

1. NO STORAGE OF DANGEROUS GOODS WITHOUT THE PERMISSION BY THE DIRECTOR OF FIRE SERVICES. ANY INTENDED STORAGE OR USE DEFINED IN CHAPTER 295 OF THE LAWS OF HONG KONG SHOULD BE NOTIFIED TO THE DIRECTOR OF FIRE SERVICES.
2. FIRE ALARM SYSTEM WAS PROVIDED TO THE ENTIRE BUILDING AND MODIFIED IN ACCORDANCE WITH BS 5839: PART 1:2002+ A2:2008 AND FIRE SERVICES DEPARTMENT (FSD) CIRCULAR LETTER NO. 1/2009. ONE ACTUATING POINT AND ONE AUDIO WARNING DEVICE TO BE LOCATED AT EACH HOSE REEL POINT. THE ACTUATION POINT SHOULD INCLUDE FACILITIES FOR FIRE PUMP START AND AUDIO / VISUAL WARNING DEVICE INITIATION.
3. AN HOSE REEL SYSTEM WITH 2000 LITER CAPACITY F.S. WATER TANK WAS PROVIDED. THERE WERE SUFFICIENT HOSE REELS TO ENSURE THAT EVERY PART OF EACH BUILDING CAN BE REACHED BY A LENGTH OF NOT MORE THAN 30M OF HOSE REEL TUBING FOR THE ENTIRE BUILDING.
4. SUFFICIENT EMERGENCY LIGHTING SHALL BE PROVIDED THROUGHOUT THE ENTIRE BUILDING IN ACCORDANCE WITH BS 5266 : PART 1 AND BS EN 1838.
5. SUFFICIENT DIRECTIONAL AND EXIT SIGN SHALL BE PROVIDED IN ACCORDANCE WITH BS 5266 : PART 1 AND FSD CIRCULAR LETTER NO. 5/2008.
6. SECONDARY POWER SUPPLY CONNECTED IN FRONT OF THE MAIN SWITCH WAS PROVIDED AS THE EMERGENCY POWER SUPPLY FOR THE F.S. INSTALLATION FOR THE PREMISES.
7. 5KG CO2 FIRE EXTINGUISHERS WERE PROVIDED NEAR F.S. PUMP ENCLOSURE AND IN SPRINKLER PUMP & CONTROL ROOM.
8. AUTOMATIC SPRINKLER SYSTEM SUPPLIED BY A 90000 LITRE SPRINKLER WATER TANK AND HAZARD CLASS 3 WAS PROVIDED TO THE THE ENTIRE BUILDING (EXCEPT RESIDENCE) IN ACCORDANCE WITH BS EN12845:2003 AND FSD CIRCULAR LETTER 3/2006, 4/2010 & 3/2012.
9. ALL FIRE ALARM SIGNALS WERE CONNECTED TO F.S.C.C. THROUGH DIRECT TELEPHONE LINE.

SYMBOL	DESCRIPTION
	HOSE REEL W/30 M. LENGTH HOSE, STRIKER, LOCKABLE GLASS FRONT BOX, FIRE ALARM BELL & BREAK GLASS UNIT
	FIRE ALARM BELL (WEATHER PROOF FOR OUTDOOR)
	BREAK GLASS UNIT (WEATHER PROOF FOR OUTDOOR)
	GATE VALVE
	NON RETURN VALVE
	Y-STRAINER
	BALL FLOAT VALVE
	PRESSURE SWITCH
	FLOW SWITCH
	FLOW SWITCH ASSEMBLY
	PRESSURE GAUGE
	AUTOMATIC AIR VENT WITH COCK
	FIRE PUMP
	LEVEL SWITCH
	MONITORED GATE VALVE
	DIRECT READING FLOW METER
	68°C SPRINKLER HEAD
	VORTEX INHIBITOR
	EXIT SIGN BOX EQUIPPED WITH CHARGER AND BATTERY BACK-UP
	F.S. / SPRINKLER PIPE

