

# CHAPTER:

# 7



# TECHNICAL \_REPORT

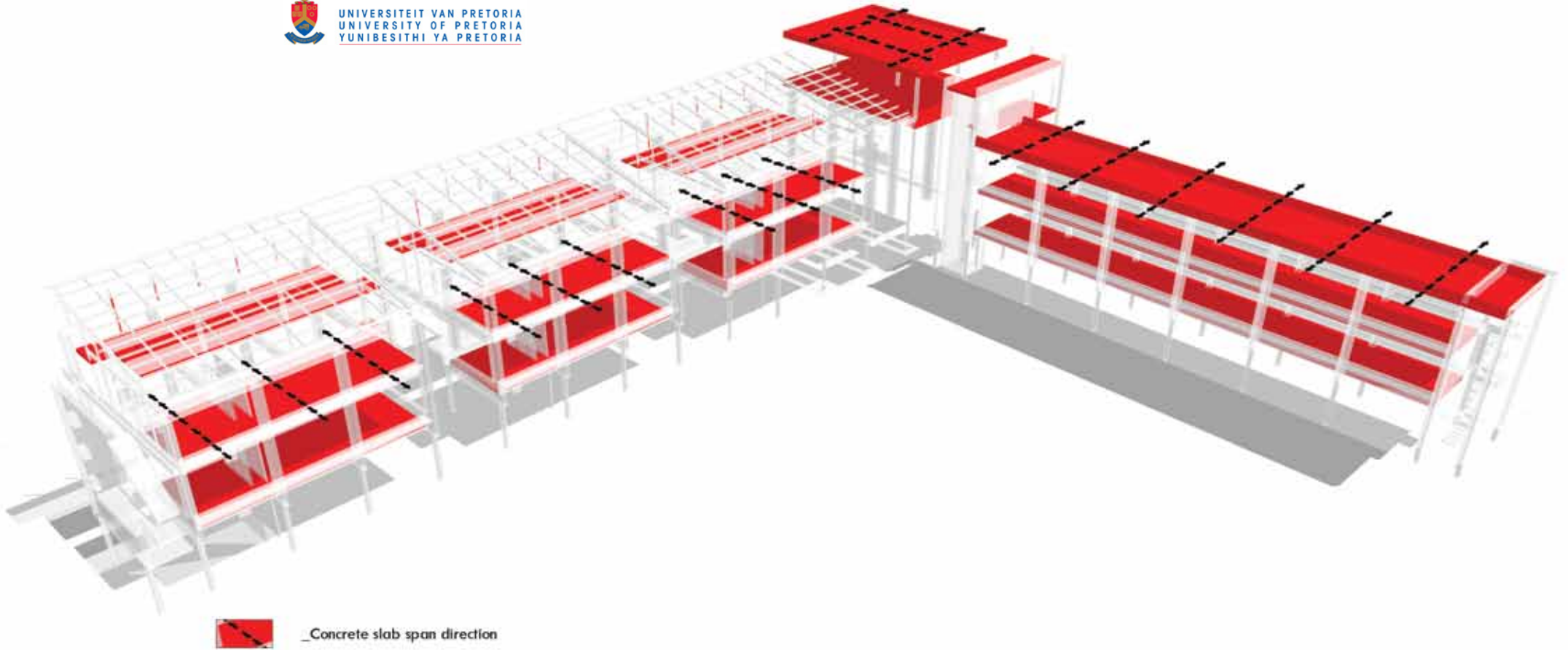
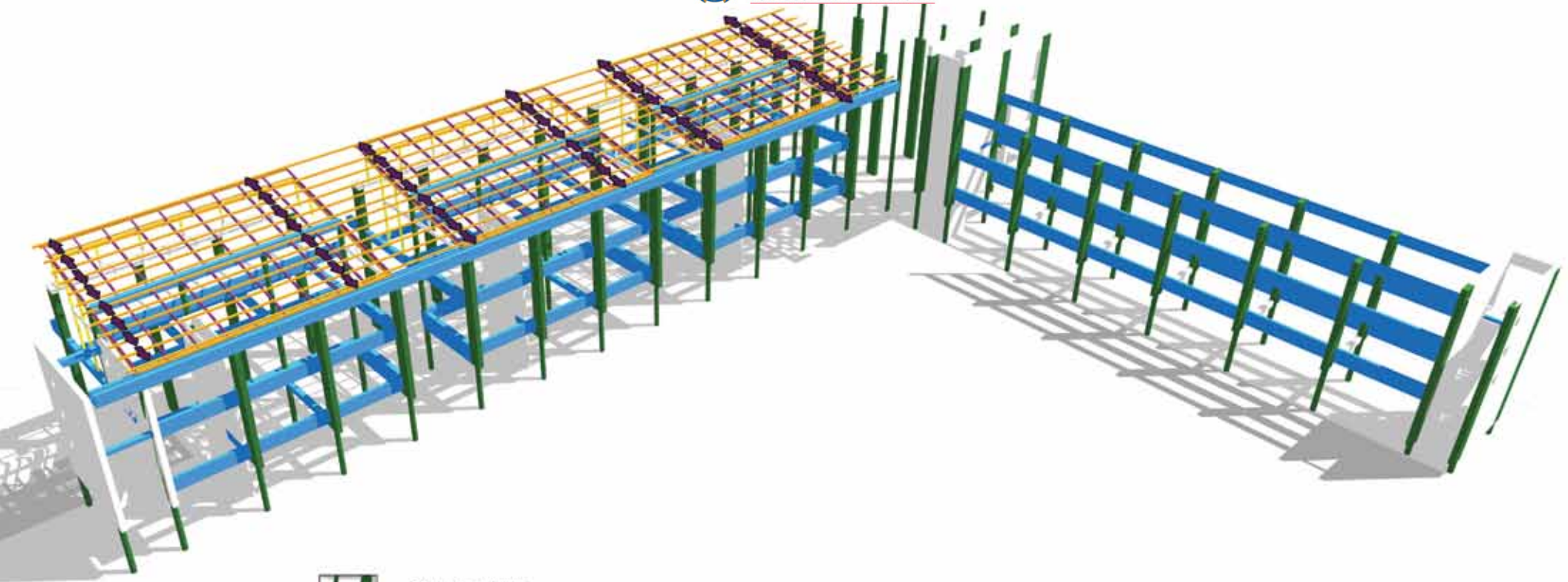


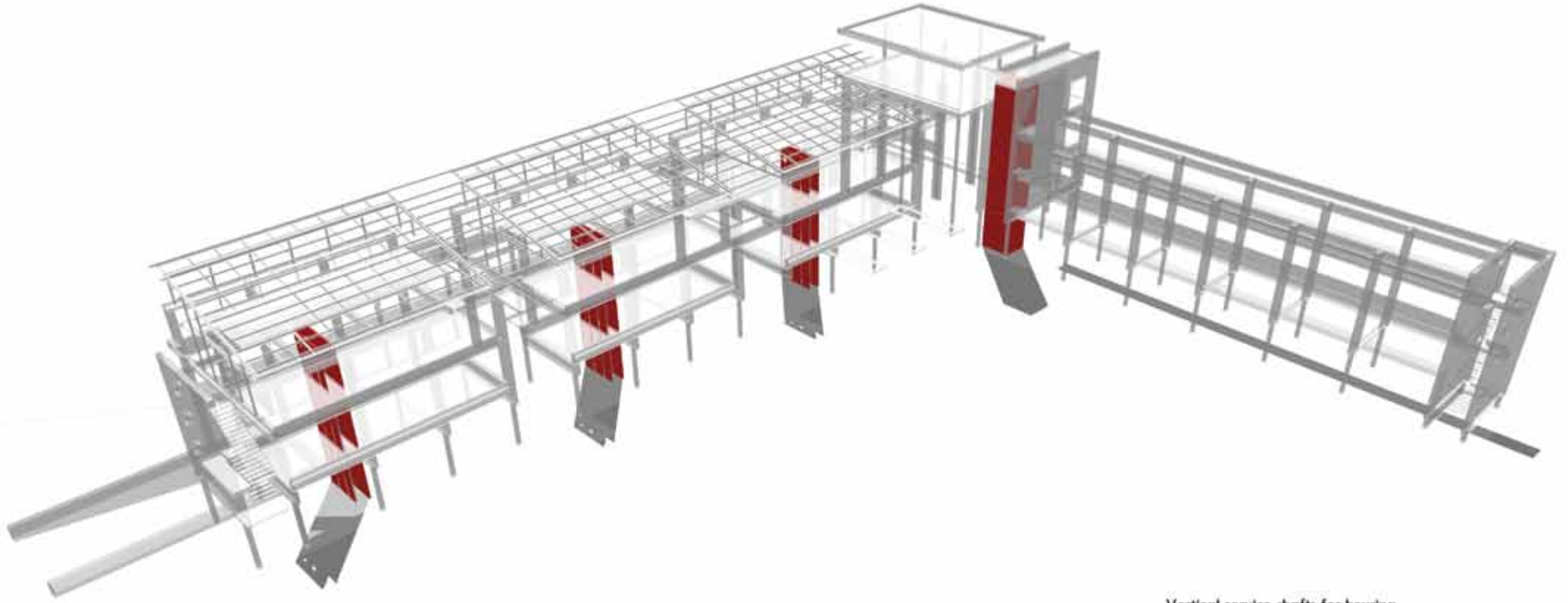
FIG 7.2\_Concrete slab systems



-  \_Concrete columns
-  \_Concrete Beams
-  \_Steel I-section rafters
-  \_Steel I-section roof beam span direction
-  \_Steel lipped-channel purlins

## STRUCTURAL SYSTEM - beam & column

FIG 7.1\_Concrete Column & beam system

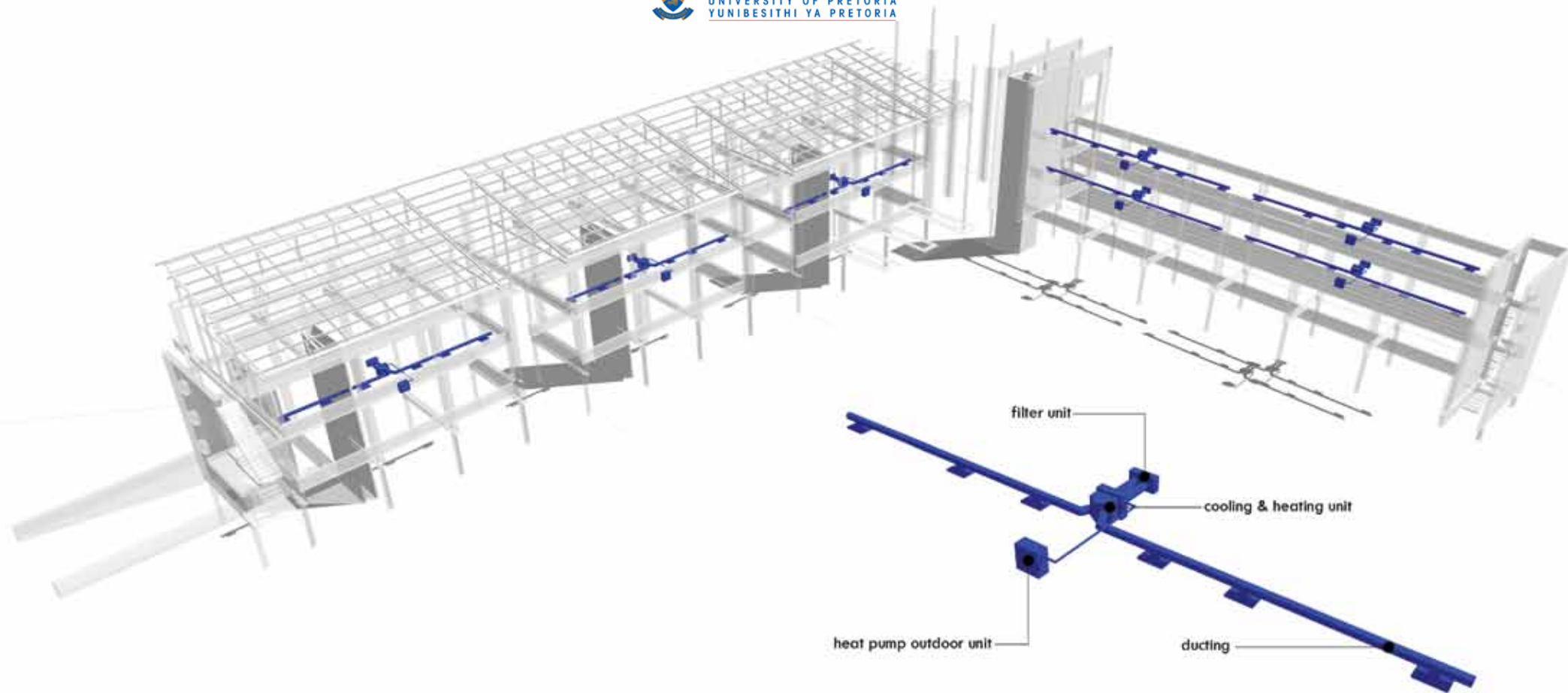


Vertical service shafts for housing:

