TAYLOR'S UNIVERSITY

Wisdom · Integrity · Excellence

SCHOOL OF ARCHITECTURE, BUILDING AND DESIGN

BACHELOR OF QUANTITY SURVEYING

BLD60104 CONSTRUCTION TECHNOLOGY 1

GROUP ASSIGNMENT

LECTURER

MS. AZRINA BINTI MD YAAKOB

GROUP MEMBERS

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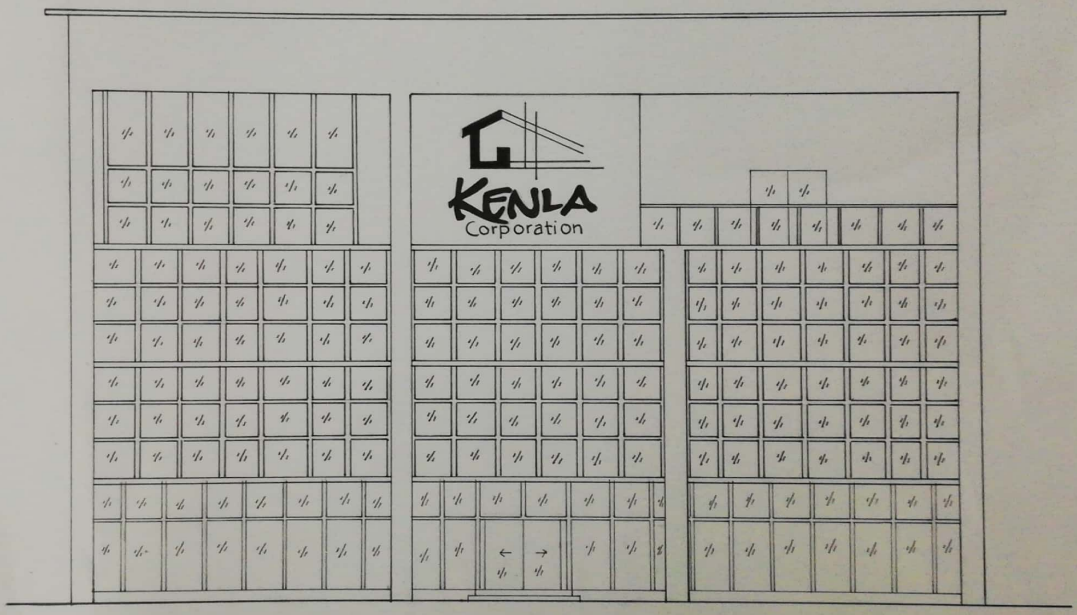
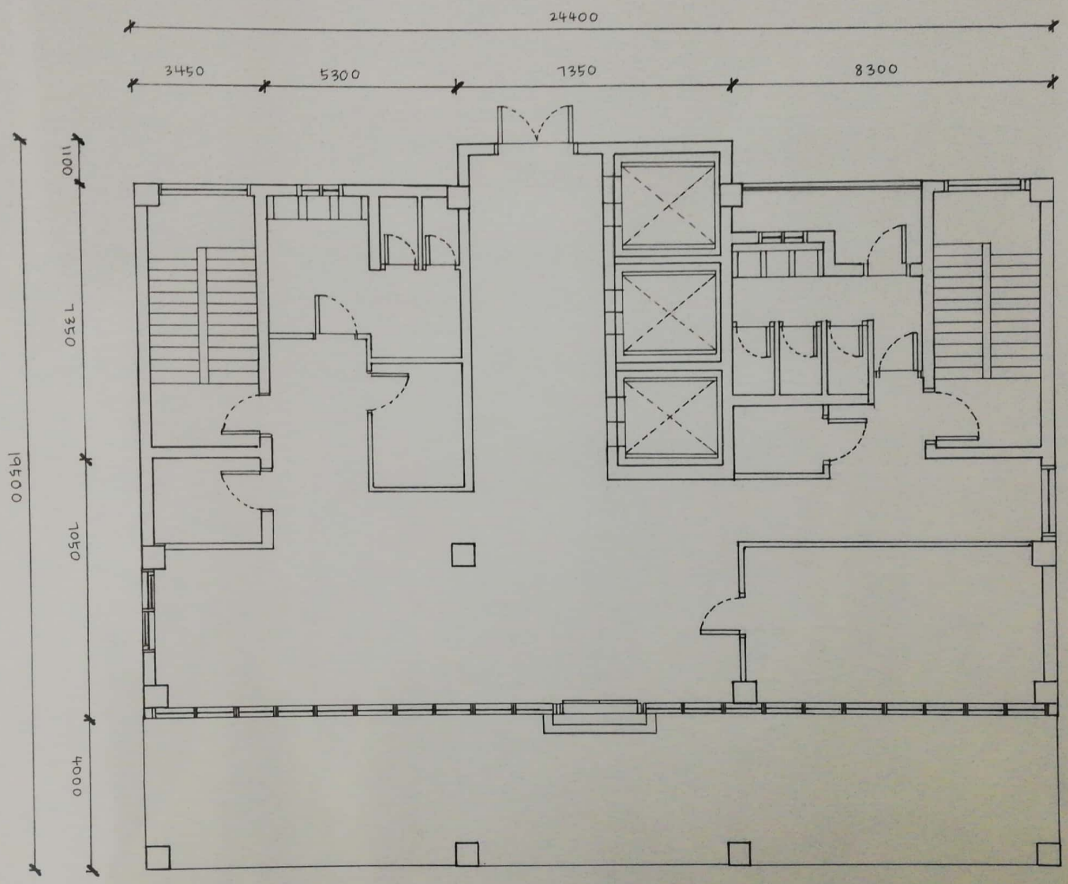
STEPHANIE CHONG YEE FEI	0330631	LOW KAY WEN	0334473
MADELEINE KONG HUI XUAN	0335182	CHONG CHUAN FEI	0331681
LIM XIAO JING	0334971	ALI MOOSSAJEE	0331469

