

[ARC60104]

ADVANCED ARCHITECTURAL CONSTRUCTION

Assignment 2

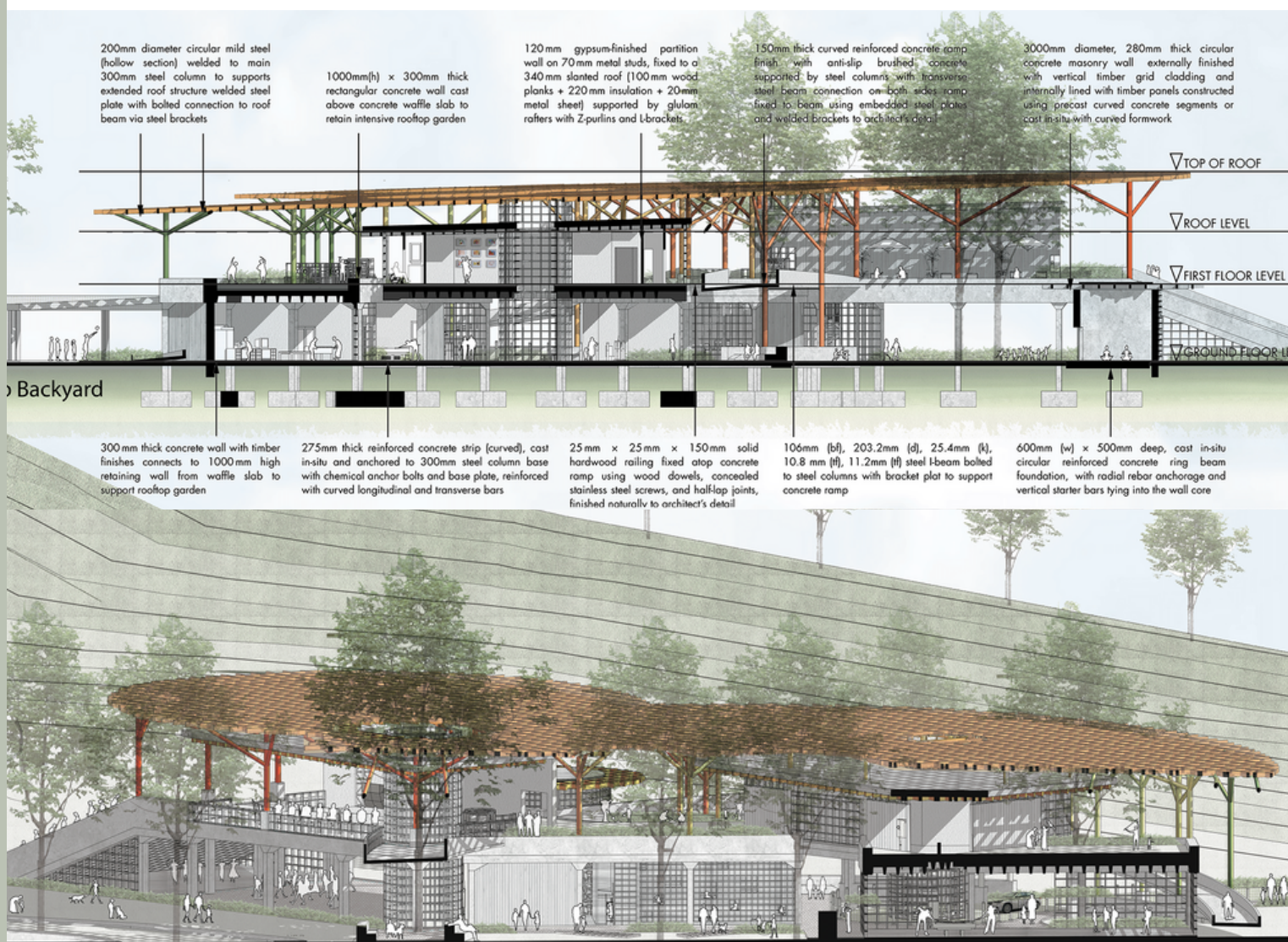
Integrated Building System & Construction Solutions

Architecture Studio x Advance Construction

BELLY WONG

0356764

TUTOR : MR.FAHMI



Sectional Perspective

TOP OF ROOF

100mm(w) x 250mm(h) rectangular glue-laminated timber finish with natural wood stain interlocked in a grid system using galvanized steel brackets, stainless steel bolts, and half-lap joints to architect's detail