LOCATION	USAGE	MATERIAL STANDARD
ABOVEGROUND	PIPE WORK UP TO & INCLUDING 150MM DIAMETER	GALVANIZED MILD STEEL PIPES TO BS1387 MEDIUM GRADE FOR SCREWING TO BS21 PIPE THREADS
ABOVEGROUND	PIPE WORK 200MM DIAMETER	DUCTILE IRON PIPES TO BS EN545:2002, CLASS K9 COLD BITUMEN COATED EXTERNALLY AND INTERNALLY TO BS 3416:1991 TYPE II

DESCRIPTION	PRESSURE (BAR)	FLOW (L/MIN.)	PUMP SPEED (RPM)	PUMP RATING (KW)	POWER SUPPLY (volts/phases/Hz)
TWO HOSE REEL PUMPS (FSP-1 AS DUTY & FSP-2 AS STAND-BY PUMP OR VISE VERSA)	5.5	30	2900 MAXIMUM	1.5 KW	380/3/50
TWO SPRINKLER BOOSTER PUMPS (SPR-1 AS DUTY & SPR-2 AS STAND-BY PUMP OR VISE VERSA)	1.4 / 2.9 / 3.2	2250 / 1350 1100	2900 MAXIMUM	18.5 KW	380/3/50
SPRINKLER JOCKEY PUMP (SPJ-1)	5.5	30	2900 MAXIMUM	1.5 KW	380/3/50

RUN OF DISTRIBUTION PIPE FROM CONTROL VALVE TO DESIGN POINT	PIPE SIZE (mm)	PIPE LENGTH (m)	FITTINGS	NOS.	EQU. LENGTH OF FITTINGS (m)	TOTAL EQU. LENGTH OF FITTINGS (m)	TOTAL EQU. PIPE LENGTH L (m)	CALCULATED BY HAZEN-WILLIAMS FORMULA P =
A	100	45	GATE VALVE 90° ELBOW	2 3	0.81 3	1.62 9	55.62	0.244 BAR (LESS THAN 0.5 BAR)
B	100	14	GATE VALVE 90° ELBOW	2 3	0.81 3	1.62 9	24.62	0.108 BAR
	80	20	90 ELBOW	0	2.4	0	20	0.32 BAR
							TOTAL	0.428 BAR (LESS THAN 0.5 BAR)

$$P = \frac{6.05 \times 10^5}{C^{1.85} \times d^{4.87}} \times L \times Q^{1.85}$$

PIPE SIZE	COLOUR CODE	
ø25mm	GREEN	_____
ø32mm	RED	_____
ø40mm	PURPLE	_____
ø50mm	YELLOW	_____
ø65mm	LIGHT BLUE	_____
ø80mm	DARK GREEN	_____
ø100mm	LIGHT BROWN	_____
ø150mm	BROWN	_____
ø200mm	DARK BLUE	_____

