BIM in Statutory Submission

David Fung

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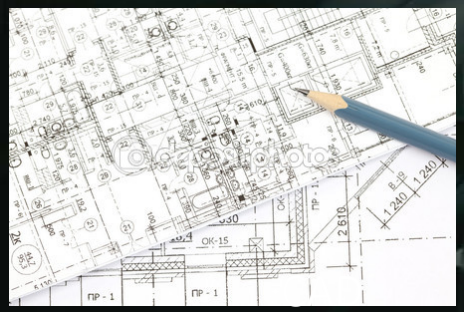
HALF BIM

DESIGN

CAD

CAD

REVIT / NAVISWORKS



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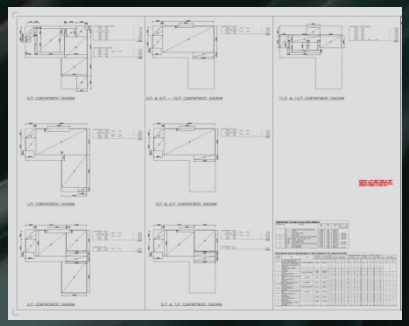

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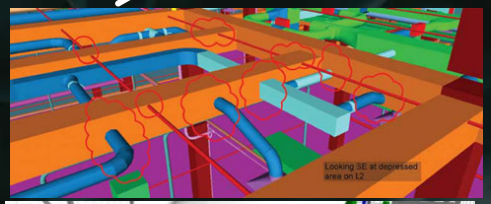
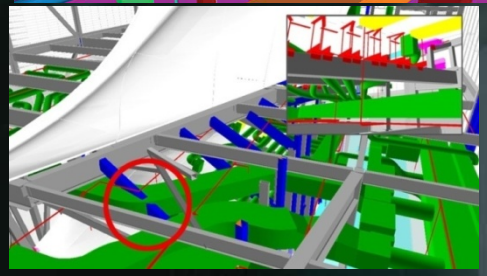


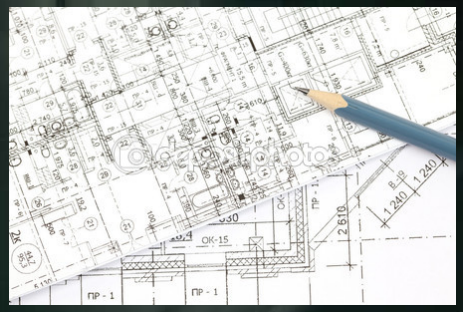


CONSTRUCTION INFORMATOIN

STATUTORY SUBMISSION

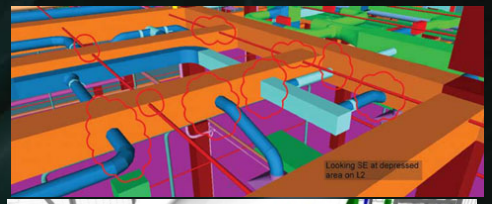
CLASH DETECTION

REAL BIM

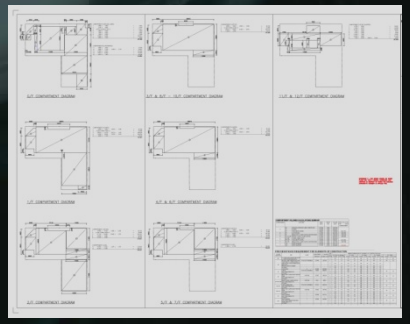


CONSTRUCTION
INFORMATOIN

DESIGN
in
BIM



CLASH
DETECTION



STATUTORY
SUBMISSION

AutoCad → Printed Drawing → Checking

Revit → Printed Drawing → Checking

Revit → **Autocad** → Printed Drawing (Conversion discrepancy) → ???

Revit → Printed Drawing → Checking

Revit → Information Model → Software Checking

GOVERNMENT SUBMISSION IN HONG KONG

Purpose:

To demonstrate a development complies with statutory requirement and seek government approval using BIM

Applicable Development:

Applied to new building & alteration and addition works in Hong Kong

Content of Submission:

Plans, sections, elevations, calculations and other relevant documents

TODAY’S TOPIC: ANOTHER WAY TO PREPARE THE CALCULATION FOR GOVERNMENT SUBMISSION

An area based calculation

convert areas into following figures through checking of regulations & codes of practice:

plot ratio
site coverage
room capacity
width of escape route
fire compartment
fire resisting period
sanitary fitment provision etc.

COMMON WAY:
STEP 2: CHECKING OF REGULATIONS & CODES

Height of building in metres	Domestic buildings						Non-domestic buildings					
	Percentage site coverage			Plot ratio			Percentage site coverage			Plot ratio		
	Class A site	Class B site	Class C site	Class A site	Class B site	Class C site	Class A site	Class B site	Class C site	Class A site	Class B site	Class C site
Not exceeding 15 m	66.6	75	80	3.3	3.75	4.0	100	100	100	5	5	5
Over 15 m but not exceeding 18 m	60	67	72	3.6	4.0	4.3	97.5	97.5	97.5	5.8	5.8	5.8
Over 18 m but not exceeding 21 m	56	62	67	3.9	4.3	4.7	95	95	95	6.7	6.7	6.7
Over 21 m but not exceeding 24 m	52	58	63	4.2	4.6	5.0	92	92	92	7.4	7.4	7.4
Over 24 m but not exceeding 27 m	49	55	59	4.4	4.9	5.3	89	90	90	8.0	8.1	8.1
Over 27 m but not exceeding 30 m	46	52	55	4.6	5.2	5.5	85	87	88	8.5	8.7	8.8
Over 30 m but not exceeding 36 m	42	47.5	50	5.0	5.7	6.0	80	82.5	85	9.5	9.9	10.2
Over 36 m but not exceeding 43 m	39	44	47	5.4	6.1	6.5	75	77.5	80	10.5	10.8	11.2
Over 43 m but not exceeding 49 m	37	41	44	5.9	6.5	7.0	69	72.5	75	11.0	11.6	12.0
Over 49 m but not exceeding 55 m	35	39	42	6.3	7.0	7.5	64	67.5	70	11.5	12.1	12.6
Over 55 m but not exceeding 61 m	34	38	41	6.8	7.6	8.0	60	62.5	65	12.2	12.5	13.0
Over 61 m	33.33	37.5	40	8.0	9.0	10.0	60	62.5	65	15	15	15

(L.N. 294 of 1976)

Table 1

Intended use of storey	Factor representing usable floor area in m^2 per person
(a) Assembly halls, auditoria and stadia without seating or with movable seating	0.5
(b) Areas accessible to the public in viewing galleries, banking halls, betting centres and places where public service counters are provided	0.5
(c) Dance halls (calculated on dancing area), disco and reception area for restaurant.	0.75
(d) Restaurants(calculated on dining area), dining area, lounges, committee rooms, conference rooms, meeting rooms, common rooms, function room and waiting rooms	1
(e) Kitchens attached to restaurants	4.5
(f) Museums, exhibition halls, trademarts and display areas	2
(g) Supermarkets, showrooms, jewellery and goldsmith shops, pawn shops and money changers.	2
(h) Shopping arcades, department stores and shopping areas	
- basement, G/F, 1/F & 2/F	3
- 3/F & above	4.5
(i) Offices	9
(j) Tenement houses, barracks, dormitories, and self-contained flats comprising a single room or having the main living area subdivided by rooms	3
(k) Self-contained flats with corridor or balcony access having five or more flats on each floor served by each staircase	4.5
(l) Flats not covered by (j) or (k)	9
(m) Flatted factories	4.5
(n) Warehouses, godowns and storage areas	30
(o) Classrooms of school not covered by Education Ordinance and other lecture rooms, library, and study rooms	2

Table 2

Table showing minimum number of exit doors from a room, or exit routes from a storey, and required minimum width thereof

Capacity of room or storey	Min. No. of exit doors (from room) or exit routes (from storey)	Min. Total Width of		Min. Width of each	
		exit doors	exit routes	exit door	exit route
4 - 30	1			750 mm	1050 mm
31 - 200	2	1750 mm	2100 mm	850 mm	1050 mm
201 - 300	2	2500 mm	2500 mm	1050 mm	1050 mm
301 - 500	2	3000 mm	3000 mm	1050 mm	1050 mm
501 - 750	3	4500 mm	4500 mm	1200 mm	1200 mm
751 - 1000	4	6000 mm	6000 mm	1200 mm	1200 mm
1001 - 1250	5	7500 mm	7500 mm	1350 mm	1350 mm
1251 - 1500	6	9000 mm	9000 mm	1350 mm	1350 mm
over 1500	7 or such greater number as the Building Authority may require	to be calculated at the rate of 300mm per 50 persons		1500 mm	1500 mm

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Table 5 : Discharge Value of a Staircase in a Non-sprinklered Building

No. of Storey served	Width of Staircase						
	1050mm but under 1200mm	1200mm but under 1350mm	1350mm but under 1500mm	1500mm but under 1600mm	1600mm but under 1700mm	1700mm but under 1800mm	1800mm but under 1900mm
1	210	240	270	300	320	340	360
2	242	278	315	351	377	402	428
3	274	316	360	402	434	464	496
4	306	354	405	453	491	526	564
5	338	392	450	504	548	588	632
6	370	430	495	555	605	650	700
7	402	468	540	606	662	712	768
8	434	506	585	657	719	774	836
9	466	544	630	708	776	836	904
10	498	582	675	759	833	898	972
Each additional storey add	32	38	45	51	57	62	68

TABLE A

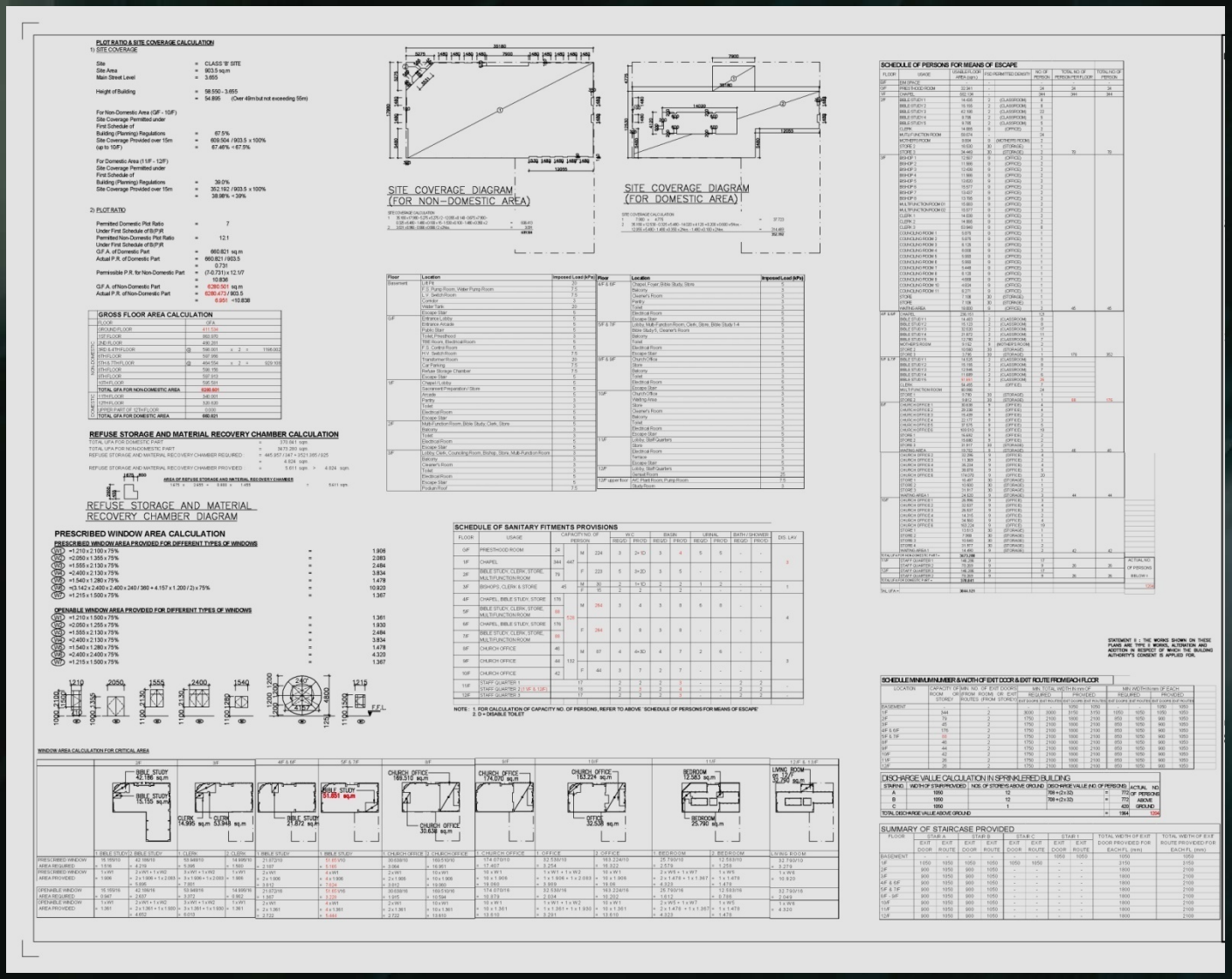
WALLS CONSTRUCTED WHOLLY OF NON-COMBUSTIBLE MATERIALS

Construction and Materials	Minimum thickness in mm (excluding plaster) for period of		
	4 hrs.	2 hrs.	1 hr.
SOLID CONSTRUCTION			
Solid bricks of clay, concrete or sand lithe without plaster	225	225*	100
Reinforced concrete -			
(a) containing not less than 1 per cent of vertical reinforcement	180	100	75
Concrete cover to main reinforcement	25	25	15
(b) containing less than 1 per cent of vertical reinforcement	240	160	120
Concrete cover to main reinforcement	25	25	25
HOLLOW BLOCK CONSTRUCTION			
Clay blocks (outer web not less than 13 mm thick) of 2 cells not less than 50 per cent solid finished with 13 mm gypsum plaster on each side		100	100
Concrete blocks of one cell in wall thickness not less than 50 per cent solid finished with 13 mm gypsum plaster on each side			190

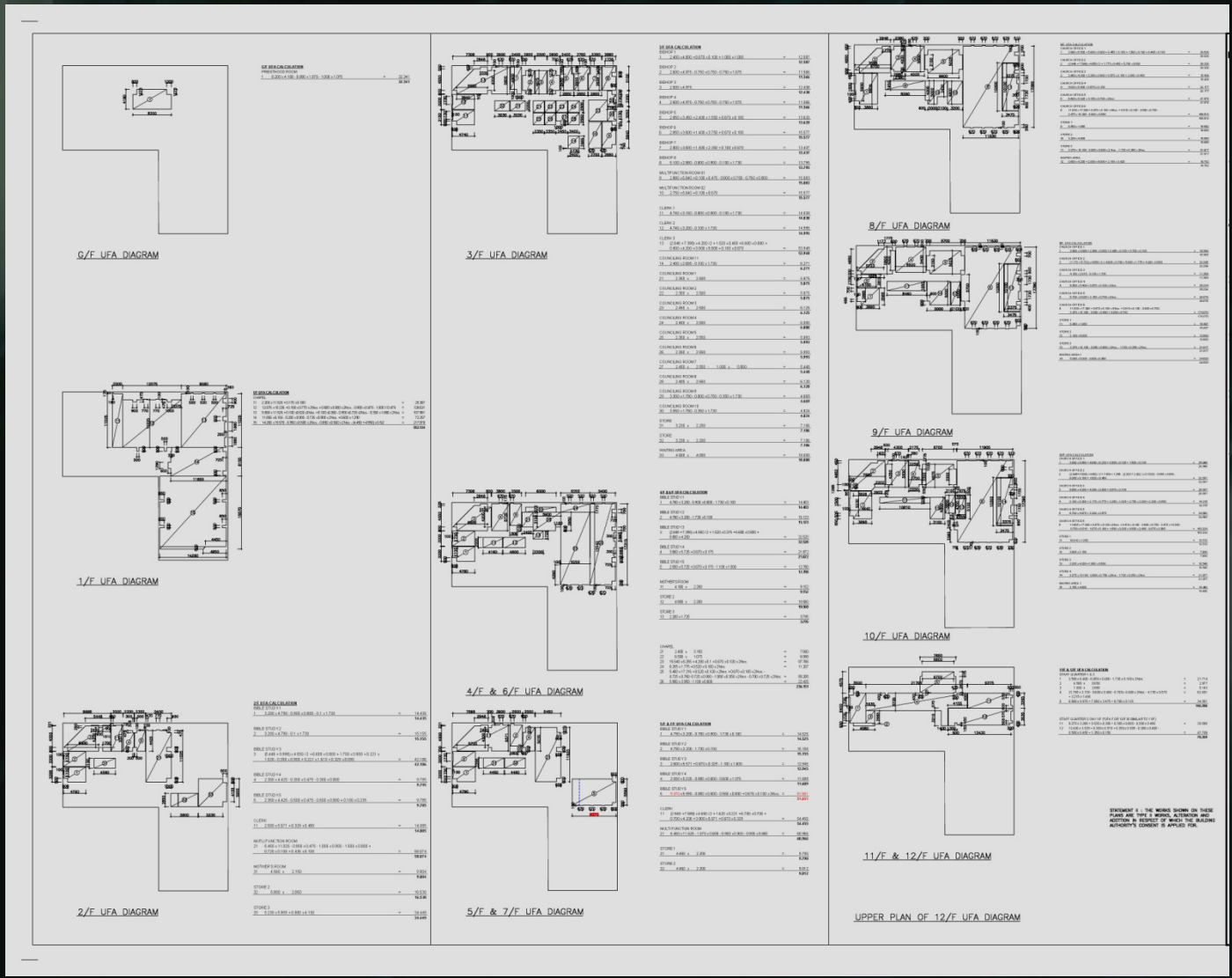
* Where finished with 13 mm gypsum plaster on each side, the thickness may be reduced to 100 mm.