- \_Water supply pipes
- \_Waste water pipes
- \_Electrical conduits

## SERVICE SHAFTS

FIG 7.3\_Vertical service shafts



## MECHANICAL SYSTEM - air conditioning

FIG 7.4\_Air conditioning system



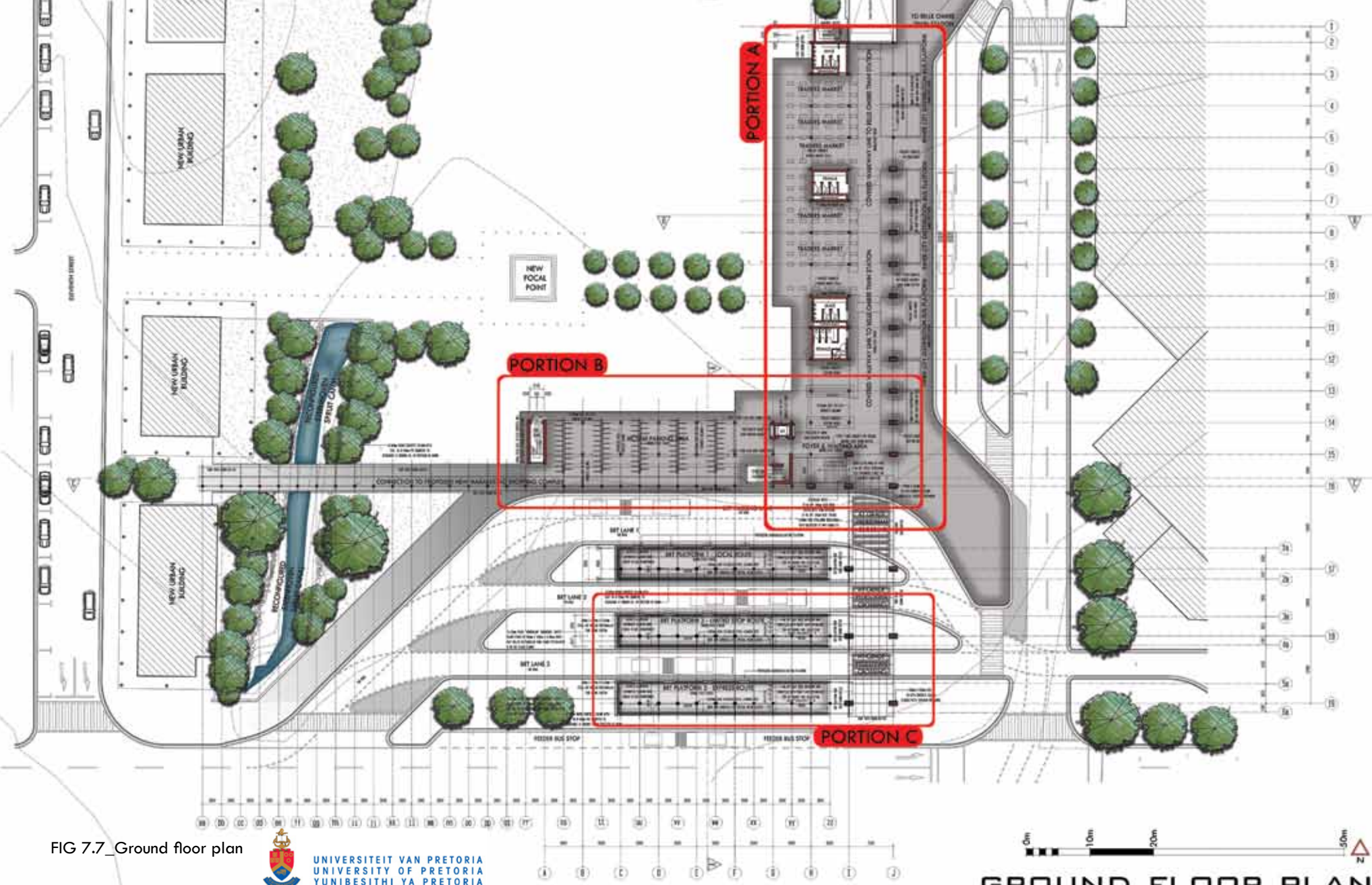


FIG 7.7\_Ground floor plan



FIG 7.8\_Ground floor plan - Portion A

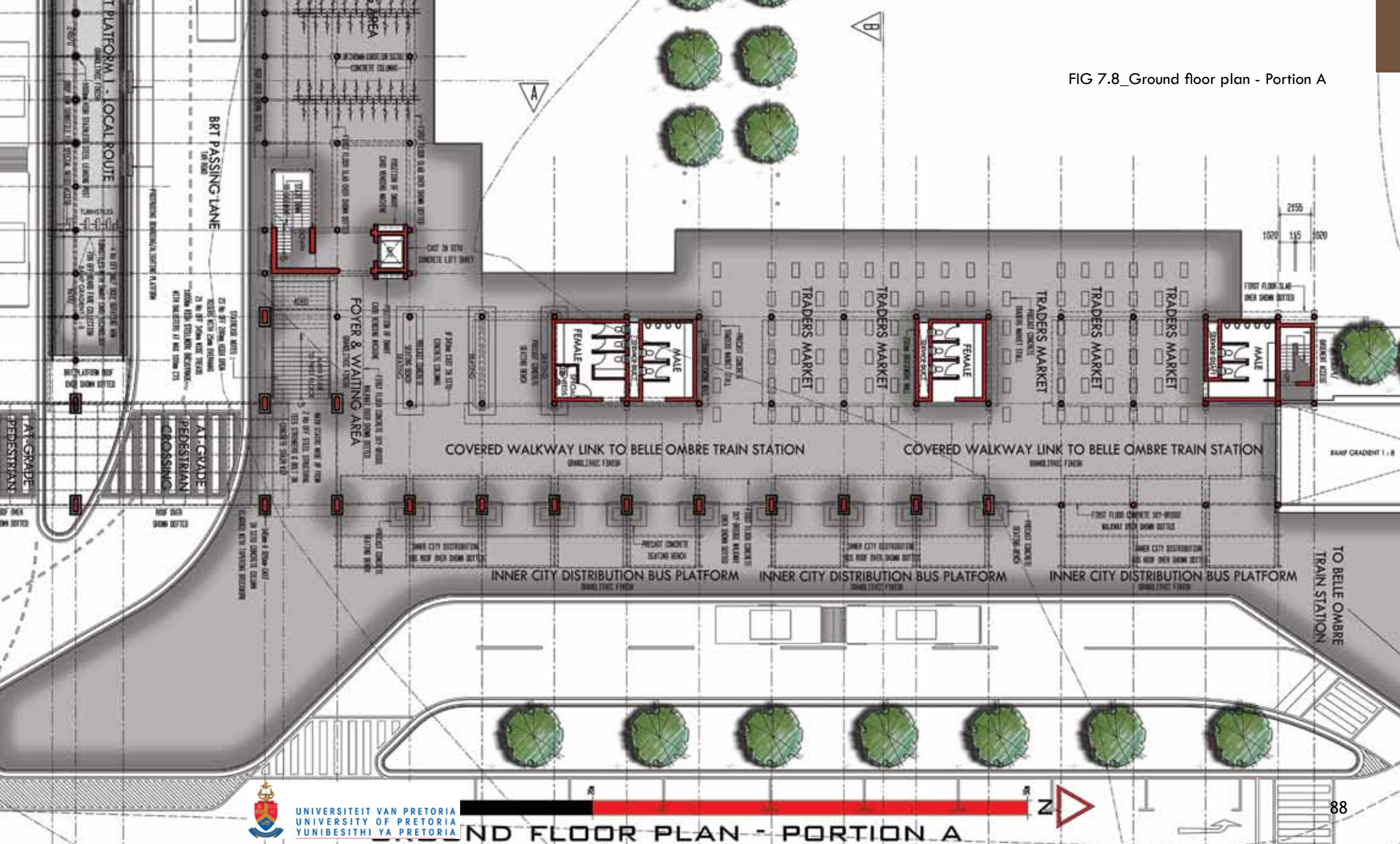
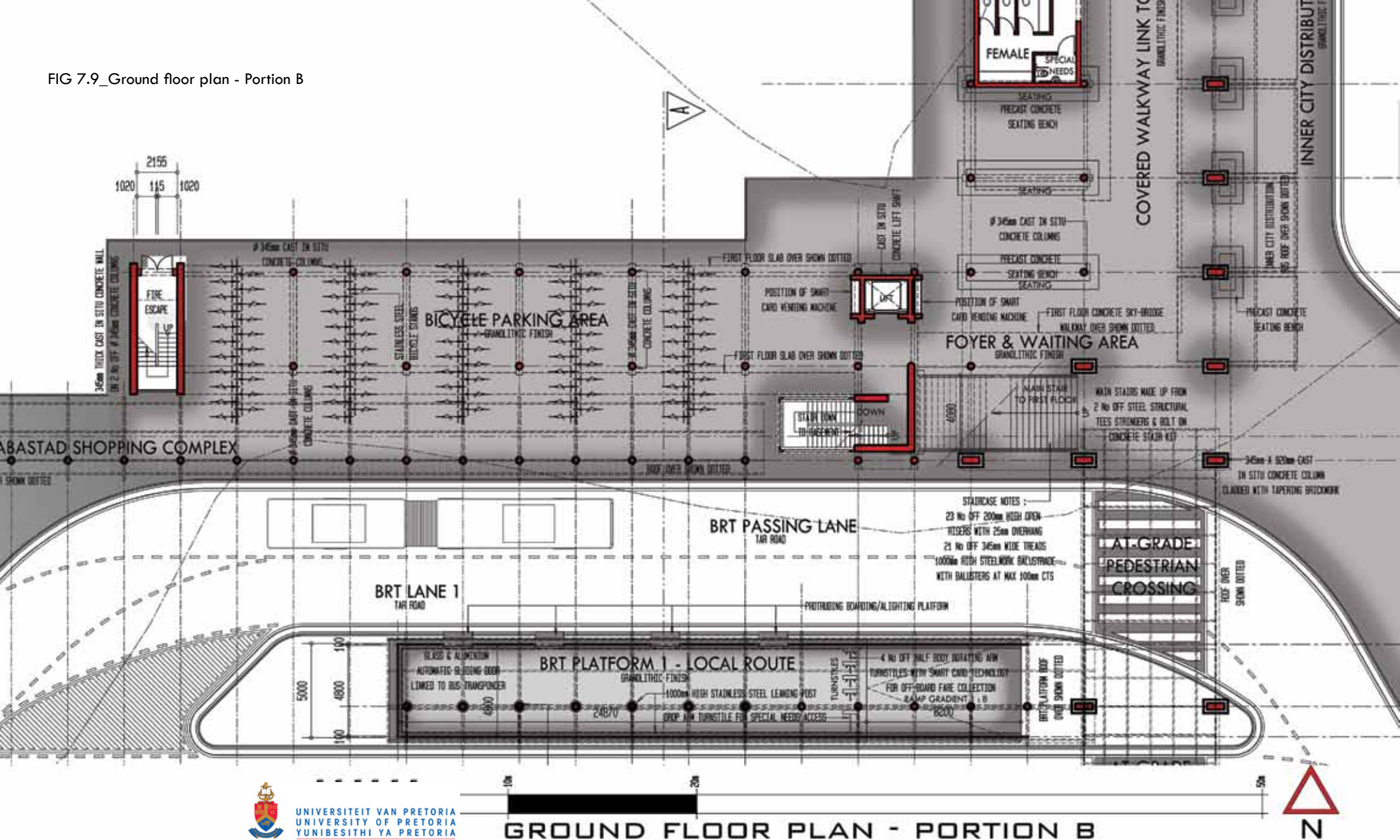