FRONT ELEVATION SCALE 1:100



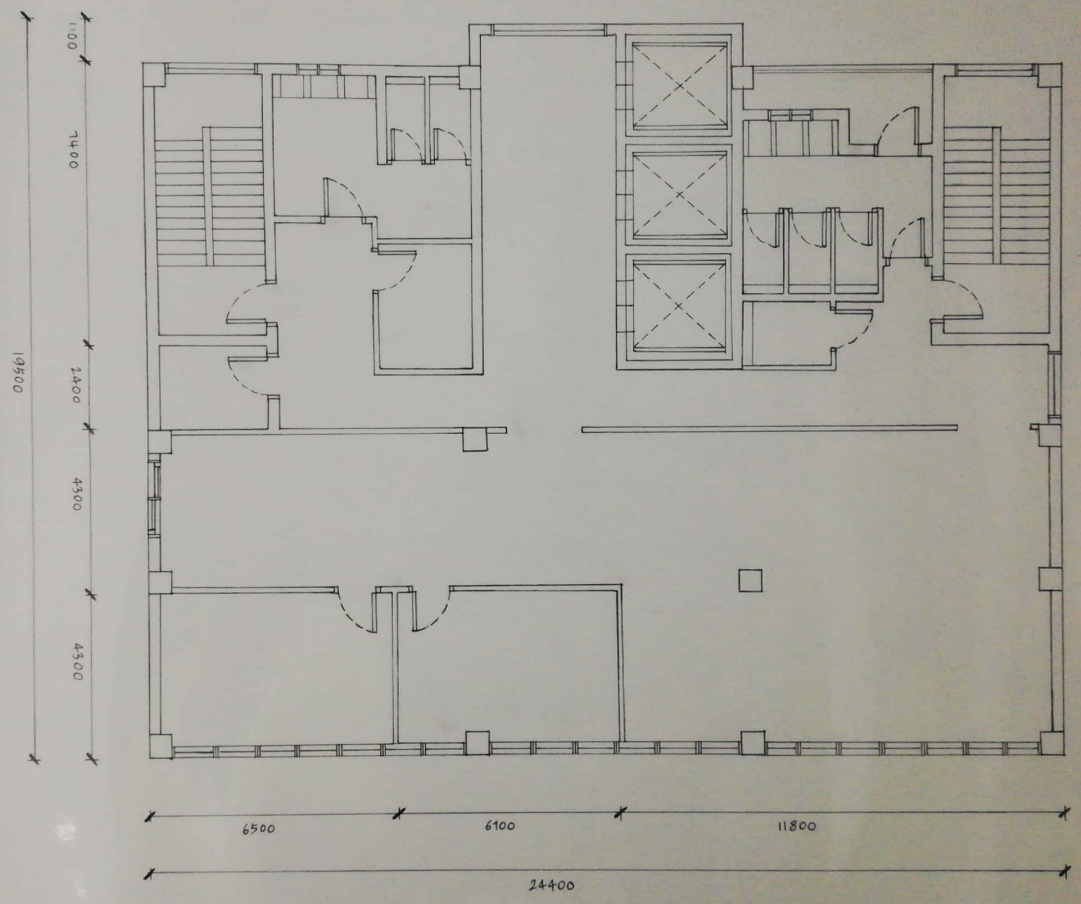
GROUND FLOOR SCALE 1:100



LEGEND

1. STAIRS
2. MALE TOILET
3. PANTRY
4. STORAGE ROOM
5. FEMALE TOILET
6. BALCONY
7. ACCESSIBLE TOILET
8. RECEPTION
9. SITTING AREA
