PLUMBING NC II

TRAINING LESSON 4

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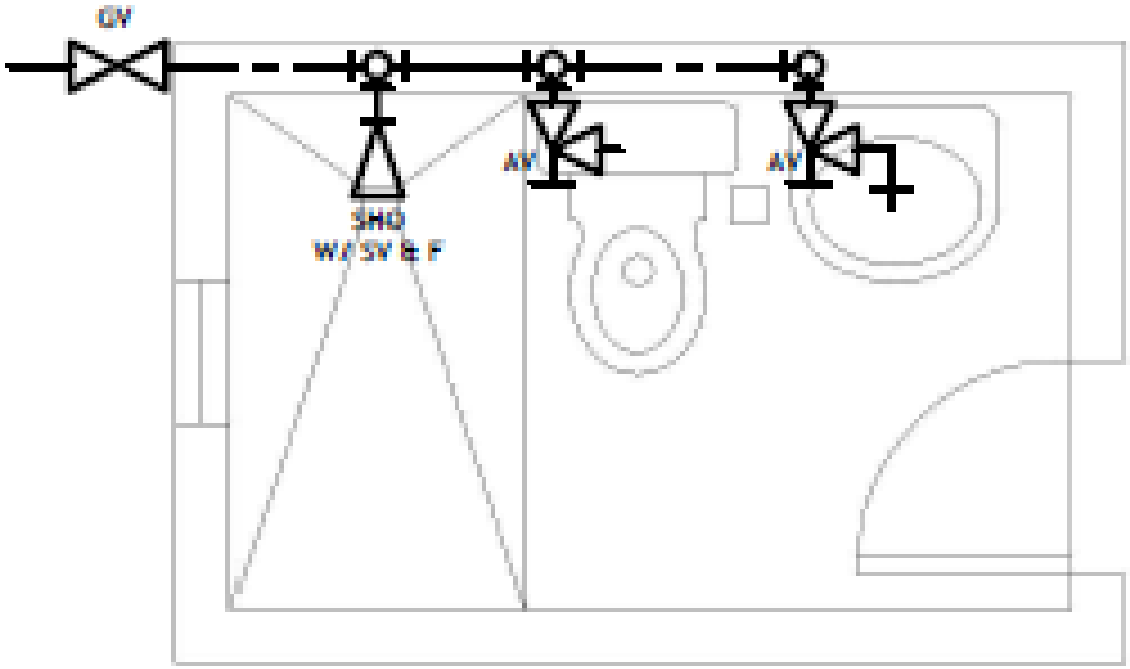
SJDM City, Bulacan

TARGETS

- Blueprint Reading
- Preparation and Material Identification
- Piping Installation
- Pipe Leak Testing

