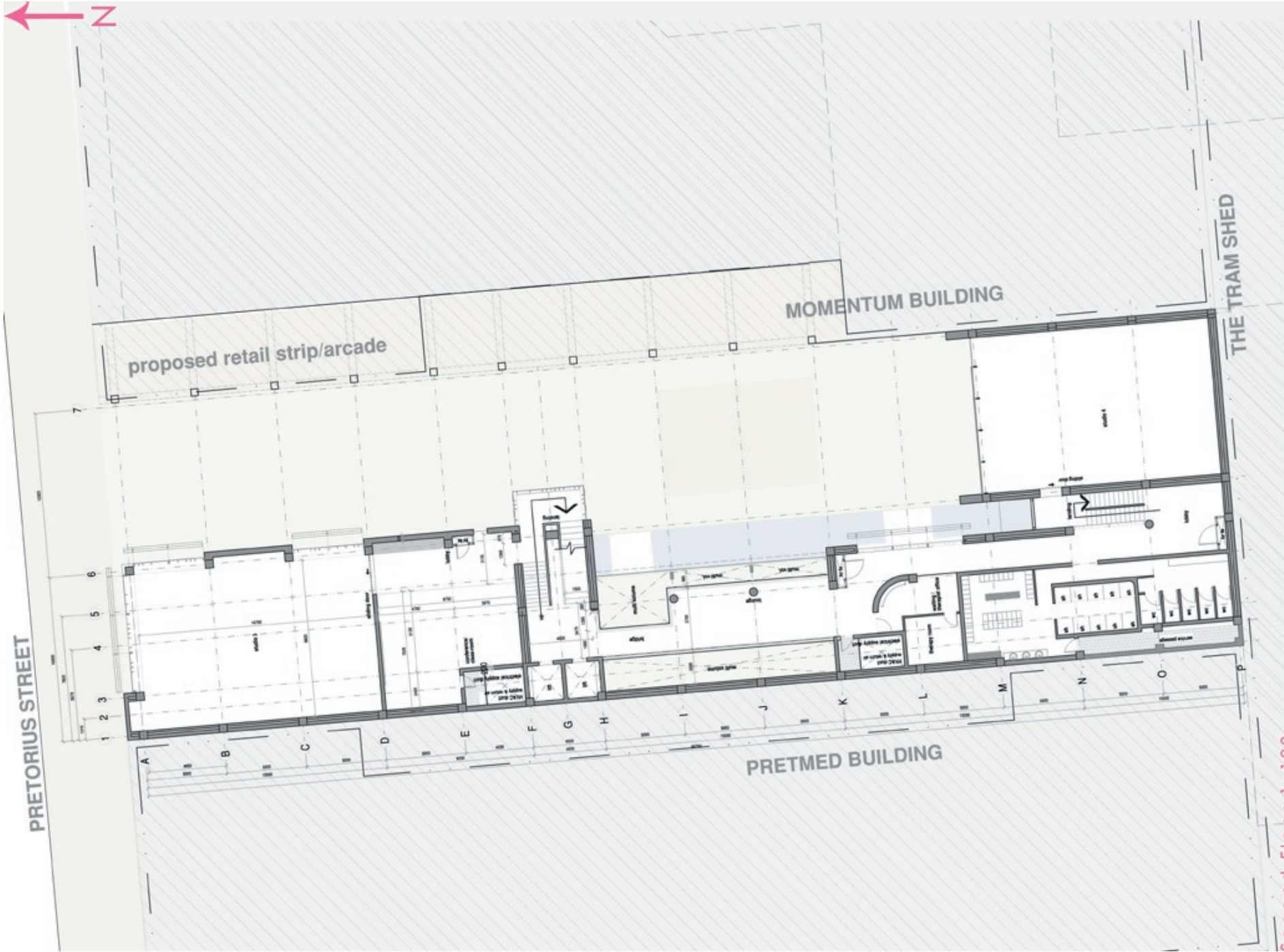




First Floor 1_100

Anton Wessels
20476132
State Theatre Dance Centre

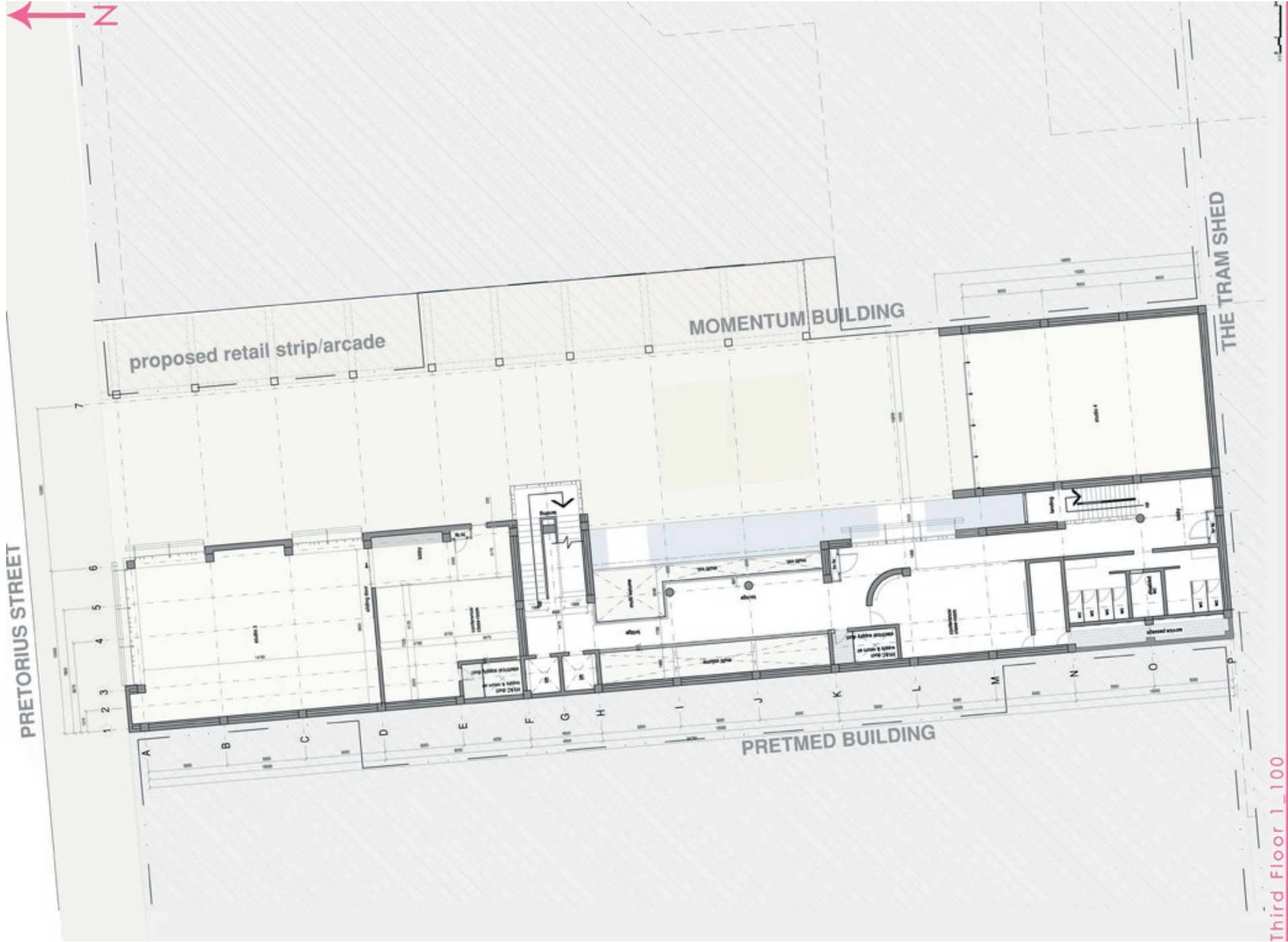




Second Floor 1_100

Anton Wessels
20476132
State Theatre Dance Centre

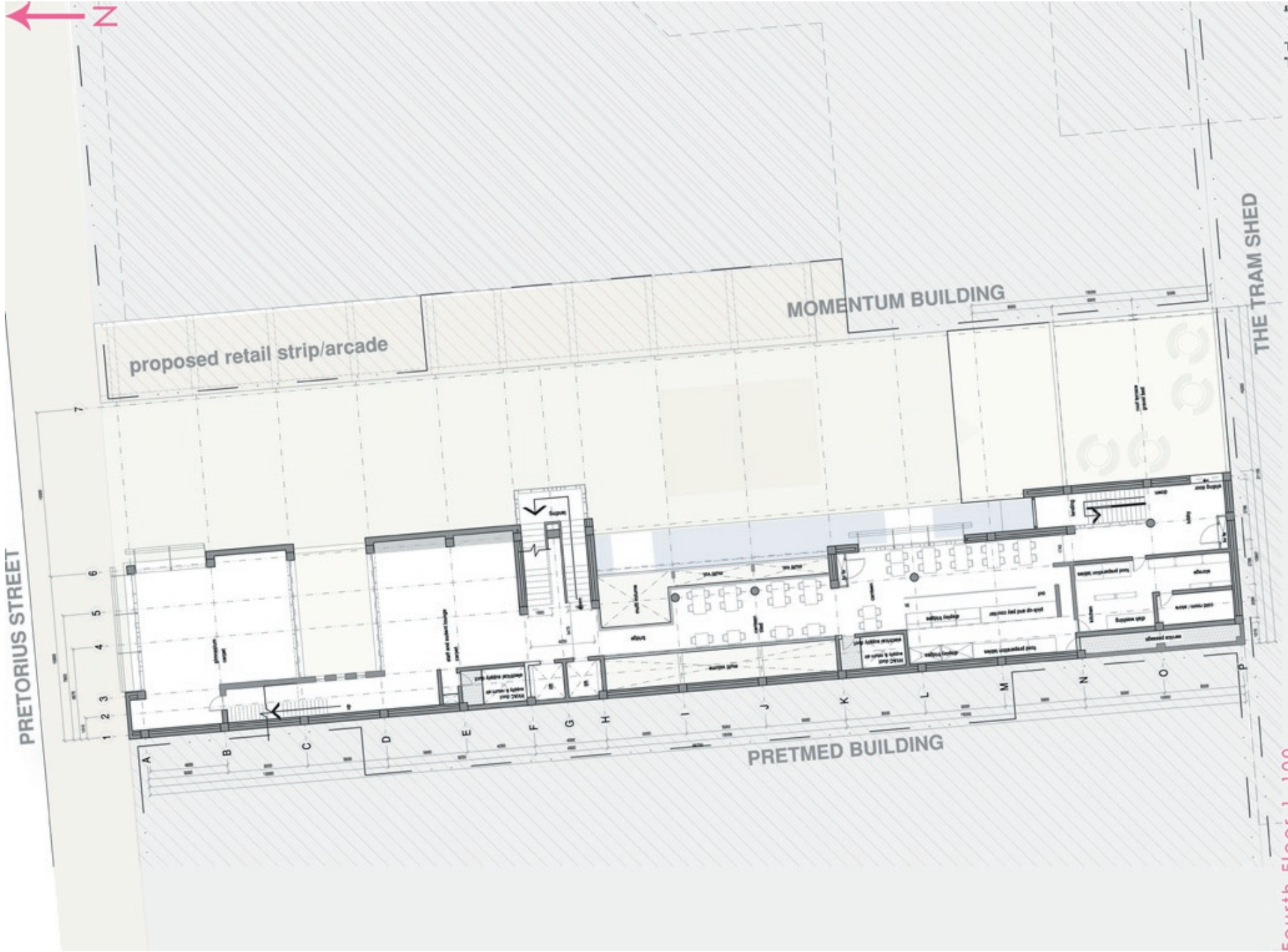
STDC



Third Floor 1_100

Anton Wessels
20476132
State Theatre Dance Centre

STDC



Fourth Floor 1_100

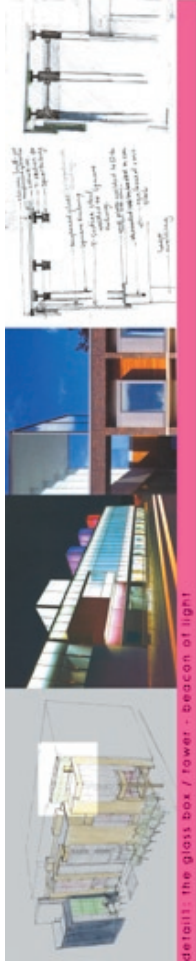
Aston Wessels
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State Theatre Dance Centre

