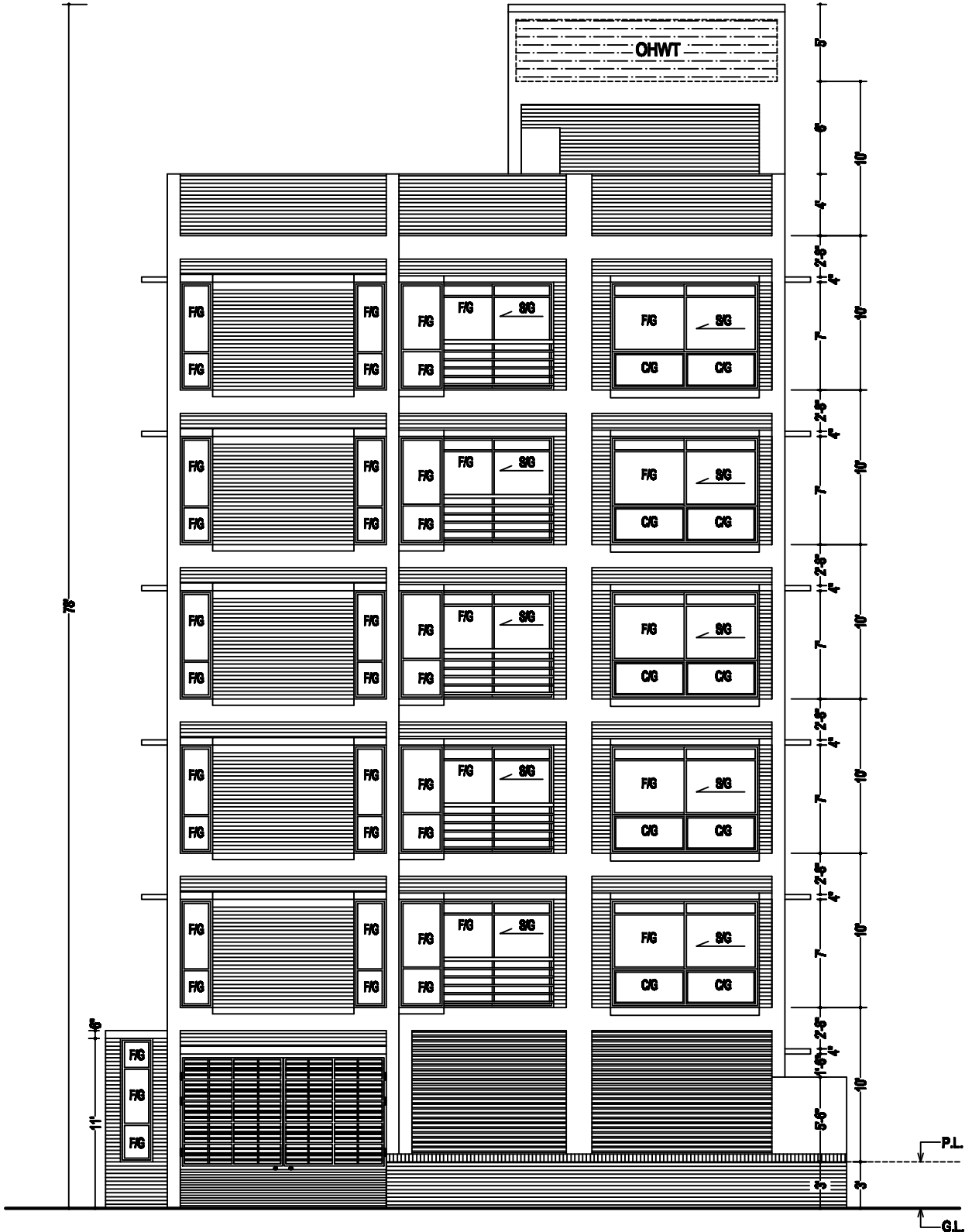


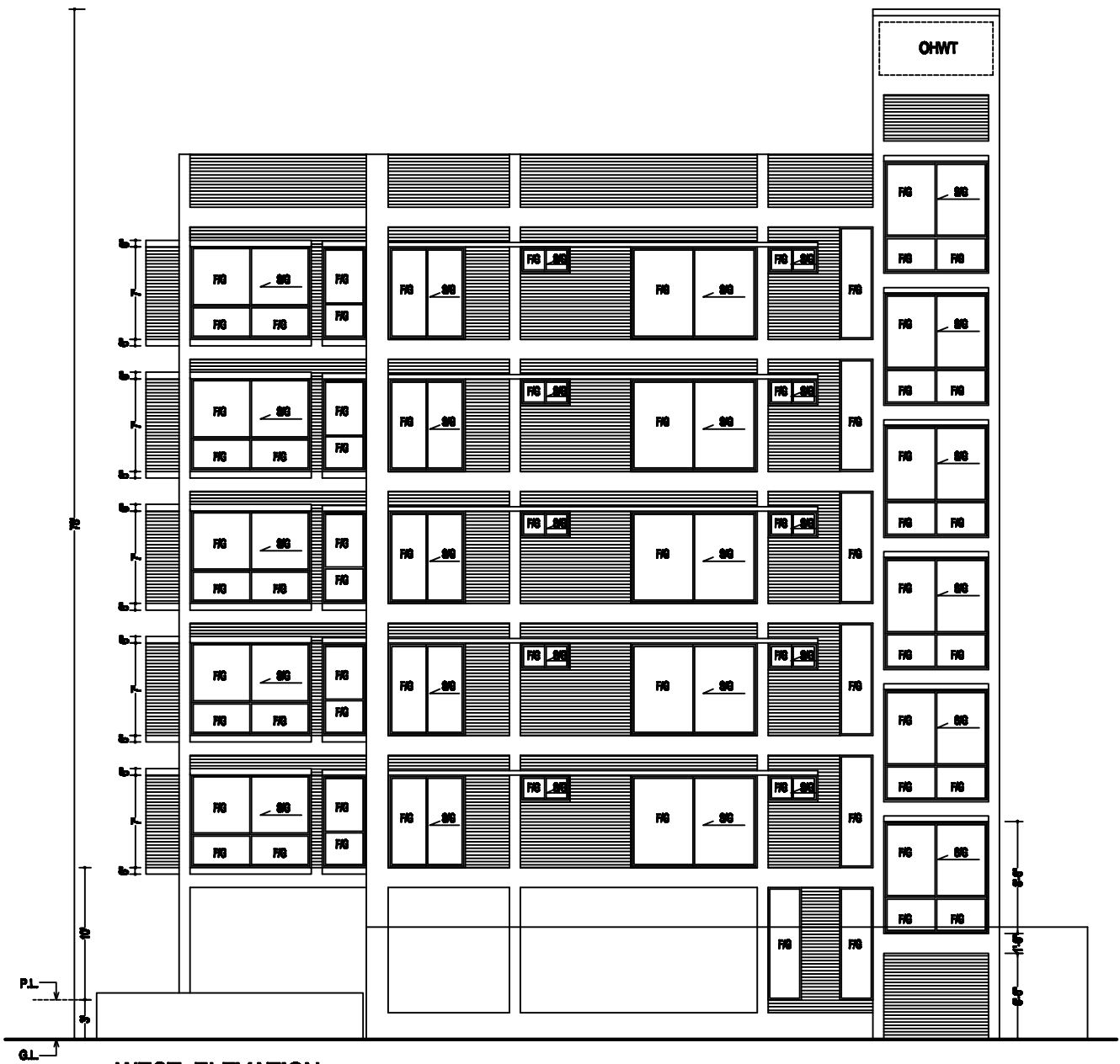
TOP ROOF PLAN.
SCALE= 1/8"=1'-0"



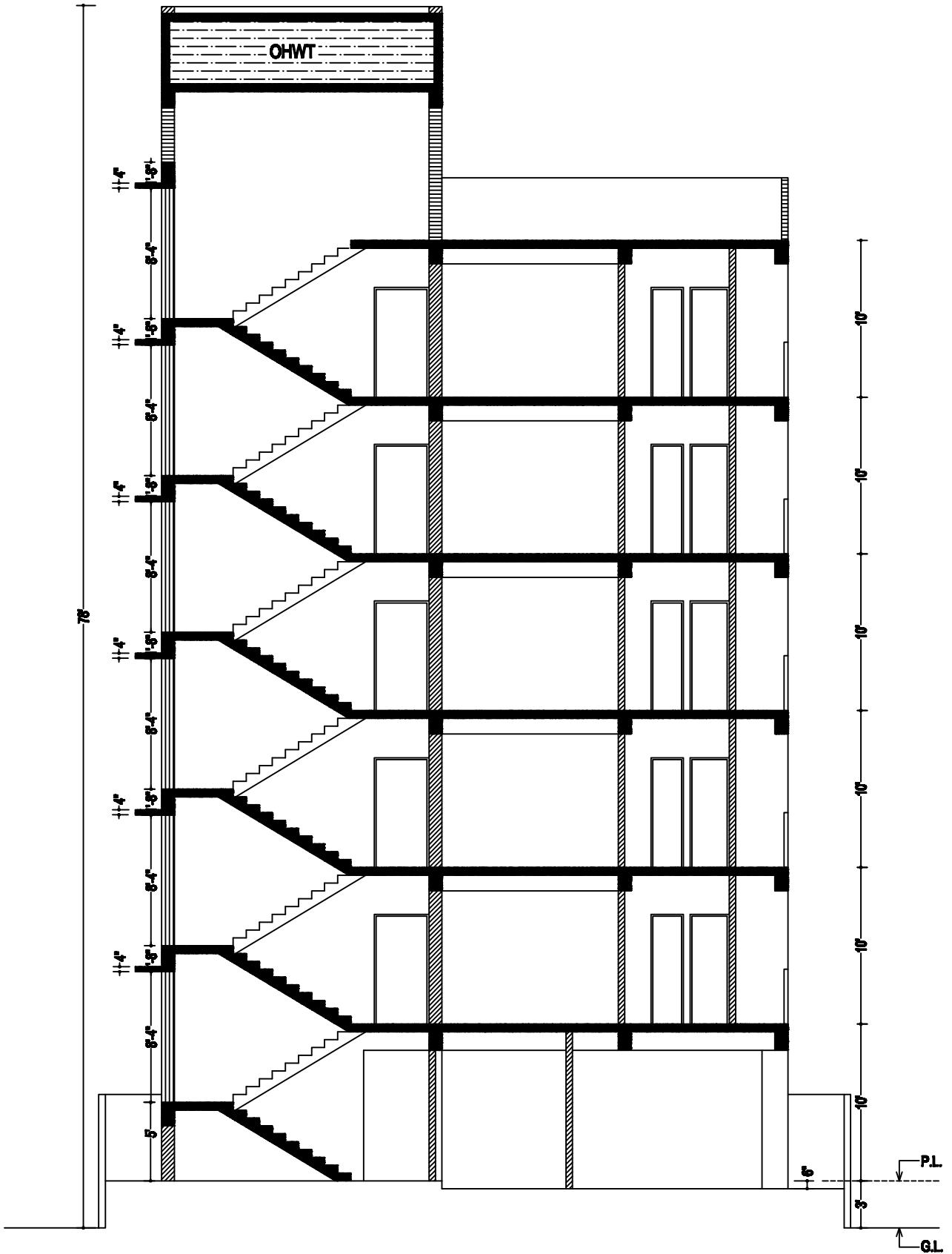
NORTH ELEVATION.
 SCALE= 1/8"=1'-0"



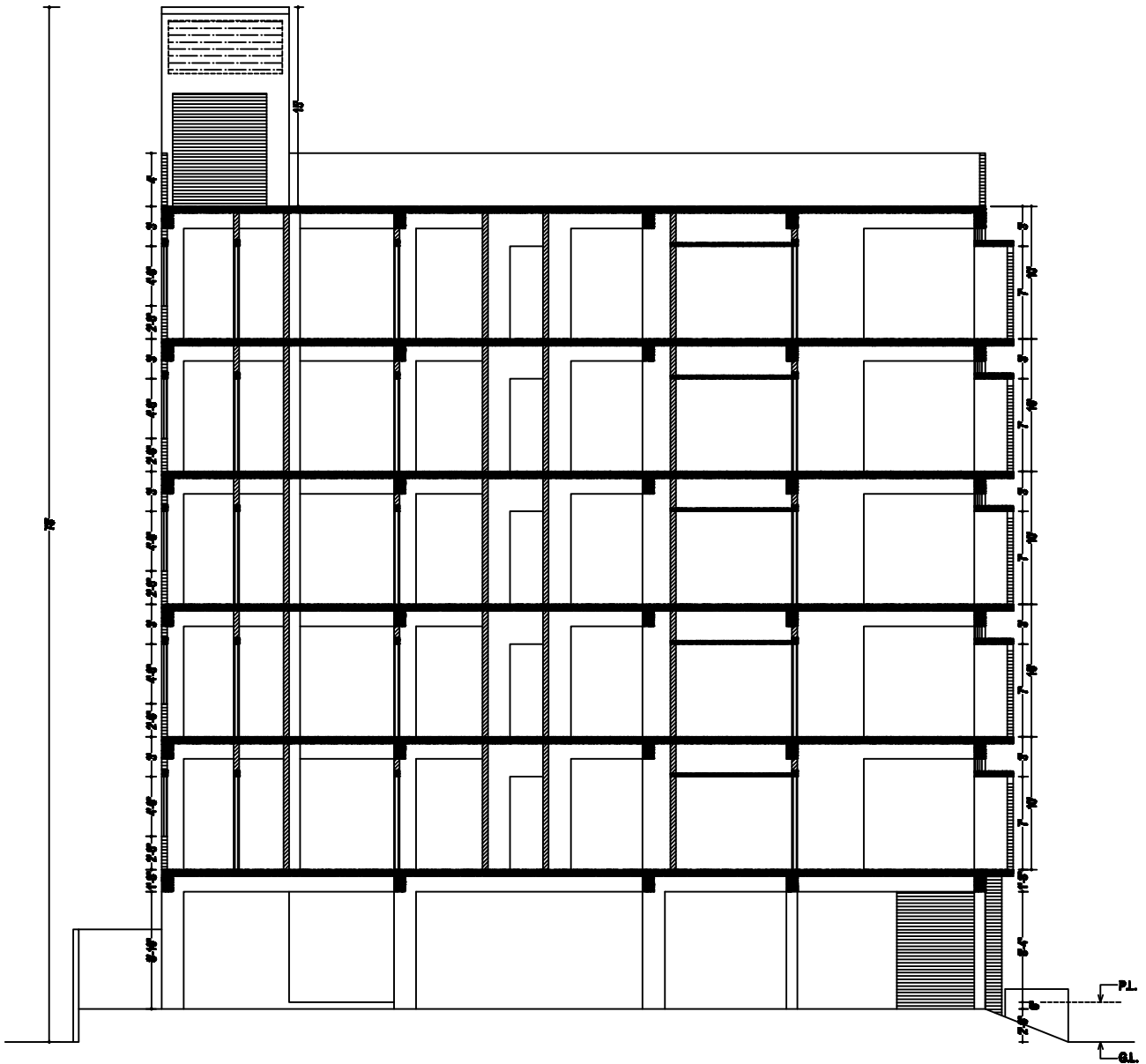
EAST ELEVATION.
SCALE= 1/8"=1'-0"