BLUEPRINT READING

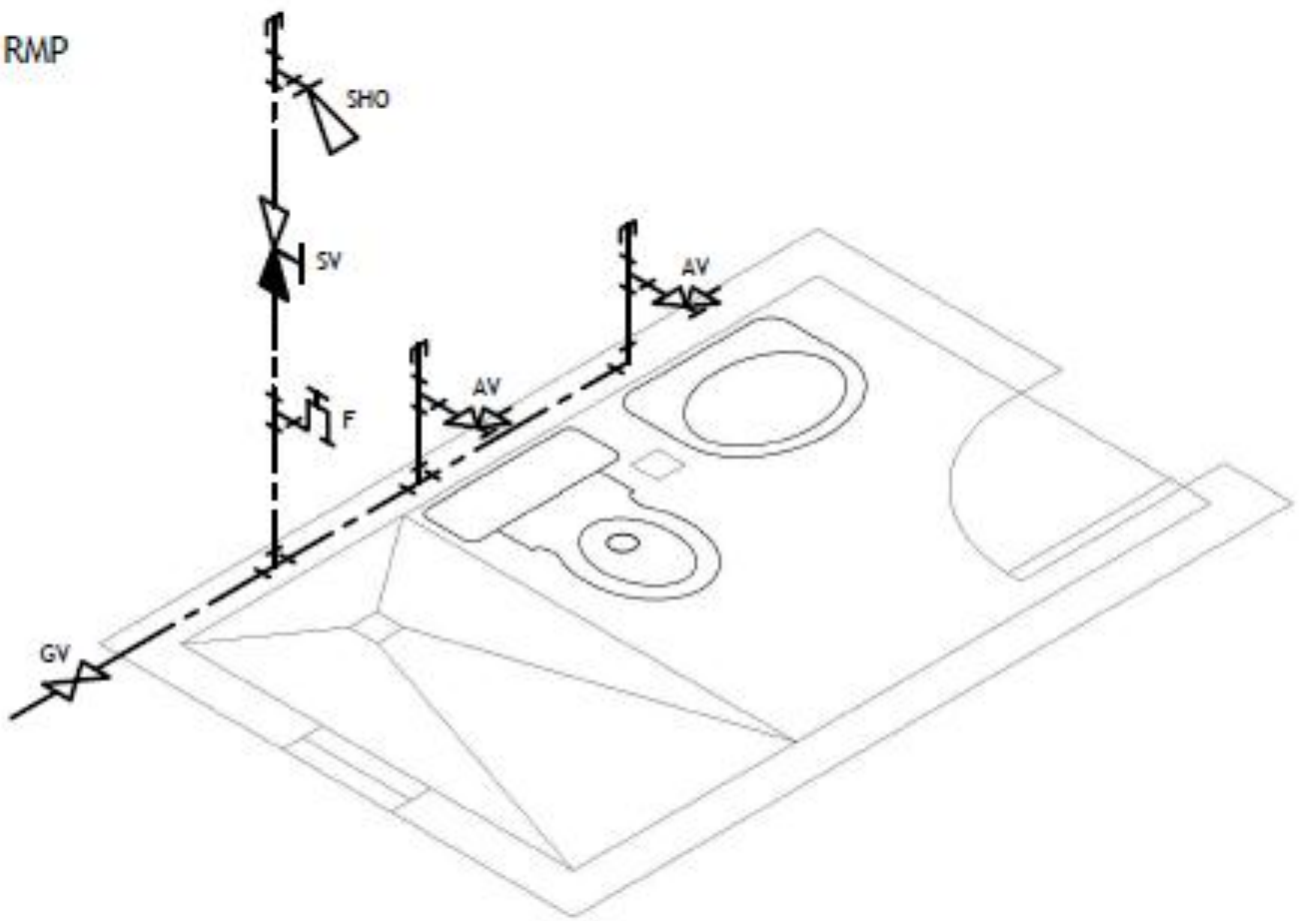


PARTIAL WATER DISTRIBUTION LAYOUT

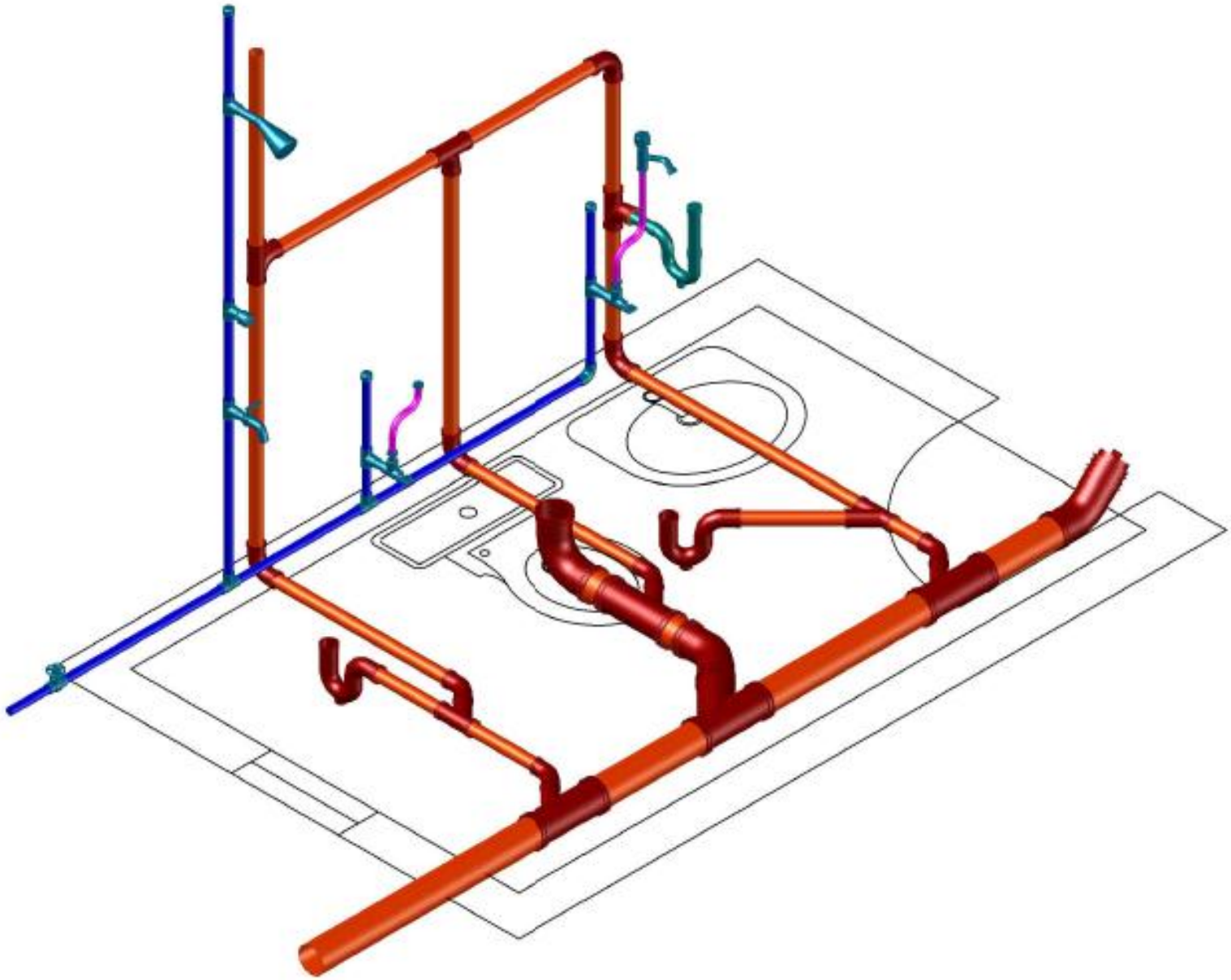
BLUEPRINT READING

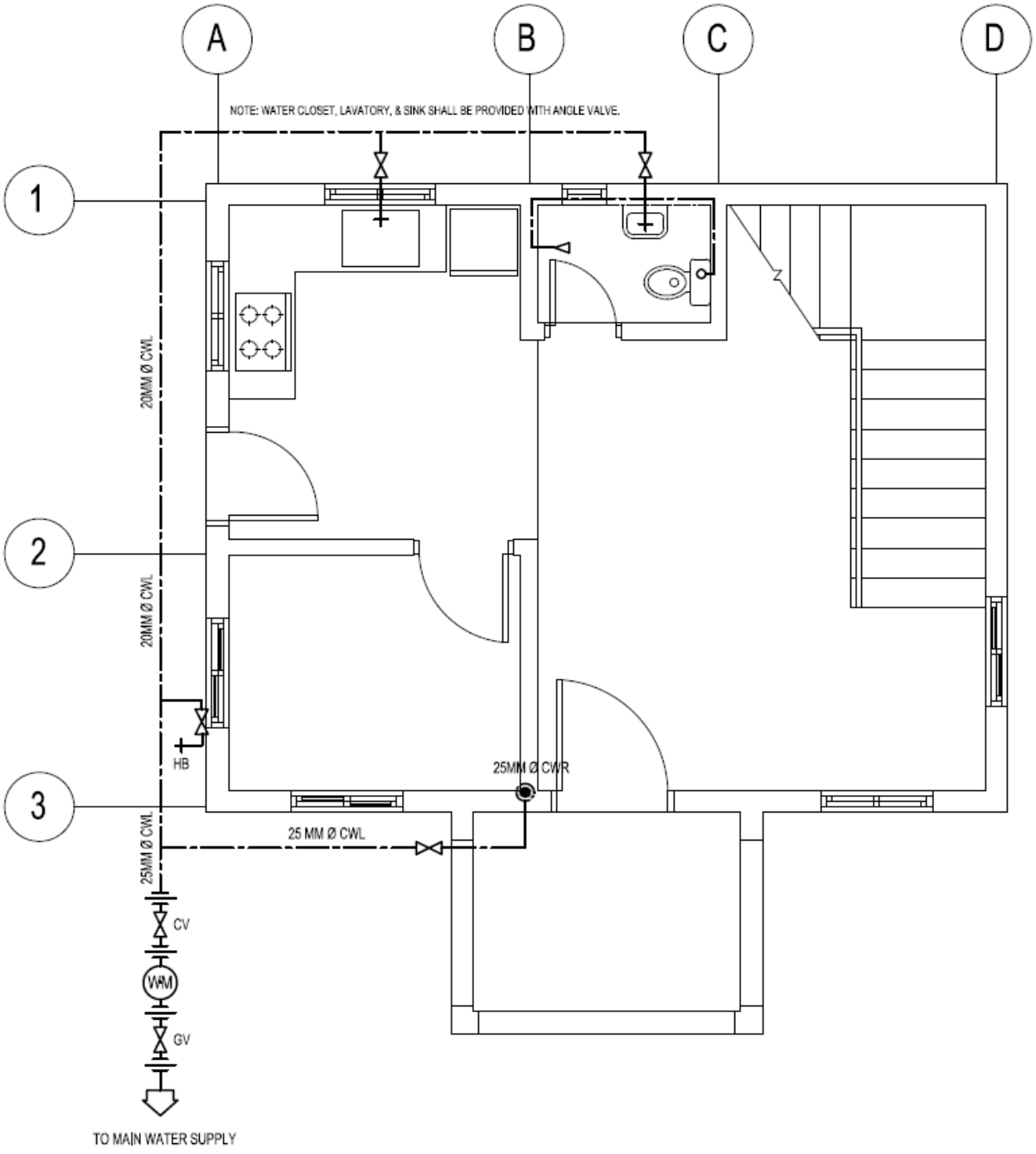
INSTRUCTIONAL MATERIAL OF:

