भारत सरकार Government of India
उत्तर रेलवे Northern Railway
मुख्यालय कार्यालय, बड़ौदा हाउस

No. **10/W/O/Poilcy/Building** **New Delhi, Dated 13 July 2016**

Chief Engineer's Circular No. 629

Sub: **Standardization of heights/dimensions/clearances for fixtures /fittings/elements in buildings and overall planning of building.**

1.0 Necessity for high quality architectural and functional design of buildings needs no fresh emphasis. However, it is noted that this aspect is not being paid due attention as noted from the buildings constructed during the recent years, in terms of utility, function and architectural design. Many of the architectural elements, sanitary-ware, bath and kitchen fittings, faucets, kitchen platforms, shelves, etc. are being provided without paying adequate attention to their functional requirement. This leads to discomfort and inconvenience to the user.

2.0 Knowledge of Anthropometry (relationship between the human body and movement of the body with things and spaces that it comes in contact in day to day life) is extremely important in deciding layout, space requirement and dimensions of various components of any building. Some basic structural and functional dimensions of an average human body are given in ANNEXURE-1.

3.0 Based on common experience and as per figures given in "**Fundamentals of Architecture for Railway Civil Engineers Volume-I IRICEN**", some of the recommended dimensions, clearances, heights, etc. are tabulated below, for guidance:

Table:1

S.No.	Architectural Fixture/Fitting/Element.	Height/Dimension/Clearance From floor level in mm
1	Top of Kitchen platform	800
2	Minimum clear opening below slab of kitchen platform to accommodate a cooking gas cylinder	680
3	Top edge of kitchen sink	740
4	Height of Tap in kitchen ground sink	400
5	Height of Range Hood/ Vent Hood from kitchen's working top	600 to 750
6	Height of Ventilator	300 mm below Slab or Just below bottom of Beam.
7	Front top edge of wash hand basin	850

8	Height of Dado	900 (in corridors) 1200 (WC) 1500 (in toilet)
9	Height of Skirting	100 or 150
10	Top of partitions for urinals	1300
11	Lip of urinal for gentlemen	700
12	Bottom edge of reflecting surface of mirror fixed behind wash basin	1300
13	Height of Rod of towel rail from floor level	900
14	Bottom of shower rose	2000
15	Height of Stop cock for shower rose	1000
16	Height of Tap in water closet	220
17	Minimum size of Water Closet	1000 × 1200
18	Minimum size of Water Closet for disabled	1500 × 1750
19	Minimum size of Bathroom	1200 × 1500
20	Minimum size of Bathroom for disabled	1500 × 1650
21	Minimum size of toilet in staff quarter	1650 × 2400
22	Maximum size of toilet in staff quarter and rest houses	3000 × 2000
23	Slope in Bathroom floor	1: 150
24	Height of Tap in bathroom	700
25	Height of Tap in bathroom-if used for taking bath sitting on floor, below the tap	1100
26	Bottom of ceiling fan	2600
27	Height of Window AC from floor level	900 to 1200
28	Height of Split AC from floor level (avoid beam and lintel for fastener/installation inner unit)	2100 to 2400
29	Maximum size of bed room in staff quarter and rest houses in rectangular shape	4500 × 4000
30	Top of railing in balcony	900
31	Top of stair case railing (measured from edge of nosing of steps)	850
32	Clearance between ceiling fan and ceiling	300 min.
33	Projection of tap in bathroom	200
34	Projection of shower	500
35	Distance between centre of W. C. and adjacent wall	450
36	Min. space in front of W. C (Commercial use only)	600
37	Depth of wardrobe	600

38	Height of Plinth above the likely ground/floor level expected in future (minimum)	600 (for quarters, barracks, Godown, Workshop, Station building (halt, way-side & crossing), shelter for porters, electric sub-station, for Mechanised Laundry)
39	Plinth of service Buildings at platform	To be decided based on High Level Platform
40	Floor to floor height (minimum)	3300 (barrack, booking & office at halt, way-side & crossing station) 3600 (for Quarter, running room, booking office, godown, workshop, duty bunk) 4600 (for waiting hall at halt, way-side, crossing station)
41	Slope in roof	min. 1:80

