Directorate of Town & Country Planning, Haryana
SCO-71-75, 2nd Floor, Sector 17 C, Chandigarh
Phone: 0172-2549349 e-mail:tcphry@gmail.com
website:-http://tcpharyana.gov.in

To

Vatika Ltd.
Vatika Triangle, 7th Floor,
Block -A, Sushant Lok – I, M.G. Road,
Gurgaon.

Memo No.LC-1143 (VA)-2014 2781 Dated: 9/12/14

Subject: **Approval of Service Plan/Estimates for RESIDENTIAL PLOTTED COLONY on the land measuring 393.358 acres falling in the part of the license no. 76 of 2011 dated 07.09.2011 in Sector 81, 82, 82A, 83 & 85, Distt. Gurgaon.**

Ref. Your letter dated 16.06.2014 on the subject noted above.

The service plan/estimates of Plotted Colony falling in Sector 81, 82, 82A, 83 & 85, Gurgaon being developed by you, has been checked and corrected wherever necessary by Chief Administrator, HUDA, Panchkula and are hereby approved subject to the following terms & conditions:

1. You will have to pay the proportionate cost of external development charges for the services like water supply, sewerage, storm water drainage, roads, bridges, community buildings, street lighting, horticulture etc. on gross average basis as and when approved by the Director. These charges are modifiable as and when approved by the Government and modified charges will be binding upon the colonizer.
2. You are liable to maintain the estate developed by you as per HUDA norms till such time the colony is taken over by the Local Authority/State Govt.
3. The wiring system of the street lighting will be under ground and the specifications of the street lighting fixture etc. will be as per relevant standard of HVPNL.
4. That appropriate provision for fire fighting as required in the NDC/ISI code should also be provided by you and a fire safety certificate will be obtained by you from the competent authority before undertaking any construction. You will be sole responsible for fire safety arrangements. You will not make connection with the master services without prior approval of the competent authority.
5. You will be fully responsible to make the arrangement of disposal of sewerage and storm water drainage till such time these are made available by HUDA and all link connections with the external system will be done by you at your own cost. You will have to ensure that sewer/storm water drainage to be laid by you will be connected by gravity with the master services laid/to be laid by HUDA/State Govt. in this area as per your scheme. In case pumping is required the same will be done by you at their own cost.
6. The correctness of the levels of the colony will be sole responsibility of the colonizer for integrating the internal sewer/storm water drainage of the colony by gravity with the master services.

For Vatika Limited

Authorised Signatory

7. It is made clear that roof top rain harvesting system shall be provided by you as per norms and the same shall be kept operational/maintained all the time. The arrangement for segregation of first rain shall be made by you.
8. The estimate do not include the provision of electrification of the colony, therefore the supervision charges and O & M charges shall be paid by you directly to the HVPN.
9. You will be responsible for the construction of various structures such as RCC under ground tank etc. according to the standard specifications, good quality and its workmanship. The structural stability responsibility will entirely rest upon you.
10. In case some additional structures are required to be constructed and decided by the Director/HUDA at a later stage, the same will be binding upon you.
11. You will not make the connection with the master services i.e. water supply, sewerage, storm water drainage without getting its approval from the competent authority.
12. Levels/extent of the services to be provided by the HUDA i.e. water supply, sewerage will be proportionate of EDC as and when made available by HUDA till that you will make its own arrangement.
13. You will comply with the conditions as specified in Annexure 'A' attached with service plan/estimates.
14. You shall get approved the electrical service plan estimates from the concerned power utility within 60 days and submit the same in this office after approval.
15. A copy of the approved service plan/estimates is enclosed herewith. You are requested to supply four additional copies of the approved service plan/estimates to the Chief Engineer, HUDA, Panchkula under intimation to this office.

(KARAMVEER SINGH)
District Town Planner (HQ)
For Director General, Town & Country Planning
Haryana Chandigarh

Endst. No. LC-1143-(SPE)-JE (VA)-2014/ Dated

A copy is forwarded to the Chief Administrator, HUDA, Panchkula with reference to his letter No. 862 dated 21.01.2013 for information and necessary action please.

(KARAMVEER SINGH)
District Town Planner (HQ)
For Director General, Town & Country Planning
Haryana Chandigarh

For Vatika Limited

Authority

Vatika India Next, Gurgaon

Contents

1. INTRODUCTION

- Gurgaon is the industrial and financial center of Haryana. Gurgaon is one of Delhi's four major satellite cities and is part of the National Capital Region of India. Over the past 10 years the city has undergone rapid development and construction.

2 LOCATION

- The project is located within approved master plan of Gurgaon in Sector- 81, 82A, 82, 83, 84 & 85
- The site is located at junction of National Highway-8 & Northern Periphery Road.
- Vatika Limited Vatika Triangle, Block B, Sushant Lok-I, Mehrauli Gurgaon Road, Gurgaon, is developing residential colony, Vatika India Next in proposed sector 82, 82A, 83, 84 & 85 Gurgaon.
- Vatika Limited Vatika Triangle, Block B, Sushant Lok-I, Mehrauli Gurgaon Road, Gurgaon has been awarded License by Director, Town & Country Planning Department, and Govt. of Haryana to develop 393.36 acre area in proposed sector 82, 82 A, 83, 84& 85 Gurgaon.

3 ROADS

3.1 Roads

3.1.1 Proposed Site Grading

The concept adopted for site grading and estimating the earth work quantities is described below.

a. Sufficient natural slopes are available on the ground.

b. The master roads been constructed by HUDA have already been planned & the road grading has been finalized. These levels, conveyed by HUDA to M/S Vatika Ltd., have been kept in view.

3.2 ROAD NETWORK

3.2.1 Existing Connectivity to the Project site

- At present the project site is connected directly from the National Highway-8 located on the southern side of the project site.
- The site will further be connected with the 60 Mtr master plan roads dividing 82-83, 84-85, 83-84 & 82-85 which show that the site will have excellent connectivity with National Highway.
- The site will further get connected with the NPR directly to Delhi near Dwarka.

3.2.2 Road Cross Sections

- The ROW of various road are decided as per the min. requirements of deptt of TCP Haryana & have been cross checked with the IRC requirements of roads in URBAN area based on the traffic assessment criteria as mentioned above. The land under roads is 92.72 acres under internal roads & 18.7 acres under external roads. The total land under roads is 18.15% of the project area.

3.2.3 Road Design

3.2.3.1 Soil Investigation Report

- Based on the Soil Investigation Report the CBR value for 5mm penetration have been considered fit for the design & as such the average value CBR considered for the design is 6 %

3.2.3.2 Earth Work

- The fill sections or from sub grade level at cut sections should be compacted to a dry density corresponding to the minimum state of compaction likely to be achieved. As per normal practice the dry density of the embankment shall be 95 % while in case of sub-grade to the depth of 500 mm below the carst shall be 97% in all roads.

For Vatika Limited

Authorised Signatory

5.2.3.3 Internal Streets

All Internal Streets of 12 & 15 Mtr have been proposed with the following crust thickness:

GSB	-	150 mm
Granular Base (WMM)	-	225 mm
BM	-	50 mm
SDBC	-	25 mm

All Roads of 24 Mtr width

GSB	-	200 mm
Granular Base (WMM)	-	225 mm
DBM	-	50 mm
SDBC	-	25 mm

The Granular Sub Base material should have a minimum CBR value of 25 % Standard Road Cross Sections have been adopted

Table:-1

S.No.	Name of Road	Width of Road	Berms of Main Road Upper side	Main Road	Central Verge	Paved Parking	Berms of Main Road Lower side
	M	M	M	M	M	M	M
1	12 m	12	3	6			3
2	15 m	15	4.5	6			4.5
3	18 m	18	4.5	6		3	4.5
4	24 m	24	4	14	2		4
	Total						

4 WATER SUPPLY

4.1 Source of Water

a. HUDA water pipe line is laid along 90 m wide Road from proposed development of residential colony in Sector 82, 82A, 83, 84 & 85 Gurgaon.

b. Boosting Station is proposed in Sector 82.

c. Area available is 1600 sqm.

d. Rising Main from the above said HUDA water pipe line to Boosting Station in Sector-82 is proposed.

e. It is proposed to construct centralized RCC underground tank of capacity as per attached details for domestic purpose.

f. The RCC underground tank will be filled from the HUDA rising Main and then pumped directly to plots.

g. The scheme has been designed and the total water supply requirements calculated for population as given inn attached sheets.

h. 7 No. Existing Tube wells will supply water in initial stage.