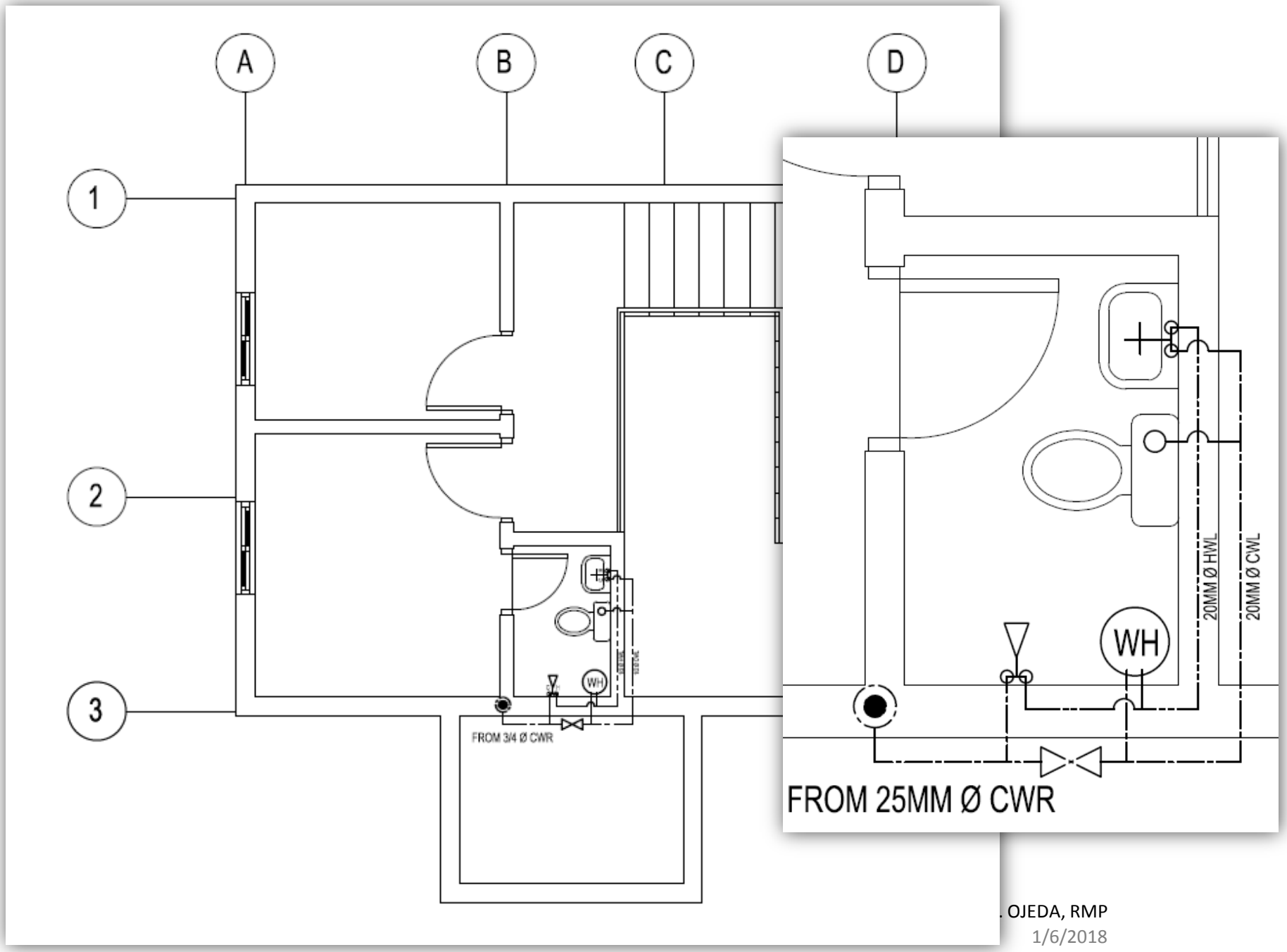
MR. SUNNY B. OJEDA, RMP

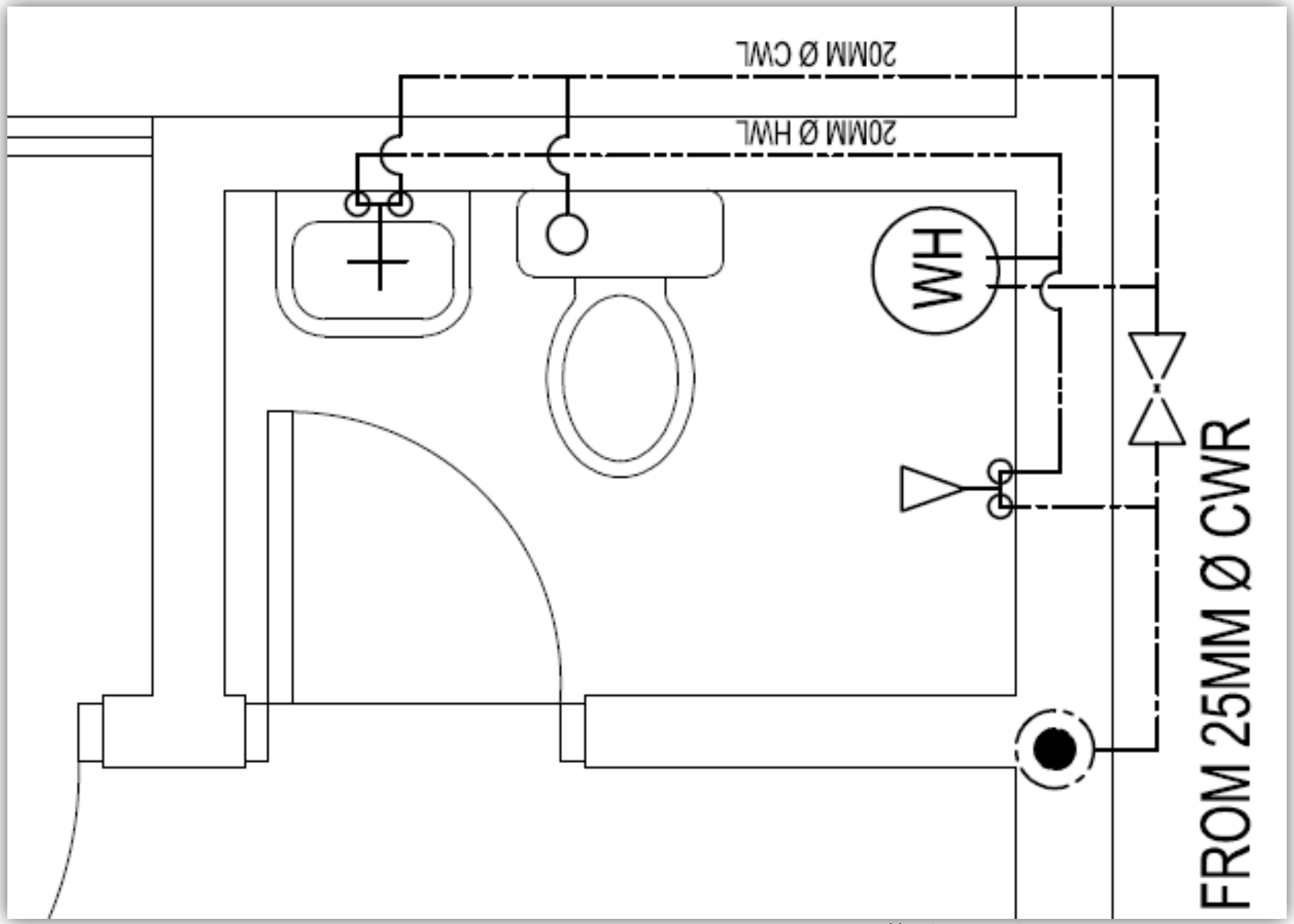


ISOMETRIC REPRESENTATION




A
B
C
D
1
2
3
NOTE: WATER CLOSET, LAVATORY, & SINK SHALL BE PROVIDED WITH ANGLE VALVE.
20MM Ø CWL
20MM Ø CWL
HB
25MM Ø CWR
25 MM Ø CWL
25MM Ø CWL
CV
WM
GV
TO MAIN WATER SUPPLY

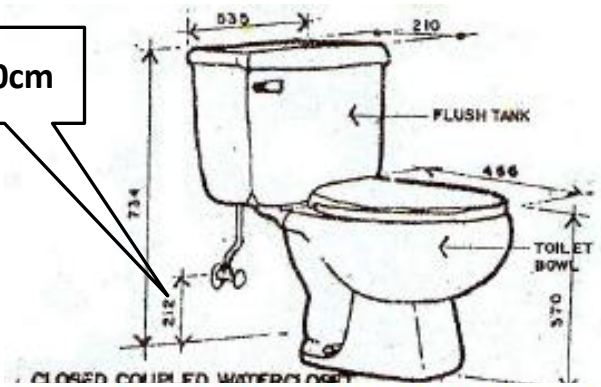

A
B
C
D
1
2
3
WH
FROM 3/4 Ø CWR
20MM Ø HWL
20MM Ø CWL
FROM 25MM Ø CWR

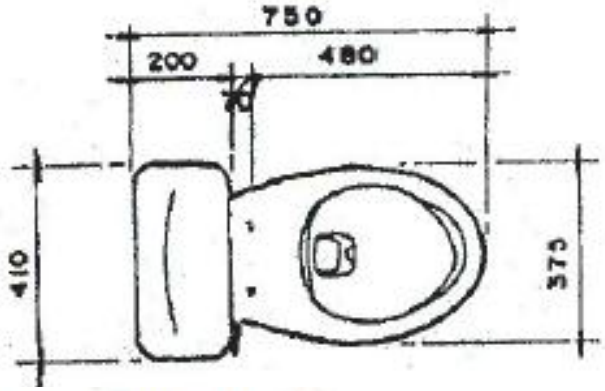

20MM Ø CWL
20MM Ø HWL
WH
FROM 25MM Ø CWR

INSTALLATION OF TOILET WATER PIPING						
CATEGORY	4	3	2	1	RAW	SCORE
SPEED (4 pts)	8-9 minutes	10-11 minutes	12-13 minutes	14-15 minutes	1	1
ACCURACY (16 pts)	No error in measurements	With 1 error in measurements	With 2 errors in measurements	With many errors in measurements	4	16
USE OF TOOLS (8pts)	NO error	W/ 1 error	W/ 2 errors	W/ 3 or more	3	6
CLG (8 pts)	5 or more are working	4 of the members	3 of the members	2 of the members	4	8
PPE (4 pts)	Complete of PPE	Lack of 1 PPE	Lack of 2 PPE	No PPE	3	3
						34