WEST ELEVATION.
SCALE- 1/8"=1'-0"

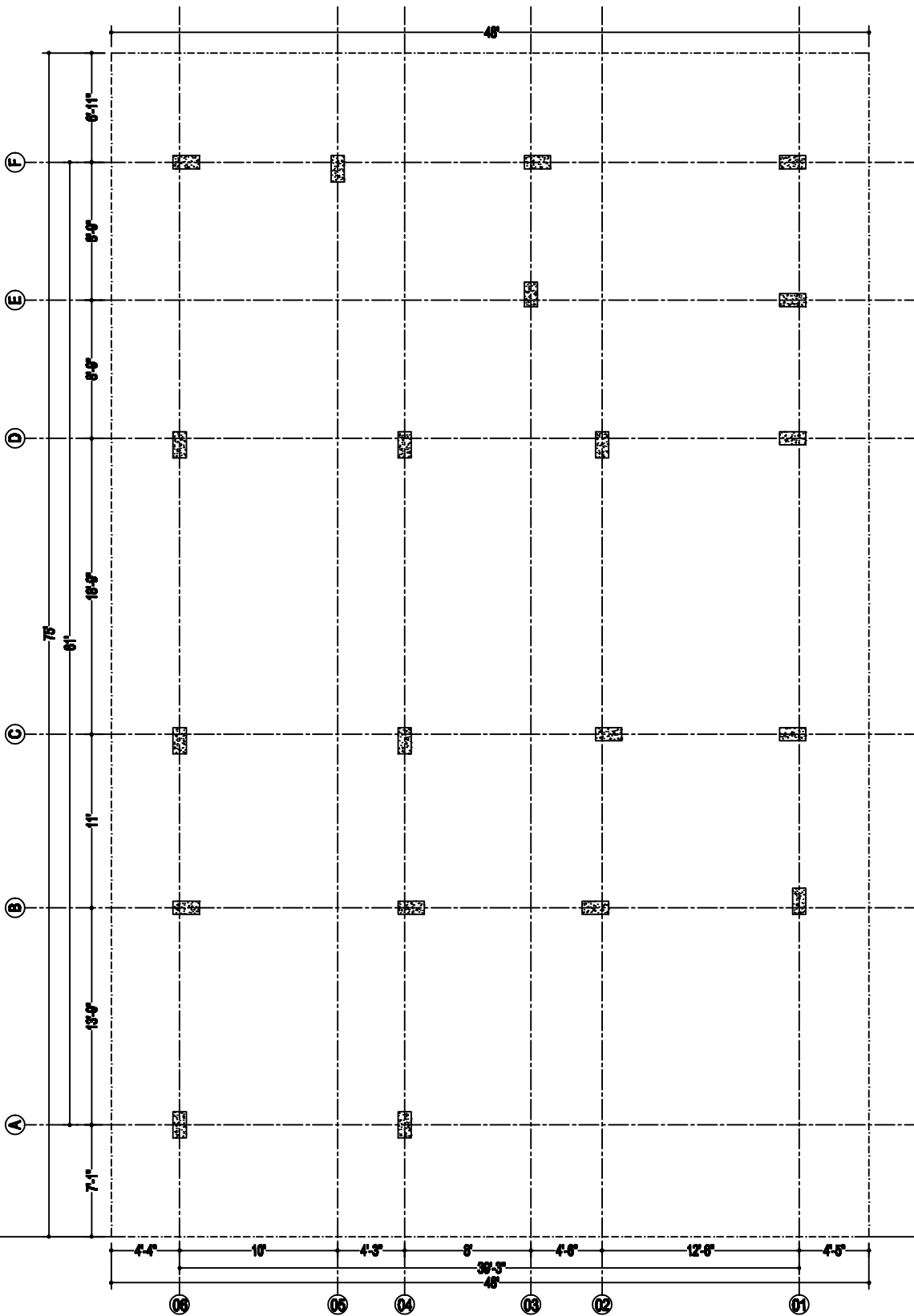


SECTION OF "A" "A".
 SCALE= 1/8"= 1'-0".



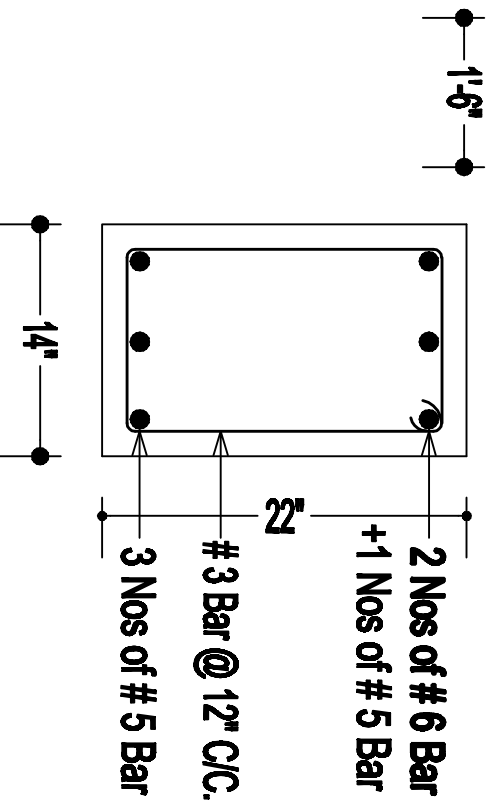
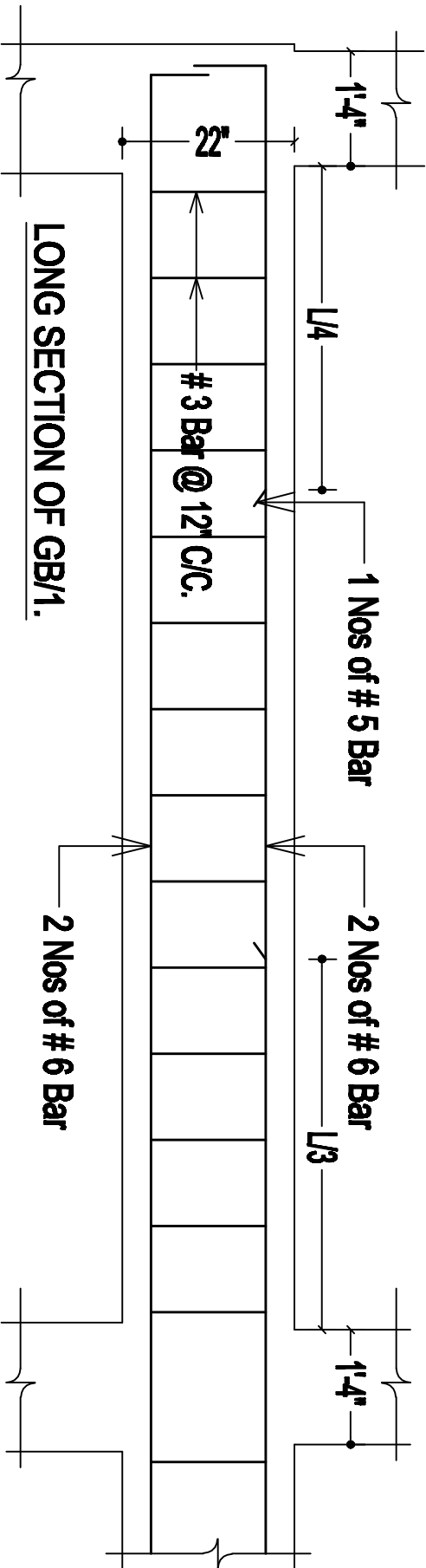
SECTION OF "B" "B".
 SCALE=1/8"=1'-0".

ALL COLUMN ARE 16"X16".

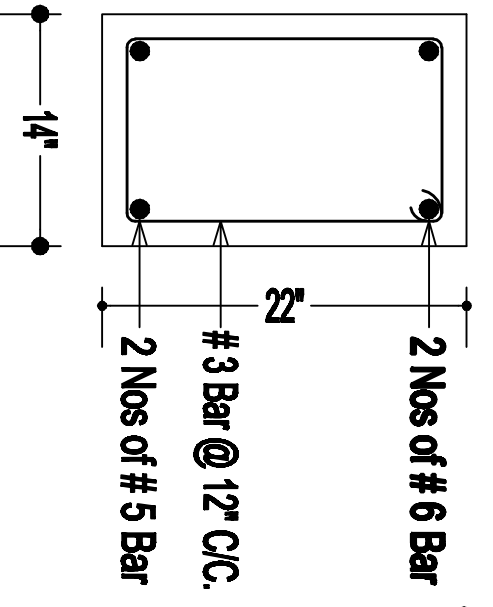


20' WIDE ROAD.
COLUMN LAY OUT PLAN.
 SCALE= 1/8"=1'-0"



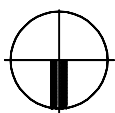
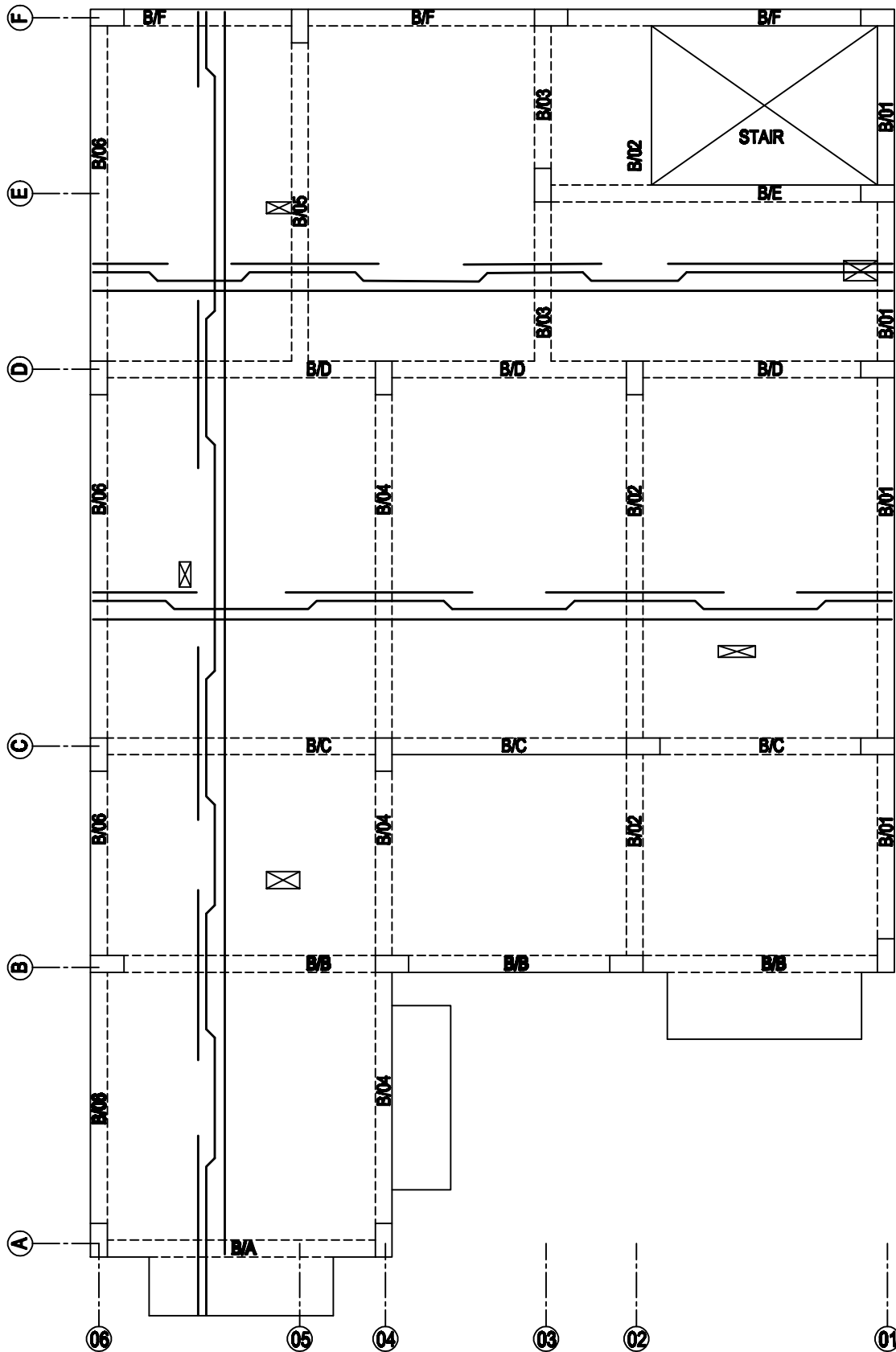


SECTION GB/1 (SUPPORT)