10. CAFETERIA

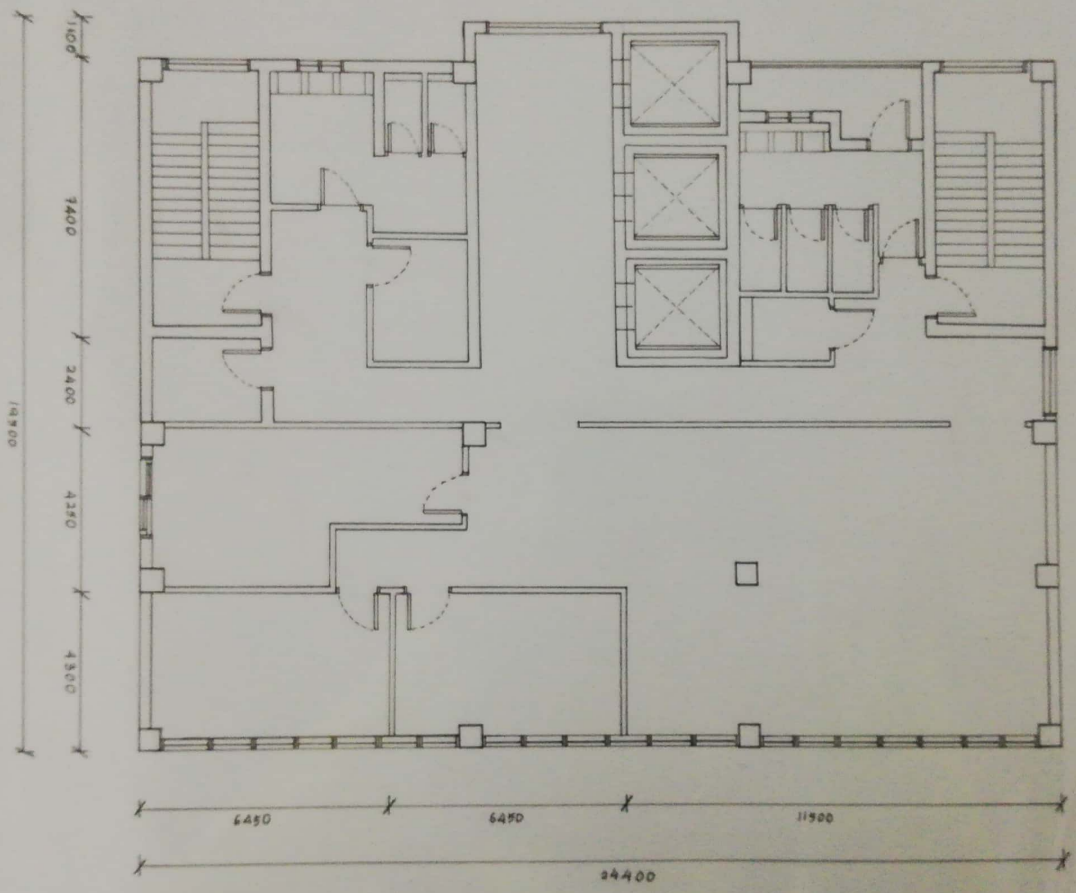
SECOND FLOOR SCALE 1: 100



LEGEND

1. STAIRS
2. MALE TOILET
3. PANTRY
4. STORAGE ROOM
5. FEMALE TOILET
6. BALCONY
7. ACCESSIBLE TOILET
8. PRINTING AREA
9. OPEN OFFICE
10. ROOM 1
11. ROOM 2