STANDARD DATA

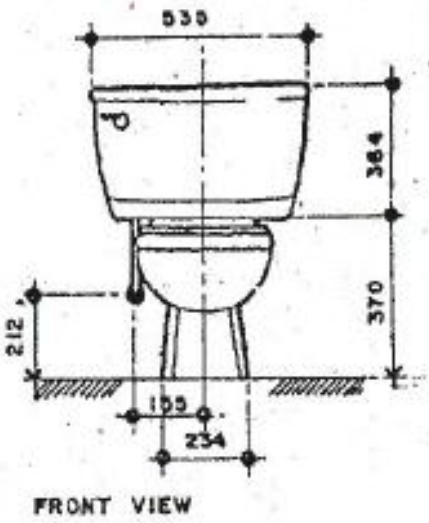
10-20cm



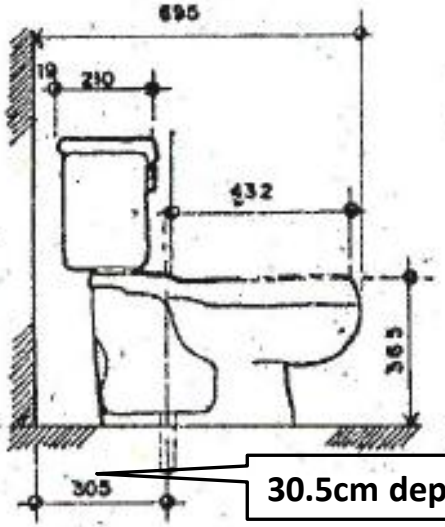


- ROUGHING-IN DIMENSIONS OF WATER CLOSET

BRAND : SANIWARES
MODEL : SABRINA
MODEL NO. : PF 2600 SJ



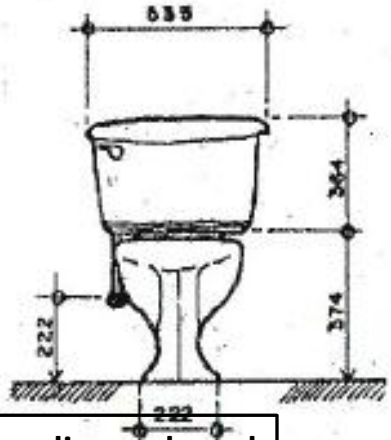
FRONT VIEW



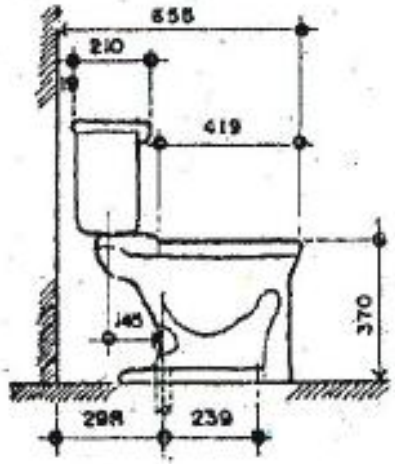
SIDE VIEW

30.5cm depending on brand

BRAND : SANIWARES
MODEL : VENTURA
MODEL NO. : PF 2600

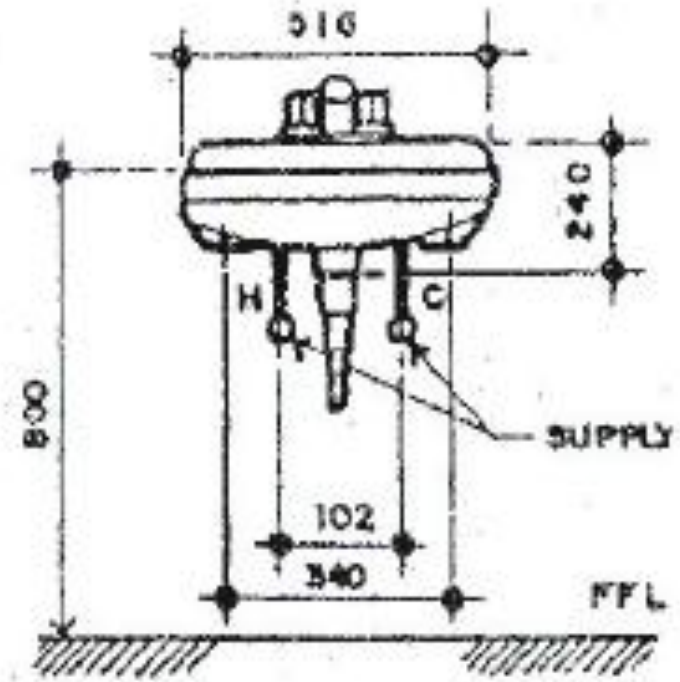


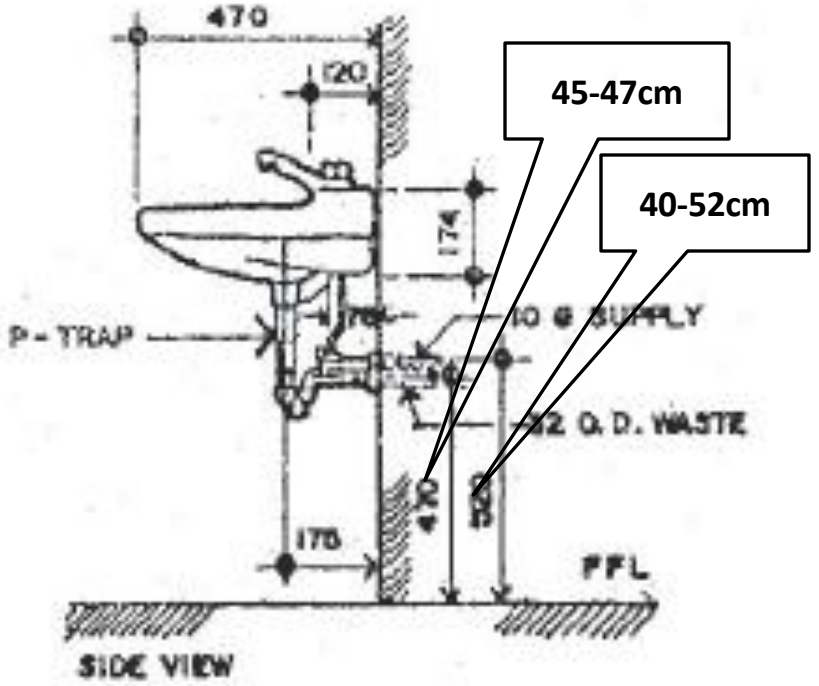