4.0 Besides above, the following should also be taken note of, during construction of buildings:

a) In kitchen, upper storage shelf is at a height of 450mm from working top except at sink. Clear height at sink of upper shelf to be kept 600mm from working top.

b) A bag shelf of 300x200 to be fixed at suitable place in toilet for ladies purse, brief case, bags etc, for safety of luggage of toilet users.

c) To hang coat, over coat, ties etc.; a hanger should be provided for convenience of toilet users.

d) All efforts should be made to leave no space between new planned building and existing building. If it is felt necessary to provide space/passage between buildings, minimum 6.1 m may be left in between.

e) Atleast one full height & minimum 1500mm wide cupboard/almirah should be provided in rooms of staff quarter.

f) In drawing room of staff quarters and in visitors room of the rest house show case/book shelf/crockery display unit/chest drawers to be provided.

g) Adequate attention to be paid for deciding the layout of furniture and furnishing while deciding the layout of building. In this regard, sample drawing given at fig-4 para 203(i) of IRWM correction slip no. 10 to be referred to.

h) Adequate attention to be paid for deciding the electric layout for the building. In this regard, sample drawing given at fig-8 para 203(i) of IRWM correction slip no. 10 and

JPO on "Concealed electrical/telecom wiring, location of swich boards/points for lights and fan etc. its plan and execution in buildings including composite Tender" CE circular 620, to be referred to.

i) Roof of a building shall invariably be projected at least 230 mm beyond outermost wall.

j) An Apron of width 900 mm (min) to be laid all around the building at natural ground level in order to protect plinth and keep area, surrounding the building, clean.

k) Pipe lines for inlet and outlet to over head water storage tanks be kept 75mm to 150mm above terrace floor and should be placed along the parapet wall for facilitating smooth flow of rain water and free movement for terrace users.

l) Down comer (soil & waste pipes) should be enclosed & should not be visible in elevations.

m) Over Head Water Storage Tank should be kept at mumty roof or 3'0" (1000mm) above terrace floor at suitable place for adequate water pressure in toilets and kitchen.

n) To overcome to inadequacy of surface water, to enhance avalibity of ground water, to inhance infilteration of rain water in the sub-soil & in decline of ground water levels, Rain Water Harvesting is required to be provided in buildings (Advance correction slip no.10 of IRWM).

o) It is desirable, the green covers is to be provided at the rate of 15% to 20% of total land.

p) A staircase shall have all its risers and treads of uniform height and width in all the flights. It should be planned accordingly keeping following limiting dimension in mind.

(i) Height of riser shall not be more than 150 mm in residential building and 125 mm in commercial building.

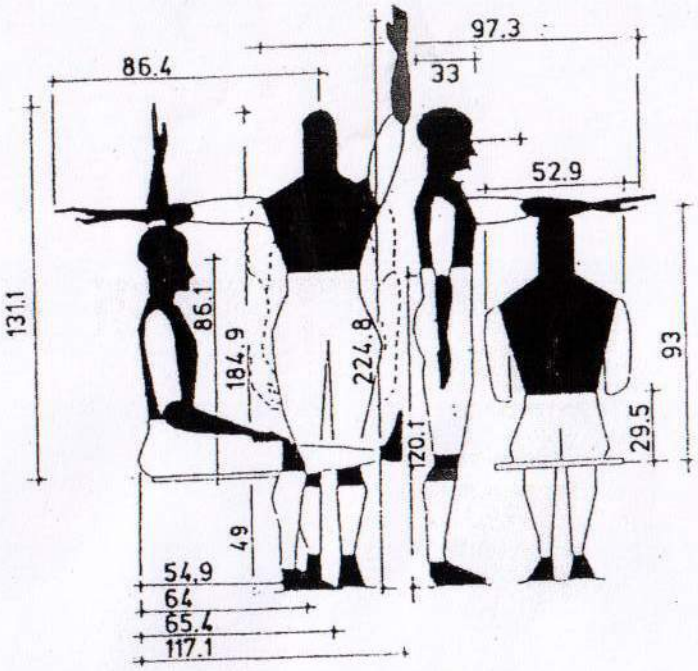
(ii) Width of tread shall not be less than 300 mm in residential building and 360 mm in commercial building.

5.0 A few sketches showing sample layouts and detailing of some of the structural components and fittings are enclosed as ANNEXURE-2, for guidance.