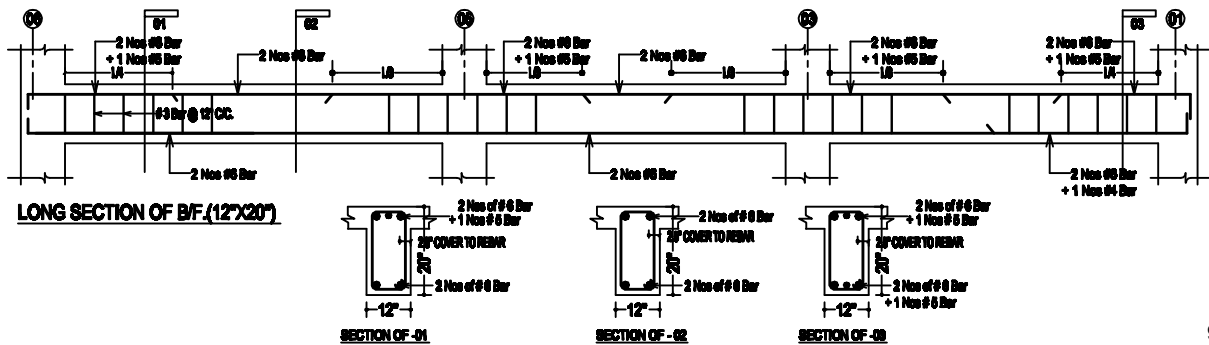
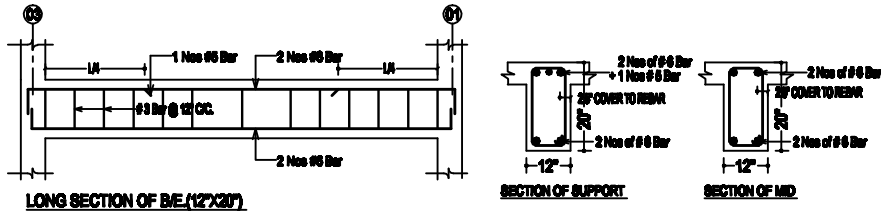
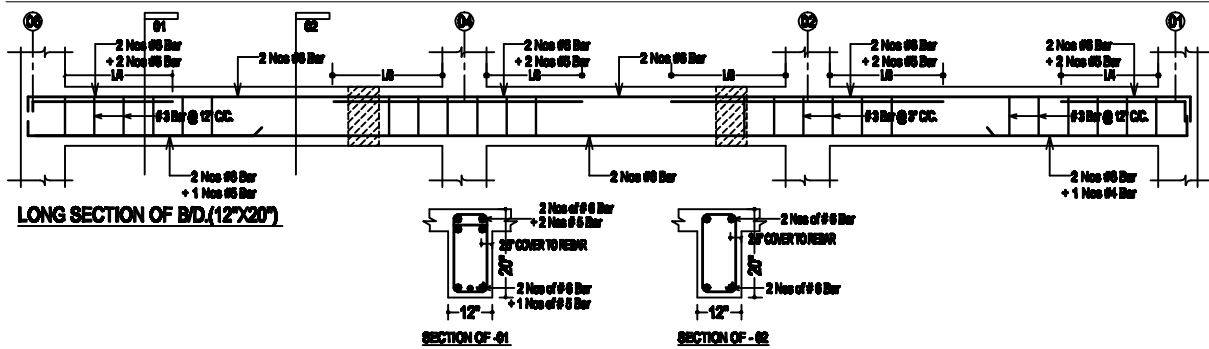
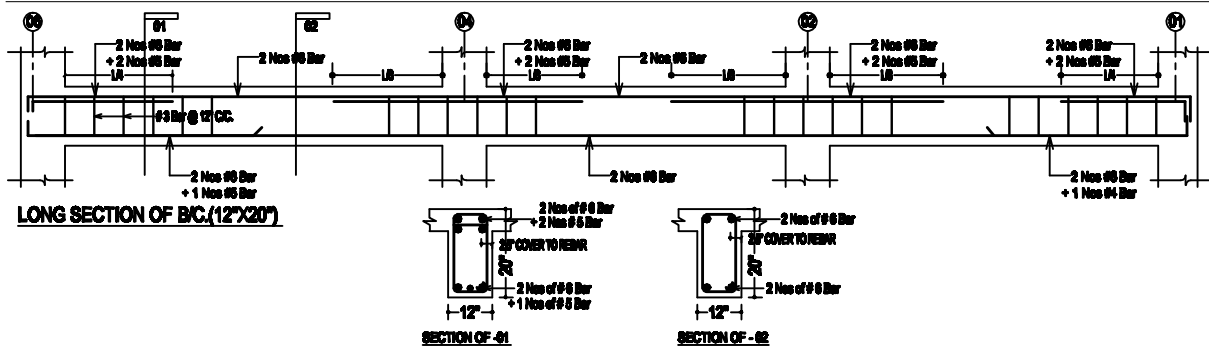
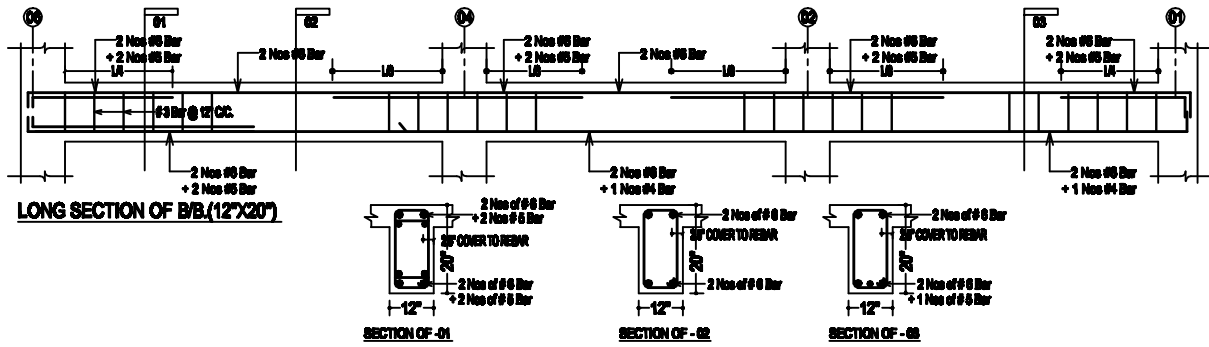
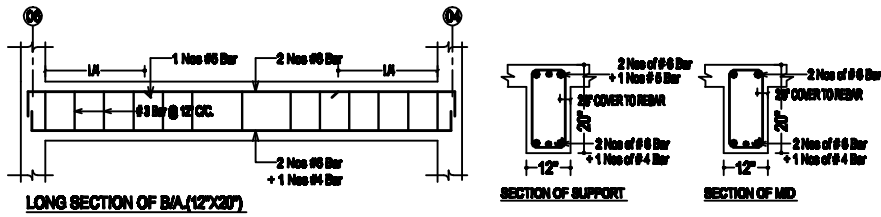
SECTION GB/1 (MID)

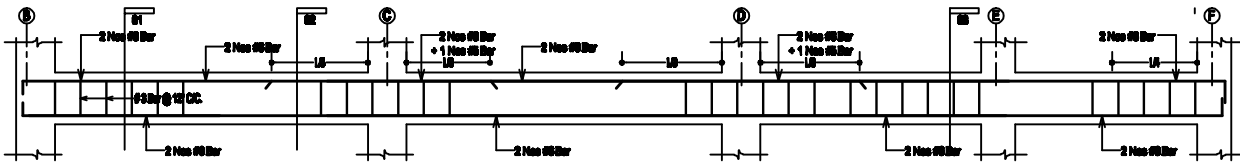
NAME OF COLUMN	BELOW GROUND LEVEL	ABOVE GROUND LEVEL - UPPER	NAME OF COLUMN	BELOW GROUND LEVEL	ABOVE GROUND LEVEL - UPPER	NAME OF COLUMN	BELOW GROUND LEVEL	ABOVE GROUND LEVEL - UPPER	NAME OF COLUMN	BELOW GROUND LEVEL	ABOVE GROUND LEVEL - UPPER
C/A6			C/C6			C/D2			C/F3		
C/A4			C/C4			C/D1			C/F1		
C/B1			C/C2			C/E3			<p style="text-align: center;">SHARE ROD IN COLUMN</p>		
C/B4			C/C1			C/E1					
C/B2			C/D6			C/F6					
C/B1			C/D4			C/F5					



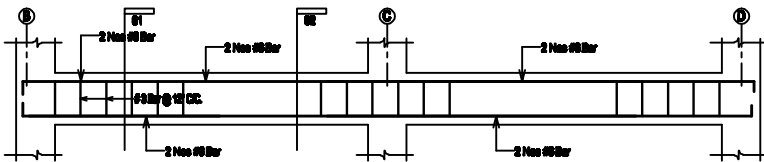
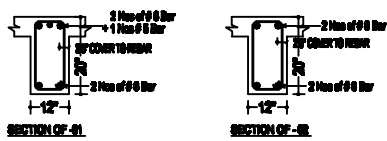
REF. DETAIL OF 1ST SLAB.

SCALE= 3/16"=1'-0"

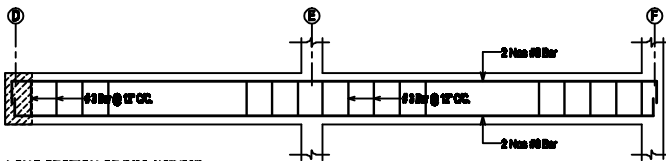
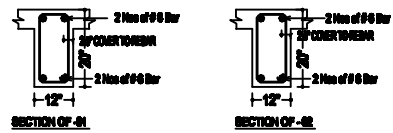




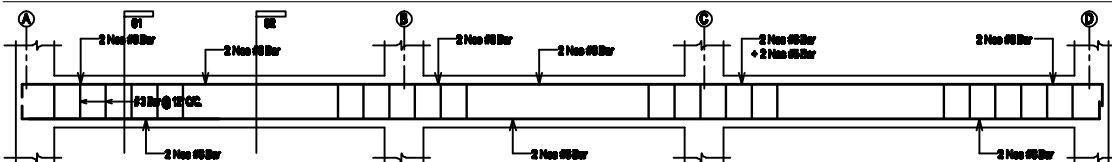
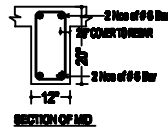
LONG SECTION OF B01 (12'x20')



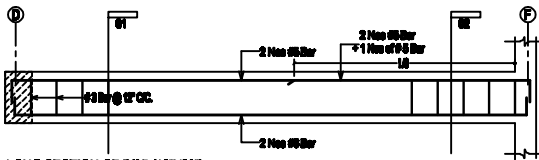
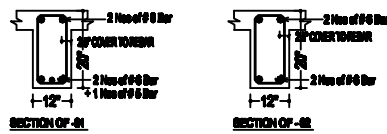
LONG SECTION OF B02 (12'x20')



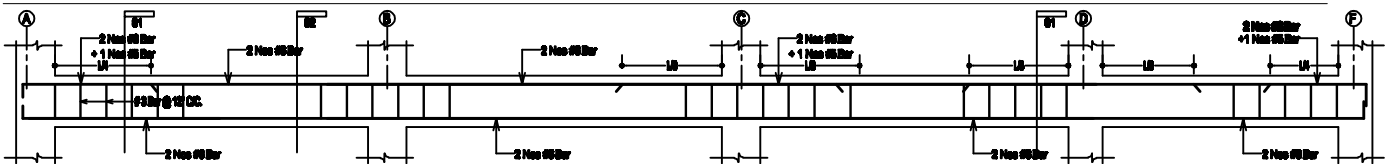
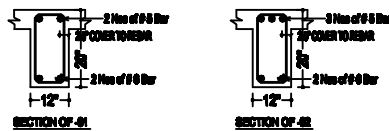
LONG SECTION OF B03 (12'x20')



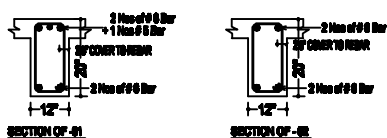
LONG SECTION OF B04 (12'x20')



LONG SECTION OF B05 (12'x20')



LONG SECTION OF B06 (12'x20')



LEGEND

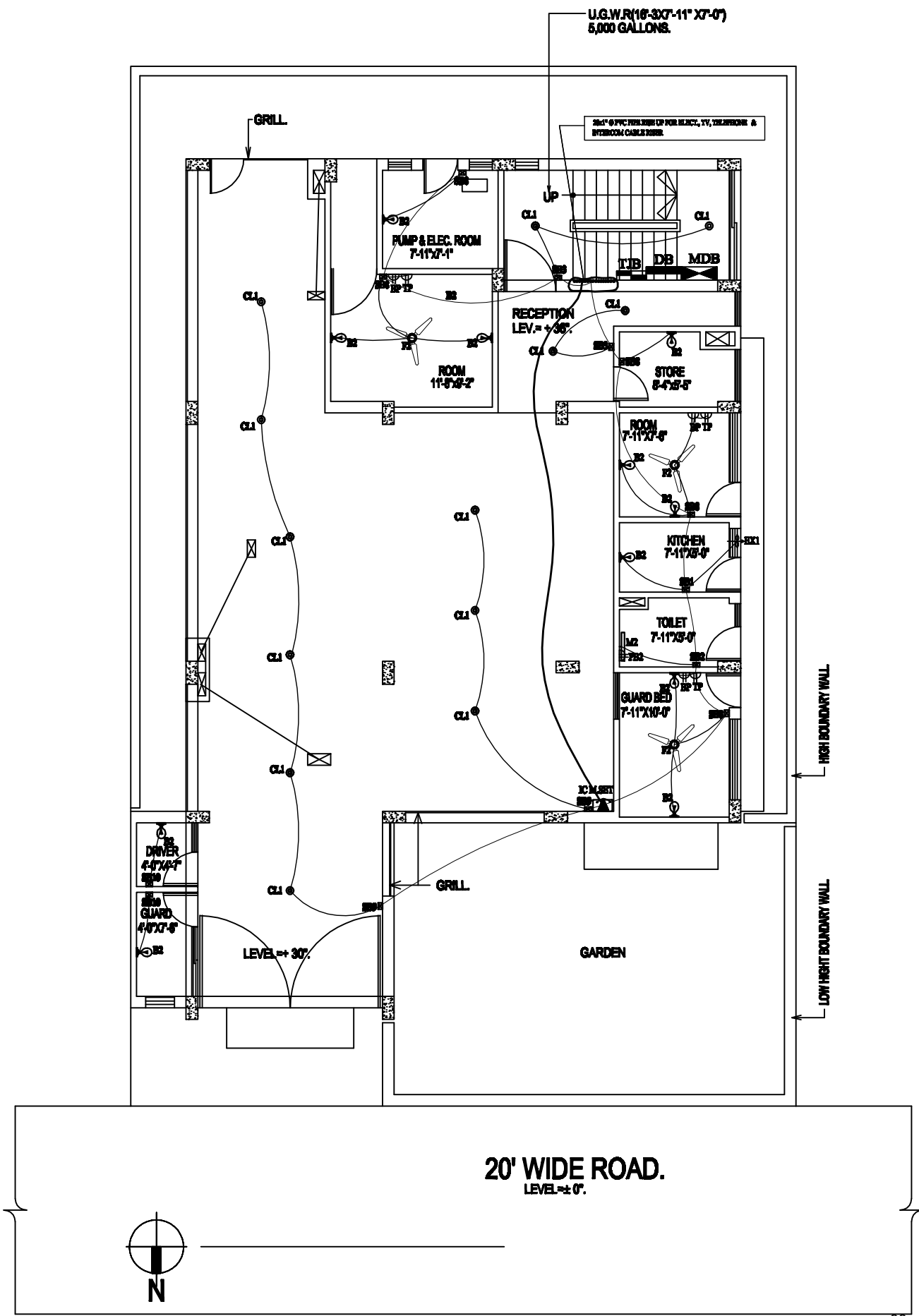
	MAIN DISTRIBUTION BOARD
	SUB DISTRIBUTION BOARD (SUB) TOP BELOW LANTER LEVEL
	DISTRIBUTION BOARD (DB) TOP BELOW LANTER LEVEL
	TELEPHONE JUNCTION BOX
	SWITCH BOARD AT 7'-0" HEIGHT FROM F.L. DIMENSION INDICATED OTHERWISE
	DOUBLE POLE SWITCH FOR GROUND AT 80 LEVEL
	BELL PANEL AT 7'-6" HEIGHT FROM FINISHED F.L. DIMENSION INDICATED OTHERWISE
	GALDEN LABEL HITTING WIRES W/VAITS CE.
	WALL MOUNTED SOCKET LABEL HITTING WIRES W/VAITS CE.
	CEILING MOUNTED SOCKET LABEL HITTING WIRES W/VAITS CE.
	CEILING MOUNTED SOCKET LABEL HITTING WIRES W/VAITS CE.
	HANGING LABEL HITTING WIRES W/VAITS CE.
	PENDANT LABEL HITTING WIRES W/VAITS CE.
	WALL MOUNT AT 7'-0" HEIGHT
	4-0 AWG RACEWAY CONDUIT TYPE LABEL (DIMENSIONED)
	2-0 VALTIS W/ GROUNDING THREE LABEL HITTING OVER MAIN ROOM ON MAIN
	CALLING BELL
	3A, 300V SWITCHED SOCKET AT RECEIVING (OPTIONAL 6'-0" HEIGHT) LEVEL TEL.
	3A, 300V SWITCHED SOCKET AT RECEIVING (OPTIONAL 6'-0" HEIGHT) LEVEL TEL.
	3A, 300V SWITCHED SOCKET AT RECEIVING (OPTIONAL 6'-0" HEIGHT) TEL.
	3A, 300V SWITCHED SOCKET RECEIVING MAIN ROOM AT 4'-0" LEVEL
	1A, 300V SWITCHED SOCKET AT MAIN ROOM FOR SERVICE
	1A, 300V SWITCHED SOCKET AT 7'-0" HEIGHT MAIN ROOM FOR AD/VIDEO FOR A/C
	CEILING MAIN (NORMAL/EMERGENCY SERVICE)
	REBAR FOR MAIN
	TELEPHONE SOCKET AT RECEIVING LEVEL
	INTERCOM SOCKET AT 80 LEVEL
	INTERCOM MASTER SET
	TV ANTENNA SOCKET AT RECEIVING LEVEL
	CABLE TV JUNCTION BOX
	BROADBAND SOCKET AT RECEIVING LEVEL
	TERMINAL TV, TELEPHONE, INTERCOM & BROADBAND JUNCTION BOARD
	GALDEN LABEL
	WALL MOUNTED BALANCE LABEL HITTING WIRES W/VAITS
	CONDUIT THROUGH FLOOR
	CONDUIT FOR POINTS & LABEL CIRCUIT
	CONDUIT FOR A/C & SERVICE POWER POINT
	CONDUIT FOR TELEPHONE & INTERCOM
	CONDUIT FOR BROADBAND CABLE
	CONDUIT FOR TV CABLE