FRONT VIEW

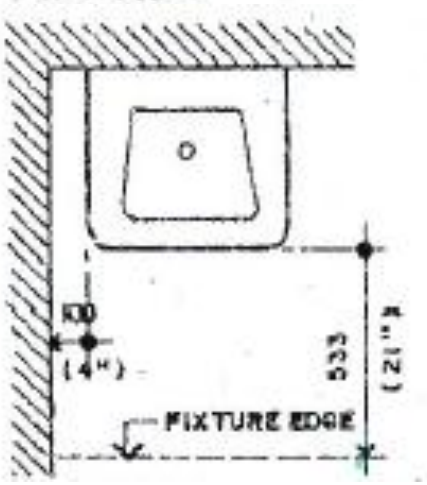


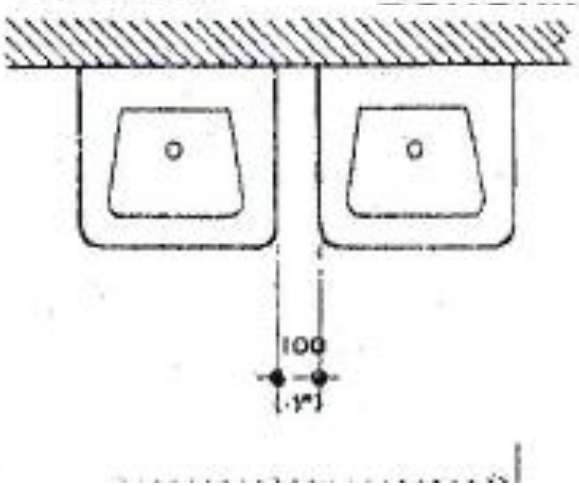
SIDE VIEW

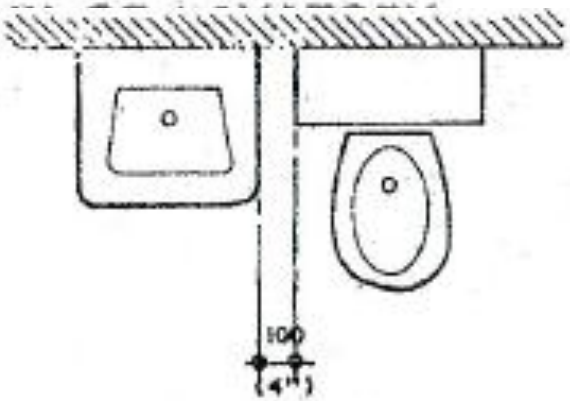
STANDARD SIZES



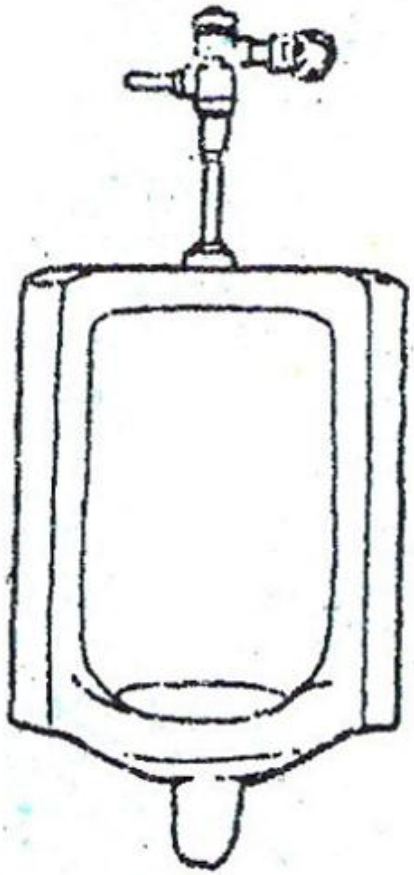


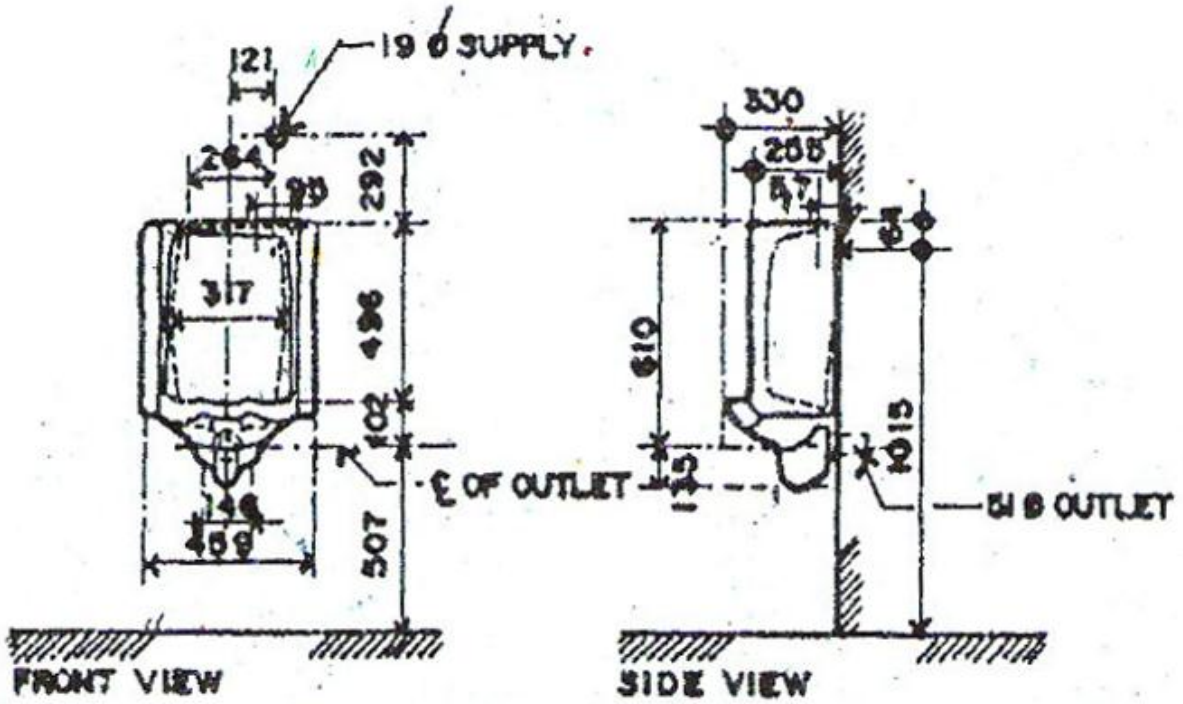






STANDARD SIZES

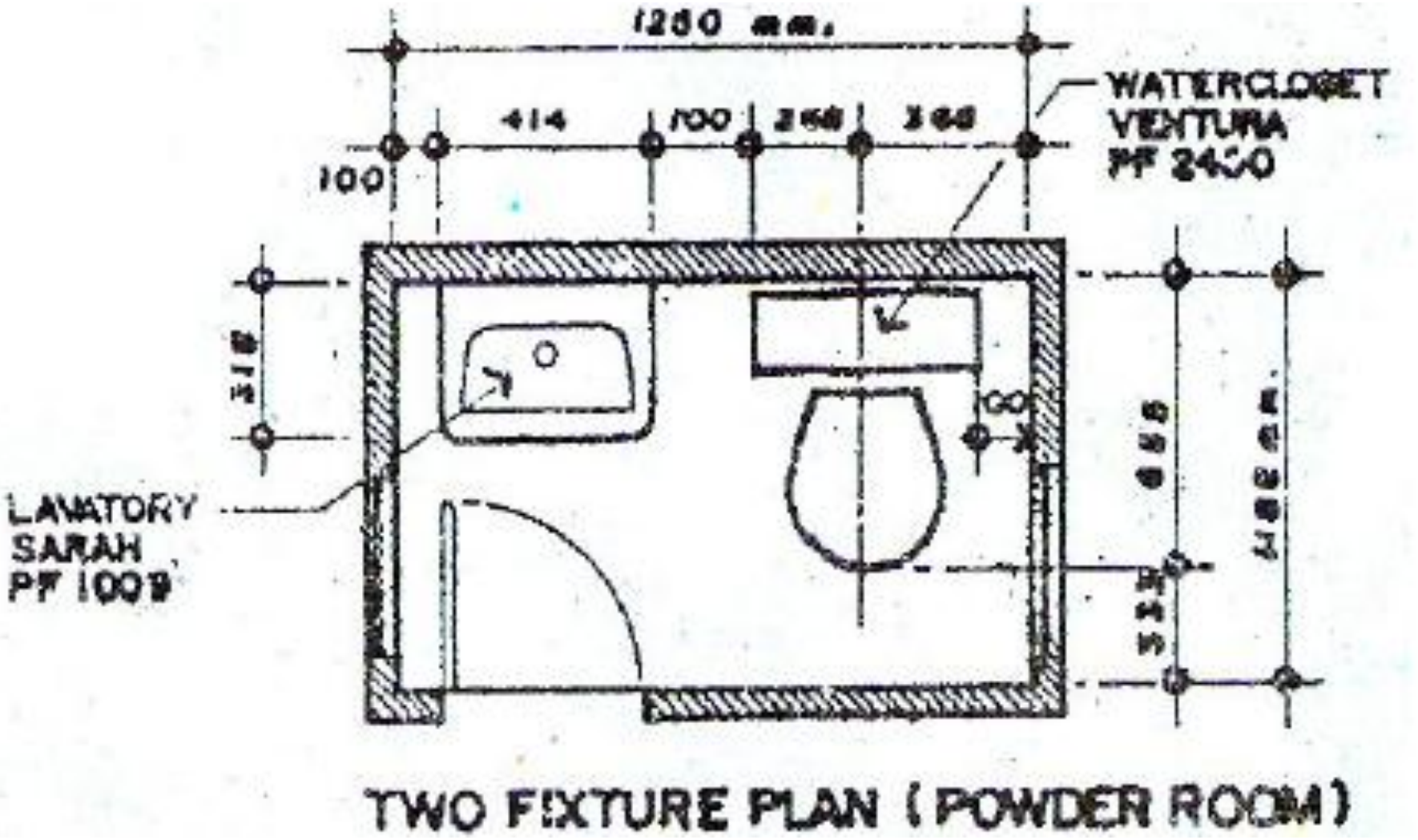




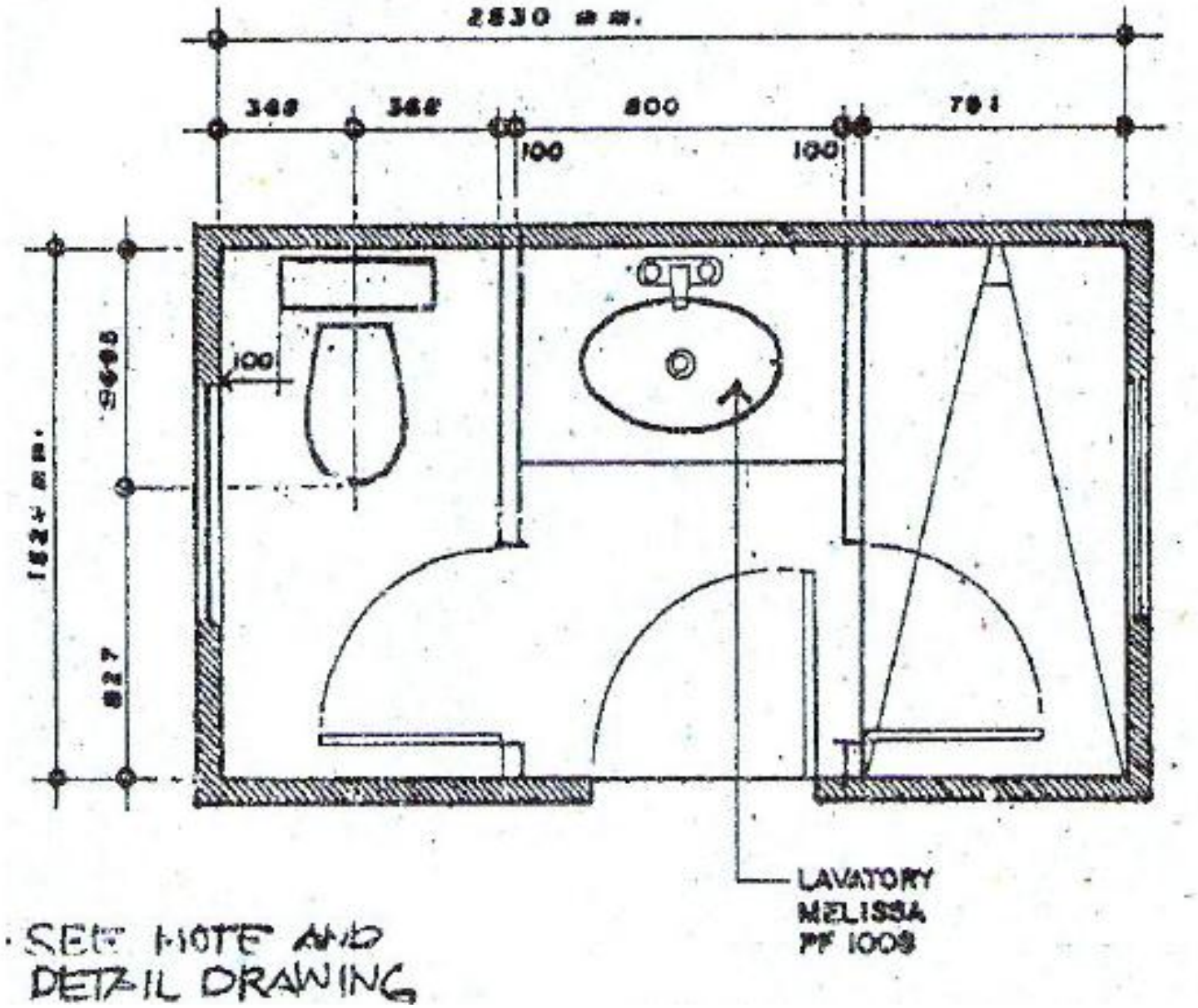
WALL HUNG URINAL

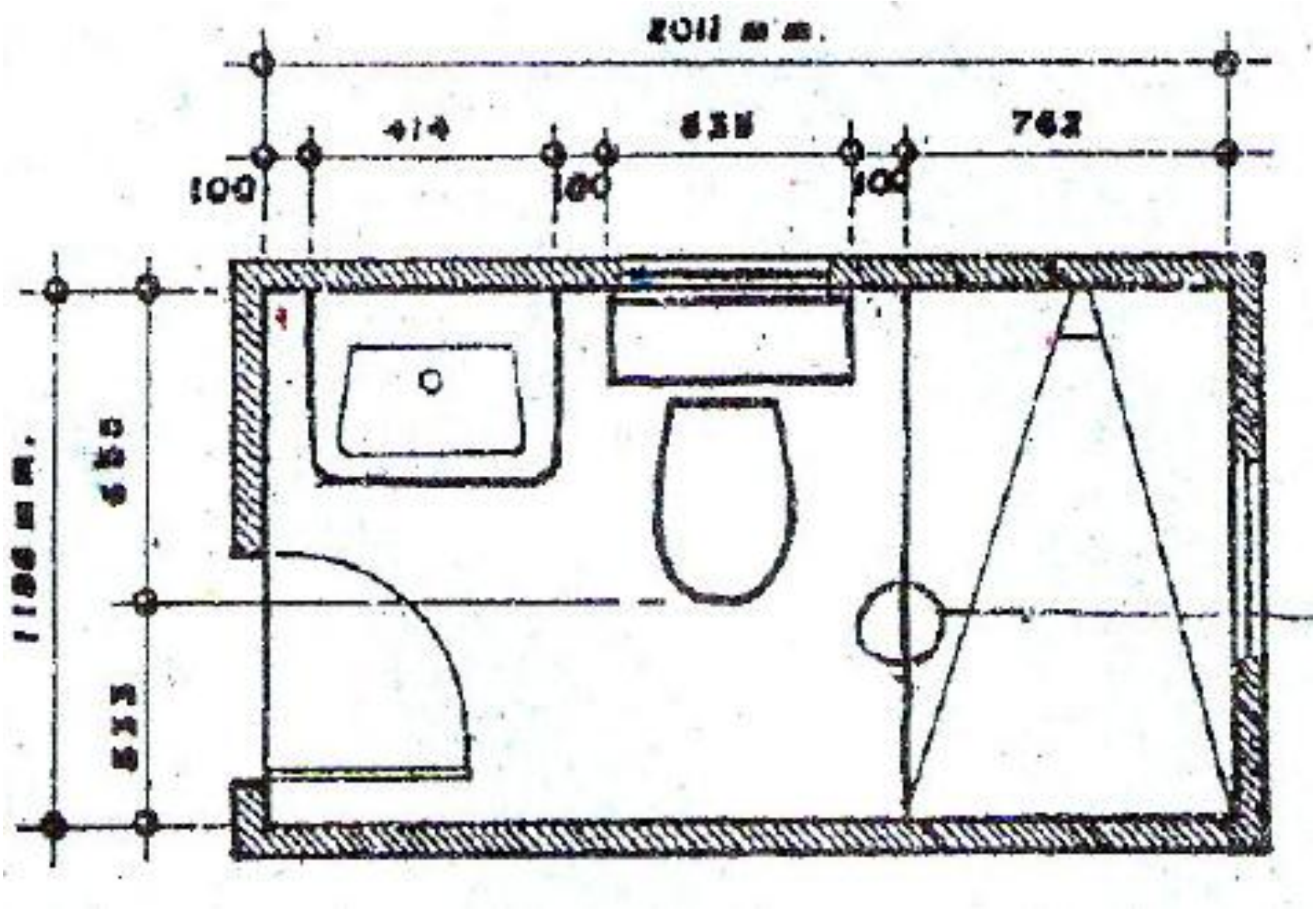
BRAND : SANITWARES
MODEL : ADMIRAL
MODEL NO. : PF 6610