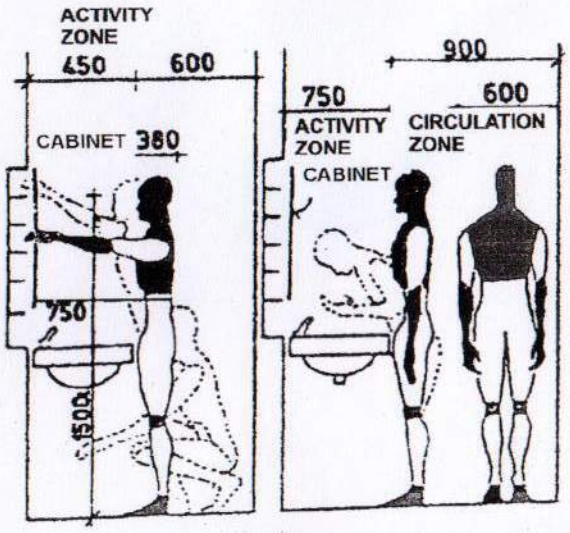
6.0 Any change warranted may be allowed by Sr. DEN/Co. /Dy. CE/Const. depending on the demand of occasion/site requirements after recording the reasons and advising the same to the undersigned.

This has the approval of Principal Chief Engineer.