FIG 7.9\_Ground floor plan - Portion B





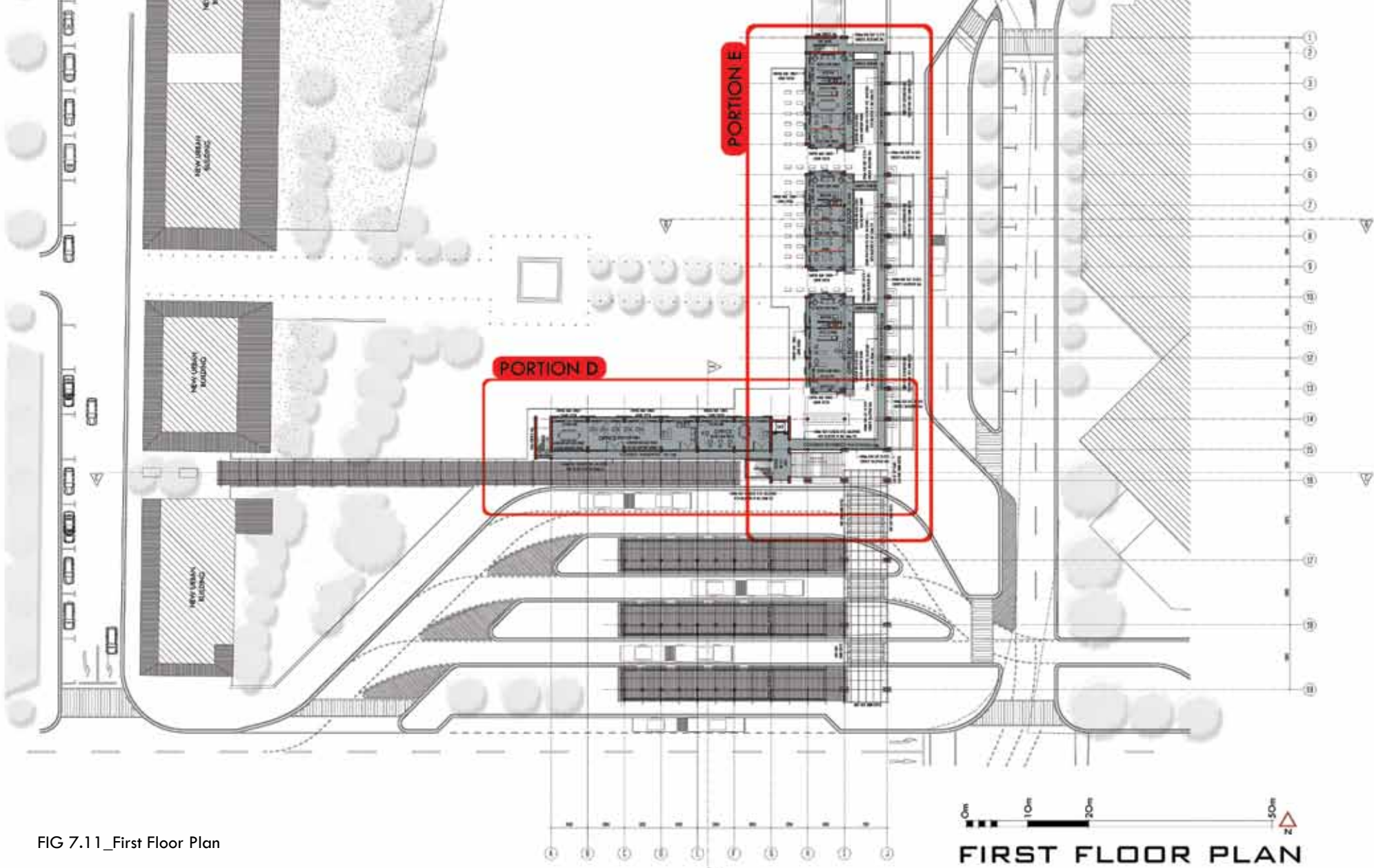


FIG 7.11\_First Floor Plan

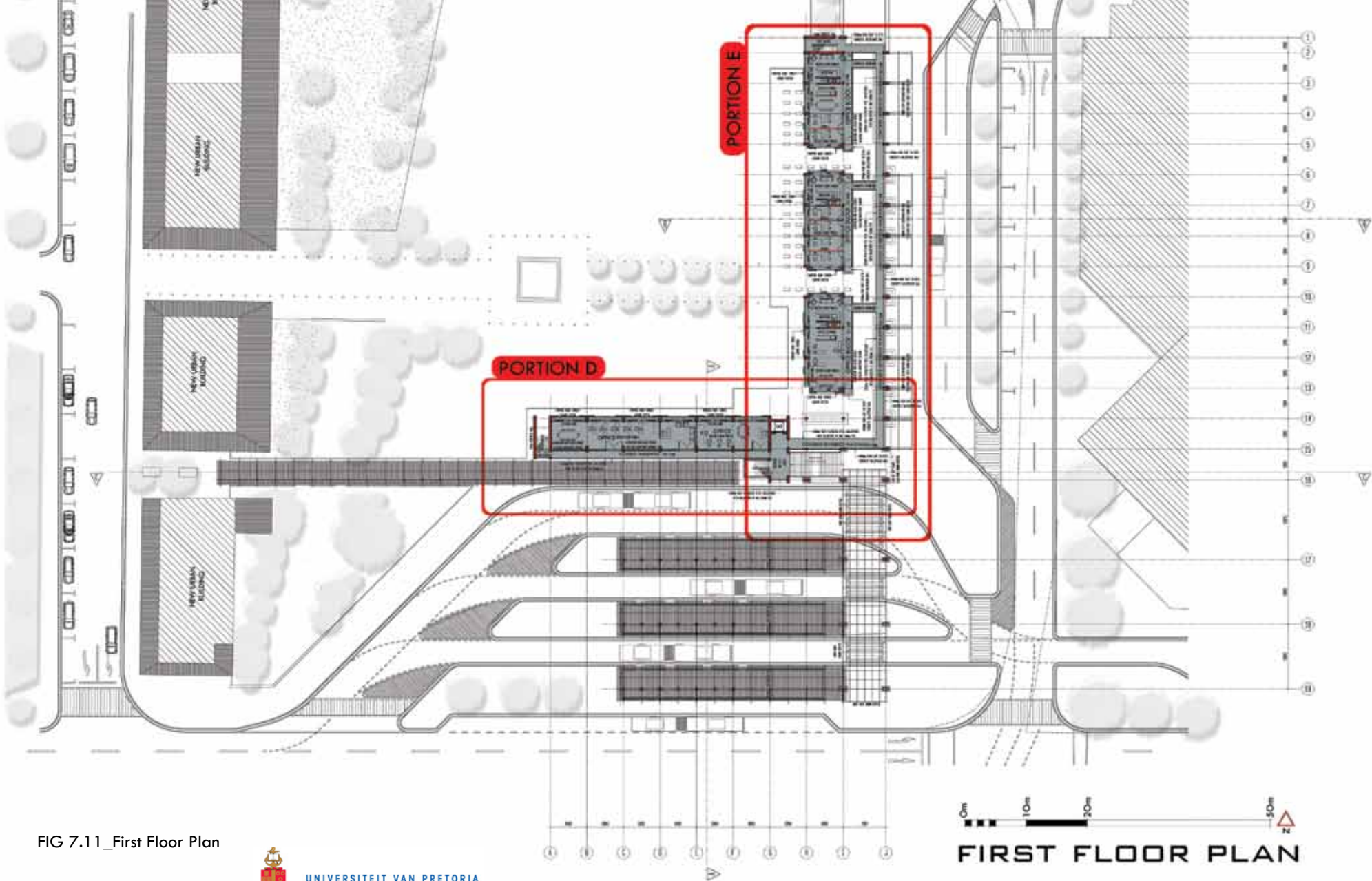


FIG 7.11\_First Floor Plan





UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA

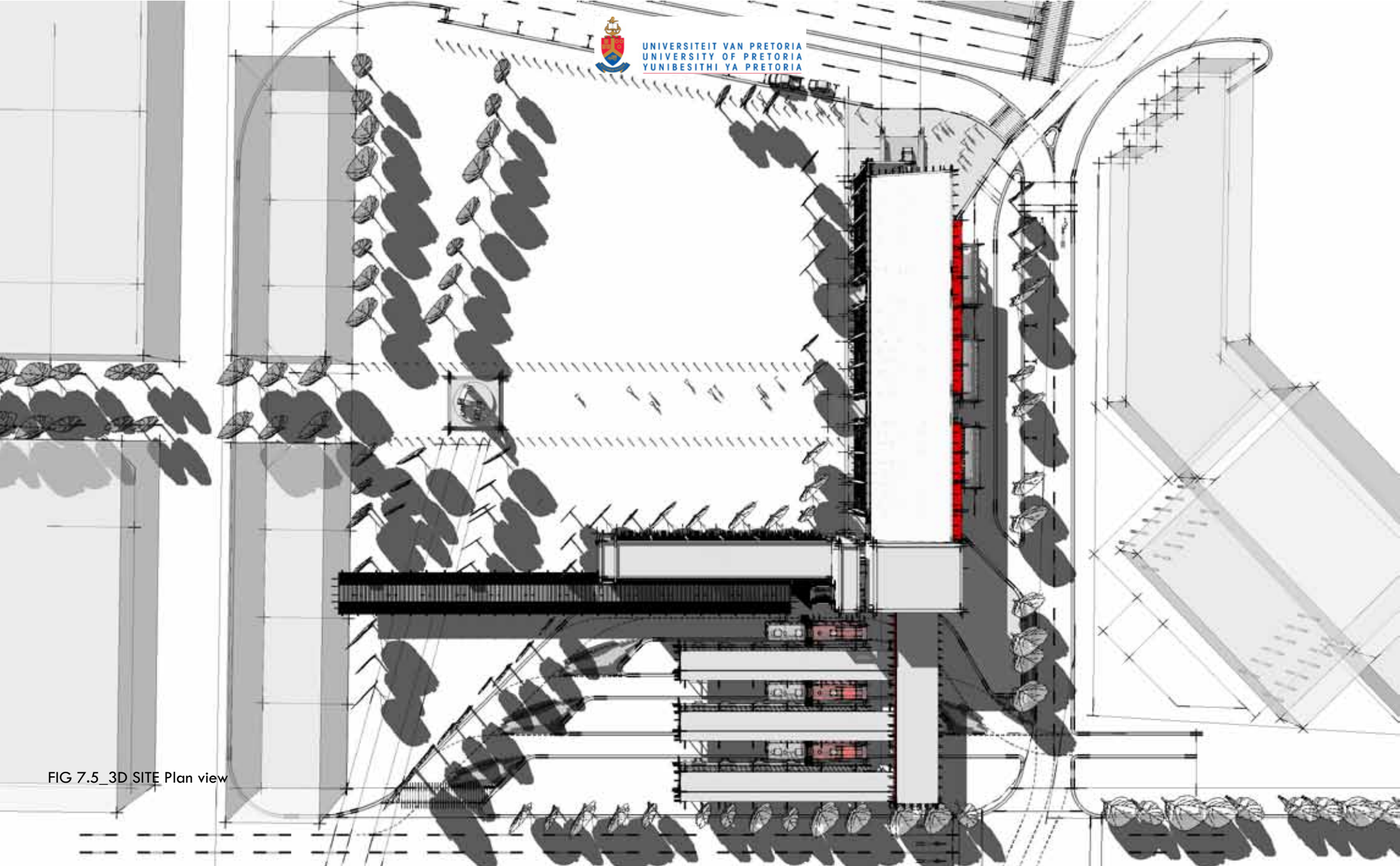


FIG 7.5\_3D SITE Plan view



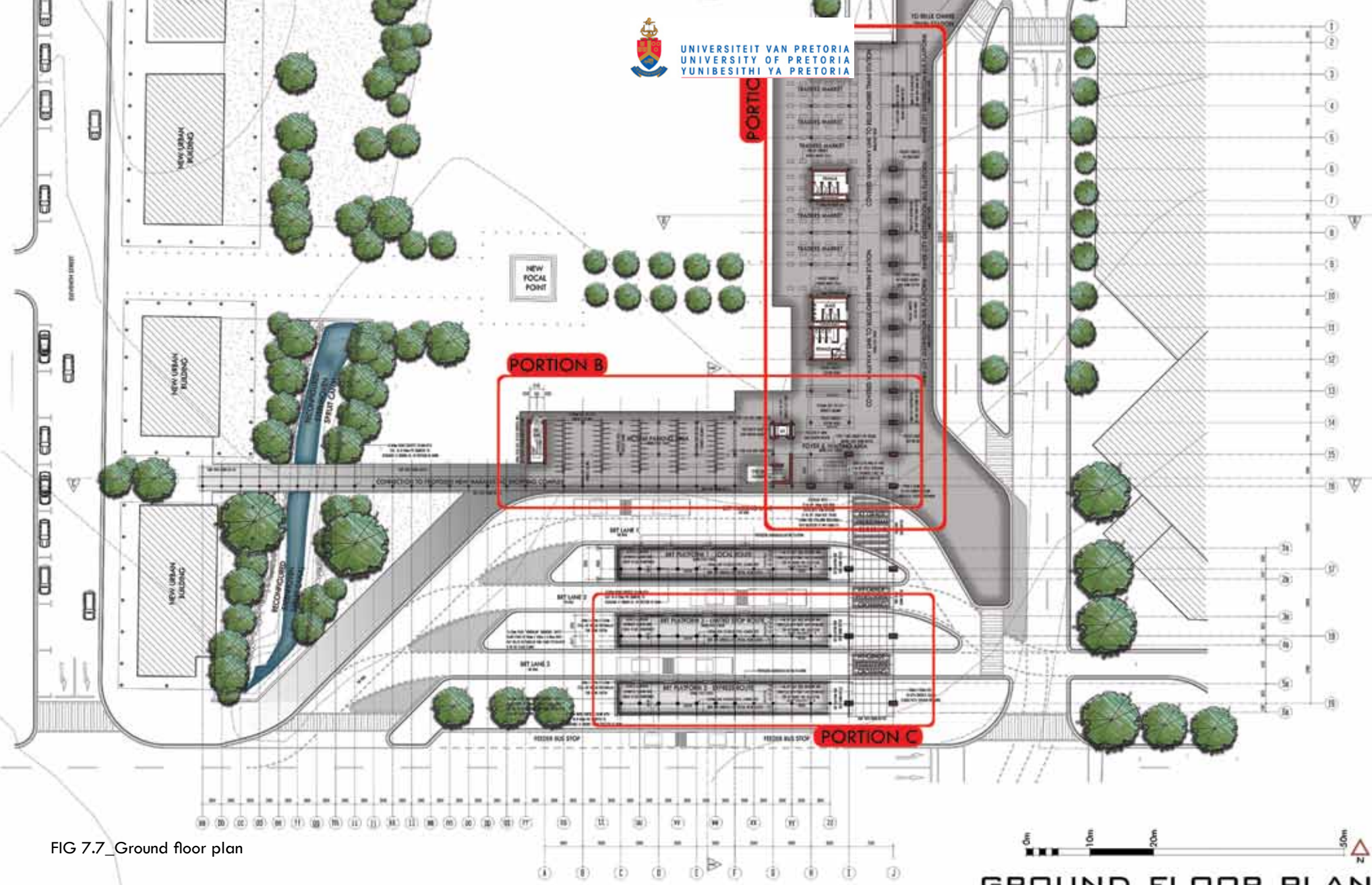


FIG 7.7\_Ground floor plan





FIG 7.8\_Ground floor plan - Portion A

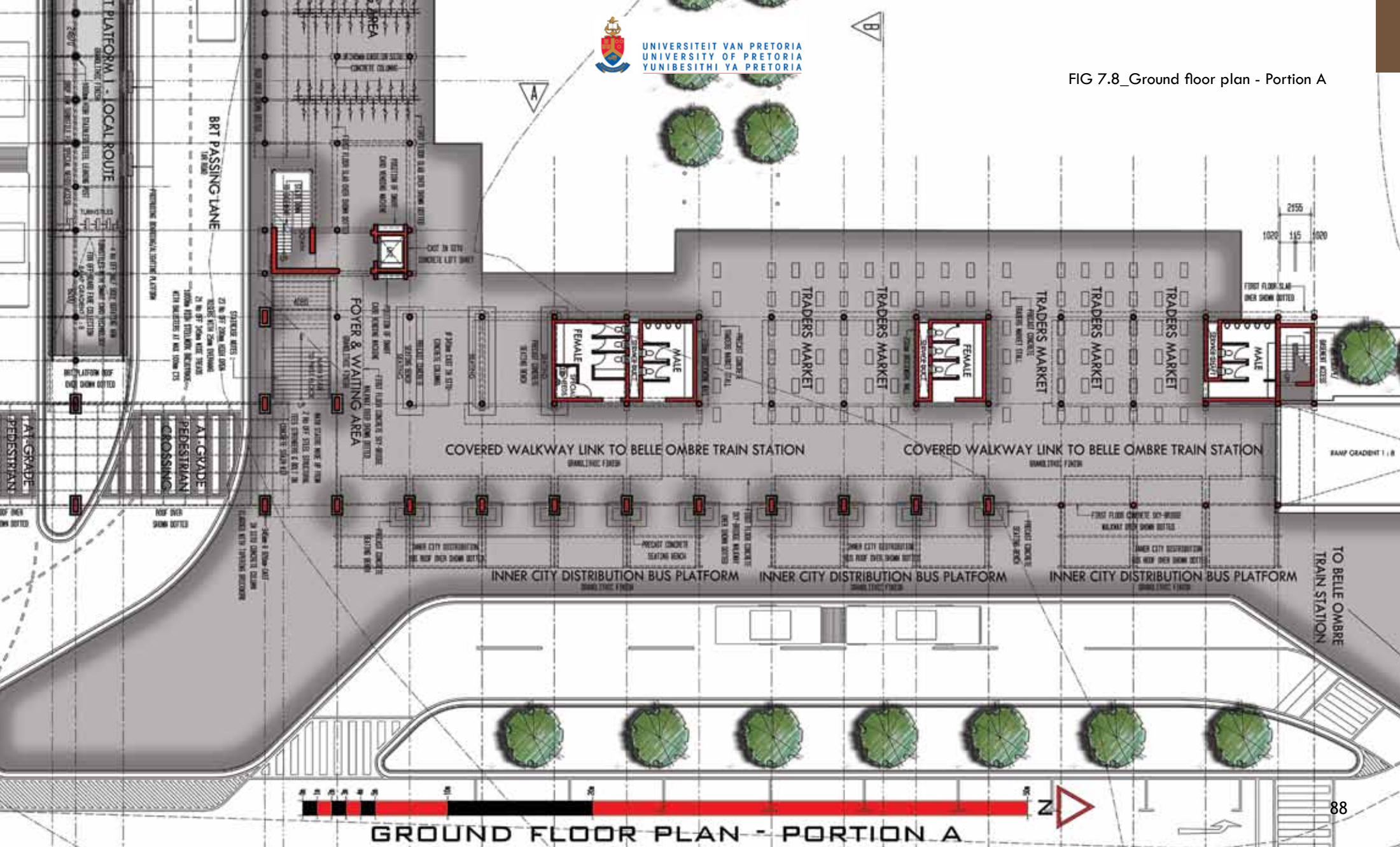
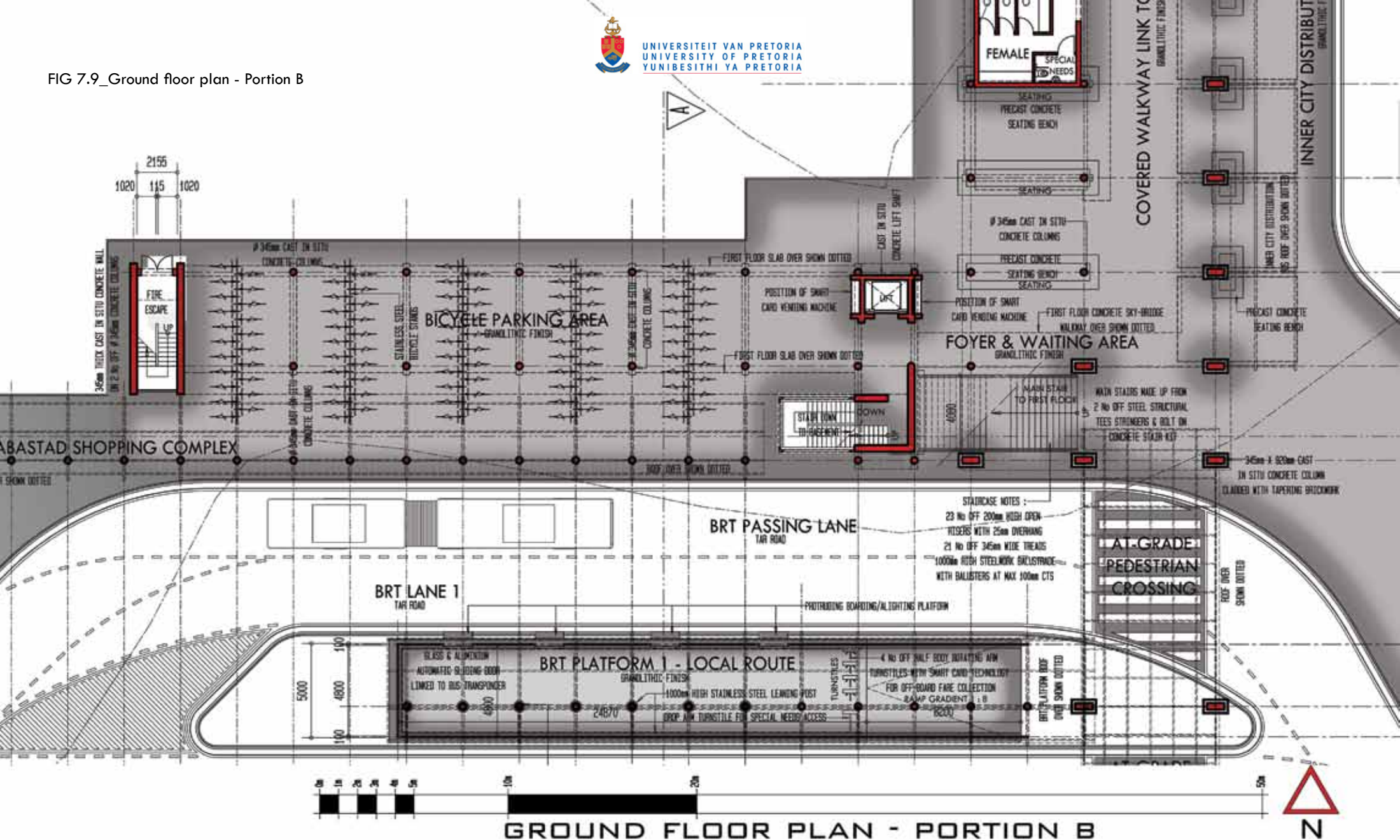