COMMON WAY:
STEP 2: CHECKING OF REGULATIONS & CODES

COMMON WAY:
PROJECT EXAMPLE



COMMON WAY:
PROJECT EXAMPLE



COMMON WAY:
STEP 1: CALCULATE AREA

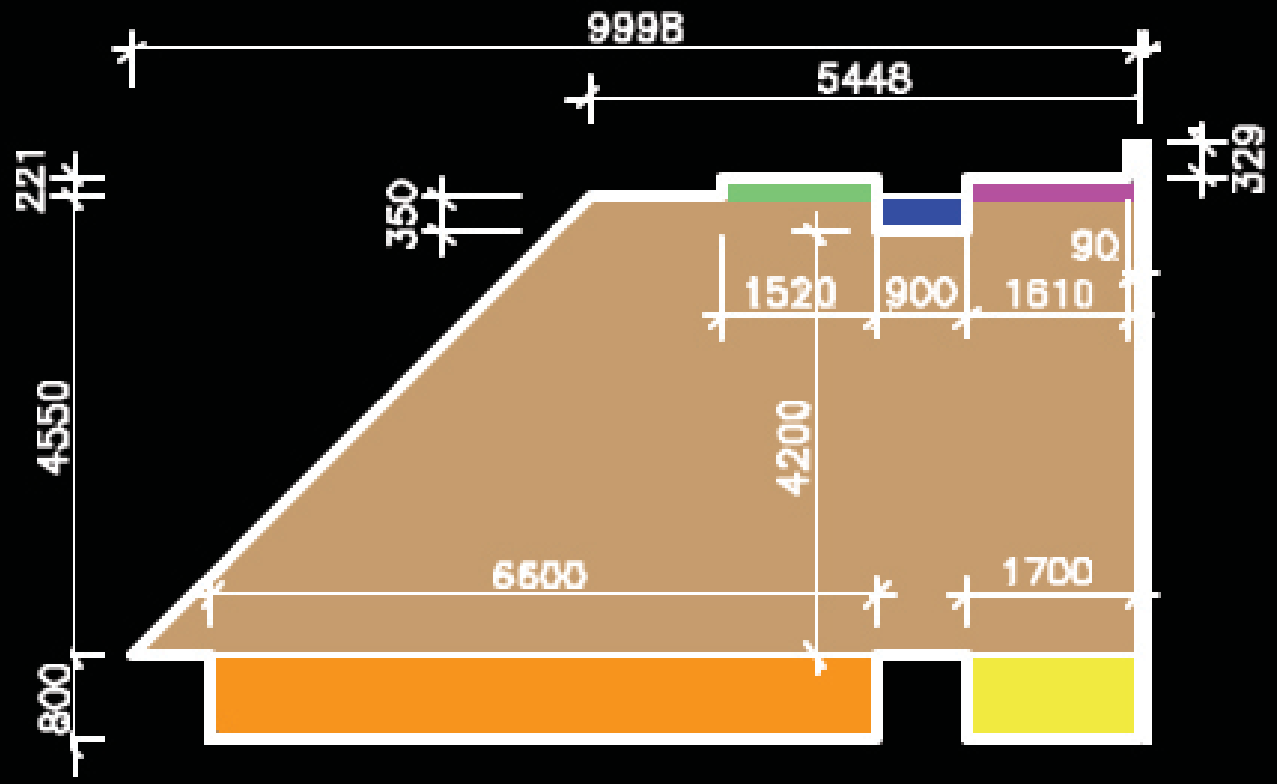
Outline area

COMMON WAY:
STEP 1: CALCULATE AREA

Subdivide area into simple geometry such as rectangle, triangle, circle, etc.

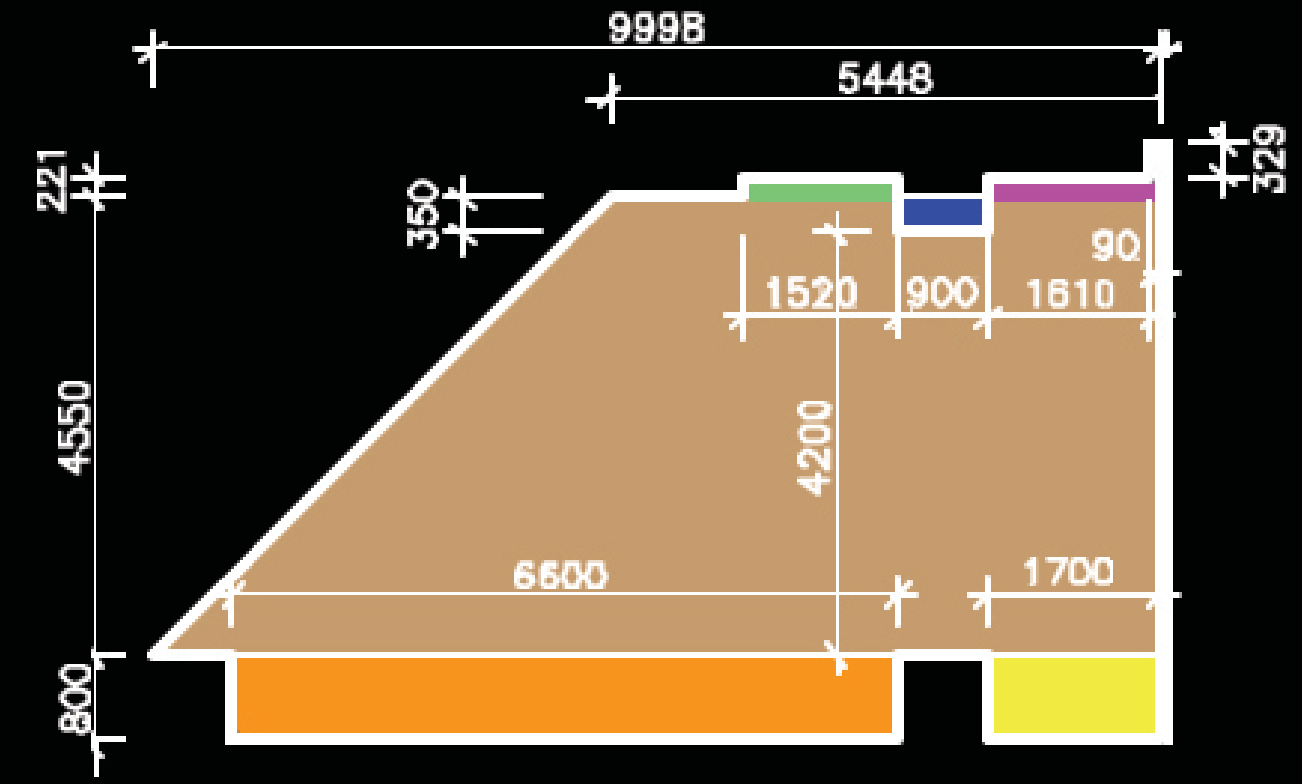
COMMON WAY:
STEP 1: CALCULATE AREA

Measure dimension



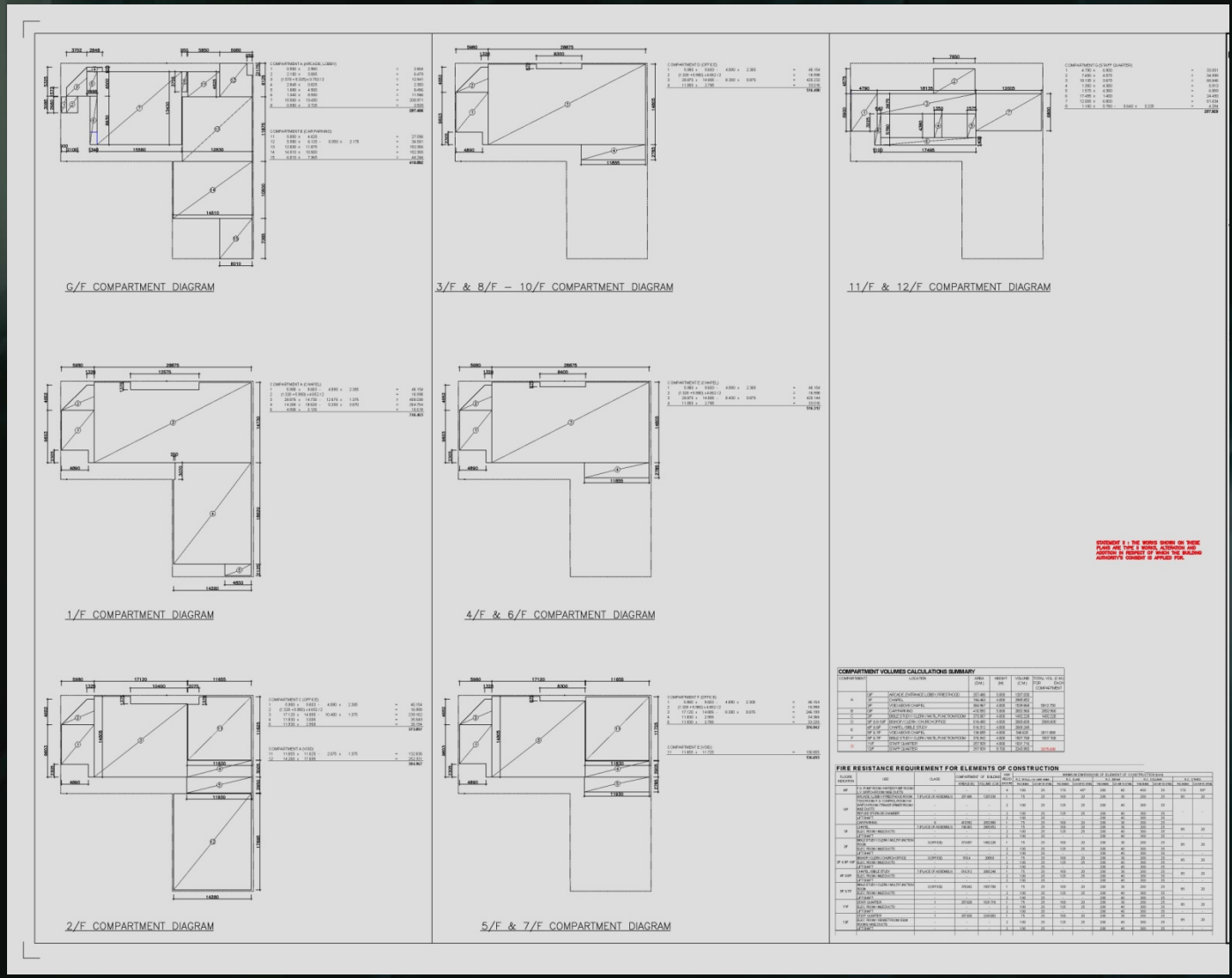
COMMON WAY:
STEP 1: CALCULATE AREA

Calculate area by applying geometric formula

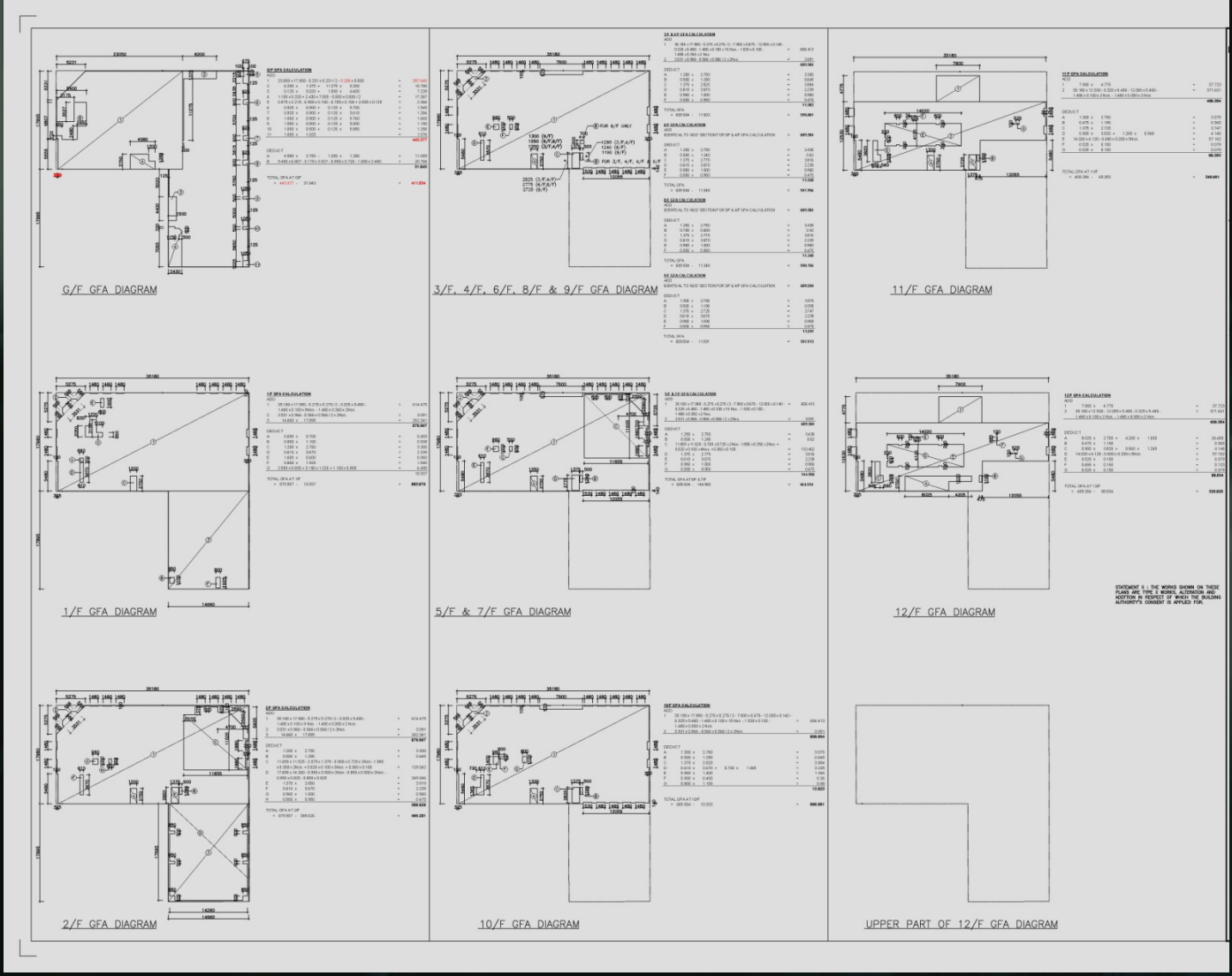


(5.448+9.998)x4.550/2 + 6.600x0.800 + 1.700x0.800 +
0.221x1.520 - 0.350x0.900 + 0.221x1.610 + 0.329x0.090 =42.186

COMMON WAY:
PROJECT EXAMPLE



COMMON WAY:
PROJECT EXAMPLE



COMMON WAY:
HOW LONG DOES IT TAKE?