STDC

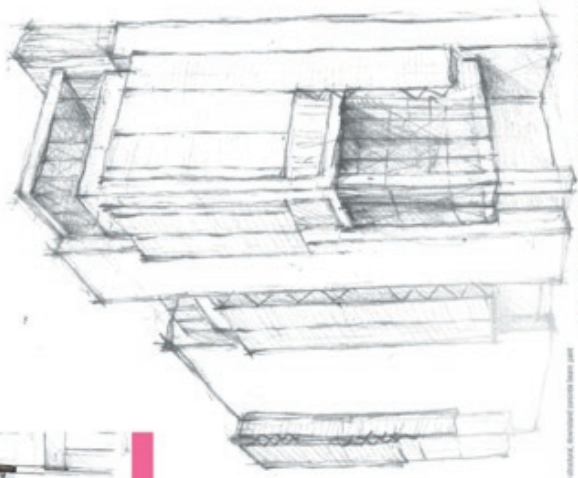


602 SECTIONS, ELEVATIONS AND DETAILS
presentation panels

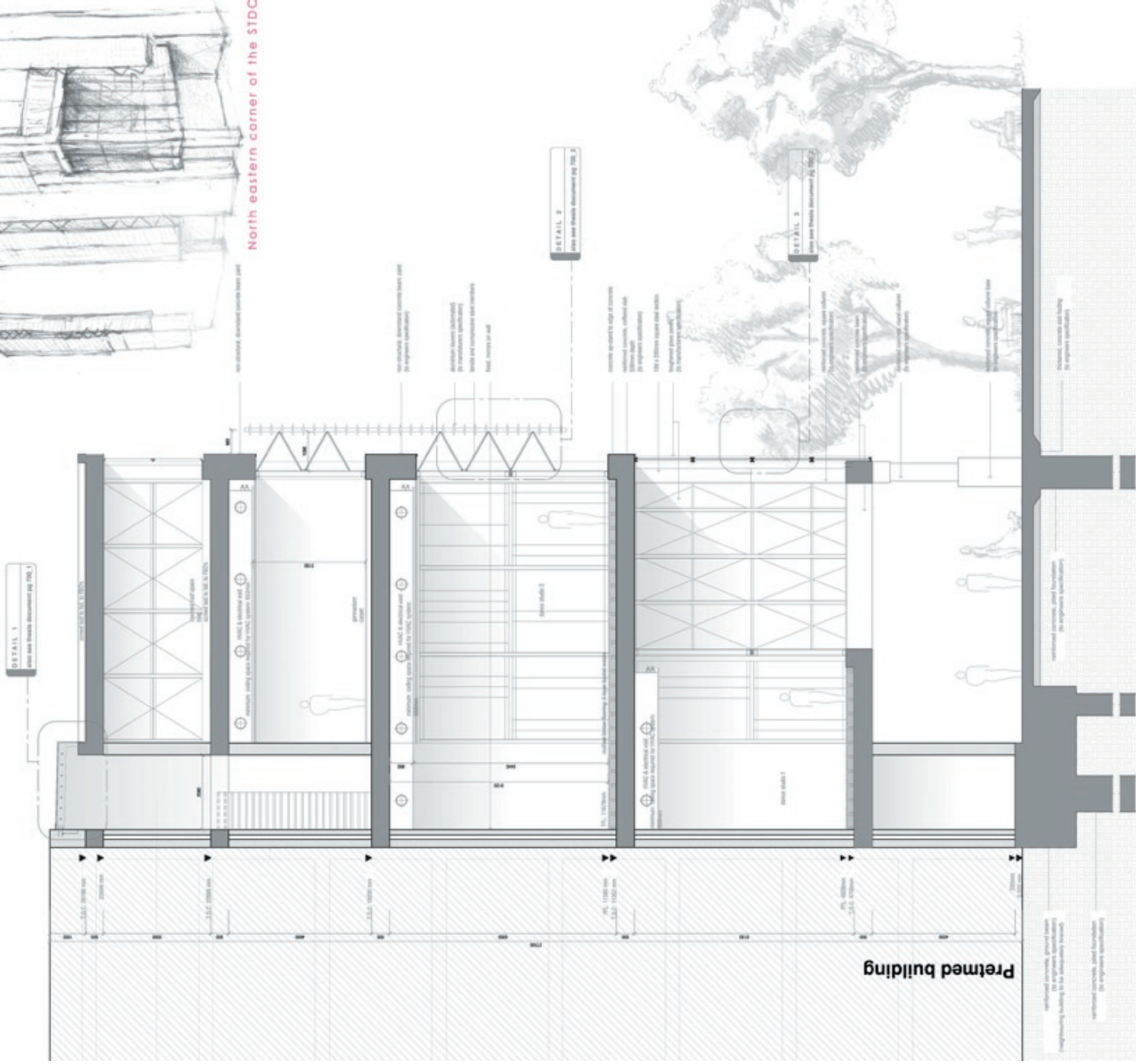




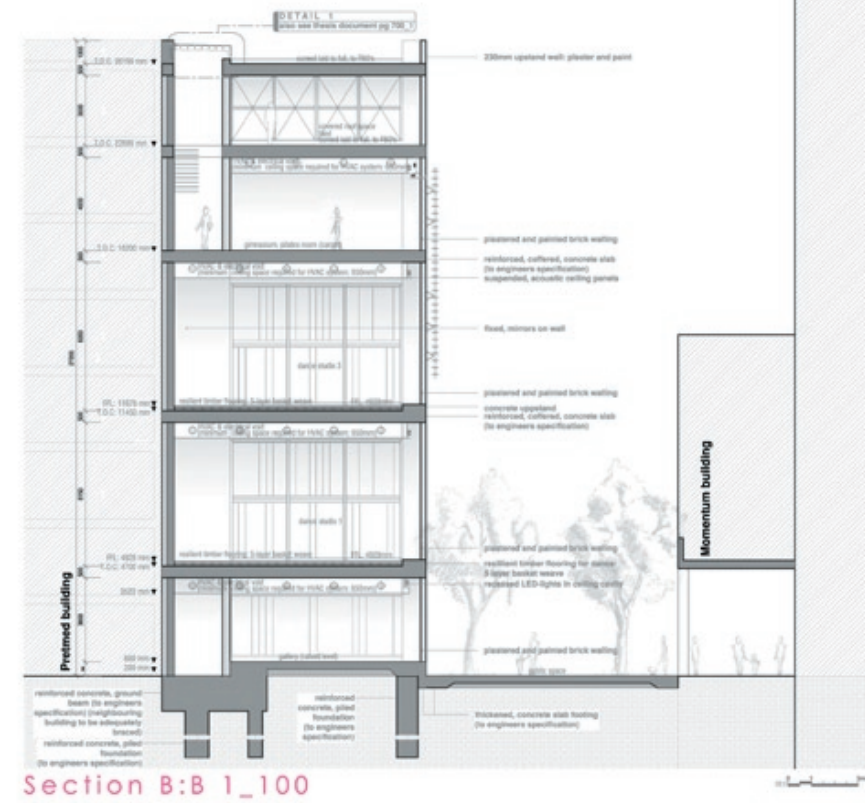