FP 19 / 24422

1. ALL DIMENSIONS ARE IN MILLIMETER.

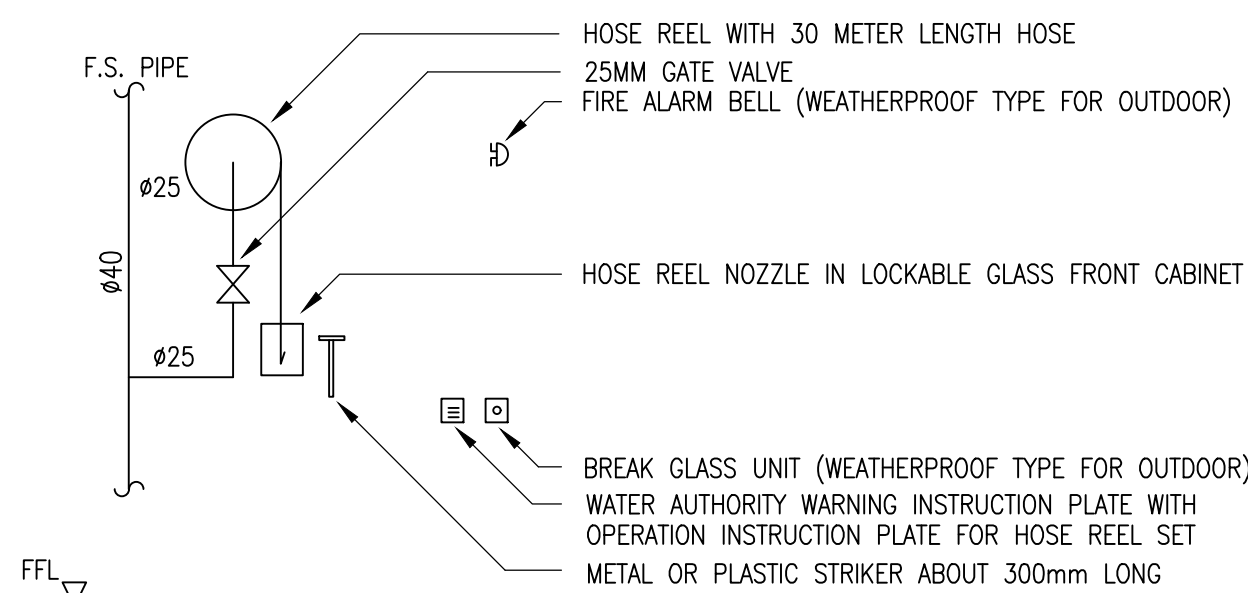


SCALE 1:1000

LOTS 1618(PART), 1619 (PART) AND 1620 (PART) IN D.D.100 AND ADJOINING GOVERNMENT LAND, YING PUN HA TSUEN, KWU TUNG SOUTH, SHEUNG SHUI, N.T.

DRAWING NO.	REVISION	DRAWING TITLE
FS-1	0	F.S. NOTES, BLOCK PLAN, DRAWING LIST, LEGEND, ABBREVIATION, SCHEDULE OF PIPE MATERIALS, PUMP SCHEDULE, CALCULATION OF SPRINKLER PIPE PRESSURE LOSS, SCHEMATIC DIAGRAM FOR FIRE ALARM CONTROL SYSTEM & F.S. INDICATION SYSTEM AND SCHEMATIC PIPING DIAGRAM FOR SPRINKLER SYSTEM & HOSE REEL SYSTEM
FS-2	0	F.S. LAYOUT PLAN

HR	HOSE REEL
F.S.	FIRE SERVICES
SPR	SPRINKLER
U/G	UNDERGROUND
T/A	TO ABOVE
T/B	TO BELOW
F/A	FROM ABOVE
F/B	FROM BELOW
H/L	HIGH LEVEL
M/L	MIDDLE LEVEL
L/L	LOW LEVEL
W/ FFL	WITH FINISHED FLOOR LEVEL
EX.	EXISTING
FE	5KG CO2 FIRE EXTINGUISHER
DP	DESIGN POINT



The diagram shows a hydraulic circuit. A horizontal line represents the main supply line, with a diameter of $\varnothing 25$ indicated on the left. This line contains two pumps, labeled 'P' in boxes, connected in parallel. The first pump is labeled 'START DUTY PUMP' and the second is labeled 'START STAND-BY PUMP'. After the pumps, the line continues to the right, passing through a check valve (indicated by a triangle pointing right) and then a valve (indicated by a circle with a cross). The line then splits into two parallel branches, each containing a valve. The left branch leads to a vertical line labeled 'FROM PUMP'. The right branch leads to a vertical line labeled 'TO DRAIN'.

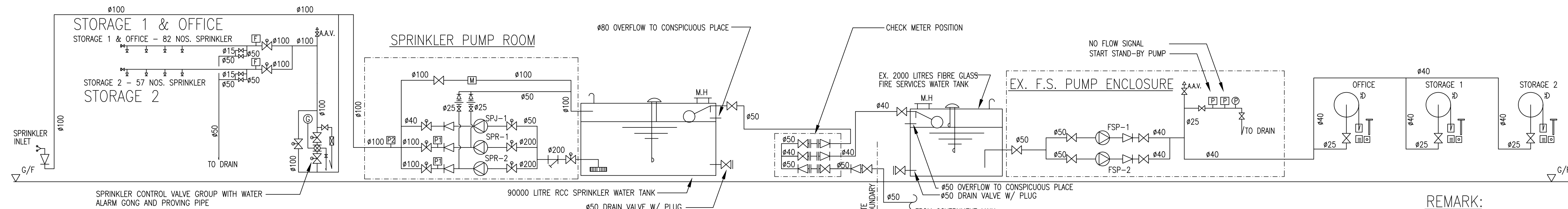
NO FLOW SIGNAL
0.5 BAR PRESSURE DROP SIGNAL
80% PRESSURE DROP
START/STOP SPRINKLER JOCKEY PUMP