Previous Submission Involves

~1200 raw data

~1700 mathematical operations

~1000 statutory checking

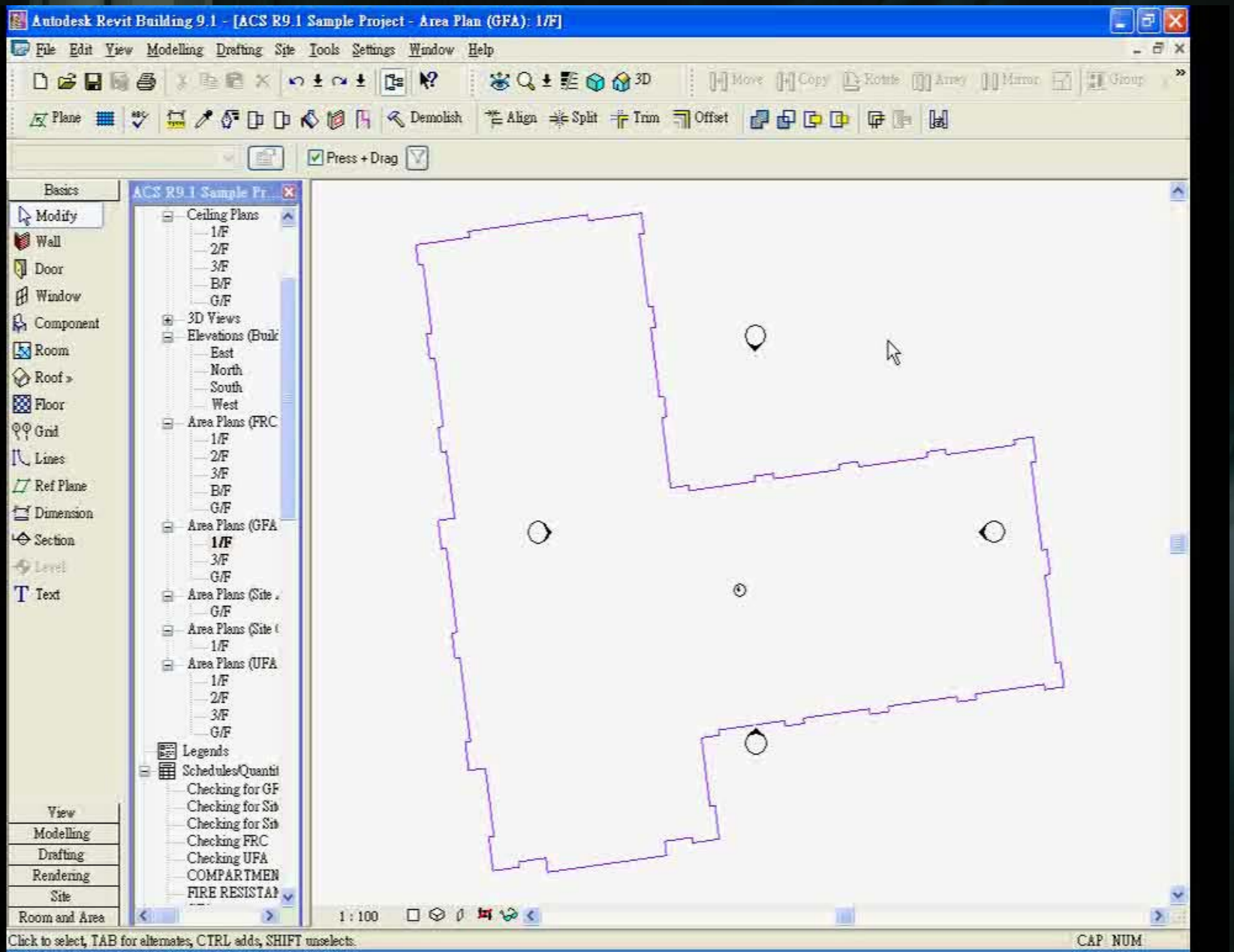
~5000 data input

Require 2 weeks to complete

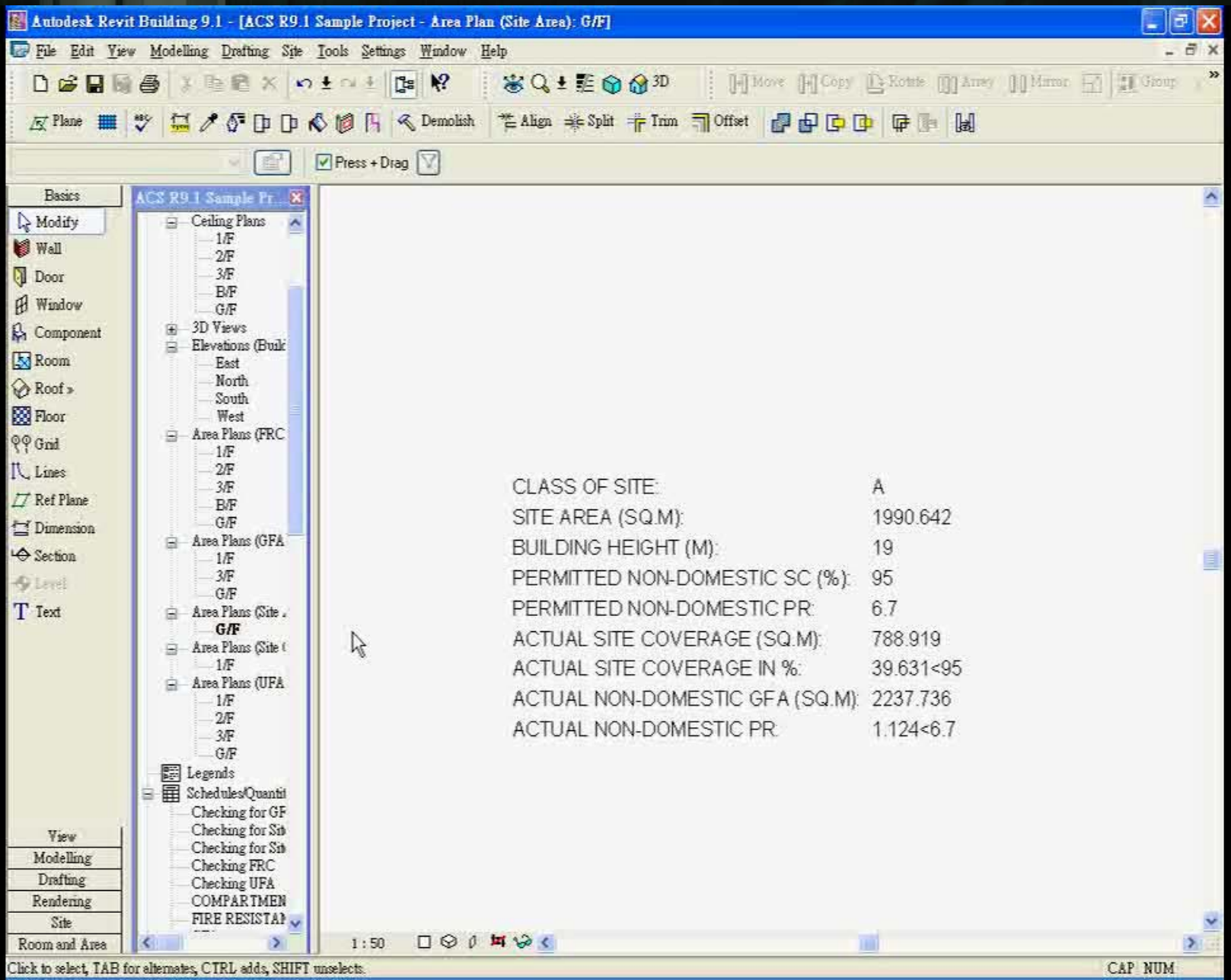
a step by step calculation: any change in layout will affect the calculation significantly