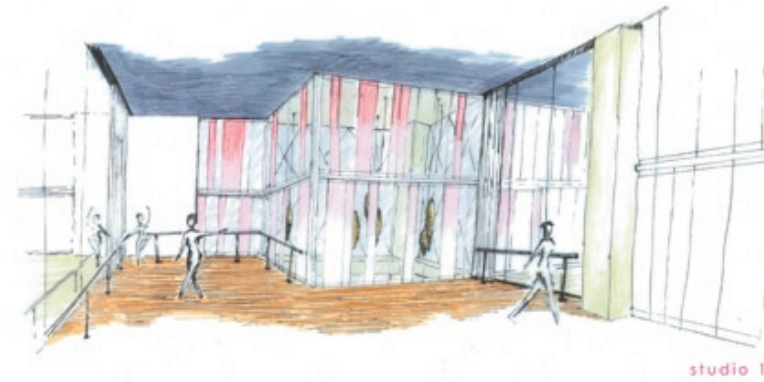
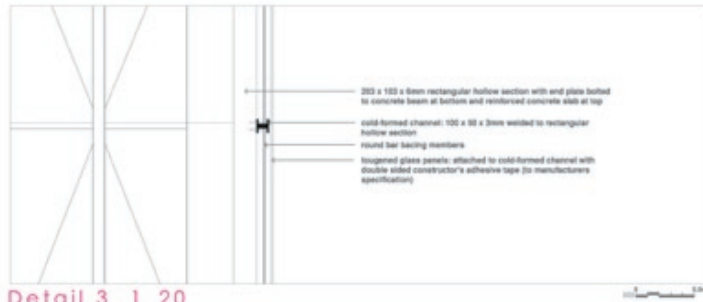
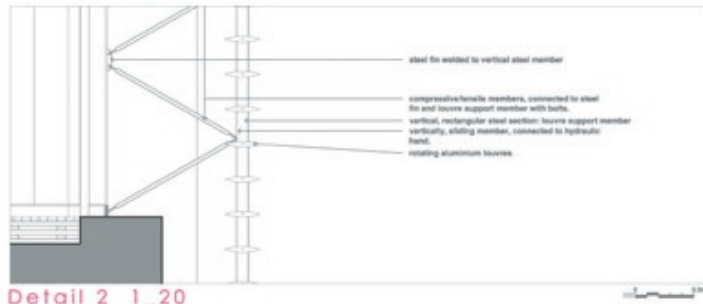
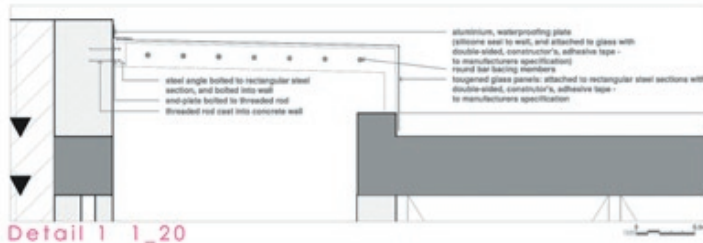
detail: the glass box / tower - beacon of light