FIG 7.9\_Ground floor plan - Portion B



GROUND FLOOR PLAN - PORTION B



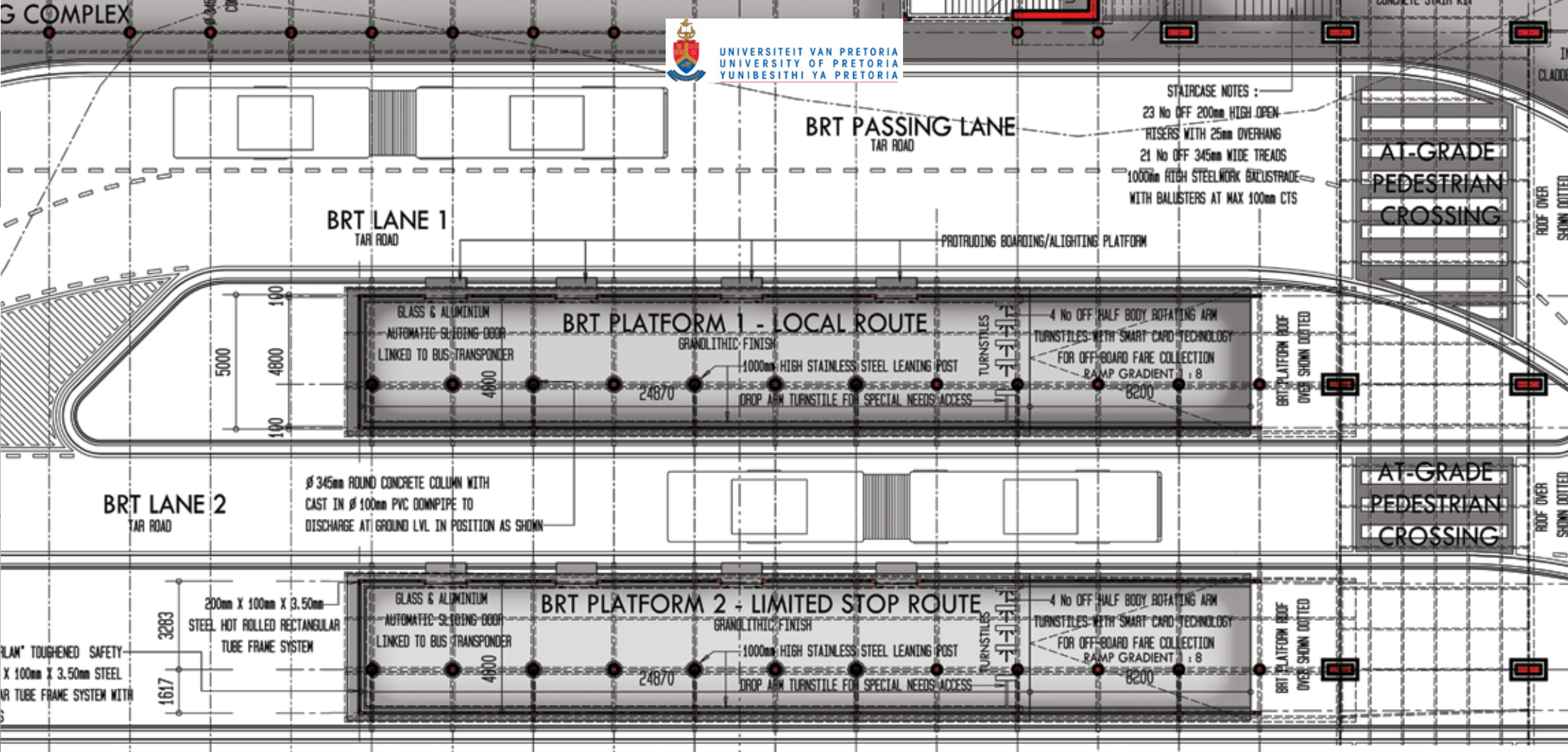
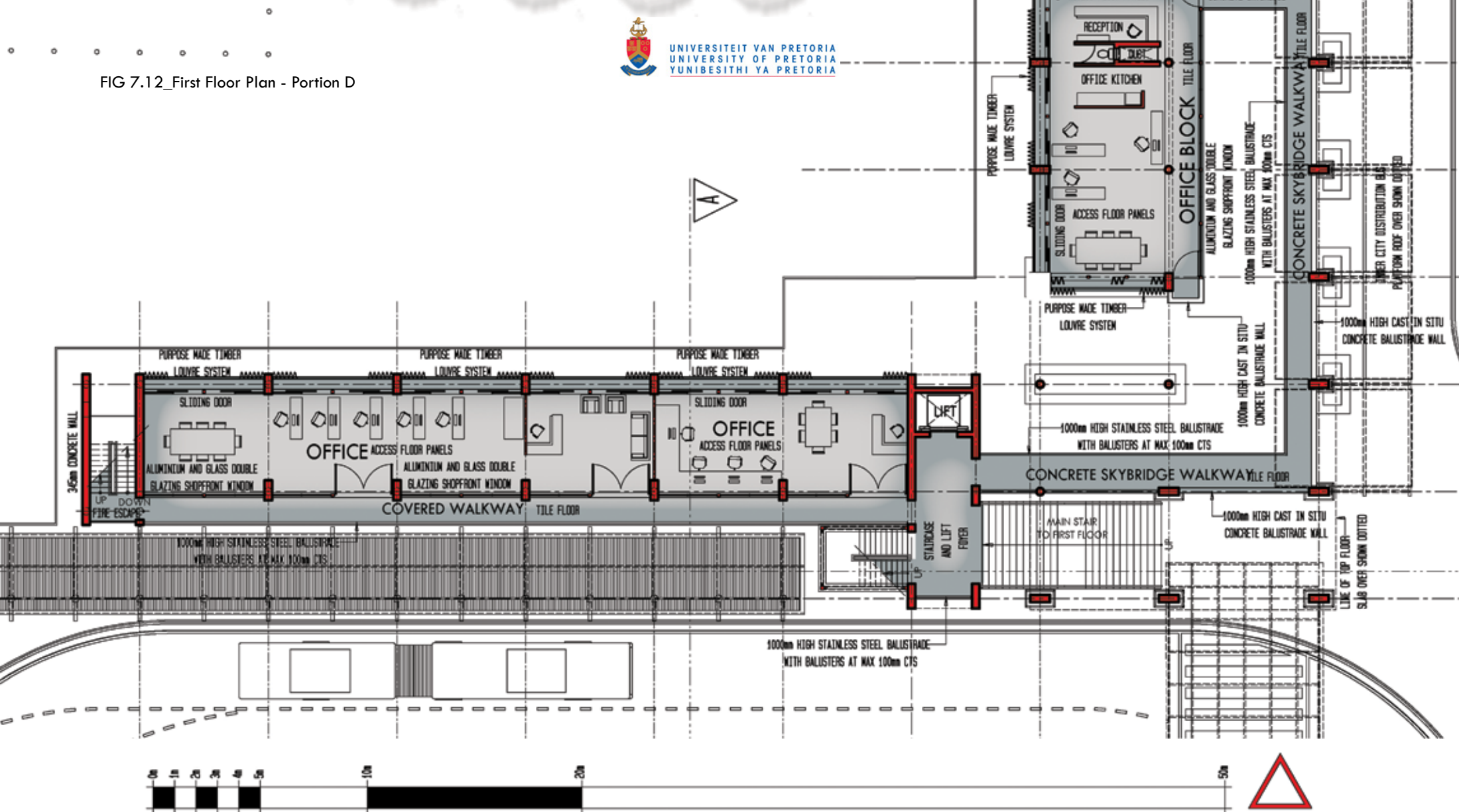