Takes another 1 week in average for every amendment submission

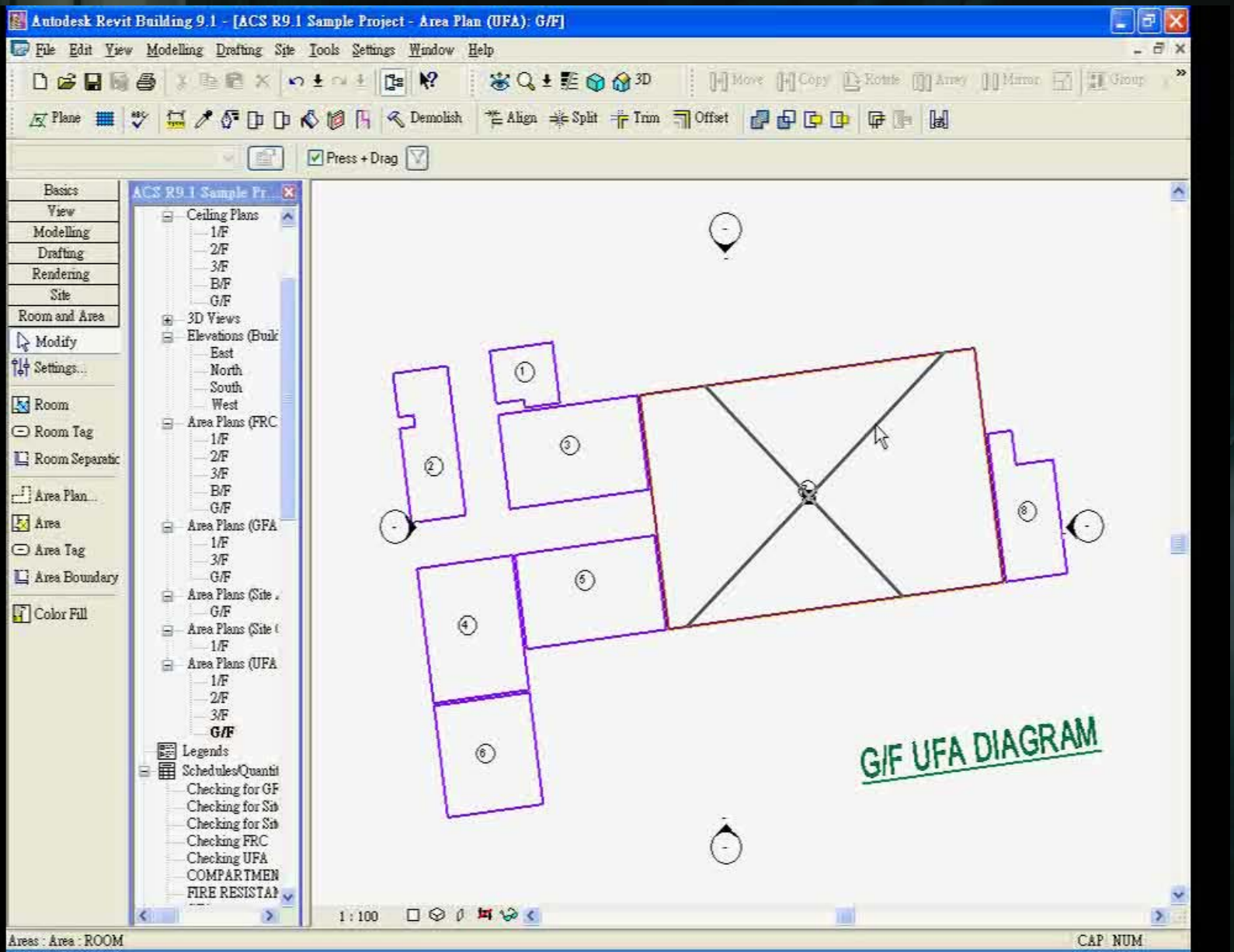
BIM method: GFA CALCULATION



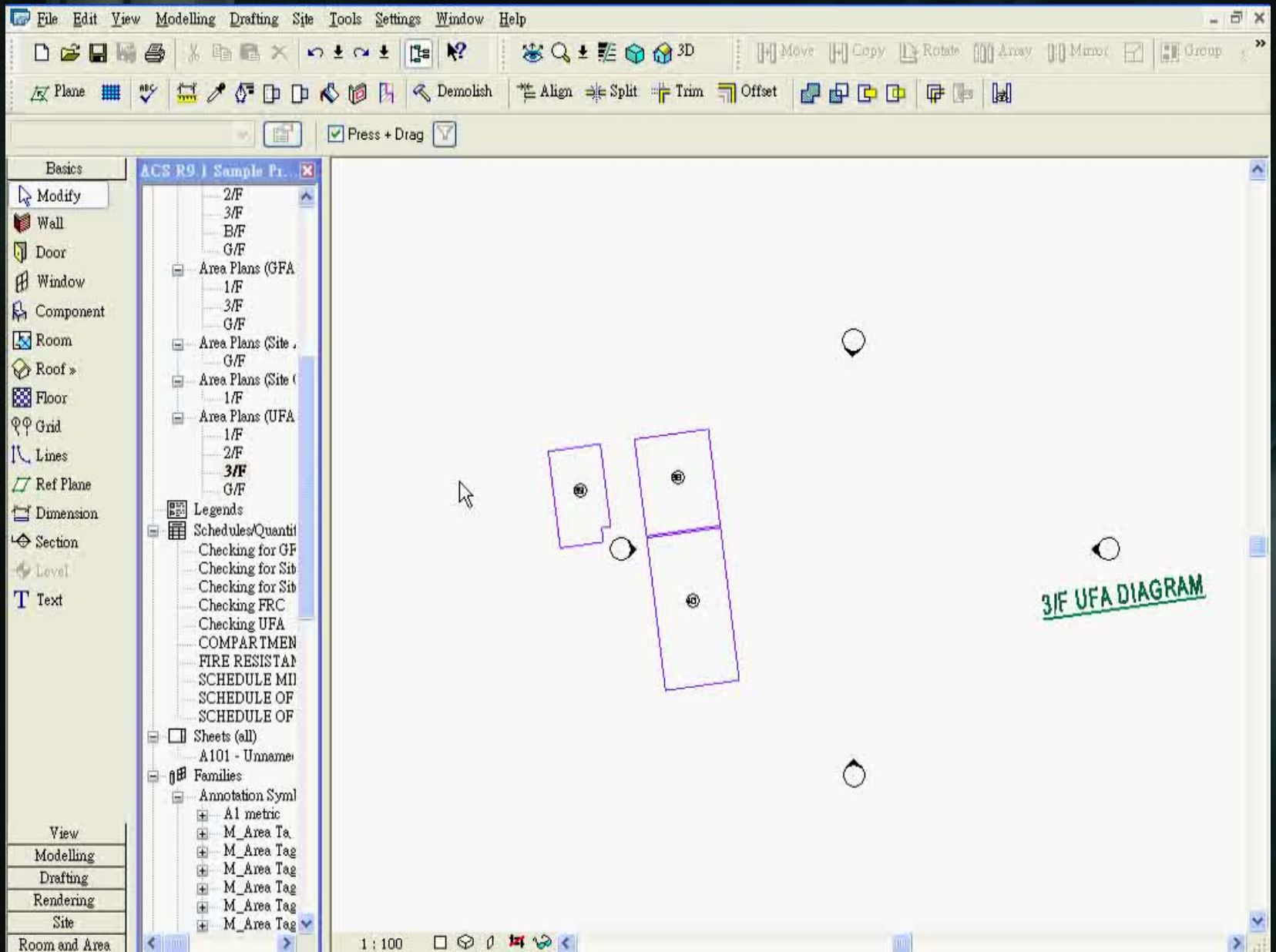
BIM method: GFA CALCULATION



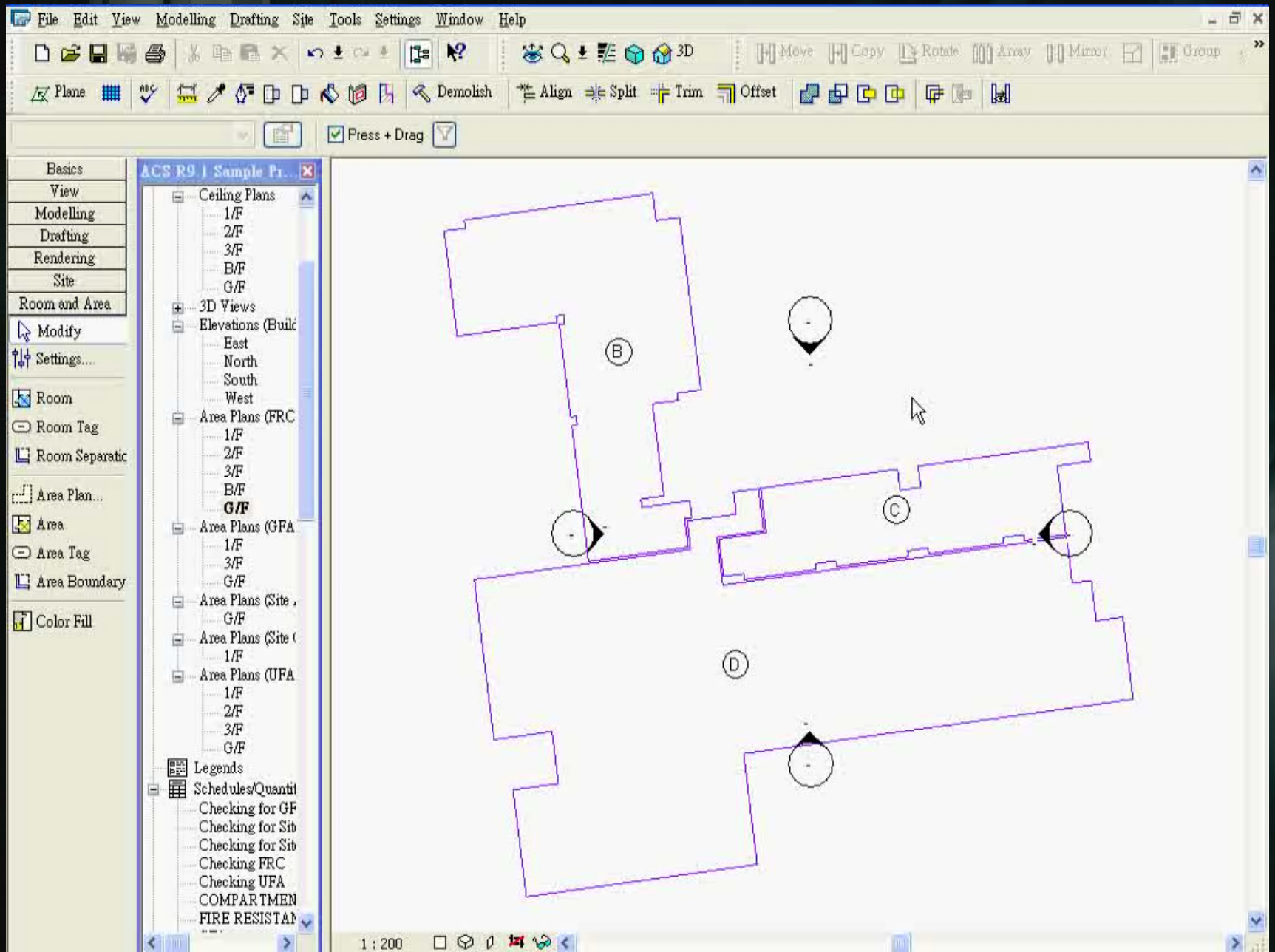
MEANS OF ESCAPE & SANITARY FITMENT PROVISION



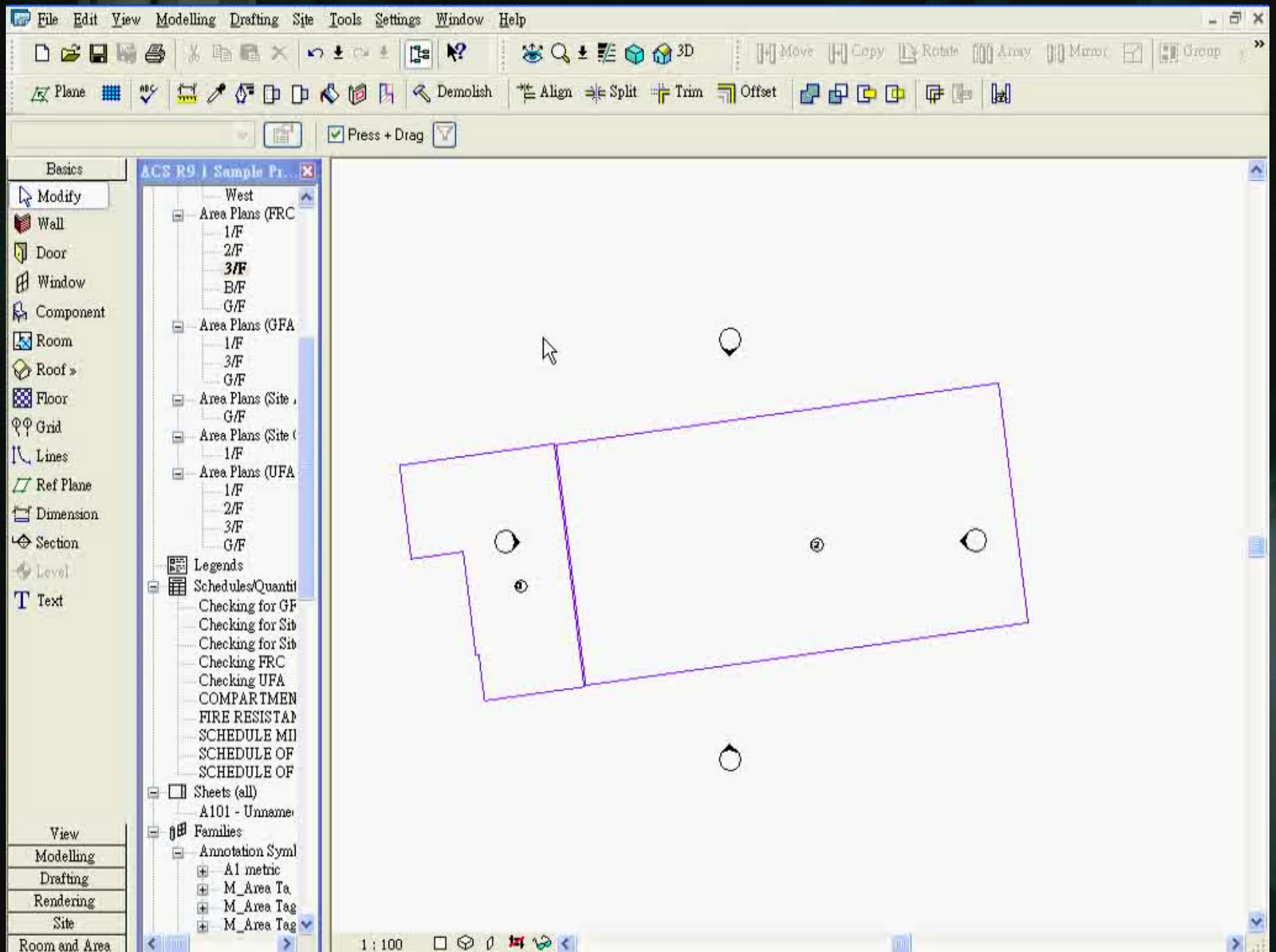
MEANS OF ESCAPE & SANITARY FITMENT PROVISION



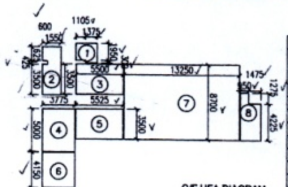
FIRE RESISTING CONSTRUCTION



FIRE RESISTING CONSTRUCTION

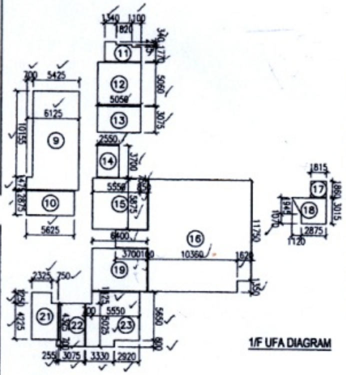


UFA AND CAPACITY CALCULATIONS



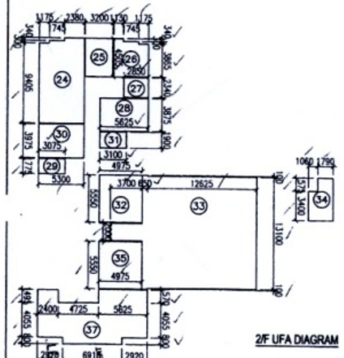
G/F UFA DIAGRAM

SCHEDULE OF PERSONS FOR MEANS OF ESCAPE				
	USE	USABLE FLOOR AREA	MoE PERMITTED DENSITY	CAPACITY
1	STORE	5.2485	30	1
2	MOTHER'S ROOM	11.6775	09	2
3	CHURCH OFFICE	19.2500	09	3
4	CHURCH OFFICE	18.8750	09	3
5	CHURCH OFFICE	19.3375	09	3
6	CHURCH OFFICE	15.6663	09	2
7	BIBLE STUDY	115.2750	02	58
8	STORE	11.4569	30	1
		216.7867		73



1/F UFA DIAGRAM

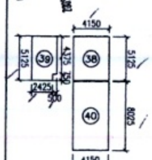
SCHEDULE OF PERSONS FOR MEANS OF ESCAPE				
	USE	USABLE FLOOR AREA	MoE PERMITTED DENSITY	CAPACITY
9	CHURCH OFFICE	64.1253	09	8
10	BIBLE STUDY	16.1719	02	9
11	STORE	8.7068	30	1
12	BIBLE STUDY	25.5530	02	13
13	BIBLE STUDY	15.5288	02	8
14	MOTHER'S ROOM	9.4350	09	2
15	STORE	38.0163	30	2
16	CHAPEL	162.5460	0.50	326
17	STORE	3.3759	30	1
18	STORE	9.7573	30	1
19	STORE	31.8400	30	2
21	BIBLE STUDY	15.8981	02	8
22	BIBLE STUDY	15.6304	02	8
23	STORE	36.9790	30	2
		453.5638		391



2/F UFA DIAGRAM

SCHEDULE OF PERSONS FOR MEANS OF ESCAPE				
	USE	USABLE FLOOR AREA	MoE PERMITTED DENSITY	CAPACITY
24	BIBLE STUDY	51.8932	02	26
25	BIBLE STUDY	14.4160	02	8
26	BIBLE STUDY	16.9000	02	9
27	STORE	6.6690	30	1
28	BIBLE STUDY	21.7969	02	11
29	STORE	5.4581	30	1
30	BIBLE STUDY	21.0675	02	11
31	STORE	5.8900	30	1
32	STORE	27.6113	30	1
33	CHAPEL	181.4325	0.50	363
34	STORE	12.5093	30	1
35	STORE	27.6113	30	1
37	BIBLE STUDY	69.6485	02	35
		462.9036		469

RECEIVED BY B.D. SEP -5 P 3

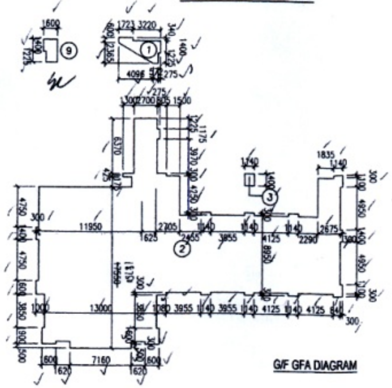


3/F UFA DIAGRAM

SCHEDULE OF PERSONS FOR MEANS OF ESCAPE				
	USE	USABLE FLOOR AREA	MoE PERMITTED DENSITY	CAPACITY
38	BIBLE STUDY	21.2688	02	11
39	STORE	14.6156	30	1
40	BIBLE STUDY	33.3038	02	17
		69.1882		29

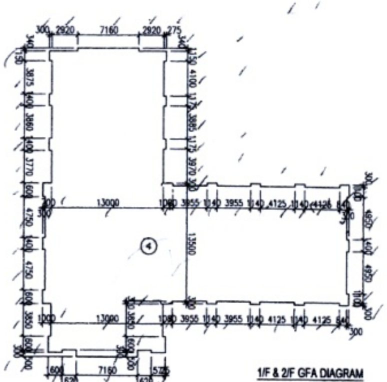
TOTAL UFA & CAPACITY	
TOTAL UFA	TOTAL CAPACITY
1202.442	962

GFA CALCULATIONS



G/F GFA DIAGRAM

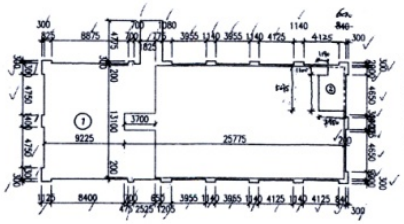
G/F	
GFA PER FLOOR	
	AREA (SQ.M)
1	8.320
2	494.136
3	1.596
9	3.892
	507.944



1/F & 2/F GFA DIAGRAM

1/F	
GFA PER FLOOR	
	AREA (SQ.M)
4	773.259
~~5~~	~~40.899~~
~~6~~	~~34.535~~
~~7~~	~~16.469~~
	773.259

2/F	
GFA PER FLOOR	
	AREA (SQ.M)
4	773.259
	773.259



3/F GFA DIAGRAM

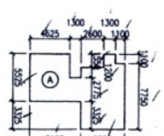
3/F	
GFA PER FLOOR	
	AREA (SQ.M)
1	198.609
	~~198.609~~