SCHEDULE OF CONDUIT & CABLES

SYMBOL	CONDUIT SIZE	CABLES CONTAIN
C1	3/4" DIA PVC/BES	IC-2X1.5 and BYA
C3	3/4" DIA PVC/BES	IC-2X1.5 and BYA
C4	1" DIA PVC/BES	IC-2X1.5 and BYA
C5	1" DIA PVC/BES	IC-10X1.5 and BYA
C6	3/4" DIA PVC/BES	IC-2X1.5 and BYA + 30C, AS PER CBT
C7	1" DIA PVC/BES	IC-2X1.5 and BYA + 30C, AS PER CBT
C8	1" DIA PVC/BES	IC-2X1.5 and BYA + 30C, AS PER CBT
C9	3/4" DIA PVC/BES	IC-2X1.5 and BYA + 30C, AS PER CBT
C10	1" DIA PVC/BES	IC-2X1.5 and BYA + 30C, AS PER CBT
C15	3/4" DIA PVC/BES	CH-08
C25	1" DIA PVC/BES	CH-08
C35	1" DIA PVC/BES	CH-08
CHC7	1" DIA PVC/BES	CHC7

NOTE:

- FOR ALL LABEL POINTS, MAIN POINTS CABLES WILL BE IC-2X1.5 and BYA.
- FOR ALL SOCKET POINTS, CABLES WILL BE IC-2X1.5 and BYA/A.
- IC-2X1.5 and (4) BYA/GROUND/REEL.
- OTHER CABLES BEING ARE MENTIONED IN CONDUIT SCHEDULE.
- 30C AS PER CBT FOR SERVICE ACT WILL BE ON ACTUAL DRAWING OR FOR A/C.
- CONDUIT FOR TV, TELEPHONE & BROADBAND WILL BE 3/4" DIA PVC/BES.
- CABLE/LABEL BE GROUND/BALANCE HITTING WIRES.



U.G.W.R.(16'-3" X 7'-11" X 7'-0")
5,000 GALLONS.

100' X 6" PVC RISER FOR ELECT, TV, TELEPHONE &
INTERCOM CABLES HERE

GRILL

PUMP & ELEC. ROOM
7'-11" X 7'-1"

RECEPTION
LEV. = +30'

ROOM
11'-5" X 8'-2"

STORE
6'-4" X 5'-5"

ROOM
7'-11" X 7'-0"

KITCHEN
7'-11" X 5'-0"

TOILET
7'-11" X 3'-0"

GUARD BED
7'-11" X 10'-0"

DRIVER
4'-0" X 4'-0"

GUARD
4'-0" X 7'-0"

LEVEL = ± 30'

GRILL

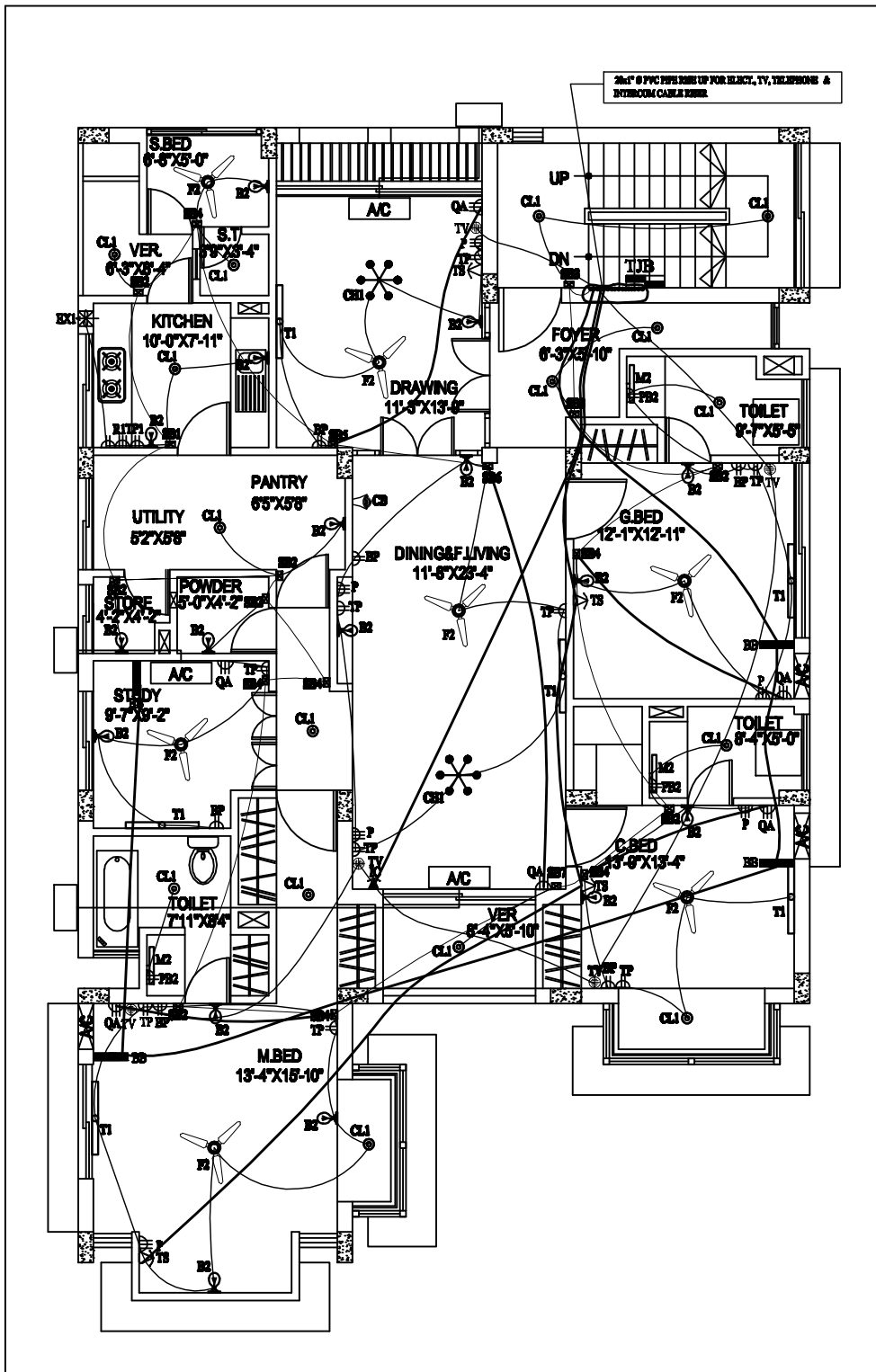
GARDEN

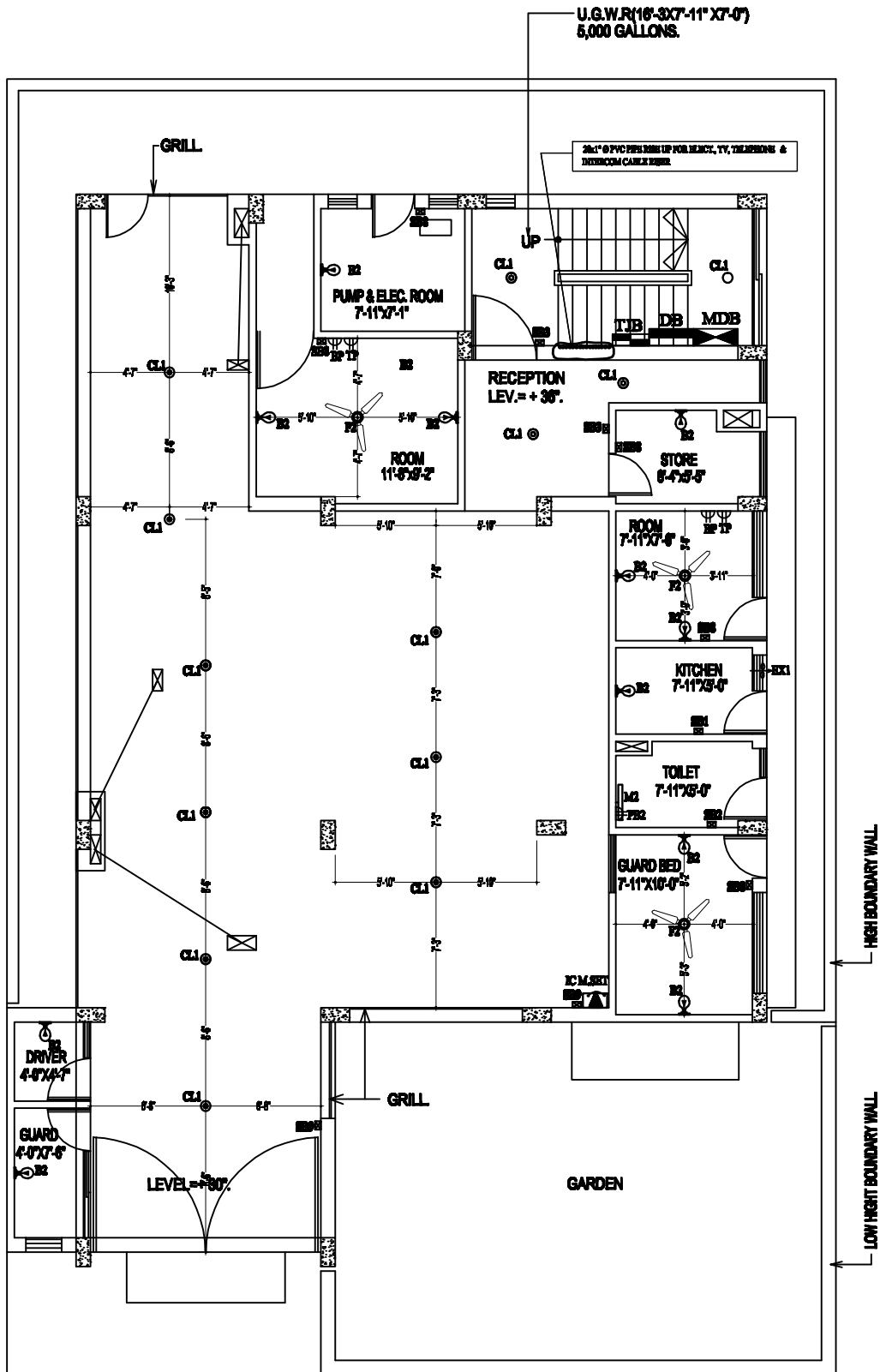
HIGH BOUNDARY WALL

LOW HEIGHT BOUNDARY WALL

20' WIDE ROAD.
LEVEL = ± 0'