4.2 Pumping Equipments

a. It has been proposed to install pumping machinery as described with standby of equal capacity.

b. Provision for stand by generating set has been made to run the system in case of power failure.

c. The total area has been sub dived in 2 Zones

d. The distribution of water from Boosting Station is proposed in 2 Zones as per breakup given below:-

5 SEWERAGE SYSTEM

Proposal

- Master Sewer is proposed to be laid along 60 m & 75 m wide roads by HUDA.
- 300 mm i/d, 900 mm i/d pipe sewer is proposed to be laid.
- It is proposed that internal sewer from sector may be connected with HUDA sewer at three points.
- Three no sites have been earmarked for construction of STP before joining HUDA Sewer in Sector 82A, 85 & 83.
- The sewer has been designed in such a manner that gravity flow is feasible in main sewer.
- The Estimated Waste Water Generation = 5.02 mld in plotted area
- Initial arrangements for treatment of 1.5 mld for plotted Area.
  STP1 =1 No. module of 300 KL each
  STP2 =3 No. module of 300 KL each.
  STP3 =1 No. module of 300 KL each
- Balance quantity of 5-1.5=3.5 mld waste water is to be disposed off in master sewer.

6 RECYCLING OF TREATED WASTE WATER

Plotted Area

- Requirement of Treated Waste Water = 3150Kld.
- 1500 kld of waste water will be treated by developer.
- Balance quantity of 3150-1500 =1650kld will be supplied by HUDA at later stage.
- Till then this quantity will be added in fresh water supply.
- The distribution network has been designed both ways.

7 STORM WATER DRAINAGE SCHEMES

- As per proposal for Storm Water Drainage the storm runoff from the area will be drained off in the master storm sewer yet to be laid.
- 40% of rain fall finds its way as surface water .balance quantity is either evaporated or infiltrate in ground.
- Efforts are done that part of surface flow also finds its way into ground with the help of injection wells.
- 50 No. Recharge well is proposed in common area.

8 STREET LIGHTING

- As per latest instructions issued by Govt. of Haryana energy efficient street lighting is to be provided in Govt. buildings, Boards, Corporations and public places.
- 150Watt sodium vapour lamps have been proposed on 24 m road on both sides at 40 m distance in a staggered manner i.e. 20 m centre to centre.
- 150Watt sodium vapour lamps have been proposed on 18 m road at 20 m distance on one side of the road. (60 Nos).
- 70Watt HPSV lamps on 12 mt. & 15 mt. roads at a spacing of 20 mts. on one side of roads.
- Clearance of poles from edge is proposed to be 0.6 mts.
- The Street light points shall be supplied power through 25 sq. mm PVC Cables.

9 HORTICULTURE

- Green area acts in the similar manner as lungs performs in human body. Hence its development is important for eco friendly development.
- Fine grassing & landscaping is proposed in all the parks.

For Vatika Limited

- Shrubs and creepers will be provided at suitable places.
- Side plantation will be carried out as per norms on foot paths.
- The different variety of plants will be used as per requirements i.e. for parking area, side, commercial area etc

10 SPECIFICATIONS:

The work will be carried out in accordance with the Haryana Schedule of rates / HUDA and as per Guide lines of the Haryana Govt.

11 RATES

Estimate for providing services in this project has been prepared on the basis of recent market rates and H.S.R.

12 COST

- The cost of the project:-6215Crore
- Add charges on account of Escalation, Over Head& Supervision Charges at 49% of Project Cost: - 3046 Lacs
- Total Cost of the project =9261 Lacs
- Maintenance Cost for 10 years:-3067 Lacs
- Resurfacing of Roads after 5 yrs. & 10 yrs.=574 lacs
- Grand Total =12902 lacs.
- Net Area Planned=321.748 Acres
- The cost of development in this project comes out to be :-40.1 Lacs per acre

Limited

Signatory

Description	Area	Unit
Total Area of the Scheme (182.796+98.781+44.454+67.331)	393.358	Acres
Area under 45m & 60m Sector Road	18.70	Acres
Balance Scheme Area (A)	374.66	Acres
50% of the area under Sector Roads (B)	9.35	Acres
Total (A)+(B)	384.01	Acres
Area under Group Housing	28.00	Acres
Area under Undetermined Use	34.26	Acres
Net Planned Area	**321.748**	**Acres**

Sr.No.	Community Facilities	Unit Area	Required	Provided
		Acres	Nos.	Nos.
1	Nursery School	0.20	6	6
2	Primary School	1.00	4	4
3	High School	3.00	2	3
4	Creche	0.20	2	3
5	Religious Building	0.20	2	2
6	Dispensary	1.25	2	2
7	Club / Community Centre	2.00	2	2
8	Police Post	2.00	1	1
9	Health Center	2.00	1	1
10	Taxi Stand	0.50	6	6
	As a part of LSC/Retail			
1	Clinic 250 sq.m each	0.06	7	7
2	ATM of 12 sq.m	0.003	7	7
3	Beauty Parlour of 12 sq.m	0.003	7	7
4	Multipurpose Booth 5 x 5.5 sq.m	0.0068	7	7
5	Milk & Vegetable Booth	-	7	7
6	Nursing Home	1127.16		8

Sr. No.	Description	Area of each Unit / Plot	Plots	Total Area		Total Persons
1	**Residential (Plotted)**					
		Sq.m.	Nos.	Sq.m.	Acres	No.
		EWS Category				
1.11	A	56.25	497	27956	6.91	4473
1.12	A1	50.00	52	2600	0.64	468
			549	30556	8	4941

		General Category				
1.13	B	150.88	145	21878	5.41	1958
1.14	C	200.68	125	25085	6.20	1688
1.15	D	150.88	361	54468	13.46	4874
1.16	E	201.82	245	49447	12.22	3308
1.17	F	254.40	131	33326	8.24	1769
1.18	F1	250.80	173	43388	10.72	2336
1.19	G	295.20	213	62878	15.54	2876
1.20	H	330.07	152	50171	12.40	2052
1.21	H1	334.49	94	31442	7.77	1269
1.22	H2	342.00	14	4788	1.18	189
1.23	I	409.22	79	32328	7.99	1067
1.25	J	411.81	22	9060	2.24	297
1.26	K	339.84	28	9516	2.35	378
1.27	L	301.07	6	1806	0.45	81
1.28	M	205.39	68	13967	3.45	918
	Sub Total		**1856**	**443548**	**110**	**25056**
	Total		**2405**	**474104**	**117**	**29997**
2	**Area under Group Housing**			113311	28.00	**8400**
3	**Commercial Area**	Sqm	Nos.	Sq.m	Acres	
3.1	Commercial Area			52083	12.87	
3.2	Nursing Home	1127	8	8943	2.21	
4	**Community Area**	Acres	Nos.	Sq.m	Acres	
4.1	High School	5.00	3	67825	16.76	
4.2	Primary School	1.00	4	17078	4.22	
4.3	Nursery School	0.20	6	6232	1.54	
4.4	Creche	0.20	3	3035	0.75	
4.5	Dispensary	1.25	2	9146	2.26	
4.6	Club / Community Centre	2.00	2	16632	4.11	
4.7	Religious Building	0.20	2	2388	0.59	
4.8	Taxi Stand	0.50	6	12790	3.16	
4.9	Police Post	1.02	1	4128	1.02	
4.10	Health Centre	2.63	1	10643	2.63	
	Sub Total			149896	37.04	
5	**Undetermined use**			138644	34.26	
6	**Green Area**					
6.1	Organised Green - Area under Green Belt	13.16	1	53256.2	13.16	
6.2	Incidental Green -	8.6	1	34762.2	8.59	
	Sub Total			**88018**	**21.750**	
7	**Area under Master Roads**			75676	18.700	
8	**Area under Roads**			491175	121.373	
	Total Area / Total Demand			**1591851**	**393.358**	