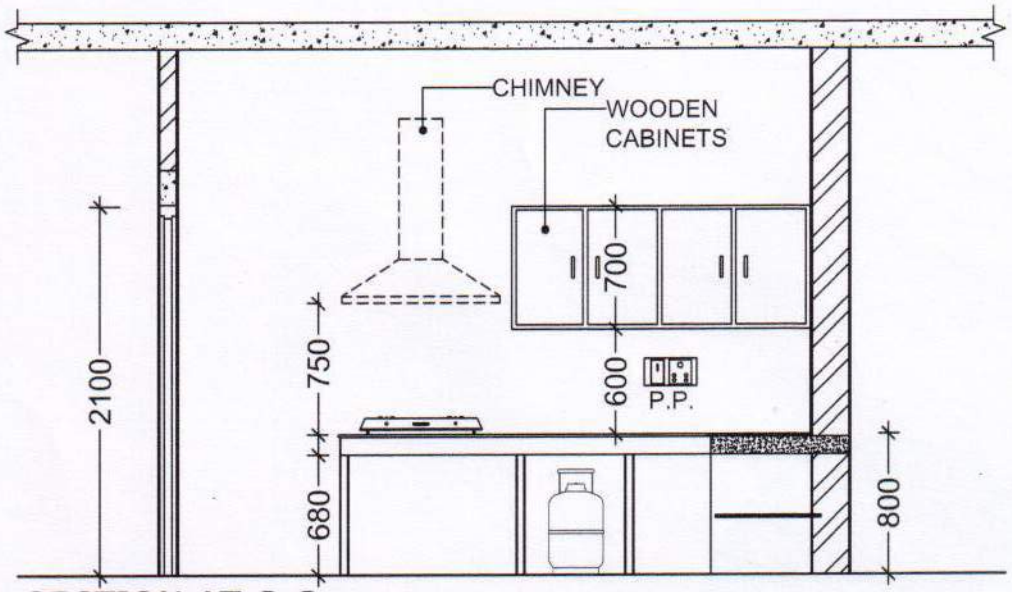
(PANKAJ SAXENA)
CHIEF ENGINEER/P&D



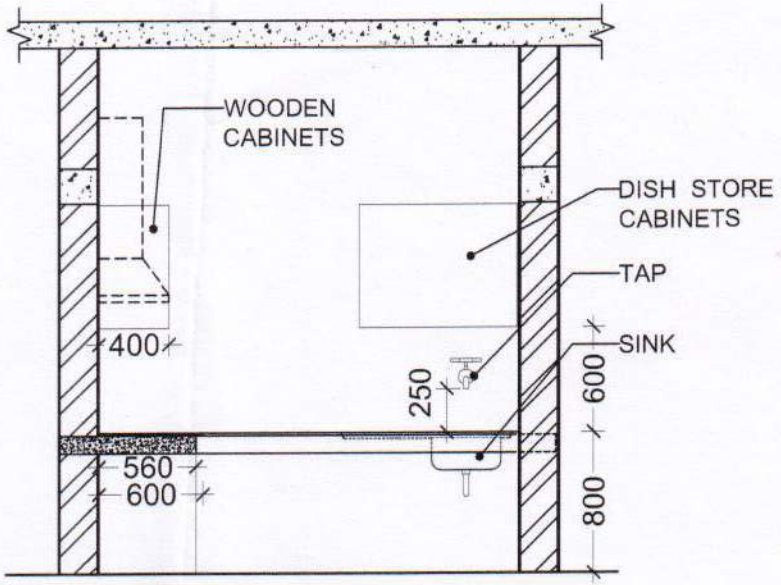
Structural Body Dimensions



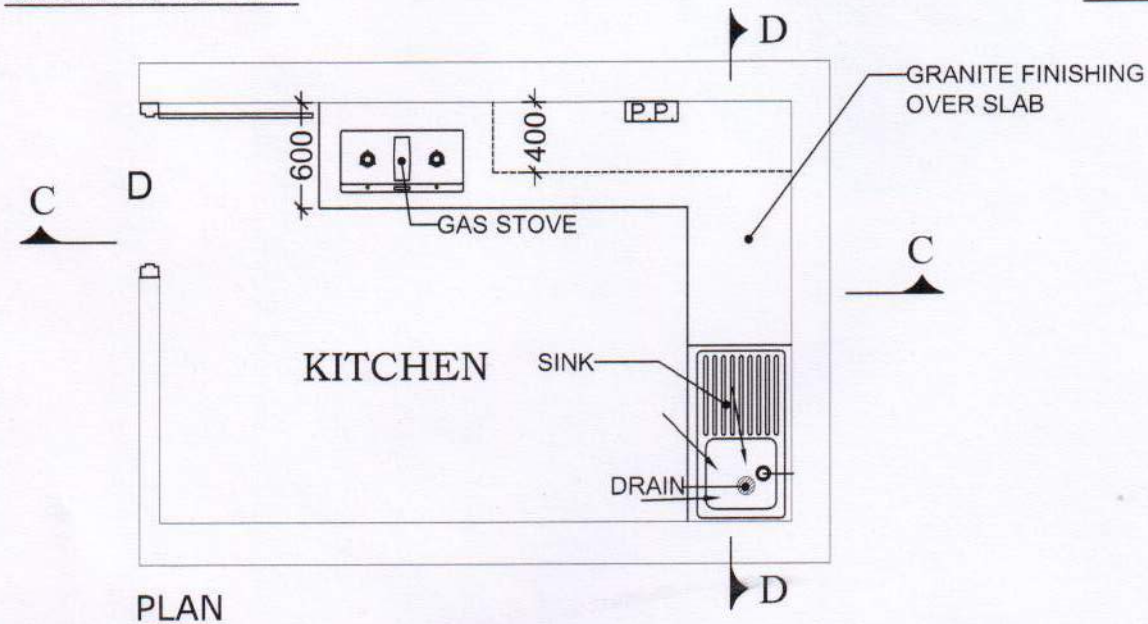
Functional Body Dimensions



SECTION AT C-C

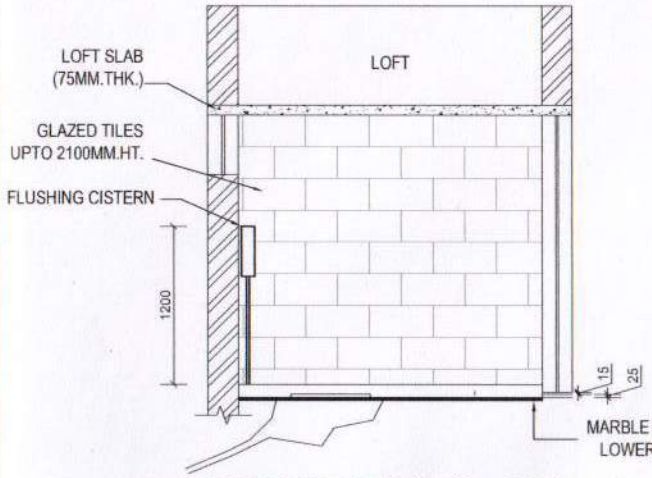


SECTION AT D-D

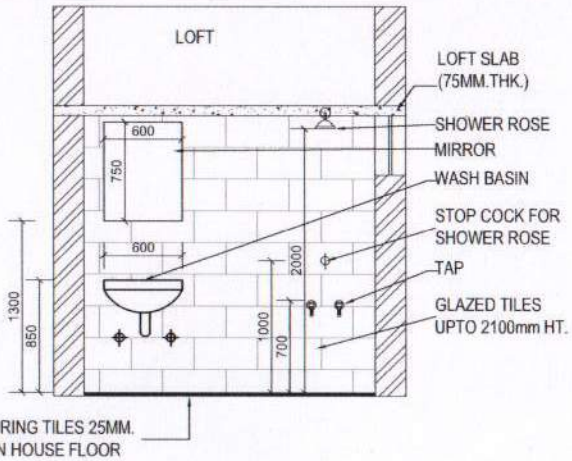


PLAN