2 5.075×2.95 − 1.1×1.19
= 14.971 − 1.309
= 13.662

Total GFA for 3/F
= 198.609 + 13.662
= 212.271

TOTAL GFA
2266.733

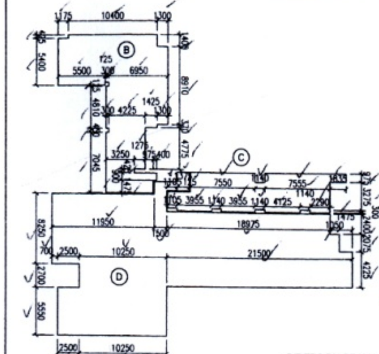
FRC CALCULATIONS



B/F FRC DIAGRAM

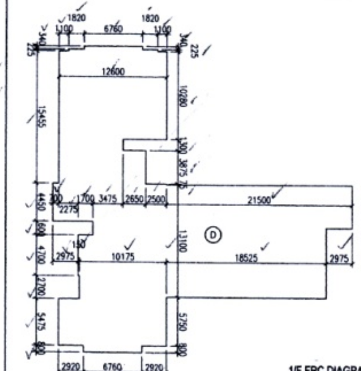
COMPARTMENT VOLUME			
COMPARTMENT	AREA (SQ.M)	HEIGHT (M)	VOLUME (CU.M)
A	68.171	3	204.513

FRC CALCULATIONS



G/F FRC DIAGRAM

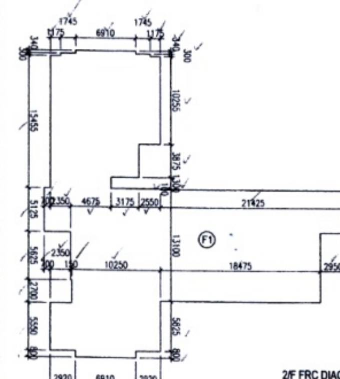
COMPARTMENT VOLUME			
COMPARTMENT	AREA (SQ.M)	HEIGHT (M)	VOLUME (CU.M)
B	143.495	4.3	617.029
C	78.954	4.3	339.502
D	393.832	4.3	1693.478



1/F FRC DIAGRAM

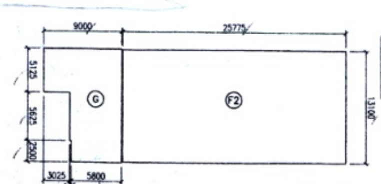
COMPARTMENT VOLUME			
COMPARTMENT	AREA (SQ.M)	HEIGHT (M)	VOLUME (CU.M)
D	663.845	6.5	4314.993

Plan Approved
Philip K. S. WONG
Chief Building Surveyor
for BUILDING AUTHORITY
- 1 NOV 2005



2/F FRC DIAGRAM

COMPARTMENT VOLUME			
COMPARTMENT	AREA (SQ.M)	HEIGHT (M)	VOLUME (CU.M)
F1	673.292	2.9	1952.547



3/F FRC DIAGRAM

COMPARTMENT VOLUME			
COMPARTMENT	AREA (SQ.M)	HEIGHT (M)	VOLUME (CU.M)
F2	337.652	4.6	1553.199
G	94.234	4.6	433.476

SITE COVERAGE & PLOT RATIO CALCULATION

1. UNDER BUILDING REGULATION

A. CLASS OF SITE = A

B. AREA OF SITE (FROM LEASE) = 1990.6 s.m.
PROPOSED USE OF SITE = NON-DOMESTIC
MEAN STREET LEVEL = 12.000
BUILDING TOP LEVEL = ~~33.000~~ 31.000
PROPOSED HEIGHT OF BUILDING = ~~21.0~~ m 19.0
NON-DOMESTIC PERMITTED PERCENTAGE SITE COVERAGE = 95 %
NON-DOMESTIC PERMITTED PLOT RATIO = 6.7

C. SITE COVERAGE = 788.919 s.m.
THEREFORE SITE COVERAGE = 39.63 % < 95 %

D. PLOT RATIO
PROPOSED NON-DOMESTIC GROSS FLOOR AREA = 2246.733 s.m.
PROPOSED NON-DOMESTIC PLOT RATIO
2336.567 s.m. / 1990.6 s.m. = 1.181 < 6.7 (O.K.)

2. UNDER LEASE CONDITION

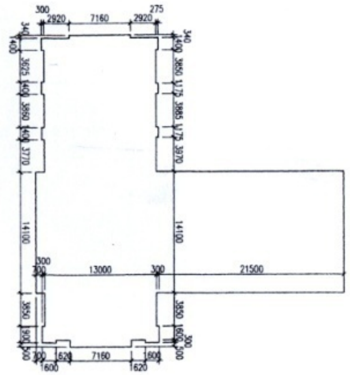
A. PERMITTED USE OF SITE = CHURCH TOGETHER WITH ANCILLARY CHURCH FACILITIES
PROPOSED USE OF SITE = AS ABOVE

B. GROSS FLOOR AREA :
MAXIMUM PERMISSIBLE GFA UNDER LEASE = 2,520 s.m.
TOTAL GFA OF PROPOSED DEVELOPMENT = 2,246.733 s.m.

C. BUILDING HEIGHT :
MEAN FORMATION LEVEL OF SITE : = 12.000
BUILDING TOP LEVEL : = ~~33.000~~ 31.000
BUILDING HEIGHT : = ~~21.0~~ m 19.0

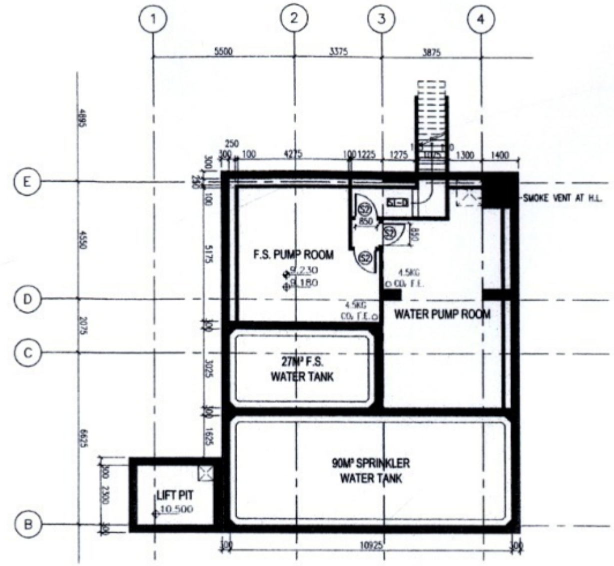
D. SITE COVERAGE :
MAXIMUM PERMISSIBLE SITE COVERAGE : = 40%
PROPOSED SITE COVERAGE : = 39.63% < 40% (O.K.)

E. PARKING SPACE :
PARKING REQUIREMENT UNDER LEASE = 14 CARPARKING SPACES AND 1 U/UL BAY
PROPOSED PARKING PROVISION = SAME AS ABOVE

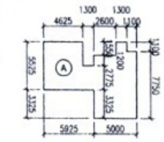


SITE COVERAGE DIAGRAM

SITE COVERAGE
AREA (SQ.M)
788.919



B/F PLAN, 1:100



BASEMENT FLOOR AREA	
FLOOR AREA (SQ.M)	REQUIRED SMOKE VENT AREA, 0.5% OF FLOOR AREA (SQ.M)
68.171<150	.341 (MIN. 1Mx1M)

B/F FLOOR AREA DIAGRAM

DISCHARGE VALUE CALCULATION IN SPRINKLERED BUILDING				
STAIR	WIDTH OF STAIR PROVIDED	NOS. OF STOREY SERVED ABOVE GROUND	DISCHARGE VALUE	ACTUAL NO. OF PERSON ABOVE GROUND
ST-A	1300	3	556	
ST-B	1050	3	484	
ST-C	1175	3	484	
			1524	889

SCHEDULE MINIMUM NUMBER & WIDTH OF EXIT DOOR & EXIT ROUTE FROM EACH FLOOR											
FLOOR	CAPACITY OF ROOM OR STOREY	MIN. NO. OF EXIT DOORS (FROM ROOM) OR EXIT ROUTES (FROM STOREY)		MIN. TOTAL WIDTH OF				MIN. WIDTH OF EACH			
				REQUIRED		PROVIDED		REQUIRED		PROVIDED	
		[illegible]	[illegible]	EXIT DOORS	EXIT ROUTES	EXIT DOORS	EXIT ROUTES	EXIT DOORS	EXIT ROUTES	EXIT DOOR	EXIT ROUTE
1/F	391	2	3	3000	3000	3550	3575	1050	1050	1050	1050
2/F	469	2	3	3000	3000	3550	3575	1050	1050	1050	1050
3/F	29	1	2	–	–	1700	2350	750	1050	850	1050

SCHEDULE OF SANITARY FITMENTS PROVISIONS														
LOCATION	USE	CAPACITY			W.C.				BASIN				URINAL	
					M.		F.		M.		F.		M.	
		TOTAL	M	F	REQ'D	PRO'D	REQ'D	PRO'D	REQ'D	PRO'D	REQ'D	PRO'D	REQ'D	PRO'D
G/F–2/F	OFFICE	19	13	6	1	1	1	1	1	1	1	1	1	1
G/F–3/F	PLACE OF PUBLIC	943	472	471	5	3+30	7	10	5	7+30	5	8	10	11

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BUILDINGS DEPARTMENT

FIRE RESISTANCE REQUIREMENT FOR ELEMENTS OF CONSTRUCTION														
COMPARTMENT	CLASS	COMPARTMENT VOLUME	FRP REQ'D	R.C. WALL =>1% V.R.		R.C. SLAB		R.C. COLUMN		R.C. BEAM		R.C. STAIR	
				THK.	COVER TO STEEL	THK.	COVER TO STEEL	THK.	COVER TO STEEL	THK.	COVER TO STEEL	THK.	COVER TO STEEL
A	–(BASEMENT)	204.513	4	180	25	170	45*	35	450	280	60*	170	55*
B	8 (CARPARKING)	617.029	1	75	15	100	20	25	200	200	30	95	20
C	8 (CARPARKING)	339.502	1	75	15	100	20	25	200	200	30	95	20
D	7 (PLACE OF ASSEMBLY)	1693.478	1	75	15	100	20	25	200	200	30	95	20
E	7 (PLACE OF ASSEMBLY)	4314.993	1	75	15	100	20	25	200	200	30	95	20
F (F1+F2)	7 (PLACE OF ASSEMBLY)	3505.746	1	75	15	100	20	25	200	200	30	95	20
G	7 (PLACE OF ASSEMBLY)	433.476	1	75	15	100	20	25	200	200	30	95	20
–	WALL/SLAB BETWEEN DIFFERENT USES/E&M	–	2	100	25	125	25	35	300	200	40	125	35

REFUSE STORAGE CALCULATION

UFS = 1202.442 s.m. < 3,960 s.m.

THEREFORE, STORAGE CHAMBER IS NOT REQUIRED ACCORDING TO B(RSCC)R, S3(3)

SCHEDULE OF PERSONS FOR MEANS OF ESCAPE											
G/F	USE	CAPACITY	MIN. NO. OF EXIT DOOR	MIN. TOTAL WIDTH OF				MIN. WIDTH OF EACH			
				REQUIRED		PROVIDED		REQUIRED		PROVIDED	
				EXIT DOORS	EXIT ROUTES	EXIT DOORS	EXIT ROUTES	EXIT DOOR	EXIT ROUTE	EXIT DOOR	EXIT ROUTE
1	STORE	1	1	–	–	750	1050	–	–	750	1050
2	MOTHER'S ROOM	2	1	–	–	750	1050	–	–	750	1050
3	CHURCH OFFICE	3	1	–	–	750	1050	–	–	750	1050
4	CHURCH OFFICE	3	1	–	–	750	1050	–	–	750	1050
5	CHURCH OFFICE	3	1	–	–	750	1050	–	–	750	1050
6	CHURCH OFFICE	2	1	–	–	750	1050	–	–	750	1050
7	BIBLE STUDY	58	2	1750	2100	2150	2150	850	1050	850	1050
8	STORE	1	1	–	–	750	1050	–	–	750	1050
		[illegible]									
[illegible]	HALL	164	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		237									

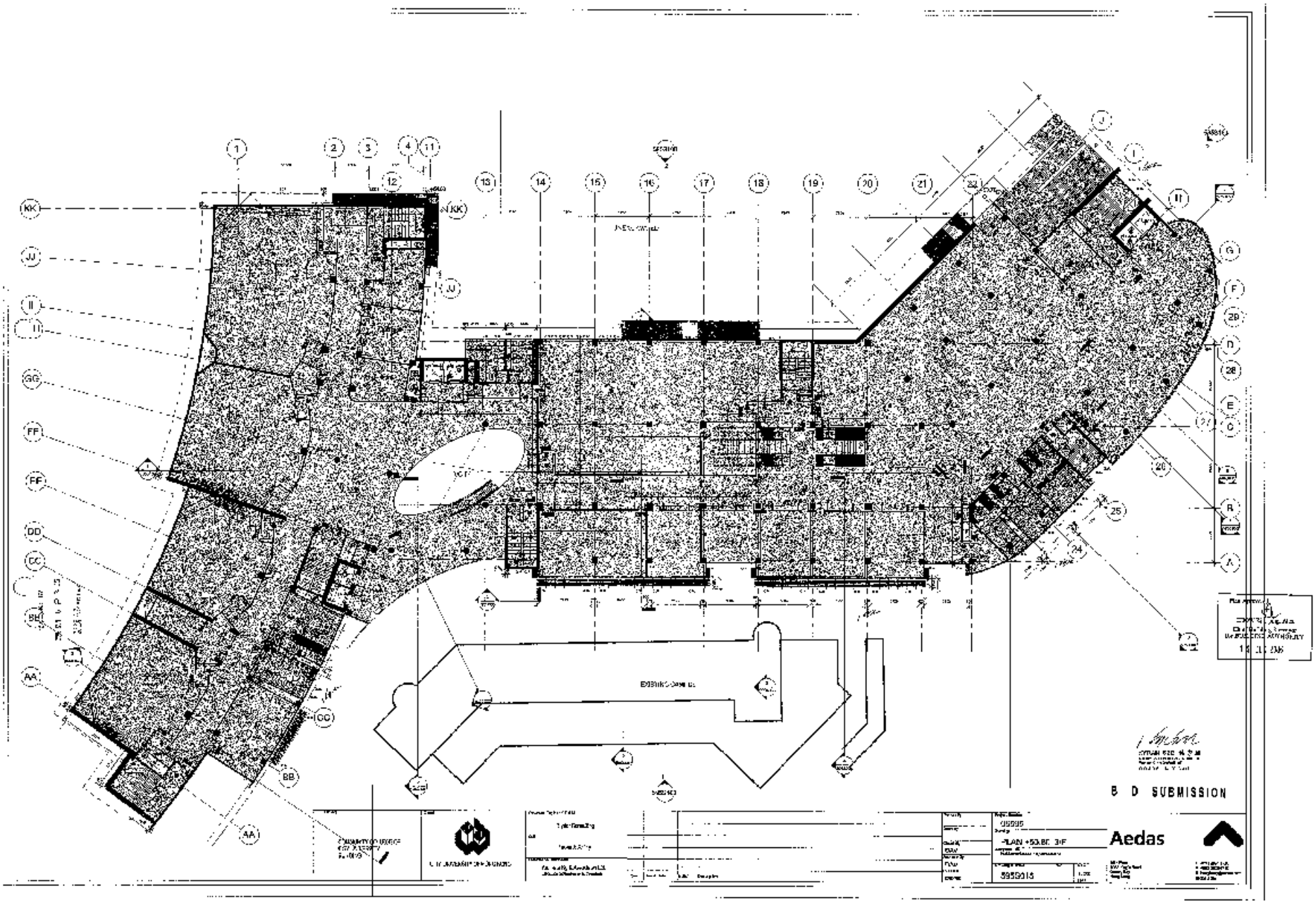
SCHEDULE OF PERSONS FOR MEANS OF ESCAPE											
1/F	USE	CAPACITY	MIN. NO. OF EXIT DOOR	MIN. TOTAL WIDTH OF				MIN. WIDTH OF EACH			
				REQUIRED		PROVIDED		REQUIRED		PROVIDED	
				EXIT DOORS	EXIT ROUTES	EXIT DOORS	EXIT ROUTES	EXIT DOOR	EXIT ROUTE	EXIT DOOR	EXIT ROUTE
9	CHURCH OFFICE	8	1	–	–	750	1050	750	1050	750	1050
10	BIBLE STUDY	9	1	–	–	750	1050	750	1050	750	1050
11	STORE	1	1	–	–	750	1050	–	–	750	1050
12	BIBLE STUDY	13	1	–	–	750	1050	750	1050	750	1050
13	BIBLE STUDY	8	1	–	–	750	1050	750	1050	750	1050
14	MOTHER'S ROOM	2	1	–	–	750	1050	–	–	750	1050
15	STORE	2	1	–	–	750	1050	–	–	750	1050
16	CHAPEL	326	2	3000	3000	3050	3050	1050	1050	1250	1250
17	STORE	1	1	–	–	750	1050	–	–	750	1050
18	STORE	1	1	–	–	750	1050	–	–	750	1050
19	STORE	2	1	–	–	750	1050	–	–	750	1050
21	BIBLE STUDY	8	1	–	–	750	1050	750	1050	750	1050
22	BIBLE STUDY	8	1	–	–	750	1050	750	1050	750	1050
23	STORE	2	1	–	–	750	1050	–	–	750	1050
		391									