Sr. No.	Description	Total Persons	Water Allowance	Water Requirement	Net Water Requirement	Net Water Requirement to meet from Recycled water
1	**Residential**					
	Category of Plots					
		No.	LPCD	Ltrs./Day	Ltrs./Day	Ltrs./Day
	EWS Category					
1.11	A	4473	135	603855	603855	167738
1.12	A1	468	135	63180	63180	17550
		4941		667035	667035	185288
	General Category					
1.13	B	1958	172.5	337669	337669	73406
1.14	C	1688	172.5	291094	291094	63281
1.15	D	4874	172.5	840679	840679	182756
1.16	E	3308	172.5	570544	570544	124031
1.17	F	1769	172.5	305066	305066	66319
1.18	F1	2336	172.5	402874	402874	87581
1.19	G	2876	172.5	496024	496024	107831
1.20	H	2052	172.5	353970	353970	76950
1.21	H1	1269	172.5	218903	218903	47588
1.22	H2	189	172.5	32603	32603	7088
1.23	I	1067	172.5	183971	183971	39994
1.24	J	297	172.5	51233	51233	11138
1.25	K	378	172.5	65205	65205	14175
1.26	L	81	172.5	13973	13973	3038
1.27	M	918	172.5	158355	158355	34425
	Sub Total	**25056**		**4322160**	**4322160**	**939600**
	Total	**29997**		**4989195**	**4989195**	**1124888**
2	**Area under Group**	**8400**	172.5	1449000	1134000	315000
3	**Commercial Area**					
3.1	Commercial Area		25000	321750	321750	64350
3.2	Nursing Home		5000	40000	40000	8000
4	**Community Area**					
4.1	High School		150000	450000	360000	90000
4.2	Primary School		50000	200000	160000	40000
4.3	Nursery School		10000	60000	48000	12000
4.4	Crèche		10000	30000	24000	6000
4.5	Dispensary		25000	56500	45200	11300
4.6	Club / Community		25000	102750	82200	20550
4.7	Religious Building		10000	20000	20000	0
4.8	Taxi Stand		5000	30000	24000	6000
4.9	Police Post		25000	25500	20400	5100
4.10	Health Centre		25000	65750	52600	13150
	Sub Total			**1040500**	**836400**	**204100**
5	**Undetermined use**		25000	898464	898464	
6	**Green Area**					
6.1	Organised Green -		25000	329000	32900	296100
6.2	Incidental Green -		25000	214750	21475	193275
	Sub Total			543750	74375	489375
7	**Area under**		10000	187000	18700	168300
8	**Area under Roads**		10000	1213730	121373	1092357
	Total Area / Total			10683389	8434357	3466370
	Total Area / Total			9234389	7300257	3151370

For Vatika Limited

Authorised Signatory

	[illegible]	[illegible]	
	Total Water Demand	9234	KL
1	Potable Water Demand of Plotted Area	7302	KL
2	Fire Fighting Demand	550	KL
3	Flushing Water Demand	1152	KL

	[illegible]		
1	Potable Water Demand of Plotted Area	7302	KL
2	Duration of Supply	16	Hrs
3	Line Flow Rate	11.40	M^3/Min
4	Internal Diameter of Pipe	400	mm
5	Flow Velocity	1.51	M/Sec
6	Frictional Head Loss/100 0M	3.58	M
7	Length of Pipe	380	M
8	Total Head Loss	1.50	M

Design of Water Works			
Net Water Demand of 2041	Residential (Plotted)	7302	KL
Net Water Demand of 2041	Zone I	4652	KL
Net Water Demand of 2041	Zone2	2650	KL
Net Water Demand of 2041	Zone I	4652	KL
Over Head Service Reservoir			
Size of OHSR@ 6 hrs storage capacity		1163	KL
Provide OHSR600 KL storage capacity with30 M Staging Height		382	KL
Balance capacity to carried to UGT		781	KL
Size of UGT@ 8 hrs storage capacity		1551	KL
Fire Fighting Demand		275	KL
Total Capacity required		2607	KL
Provide UGT in Two Compartments one to meet fire demand , size 18m x6mx3 m		324	KL
Provide UGT in Two Compartments another to meet water demand , siz18m x18mx3.6m		2333	KL
Design of Pumping Machinery			
Net Water Demand Zone 1		4652	KL
Daily Pumping Hrs		16	Hr
No of Pumps Proposed		3	Nos.

Pumping Capacity of Pump to cater for average demand with 60% efficiency=1000/3600*4653/16/3	26.9	35	lps
BHP of Motor=35*45/(75*0.6)	35.0	35	BHP
Provide 3pumps to meet total demand 35lps with45 m head ,35 hp Motor each &Provide one pump as stand bye35 lps with45 m , 35 hp Motor			
Provide one no generating set of100 k VA as100% Power back up arrangements to run three pumps average demand with 35HP Motor each.			
Net Water Demand of 2041 Zone 2	2650		KL
Over Head Service Reservoir			
Size of OHSR@ 6 hrs storage capacity	663		KL
Provide OHSR600 KL storage capacity WITH 30 M Staging Height	218		KL
Balance capacity to carried to UGT	445		KL
Size of UGT@ 8 hrs storage capacity	884		KL
Fire Fighting Demand	275		KL
Total Capacity required	1604		KL
Provide UGT in Two Compartments one to meet fire demand , size 18m x6mx3 m	324		KL
Provide UGT in Two Compartments another to meet water demand , siz18m x18mx3.6m each	2333		KL
Design of Pumping Machinery			
Net Water Demand Zone 2	2650		KL
Daily Pumping Hrs	16		Hr
No of Pumps Proposed Two for Peak Demand	2		Nos.
Pumping Capacity of Pump to cater for average demand with 60% efficiency=10003600*2653/16/3	23.0	35	lps
BHP of Motor=20*45/(75*0.6)	35.0	35	BHP
Provide 2pumps to meet total demand 35lps with45 m head ,35 hp Motor each &Provide one pump as stand bye35 lps with45 m , 35 hp Motor			
Provide one no generating set of100 k VA as100% Power back up arrangements to run 2 pumps with 35HP Motor each.			
Design of Boosting Station for recycling of Treated Water			
Anticipated Waste Water 5000			KL
Net Water Demand to met from Recycled Water 3153			KL
Phase 1	1500		KL
Phase 2(Balance treated water to be supplied by HUDA)	1653		KL
To be disposed in HUDA Sewer	1847		KL

Break up use of treated sewer		Net Water Demand to met from Recycled Water	Phase 1(To be treated & utilize by developer)	Phase 2(Balance treated water to be supplied by HUDA)	
Boosting Station	STP -1	685	300	385	KL
Boosting Station	STP -2	1498	900	598	KL
Boosting Station	STP -3	970	300	670	KL
Sub Total		3153	1500	1653	KL

