

PART 'T' FIRE PROTECTION

REGULATIONS

THIS BUILDING SHALL COMPLY WITH T1 "GENERAL REQUIREMENTS OF NATIONAL BUILDING REGULATIONS AND STANDARDS ACT 103 (1977) SECTION TT" DEEMED TO SATISFY RULES AND RATIONAL DESIGN PROPOSALS

TT 1	◦GENERAL	■	TT 29	◦MARKINGS AND SIGNPOSTING	■
TT 2	◦SAFTEY DISTANCES	■	TT 30	◦LIGHTING OF FEEDER AND EMERGENCY ROUTES	■
TT 3	◦DIFFERENT OCCUPANCIES IN A BUILDING	■	TT 31	◦FIRE DETECTION AND ALARM SYSTEMS	■
TT 4	◦DIVISION AREA	■	TT 32	◦PROVISION OF FIRE FIGHTING EQUIPMENT	■
TT 5	◦FIRE PERFORMANCE GENERAL	■	TT 33	◦WATER RETICULATION FOR FIRE FIGHTING PURPOSES	■
TT 6	◦FIRE RESISTANCE OF OCCUPANCY AND DIVISION SEPERATING WALLS	☒	TT 34	◦HOSEREELS	■
TT 7	◦FIRE STABILITY OF STRUCTURAL ELEMENTS OR COMPONENTS	☒	TT 35	◦HYDRANTS	■
TT 8	◦TENANCY SEPERATING ELEMENTS	N/A	TT 36	◦SPRINKLER SYSTEMS	■
TT 9	◦PARTITION WALLS AND PARTITIONS	■	TT 37	◦PORTABLE FIRE EXTINGUISHERS	■
TT 10	◦PROTECTION OF OPENINGS	■	TT 38	◦MOBILE FIRE EXTINGUISHERS	N/A
TT 11	◦RAISED ACCESS AND SUSPENDED FLOORS OF COMBUSTIBLE MATERIAL	■	TT 39	◦FIRE STOPPING OF INACCESSIBLE CONCEALED SPACES	■
TT 12	◦ROOF ASSEMBLIES AND COVERINGS	■	TT 40	◦PROTECTION IN SERVICE SHAFT	■
TT 13	◦CEILINGS	■	TT 41	◦SERVICES IN STRUCTURAL OR SEPERATING ELEMENTS	■
TT 14	◦FLOOR COVERINGS	■	TT 42	◦SMOKE CONTROL	■
TT 15	◦WALL FINISHES	■	TT 43	◦AIR-CONDITIONING AND VENTILATION SYSTEMS	■
TT 16	◦PROVISION OF ESCAPE ROUTES	■	TT 44	◦NO-SMOKING SIGNS	■
TT 17	◦EXIT DOORS	■	TT 45	◦LIFT SHAFTS	N/A
TT 18	◦FEEDER ROUTES	N/A	TT 46	◦LIFT	N/A
TT 19	◦EMERGENCY ROUTES	N/A	TT 47	◦FIREMANS LIFT	N/A
TT 20	◦DIMENSIONS OF COMPONENTS OF ESCAPE ROUTES	■	TT 48	◦STRETCHER LIFT	N/A
TT 21	◦WIDTH OF ESCAPE ROUTES	■	TT 49	◦STAGE AND BACKSTAGE AREAS	N/A
TT 22	◦BASEMENTS	N/A	TT 50	◦SEATING ARRANGEMENTS IN AUDITORIA OR HALLS AND ON GRANDSTANDS	N/A
TT 23	◦STAIRWAYS AND OTHER CHANGES IN LEVEL ALONG ESCAPE ROUTE	■	TT 51	◦PARKING GARAGES	N/A
TT 24	◦VENTILATION OF STAIRWAYS IN AN EMERGENCY ROUTE	N/A	TT 52	◦OPERATING THEATRES AND INTENSIVE CARE UNITS	N/A
TT 25	◦PRESSURIZATION OF STAIRWAYS IN AN EMERGENCY ROUTE	N/A	TT 53	◦INSTALLATION OF LIQUID FUEL DISPENSING PUMPS & TANKS	N/A
TT 26	◦OPENINGS IN FLOORS	N/A	TT 54	◦INSTALLATION OF OTHER TANKS	■
TT 27	◦EXTERNAL STAIRWAYS & PASSAGES	N/A	TT 55	◦ACCESS TO BUILDING FOR FIRE FIGHTING & RESCUE PURPOSES	■
TT 28	◦LOBBIES , FOYERS AND VESTIBULES	■	WW 1	◦GENERAL	■