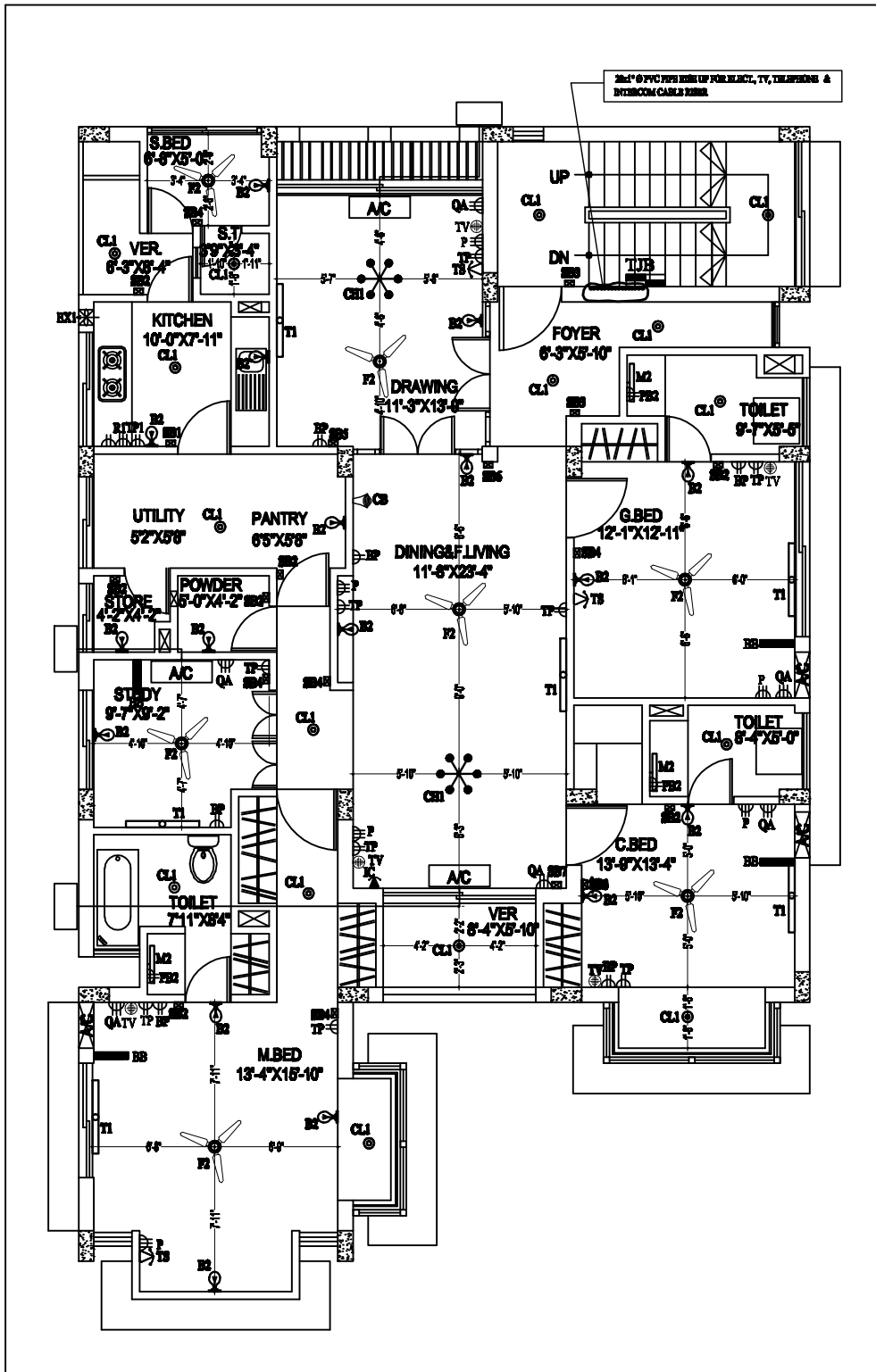




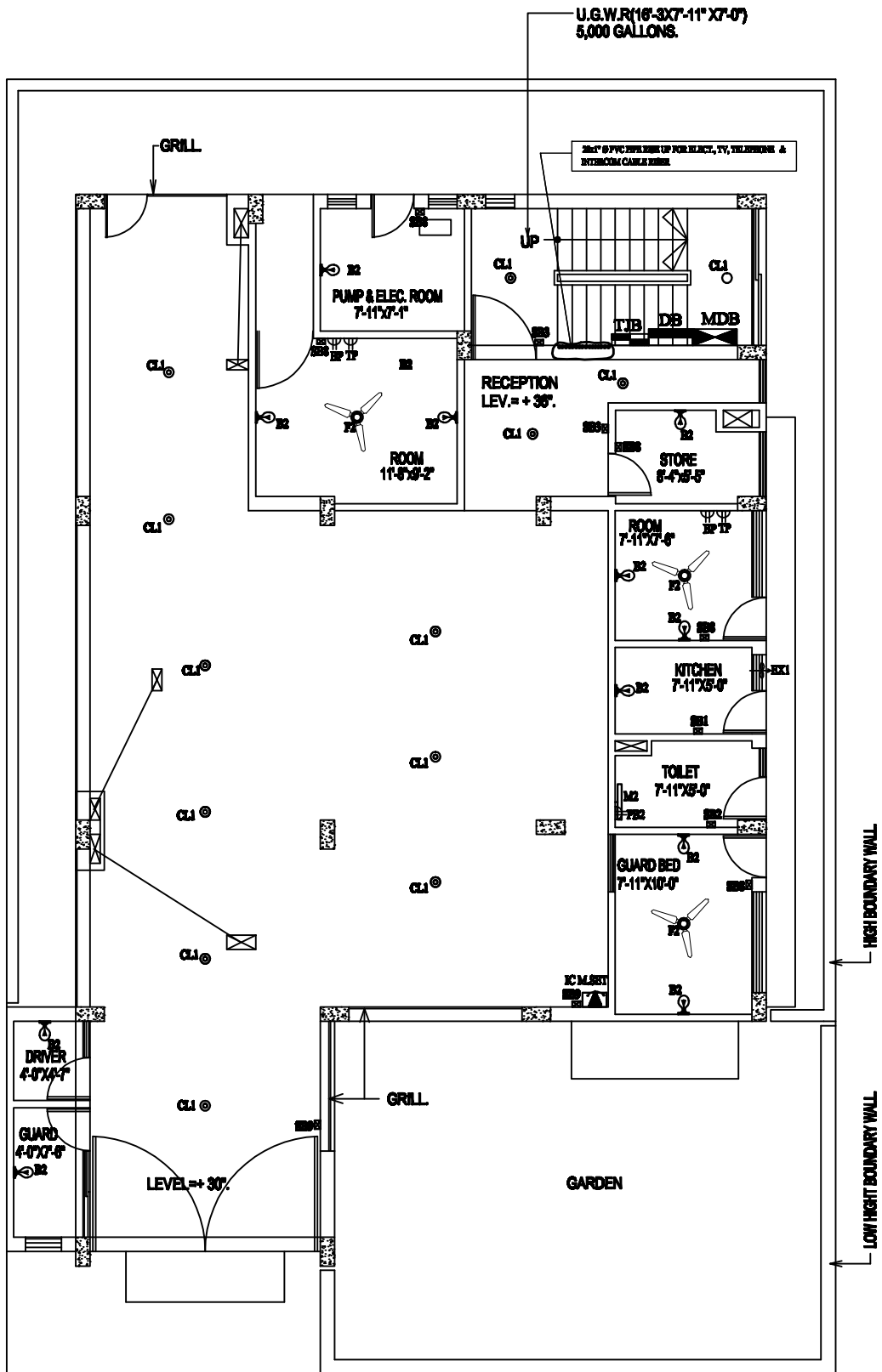
20' WIDE ROAD.
LEVEL = ± 0'.



GROUND FLOOR ELECTRICAL FIXTURE DIMENSION LAY-OUT PLAN
SCALE = 1/8" = 1'-0"



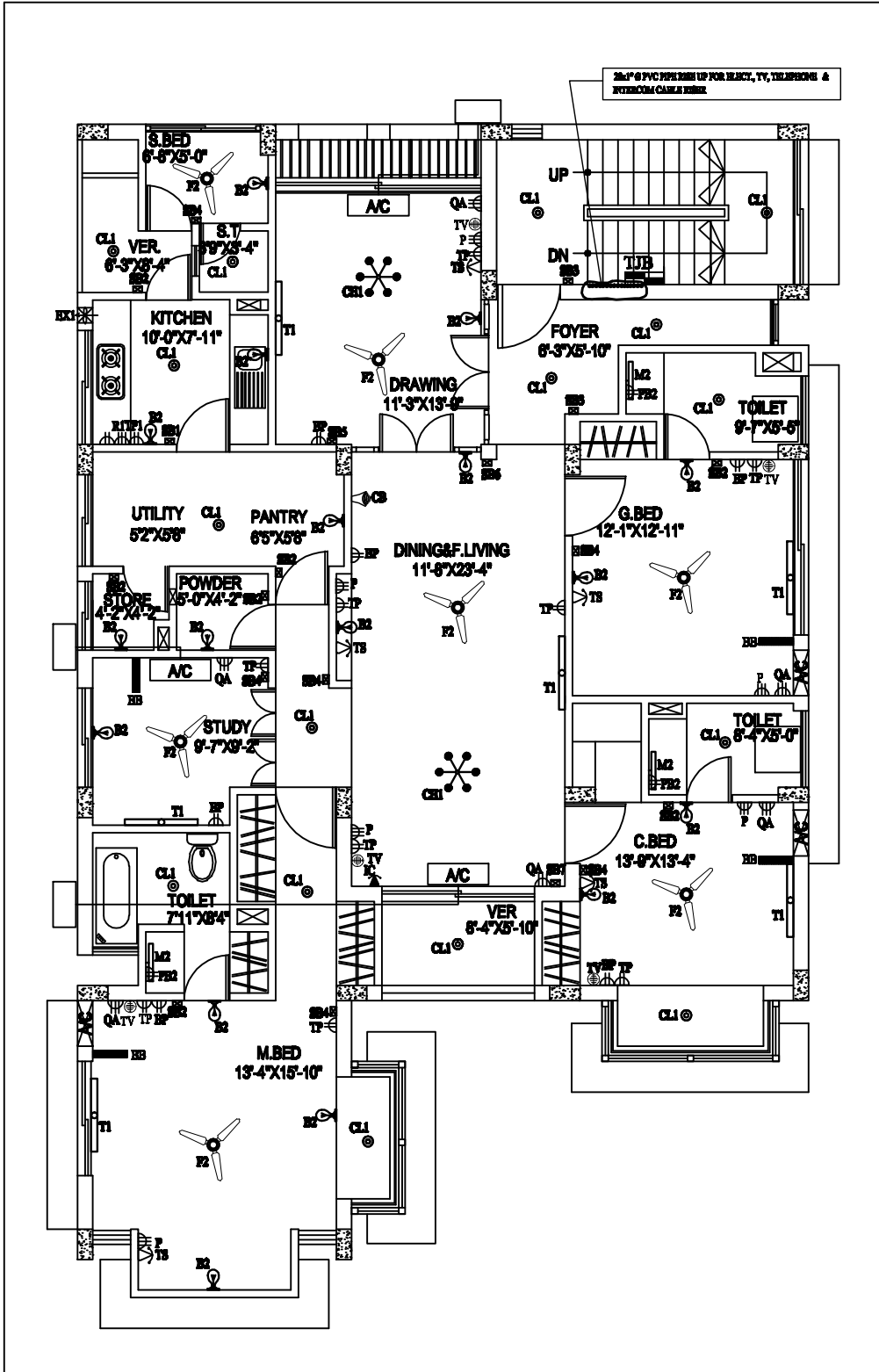
FLOOR ELECTRICAL FIXTURE DIMENSION LAY-OUT PLAN
SCALE= 1/8"=1'-0"



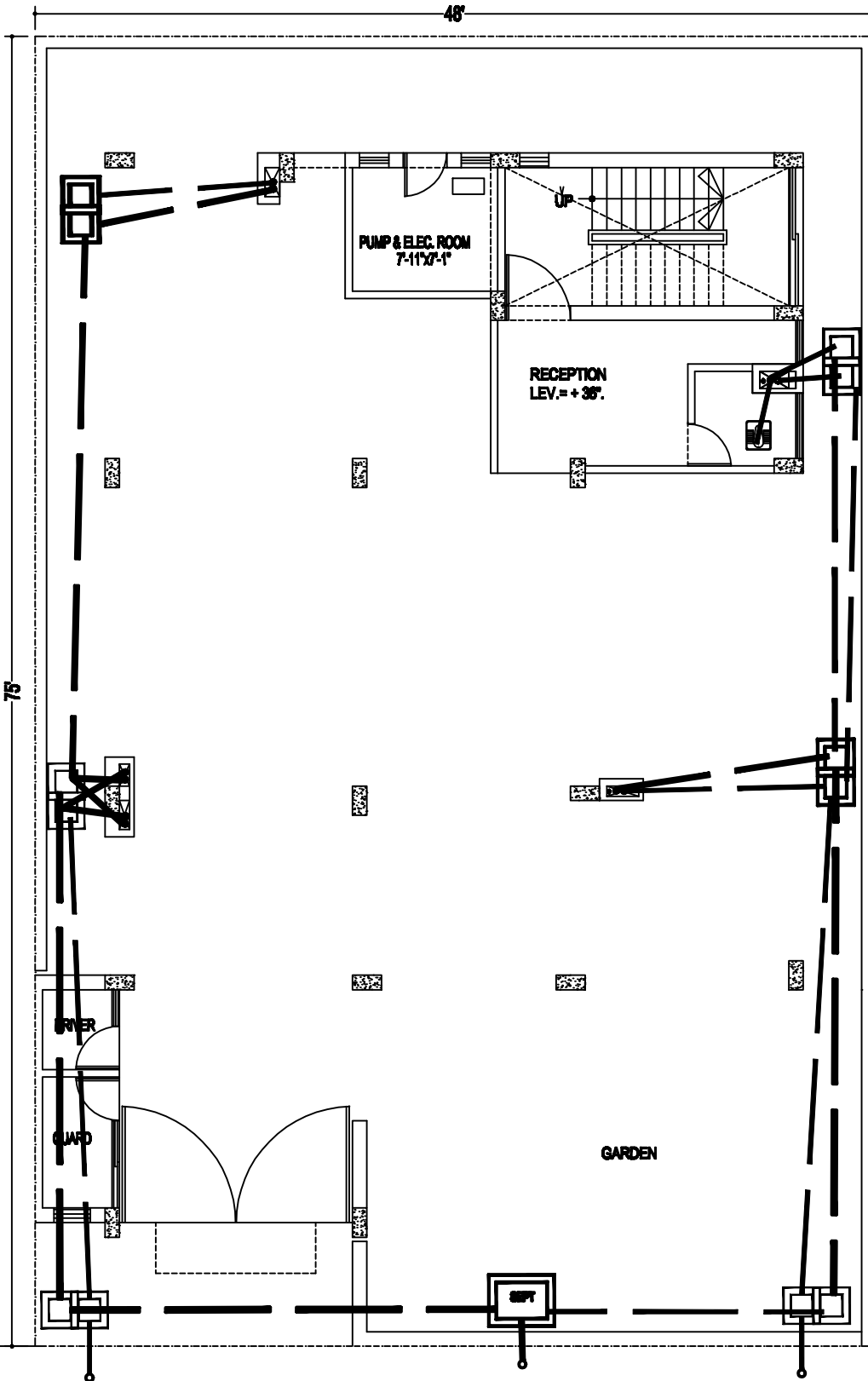
20' WIDE ROAD.
LEVEL = ± 0".



GROUND FLOOR TELEPHONE & TELEVISION CONDUIT LAY-OUT PLAN



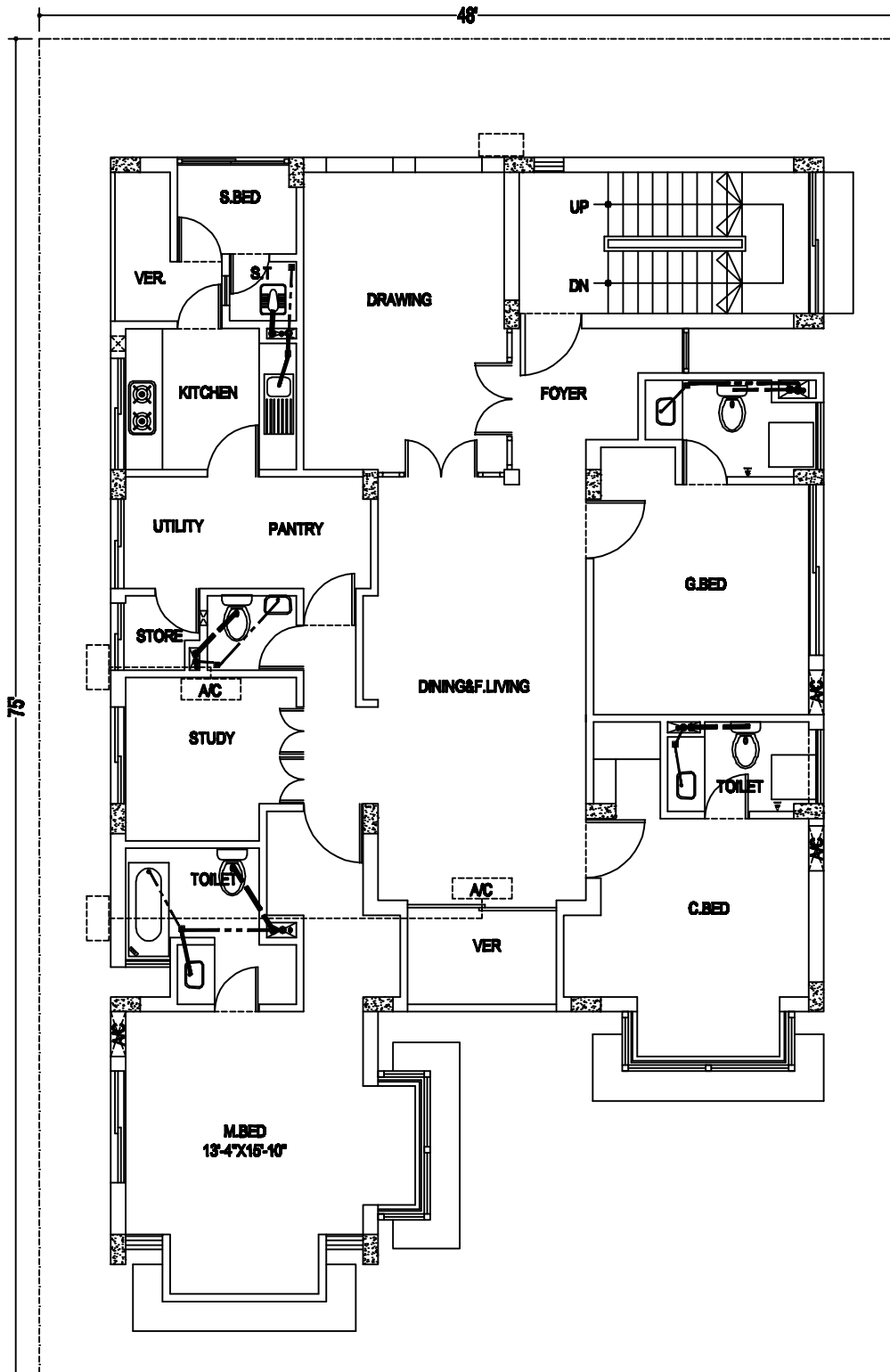
FLOOR TELEPHONE & TELEVISION CONDUIT LAY-OUT PLAN