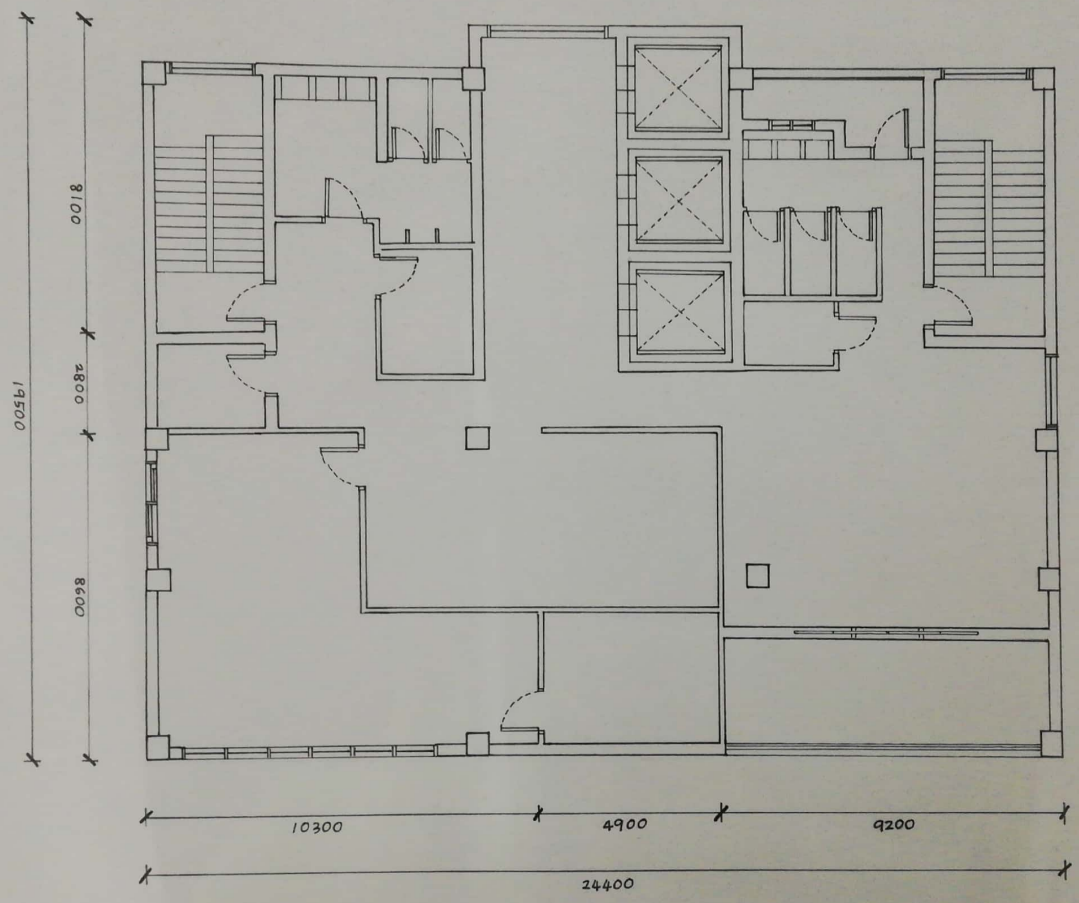
THIRD FLOOR SCALE 1:100



LEGEND

1. STAIRS
2. MALE TOILET
3. PANTRY
4. STORAGE ROOM
5. FEMALE TOILET
6. BALCONY
7. ACCESSIBLE TOILET
8. PRINTING AREA
9. OPEN OFFICE
10. ROOM 1
11. ROOM 2
12. FILE STORAGE ROOM