Design of Boosting Station for recycling of Treated Water				
Boosting Station at point STP1 STP1	No.		1	
Size of UGT@ 12 hrs Storage Capacity	150		KL	
Provide UGT of 9m *6M* 3 m Depth	162		KL	
Design of Pumping Machinery				
Net Water Demand	300		KL	
Daily Pumping Hrs	16		Hr	
No of Pumps Proposed one for Average Demand +One for Peak Demand (Two Times Average Demand)	1		Nos.	
Pumping Capacity of Pump to cater for average demand =1000/3600*300/10/1	5.2	5	lps	
BHP of Motor=5*30/(75*0.6)	3.3	5	BHP	
Pumping Capacity of two Pump to cater for peak demand with 60% efficiency=2*1000/3600*889/10/3/0.6	10.4	10	lps	
BHP of Motor=10*30/(75*0.6)	6.7	10	BHP	
Provide one pumps to meet total demand 5 lps with30 m head ,5 hp Motor each &Provide one pumps stand bye5 lps with30 m , 5 hp Motor				
Provide one no generating set of20 k VA as100% Power back up arrangements to run 2 pump as average demand with 5HP Motor each.	20.0	k VA		
Boosting Station at point STP2	No.		3	
Size of UGT@ 12 hrs Storage Capacity	450		KL	
Provide UGT of 9m *6M* 3 m Depth	486		KL	
Design of Pumping Machinery				
Net Water Demand	300		KL	
Daily Pumping Hrs	16		Hr	
No of Pumps Proposed one for Average Demand +One for Peak Demand (Two Times Average Demand)	1		Nos.	
Pumping Capacity of Pump to cater for average demand =1000/3600*300/10/3	5.2	5	lps	
BHP of Motor=5*30/(75*0.6)	3.3	5	BHP	
Pumping Capacity of two Pump to cater for peak demand with 60% efficiency=2*1000/3600*889/10/3/0.6	17.4	10	lps	
BHP of Motor=10*30/(75*0.6)	10.0	10	BHP	
Provide Three pumps to meet total demand 5 lps with30 m head ,5 hp Motor each &Provide one pump as stand bye5 lps with30 m , 5 hp Motor				
Provide one no generating set of25 k VA as100% Power back up arrangements to run three pumps average demand with 5HP Motor each.	25.0	k VA		
Boosting Station at point STP3	No.		1	

Size of UGT@ 12 hrs Storage Capacity	150		KL
Provide UGT of 9m *6M* 3 m Depth	162		KL
Design of Pumping Machinery			
Net Water Demand	300		KL
Daily Pumping Hrs	16		Hr
No of Pumps Proposed one for Average Demand +One for Peak Demand (Two Times Average Demand)	1		Nos.
Pumping Capacity of Pump to cater for average demand =1000/3600*300/10/1	5.2	5	lps
BHP of Motor=5*30/(75*0.6)	3.3	5	BHP
Pumping Capacity of two Pump to cater for peak demand with 60% efficiency=2*1000/3600*889/10/3/0.6	10.4	10	lps
BHP of Motor=10*30/(75*0.6)	10.0	10	BHP
Provide 1epumps to meet total demand 5 lps with30 m head ,5 hp Motor each &Provide one pump as stand bye5 lps with30 m , 5 hp Motor			
Provide one no generating set of 20 k VA as100% Power back up arrangements to run three pumps average demand with 5HP Motor each.			

For Vatika Limited

Authority

COSTING

Total Estimated Cost of Vatika India Next, in Sector 82, 82A, 83, 84 & 85 being developed by Vatika Group

Sr. No.	Description	Total Cost in Rs
1	Sub Work No. 1 (Roads)	422108087
2	Sub Work No. 2 (Water Supply)	100956370
3	Sub Work No. 3 (Waste Water Collection System & Recycling of Treated Waste Water)	[illegible]
4	Sub Work No. 4 (Storm Water)	172919063
5	Sub Work No. 5 (Horticulture & Road Side Plantation)	9167807
6	Sub Work No. 6 (Lightings & Fittings)	44917150
	Sub Total	926147110
	Maintenance for 10 years	
	Roads @ 2% capital cost / yr	14171630
	Water supply @ 3.2% capital cost / yr	35189093
	Waste Water Collection System @ 2.5% capital cost / yr	29867738
	Storm Water @ 2% capital cost / yr	48721171
	Horticulture & Road Side Plantation @ 1% capital cost / yr	1533980
	Light & Fittings @ 2% capital cost / yr	12957836
	Resurfacing of Road after 5 yrs & 10 yrs	152250000
	Sub Total	364059756
	Total Cost	1290716874
	Cost / Acre including Maintenance for net area planned = 328.748 Acres	[illegible]

Executive Engineer
HUDA Division No. III
Gurgaon

Superintending Engineer
HUDA Circle No. 1
Gurgaon

24/1/13

For Vatika Limited

Authorised Signatory

Cost Estimation of Sub Work No. I (Roads)

SUB HEAD NO. I

S.No	Description	Qty	Unit	Rate in ₹ Paisa	Amount in ₹
1	Providing for leveling & earth filling including providing good earth transportation from source to site, laying in layer, rolling & watering & compaction to the desired specification complete as per MORT & H specifications for road & bridge works Clause - 305 for all leads and lifts as per site conditions	93.153	Acres	100000	39353761
2	Contruction of Road By :- i) Providing GSB 280 mm thick as per MORT & H specifications conforming to Clause 401 grading -II 400.1				
	ii) Providing Laying, spreading and compacting graded stone aggregates as per Table 400-11 in Wet Mix Macadam specifications - 406 MORT&H, IV Revision, including premixing the mixed materials with water to OMC in Mechanical mixer (Plug Mill) carriage of mixed material by tipper to site, laying in uniform layers using paver in subbase / base course, on a well prepared sub base and compacting with power and vibratory roller to achieve & desired density, including cost of material complete 150 mm thick	262260	sq mtr	800	209808000
	Providing, laying & compaction of B.M. (Bitumenous Macadam) 50 mm thick with grading 2 as per table No. 500.10 and minimum 4.5% bitumen of 60/70 grade as per MORT&H specifications for road & bridge works 2001 (Revision IV) clause. 507.1 to 507.8 for all leads & lifts etc. complete in all respects to the satisfaction of the Engineer in charge				
	20 mm thick mis seal surfacing.				
3	Providing & Fixing kerbs & channels of C.C. M-20 grade as per standard size including back filling etc. complete in all respects.	41784	mtr	333	13914053
4	Provision for Guide Maps & Plot Indicators, Road Marking Strips & Post Delinators.	L.S		500000	500000
5	Provision for Carriage of materials.	L.S		100000	100000
10.159 HSR	Provision for 80 mm thickPavement of parking in shopping center/commercial center for pavement/parking taking 50 % of the area that is 21.75 ac or 15831 Sq M / 2 = 44009	44009	sq mtr	450	19804150
	Total				283461984
	Total Cost				283461984

C.O to Final Abstract of Cost

Abstract of Sub Work No. 2 (Water Supply)

No. of Sub Head	Name of Sub Head	Amount in ₹
SUB HEAD NO. 1	Source Generation	8112230
Sub Head No. 2	Water Works & Boosting Station	31526000
Sub Head No. 3	Distribution System & Rising Main	54855978
	Total	94494208
	Total Cost	94494208
	C.O to Final Abstract of Cost	

Cost Estimation of Water Supply Srheme

Cost Estimation of Sub Work No. 2	Water Supply			
SUB HEAD NO. 1	Source Generation			