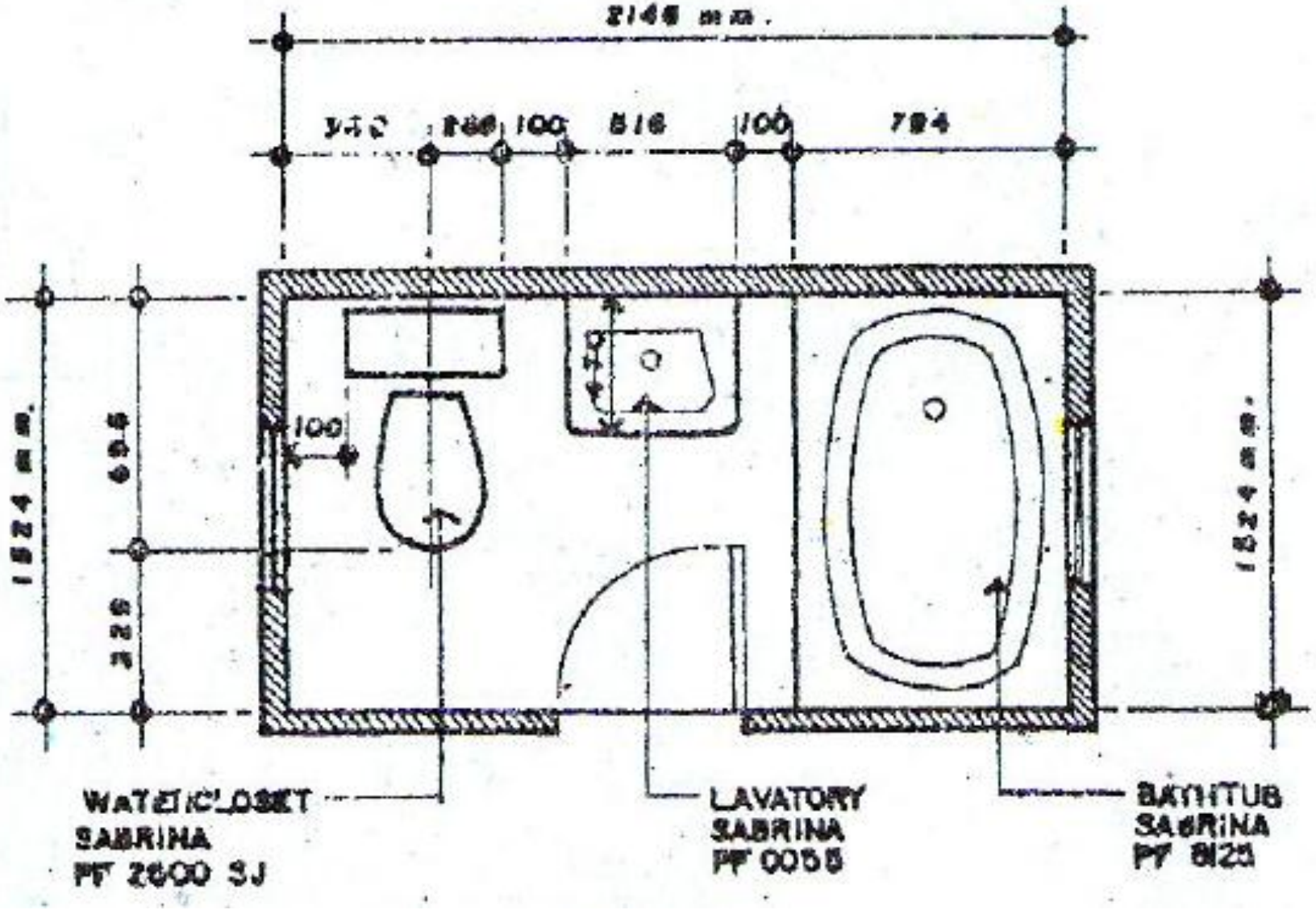
STANDARD SIZES

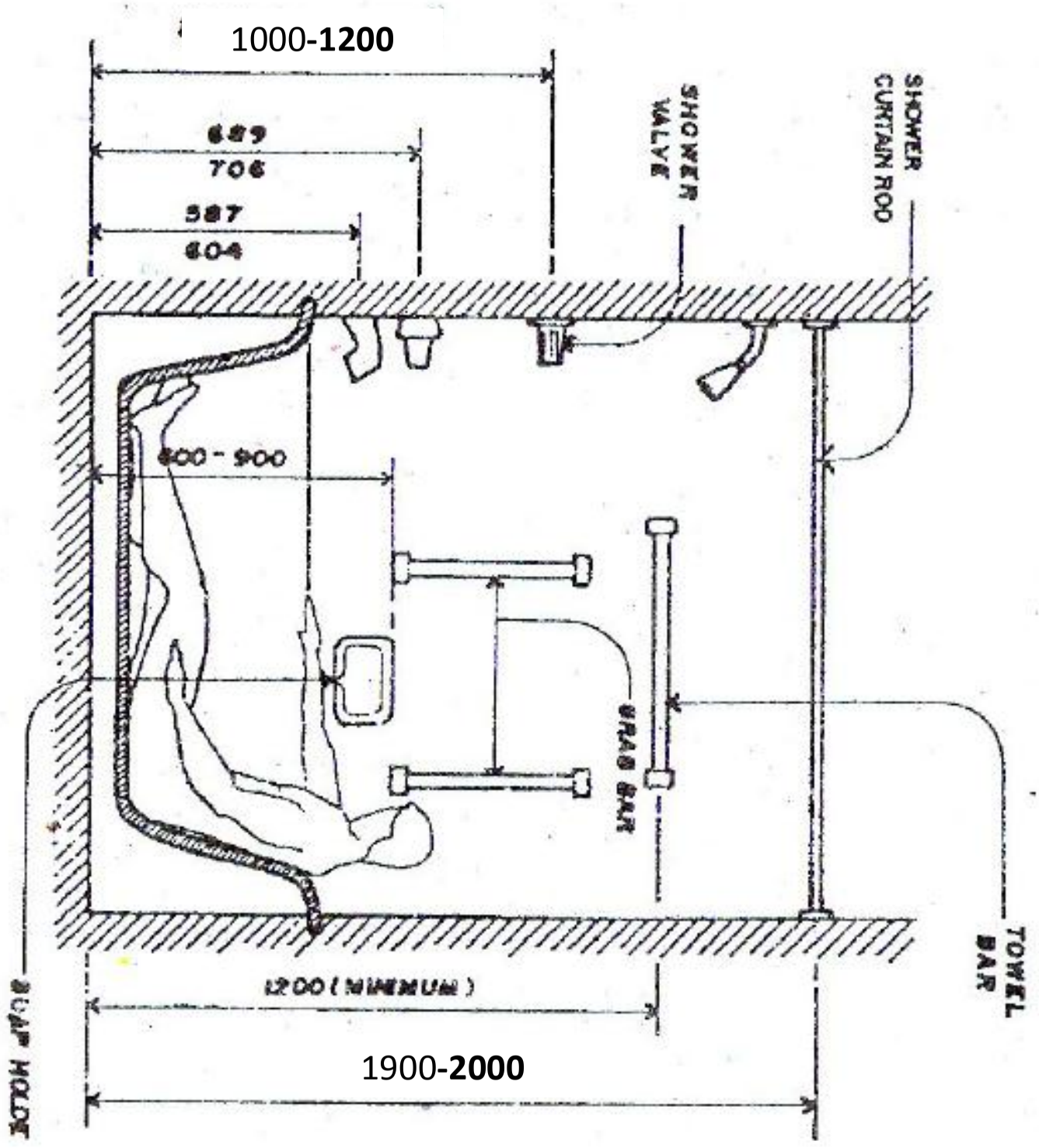


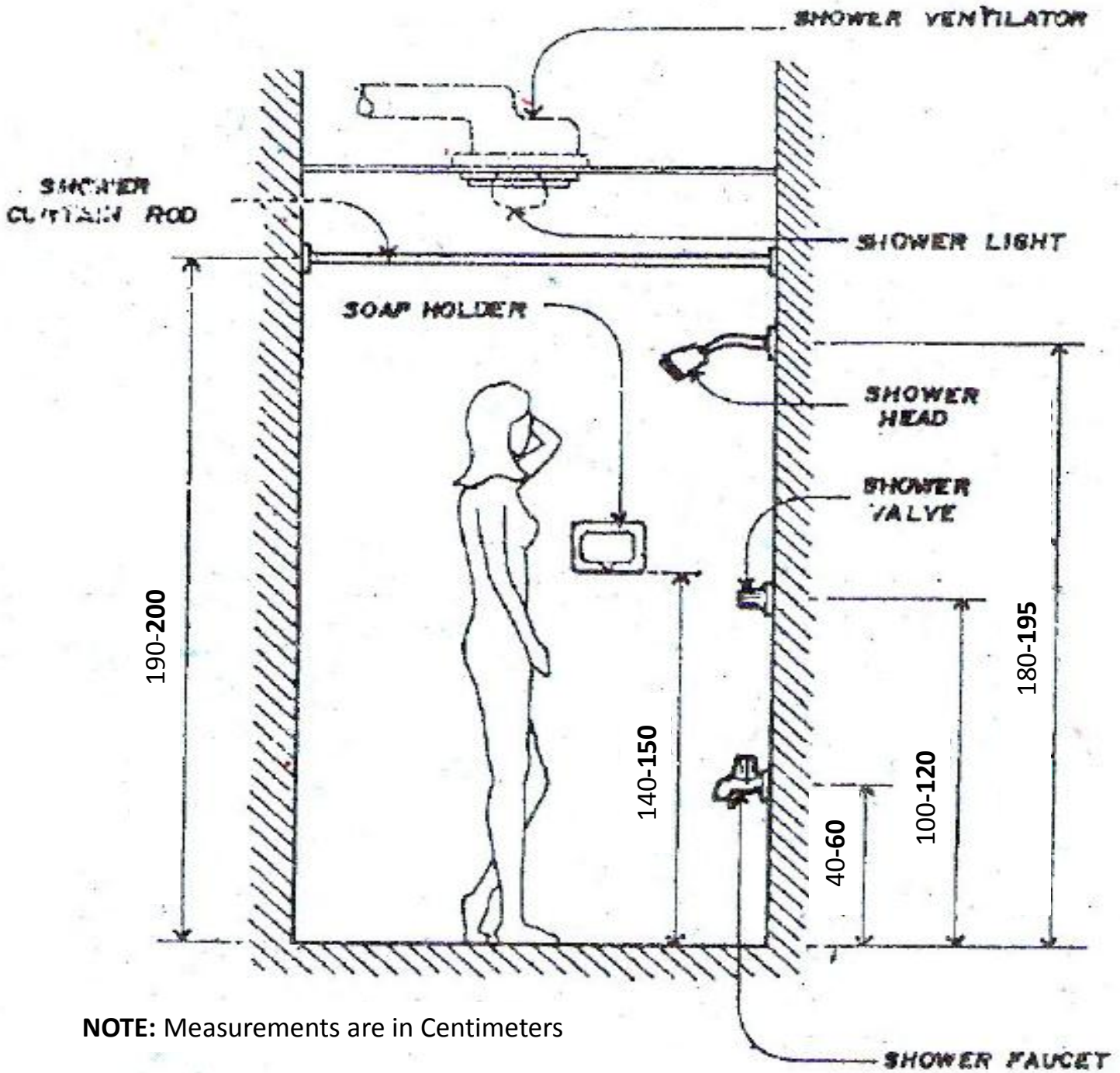
TWO FIXTURE PLAN (POWDER ROOM)


