SECTION 1

DESIGN AND OPERATION

1.1 Introduction

Purpose

- A system in plumbing which provides and distributes water to the different parts of building or structure, for purpose such as drinking, cleaning, washing, etc.

- Sanitary drainage and vent piping system are installed to remove waste from the plumbing fixtures and appliances and to provide circulation of air within the drainage piping.

Scope of Work

a) Plumbing System

b) Sanitary Drainage System

c) Fire Hydrant System

1.2 System Description

-Plumbing System
-Sanitary Drainage System
-Fire Hydrant System

1.3 System Operation

1.3.1 Plumbing System

1. For this building, Took the water supply from blk-3 transfer tanks & pump .Pump feed transfer water pipe and installed new private digital water meter at 1st storey (BLK 2).
2. Main water pipe supply to Domestic Water Tank and Booster Pump system at Roof.
3. For this building, water supplied with pump feed to 1st storey,2nd storey & 3rd storey plumbing fixtures.
4. Plumbing installation consist of supply and install cold water pipe for toilets, sink and water dispensers.
5. Individual toilets have an individual main shut off valve & water meter.
6. Plumbing is the system of pipes, drains, fittings, valves, valve assemblies and devices installed in the building

1.3.2 Sanitary Drainage System

1. Sanitary installation consists of supply and install new floor traps, urinal trap, floor wastes, waste pipes and inspection chamber.
2. Soil waste discharge pipes is flow towards individual IC.
3. Fully ventilated system is used for sanitary discharge with vent pipes.
4. Sanitary is the system that all the piping within public or private premises which conveys sewage to a point of disposal.

System Component

1. Plumbing: Water services, private water meter, main shut off valve and isolation valve.

2. Sanitary: Soil waste stack, soil waste pipe, traps, vents and inspection chamber.

1.3.3 Fire Hydrant System

1. In this project, took the fire hydrant pipe take from hydrant ring line with Dia 200mm DI pump feed pipe supply to fire hydrant pillar.

1.4 OPERATING PROCEDURES

(a) Booster Pump

- Refer to attached pumps documents

1.5 OPERATOR TROUBLESHOOTING AND MAINTENANCE

(a) Booster Pump

- Refer to attached pumps documents

SECTION 2

MAINTENANCE

2.1 EQUIPMENT SCHEDULE AND PART LIST

(a) Equipment Schedule

- Domestic Water Booster Pump
  (12 Month After TOP)

(b) Part List

- Domestic Water Booster Pump
  (a) 6 Nos of Booster Pump

(c) Material List

Plumbing & Sanitary Installations

a) Ductile Iron Pipes
- Brand : CC
- Country of Origin : China

b) Ductile Iron Pipe Fittings
- Brand : CC
- Country of Origin : China

c) Ductile Gate Valve & Check Valve (80mm & Above)
- Brand : CC
- Country of Origin : China

d) uPVC Pipes & Fittings
- Brand : Snow
- Country of Origin : Singapore

e) Floor Trap Cover & Waste Cover
- Brand : Norika
- Country of Origin : China

f) Inspection Chamber
- Brand : Li Seng
- Country of Origin : Singapore

g) Inspection Chamber Cover(Light Duty & Heavy Duty)
- Brand : HAH
- Country of Origin : Malaysia

h) Gate Valve & Check Valve (65mm & Below)
- Brand : Norika
- Country of Origin : China

i) PEX Pipes & Fittings
- Brand : Wavin
- Country of Origin : Germany

j) Water Meter
- Brand : Norika
- Country of Origin : China

Water Tank & Pump Installations

a) Domestic Roof Tank
- Brand : Pipeco
- Country of Origin : Malaysia

b) Domestic Booster Pump
- Brand : Lowara
- Country of Origin : Italy

Fire Hydrant Installations

a) Fire Pillar Hydrant
- Brand : Combat
- Country of Origin : Singapore

2.2 INSTSTALLATION AND MAINTENANCE

(a) Installation Instruction

(i) Booster Pump System

Make sure all the gate valves are 'OPEN' position, especially on the suction side. And isolator for the pump to be 'ON' position.

(b) Maintenance Requirements and Instructions

Maintenance for booster pump will be quarterly,

(i) Maintenance Personnel Pre-requisite/Competency
(ii) Maintenance Requirements (Maintenance Task and Frequency)
(iii) Maintenance Checklist
(iv) System Troubleshooting ('l' Level Maintenance)

Please refer to attached respective pump OMM.

SECTION 3

DOCUMENTATION

3.1 On-Site Testing and Commissioning Report

(a) Booster Pump
(b) Hydrostatic Test
(c) Air Test

3.2 Factory Acceptance Test Report

NOT APPLICABLE

3.3 Vulnerability Assessment Report

NOT APPLICABLE

3.4 As-built drawings

DIEPPE BARRACKS BLK2 PLUMBING AND SANITARY DRAWING LIST

S/N	DRAWING NO.	DRAWING TITLE	DRAWING SIZE
1	D2019-00162_WT_LB_BLK2_P01	1st Storey Plumbing Drawing	~~AO~~/A1/~~A3~~
2	D2019-00162_WT_LB_BLK2_P02	2nd Storey Plumbing Drawing	~~AO~~/A1/~~A3~~
3	D2019-00162_WT_LB_BLK2_P03	3rd Storey Plumbing Drawing	~~AO~~/A1/~~A3~~
4	D2019-00162_WT_LB_BLK2_P04	Roof Plumbing Drawing	~~AO~~/A1/~~A3~~
5	D2019-00162_WT_LB_BLK2_P05	Plumbing Schematic Drawing	~~AO~~/A1/~~A3~~
6	D2019-00162_WT_LB_BLK2_S01	1st Storey Sanitary Drawing	~~AO~~/A1/~~A3~~
7	D2019-00162_WT_LB_BLK2_S02	2nd Storey Sanitary Drawing	~~AO~~/A1/~~A3~~
8	D2019-00162_WT_LB_BLK2_S03	3rd Storey Sanitary Drawing	~~AO~~/A1/~~A3~~
9	D2019-00162_WT_LB_BLK2_S04	Roof Sanitary Drawing	~~AO~~/A1/~~A3~~
10	D2019-00162_WT_LB_BLK2_S05	Sanitary Schematic Drawing	~~AO~~/A1/~~A3~~

3.5 Technical drawings

NOT APPLICABLE

3.6 Engineering Data Package

NOT APPLICABLE