Sr. No.	Description	Qty.	Unit	Rate in ₹	Amount in ₹
1	Boring of tubewells having minimum of 450 mm dia with depth of 70 mtr including providing & fixing 200 mm inside dia V - wire Screen of stainless steel of aproved make, blind pipe of MS confirming is IS: 3589 of 4.8 mm thick threaded and sockted as per approved design including cost of all fitting and clamps placed on the girder and coated with antic erosive paint of approved quality, including supply and installation of 12.5 HP pumping set, GI coloumn pipes, panal board and all other electrical appurtenances to run the tubewell, making provision for the earthing, cost of panal board etc complete in all respect upto delievery pipe lines including the cost of Sluice valves, scour valves and non return valves etc.	7	Nos.	800000	5600000
2	Providing & Installation of Generator Set of Standard make 20 KVA capacity to run the tubewell fixed with the canapy and plateform including cost of change over switch etc complete in all repect.	7	Nos.	338890	2372230
3	Provision for releasing electric connection charges to the DHBVN for the above tube wells	L.S			140000
	Total				8112230

For Vatika Limited

Authorised Signatory

Cost Estimates of Sub Work No. 2				Water Supply			
SUB WORK NO. 2 SUB HEAD NO.2				Water Supply Head works (Water Works, Boosting Station)			
Sr. No.	Description			Qty.	Unit	Rate in ₹	Amount in ₹
	Construction of Boosting chamber of suitable size with cost of Pumping Machinery (Four No Horizontal centrifugal pumps, 35 LPS at 45 M Head, and Generating set of 100KVA capacity etc. complete in all respect As detailed below :	WW1	WW2				
	(I) Construction of Boosting Chamber	1	1	2	No	1000000	2000000
	Construction of RCC OHSR of 500 KL capacity with 29 m staging height of standard design as per Public Health/HUDA Departments including cost for providing and fixing of clamps etc, DI Pipes Double flanged class K9 in inlet, outlet, overflow or scour pipes, Providing & laying DI Standard specials of Class K12 including jointing to pipes and fittings, complete as required for all sizes and degrees and CI Sluice Valves with wheel & cap complete with bolts, nuts, rubber insertions etc. of class PN-1 as per	218	382	600	KL	15000	9000000
	(II) Construction of RCC Under Ground Clear Water Storage Tank, 4726KL capacity in three compartments including inlet, outlet & overflow	2657	2657	5314	KL	3750	19926000
2	Provision for carriage of materials and other unforeseen items.			1	L.S.	100000	100000
3	Construction of Boundary wall and gate around the water works			1	L.S.	200000	200000
4	Development of campus of water works including construction of approach roads, footpath, hedges and development of lawns and plantation etc. complete at water works site			1 LS	No	100000	100000
5	Provision for Staff Quarter			LS		200000	200000
	Total						31526000

C/O to Abstract of Cost of sub work no 2

Authorised Signatory

Vatika Limited

Authorised Signatory

Sr.No. / HSR No.	SUB HEAD NO.3 Description	Distribution System & Rising Main Qty.	Unit	Rate in ₹	Amount in ₹
1	Providing, stringing, cutting and jointing D.I. pipe (Class K-7) Zinc coating outside the pipe and cement lining inside including cost of excavation				
	(For Distribution)				
	100 mm id	22033	Mtr	1034	22777936
	150 mm id	4093	Mtr	1490	6099020
	200 mm id	1501	Mtr	1989	2985011
	250 mm id	1853	Mtr	2709	5019787
	300 mm id	665	Mtr	3390	2254231
	350 mm id	517	Mtr	4932	2549734
	400 mm id	710	Mtr	5429	2806832
	For Rising Main				
	150 mm id	1967	Mtr	1490	2931046
	200 mm id	352	Mtr	1989	700016
	250 mm id	146	Mtr	2709	395515
	300 mm id	169	Mtr	3390	572880
2/ NS Recommendation of Committee	Providing and fixing cast iron double falnged sluice valve/ Butter Fly Valve PN 1.6 marked with IS: 14846 including cost of all joint of material, carriage, loading, unloading, stacking, handling etc complete in all respect ot the satisfaction to the Engineer - in charge.				
	100 mm id	301	Nos.	3698	1113098
	150 mm id	59	Nos.	5709	336831
	200 mm id	21	Nos.	9945	208845
	250 mm id	30	Nos.	15589	467670
	300 mm id	6	Nos.	18810	112860
	350 mm id	5	Nos.	30395	151975
	400 mm id	10	Nos.	41120	411200
3/NS	Providing and fixing Fire Hydrants complete with masonry chambers	8	Nos.	5000	40000
4	Construction of Brick masonry Handi for Sluice Valves & Fire hydrent including surface boxes complete as per Public Health Standard	440	Nos.	5650.00	2486000
5	Provision for indicating Arrow plates for Sluice valve & Fire hydrent	440	Nos.	500	220000
6/ 28.13(A)	Providing and fixing C.I. double Air valves marked with IS : 14845 including carriage, loading, unloading, stacking, handling, re-handling etc., drilling, tapping, screwing in valves connections complete in all respects to the satisfaction of Engineer-in-charge (as per HSR item 28.13 with C.P. mill) 100mm i/d.	5	Nos.	3098	15490
7	Provision for Carrige of material	1	LS	100000	100000
8	Provision for Cutting of Roads and making good to its orignal condition	1	LS	100000	100000
	Total				54855978

Abstract of Sub Work No. 3 (Waste Water Collection System &Recycling of Treated Water)

No. of Sub Head	Name of Sub Head	Amount in ₹
Sub Head No. 1	Waste Water collection/Sewerage	38703903
Sub Head No. 2	Recycling of Treated Water	39115684
	Total	77819587
	Total Cost	77819587

C.O to Final Abstract of Cost

Cost Estimation of Waste Water / Sewerage

SUB WORK NO. 3

Sr. No.	Description	Qty.	Unit	Rate in ₹	Amount in ₹
	Providing salt ginzed stone ware pipes grade 'A' in standard length of 600 mm each pipe marked with IS: 651 and their lowering, cutting, jointing and testing , including cost of excavation, bed concrete , Man holes jointing materials as well as carriage, loading, unloading stacking, handling, reloading etc, complete in all respects to the satisfaction of Engineer in Charge.				
	200 mm id S.W Pipe				
	i) Average Depth up to 2 M				
	Above water table	20668	M	1134	23437512
	250 mm id S.W Pipe				
	ii) Average Depth 2 M to 4 M	2235	M	1437	3211695
	300 mm id S.W Pipe				
	i) Average Depth 2 M to 4 M	2533	M	1832	4640456
	350 mm id S.W Pipe				
	i) Average Depth 2 M to 4 M	1336	M	2214	2957904
	400 mm id S.W Pipe				
	i) Average Depth 2 M to 4 M	787	M	2498	1965926
	450 mm id S.W Pipe				
	i) Average Depth 2 M to 5 M	82	M	3231	264942
	500 mm id S.W Pipe				
	i) Average Depth 2 M to 5 M	408	M	3661	1493688
	700 mm id S.W Pipe				
	i) Average Depth 2 M to 5 M	140	M	5227	731780
	Total	28189			38703903

C.O to Abstract of Cost of sub work no 3

For consultant Pvt. Ltd.