SCHEDULE OF PERSONS FOR MEANS OF ESCAPE											
2/F	USE	CAPACITY	MIN. NO. OF EXIT DOOR	MIN. TOTAL WIDTH OF				MIN. WIDTH OF EACH			
				REQUIRED		PROVIDED		REQUIRED		PROVIDED	
				EXIT DOORS	EXIT ROUTES	EXIT DOORS	EXIT ROUTES	EXIT DOOR	EXIT ROUTE	EXIT DOOR	EXIT ROUTE
24	BIBLE STUDY	26	1	–	–	750	1050	750	1050	750	1050
25	BIBLE STUDY	8	1	–	–	750	1050	750	1050	750	1050
26	BIBLE STUDY	9	1	–	–	750	1050	750	1050	750	1050
27	STORE	1	1	–	–	750	1050	–	–	750	1050
28	BIBLE STUDY	11	1	–	–	750	1050	750	1050	750	1050
29	STORE	1	1	–	–	750	1050	–	–	750	1050
30	BIBLE STUDY	11	1	–	–	750	1050	750	1050	750	1050
31	STORE	1	1	–	–	750	1050	–	–	750	1050
32	STORE	1	1	–	–	750	1050	–	–	750	1050
33	CHAPEL	363	2	3000	3000	3050	3050	1050	1050	1250	1250
34	STORE	1	1	–	–	750	1050	–	–	750	1050
35	STORE	1	1	–	–	750	1050	–	–	750	1050
37	BIBLE STUDY	35	2	1750	2100	1800	2100	850	1050	900	1050
		469									

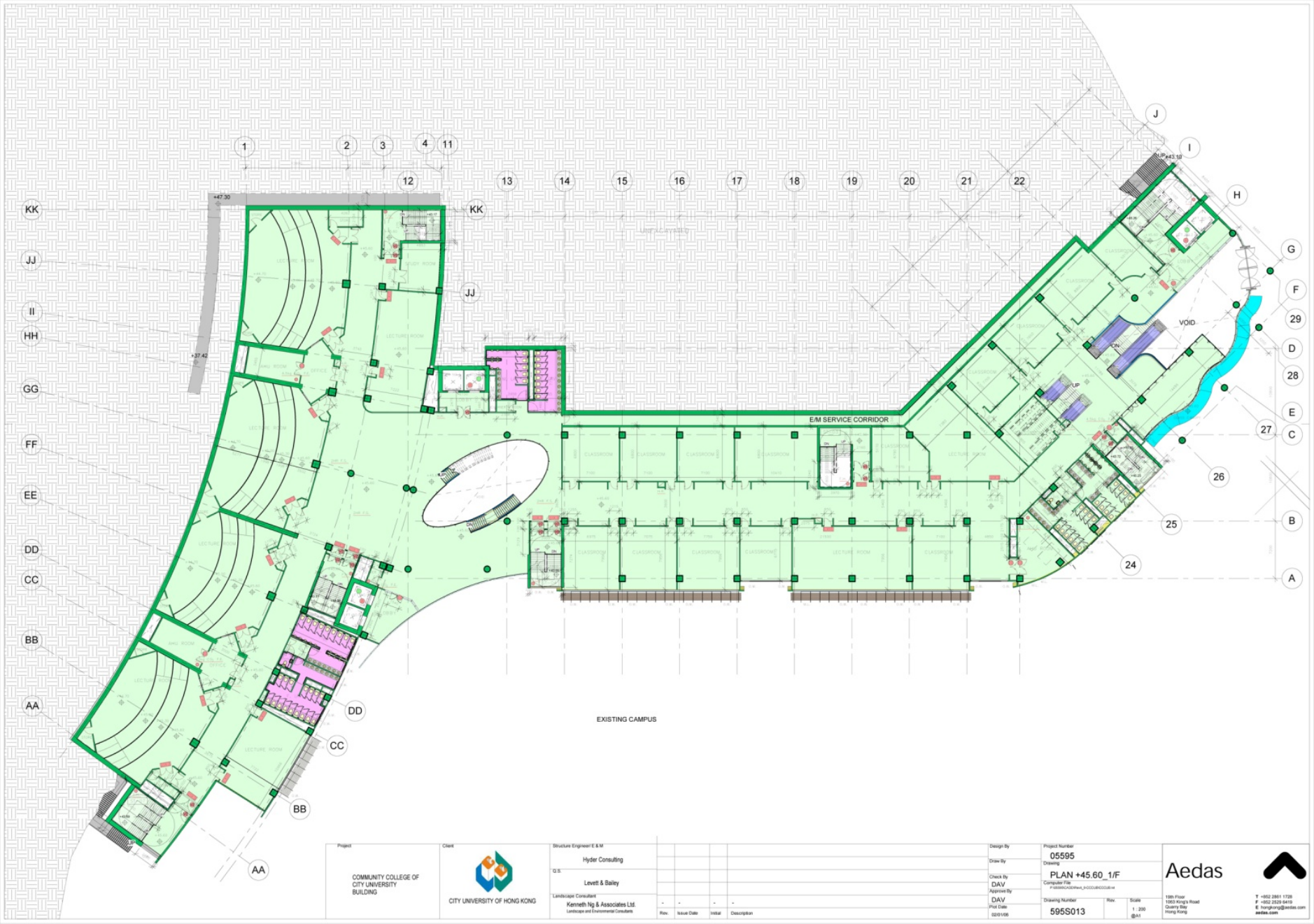
SCHEDULE OF PERSONS FOR MEANS OF ESCAPE											
3/F	USE	CAPACITY	MIN. NO. OF EXIT DOOR	MIN. TOTAL WIDTH OF				MIN. WIDTH OF EACH			
				REQUIRED		PROVIDED		REQUIRED		PROVIDED	
				EXIT DOORS	EXIT ROUTES	EXIT DOORS	EXIT ROUTES	EXIT DOOR	EXIT ROUTE	EXIT DOOR	EXIT ROUTE
38	BIBLE STUDY	11	1	–	–	750	1050	750	1050	750	1050
39	STORE	1	1	–	–	750	1050	–	–	750	1050
40	BIBLE STUDY	17	1	–	–	750	1050	750	1050	750	1050
		29									

Plan Approved
Philip K. S. WONG
Chief Building Surveyor
for BUILDING AUTHORITY
- 1 NOV 2005

STATUTORY SUBMISSION



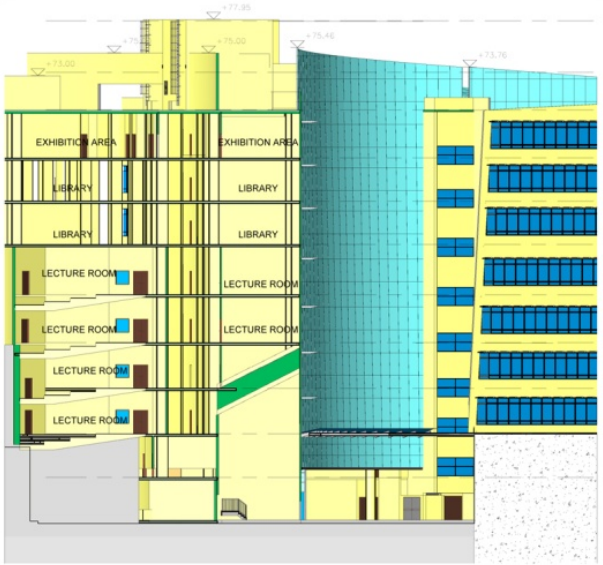
EXAMPLE OF GOVERNMENT



EXAMPLE OF GOVERNMENT

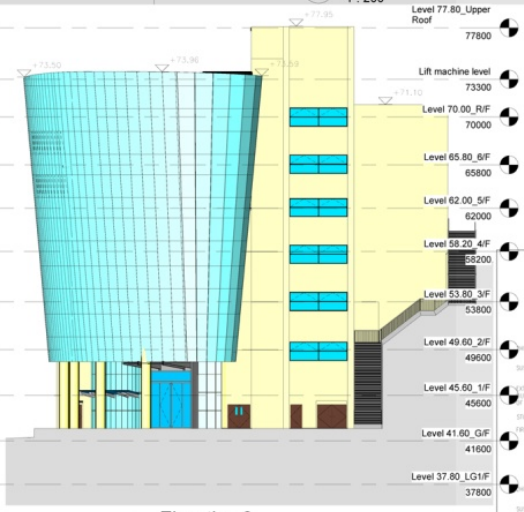
1 Section A-A
1 : 200

2 Section B-B
1 : 200

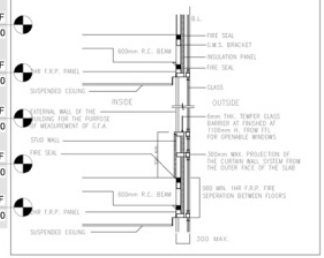


3 Section C-C
1 : 200

4 Section D-D
1 : 200



6 Elevation 2
1 : 200



5 Curtain Wall section
1 : 50

Project: COMMUNITY COLLEGE OF CITY UNIVERSITY BUILDING	Client: CITY UNIVERSITY OF HONG KONG	Structure Engineer/ E & M: Hyder Consulting	Design By
		Q.S.: Levett & Bailey	Draw By
		Landscape Consultant: Kenneth Ng & Associates Ltd. Landscape and Environmental Consultants	Check By: DAV
			Approve By: DAV
			Plot Date: 08/14/06

Rev.	Issue Date	Initial	Description
-	-	-	-

Project Number: 05595
Drawing: SECTIONS
Computer File: P:\05595\CAD\Revit_P\CCCUB\CCCUB.rvt
Drawing Number: 595S150
Rev.
Scale: As indicated @A1

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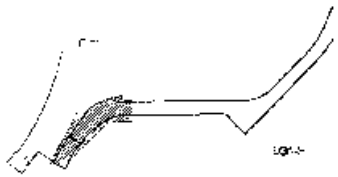
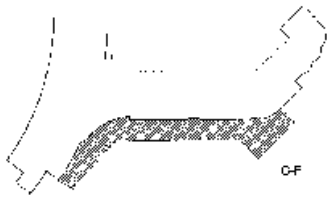
STATUTORY SUBMISSION

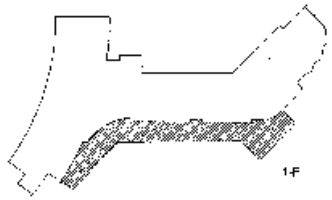
1 EVA of Level 34.00_LG2/F
1 : 1000



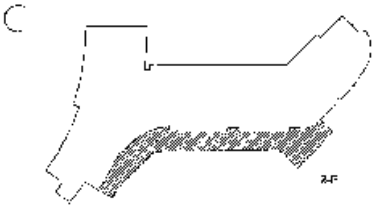
2 EVA of Level 37.80_LG1/F
1 : 1000



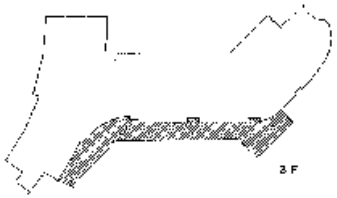
3 EVA of Level 41.60_G/F
1 : 1000



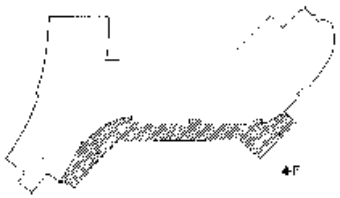
4 EVA of Level 45.60_1/F
1 : 1000



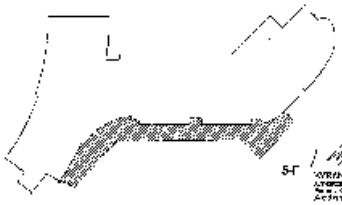
5 EVA of Level 49.60_2/F
1 : 1000



6 EVA of Level 53.80_3/F
1 : 1000

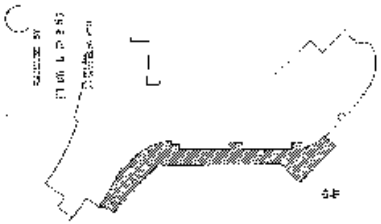


7 EVA of Level 58.20_4/F
1 : 1000



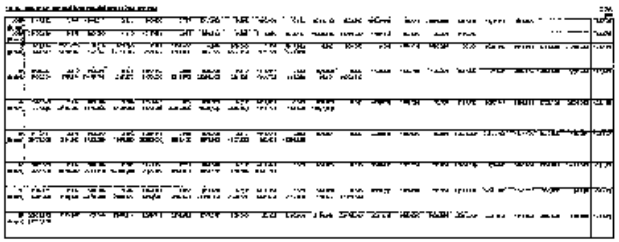
8 EVA of Level 62.00_5/F
1 : 1000

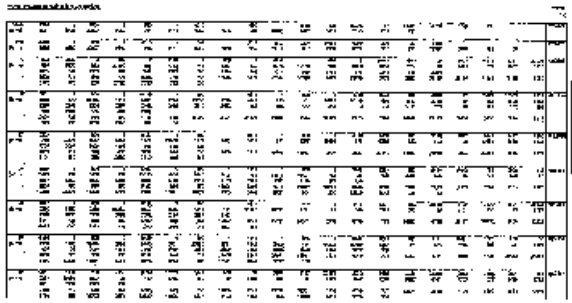
B D SUBMISSION

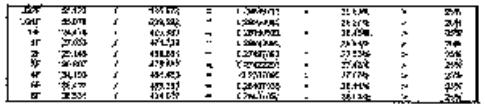


9 EVA of Level 65.80_6/F
1 : 1000

CALCULATION ON TOTAL LENGTH OF BUILDING FACADE TO BE SERVED BY EVA AND PERCENTAGE OF SUCH LENGTH OVER THE TOTAL LENGTH OF ALL THE PERIMETER WALLS OF THE BUILDING







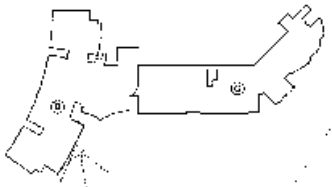
*Hatch area represents the total length of the building facade served by the EVA

