

LEGEND	
	EXISTING PIPE RE-USED
	NEW SPRINKLER PIPE
	PENDENT SPRINKLER
	DRAIN VALVE
	DUCTILE IRON PIPE
	UNDER GROUND
	TO BELOW
	BACK FLOW PREVENTOR
	POST INDICATOR VALVE

WAREHOUSE : WET SPRINKLER

AREA - TCF ROOM, SWITCH ROOM & UPS ROOM

SYSTEM TYPE: WET

HAZARD: ORDINARY HAZARD

DENSITY: 8.0 mm/min (UFC 3-600-01, TABLE 9-3)

REMOTE AREA: 230 m² (UFC 3-600-01, TABLE 9-3)

SPRINKLER CLASSIFICATION: QUICK RESPONSE

MAX. SPRINKLER COVERAGE: 12.1 m²

SPRINKLER HEAD TEMP: 68.0°C

SPRINKLER K-FACTOR: K-115 (K 8.0)

THREAD SIZE : NPT 3/4"

CONCEALED PENDANT SPRINKLER NO'S: 71

WATERFLOW DURATION: 1 HOUR (UFC 3-600-01 SECT. 6-11.1.1)

MAIN FIRE PUMPS (02 NOS - 1 DUTY + 1 STANDBY)

FIRE PUMP, DIESEL OPERATED, WITH PUMP CONTROLLER. INCLUDING FUEL TANK AND FUEL LINES. FIRE PUMP SHALL MEET UFC 3-600-01 AND LATEST EDITION OF NFPA 20. THE FUEL TANK MUST BE SIZED AS PER IAW NFPA 20 AND BE DOUBLE WALLED TO MEET SECONDARY CONTAINMENT REQUIREMENTS.

CAPACITY : 750 GPM , TDH : 4.5 BAR (65 PSI)

JOCKEY FIRE PUMPS (01 NOS - 1 DUTY)

JOCKEY FIRE PUMP ,ELECTRIC OPERATED, WITH PUMP CONTROL PANEL.

CAPACITY : 10 GPM , TDH : 5 BAR (75 PSI)

FIRE WATER TANK (NEW)

GRP TYPE, INCLUDING ALL ACCESSORIES

STORAGE CAPACITY : 174 M³ (10m x 5 m x 3.5m)