Authorised Signatory

	Recycling of Treated Water	(3.2) Distribution System			
	SUB HEAD NO 2(Recycling of Treated Water)	Qty.	Unit	Rate in ₹	Amount in ₹
Sl No.	Description				
1	Providing, stringing, cutting and jointing AC Pipe of 25kg / cm² pressure including cost of Excavation complete in all respect .				
	110 mm/od	20557	Mtr	300	6167100
	160 mm/od	4115	Mtr	728	2995720
	210 mm/od	2934	Mtr	1214	3561876
	250 mm I/d	1936	Mtr	1658	3209888
	300 mm/d	336	Mtr	2416	811776
3 /	Providing and fixing Butter Fly valves /Ball Valve in C.I. body with integrally moulded liner of nitrile or EPDM, as per is :13095 in PN 1.0.				
	100 mm i/d	285	Nos.	3698	1053930
	150 mm i/d	63	Nos.	5709	359667
	210 mm/od	36	Mtr	9945	358020
	250 mm I/d	29	Mtr	15589	452081
	300 mm/d	3	Mtr	18810	56430
4/ 28.13(A)	Providing and fixing C.I. double Air Valves , Butter Fly valves marked with IS : 14845 including carriage, loading, unloading,	2	Nos.	3098	6196
5	Provision for indicating Arrow Plates for sluice valve and Air Valves	418	Nos.	1000	418000
6	Construction of Brick masonry Haudi for and Air valves including surface boxes complete Public Health Standard	418	Nos.	5000	2090000
7	Provision for providing & fixing lawn hydrants/ Sprinklers with sprinkler system at a distance of 30 m centre to centre on the periphery (green land) complete in all respects	50	Nos.	1000	50000
8	Construction of Boosting Station suitable for the pumping machinery and D.G. set.	1	Nos.	150000.00	150000
9	Construction of RCC Under Ground Water Storage Tank including inlet, outlet & overflow arrangement.	750	Kl	2500.00	1875000
10	Providing & Installing Treatent Units ,5 modules of 300 cum/day	1500	Nos.	10000.00	15000500
11	Providing and installing of pumping set with electric driven slip ring motor complete in all respects.	5	each	100000.00	500000
	Total				39115684
	C.O to Abstract of Cost of sub work no 3				

For Vatika Limited

Authorised Signatory

Cost Estimation of Sub Work No. 4
(Storm Water Drainage)

Sub Head No. 1		(Storm Water Drainage)			
Sr. No.	Description	Qty.	Unit	Rate in ₹	Amount in ₹
1	Construction of RCC Drain, 1:3 cement plaster inside with 1 mm thick cement rendering, RCC slab in RMC M20 or SFRC slab including cost of excavation & complete in all respect				
	Covered Drain				
	Covered Drain 300 mm x 300 mm	3640	mtr.	2000	7280293
2	Providing, stringing, cutting and jointing RCC NP-3 pipe and specials in to Trenches including cost of excavation , cost of manholes, Road Gullies, ventilating chambers etc., complete in all respect.				
	400 mm dia avg.depth 0-2 M	21966	M	3022.00	66381252
	500 mm dia avg.depth 0-2 M	2692	M	3721.00	10022316
	600 mm dia avg.depth 0-2 M	1769	M	4512.00	7981728
	700 mm dia avg.depth 0-2.5 M	1046	M	5227.00	5467442
	800 mm/d avg.depth 0-3 M	240	M	6413	1539120
	900 mm/d avg.depth 0-3.5 M	254	M	7785	1977390
	4)1000 mm/d avg.depth 0-4 M	207	M	8914	1845198
	1100 mm/d avg.depth 0-4 M	439	M	10590	4649010
	1200 mm/d avg.depth 0-4 M	125	M	12342	1542750
4	Provision for connection of proposed drains with existing HUDA Drains	1	Each	30000	30000
5	Provision for Shoring & Timbering , Lighting & Watching	L.S		150000	150000
7	Provision for Carriage of Material	L.S		100000	100000
9	Provision for cutting of road & making good to its original conditions	L.S		100000	100000
5	Provision for 50 nos Recharge Wells	50	Nos.	140000	7000000
	Total Cost				116066492

C.O to Final Abstract of Cost

Authorised Signatory

Sub Work No. 5		Horticulture and Road Side Plantation			
Sub Head No. 1		Qty.	Unit	Rate in ₹	Amount in ₹
Sr. No.	Description				
1	DEVELOPMENT OF GREEN AREA (8.61 Acres) a) Trenching the ordinary soil up to depth of 60 cm i.e. removal and stacking of serviceable material & disposing by spreading and leveling within a lead of 50 M and making up the trench area for proper levels by filling with earth or earth mixed with manure before and after flooding trench with water excluding cost of imported earth and manure. Area of Road				
	b) Supply and stacking sludge at site including royalty and carriage Green Area	21.75	Acres	90000	1957500
	C) Rough dressing of turfed area Grassing with "DOOB GRASS" i.e. watering & maintenance of lawns for 30 days till the grass forms a thick lawn, free from weeds and fit mowing in rows 7.5 cm part in either direction including provision for hedges and barbed wire around park				
	d) Maintenance of lawns or turfing of slopes for a period of 1 year				
2	Road Side Plantation and plantation along the roads and above after distance of each 12 m Detail of Cost				
i	c) Trees/ Shurbs = 60 Rs				
ii	Excavation = 30 Rs				
	Manure = 60 Rs				
	Tree Guard =600 Rs				
	Total Cost of 1 Tree = 750	**4090**	**No**	**750**	**3067500**
	Total				**5025026**
	Total cost				**5025026**
	C.O to Final Abstract of Cost				

Cost Estimation of Sub Work No. 6
(Street Lighting & Fittings)

Sub Work No. 6		Lighting & Fittings			
Sr. No.	Description	Qty.	Unit	Rate in ₹	Amount in ₹
1	Cost of Lighting & Fittings	1981	Nos.	16000	19818000
2	Cost of Poles	1981	Nos.	12000	23772000
	Total cost				43582000
	Total				43582000

C.O to Final Abstract of Cost

For Vatika Limited

Authorised Signatory

DESIGN STATEMENT OF ROADS

Abstract of Road Length

Sr. No.	Description	Width of Road				Total Length
		12 M	15 M	18 M	24 M	
		m	m	m	m	m
1	Sector 82	10116	2526	483	2310	15435
2	Sector 82A	2382	179	0	763	3324
3	Sector 83	5936	1505	637	1987	10065
4	Sector 84	1636	0	243	204	2083
5	Sector 85	4289.00	296.00	0.00	514.00	5099
6	Total	24359.00	4506	1363	5778	36006

For Vatika Limited

vatika

Sector 82 VATIKA (Gurgaon) Design Statement of Roads

Sr No	Name of Road	Length of Road	Width of Road	Natural Surface Levels		Slope Character	Longitudinal Slope	Formation Levels		Quantity	Earthwork in Filling	Excavation in Cutting	Length of Roads			
				Upstream Level	Downstream Level			Upstream Level	Down stream Level				12 M Wide Road	15 M Wide Road	18 M Wide Road	24 M Wide Road
		m	m					m	m	cu.m	cu.m	cu.m	m	m	m	m
1	2	3	4	5	6	7	8	9	10	14	15	16	18	19	20	21
1	B'12-B11	133	24	234.100	234.130	-1	1000	234.563	234.430	1219.11	1219.11	0.00				133
2	B11-B10	60	24	234.130	234.130	-1	4000	234.430	234.415	421.81	421.81	0.00				60
3	B10- B9	57	24	234.130	233.900	-1	300	234.415	234.225	417.82	417.82	0.00				57
4	B9- B8	88	24	233.900	233.750	-1	450	234.225	234.030	639.19	639.19	0.00				88
5	B8- B7	62	24	233.750	234.000	-1	1250	234.030	233.980	193.54	193.54	0.00				62
6	B7- B5	195	24	234.000	233.430	-1	625	233.980	233.668	511.38	511.38	0.00				195
7	B5-E6	69	24	233.430	233.250	-1	600	233.668	233.553	448.40	448.40	0.00				69
8	E6- E5	13	24	233.250	233.350	1	200	233.553	233.618	89.16	89.16	0.00				13
9	E5- E4	55	24	233.350	233.600	1	175	233.618	233.933	396.55	396.55	0.00				55
10	E4- E3	56	24	233.600	234.050	1	200	233.933	234.213	352.71	352.71	0.00				56
11	E3- E'2	34	24	234.050	234.160	1	125	234.213	234.485	198.74	198.74	0.00				34
12	E'2- E1	77	24	234.160	234.300	1	350	234.485	234.705	673.70	673.70	0.00				77
13	C20-C'18	82	24	231.250	231.250	1	475	232.018	232.191	1681.12	1681.12	0.00				82
14	C'18- C16	43	24	231.250	231.750	1	475	232.191	232.281	759.35	759.35	0.00				43
15	C48- C7	20	24	232.250	232.380	1	150	232.907	233.040	316.02	316.02	0.00				20
16	C7- C'5	74	24	232.380	233.000	1	275	233.040	233.309	860.61	860.61	0.00				74
17	C'4- C2	58	24	233.250	233.450	1	225	233.553	233.811	462.04	462.04	0.00				58
18	C1- B11	60	24	233.750	234.130	1	180	234.104	234.437	476.37	476.37	0.00				60
19	C'10-F'30	31	24	232.000	232.000	-1	600	232.788	232.736	566.91	566.91	0.00				31
20	F'30-F'31	40	24	232.000	232.250	-1	600	232.736	232.669	554.69	554.69	0.00				40