25
P P P P P
P
FROM PUMP TO DRAIN

The diagram illustrates the Fire Alarm Control Panel (FACP) and its connections to various components:

- 90000L RCC. SPRINKLER WATER TANK:** Connected to the **SPRINKLER PUMP CONTROL PANEL**.
- SPRINKLER PUMP CONTROL PANEL:** Receives signals from the **90000L RCC. SPRINKLER WATER TANK** and the **FIRE ALARM CONTROL PANEL**. It is connected to a pump (PUMP) and a **24 VOLT D.C. BATTERY & CHARGER UNIT**.
- 24 VOLT D.C. BATTERY & CHARGER UNIT:** Provides power to the **SPRINKLER PUMP CONTROL PANEL** and the **FIRE ALARM CONTROL PANEL**.
- FIRE ALARM CONTROL PANEL:** The central unit, connected to the **24 VOLT D.C. BATTERY & CHARGER UNIT**, the **SPRINKLER PUMP CONTROL PANEL**, and the **F.S. INDICATION PANEL**. It also controls the **8 NOS.**, **2 NOS.**, and **12 NOS.** pumps.
- 8 NOS., 2 NOS., 12 NOS.:** Pumps controlled by the **FIRE ALARM CONTROL PANEL**.
- TO F.S. DIRECT LINK:** A connection from the **FIRE ALARM CONTROL PANEL** to the **F.S. INDICATION PANEL**.
- 2000L F.S. FIBREGLASS WATER TANK:** Connected to the **F.S. PUMP CONTROL PANEL**.
- F.S. PUMP CONTROL PANEL:** Receives signals from the **2000L F.S. FIBREGLASS WATER TANK** and the **FIRE ALARM CONTROL PANEL**. It is connected to a pump (PUMP) and a **24 VOLT D.C. BATTERY & CHARGER UNIT**.
- 24 VOLT D.C. BATTERY & CHARGER UNIT:** Provides power to the **F.S. PUMP CONTROL PANEL** and the **FIRE ALARM CONTROL PANEL**.
- F.S. INDICATION PANEL:** Receives signals from the **FIRE ALARM CONTROL PANEL** and the **F.S. PUMP CONTROL PANEL**.

SCHEMATIC DIAGRAM FOR F.S. INDICATION SYSTEM



SCHEMATIC PIPING DIAGRAM FOR HOSE REEL SYSTEM

ALL FS AND SPRINKLER INSTALLATION
ARE EXISTING INSTALLATION.

FS CONTRACTOR  WING KAI ENG. CO. No. 8, 7/F., Kingsford Industrial Centre, 13 Wang Hoi Road, Kowloon Bay, Kln Tel:27561722 Fax:27951775	CLIENT	PROJECT LOTS 1618 (PART), 1619 (PART) AND 1620 (PART) IN D.D.100 AND ADJOINING GOVERNMENT LAND, YING PUN HA TSUEN, KWU TUNG SOUTH, SHEUNG SHUI, N.T.	TITLE F.S. NOTES, BLOCK PLAN, DRAWING LIST, LEGEND, ABBREVIATION, SCHEDULE OF PIPE MATERIALS, PUMP SCHEDULE, CALCULATION OF SPRINKLER PIPE PRESSURE LOSS, SCHEMATIC DIAGRAM FOR FIRE ALARM CONTROL SYSTEM & F.S. INDICATION SYSTEM AND SCHEMATIC PIPING DIAGRAM FOR SPRINKLER SYSTEM & HOSE REEL SYSTEM					SCALE: NTS DRAWN: CAD	JOB NO.: WK260627
								CHECKED:	DRAWING NO.: FS-1
				0	REVISION	06/2026			
				REV.	REVISION:	DATE:	BY:	DATE: JUN 2026	REV. 0