TANK VOLUME = 200 M³, SIZE : 10m x 5m x 4m

ABOVE GROUND PIPING

ALL NEW PIPING SHALL BE ASTM A53 SCHEDULE 40 BLACK STEEL

PIPING JOINTS

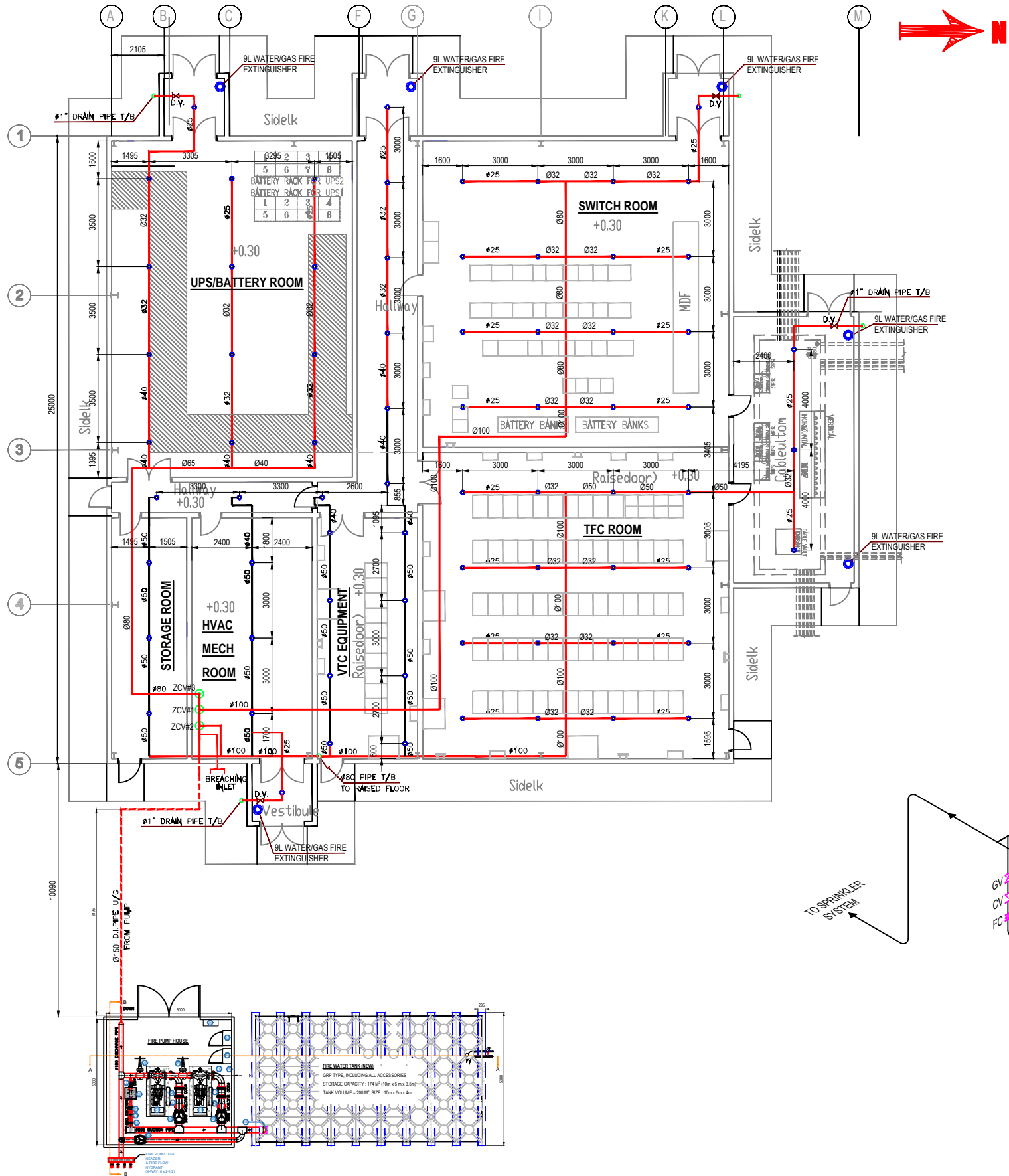
ALL NEW PIPING 2" AND BELOW SHALL BE THREADED JOINTS, MALLEABLE IRON FITTINGS AND PIPING 2-1/2" AND ABOVE SHALL BE GROOVED FITTINGS

UNDERGROUND PIPING

UNDERGROUND PIPING SHALL BE DUCTILE IRON WIRH RATED WORKING PRESSURE OF 1207 KPA CONFORMING TO AWWA C151 / A21.51, WITH CEMENT MORTAR LINING CONFORMING TO AWWA C104/A21.4