20' WIDE ROAD.
LEVEL ± 0''



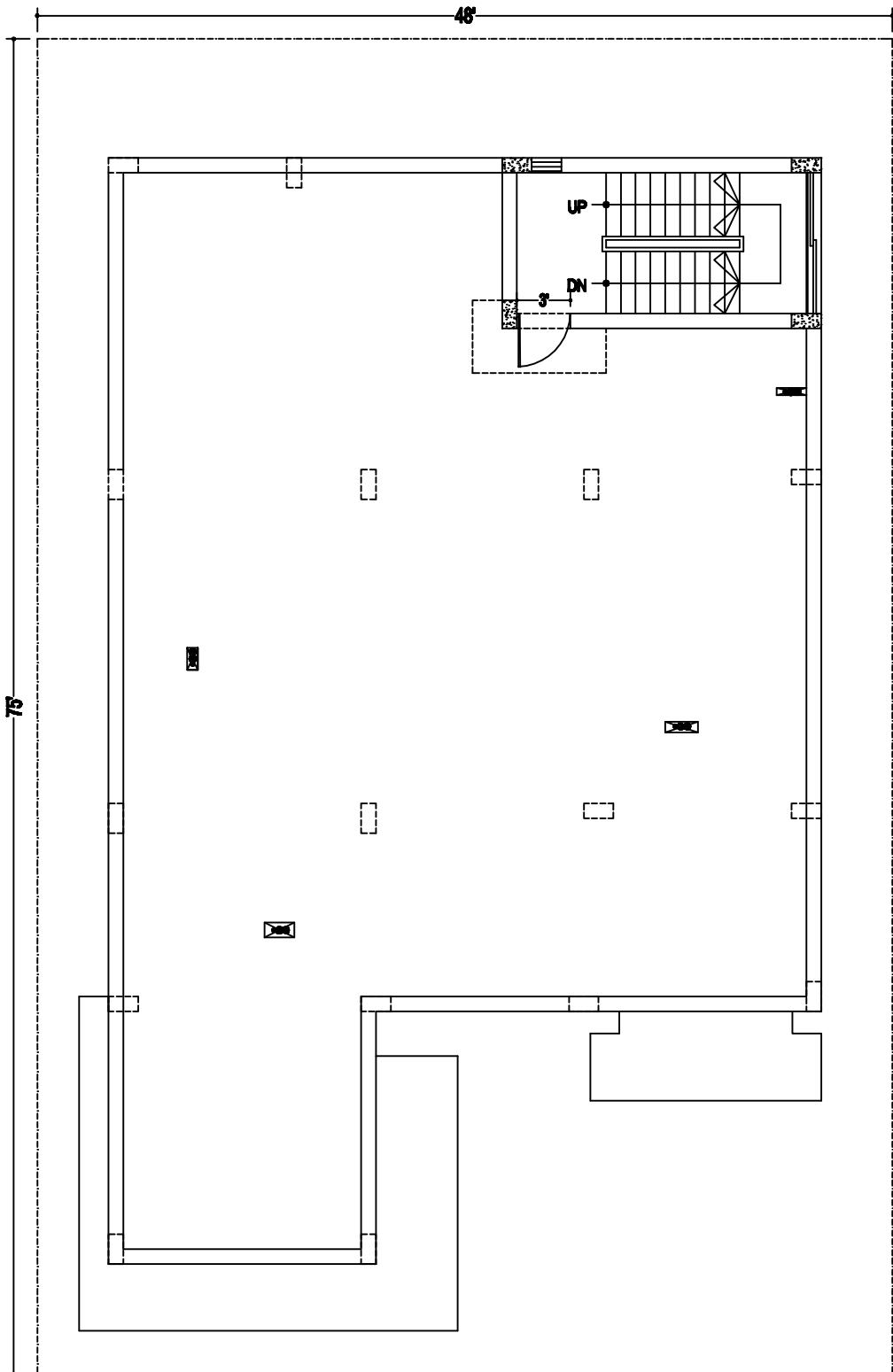
PLUMBING FIXTURE, FITTINGS AND LAYOUT PLAN OF
GROUND FLOOR
SCALE : FIT TO PAPER



20' WIDE ROAD.
LEVEL ± 0'.

TOILET & KITCHEN FIXTURE DIMENSION LAYOUT PLAN
OF 1ST TO 6TH FLOOR
SCALE : FIT TO PAPER

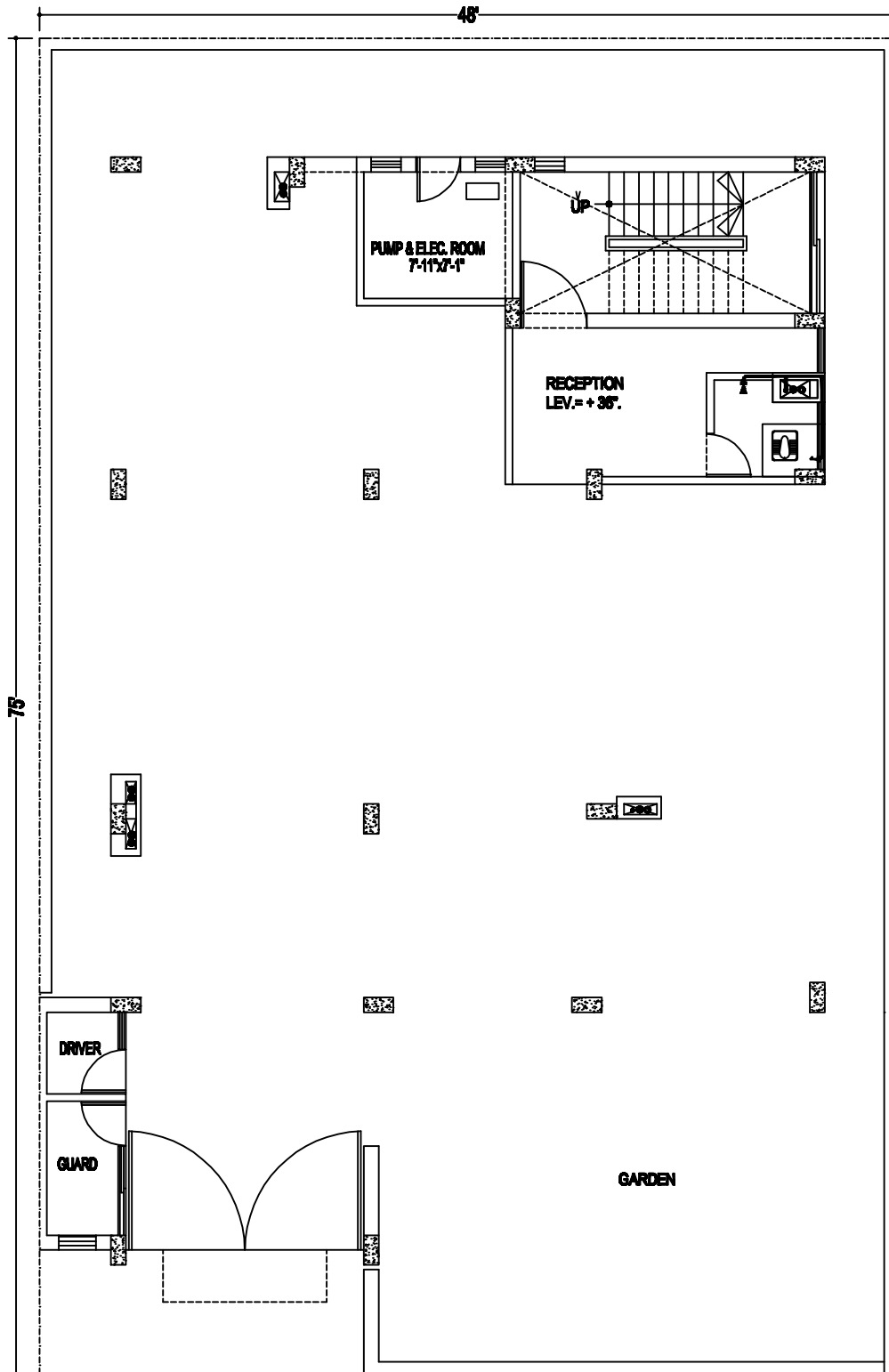




20' WIDE ROAD.
 LEVEL ± 0'.



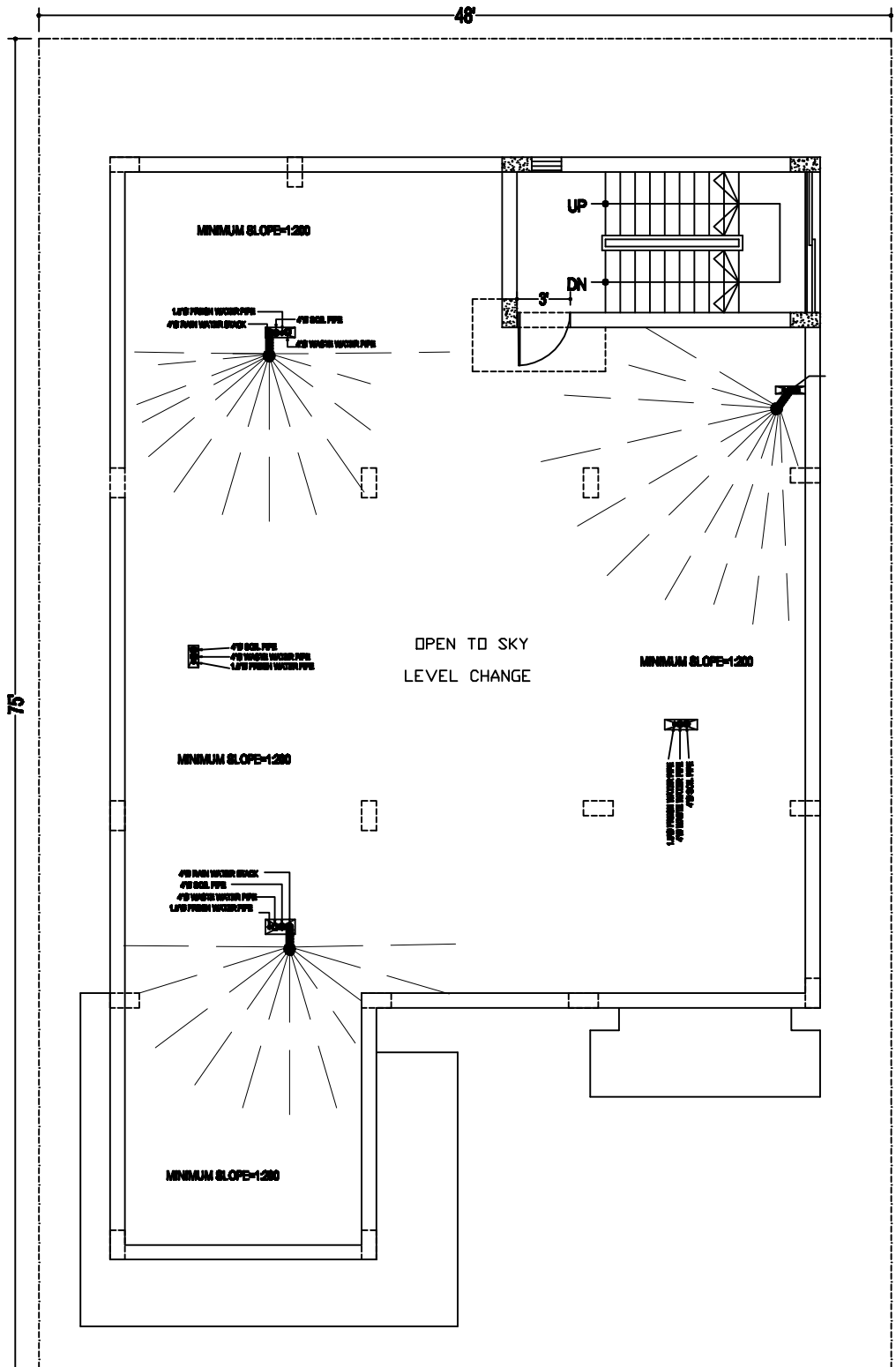
PLUMBING FIXTURE, FITTINGS AND LAYOUT
 PLAN OF ROOF TOP
 SCALE : FIT TO PAPER




20' WIDE ROAD.
LEVEL ± 0'.



FRESH WATER SUPPLY PIPE LAYOUT PLAN OF GROUND FLOOR
SCALE : FIT TO PAPER



20' WIDE ROAD.
LEVEL: ± 0'


**ROOF TOP WATER DISTRIBUTION & RAIN WATER
PIPING PLAN**
SCALE : FIT TO PAPER

GENERAL NOTES

Standard Pipe Threads		
Pipe Size	Threads Length (in.)	No of Threads For Each Joint
½"ø	0.533 in.	7.47 Nos.
.75"ø	0.545 in.	7.64 Nos.
1"ø	0.6828 in.	7.85 Nos.
1¼"ø	0.7068 in.	8.13 Nos.
1½"ø	0.7235 in.	8.32 Nos.
2"ø	0.7565 in.	8.70 Nos.
2½"ø	1.1375 in.	9.10 Nos.
3"ø	1.20 in.	9.60 Nos.