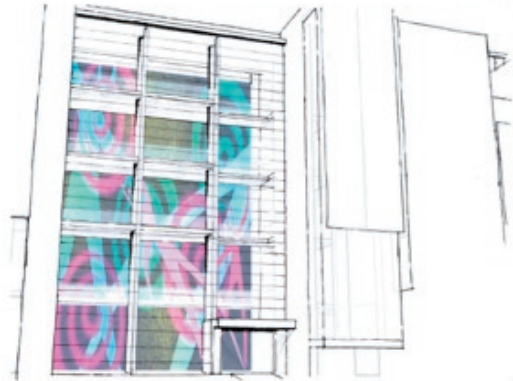


North eastern corner of the STDG



Section A:A 1_50





large mural against multi-volume wall

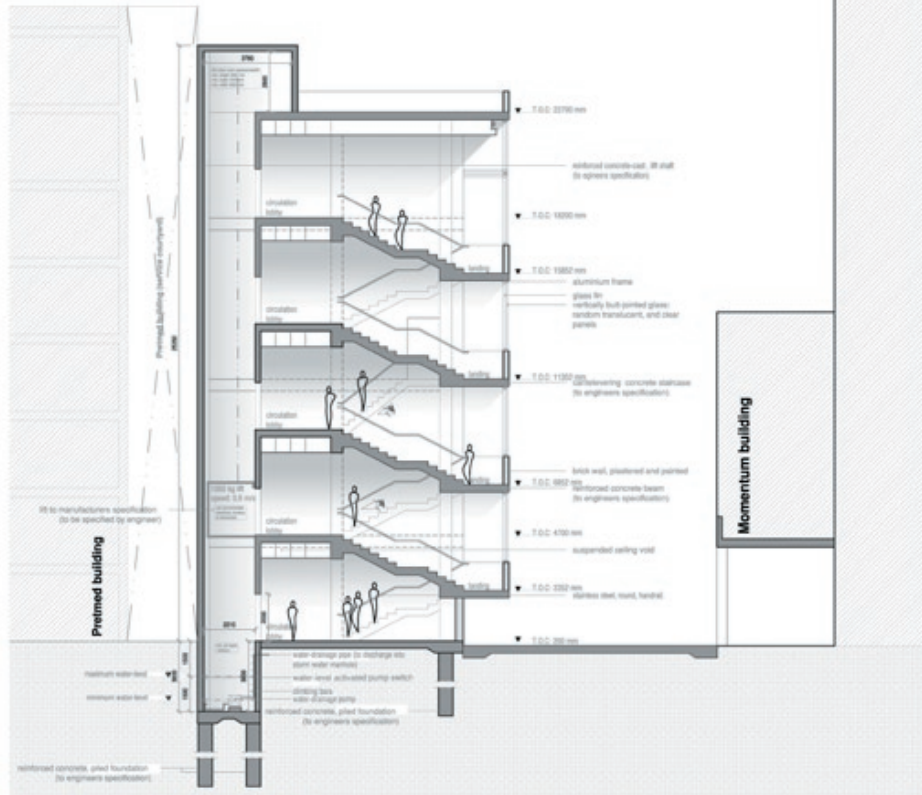


detail 7: steel and aluminium glazing system

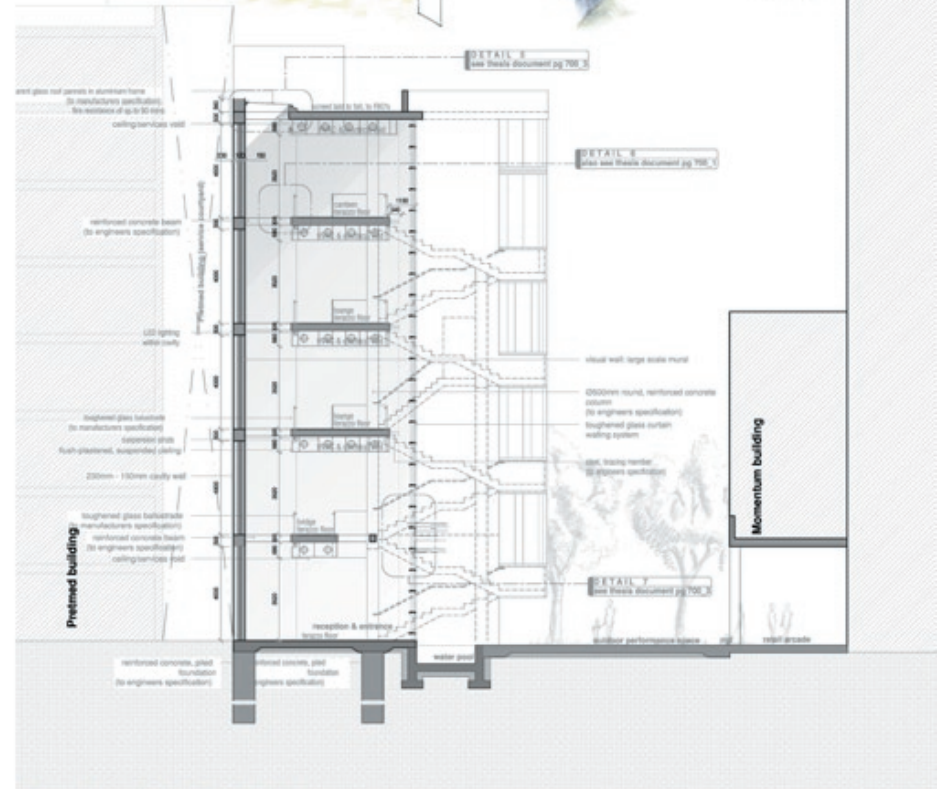


reception lounge

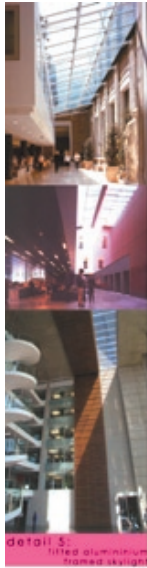
first-floor bridge



Section D:D 1_100



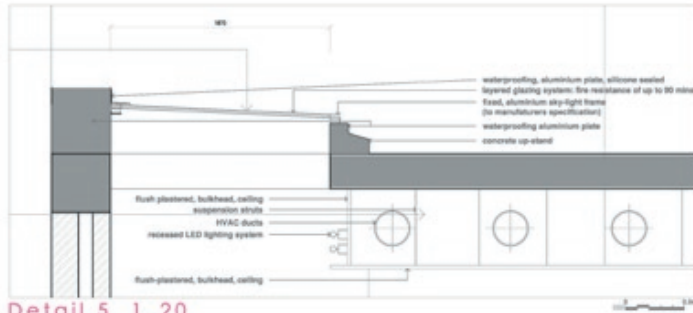
Section E:E 1_100



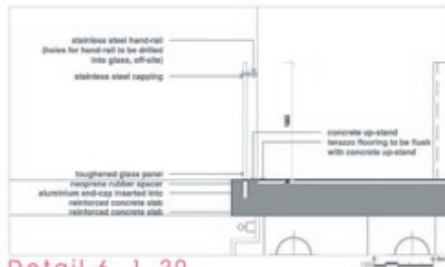
detail 5
tiled aluminium framed skylight