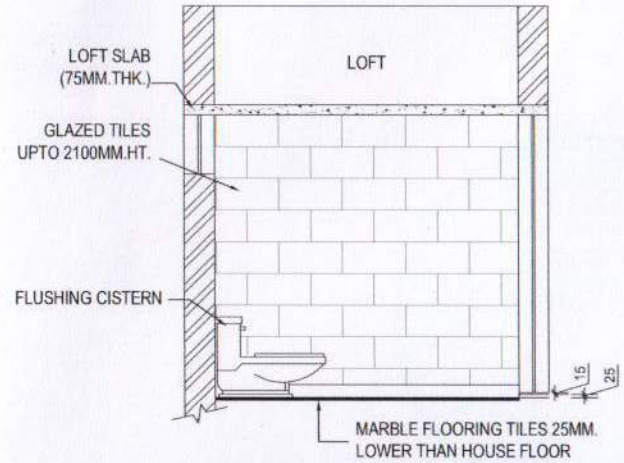
RECOMMENDED DIMENSIONS / CLEARANCES OF VARIOUS COMPONENTS OF KITCHEN



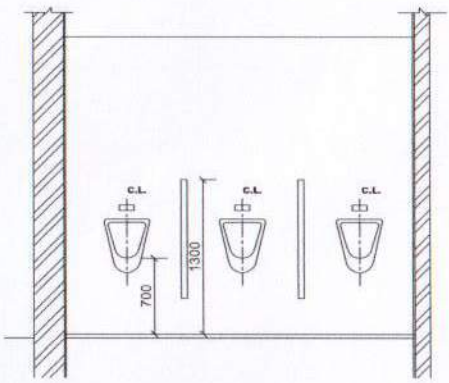
SECTION AT A (Indian WC)



SECTION AT B



SECTION AT A (Western WC)



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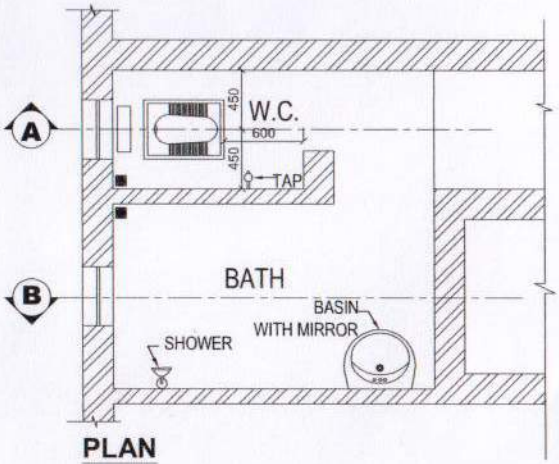
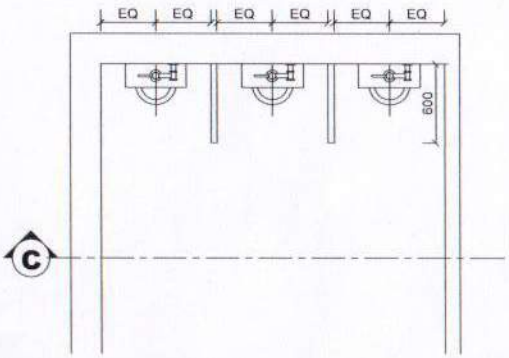