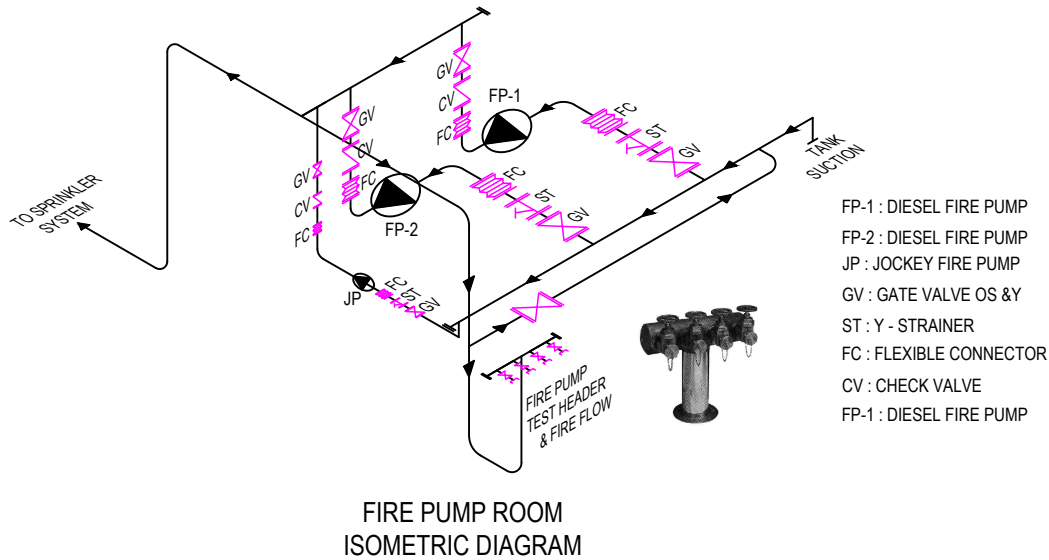
FIRE PUMP HOUSE STRUCTURE

FIRE PUMP HOUSE INTERNAL DIMENSIONS 5m x 5m , WITH CLEAR HEIGHT OF 3M
PUMP HOUSE SHALL BE PROVIDED WITH VENTILATION IN ACCORDANCE WITH NFPA 20 AND SHALL BE AIR CONDITIONED IAW THE DIESEL PUMP MANUFACTURER RECOMMENDATION TEMPERATURE RANGES FOR COMBUSTION.



GENERAL NOTES:

- 1) THE AUTOMATIC FIRE SPRINKLER SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH CONTRACT SPECIFICATIONS SECTION 4.7.3, UFC 3-600-01, UFC 2-100-01 AND NFPA - 13, NFPA - 72 & NFPA - 20
- 2) THIS FACILITY IS DESIGNED AND INSTALLED AS ORDINARY HAZARD SYSTEM.
- 3) THE SYSTEM WAS HYDRAULICALLY CALCULATED AS PER UFC 3-600-01. TABLE 9-3 TO 0.2 GPM (8 L/min) OVER 2500 SQ FT (230 AQ. M). FOR ONE HOUR DURATION.
- 4) THE FACILITY SUPPLIED BY A 750 GPM @ 65 PSI FIRE PUMP LOCATED NEAR TO FACILITY IN FIRE PUMP HOUSE HYDRAULICALLY CALCULATED.
- 5) BASED ON HYDRAULIC CALCULATION, TOTAL DEMAND IS 842.73 GPM (SPRINKLER FLOW 592.73 GPM + HOSE ALLOWANCE 250 GPM). FIRE PUMP SHALL BE 750 GPM . 842.73 GPM IS 112% OF THE RATED CAPACITY OF A 750 GPM FIRE PUMP. UFC 3-600-01 ALLOWS US TO USE UP TO 140% OF RATED CAPACITY OF THE FIRE PUMP. REFER TO REVISED HYDRAULIC CALCULATIONS.
- 6) JOCKEY PUMP CAPACITY SHALL BE 10 GPM.
- 7) FIRE FIGHTING SYSTEM DESIGN SHALL BE REVIEWED AND STAMPED BY QUALIFIED FPE (FIRE PROTECTION ENGINEER).
- 8) ALL PIPING SHALL BE SIZED HYDRAULICALLY AND SHALL BE BE BLACK STEEL (BS) SCH #40 ASTM A53 OR ASTM A135 WITH GROOVED FITTINGS FOR MAIN PIPING AND MALLEABLE IRON / CAST IRON THREADED FITTINGS FOR BRANCH LINES.
- 9) PIPE SUPPORTS AND HANGERS SHALL BE INSTALLED ACCORDING TO NFPA 13 (2019) AND UFC 3-600-01