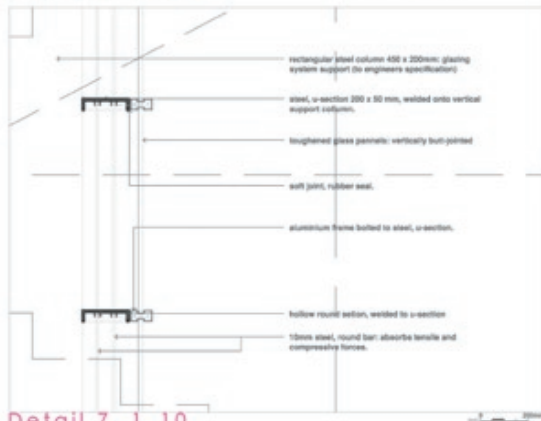
detail 8
LED lighting system



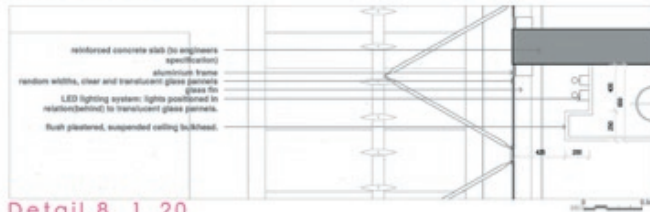
Detail 5 1_20



Detail 6 1_20



Detail 7 1_10



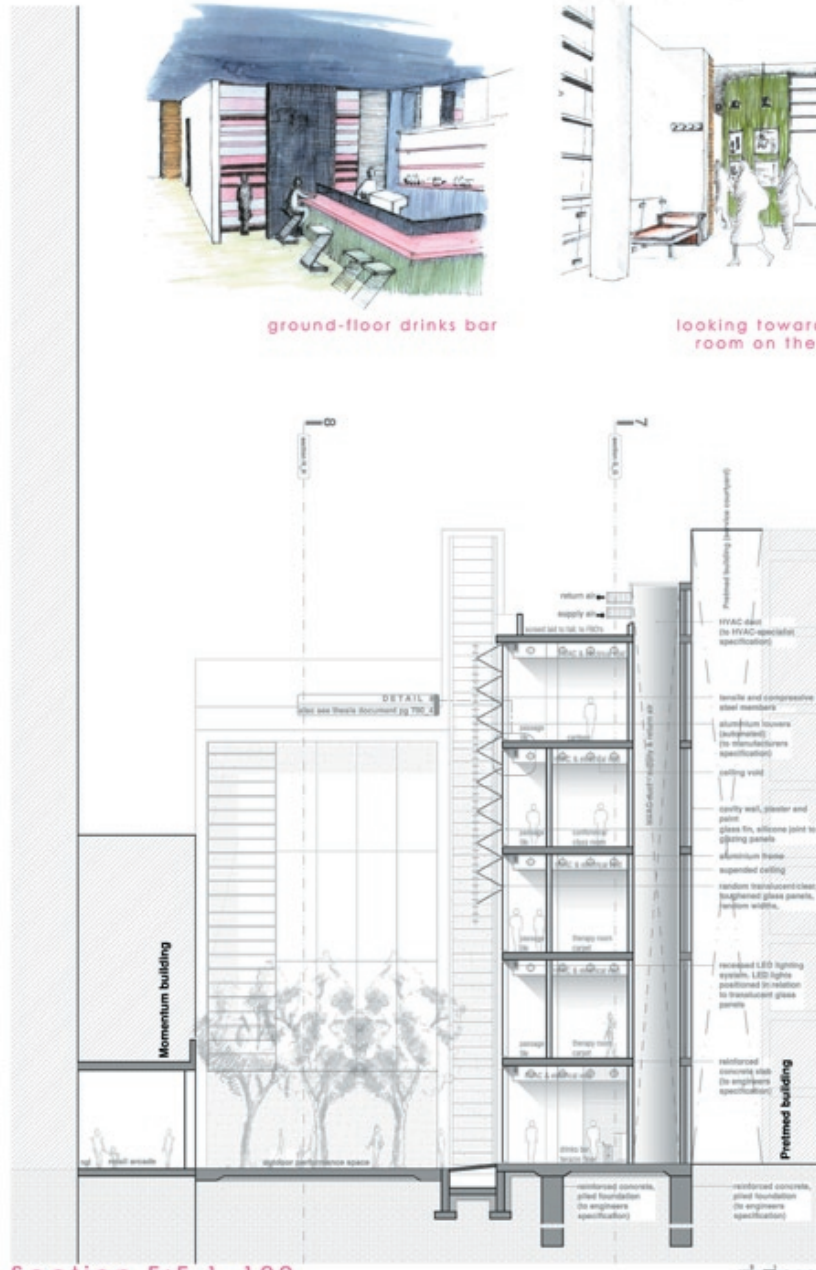
Detail 8 1_20



ground-floor drinks bar



looking toward the therapy room on the second floor