FIG 7.10\_Ground floor plan - Portion C





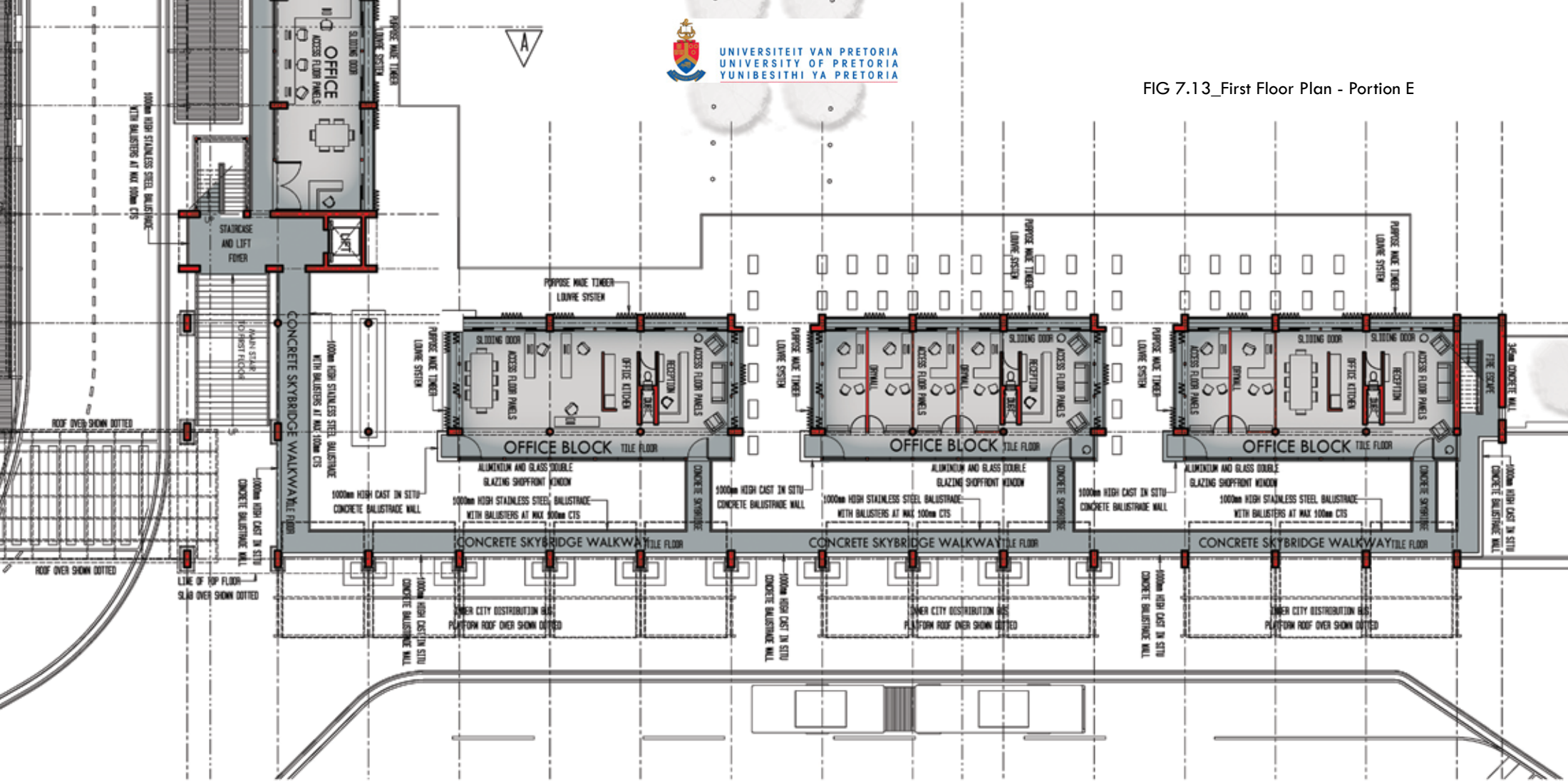
FIG 7.12\_First Floor Plan - Portion D



FIRST FLOOR PLAN - PORTION D



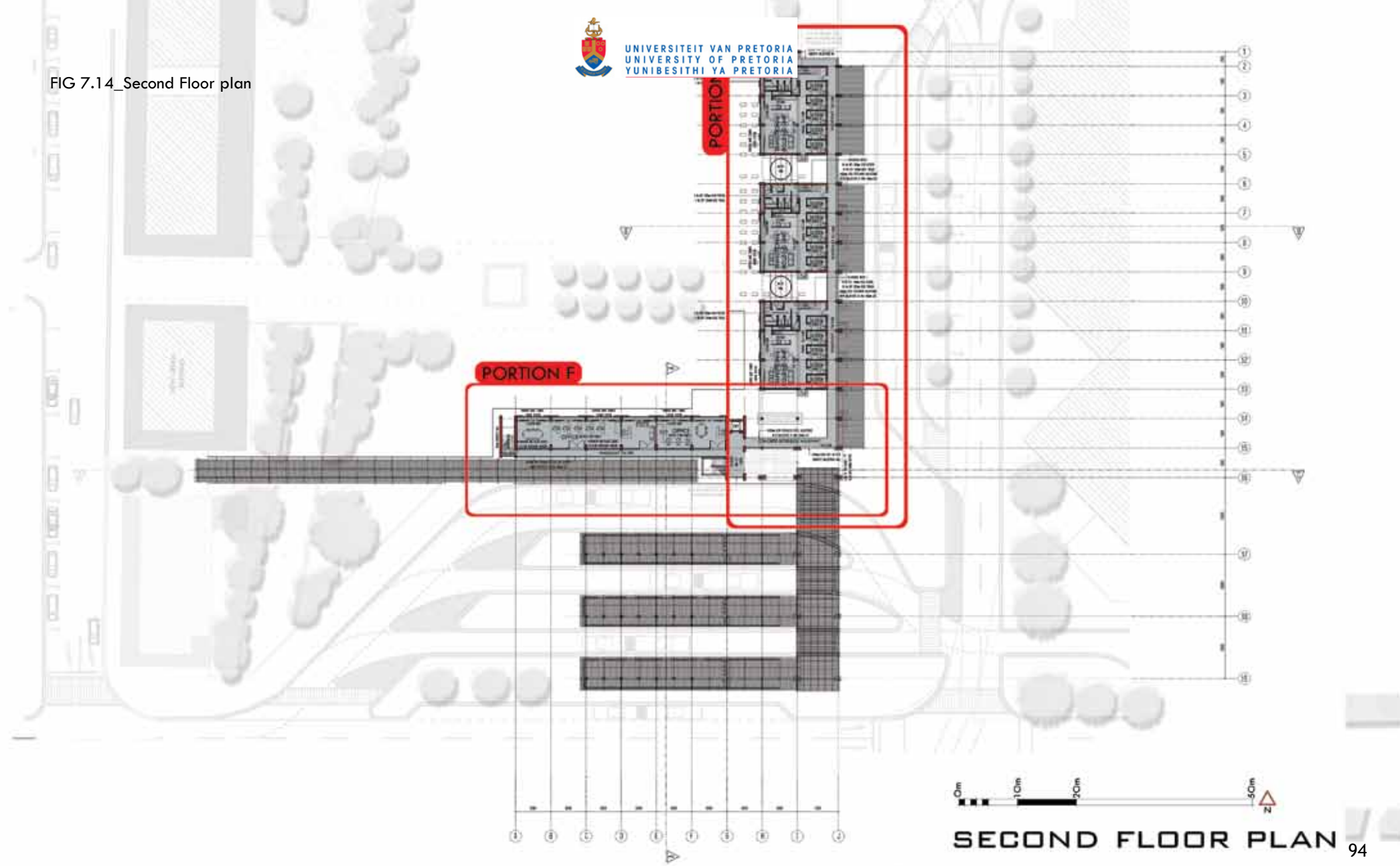
FIG 7.13\_First Floor Plan - Portion E



FIRST FLOOR PLAN - PORTION E



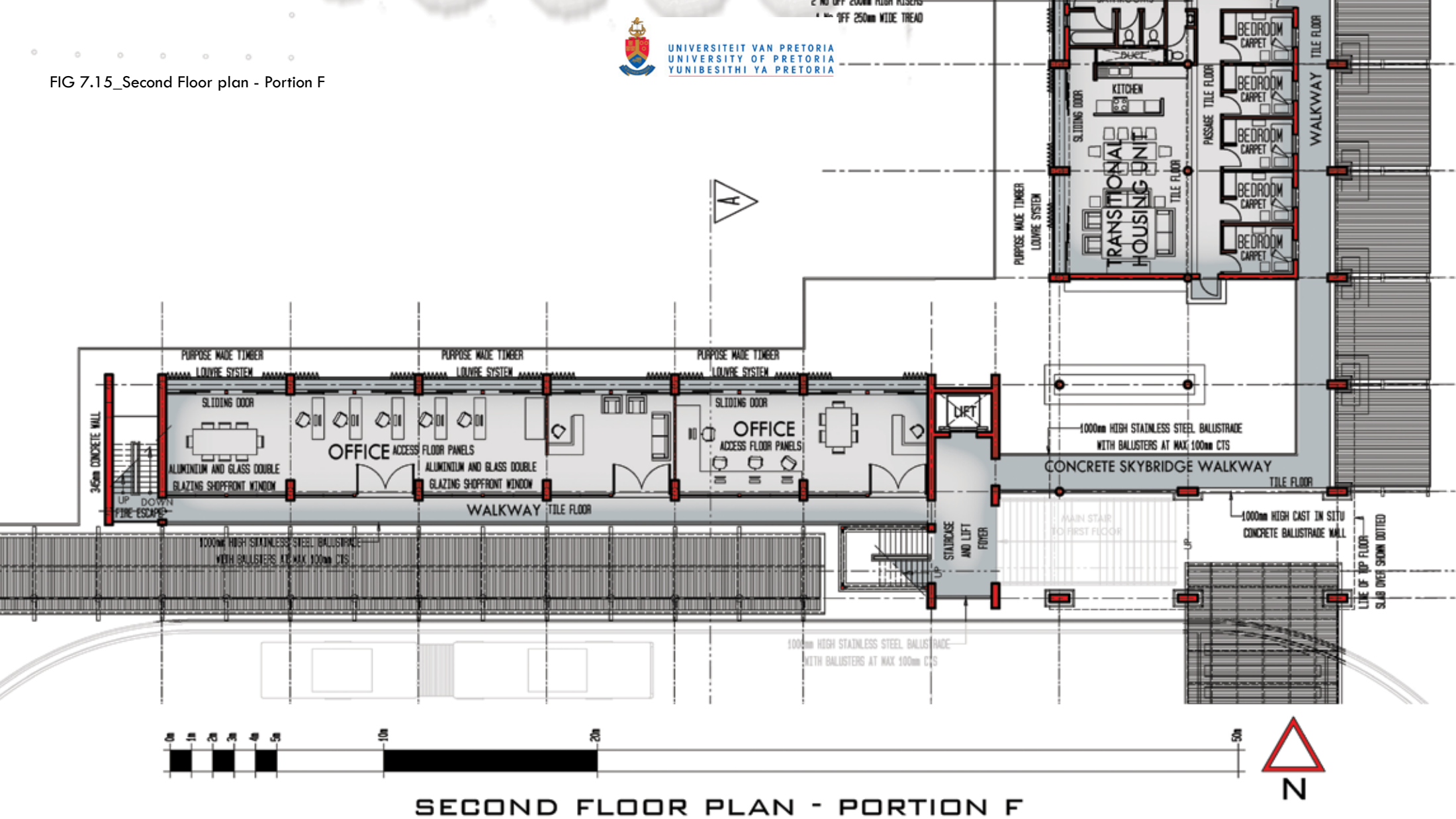
FIG 7.14\_Second Floor plan



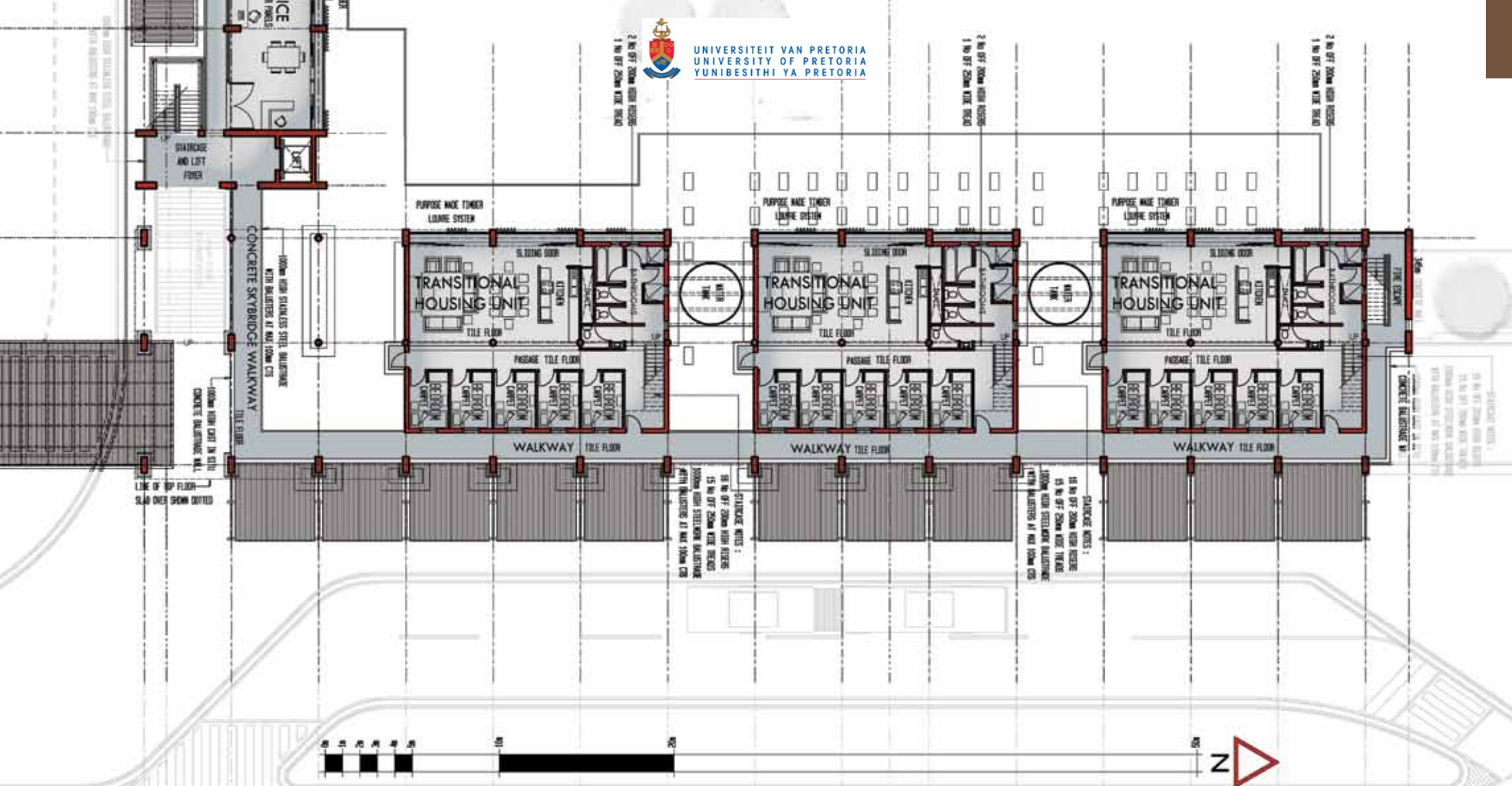
SECOND FLOOR PLAN



FIG 7.15\_Second Floor plan - Portion F



SECOND FLOOR PLAN - PORTION F



SECOND FLOOR PLAN - PORTION G

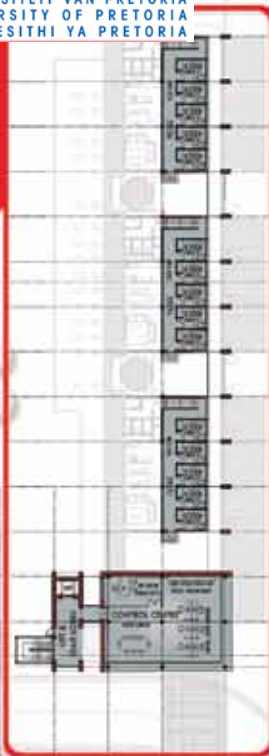
FIG 7.16\_Second Floor plan - Portion G





UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA

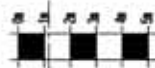
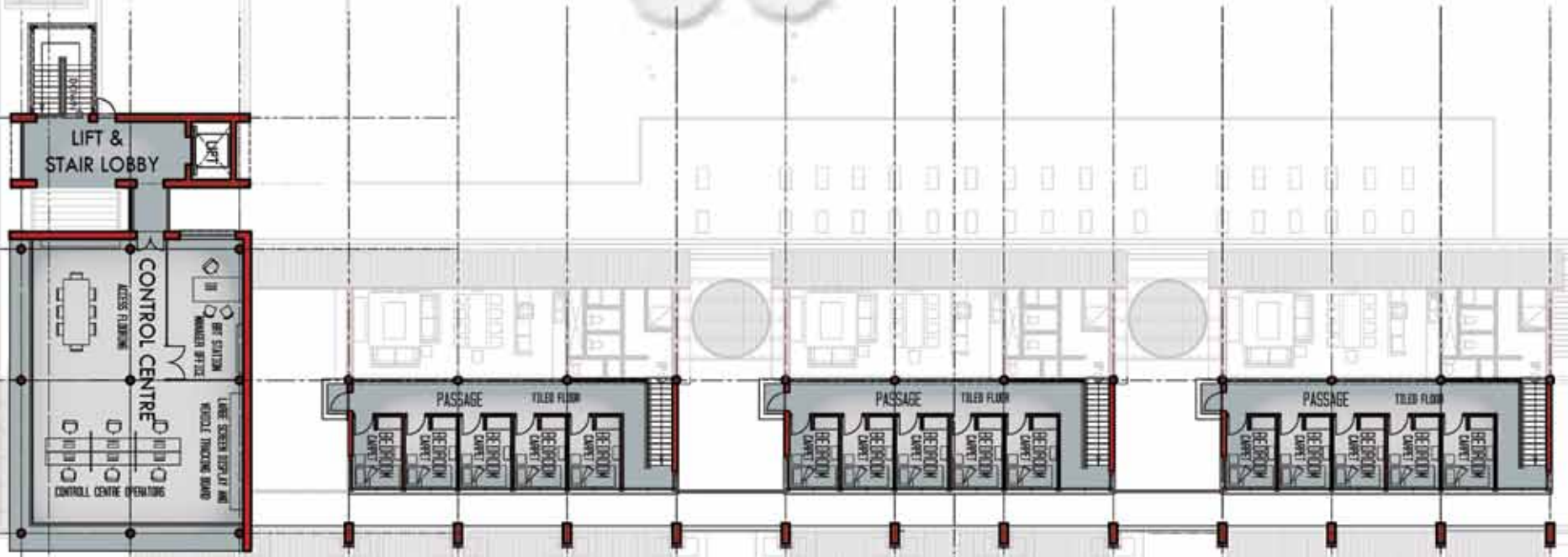
PORITION H