ROOF LEVEL

25mm x 25mm x 150mm thick rectangular solid hardwood mullions finish with natural wood fixed using wood dowels and concealed stainless steel screws joined using half-lap joints, glued and pinned to architect's detail

300mm circular mild steel column (hollow section) coated with anti-corrosion primer and finished with vibrant weatherproof polyurethane paint with steel top plate welded to column, with bolted connection to timber beam using steel angle brackets and anchor bolts to architect's detail

500mm (l) x 500mm (w) x 1000mm (h) rectangular plinth with cast-in-place reinforced concrete steel column base plate welded and bolted to plinth using chemical anchor bolts with grout leveling to architect's detail

340mm (roof buildup: 100mm wood planks + 220mm insulation + 20mm metal panel) slanted flat roof supported by glulam timber, wood planks fixed to timber rafter grid using steel Z-purlins, L-brackets, screws, and half-lap joint to architect's detail

130mm vegetation + 110mm substrate + 25mm retention + 10mm root barrier + 20mm filter + 50mm drainage + 10mm separation layer green roof build-up over reinforced concrete waffle slab framed with concrete edging, installed over screeded slope with second impermeable membrane to architect's detail

FIRST FLOOR LEVEL

200mm (top) x 100mm (bottom) x 400mm depth cone-shaped slab using precast reinforced concrete overlaid with timber flooring interlocked via precast shear keys and grouted joints to architect's detail

304.8mm (b) x 457.2mm (h) rectangular reinforced concrete column connected to slab using monolithic cast drop panel and capital head integrated during pour to architect's detail

170mm (riser) x 400mm (tread) x 1500mm (run width) spiral open-riser staircase hardwood timber treads (50mm thick), with 50mm wide galvanized steel carriage supports prefabricated timber landing to architect's detail

Carriage bolted onto concrete foundation base, using chemical anchor bolts and adjustable brackets to follow slope or curvature

GROUND FLOOR LEVEL

304.8mm (b) x 457.2mm (h) column with 2057mm (w) x 2057mm (l) pad foundation cast monolithically or connected using starter bars foundation includes top and bottom mesh reinforcement to architect's detail

Landing platform supported by independent steel columns or frame mechanically fixed to concrete slab with anchor bolts and grout leveling to architect's detail

▽ TOP OF ROOF

100mm(w) × 250mm(h) rectangular glue-laminated timber finish with natural wood stain interlocked in a grid system using galvanized steel brackets, stainless steel bolts, and half-lap joints to architect's detail

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▽ GROUND FLOOR LEVEL

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Landing platform supported by independent steel columns or frame mechanically fixed to concrete slab with anchor bolts and grout leveling to architect's detail

2400mm

4000mm

4500mm

TOP OF ROOF

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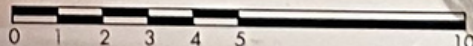
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ASSIGNMENT 2 - DETAILED STRIP SECTION