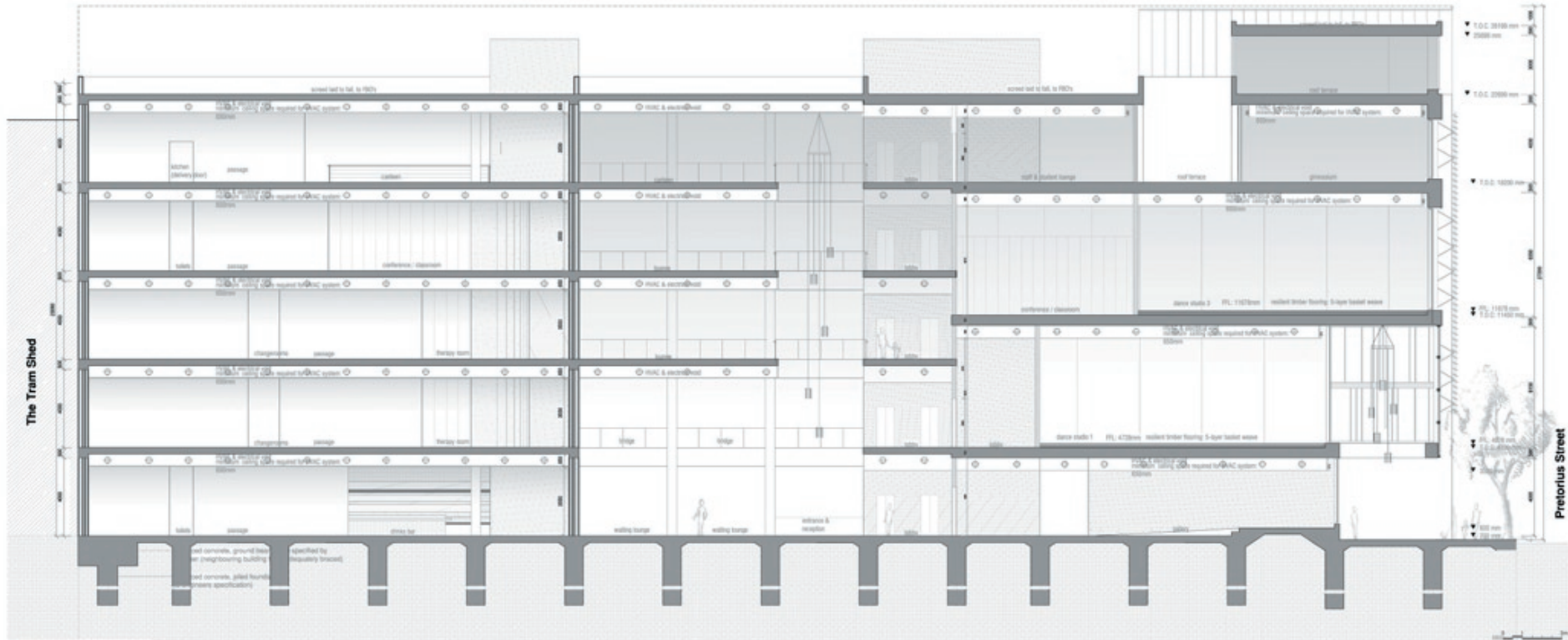
Section F:F 1_100



sketched section _ activities within spaces



Sketched elevation

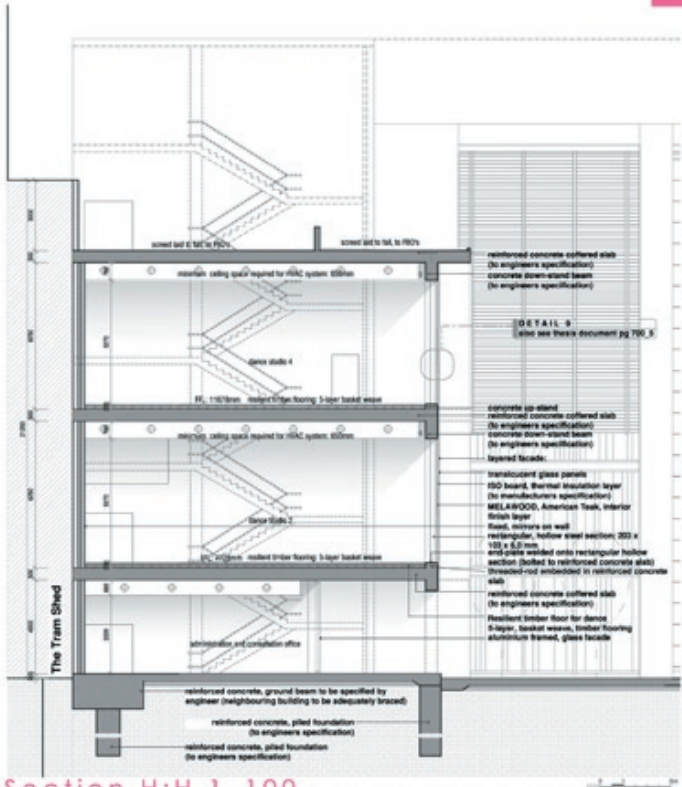


Section G:G 1_100

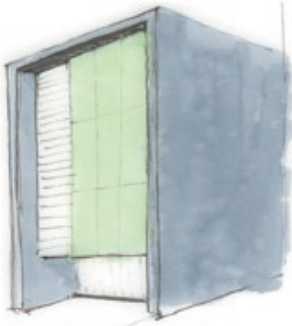


Detail 9 1_5

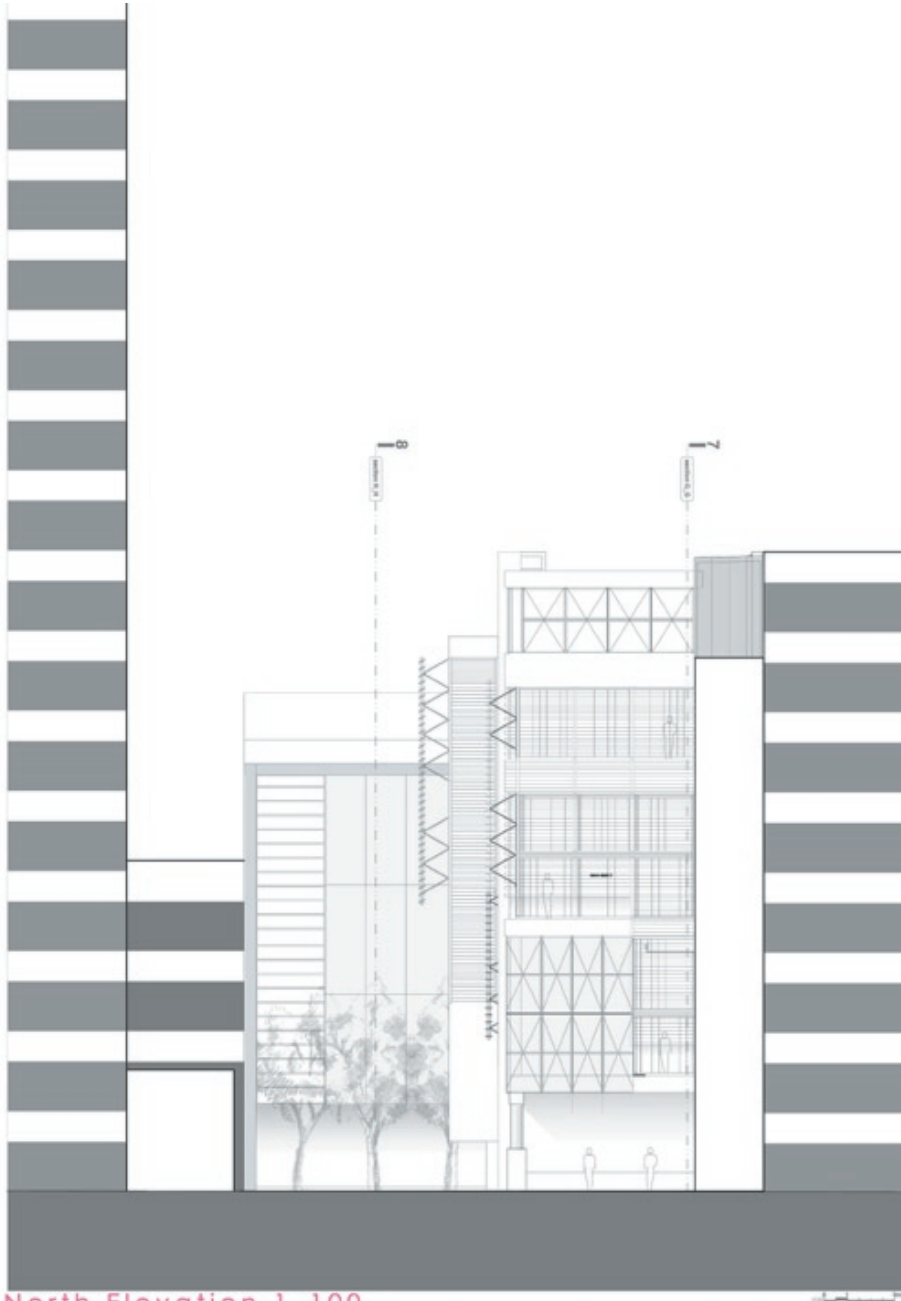
detail 9