THIRD FLOOR PLAN

FIG 7.17\_Third Floor Plan

FIG 7.18\_Third Floor Plan - Portion H

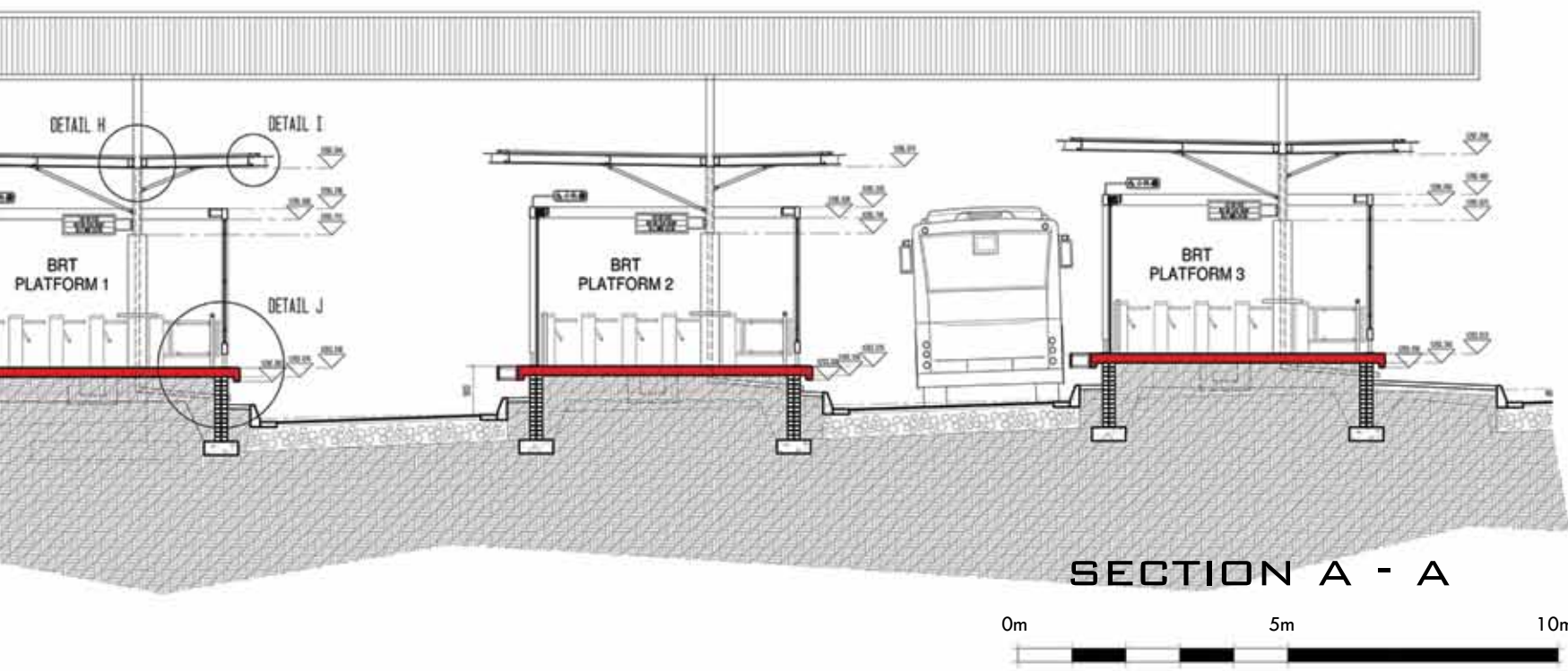


THIRD FLOOR PLAN - PORTION H





FIG 7.19\_Section A - A



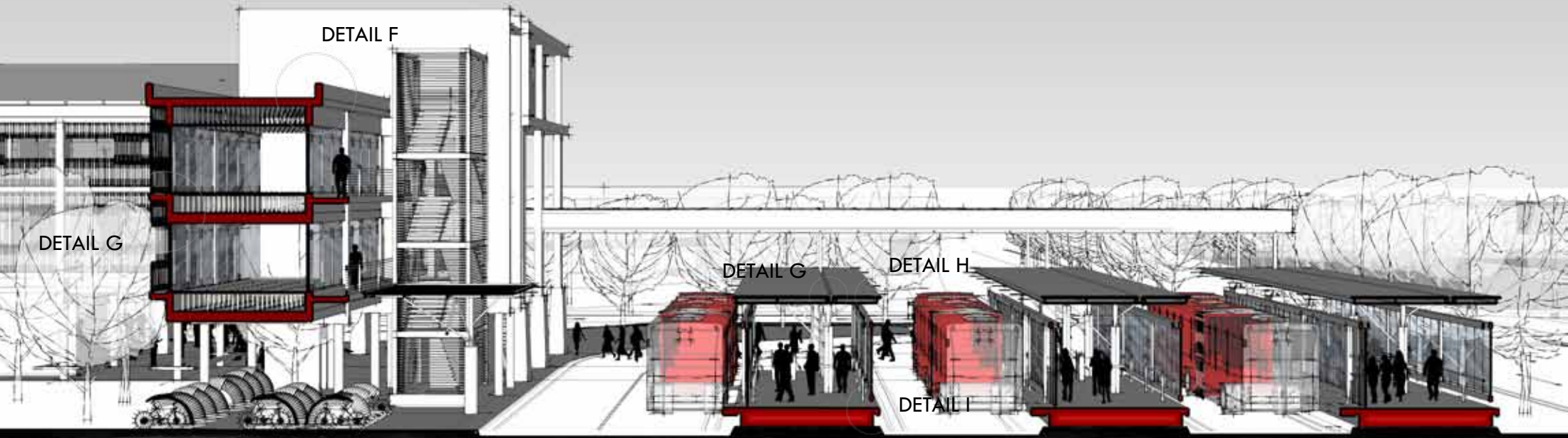
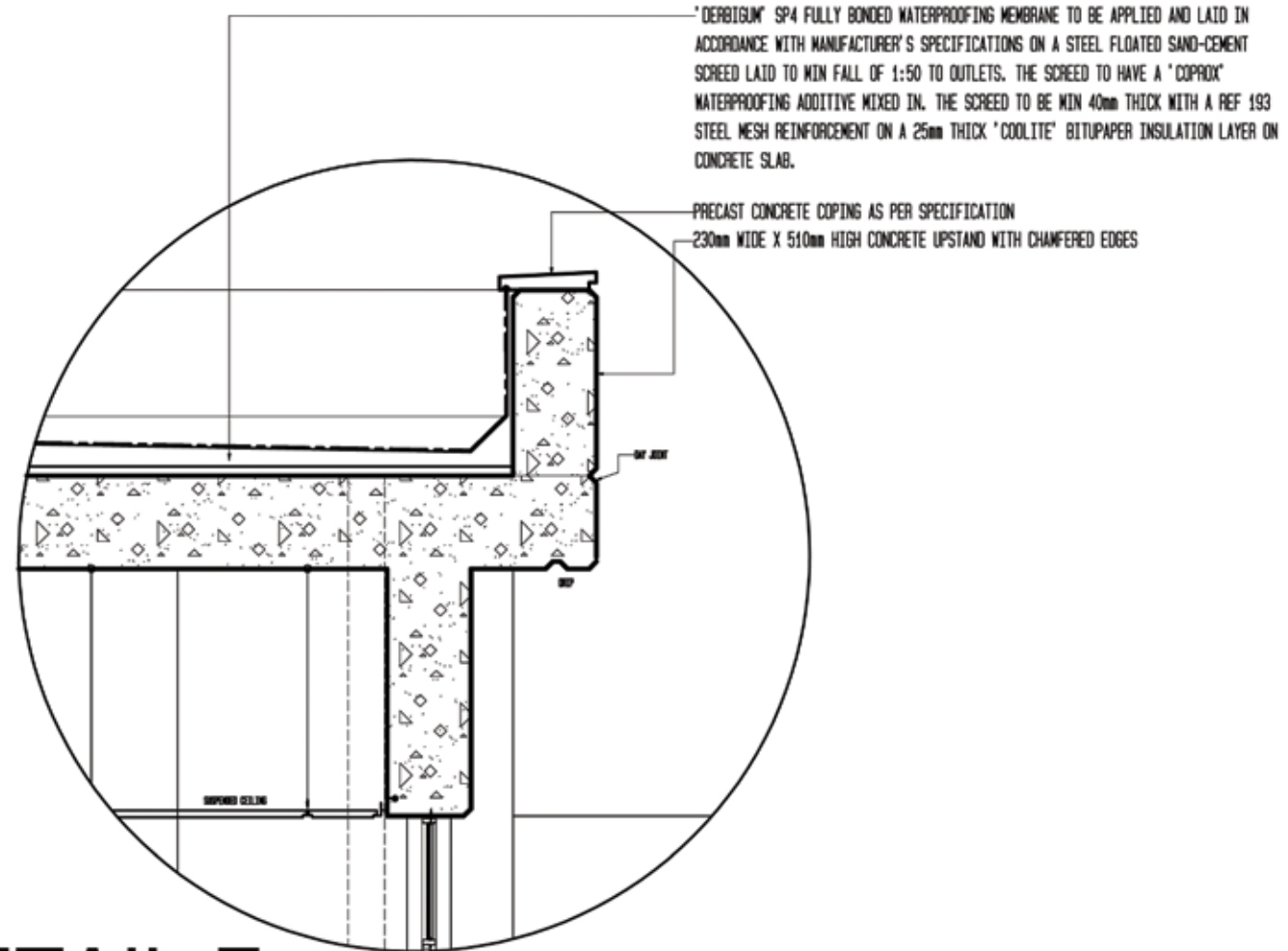


FIG 7.20\_Section A - A 3D View



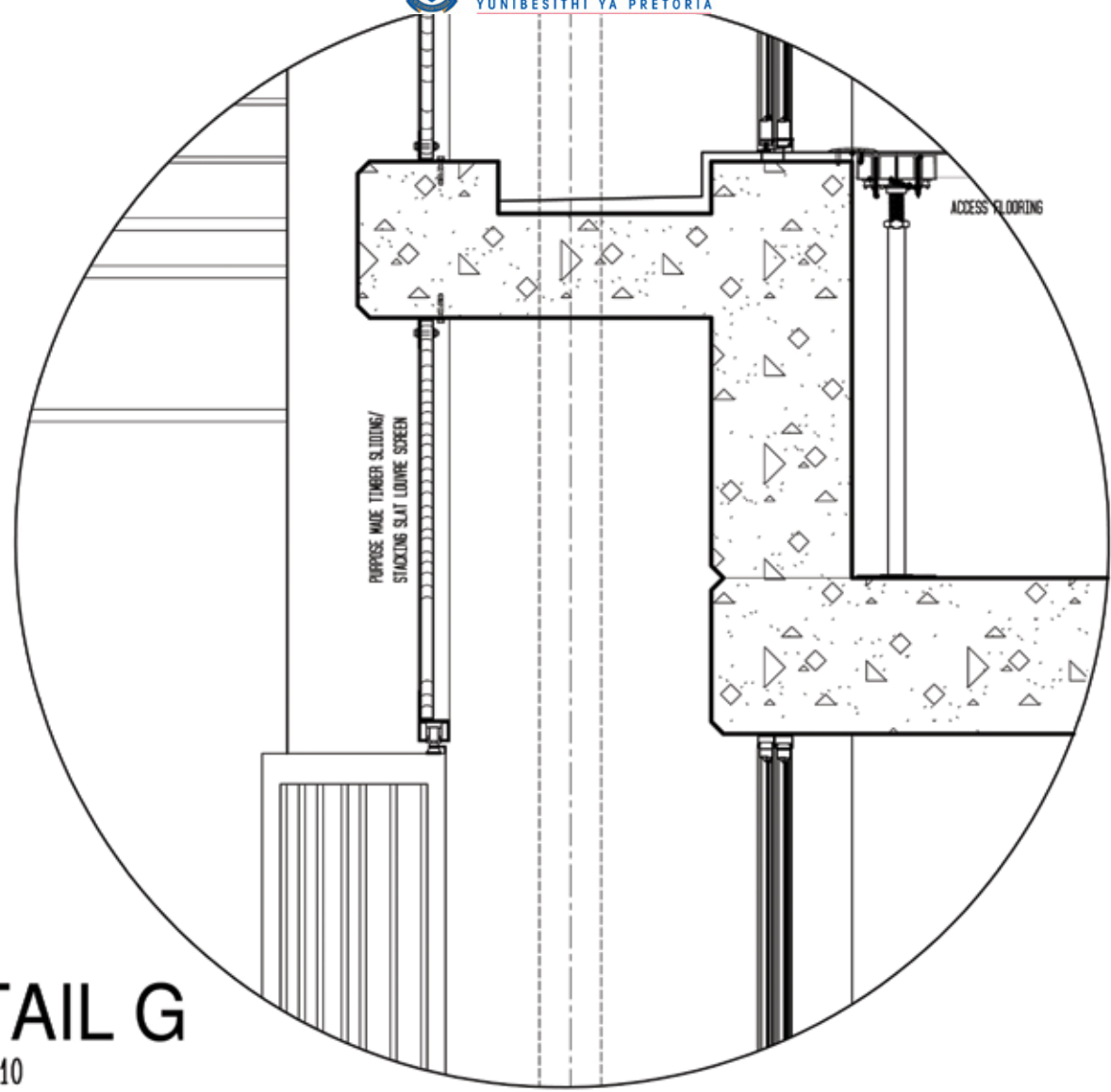
**DETAIL F**  
SCALE 1 : 20

FIG 7.21\_Detail F

FIG 7.22\_Detail G



UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA



**DETAIL G**

SCALE 1 : 10

FIG 7.23\_Detail H



UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA

115H X 150mm WIDE PURPOSE MADE STEEL GUTTER BEAM MADE UP OF 4mm THICK STEEL  
TO 150mm X 150mm X 4mm STEEL SQUARE HOLLOW TUBE COLUMN

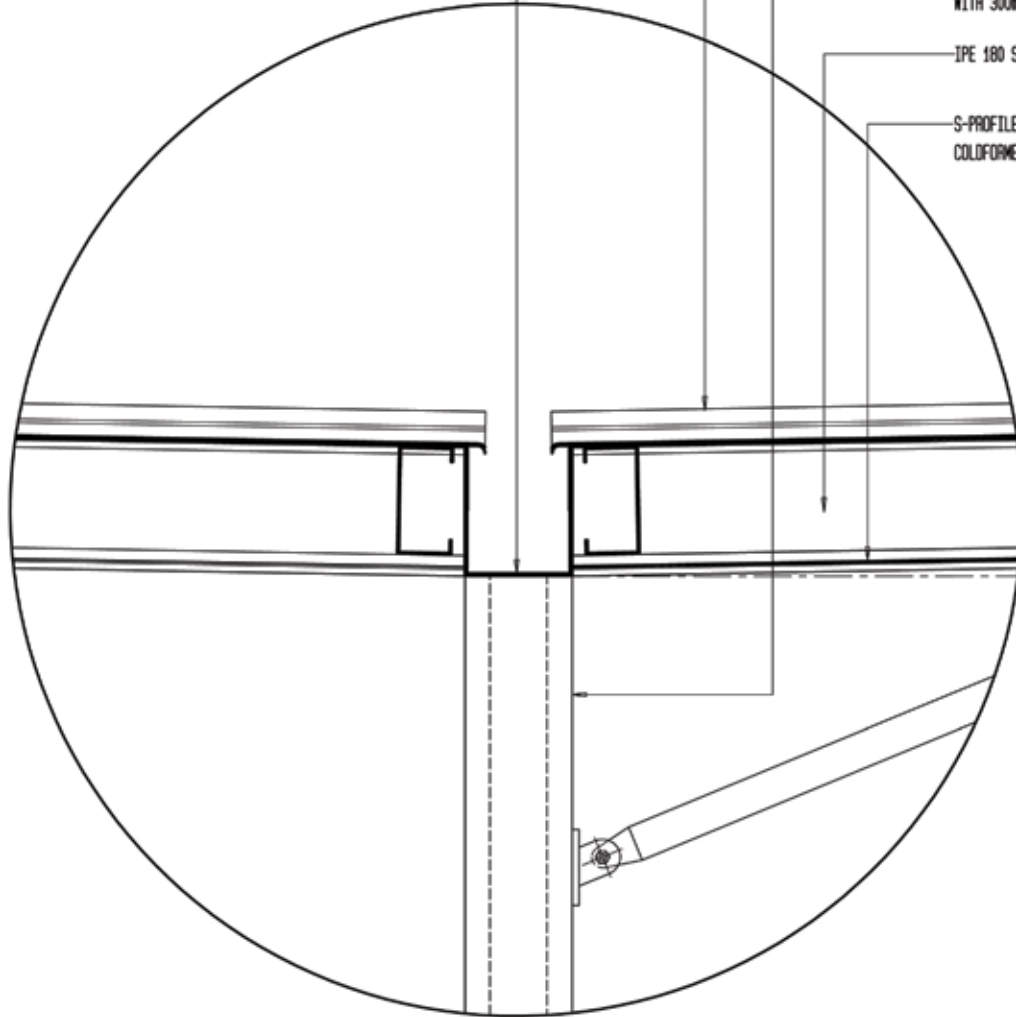
ROOF NOTE :

0,58mm THICK 'BRONNBUILT' GALVANISED ROOF SHEETING AT 1 deg PITCH WITH GLOBALCOAT FINISH,  
COLOUR : DOVE GREY ON 100 X 50 X 20 X 2,0mm COLDFORMED LIPPED CHANNEL PURLINS AT MAXIMUM 1000mm CTS FIXED TO  
IPE 180 STEEL ROOF BEAMS ALL AS PER STRUCTURAL ENG DESIGN AND DETAIL

150mm X 150mm X 4mm SQUARE HOLLOW TUBE COLUMN FIXED TO CONCRETE COLUMN  
WITH 300mm X 300mm X 5mm STEEL FIXING PLATE AS PER STRUCTURAL ENG