KEY

■ APPLICABLE ☒ RATIONAL DESIGN N/A NOT APPLICABLE  
E EXISTING

FIRE RATIONALE NOTES

- Ventilation will follow the Natural ventilation method incorporated into low / high level overhang design parameters
- Smoke ventilation area needs to cater for smoke @ 3% of floor area
- Top ventilation needs to fall within top 1/3 of floor to top of roof height
- Low level ventilation must allow sufficient air intake at the correct velocity to create a smoke blanket of 2.5m above floor level, to allow safe evacuation of people - evacuation time to be calculated per facility or 600 m/s, whichever the greater
- Each design will be subject to Fire Chief Approval
- Should additional Louvers be required at high level for smoke, supplementary louvers with spring loaded fusible links (182 deg Activation) can be considered for incorporation into monitors but should ensure all boxouts cater for ducting with positive drainage gradient.

OCCUPANCY

A1	Entertainment and public assembly	D1	High risk industrial	* G1	Offices
A2	Theatrical and indoor sport	* D2	Moderate risk industrial	H1	Hotel
A3	Places of instruction	D3	Low risk industrial	H2	Dormitory
A4	Worship	D4	Plantroom	H3	Domestic Residence
A5	Outdoor sport			H4	Dwelling House
				H5	Hospitality
B1	High risk commercial service	E1	Place of detection	J1	High risk storage
B2	Moderate commercial service	E2	Hospital	* J2	Moderate risk storage
B3	Low risk commercial service	E3	Other institutional (residential)	J3	Low risk storage
		F1	Large shop	J4	Parking garage
C1	Exhibition hall	F2	Small shop		
C2	Museum	F3	Wholesalers' store		

\* = APPLICABLE OCCUPANCY

POPULATION

1	2
Class of occupancy of room or storey or portion thereof	Population
A1 A2 A4 A5	Number of fixed seats or 1 person per m sq. if there are no fixed seats
E1 E3 H1 H3	2 persons per bedroom
G1	1 person per 15m sq.
J1 J2 J3 J4	1 person per 50m sq.
C1 E2 F1 F2	1 person per 10m sq.
B1 B2 B3 D1 D2 D3 D4	1 person per 15m sq.
C2 F3	1 person per 20m sq.
A3 H2	1 person per 5m sq.

□ = APPLICABLE POPULATION OCCUPANCY

WATER SUPPLIES

A FLOW PRESSURE AT ANY HYDRANT OR HOSE REEL OF **NOT LESS THAN** 300kPa AND A FLOW RATE OF **NOT LESS THAN** 20l/s PER HYDRANT AND 0.5l/s PER HOSE REEL REQUIRED