 layered cladding panel,
 translucent glass, ISO-board, thermal-insulation,
 MELAWOOD timber panel



Section H:H 1_100

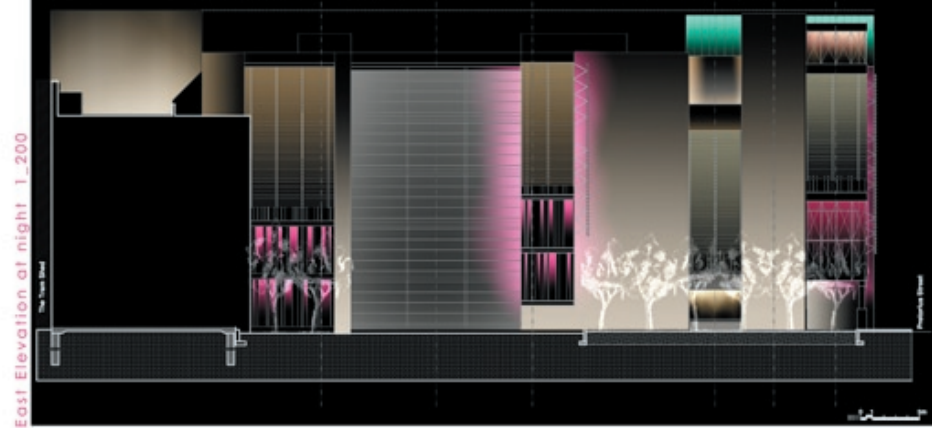
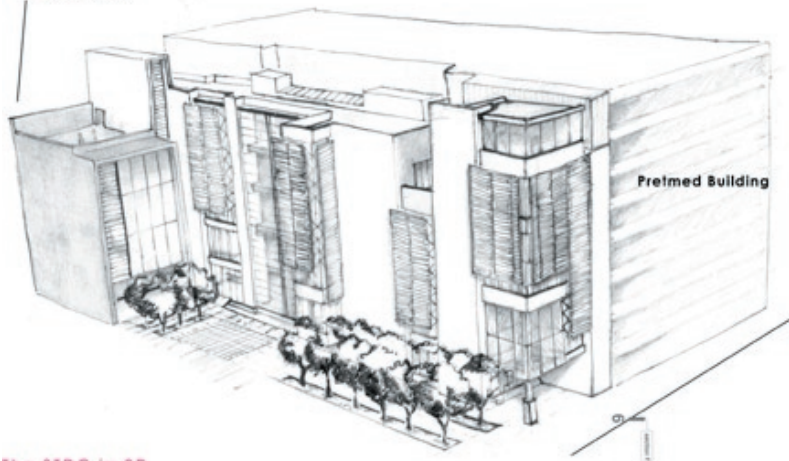


The BOX...detail 9



North Elevation 1_100

The Tram Shed



The STDC in 3D



East Elevation 1_100