IPE 180 STEEL ROOF BEAMS WELDED TO PURPOSE MADE STEEL GUTTER BEAM

S-PROFILE SHEETING AS CEILING FIXED TO 100 X 50 X 20 X 2,0mm  
COLDFORMED LIPPED CHANNEL PURLINS AT MAXIMUM 1000mm CTS



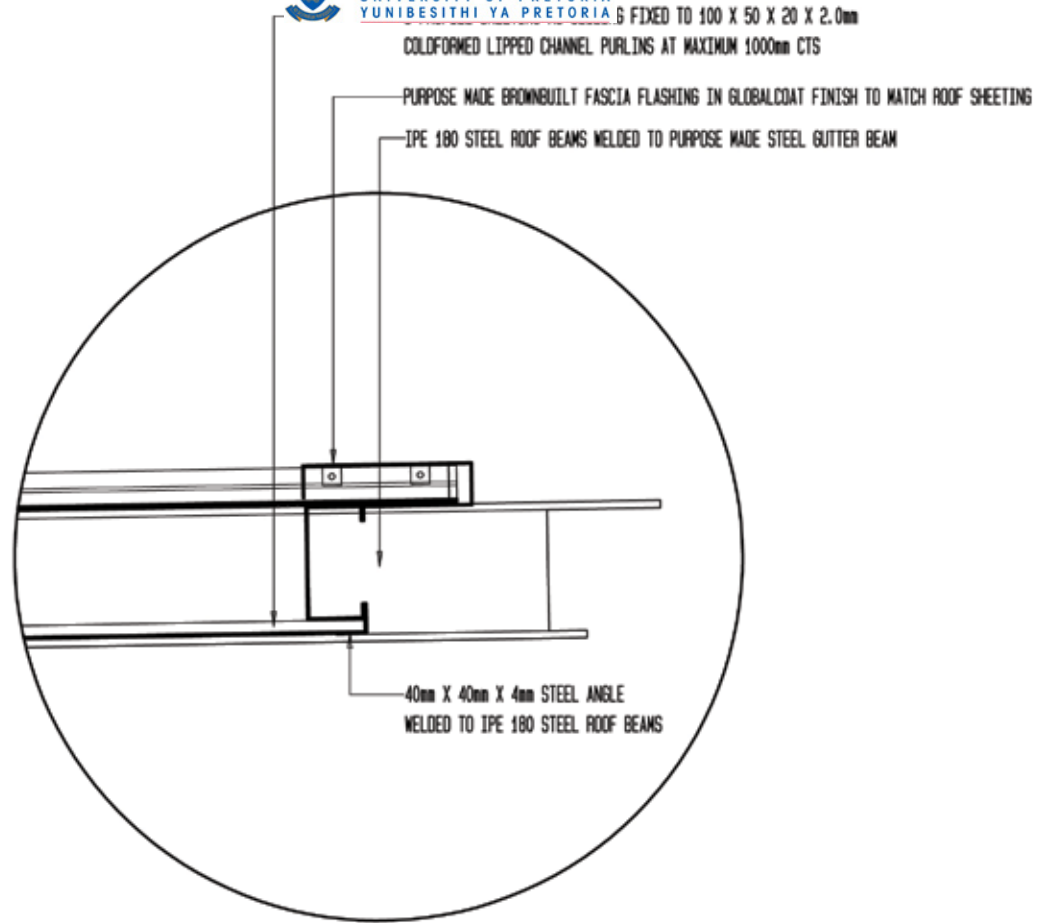
# DETAIL H

SCALE 1 : 10



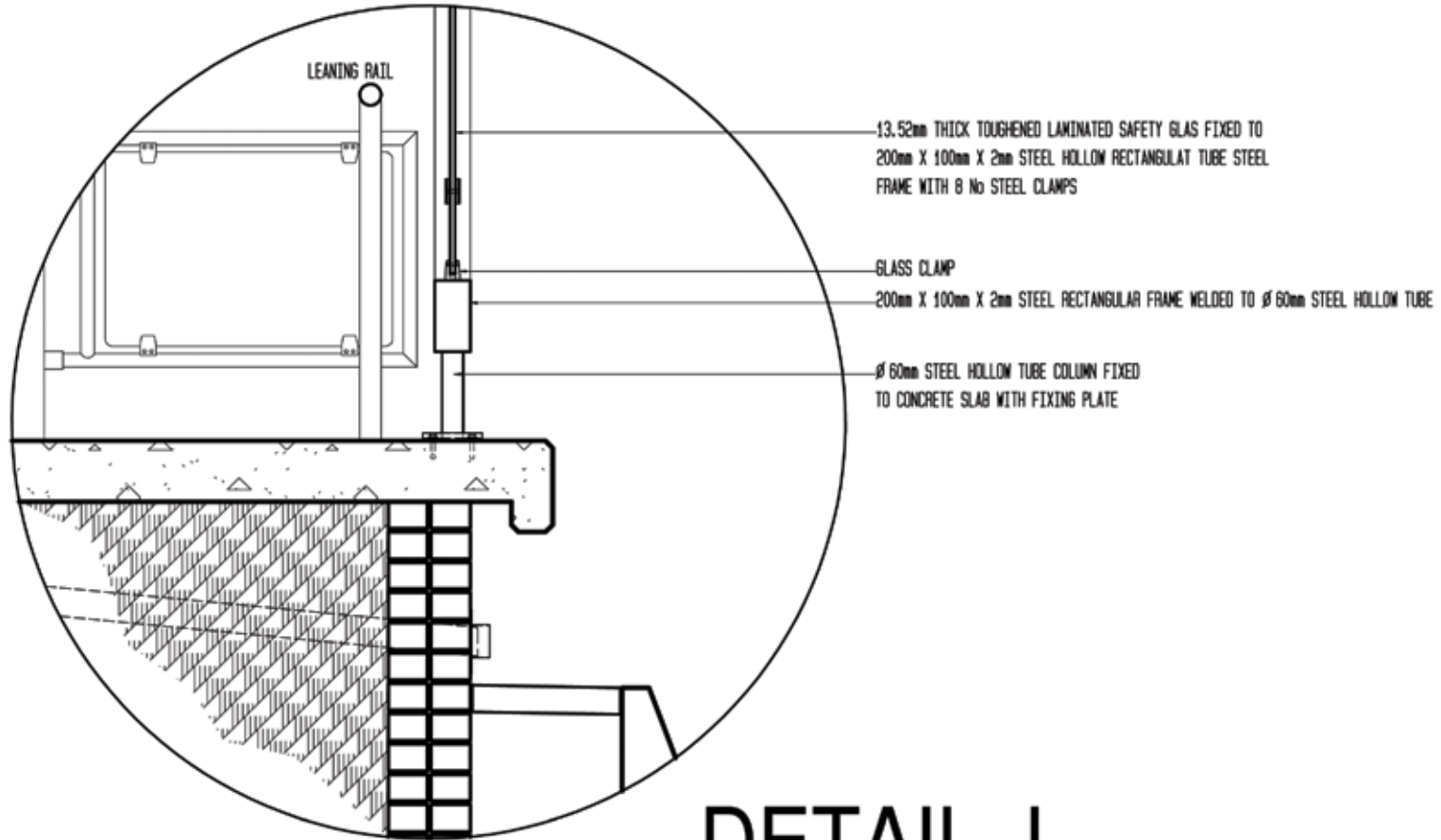


FIG 7.24\_Detail I



# DETAIL I

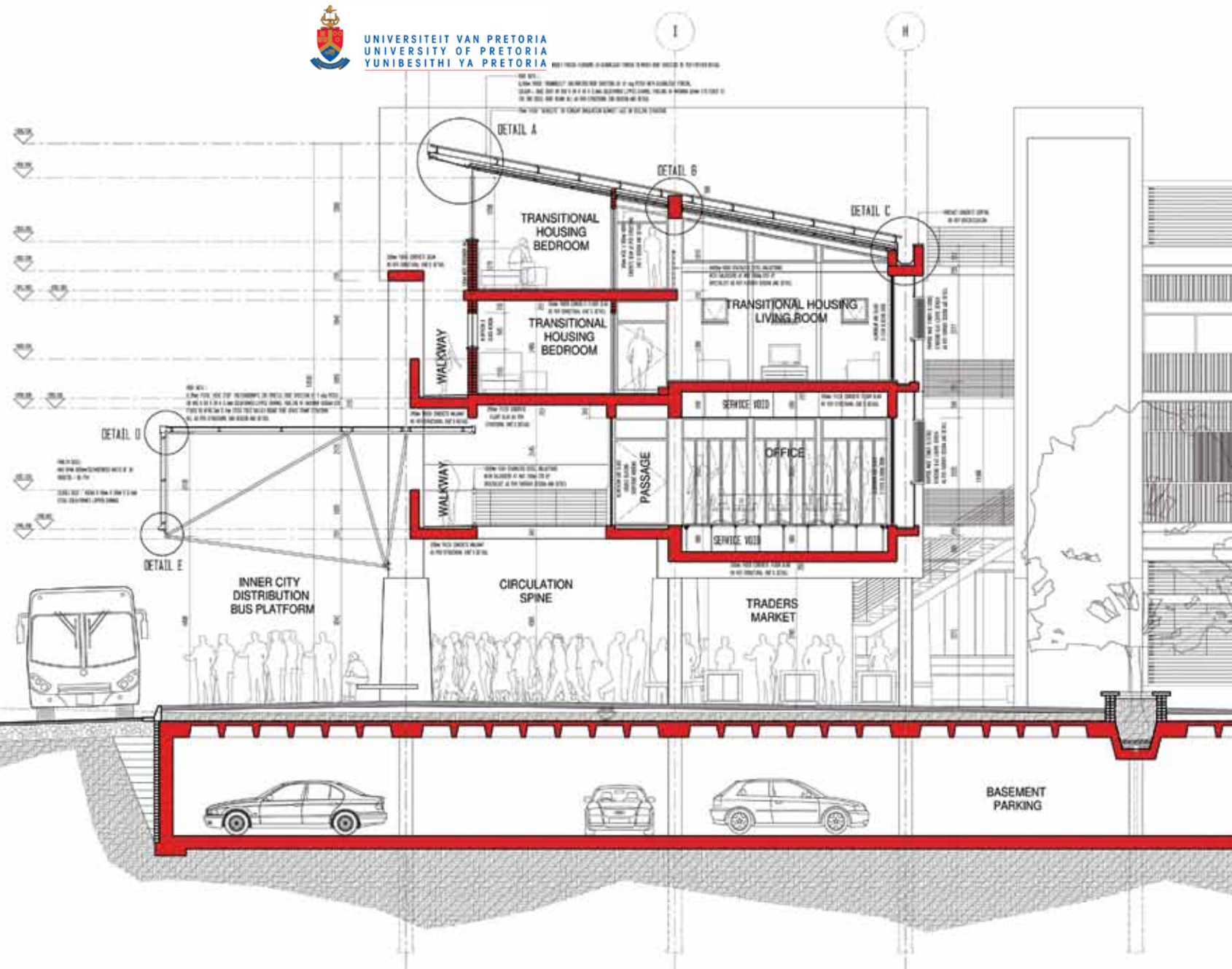
SCALE 1 : 10

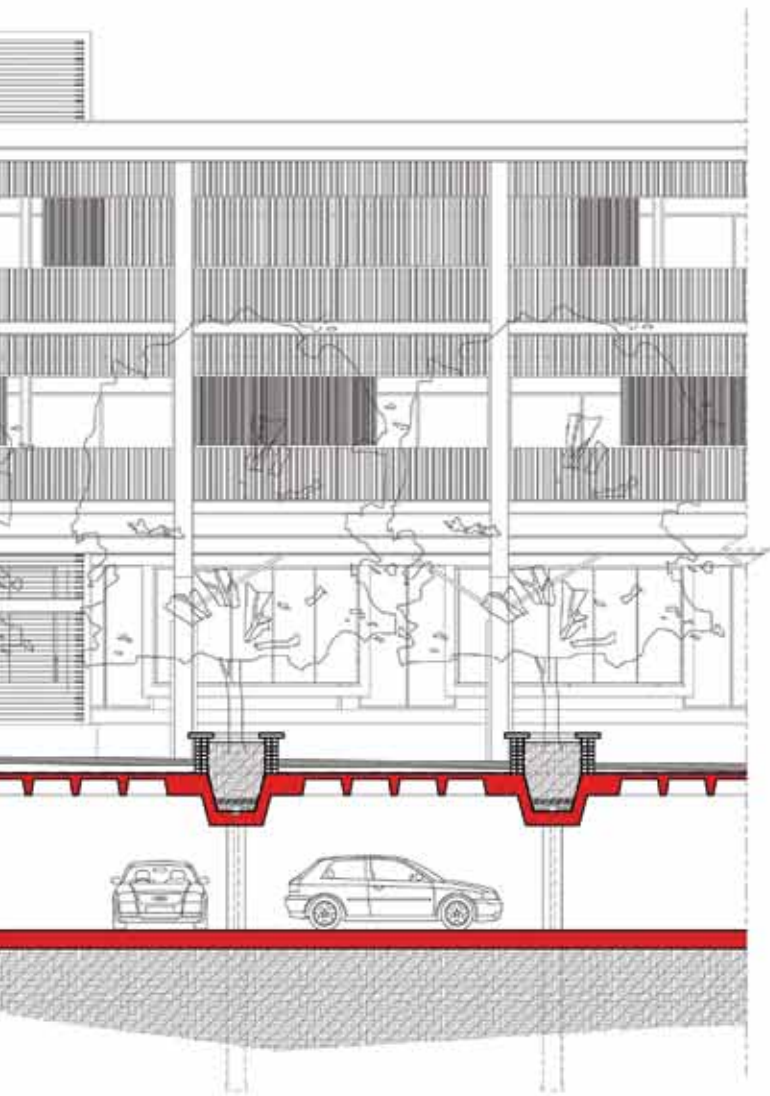


## DETAIL J

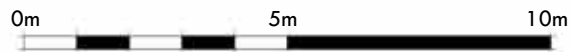
SCALE 1 : 10

FIG 7.26\_Section B - B





## SECTION B - B



DETAIL B

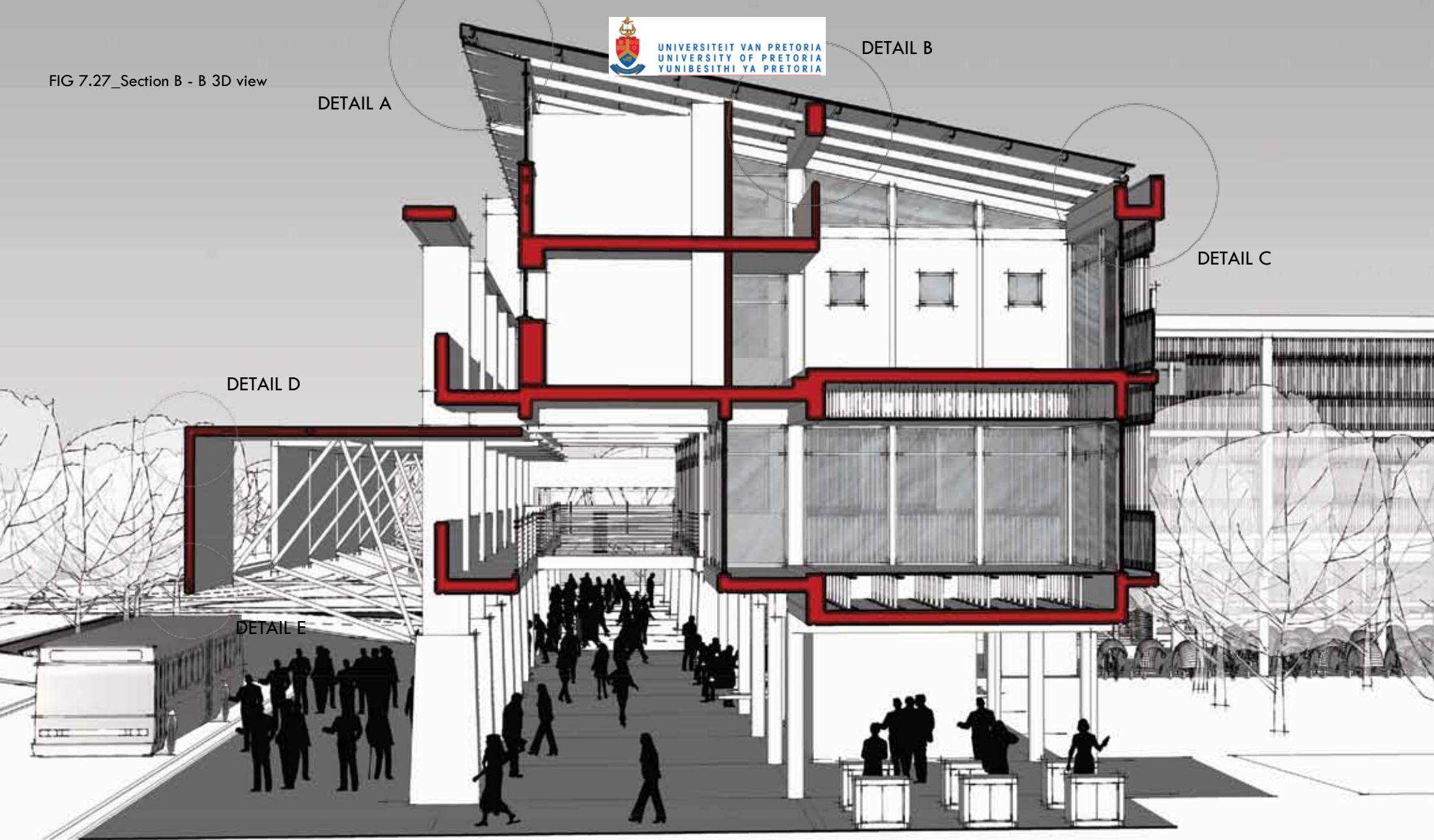
DETAIL A

DETAIL C

DETAIL D

DETAIL E

FIG 7.27\_Section B - B 3D view



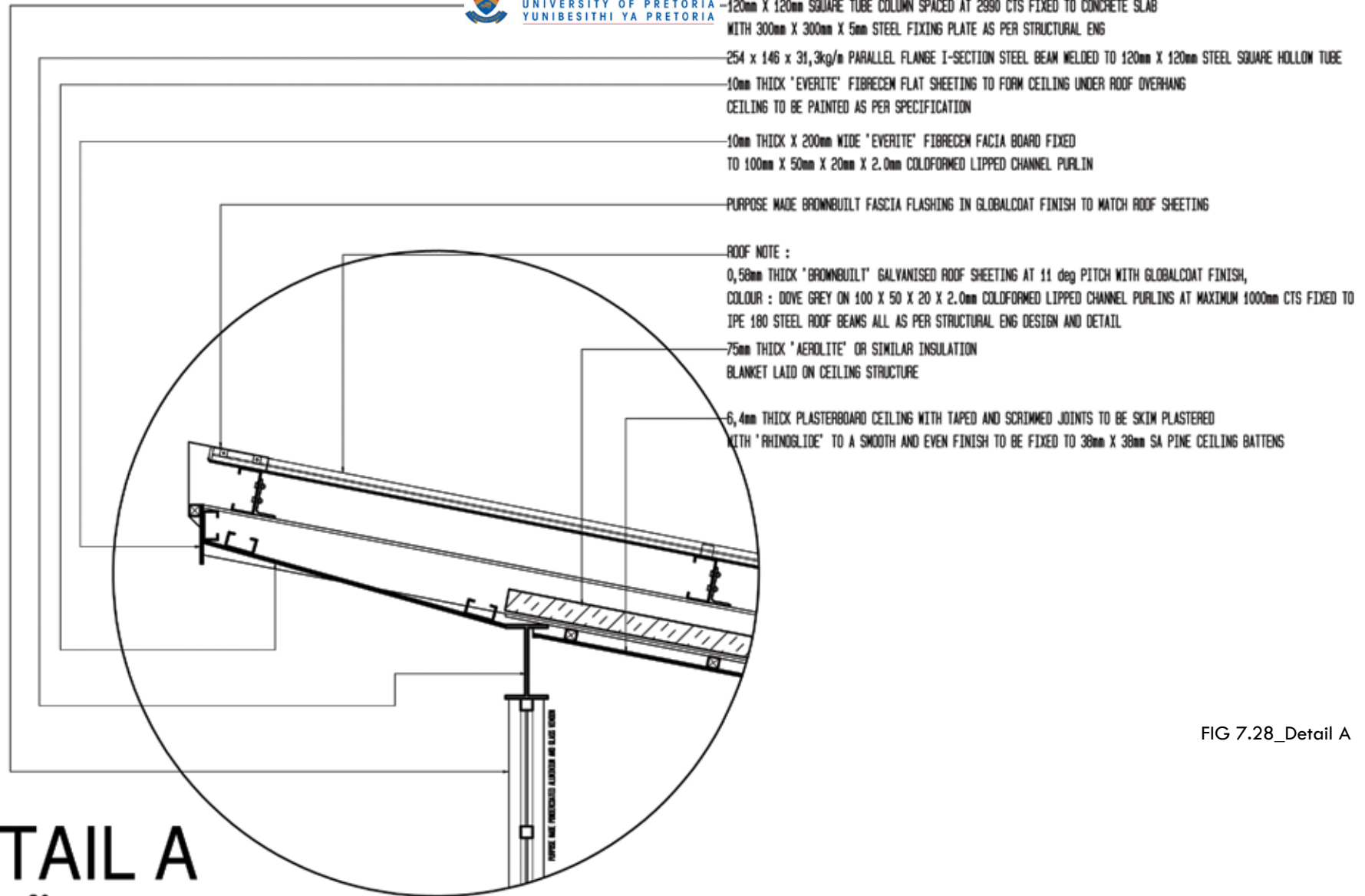


FIG 7.28\_Detail A

# DETAIL A

SCALE 1 : 20



FIG 7.29\_Detail B

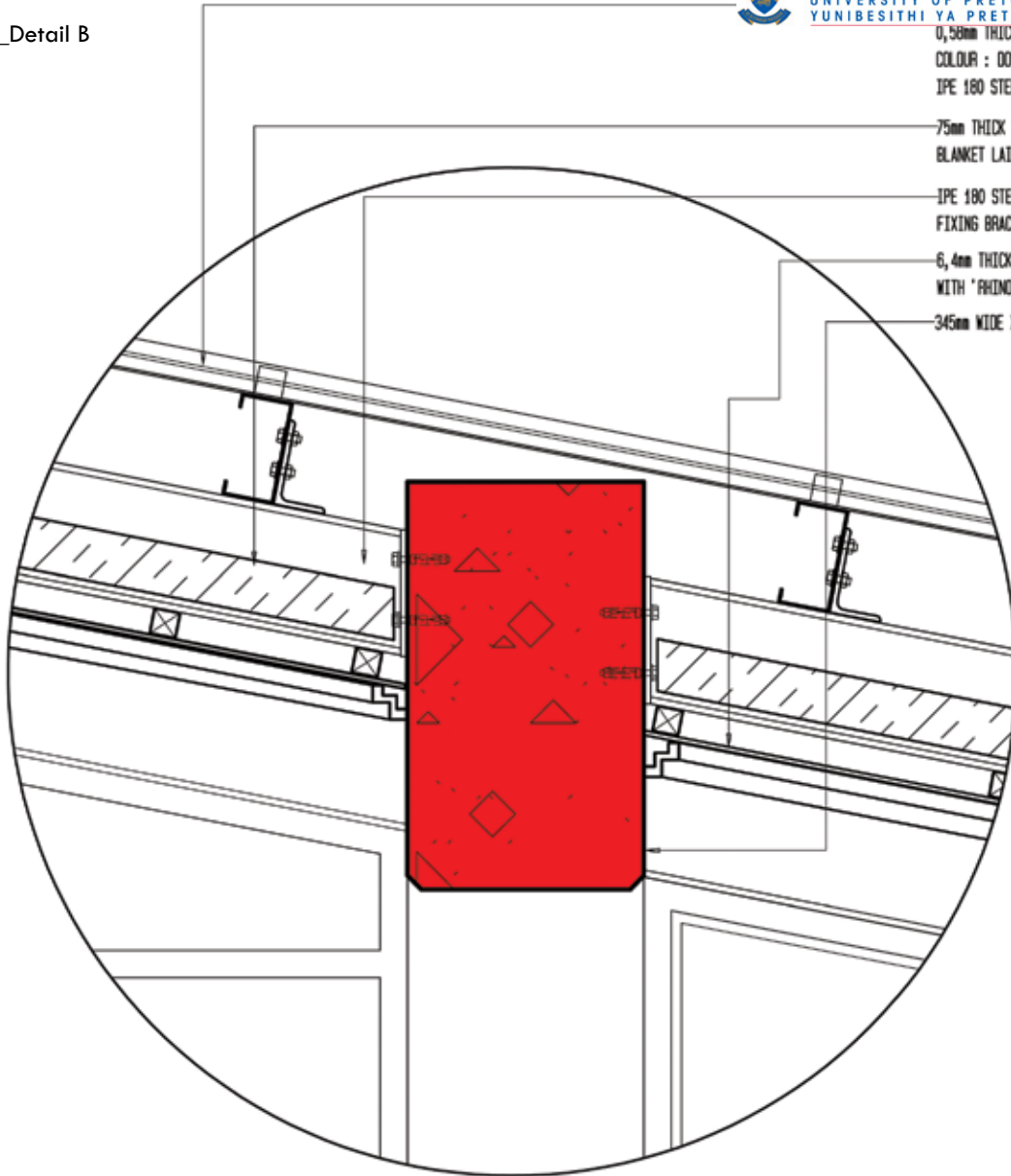
0,50mm THICK 'BRONKBUILT' GALVANISED ROOF SHEETING AT 11 deg PITCH WITH GLOBALCOAT FINISH,  
COLOUR : DOVE GREY ON 100 X 50 X 20 X 2,0mm COLDFORMED LIPPED CHANNEL PURLINS AT MAXIMUM 1000mm CTS FIXED TO  
IPE 180 STEEL ROOF BEAMS ALL AS PER STRUCTURAL ENG DESIGN AND DETAIL

75mm THICK 'AEROLITE' OR SIMILAR INSULATION  
BLANKET LAID ON CEILING STRUCTURE

IPE 180 STEEL ROOF BEAMS FIXED TO CONCRETE BEAM WITH STEEL  
FIXING BRACKET ALL AS PER STRUCTURAL ENG'S DESIGN AND DETAIL

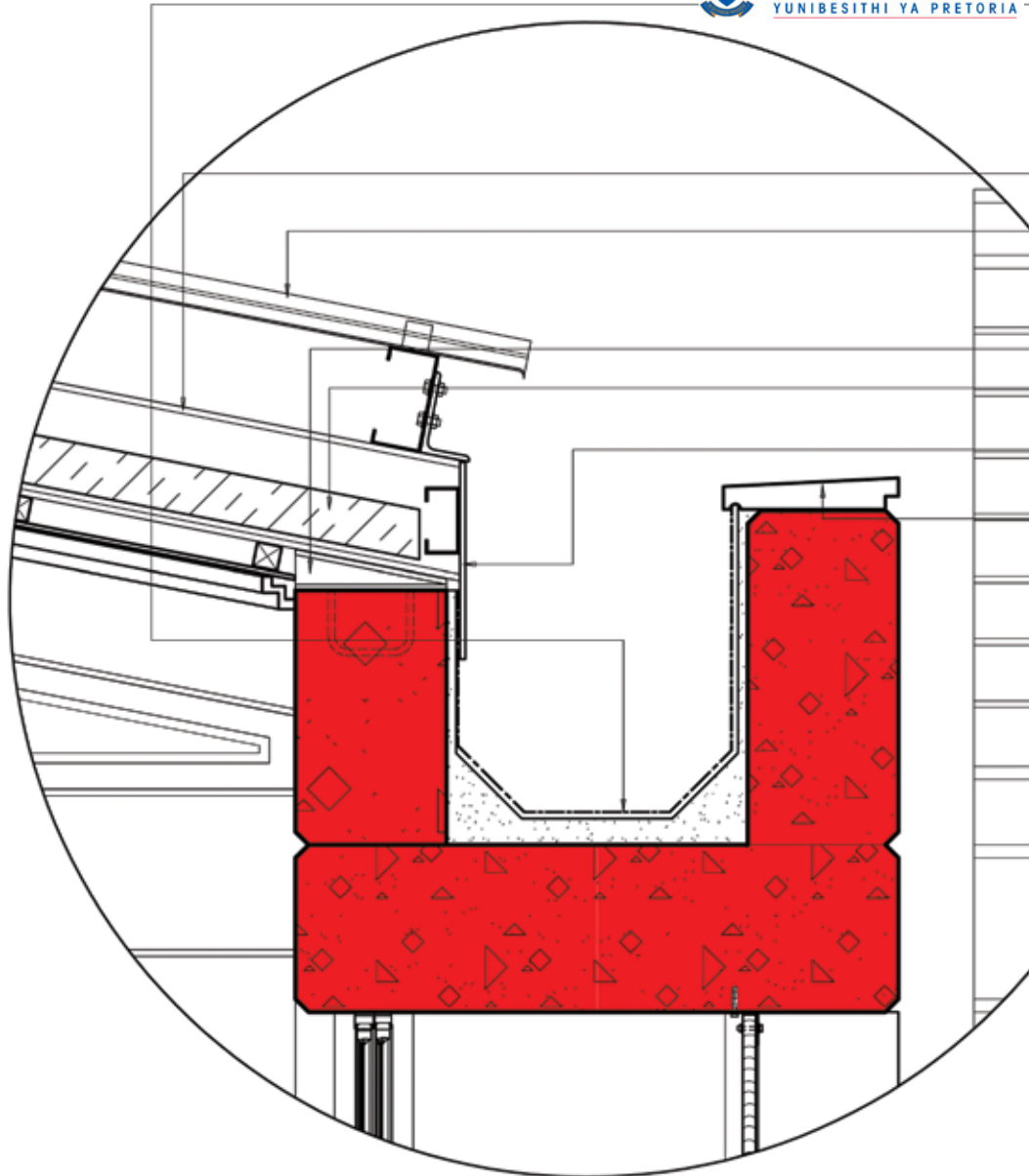
6,4mm THICK PLASTERBOARD CEILING WITH TAPED AND SCRIMMED JOINTS TO BE SKIM PLASTERED  