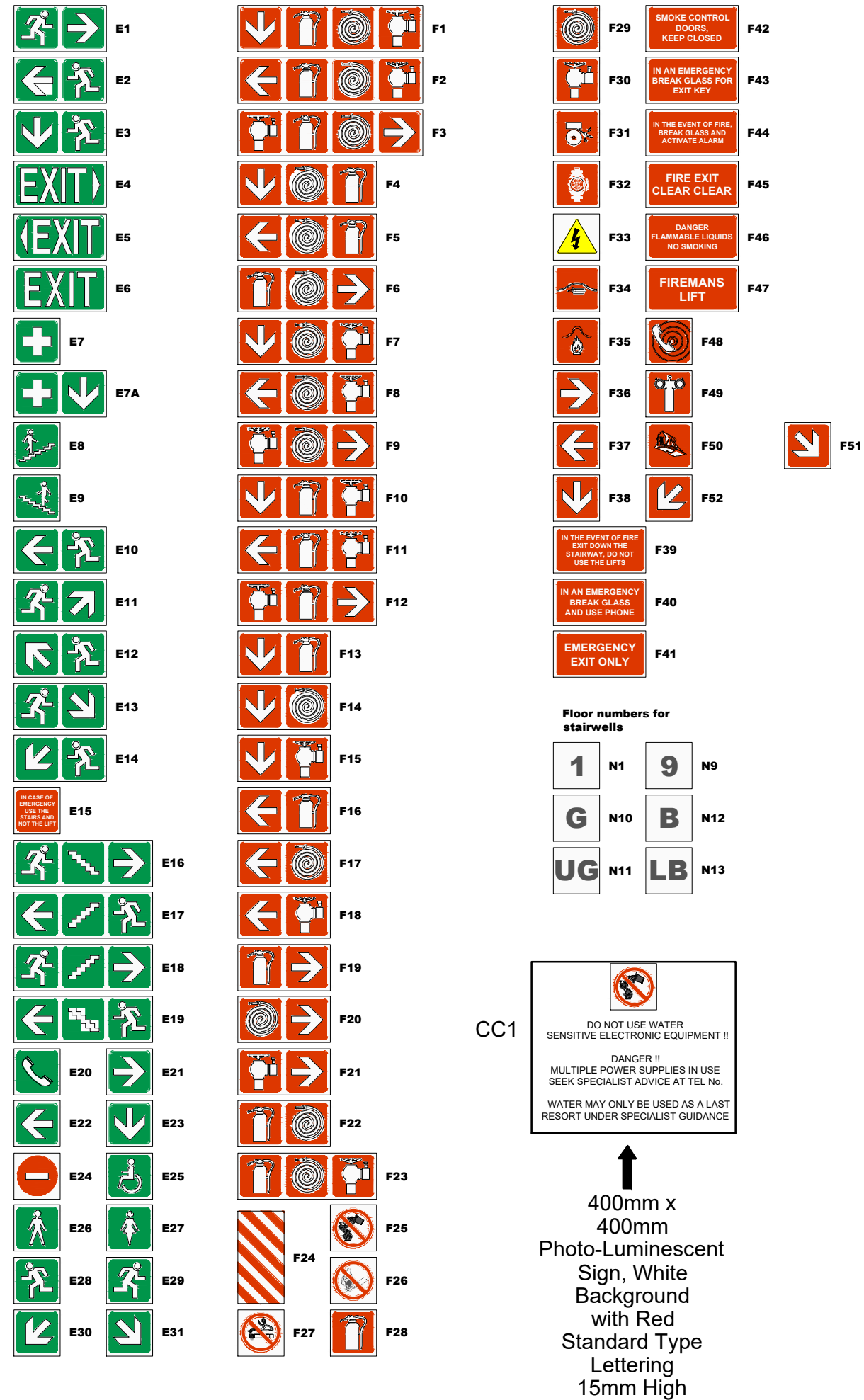
BUILDING AREA & FIRE PROTECTION SCHEDULE

AREA / ZONE	CLASSIFICATION	AREA (m²)	
SEQUENCING FACILITY	D2	16245	
CANOPY	J2	1430	
OFFICES	G1	500	
WASTE AREA	D2	135	
GUARD HOUSE	G1	0	

ITEM	DENSITY / SPECIFICATION	PROVIDED	NOTES
TWIN BOOSTER	N/A	1	
HYDRANT(S)	1/1000m²	16	
FIRE HOSE REEL(S)	1/500m²	32	
HANDHELD FIRE EXTINGUISHER(S)	1/100m²	162	SEQUENCING FACILITY (9kg DCP)
	1/200m²	3	OFFICE (4.5kg DCP)
SPRINKLERS	1/9m²	2040	SEQUENCING FACILITY (7.5mm/min)
	1/12m²	1354	OFFICE (5mm/min)
FIRE WATER STORAGE	431m³	2 x 580m³	
FIRE BOOSTER	2 x 600 m³ TANKS	9000 l/min @1000kPa	Tank sizing to be determined by Supplier
SMOKE & HEAT DETECTION	CATEGORY M CATEGORY L	SANS 10139 SANS 10139	SEQUENCING FACILITY OFFICES (L1)