2530 m m.
348
388
800
781
100
100
100
LAVATORY
MELISSA
PF 1008
SEE NOTE AND
DETAIL DRAWING

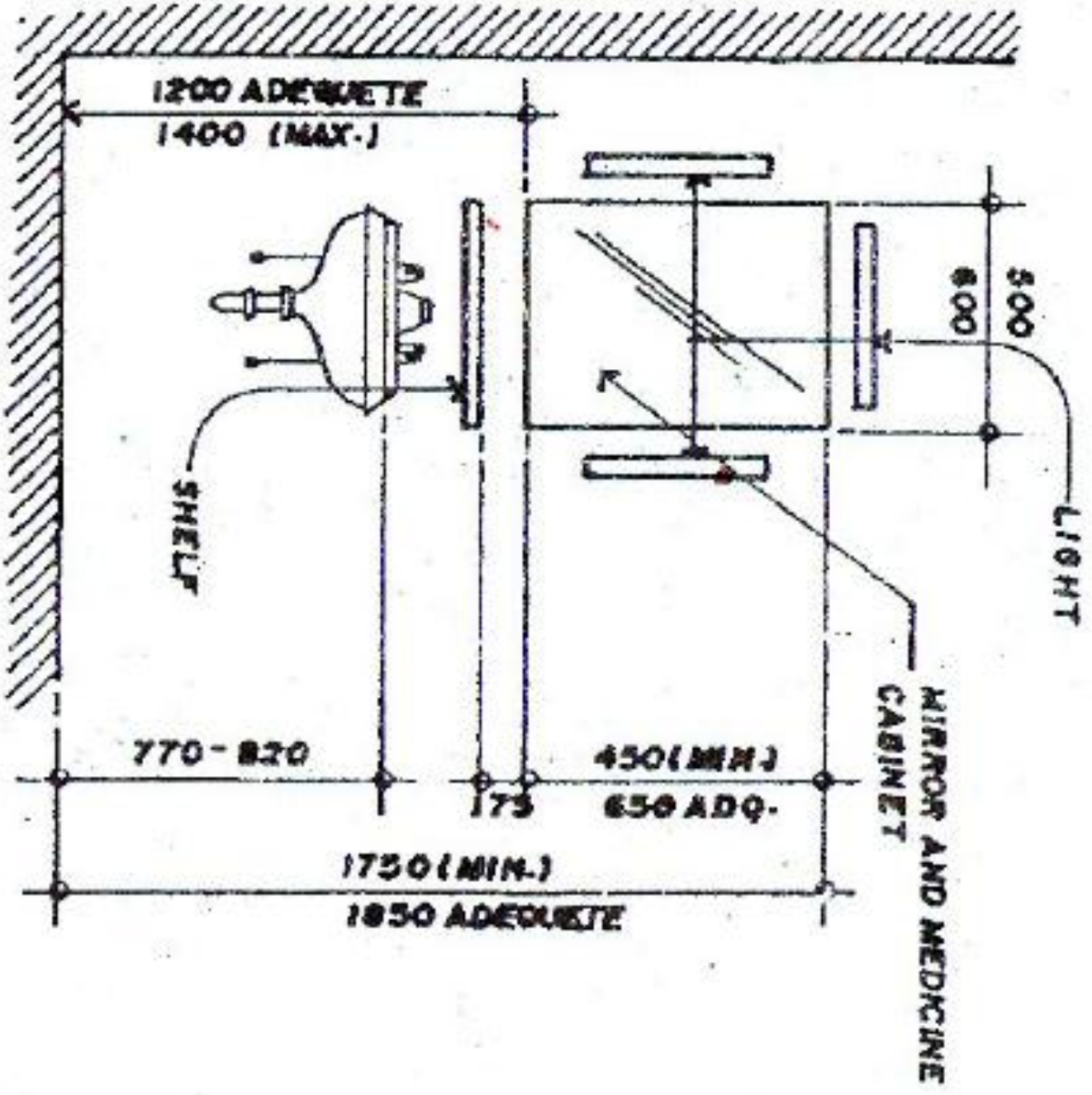

2011 m m.
414
635
762
100
100
100
1186 m m.
650
515

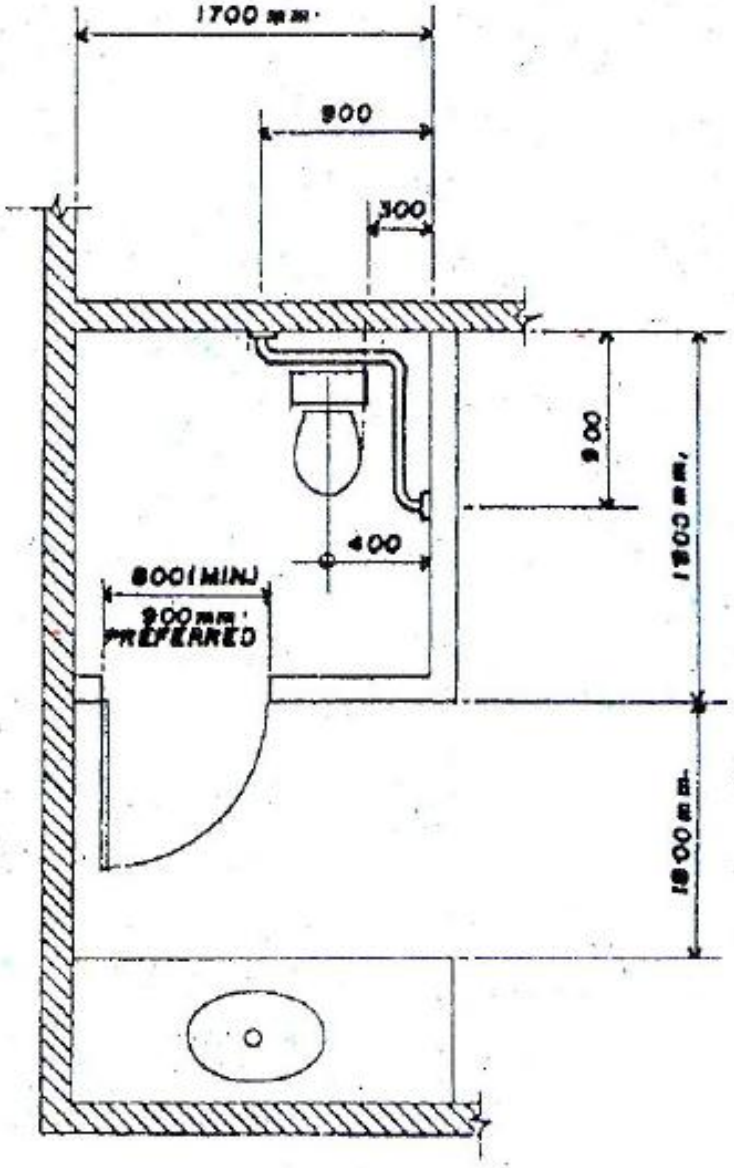

2146 mm.
100
516
100
784
1524 mm.
606
326
100
1524 mm.
WATER CLOSET
SABRINA
PF 2600 SJ
LAVATORY
SABRINA
PF 0055
BATHTUB
SABRINA
PF 8125


1000-1200
689
706
587
604
SHOWER VALVE
SHOWER CURTAIN ROD
800 - 900
GRAB BAR
TOWEL BAR
SOAP HOLDER
1200 (MINIMUM)
1900-2000

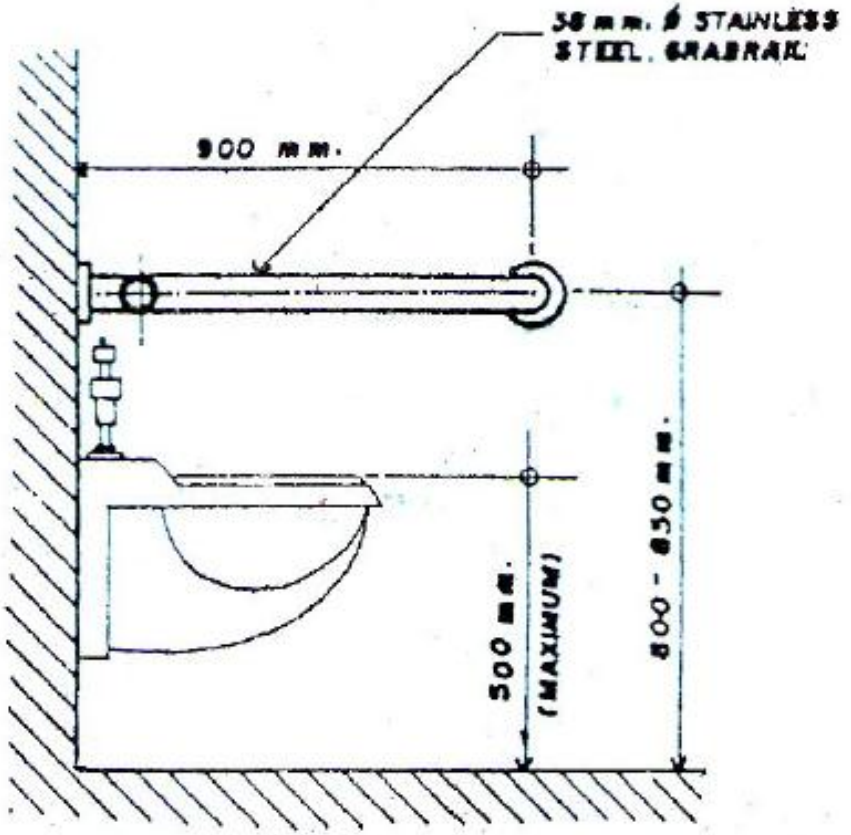


NOTE: Measurements are in Centimeters

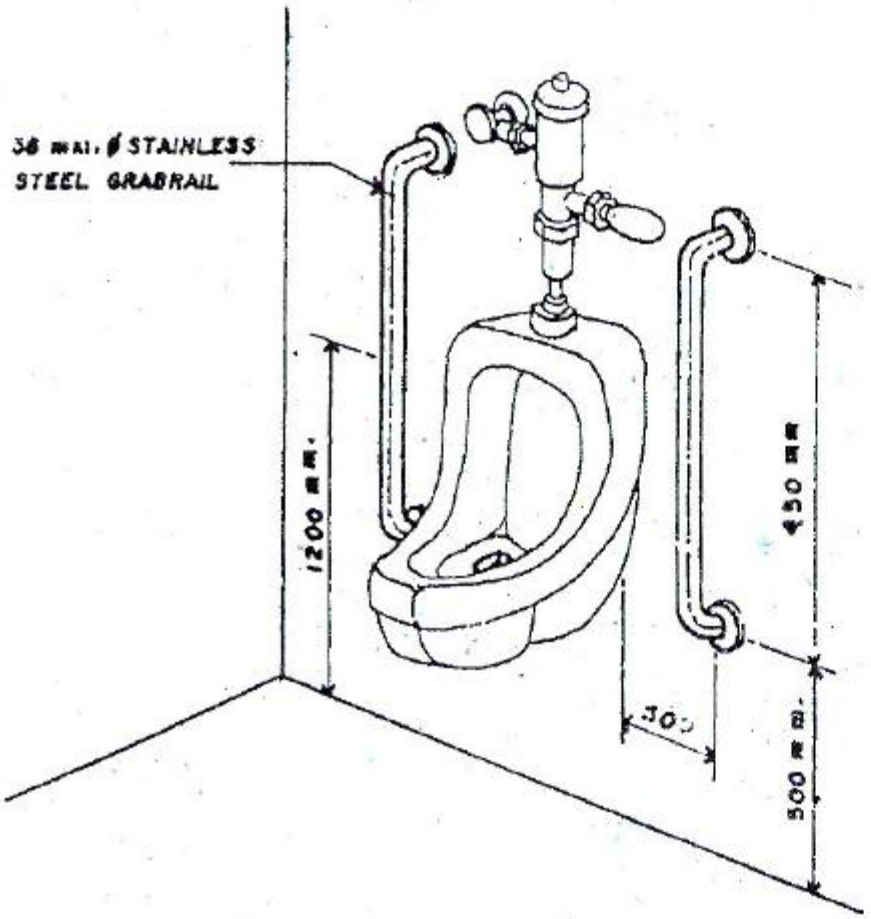

1200 ADEQUATE
1400 (MAX.)
SHELF
800
900
LIGHT
MIRROR AND MEDICINE CABINET
770 - 820
450 (MIN.)
650 ADQ.
175
1750 (MIN.)
1850 ADEQUATE