FOURTH FLOOR SCALE 1: 100

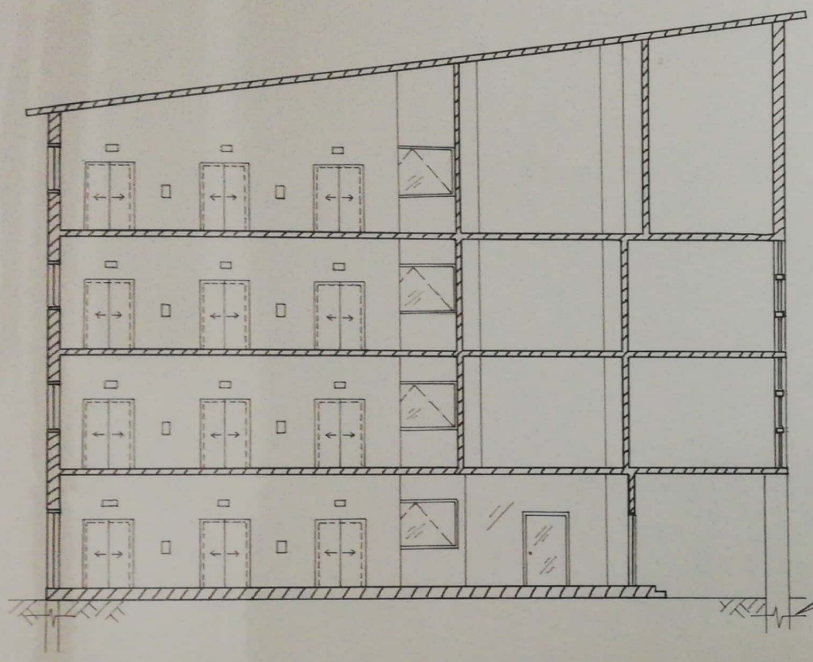


LEGEND

1. STAIRS
2. MALE TOILET
3. PANTRY
4. STORAGE ROOM
5. FEMALE TOILET
6. BALCONY 1
7. ACCESSIBLE TOILET
8. CEO ROOM
9. SECRETARY SPACE & LOUNGE
10. DATA ROOM
11. RECREATIONAL AREA
12. BALCONY 2

SECTION A - A'

SCALE 1 : 100



FOUNDATION

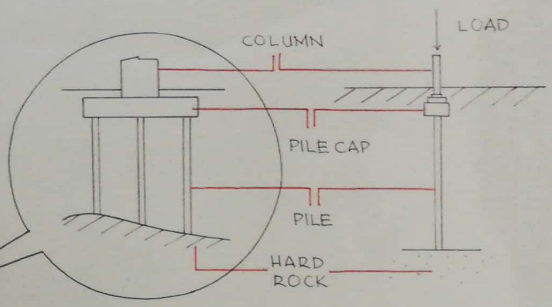
REASONS TO USE END BEARING PILE

1. POOR SOIL CONDITION
   UPPER LAYER OF SOIL IS WEAK

2. HIGH WATER TABLE AT SUBSOIL LAYER

THEREFORE,
END-BEARING PILE FOUNDATION IS THE MOST SUITABLE BECAUSE:

- ABLE TO PENETRATE STRATUM TO GAIN STABILITY
- PENETRATES HARDEST LAYER TO SUPPORT LOAD OF 4 STOREY BUILDING.