Sector 82 VATIKA (Gurgaon) Design Statement of Roads

Sr No.	Name of Road	Length of Road	Width of Road	Natural Surface Levels		Slope Character	Longitudinal Slope	Formation Levels		Quantity	Earthwork in Filling	Excavation in Cutting	Length of Roads			
				Upstream Level	Downstream Level			Upstream Level	Down stream Level				12 M Wide Road	15-M Wide Road	18 M Wide Road	24 M Wide Road
		m	m					m	m	cu.m	cu.m	cu.m	m	m	m	m
21	F28-F27	168	24	232.250	232.000	-1	600	232.669	232.389	1630.84	1630.84	0.00				168
22	F27-F8	45	24	232.000	232.000	-1	600	232.389	232.314	380.13	380.13	0.00				45
23	F8- D'1	62	24	232.000	232.000	-1	600	232.314	232.211	391.06	391.06	0.00				62
24	D'2-D'3	68	24	232.000	232.000	-1	600	232.211	232.098	252.10	252.10	0.00				68
25	D'13-D'12	45	24	231.250	231.250	-1	600	232.098	232.023	875.13	875.13	0.00				45
26	E6- E7	123	24	233.250	232.750	-1	400	233.553	233.246	1179.38	1179.38	0.00				123
27	B7- F1	60	18	234.000	233.810	-1	625	233.980	233.884	29.45	29.45	0.00			60	
28	F1- F2	56	18	233.810	233.500	-1	675	233.884	233.801	189.29	189.29	0.00			56	
29	F1-F9	195	12	233.810	232.250	-1	575	233.884	233.545	1602.21	1602.21	0.00	195			
30	F9-B5	60	15	232.250	233.430	1	475	233.545	233.671	691.47	691.47	0.00		60		
31	F2-F14	172	15	233.500	233.150	-1	600	233.801	233.515	859.07	859.07	0.00		172		
32	F14-F15	56	12	233.150	233.900	-1	225	233.515	233.266	90.59	0.00	90.59	56			
33	F14-F10	35	15	233.150	233.000	-1	550	233.515	233.451	214.11	214.11	0.00		35		
34	F11-F18	120	12	232.750	232.850	1	600	233.523	233.523	896.68	896.68	0.00	120			
35	F18-F19	30	15	232.850	232.700	1	1100	233.523	233.550	342.60	342.60	0.00		30		
36	F2-F3	56	18	233.500	233.150	-1	225	233.801	233.552	354.68	354.68	0.00			56	
37	F3-F15	172	12	233.150	233.900	-1	600	233.552	233.266	239.25	0.00	239.25	172			
38	F15-F16	56	12	233.900	232.800	1	250	233.266	233.490	18.65	18.65	0.00	56			
39	F16-F17	15	15	232.800	232.850	1	500	233.490	233.520	152.94	152.94	0.00		15		
40	F16-F18	9	12	232.800	232.850	1	300	233.490	233.520	73.41	73.41	0.00	9			

Sector 82 VATIKA (Gurgaon) Design Statement of Roads

Sr No.	Name of Road	Length of Road	Width of Road	Natural Surface Levels		Slope Character	Longitudinal Slope	Formation Levels		Quantity	Earthwork in Filling	Excavation in Cutting	Length of Roads			
				Upstream Level	Downstream Level			Upstream Level	Down stream Level				12 M Wide Road	15 M Wide Road	18 M Wide Road	24 M Wide Road
		m	m					m	m	cu.m	cu.m	cu.m	m	m	m	m
41	F3-F4	16	18	233.150	233.100	-1	200	233.552	233.472	111.58	111.58	0.00			16	
42	F4-F12	67	12	233.100	233.100	1	850	233.472	233.551	331.11	331.11	0.00	67			
43	F4- F5	27	18	233.100	233.000	-1	250	233.472	233.364	179.05	179.05	0.00			27	
44	F5- F6	75	18	233.000	232.750	-1	225	233.364	233.031	435.71	435.71	0.00			75	
45	F5-F20	23	12	233.000	233.000	-1	525	233.364	233.321	94.53	94.53	0.00	23			
46	F20-F21	106	12	233.000	232.750	-1	500	233.321	233.109	431.98	431.98	0.00	106			
47	F21-F22	10	12	232.750	232.750	1	2000	233.109	233.114	43.33	43.33	0.00	10			
48	F21-F6	61	12	232.750	232.750	-1	775	233.109	233.030	233.69	233.69	0.00	61			
49	F6-F23	57	12	232.750	232.750	1	625	233.030	233.121	222.64	222.64	0.00	57			
50	F23-F24	116	12	232.750	232.380	1	775	233.121	233.271	878.27	878.27	0.00	116			
51	F6- F7	132	18	232.750	232.250	-1	225	233.030	232.443	562.08	562.08	0.00			132	
52	F7- F8	61	18	232.250	232.000	-1	475	232.443	232.315	278.92	278.92	0.00			61	
53	F7-F26	82	12	232.250	232.250	1	775	232.443	232.549	242.20	242.20	0.00	82			
54	F7-F25	40	12	232.250	232.100	1	675	232.443	232.502	142.97	142.97	0.00	40			
55	B8-F33	40	12	233.750	233.650	1	1000	234.030	234.070	167.94	167.94	0.00	40			
56	B10-F32	89	12	234.150	233.500	-1	500	234.415	234.237	546.20	546.20	0.00	89			
57	F32-F35	34	12	233.500	233.500	-1	800	234.237	234.195	292.20	292.20	0.00	34			
58	F35-C1	72	12	233.500	233.750	-1	800	234.195	234.105	453.54	453.54	0.00	72			
59	F35-C2	34	12	233.500	233.450	-1	90	234.195	233.817	216.66	216.66	0.00	34			
60	C21-C21	11	12	233.750	233.750	1	5000	234.322	234.319	75.31	75.31	0.00	11			
61	C21-C1	164	12	233.750	233.750	-1	750	234.319	234.101	905.46	905.46	0.00	164			