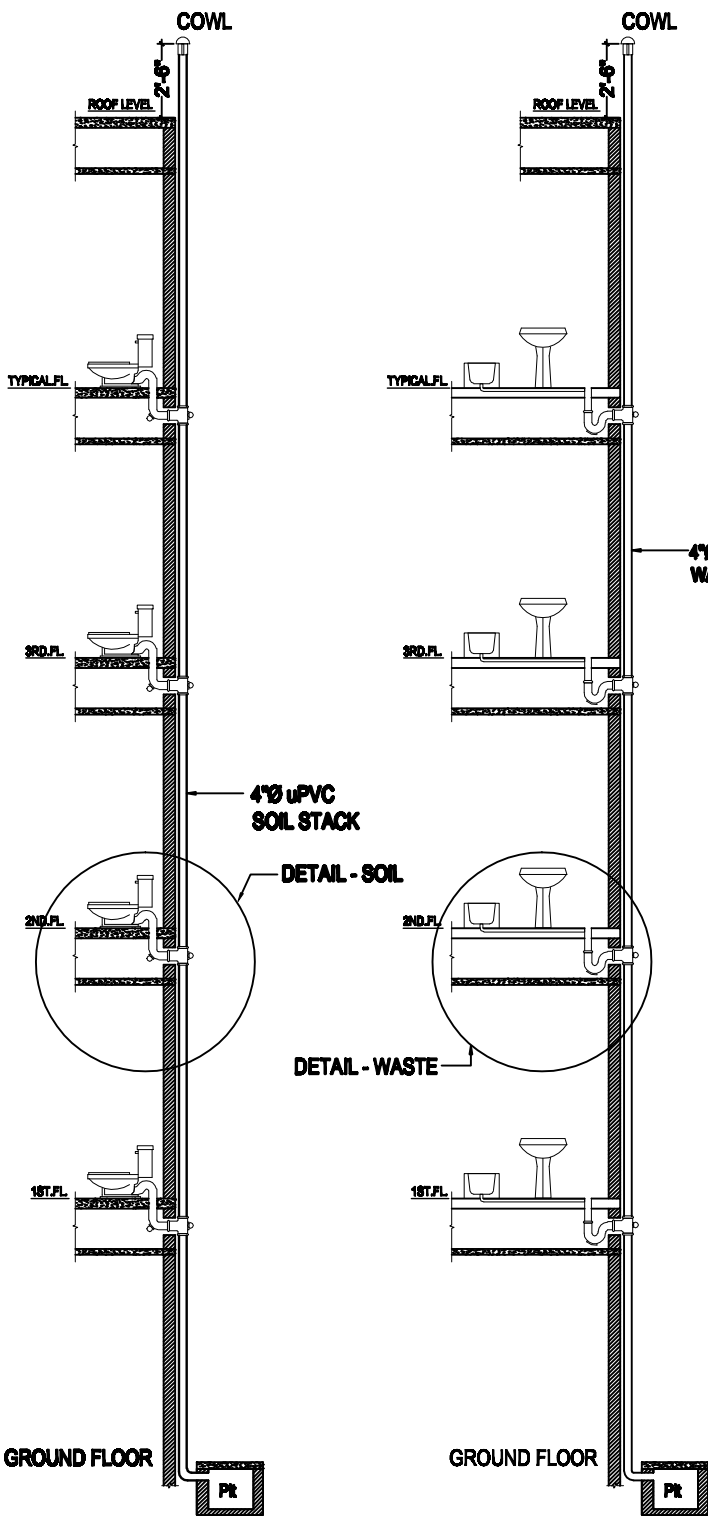
PIPE FAUCET		
SL.NO.	SYMBOL	DESCRIPTION
01		SOIL STACK (4"ø IF NOT MENTIONED)
02		VENT STACK (2"ø IF NOT MENTIONED)
03		WASTE WATER STACK (4"ø IF NOT MENTIONED)
04		RAIN WATER DOWN PIPE (4"ø IF NOT MENTIONED)
05		SOIL PIPE (4"ø IF NOT MENTIONED)
06		WASTE WATER PIPE (4"ø IF NOT MENTIONED)
07		VERTICAL WATER SUPPLY or LIFTING PIPE
08		FRESH WATER SUPPLY PIPE (1/2"ø IF NOT MENTIONED)
09		HOT WATER SUPPLY PIPE (3/4"ø IF NOT MENTIONED)
10		RAIN WATER PIPE (4"ø IF NOT MENTIONED)
11		WW PIPE FOR A/C (3/4"ø IF NOT MENTIONED)
12		GAS PIPE (3/4"ø IF NOT MENTIONED)
13		GAS METER
14		GEYSER

Abbreviation	
Abbreviation	Illustration
H W P	Hot water pipe
O H T	Over head tank
V W L P	Vertical water lifting pipe
V W S P	Vertical water supply pipe
S S C	Subject to site condition
T F F	Throw floor finish
R W D P	Roof water distribution pipe
G P	Gally pit
M S	Moving shower
C B C	Concealed bib cock
B M	Bath tub mixture
M H C	Man hole cover
I P	Inspection pit
M P	Master pit
W W	Waste water
R W	Rain water
G	Geyser

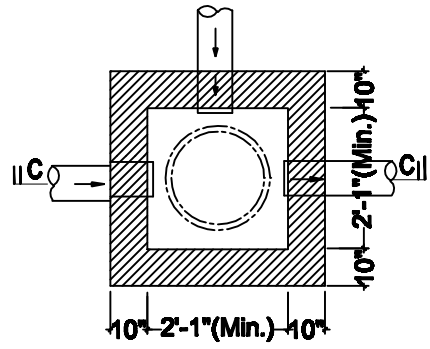
SLOPE OF PIPE	
Dia of pipe	Slope
2"ø	1:30
4"ø	1:70
6"ø FOR SOIL	1:100
6"ø FOR WW & RW	1:120
8"ø to 9"ø	1:150
12"ø	1:250

Various Fixture		
SL.NO.	SYMBOL	DESCRIPTION
01		BATH TUB
02		COMBI CLOSET (WATER CLOSET)
03		HAND WASH BASIN
04		LONG PAN WITH FOOT REST
05		KITCHEN SINK
06		KITCHEN GAS BURNER

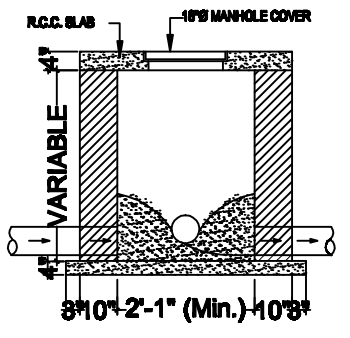
Various Fixture		
SL.NO.	SYMBOL	DESCRIPTION
07		SHOWER TRAY
08		TOWEL RAIL
09		BIB COCK
10		HEAD SHOWER & BIB COCK
11		4" ø GRATING
12		TOILET PAPER HOLDER



RISER DIAGRAM OF TYPICAL ARRANGEMENT FOR SOIL & WASTE WATER STACK VENTING.

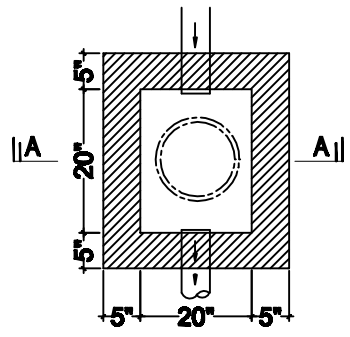


MASTER PIT

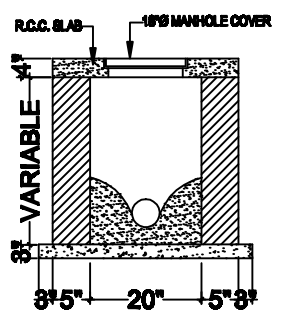


SECTION C-C

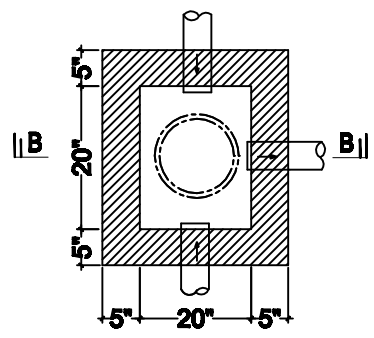
MESURMENT MAIOR CHANGE AS PER SITE CONDITION



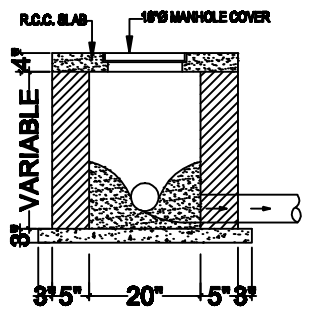
INSPECTION PIT



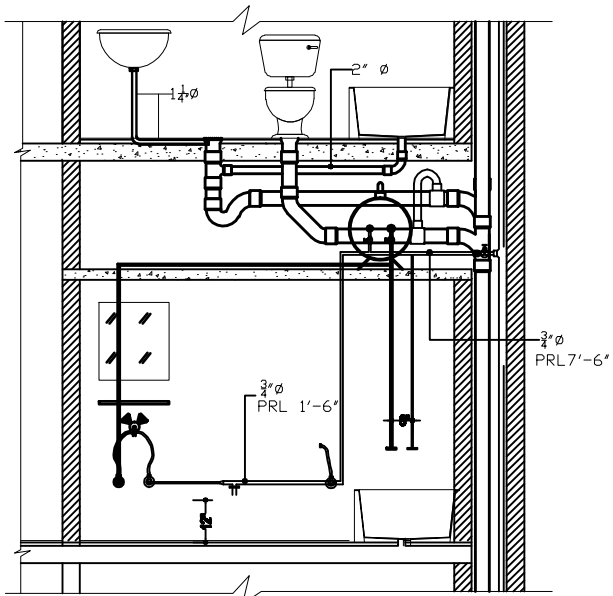
SECTION A-A



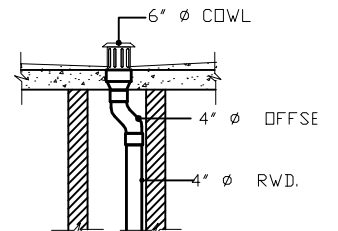
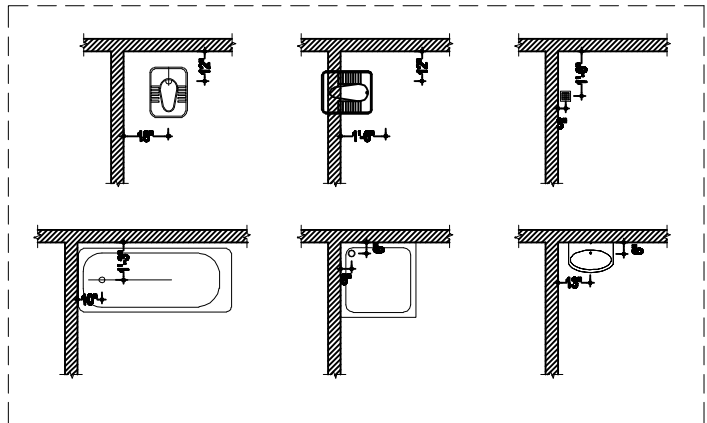
INSPECTION PIT