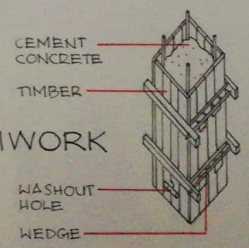


FORMWORK

REASONS TO USE

TRADITIONAL TIMBER FORMWORK

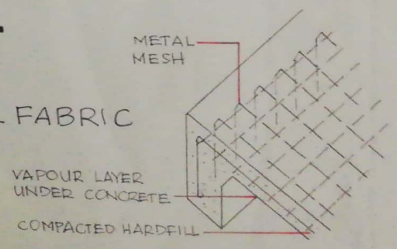
1. CAN BE REUSED (UP TO 4 TIMES)
2. LOW PRODUCTION COST
3. EASY TO CONSTRUCT



REINFORCEMENT

REASONS TO USE STEEL FABRIC REINFORCEMENT

1. HIGH COMPRESSIVE STRENGTH
2. ADEQUATE TENSILE STRENGTH
3. LOW MAINTENANCE COST
4. DURABLE



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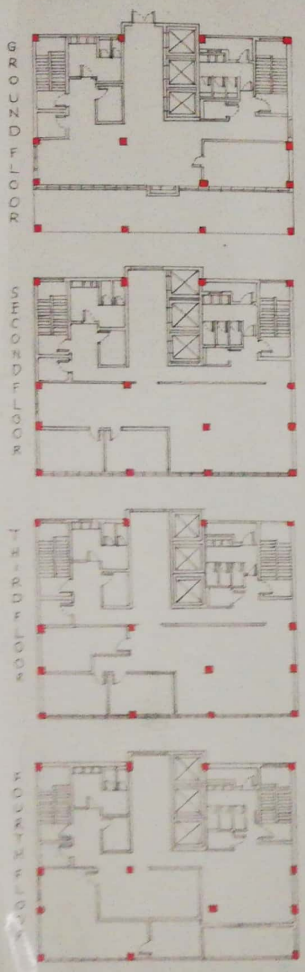
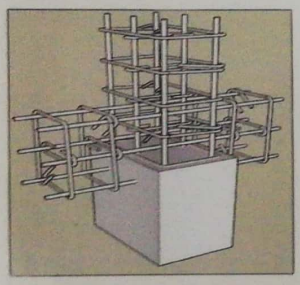
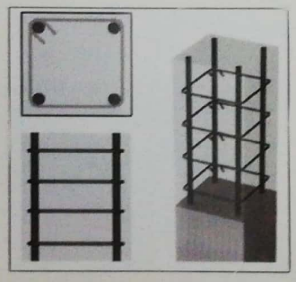
LOCATION OF BEAMS AND COLUMNS



REINFORCEMENT IN BEAMS AND COLUMNS

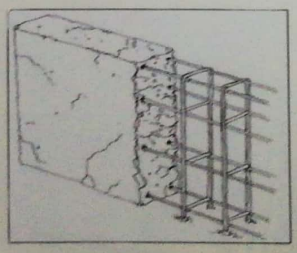
THE REINFORCEMENT BARS ARE MADE OF STEEL. HIGH YIELD STRENGTH BAR IS USED IN BOTH BEAMS AND COLUMNS TO PROVIDE GREATER TENSILE STRENGTH TO SUPPORT THE LOAD OF THE BUILDING. THE SURFACE OF THE REINFORCEMENT BAR MUST BE CAPABLE TO DEVELOP ADEQUATE BOND BETWEEN THE CONCRETE AND REINFORCEMENT. THE PROPOSED BAR SIZE IS BETWEEN 12 TO 32 MM.



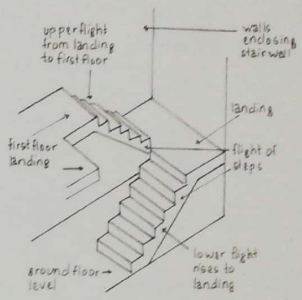


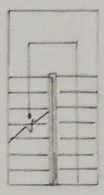
FOR BEAMS, SOME ARE RECTANGULAR SHAPE AND T-SHAPE. THE STEEL REINFORCEMENT BAR IS BENDED TO FIT INTO THE BEAM WITH DIFFERENT SHAPES.

FOR COLUMN, RECTANGULAR COLUMN REINFORCEMENT IS USED TO SUPPORT THE BUILDING.



STAIRCASE





HALF-TURN CONCRETE STAIR

- THE STAIRS ARE ALSO USED AS ESCAPE STAIR DURING EMERGENCY
- STAINLESS STEEL HANDRAILS IS USED AS IT IS DURABLE AND STRONG TO PROTECT WORKERS SAFETY. IT IS ALSO EASY TO MAINTAIN.
- ANTI-SLIP STEP COVERS ARE USED TO IMPROVE TRACTION AND REDUCE THE RISK OF SLIPS AND FALLS.