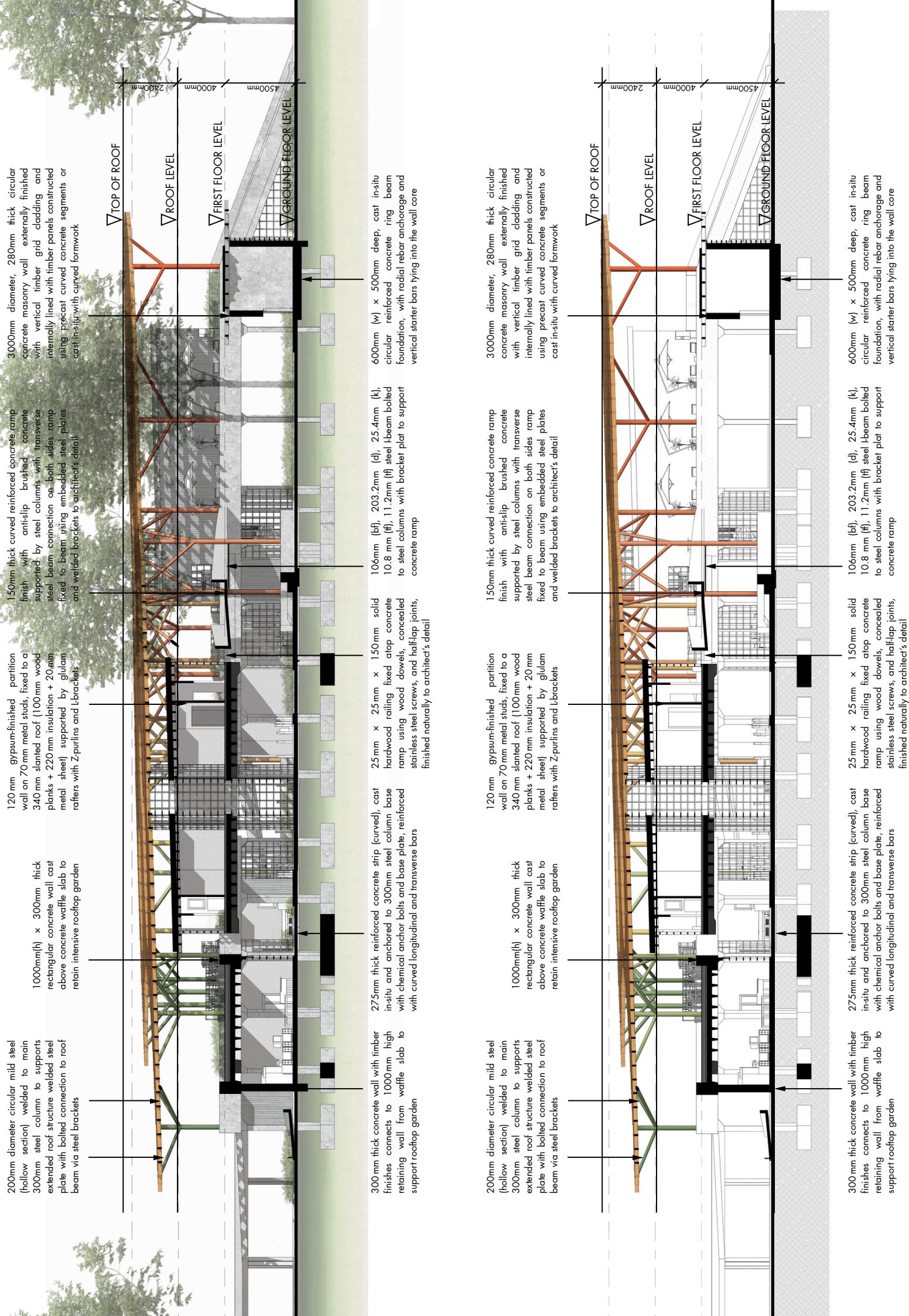
TS. AHMAD FAHMI ZAINAZLAN

SCALE 1:50









200mm diameter circular mild steel (hollow section) welded to main 300mm steel column to support extended roof structure welded steel plate with bolted connection to roof beam via steel brackets

1000mm(h) x 300mm thick rectangular concrete wall cast above concrete waffle slab to retain intensive rooftop garden

120 mm gypsum-finished partition wall on 70 mm metal studs, fixed to a 340 mm slanted roof (100 mm wood planks + 220 mm insulation + 20 mm metal sheet) supported by glulam rafters with Z-purlins and L-brackets

150mm thick curved reinforced concrete ramp finish with anti-slip brushed concrete supported by steel columns with transverse steel beam connection on both sides ramp fixed to beam using embedded steel plates and welded brackets to architect's detail

3000mm diameter, 280mm thick circular concrete masonry wall externally finished with vertical timber grid cladding and internally lined with timber panels constructed using precast curved concrete segments or cast in-situ with curved formwork

300 mm thick concrete wall with timber finishes connects to 1000mm high retaining wall from waffle slab to support rooftop garden

275mm thick reinforced concrete strip (curved), cast in-situ and anchored to 300mm steel column base with chemical anchor bolts and base plate, reinforced with curved longitudinal and transverse bars

25 mm x 25 mm x 150 mm solid hardwood railing fixed atop concrete ramp using wood dowels, concealed stainless steel screws, and half-lap joints, finished naturally to architect's detail

106mm (bf), 203.2mm (d), 25.4mm (k), 10.8 mm (tf), 11.2mm (ft) steel I-beam bolted to steel columns with bracket plat to support concrete ramp

600mm (w) x 500mm deep, cast in-situ circular reinforced concrete ring beam foundation, with radial rebar anchorage and vertical starter bars lying into the wall core

200mm diameter circular mild steel (hollow section) welded to main 300mm steel column to support extended roof structure welded steel plate with bolted connection to roof beam via steel brackets

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