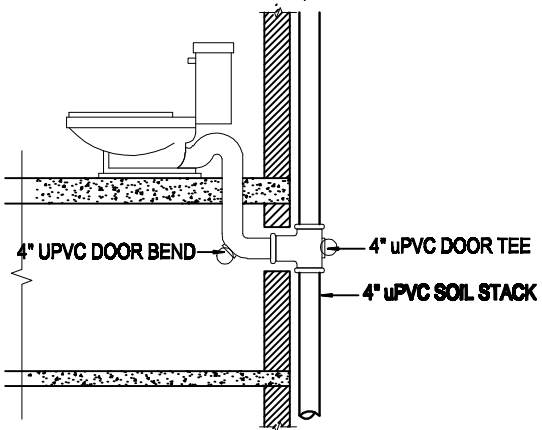
SECTION B-B



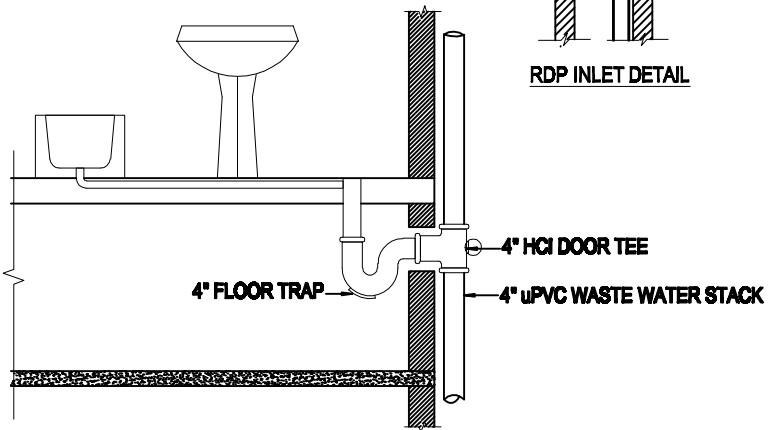
WASTE DISPOSAL & WATER SUPPLY ELEVATION



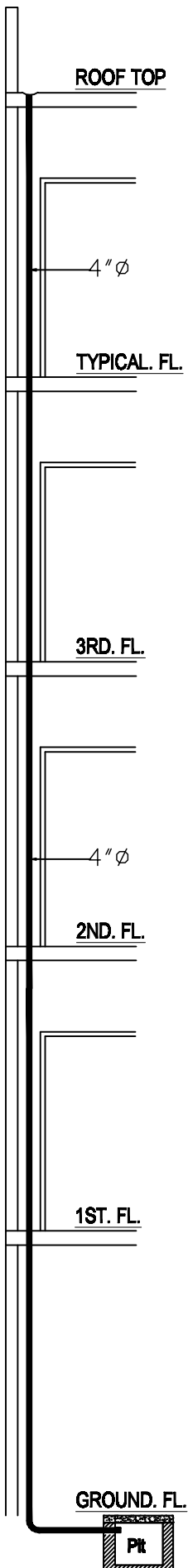
RDP INLET DETAIL



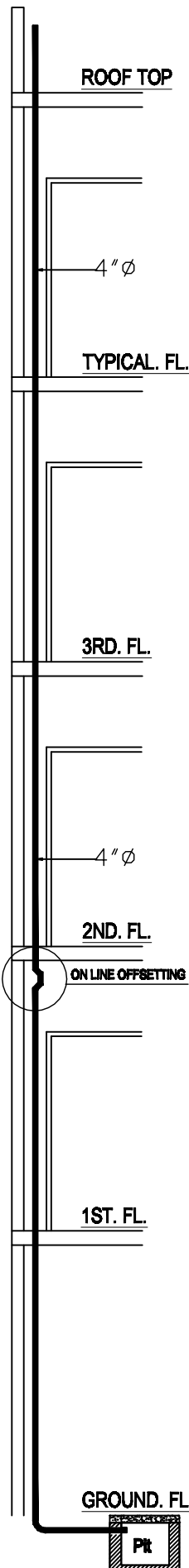
DETAIL - SOIL



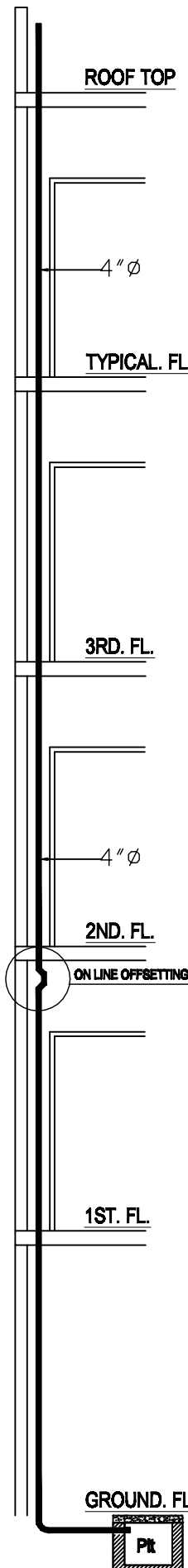
DETAIL - WASTE



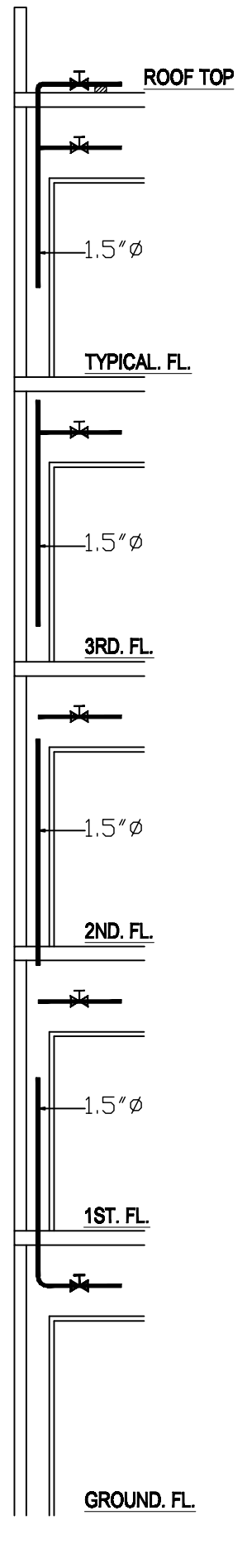
RAIN WATER STACK



WASTE WATER STACK

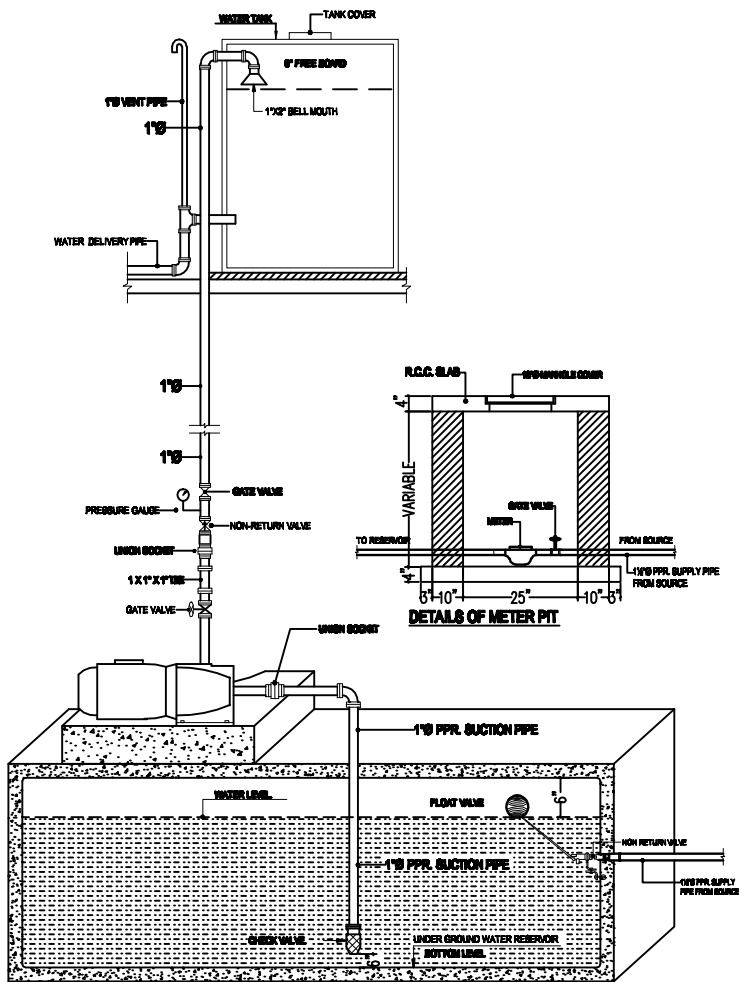


SOIL STACK



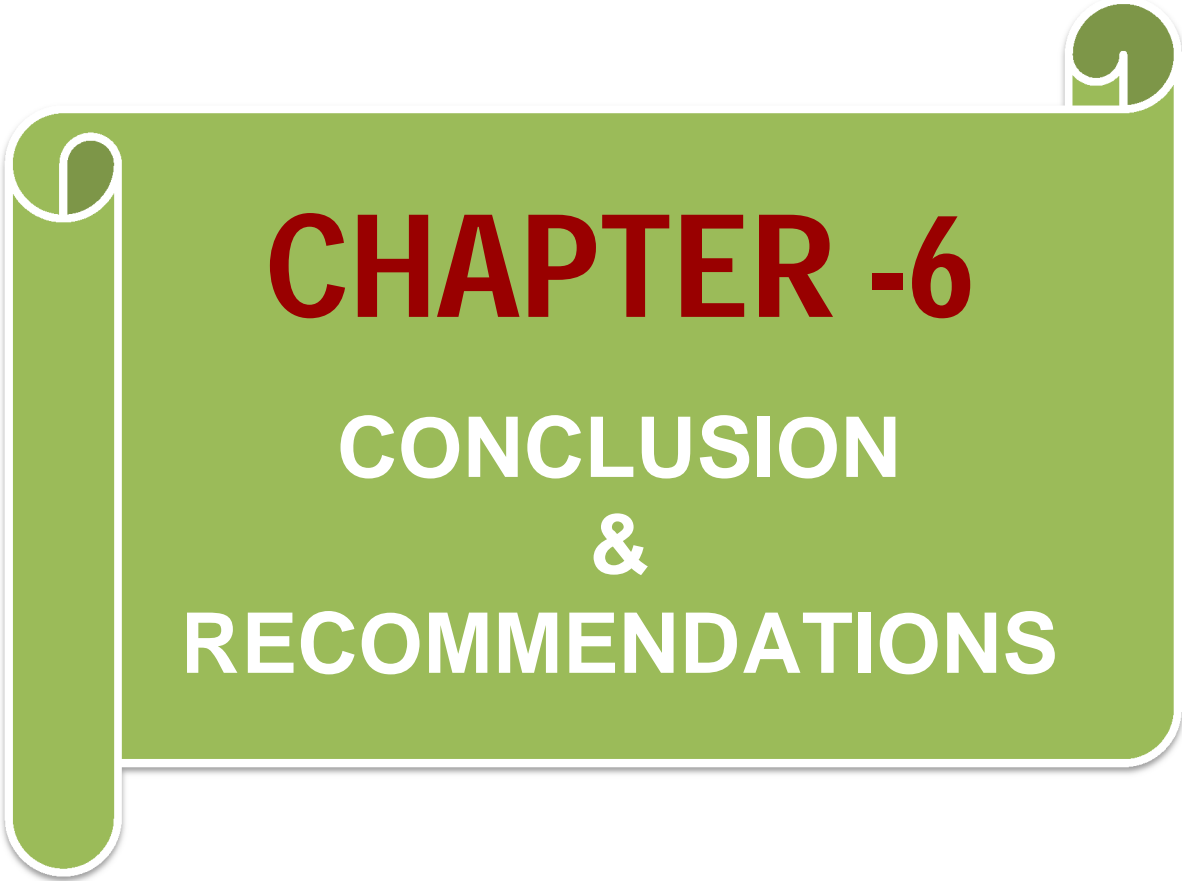
VWSP :1

PLUMBING AND SANITARY LEGEND



INSTALLATION OF WATER SUPPLY PUMP & PIPE WORK

LEGEND :	LEGEND : (SEWERAGE & DRAINAGE) :	GENERAL NOTE : (SEWERAGE & DRAINAGE) :																																			
<ul style="list-style-type: none"> ○ 4" SOL STACK ○ 4" WASTE WATER STACK ○ 4" RAIN WATER STACK — 4" BRANCHED SOL — 4" BRANCHED WASTE — 4" WATER PIPE — 1 1/2" FLOOR CONCEAL PIPE TO FLOOR TRAP 	<ul style="list-style-type: none"> 01. [Symbol] SOL PIPE (S.P.) 02. [Symbol] WASTE WATER PIPE (W.W.P.) 03. [Symbol] RAIN WATER PIPE (R.W.P.) 04. [Symbol] VENT PIPE (V.P.) 05. [Symbol] PIPE DROPPING DOWN 06. [Symbol] BEND WITH ACCESS DOOR 07. [Symbol] STRAIGHT THRU WITH ACCESS DOOR 08. [Symbol] Y-BEND WITH ACCESS DOOR 09. [Symbol] FLOOR TRAP FLOOR DRAIN 10. [Symbol] W.W.W. TRAY FLOOR DRAIN 11. [Symbol] P-TRAP 12. [Symbol] CLEAN OUT 13. [Symbol] INSPECTION PIT 14. [Symbol] MANHOLE COVER 	<p>01. ALL DRAINAGE PIPES SHALL BE OF UPVC MANUFACTURED BY EITHER ACEZ PIPES LTD. OR HPL PIPES UPVC CLASS D AND PIPES OF 3" DIA. OR LARGER SHALL BE OF UNIMAN CLASS C.</p> <p>02. ALL HORIZONTAL DRAINAGE PIPES SHALL BE LAID AT A SLOPE OF FOLLOWING GRADIENTS:-</p> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>SIZE OF PIPE</th> <th>SOL PIPE</th> <th>WASTE & RAIN WATER PIPE</th> </tr> </thead> <tbody> <tr> <td>4" dia</td> <td>1 in 80</td> <td>1 in 80</td> </tr> <tr> <td>6" dia</td> <td>1 in 80</td> <td>1 in 100</td> </tr> </tbody> </table> <p>03. ALL PIPES PASSING THROUGH WALL/FLOOR SHALL BE PROVIDED WITH GLEBE.</p> <p>04. INSTALLATION LEVEL OF PLUMBING FIXTURES:-</p> <p>PLUMBING FIXTURES SHALL HAVE THE FOLLOWING HEIGHT MEASURED FROM FINISHED FLOOR LEVEL, EXCEPT WHERE INDICATED BY THE DRAWING OR INSTRUCTED.</p> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>NAME OF FIXTURES</th> <th>HEIGHT FROM FLOOR</th> </tr> </thead> <tbody> <tr><td>1. WASH BASKIN (TOP)</td><td>2'0"</td></tr> <tr><td>2. GLASS SHELF WITH RAIL (SHELF LEVEL)</td><td>2'0"</td></tr> <tr><td>3. MIRROR (BOTTOM LEVEL)</td><td>4'0"</td></tr> <tr><td>4. SHOWER HEAD</td><td>6'0"</td></tr> <tr><td>5. STOP COCK FOR SHOWER (CENTER LINE)</td><td>4'0"</td></tr> <tr><td>6. STOP COCK (BELOW SHOWER) (CENTER LINE)</td><td>2'0"</td></tr> <tr><td>7. SOAP HOLDER</td><td>2'0"</td></tr> <tr><td>8. TONEL RAIL</td><td>2'0"</td></tr> <tr><td>9. LOW DOWN CISTERN (TOP LEVEL)</td><td>2'0"</td></tr> <tr><td>10. TOILET PAPER HOLDER (R.A.L)</td><td>1'0"</td></tr> <tr><td>11. BID COCK NEAR W.C. (CENTER LINE)</td><td>1'0"</td></tr> <tr><td>12. KITCHEN SINK (TOP)</td><td>2'0"</td></tr> </tbody> </table>	SIZE OF PIPE	SOL PIPE	WASTE & RAIN WATER PIPE	4" dia	1 in 80	1 in 80	6" dia	1 in 80	1 in 100	NAME OF FIXTURES	HEIGHT FROM FLOOR	1. WASH BASKIN (TOP)	2'0"	2. GLASS SHELF WITH RAIL (SHELF LEVEL)	2'0"	3. MIRROR (BOTTOM LEVEL)	4'0"	4. SHOWER HEAD	6'0"	5. STOP COCK FOR SHOWER (CENTER LINE)	4'0"	6. STOP COCK (BELOW SHOWER) (CENTER LINE)	2'0"	7. SOAP HOLDER	2'0"	8. TONEL RAIL	2'0"	9. LOW DOWN CISTERN (TOP LEVEL)	2'0"	10. TOILET PAPER HOLDER (R.A.L)	1'0"	11. BID COCK NEAR W.C. (CENTER LINE)	1'0"	12. KITCHEN SINK (TOP)	2'0"
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A green scroll graphic with a white outline, featuring a rolled-up top edge on the left and a small circular tab on the right. The text is centered on the scroll.

CHAPTER -6

CONCLUSION & RECOMMENDATIONS

CHAPTER-06

CONCLUSION & RECOMMENDATIONS

6.1 CONCLUSION:

1. Different structural component design has been reviewed
2. A typical Six Story building analysis and design has been made by ETABS
3. Structural drawing has been drawn by AutoCAD
4. Sanitary and electrical drawing has been made.

6.2 RECOMMENDATIONS:

For future study in this field, the following recommendations can be put forward:

1. This thesis has been performed by using software ETABS. Other software available may be used in case of designing the building and comparison may be made with the use of other software to ascertain economic design.
2. This study was conducted based on low rise concept; further analysis can be done by considering high rise design criteria.
3. Beam supported slab can be designed by using moment co-efficient method.
4. Study could be done considering various types of building such as commercial buildings besides residential buildings.
5. Other finite element analysis software like ABACUS, NSIS, SAFE, etc. may be used for the same purposed and hence the economic and safe design may be used.

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2. Author H. Nilson, David Darwin, Charles W.Dolan. (1997) "Design of Concrete Structures" (13th edition) Mc Graw Hill Book Co. New Delhi.
3. BNBC (1993), "Bangladesh National Building Code"
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5. "Building Code Requirements for reinforcement Concrete" ACI Publication 318-63, American Concrete Institute, Farmington Hills, MI 1963.
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8. "Seismic Zoning Map of Bangladesh and Outline of a Code for Earthquake Resistance Design of Structure." Survey of Bangladesh, Dhaka, Geological Survey of Bangladesh (Nov. 1979).
9. "Treasure of R.C.C Designs" 14th Edition. 198, Radga Oress, Gandhi Nagar, Felhi. By Shusil Kumar
10. Winter, G.,Urguhart, L.C.O. Rourke, C.E and Nilson, A.H. (1964). "Design of Concrete Structures."

APPENDIX

Design Considerations:

Building Characteristics

Building Type : Residential.

Total Height : 60 ft. + 5 ft. (Under EGL)

Floor Type : Finished with Mosaic.

Sunshade : None.

Cornice : None.

Stair Case Type : Dog-Legged.

Parapet Type : Wall Railing.

Slab System : Beam supported slab

Material Properties

Concrete Strength, f_c' : 3500 Psi

Yield Strength of Steel Reinforcement, f_y : 60000 Psi

Cement Type: Type -I, OPC.

Brick Type: First Class

Design Specification

Design Method : USD

Design Code : ACI

Column Type : Square.

Design Instruction: All necessary Design –Standards, Aids and Check.