ADVANTAGES

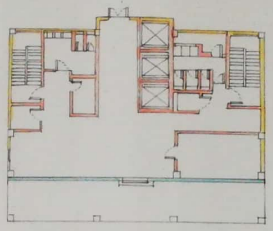
- EFFICIENT USE OF SPACE
- SUITABLE FOR ANY ARCHITECTURE STYLE
- THE LANDING SPACE CAN BE USED AS A RESTING POINT

DISADVANTAGES

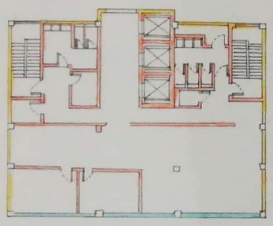
- DIFFICULT TO BUILD
- REQUIRE A LOT OF EXTRA SUPPORT

FLOOR FINISHES

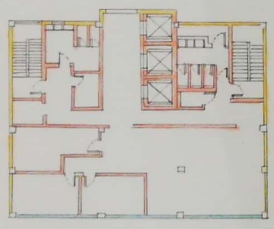
GROUND FLOOR



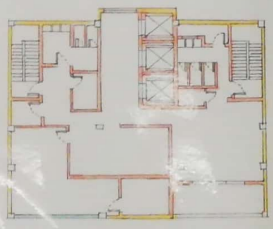
SECOND FLOOR



THIRD FLOOR



FOURTH FLOOR



MARBLE FLOOR

USED AT THE GROUND FLOOR

ADVANTAGES
- DURABLE AND LONG LASTING
- HIGH RESISTANCE TO FIRE
- EASY TO CLEAN

DISADVANTAGES
- EXPENSIVE
- EASY TO SCRATCH FROM HARD AND SHARP OBJECTS
- VERY SLIPPERY

CERAMIC TILES FLOOR

CERAMIC TILES ARE USED IN THE RESTROOM

ADVANTAGES
- WATER RESISTANCE
- DURABLE
- EASY MAINTENANCE

DISADVANTAGES
- HARDER SURFACE
- HEAVIER WEIGHT
- CERAMIC IS COLD MATERIAL

CONCRETE FLOOR

- USED AT ALL FLOOR, EXCEPT IN RESTROOM AND AT GROUND FLOOR

ADVANTAGES
- SUSTAINABILITY
- EASY MAINTENANCE
- COME IN A VARIETY OF DESIGNS

DISADVANTAGES
- CAN GET DAMAGE BY DAMPNESS SEEPING DOWN BELOW
- PRONE TO CRACKS

WALLS

BRICK WALL

ADVANTAGES
- HEAT PROTECTION
- FIRE PROTECTION
- SOUND PROTECTION

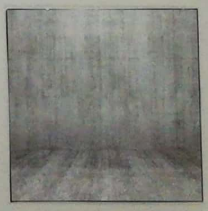
DISADVANTAGES
- NOT AS HARD AS STONE MATERIAL
- BRICK ABSORBS WATER
- LESS AESTHETIC