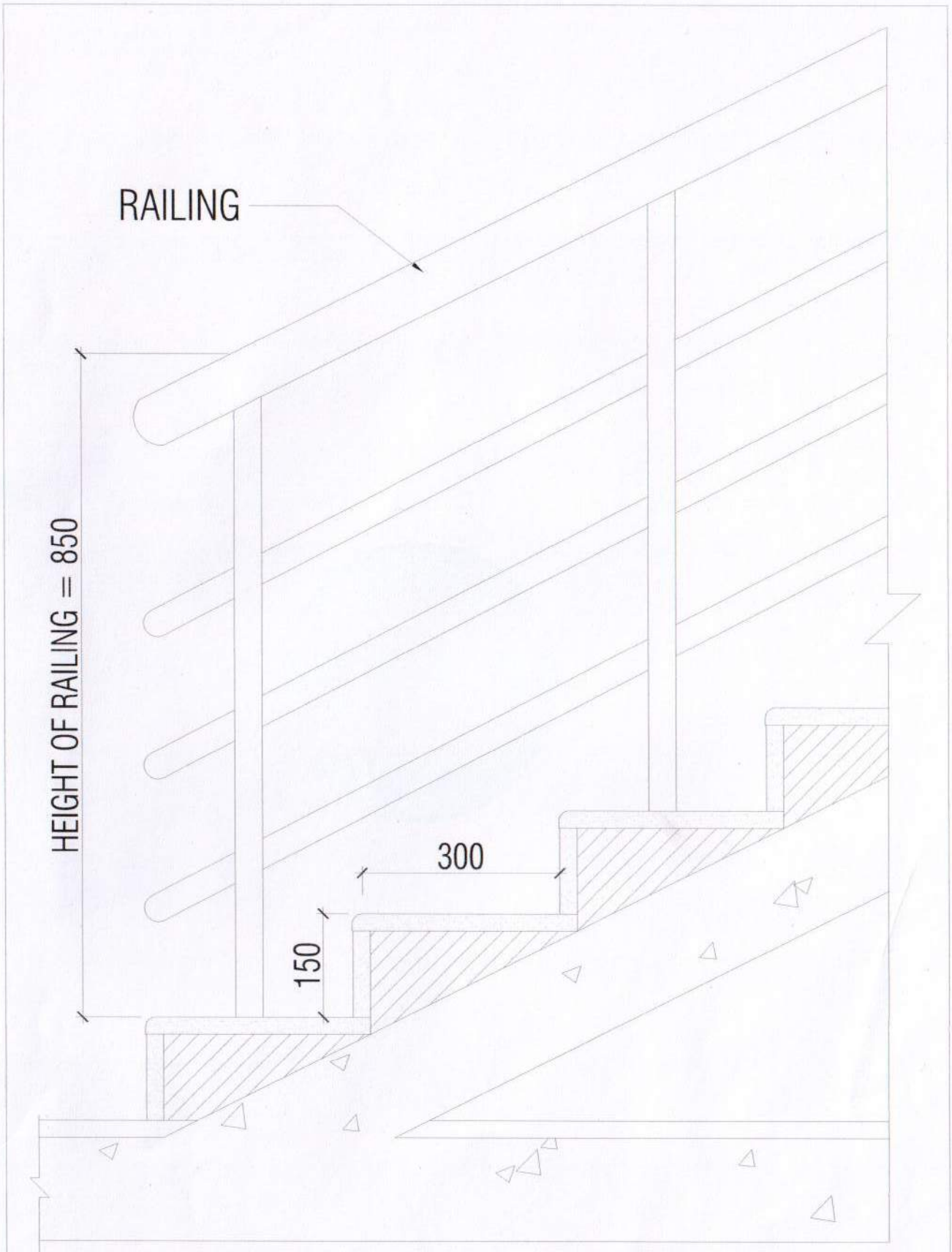
PLAN



PLAN (URINAL FITTING)

RECOMMENDED DIMENSIONS/CLEARANCES OF VARIOUS COMPONENTS OF BATH & WC

ANNEXURE - 2 (SHEET NO. 3)



RECOMMENDED DIMENSIONS OF STAIRCASE (TREAD, RISER & RAILING)