GRAPHIC STANDARDS

SIGNS TO SABS 1186 (PHOTO LUMINESCENT)  
ARROW SIGNS REF. SYSTEM ( SIZE : 150mm X 150mm FOR H3)  
( SIZE : 190mm X 190mm FOR J4)



**SIZE OF SIGNS**  
**FACTORY / WAREHOUSE:**  
E1 - E6: 290 X 584  
E10 - E14: 290 X 584  
F4 - F12: 290 X 878  
F13 - F22: 290 X 584  
F45 - F50: 290 X 290

**SIZE OF SIGNS**  
**OFFICES:**  
E1 - E6: 190 X 384  
E10 - E14: 190 X 384  
F4 - F12: 190 X 678  
F13 - F22: 190 X 384

STANDARD DRAWING SYMBOLS

9kg DCP	9kg DCP FIRE EXTINGUISHER
4.5 kg CO <sub>2</sub>	4.5 kg Co <sub>2</sub> FIRE EXTINGUISHER
	CEILING SPRINKLER ON STRAIGHT PIPE
	FIRE HYDRANT
	30m FIRE HOSEREEL
	DIRECTION ARROW
	120 MINUTE FIRE RATED WALLS/SLABS
	INTERNAL FIRE RING MAIN

GENERAL NOTES

- HAND HELD EXTINGUISHERS ARE TO BE PROVIDED
- HYDRANTS AND HOSEREELS ARE TO BE PROVIDED
- ADDITIONAL FIRE SIGNAGE TO BE DETERMINED ON SITE WITH FIRE OFFICER

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GENERAL NOTE

- ALL STRUCTURAL, ELECTRICAL, CIVIL AND LANDSCAPING QUERIES ARE TO BE REFERRED TO THE RELEVANT CONSULTANT DRAWINGS, SPECIFICATIONS AND DETAILS
- ALL LUMINING QUERIES ARE TO BE REFERRED TO THE RELEVANT SPECIALIST CONSULTANT DRAWINGS, SPECIFICATIONS AND DETAILS
- ALL CONCRETE, COLUMNS AND STRUCTURAL QUERIES ARE TO BE REFERRED TO PR. STRUCTURAL ENGINEER'S DRAWINGS, SPECIFICATIONS AND DETAILS
- ALL INTERNAL, INTERNAL WALLS REQUIRING DETAIL (SPRINKLING ARE TO BE CONSTRUCTED IN ACCORDANCE WITH PR. STRUCTURAL ENGINEER'S DRAWINGS, SPECIFICATIONS AND DETAILS
- ALL SPECIFICATIONS WITH REGARDS TO FIRE REGULATIONS, TO BE WORKED TO CONSULTANTS DRAWINGS, SPECIFICATIONS AND DETAILS
- ALL DESIGN AND CONSTRUCTION TO COMPLY WITH THE RELEVANT SANS REGULATIONS
- ANY DISCREPANCY IN THE DRAWINGS, DIMENSIONS & SPECIFICATIONS TO BE BROUGHT TO THE ATTENTION OF THE CONSULTANT AND ARCHITECT PRIOR TO ANY WORK BEING PUT IN HAND.
- ONLY FIGURED DIMENSIONS TO BE FOLLOWED - SCALED DIMENSIONS OF DRAWINGS WILL NOT BE PERMITTED

					W.C
No	Date	Revision	Description	By	

PROJECT TEAM

Project Managers :



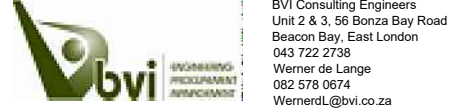
Architects :



Quantity Surveyors :



Civil Engineers :



Structural Engineers :



Electrical & Mechanical Engineers :



CLIENT



TENANT

NAME :	TENANT APPROVAL :
DESIGNATION :	DATE :

Project  
EB/NW/10/24/Z1A

Drawing Title  
Fire Protection Services - Rational Assessment

Date	10/10/2024	Drawn	B.E.
Scale	NTS	Checked	D.P.

Approved

Name: -	Reg No: -
Signature:	Date:
Practice:	

Workstage

For Tender Purposes

Drawing Number	Revision
3244-FP-01	-