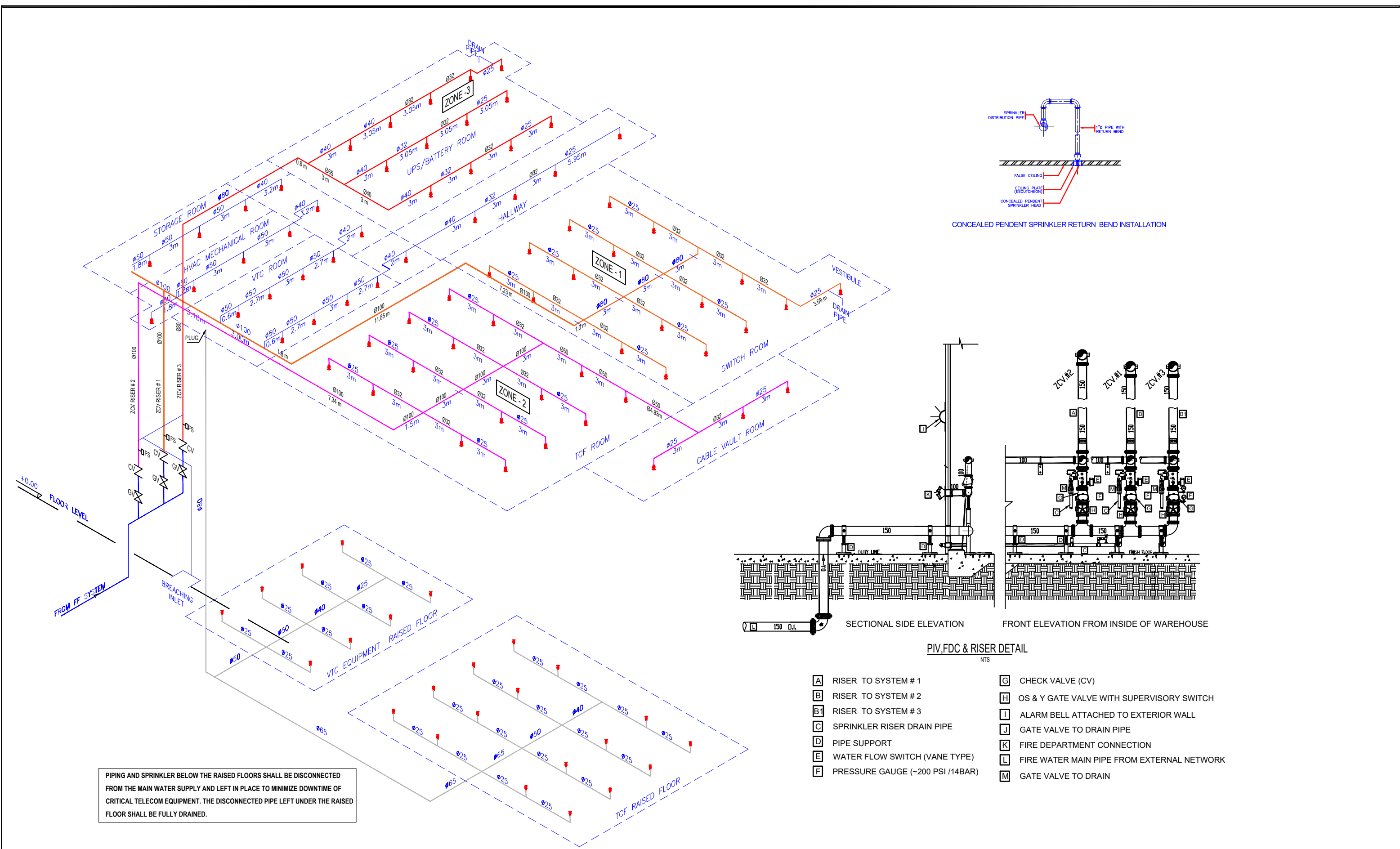
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Drawn	ENGR. KAMAL	03-03-2021			
Design	ENGR. KAMAL				
Issued					
Transmital #					

Client :	

Contractor :	

Title :	TCF - C4 Facility Camp Buehring, Kuwait

Drawing Name :	Repair Wet Pipe Fire Suppression System GENERAL LAYOUT
Drawing Unit :	MILLIMETER
Drawing Scale :	1:200
Drawing No. :	



SPRINKLER DISTRIBUTION ISOMETRIC DRAWING (NTS)											
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