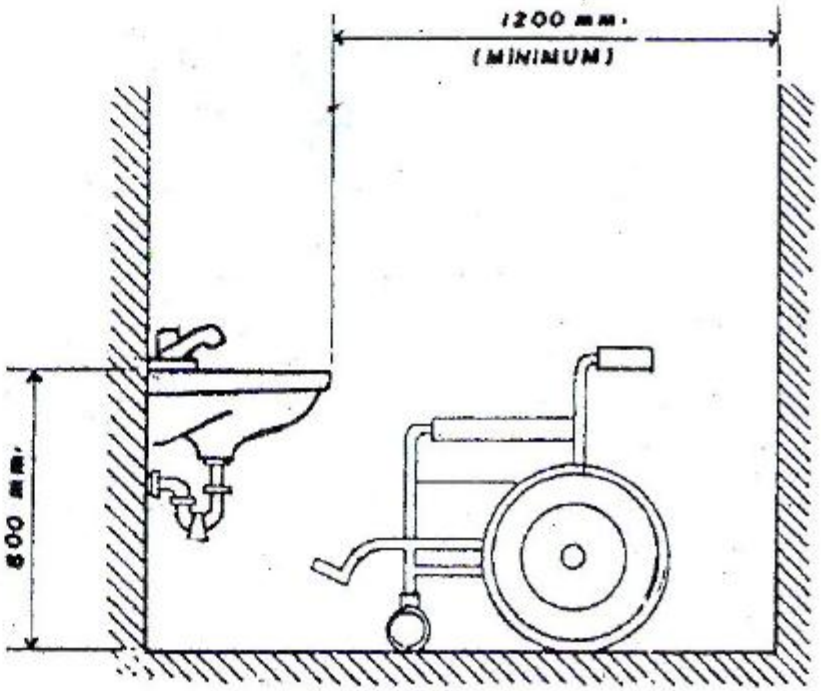
WHEELCHAIR TURNING SPACE AND TOILET CLEARANCE



GRABRAIL HEIGHTS AT WATERCLOSET STALL



GRABRAIL HEIGHTS AT URINALS



MINIMUM CLEAR DIMENSION FOR WHEELCHAIR IN WASHROOMS

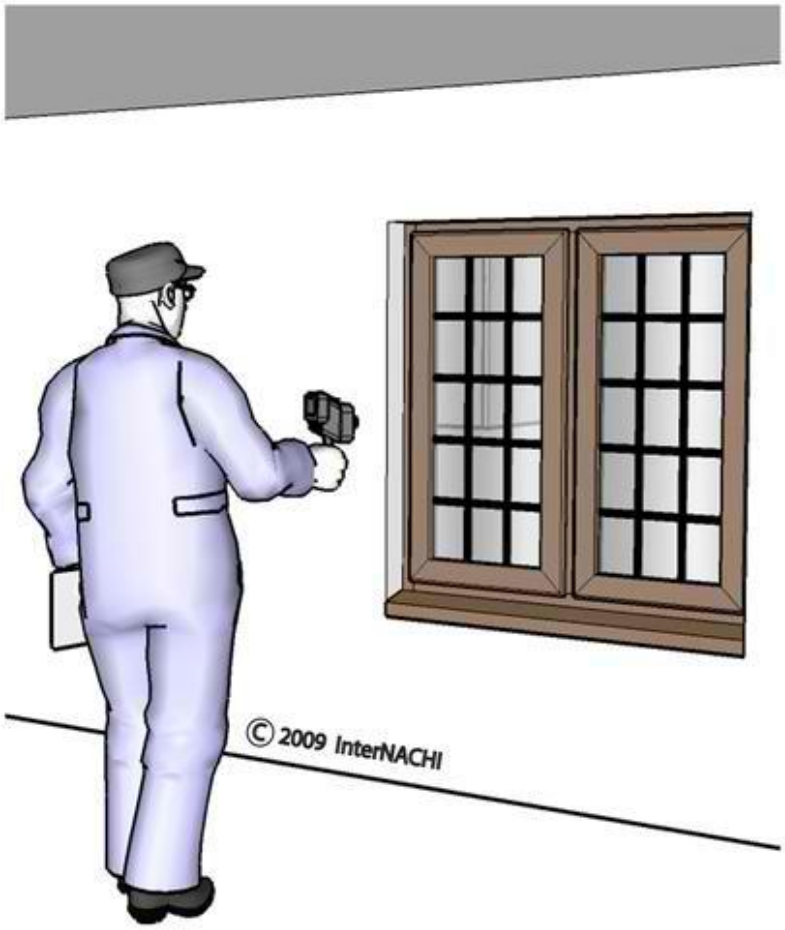
PIPE LEAK TESTING

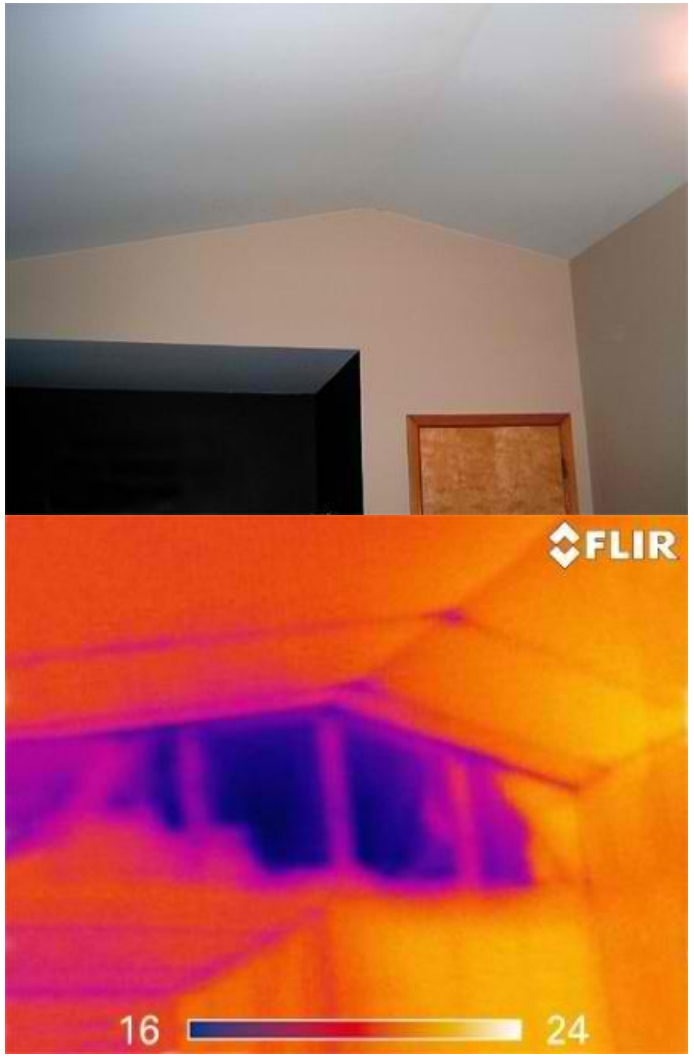
Infrared (IR) Thermal Imaging

Infrared (thermal imaging) is an advanced, non-invasive technology that allows the inspector to show clients things about their homes or buildings that can't be revealed using conventional inspection methods.

IR CAMERA can detect:

- plumbing leaks;
- hidden roof leaks before they cause serious damage;
- water and moisture intrusion around penetrations and at the foundation and building envelope that could lead to structural damage and mold.
- air-conditioner compressor leaks;
- under-fastening and/or missing framing members, and other structural defects that can lead to energy loss;
- and many more …





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1/6/2018

RADIO DETECTION EQUIPMENT

- Acoustic water leak detector
- Hydrogen gas tracer for water leak detection
- Locate plastic water pipes

When a pressurized underground water pipe develops a leak, water flows through it into the surrounding soil at high speed causing:

- The pipe vibrates at the water leak, transmitting sound through the pipe where it can be detected at water valves, hydrants, water meters and other remote contact points on the water pipe. The sensitive headphones, microphone and amplifier with noise filters helps the water leak professional pinpoint the water leak location.
- The water leak jets and pipes induce vibration in the soil which transmits to the surface, where it can be picked up as ground-borne noise.

How to Test Household Water Using <u>Pressure Gauge Kit</u>

1. Select a water outlet, such as a hose bib, that is close to your home's main water supply source.
2. Turn off all faucets and appliances that use water -- washing machines, refrigerators with ice makers, dishwasher, etc.

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How to Test Household Water Pressure

3. Attach the gauge to a water outlet.
4. Open the water supply valve that controls the outlet that the gauge is attached to. Make sure that you slowly open the valve until it is fully open.
5. Read the pressure when the needle on the gauge stops moving. The reading could be 50-100 psi. Close the valve and wait for 5 to 10 minutes. If the reading drops it means that the piping system has leak.

PRESSURE TEST PUMP

Pressure Test Pump tests hydraulically for leaks in installations that are required to be leak proof and will test systems up to 725 PSI. Especially for use in heating, compressed air, refrigeration systems, oil installations, sprinkler systems and other small bore pipe installations.

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DYE LEAK TEST Technique

Dye testing is by far one of the most effective ways to locate and identify the areas where ground water enters sanitary sewer systems. Given the extensive network of public sewage lines, finding these vulnerabilities is difficult enough by visual analysis alone.

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1/6/2018

BUBBLE LEAK TEST Technique

The leaking component is located by screening the system with the IR camera or thru trial method .

The bubble solution pinpoints the leak's location.