STATUTORY SUBMISSION

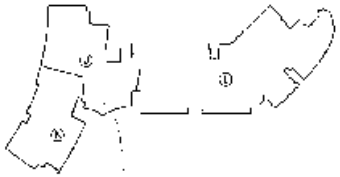
LG1/F (+37.82) COMPARTMENT CALCUALTION

3/F (+53.80) COMPARTMENT CALCUALTION

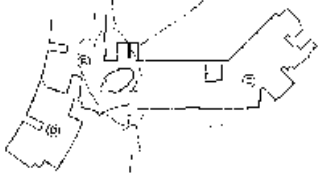
G/F (+41.60) COMPARTMENT CALCUALTION



4/F (+58.20) COMPARTMENT CALCUALTION

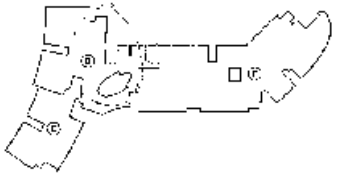


1/F (+45.60) COMPARTMENT CALCUALTION

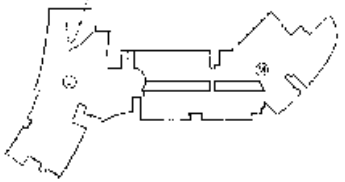


5/F (+62.00) COMPARTMENT CALCUALTION

2/F (+49.50) COMPARTMENT CALCUALTION



6/F (+65.80) COMPARTMENT CALCUALTION

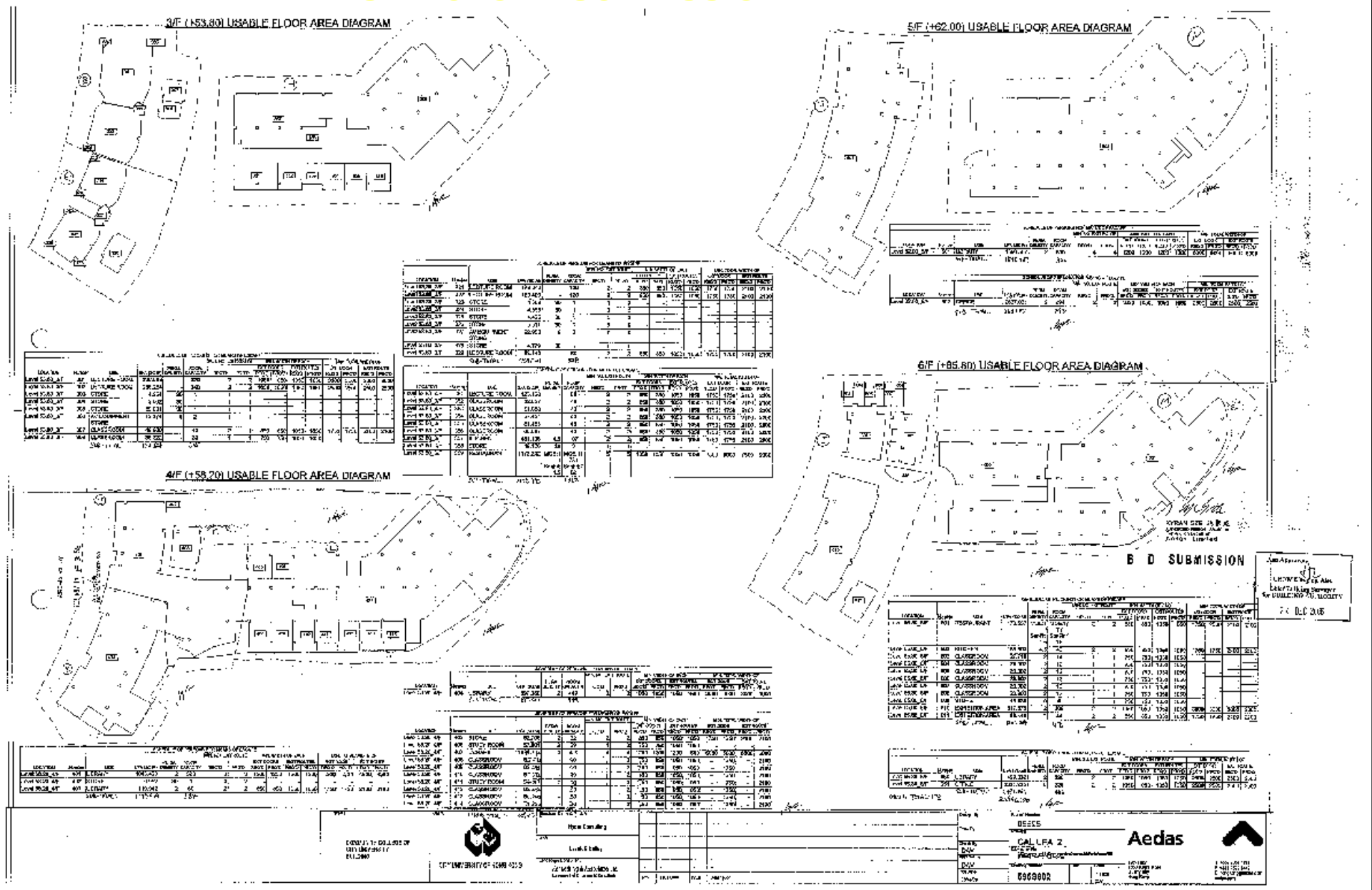


Total Capacity of COCUB				
Location	Use	Area	Factor	Total Capacity
LG1/F	Office	275.442	9	31
G/F	Shop	54.208	3	19
G/F	Office	[illegible]	9	[illegible]
3/F	Restaurant	[illegible]	1	[illegible]
3/F	Kitchen	481.136	4.5	107
5/F	Office	[illegible]	9	[illegible]
6/F	Office	2031.235	9	226
6/F	Restaurant	176.557	1	177
6/F	Kitchen	186.561	4.5	42
6/F	Exhibition hall	704.[illegible]	2	353
			Total number of students	6000
			Total	[illegible]

B/D SUBMISSION

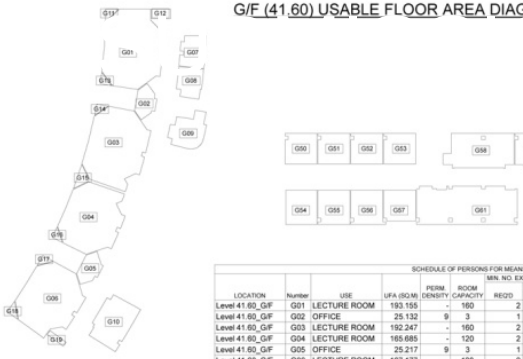
Aedas

STATUTORY SUBMISSION



EXAMPLE OF GOVERNMENT

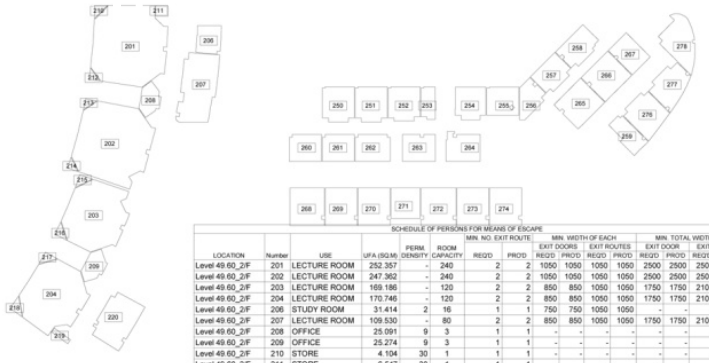
G/F (41.60) USABLE FLOOR AREA DIAGRAM



SCHEDULE OF PERSONS FOR MEANS OF ESCAPE

LOCATION	Number	USE	UFA (SQ.M)	PERM. DENSITY	ROOM CAPACITY	MIN. NO. EXIT ROUTE		MIN. WIDTH OF EACH EXIT DOORS		MIN. WIDTH OF EACH EXIT ROUTES		MIN. TOTAL WIDTH OF EXIT DOOR		MIN. TOTAL WIDTH OF EXIT ROUTE	
						REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D
Level 41.60_G/F	G01	LECTURE ROOM	193.155	-	160	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 41.60_G/F	G02	OFFICE	25.132	9	3	1	1	-	-	-	-	-	-	-	-
Level 41.60_G/F	G03	LECTURE ROOM	192.247	-	160	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 41.60_G/F	G04	LECTURE ROOM	165.685	-	120	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 41.60_G/F	G05	OFFICE	25.217	9	3	1	1	-	-	-	-	-	-	-	-
Level 41.60_G/F	G06	LECTURE ROOM	167.177	-	120	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 41.60_G/F	G07	CLASSROOM	35.255	-	30	1	1	750	750	1050	1050	-	-	-	-
Level 41.60_G/F	G08	CLASSROOM	33.767	-	30	1	1	750	750	1050	1050	-	-	-	-
Level 41.60_G/F	G09	CLASSROOM	49.682	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 41.60_G/F	G10	LECTURE ROOM	77.419	-	60	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 41.60_G/F	G11	STORE	3.880	30	1	1	1	-	-	-	-	-	-	-	-
Level 41.60_G/F	G12	STORE	8.778	30	1	1	1	-	-	-	-	-	-	-	-
Level 41.60_G/F	G13	STORE	3.155	30	1	1	1	-	-	-	-	-	-	-	-
Level 41.60_G/F	G14	STORE	3.144	30	1	1	1	-	-	-	-	-	-	-	-
Level 41.60_G/F	G15	STORE	7.667	30	1	1	1	-	-	-	-	-	-	-	-
Level 41.60_G/F	G16	STORE	3.144	30	1	1	1	-	-	-	-	-	-	-	-
Level 41.60_G/F	G17	STORE	3.039	30	1	1	1	-	-	-	-	-	-	-	-
Level 41.60_G/F	G18	STORE	3.949	30	1	1	1	-	-	-	-	-	-	-	-
Level 41.60_G/F	G19	STORE	4.616	30	1	1	1	-	-	-	-	-	-	-	-
Level 41.60_G/F	G50	CLASSROOM	46.891	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 41.60_G/F	G51	CLASSROOM	46.891	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 41.60_G/F	G52	CLASSROOM	46.891	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 41.60_G/F	G53	CLASSROOM	46.891	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 41.60_G/F	G54	CLASSROOM	51.922	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 41.60_G/F	G55	CLASSROOM	52.531	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 41.60_G/F	G56	CLASSROOM	52.904	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 41.60_G/F	G57	CLASSROOM	47.358	-	30	1	1	750	750	1050	1050	-	-	-	-
Level 41.60_G/F	G58	OFFICE	106.401	9	12	1	1	750	750	1050	1050	-	-	-	-
Level 41.60_G/F	G59	OFFICE	88.434	9	10	1	1	750	750	1050	1050	-	-	-	-
Level 41.60_G/F	G60	OFFICE	68.737	9	8	1	1	750	750	1050	1050	-	-	-	-
Level 41.60_G/F	G61	OFFICE	178.057	9	20	1	1	750	750	1050	1050	-	-	-	-
Level 41.60_G/F	G62	SHOPPING AREA	17.679	3	6	1	1	750	750	1050	1050	-	-	-	-
Level 41.60_G/F	G63	SHOPPING AREA	36.044	3	13	1	1	750	750	1050	1050	-	-	-	-
Level 41.60_G/F	G64	OFFICE	41.882	9	5	1	1	750	750	1050	1050	-	-	-	-

2/F (49.60) USABLE FLOOR AREA DIAGRAM



SCHEDULE OF PERSONS FOR MEANS OF ESCAPE

LOCATION	Number	USE	UFA (SQ.M)	PERM. DENSITY	ROOM CAPACITY	MIN. NO. EXIT ROUTE		MIN. WIDTH OF EACH EXIT DOORS		MIN. WIDTH OF EACH EXIT ROUTES		MIN. TOTAL WIDTH OF EXIT DOOR		MIN. TOTAL WIDTH OF EXIT ROUTE	
						REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D
Level 49.60_2/F	201	LECTURE ROOM	252.357	-	240	2	2	1050	1050	1050	1050	2500	2500	2500	2500
Level 49.60_2/F	202	LECTURE ROOM	247.362	-	240	2	2	1050	1050	1050	1050	2500	2500	2500	2500
Level 49.60_2/F	203	LECTURE ROOM	169.186	-	120	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	204	LECTURE ROOM	170.746	-	120	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	206	STUDY ROOM	31.414	2	16	1	1	750	750	1050	1050	-	-	-	-
Level 49.60_2/F	207	LECTURE ROOM	109.530	-	80	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	208	OFFICE	25.091	9	3	1	1	-	-	-	-	-	-	-	-
Level 49.60_2/F	209	OFFICE	25.274	9	3	1	1	-	-	-	-	-	-	-	-
Level 49.60_2/F	210	STORE	4.104	30	1	1	1	-	-	-	-	-	-	-	-
Level 49.60_2/F	211	STORE	6.547	30	1	1	1	-	-	-	-	-	-	-	-
Level 49.60_2/F	212	STORE	2.982	30	1	1	1	-	-	-	-	-	-	-	-
Level 49.60_2/F	213	STORE	2.983	30	1	1	1	-	-	-	-	-	-	-	-
Level 49.60_2/F	214	STORE	2.853	30	1	1	1	-	-	-	-	-	-	-	-
Level 49.60_2/F	215	STORE	4.312	30	1	1	1	-	-	-	-	-	-	-	-
Level 49.60_2/F	216	STORE	4.312	30	1	1	1	-	-	-	-	-	-	-	-
Level 49.60_2/F	217	STORE	4.174	30	1	1	1	-	-	-	-	-	-	-	-
Level 49.60_2/F	218	STORE	5.229	30	1	1	1	-	-	-	-	-	-	-	-
Level 49.60_2/F	219	STORE	4.507	30	1	1	1	-	-	-	-	-	-	-	-
Level 49.60_2/F	220	LECTURE ROOM	81.004	-	80	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	250	CLASSROOM	51.697	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	251	CLASSROOM	51.764	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	252	CLASSROOM	50.444	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	253	STORE	21.360	30	1	1	1	-	-	-	-	-	-	-	-
Level 49.60_2/F	254	CLASSROOM	45.528	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	255	CLASSROOM	42.866	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	256	CLASSROOM	32.896	-	30	1	1	750	750	1050	1050	-	-	-	-
Level 49.60_2/F	257	CLASSROOM	41.685	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	258	CLASSROOM	45.834	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	259	STORE	33.314	30	2	1	1	-	-	-	-	-	-	-	-
Level 49.60_2/F	260	CLASSROOM	41.349	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	261	CLASSROOM	41.349	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	262	CLASSROOM	44.778	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	263	CLASSROOM	41.903	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	264	CLASSROOM	44.274	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	265	CLASSROOM	61.149	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	266	CLASSROOM	61.149	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	267	CLASSROOM	40.974	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	268	CLASSROOM	62.072	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	269	CLASSROOM	57.735	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	270	CLASSROOM	58.135	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	271	CLASSROOM	43.200	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	272	CLASSROOM	62.798	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	273	CLASSROOM	57.927	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	274	CLASSROOM	57.929	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	276	CLASSROOM	59.835	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	277	CLASSROOM	53.882	-	40	2	1	850	850	1050	1050	1750	1750	2100	2100
Level 49.60_2/F	278	CLASSROOM	63.424	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100