ALUMINIUM CURTAIN GLASS WALL SYSTEM

- THE GLASS IS TINTED AND LAMINATED

ADVANTAGES
- ALLOW LIGHTING INTO THE BUILDING
- ATTRACTIVE APPEARANCE
- SLOW FIRE SPREAD

DISADVANTAGES
- EXPENSIVE
- DIFFICULT TO MAINTAIN AND INSTALL

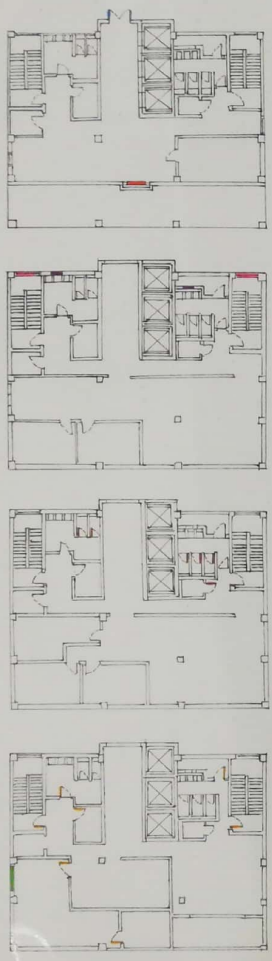


CONCRETE WALL

ADVANTAGES
- LOW MAINTENANCE
- WIND AND WATER RESISTANCE
- FIRE RESISTANCE

DISADVANTAGES
- EXPENSIVE
- DIFFICULT TO TRANSPORT
- LESS DUCTILE

WINDOWS



ALUMINIUM TOP HUNG WINDOW

ADVANTAGES:
- GOOD VENTILATION
- ATTRACTIVE CONTEMPORARY LOOK

DISADVANTAGES:
- REQUIRE FREQUENT CLEANING
- DIFFICULT TO INSTALL IF LOCATED AT HIGHER LEVEL

ALUMINIUM STATIONARY WINDOW

ADVANTAGES:
- PROTECT THE SAFETY OF THE WORKERS AS IT IS FIXED
- ALLOW LIGHT TO PASS THROUGH

DISADVANTAGES:
- DOES NOT PROVIDE VENTILATION

ALUMINIUM SLIDING WINDOW

ADVANTAGES:
- LOW MAINTENANCE
- EASY TO USE
- DURABLE

DISADVANTAGES
- DIFFICULT TO CLEAN THE OUTSIDE OF SLIDING DOORS

DOORS

AUTOMATIC SLIDING GLASS DOOR

ADVANTAGES:
- PROVIDE CONVENIENCE
- SAVE SPACE

DISADVANTAGES:
- EXPENSIVE
- DIFFICULT TO INSTALL AND MAINTAIN

HOLLOW CORE FLUSH DOOR

ADVANTAGES:
- CHEAP
- VARIETY OF FINISHES

DISADVANTAGES:
- LESS DURABLE
- POOR SOUND INSULATION

SOLID TIMBER DOOR

ADVANTAGES:
- LESS TENDENCY TO WARP
- GOOD SOUND RESISTANCE

DISADVANTAGES:
- EXPENSIVE
- OFTEN REQUIRE APPLIED DECORATIVE

FIRE DOOR

ADVANTAGES:
- DURABLE
- HIGH RESISTANCE TO FIRE

DISADVANTAGES:
- EXPENSIVE
- DIFFICULT TO INSTALL
- SPACE CONSUMING

COSTING

Door

Item	Qty	Price/m²	Area (m²)	Cost
Automatic Sliding Glass Door	2	RM 2,691	4	RM 21,528
Frameless Commercial Glass Door	1	RM 600	2	RM 1,200
Hollow Core Flush Door	20	RM 155	2	RM 6,200
Fire Door	1	RM 300	4	RM 1,200
Solid Timber Door	39	RM 229	2	RM 17,862
Total				RM 47,990

Window

Item	Qty	Price/m²	Area (m²)	Cost
Aluminium Top Hung Window (Type 1) (Toilet)	8	RM 188.00	0.3	RM 451.20
Aluminium Top Hung Window (Type 2) (Corridor)	4	RM 188.00	1.8	RM 1,353.60
Aluminium Top Hung Window (Type 3) (Lift)	3	RM 188.00	4.0	RM 2,256.00
Aluminium Sliding Window	3	RM 208.00	1.9	RM 1,185.60
Aluminium Stationary Window	8	RM 250.00	2.5	RM 5,000.00
Total				RM 10,216.40

Pile

Item	Qty	Price	Cost
Pile	14	RM 1,522.40	RM 21,313.60
Total			RM 21,313.60

Floor Finishes

Item	Area (m²)	Price/square feet	Cost
Marble Tile Floor	150.67	RM 20.00	RM 3,013.40
Ceramic Tile Floor	177.52	RM 6.00	RM 1,065.12
Concrete Floor	1110.19	RM 10.00	RM 11,101.90
Carpet Flooring	243.15	RM 4.00	RM 972.60
Vinyl Flooring	306.4	RM 4.50	RM 1,378.80
Total			RM 17,531.82

Wall

Item	Area (m²)	Price/m²	Cost
Aluminium Curtain Glass Wall System	276.15	RM 584.00	RM 161,271.60
Total			RM 161,271.60

METHOD STATEMENT

Construction	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.
Site Work								
Foundation								
Rough Carpentry								
Concrete Slabs								
Plumbing Rough-in								
Electric Rough-in								
Specialty Rough-ins								
Roofing								
Exterior Finishes								
Insulation								
Floor Finishes								
Paint								
Interior Trim								
Plumbing Trim								
Exterior Landscaping								
Electrical Final Trim								
Hardware								
Final Punch-out								
Cleaning								