WITH 'RHINOGLIDE' TO A SMOOTH AND EVEN FINISH TO BE FIXED TO 38mm X 38mm SA PINE CEILING BATTENS

345mm WIDE X 595mm HIGH CONCRETE BEAM AS PER STRUCTURAL ENG'S DESIGN AND DETAIL



## DETAIL B

SCALE 1 : 10



'DERBISUM' SP4 FULLY BONDED WATERPROOFING MEMBRANE TO BE APPLIED AND LAID IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS ON A STEEL FLOATED SAND-CEMENT SCREED LAID TO MIN FALL OF 1:50 TO OUTLETS. THE SCREED TO HAVE A 'COPROX' WATERPROOFING ADDITIVE MIXED IN. THE SCREED TO BE MIN 40mm THICK WITH A REF 193 STEEL MESH REINFORCEMENT

IPE 180 STEEL ROOF BEAMS FIXED TO CONCRETE BEAM WITH STEEL FIXING BRACKET ALL AS PER STRUCTURAL ENG'S DESIGN AND DETAIL

ROOF NOTE :

0,58mm THICK 'BROMBULT' GALVANISED ROOF SHEETING AT 11 DEG PITCH WITH GLOBALCOAT FINISH, ON 100 X 50 X 20 X 2,0mm COLDFORMED LIPPED CHANNEL PURLINS AT MAXIMUM 1000mm CTS FIXED TO IPE 180 STEEL ROOF BEAMS ALL AS PER STRUCTURAL ENG DESIGN AND DETAIL

PURPOSE MADE STEEL BRACKET FIXED TO CONCRETE BEAM WITH 4 No OFF EXPANSION BOLTS

75mm THICK 'AEROLITE' OR SIMILAR INSULATION BLANKET LAID ON CEILING STRUCTURE

10mm THICK X 300mm WIDE 'EVERITE' FIBRECEM FACIA BOARD FIXED TO 100mm X 50mm X 20mm X 2,0mm COLDFORMED LIPPED CHANNEL PURLIN

PRECAST CONCRETE COPING AS PER SPECIFICATION

## DETAIL C

SCALE 1 : 10

FIG 7.30\_Detail C





FIG 7.31\_Detail D

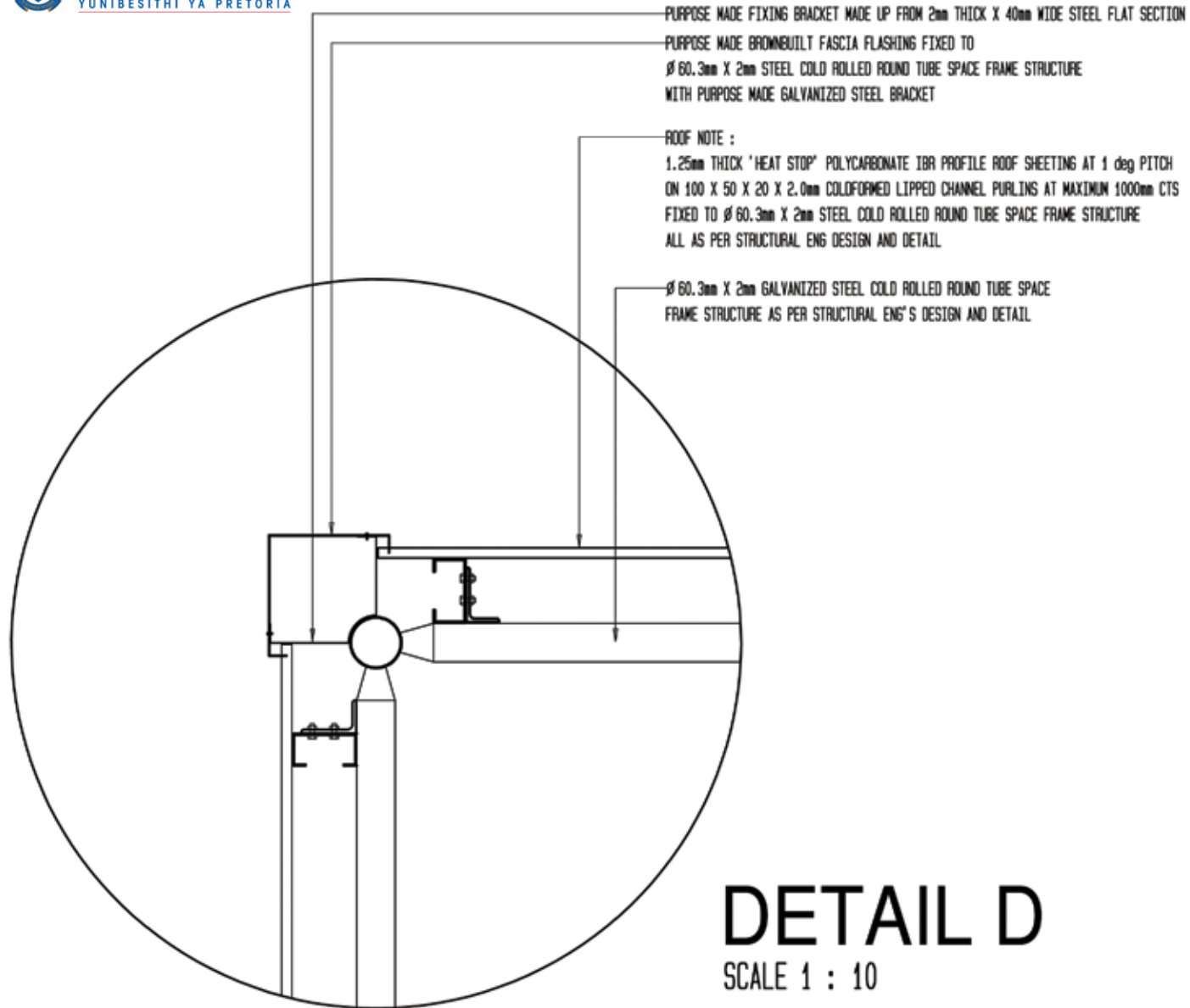


FIG 7.32\_Detail E