LG2/F (34.00) USABLE FLOOR AREA DIAGRAM

SCHEDULE OF PERSONS FOR MEANS OF ESCAPE

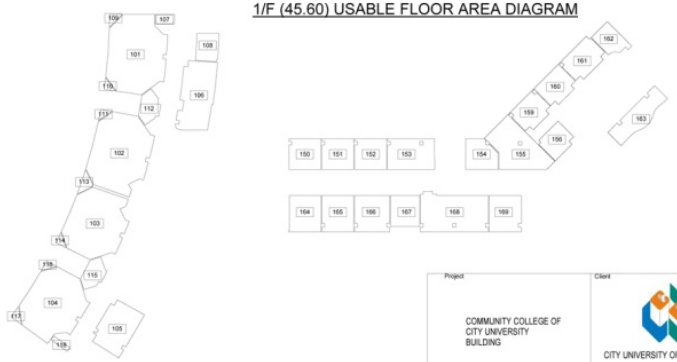
LOCATION	Number	USE	UFA (SQ.M)	PERM. DENSITY	ROOM CAPACITY	MIN. NO. EXIT ROUTE		MIN. WIDTH OF EACH EXIT DOORS		MIN. WIDTH OF EACH EXIT ROUTES		MIN. TOTAL WIDTH OF EXIT DOOR		MIN. TOTAL WIDTH OF EXIT ROUTE	
						REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D
Level 34.00_LG2/F	B21	STORE	187.605	30	7	1	1	750	750	1050	1050	-	-	-	-

LG1/F (37.80) USABLE FLOOR AREA DIAGRAM

SCHEDULE OF PERSONS FOR MEANS OF ESCAPE

LOCATION	Number	USE	UFA (SQ.M)	PERM. DENSITY	ROOM CAPACITY	MIN. NO. EXIT ROUTE		MIN. WIDTH OF EACH EXIT DOORS		MIN. WIDTH OF EACH EXIT ROUTES		MIN. TOTAL WIDTH OF EXIT DOOR		MIN. TOTAL WIDTH OF EXIT ROUTE	
						REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D
Level 37.80_LG1/F	B11	OFFICE	293.119	9	33	2	2	850	850	1050	1050	1750	1750	2100	2100

1/F (45.60) USABLE FLOOR AREA DIAGRAM



SCHEDULE OF PERSONS FOR MEANS OF ESCAPE

LOCATION	Number	USE	UFA (SQ.M)	PERM. DENSITY	ROOM CAPACITY	MIN. NO. EXIT ROUTE		MIN. WIDTH OF EACH EXIT DOORS		MIN. WIDTH OF EACH EXIT ROUTES		MIN. TOTAL WIDTH OF EXIT DOOR		MIN. TOTAL WIDTH OF EXIT ROUTE	
						REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D
Level 45.60_1/F	101	LECTURE ROOM	192.987	-	160	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	102	LECTURE ROOM	192.247	-	160	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	103	LECTURE ROOM	165.685	-	120	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	104	LECTURE ROOM	167.177	-	120	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	105	LECTURE ROOM	79.143	-	80	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	106	LECTURE ROOM	105.660	-	80	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	107	STORE	8.766	30	1	1	1	-	-	-	-	-	-	-	-
Level 45.60_1/F	108	STUDY ROOM	29.189	2	15	1	1	750	750	1050	1050	-	-	-	-
Level 45.60_1/F	109	STORE	3.880	30	1	1	1	-	-	-	-	-	-	-	-
Level 45.60_1/F	110	STORE	3.155	30	1	1	1	-	-	-	-	-	-	-	-
Level 45.60_1/F	111	STORE	3.144	30	1	1	1	-	-	-	-	-	-	-	-
Level 45.60_1/F	112	OFFICE	24.975	9	3	1	1	-	-	-	-	-	-	-	-
Level 45.60_1/F	113	STORE	7.667	30	1	1	1	-	-	-	-	-	-	-	-
Level 45.60_1/F	114	STORE	3.144	30	1	1	1	-	-	-	-	-	-	-	-
Level 45.60_1/F	115	OFFICE	25.272	9	3	1	1	-	-	-	-	-	-	-	-
Level 45.60_1/F	116	STORE	3.039	30	1	1	1	-	-	-	-	-	-	-	-
Level 45.60_1/F	117	STORE	3.949	30	1	1	1	-	-	-	-	-	-	-	-
Level 45.60_1/F	118	STORE	4.508	30	1	1	1	-	-	-	-	-	-	-	-

SCHEDULE OF PERSONS FOR MEANS OF ESCAPE

LOCATION	Number	USE	UFA (SQ.M)	PERM. DENSITY	ROOM CAPACITY	MIN. NO. EXIT ROUTE		MIN. WIDTH OF EACH EXIT DOORS		MIN. WIDTH OF EACH EXIT ROUTES		MIN. TOTAL WIDTH OF EXIT DOOR		MIN. TOTAL WIDTH OF EXIT ROUTE	
						REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D
Level 45.60_1/F	150	CLASSROOM	47.068	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	151	CLASSROOM	47.068	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	152	CLASSROOM	47.068	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	153	CLASSROOM	68.467	-	60	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	154	CLASSROOM	47.631	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	155	LECTURE ROOM	100.751	-	80	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	156	CLASSROOM	35.962	-	30	1	2	750	750	1050	1050	-	-	-	-
Level 45.60_1/F	159	CLASSROOM	44.311	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	160	CLASSROOM	44.803	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	161	CLASSROOM	52.175	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	162	CLASSROOM	32.239	-	30	1	1	750	750	1050	1050	-	-	-	-
Level 45.60_1/F	163	SHOPPING AREA	60.583	3	21	1	1	750	750	1050	1050	-	-	-	-
Level 45.60_1/F	164	CLASSROOM	54.973	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	165	CLASSROOM	55.216	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	166	CLASSROOM	60.032	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	167	CLASSROOM	43.353	-	30	1	1	750	750	1050	1050	-	-	-	-
Level 45.60_1/F	168	LECTURE ROOM	118.621	-	80	2	2	850	850	1050	1050	1750	1750	2100	2100
Level 45.60_1/F	169	CLASSROOM	55.397	-	40	2	2	850	850	1050	1050	1750	1750	2100	2100

Project: COMMUNITY COLLEGE OF CITY UNIVERSITY BUILDING

Client: CITY UNIVERSITY OF HONG KONG

Structure Engineer/ E & M: Hyder Consulting

Q.S.: Levett & Bailey

Landscape Consultant: Kenneth Ng & Associates Ltd. Landscape and Environmental Consultants

Rev.	Issue Date	Initial	Description
-	-	-	-

Design By

Draw By

Check By: DAV

Approve By: DAV

Plot Date: 08/14/06

Project Number: 05595

Drawing: CAL UFA_1

Computer File: P:\05595\CAD\Revit_5-CCCUB\CCCUB.rvt

Drawing Number: 595S801

Rev.

Scale: 1 : 600 @A1

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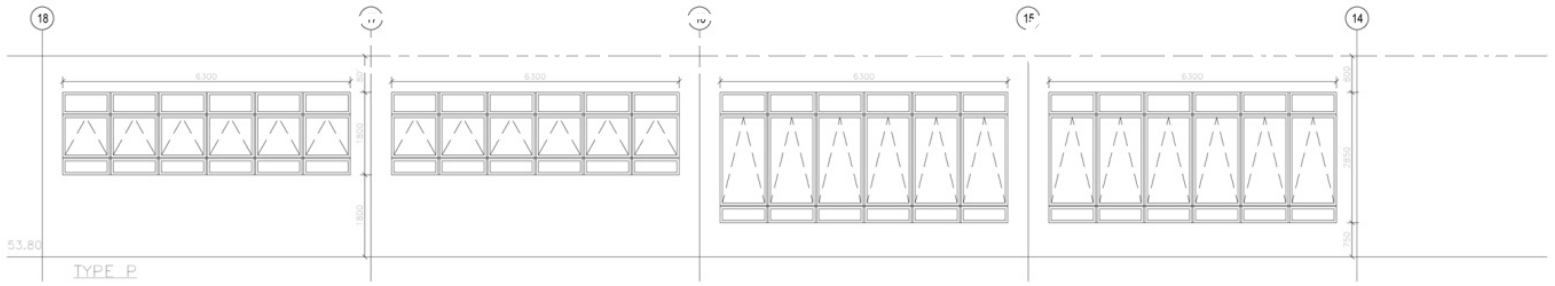
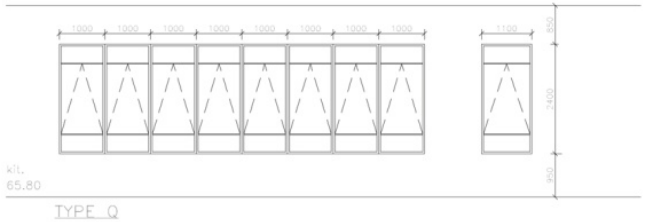
EXAMPLE OF GOVERNMENT





TYPE	KITCHEN LOCATION	UFA (sq.m)	GLAZED WINDOW AREA TOTAL WIDTH	HEIGHT	PROVIDED (85% EFFECTIVE)		REQUIRED (1/10 of UFA)	OPENABLE WINDOW AREA TOTAL WIDTH	HEIGHT	PROVIDED (85% EFFECTIVE)		REQUIRED (1/16 of UFA)
			12.600	2.850	30.524			12.600	2.030	21.741		
			12.600	1.800	19.278			12.600	0.980	10.496		
P	LEVEL +53.80 Gridline 14-18/C-D	472.540		sub-total	49.802	>	47.254		sub-total	32.237	>	29.534
Q	LEVEL +65.80 Gridline 2-11/HH-JJ	182.511	9.100	2.400	18.564	>	18.251	9.100	1.570	12.144	>	11.407

OFFICE LOCATION	UFA (sq.m)	GLAZED WINDOW AREA TOTAL LENGTH (m)	HEIGHT (m)	PROVIDED (85% EFFECTIVE) (sq.m.)		REQUIRED (1/10 of UFA) (sq. m.)	OPENABLE WINDOW AREA TOTAL LENGTH (m)	HEIGHT (m)	PROVIDED (85% EFFECTIVE) (sq. m.)		REQUIRED (1/16 of UFA) (sq. m.)
LEVEL +37.80 Gridline 12-13/A-C	293.119	13.380	3.800	43.217	>	29.3119	Application for modificaiton				
LEVEL +41.60 Gridline 18-21/A-B	178.057	21.950	2.330	43.472	>	17.8057	21.950	1.520	28.359	>	11.129
LEVEL +62.00 Gridline 13-29/F-J	2615.380	43.900	2.440	91.049							
		10.500	2.700	24.098							
		46.300	2.250	88.549							
	(curtain wall)	43.000	3.800	138.890							
			sub-total	342.585	>	261.538	Application for modificaiton				
LEVEL +65.80 Grindline 13-18/F-H, 19-29/F-J	2022.023	43.900	2.440	91.049							
		10.500	2.700	24.098							
		30.450	2.250	58.236							
	(curtain wall)	43.000	3.800	138.890							
			sub-total	312.272	>	202.202	Application for modificaiton				

Discharge Value Calculation

Staircase No.	No. of storey served	Width of Staircase (mm)	Discharge Value (Person)	Factor
ST-01	6	2400	1480	
ST-02	6	1800	1060	
ST-03	4	1800	739	*0.8
ST-04	8	1800	1196	
ST-05	8	1800	1196	
ST-06	8	1800	1196	
ST-07	8	2400	1688	
ST-08	2	1800	788	
Permitted discharge value			**9175**	
Actual capacity of CCCUB			8788	

Therefore, Permitted Discharge Value (Person) > Actual Capacity (Person)

OFFICE (CURTAIN WALL) LOCATION	UFA (sq. m.)	OPENABLE WINDOW AREA TOTAL LENGTH (m)	HEIGHT (m)	NUMBER	PROVIDED (85% EFFECTIVE) (sq. m.)		REQUIRED (1/100 of UFA) (sq. m.)
LEVEL +37.80 Gridline 12-13/A-C	293.119	1.115	0.900	12	10.236	>	2.931
LEVEL +62.00 Gridline 14-29/E-J	2615.38	1.240	1.800	15	28.458	>	26.154
LEVEL +65.80 Gridline 14-29/E-J	2022.023	1.240	1.800	15	28.458	>	20.220

SCHEDULE OF A/C PLANT ROOM AREA

LOCATION	LOCATION OF THE PLANT ROOM	TOTAL G.F.A. OF FLOOR WHERE THE PLANT ROOM SITUATED	TOTAL AHU AREA		PERCENTAGE OF AREA OF PAU/PLANT RM AT EACH FLOOR	
	GRID 1/II-HH		24.369			
	GRID 2/CC-DD		24.479			
G/F (+41.60)	GRID 22/A-B	4511.267	38.316	87.164	1.93%	<4%
	GRID 1/II-HH		24.369			
	GRID 2/CC-DD		24.479			
1/F (+45.60)	GRID 22/A-B	4532.375	35.873	84.721	1.87%	<4%
	GRID 27/I		16.049			
	GRID 2/CC-DD		24.526			
	GRID 1/II-HH		33.390			
2/F (+49.60)	GRID 22/A-B	5235.757	38.851	112.816	2.15%	<4%
	GRID 23/F-E		12.554			
	GRID 1/CC-DD		25.176			
	GRID 27/I-H		29.857			
3/F (+53.80)	GRID 3/JJ	5387.226	44.131	111.718	2.07%	<4%
	GRID 23/F-E		19.303			
	GRID 3/JJ		25.384			
	GRID 2/AA-BB		25.716			
4/F (+58.20)	GRID 27/I	5616.292	30.089	100.492	1.79%	<4%
	GRID 3/JJ		21.294			
	GRID 2/AA-BB		25.368			
	GRID 27/I		25.725			
5/F (+62.00)	GRID 22/A-B	5548.517	29.845	102.232	1.84%	<4%
	GRID 3/JJ-KK		17.823			
	GRID 22/A-B		23.378			
	GRID 2/AA-BB		25.489			
6/F (+65.80)	GRID 27/I-H	5416.730	30.373	97.063	1.79%	<4%

SCHEDULE OF SANITARY FITMENTS PROVISIONS

LOCATION	USE	CAPACITY TOTAL	M.	F.	WC M REQ'D	WC M PRO'D	WC F REQ'D	WC F PRO'D	BASIN M REQ'D	BASIN M PRO'D	BASIN F REQ'D	BASIN F PRO'D	URINAL REQ'D	URINAL PRO'D
3/F	RESTAURANT	1465	733	732	6	6	10	12	6	8	9	9	15	15
3/F	WORKPLACE	106	53	53	3	4	4	5	3	5	3	3	2	2
6/F	OFFICE	225	150	75	5	8	4	10	5	8	3	4	3	6
6/F	PLACE OF PUBLIC	350	175	175	2	2	4	4	2	2	2	2	4	4
6/F	RESTAURANT	175	88	87	1	2	2	4	1	2	2	3	2	3
6/F	WORKPLACE	41	21	20	1	2	2	2	1	3	1	2	1	2
G/F	SHOP/DEPARTMENT STORE	40	20	20	1	1	2	2	1	3	1	1	1	2
G/F - 6/F	OFFICE	386	258	128	8	8	7	9	8	10	5	5	6	6
G/F - 6/F	SCHOOL	6000	3000	3000	100	121	150	184	100	113	150	150	200	200

Education Ordinance Reg. 43 (Latrines & urinals in school premises other than boarding school premises)
1. For latrines and urinals connected a flush system to the requirement shall be -

a) For boys - Two urinals for every 30 pupils

b) For girls - One pan for every 20 pupils

Project: COMMUNITY COLLEGE OF CITY UNIVERSITY BUILDING
Client: CITY UNIVERSITY OF HONG KONG
Structure Engineer/ E & M: Hyder Consulting
Q.S.: Levett & Bailey
Landscape Consultant: Kenneth Ng & Associates Ltd. Landscape and Environmental Consultants

Rev.	Issue Date	Initial	Description
-	-	-	-

Design By:
Draw By:
Check By: DAV
Approve By: DAV
Plot Date: 08/14/06

Project Number: 05595
Drawing: Windows Calculation
Computer File: P:\05595\CAD\Revit_S-CCCUB\CCCUB.rvt
Drawing Number: 595S803
Rev.:
Scale: 1 : 50 @A1

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