vatika

Sector 82 VATIKA (Gurgaon) Design Statement of Roads

Sr No.	Name of Road	Length of Road	Width of Road	Natural Surface Levels		Slope Character	Longitudinal Slope	Formation Levels		Quantity	Earthwork in Filling	Excavation in Cutting	Length of Roads			
				Upstream Level	Downstream Level			Upstream Level	Down stream Level				12 M Wide Road	15 M Wide Road	18 M Wide Road	24 M Wide Road
		m	m					m	m	cu.m	cu.m	cu.m	m	m	m	m
62	C21-C22	66	12	233.750	233.250	-1	250	234.319	234.055	544.44	544.44	0.00	66			
63	C22-C23	46	15	233.250	233.450	1	10000	234.055	234.060	488.33	488.33	0.00		46		
64	C22-C24	34	12	233.250	233.100	-1	110	234.055	233.746	296.16	296.16	0.00	34			
65	C24-C42	94	12	233.100	233.000	1	3000	233.746	233.778	803.14	803.14	0.00	94			
66	C42-C43	56	12	233.000	233.500	1	3000	233.778	233.796	360.86	360.86	0.00	56			
67	C43-C43	52	15	233.500	233.450	1	3000	233.796	233.814	257.40	257.40	0.00		52		
68	C42-C44	81	12	233.000	233.250	-1	450	233.778	233.598	546.91	546.91	0.00	81			
69	C44-C45	36	12	233.250	233.000	-1	350	233.598	233.495	181.98	181.98	0.00	36			
70	C45-C46	29	12	233.000	233.250	1	5000	233.495	233.501	129.70	129.70	0.00	29			
71	C45-C26	42	12	233.000	233.000	-1	300	233.495	233.355	214.10	214.10	0.00	42			
72	C26-C25	67	15	233.000	232.750	-1	2000	233.355	233.321	465.38	465.38	0.00		67		
73	C26-C27	50	12	233.000	232.750	1	5000	233.355	233.365	290.89	290.89	0.00	50			
74	C25-C47	125	12	232.750	232.500	-1	375	233.321	232.988	794.47	794.47	0.00	125			
75	C47-C7	76	15	232.500	232.380	1	1450	232.988	233.040	654.57	654.57	0.00		76		
76	C48-C8	37	12	232.250	232.250	-1	600	232.907	232.845	277.89	277.89	0.00	37			
77	C8-F29	76	12	232.250	232.250	1	5000	232.845	232.860	549.60	549.60	0.00	76			
78	C8-F30	67	12	232.250	232.000	-1	600	232.845	232.733	534.02	534.02	0.00	67			
79	C30-C30	28	12	232.700	232.500	1	5000	232.959	232.954	119.75	119.75	0.00	28			
80	C30-C31	57	12	232.500	232.300	-1	250	232.954	232.726	300.69	300.69	0.00	57			
81	C30-C49	98	15	232.500	232.500	1	5000	232.954	232.973	681.20	681.20	0.00		98		
82	C49-C33	63	15	232.500	232.300	-1	1600	232.973	232.934	523.07	523.07	0.00		63		
83	C48-C33	130	12	232.250	232.300	1	4700	232.907	232.934	1007.03	1007.03	0.00	130			
84	C33-C50	94	12	232.300	232.300	-1	300	232.934	232.620	538.23	538.23	0.00	94			

Sector 82 VATIKA (Gurgaon) Design Statement of Roads

Sr No.	Name of Road	Length of Road	Width of Road	Natural Surface Levels		Slope Character	Longitudinal Slope	Formation Levels		Quantity	Earthwork in Filling	Excavation in Cutting	Length of Roads			
				Upstream Level	Downstream Level			Upstream Level	Down stream Level				12 M Wide Road	15 M Wide Road	18 M Wide Road	24 M Wide Road
		m	m					m	m	cu.m	cu.m	cu.m	m	m	m	m
85	C31-C32	70	12	232.300	232.250	1	5000	232.726	232.740	384.38	384.38	0.00	70			
86	C31-C34	57	12	232.300	232.000	-1	275	232.726	232.518	322.82	322.82	0.00	57			
87	C34-C50	83	15	232.000	232.000	1	825	232.518	232.619	707.94	707.94	0.00		83		
88	C50-C51	94	15	232.000	232.000	1	1000	232.619	232.713	938.97	938.97	0.00		94		
89	C34-C35	62	12	232.000	231.750	-1	205	232.518	232.216	366.13	366.13	0.00	62			
90	C50-C35	70	12	232.300	231.750	-1	175	232.619	232.219	330.90	330.90	0.00	70			
91	C35-C12	188	12	231.750	231.750	1	500	232.216	232.592	1475.17	1475.17	0.00	188			
92	C35-C36	68	12	231.750	231.750	1	3000	232.216	232.239	389.41	389.41	0.00	68			
93	C36-C14	171	24	231.750	231.800	1	1000	232.239	232.410	2253.32	2253.32	0.00				171
94	C36-C38	86	12	231.750	231.550	-1	300	232.239	231.952	459.47	459.47	0.00	86			
95	C38-C52	18	24	231.550	231.250	1	1050	231.952	231.969	242.12	242.12	0.00				18
96	C52-C16	226	24	231.250	231.750	1	725	231.969	232.281	3389.42	3389.42	0.00				226
97	C38-C40	63	12	231.550	231.120	-1	350	231.952	231.772	398.33	398.33	0.00	63			
98	C52-C53	71	12	231.250	231.000	1	3000	231.969	231.993	729.20	729.20	0.00	71			
99	C53-C53	148	12	231.000	231.250	1	3000	231.993	232.042	1584.84	1584.84	0.00	148			
100	C20-C54	95	12	231.250	231.000	-1	700	232.018	231.882	940.56	940.56	0.00	95			
101	C54-C41	143	12	231.000	230.750	-1	650	231.882	231.662	1539.59	1539.59	0.00	143			
102	F'30-D'20	46	12	232.000	232.000	-1	1500	232.736	232.705	397.89	397.89	0.00	46			
103	D'20-D38	166	12	232.000	232.000	1	2500	232.705	232.772	1471.44	1471.44	0.00	166			
104	D38-D'22	67	12	232.000	232.000	1	900	232.772	232.846	650.51	650.51	0.00	67			
105	D'22-F'27	42	12	232.000	232.000	-1	90	232.846	232.380	308.94	308.94	0.00	42			

Sector 82 VATIKA (Gurgaon) Design Statement of Roads

Sr No.	Name of Road	Length of Road	Width of Road	Natural Surface Levels		Slope Character	Longitudinal Slope	Formation Levels		Quantity	Earthwork in Filling	Excavation in Cutting	Length of Roads			
				Upstream Level	Downstream Level			Upstream Level	Down stream Level				12 M Wide Road	15 M Wide Road	18 M Wide Road	24 M Wide Road
		m	m					m	m	cu.m	cu.m	cu.m	m	m	m	m
106	F'28-F36	67	12	232.250	232.250	1	350	232.669	232.861	414.21	414.21	0.00	67			
107	F36-F34	51	12	232.250	232.000	1	5000	232.861	232.871	453.49	453.49	0.00	51			
108	D38-D39	62	12	232.000	231.750	1	6000	232.772	232.782	671.12	671.12	0.00	62			
109	D39-D40	72	12	231.750	232.000	1	6000	232.782	232.794	789.01	789.01	0.00	72			
110	D'20-D'23	69	12	232.000	232.000	1	1000	232.705	232.774	612.70	612.70	0.00	69			
111	D'23-D24	73	12	232.000	232.000	1	4000	232.774	232.793	686.43	686.43	0.00	73			
112	D'23-D'26	142	12	232.000	231.750	-1	325	232.774	232.338	1160.44	1160.44	0.00	142			
113	C16-D'26	20	12	231.750	231.750	-1	350	232.338	232.280	134.15	134.15	0.00	20			
114	D'26- D'27	48	12	231.750	231.750	-1	2500	232.338	232.318	332.90	332.90	0.00	48			
115	D'27- D'28	220	12	231.750	231.500	-1	3000	232.318	232.245	1733.64	1733.64	0.00	220			
116	D'28- D'30	169	12	231.500	231.250	-1	500	232.245	231.907	1421.66	1421.66	0.00	169			
117	D'30- D37	85	12	231.250	231.000	-1	1000	231.907	231.822	754.31	754.31	0.00	85			
118	D'28- D29	106	12	231.500	231.250	1	200	232.245	232.775	1443.74	1443.74	0.00	106			
119	D29-D25	93	15	231.250	231.250	1	2000	232.775	232.822	2159.83	2159.83	0.00		93		
120	D29- D32	64	15	231.250	231.000	-1	1225	232.775	232.723	1558.94	1558.94	0.00		64		
121	D32-D'31	38	12	231.000	231.500	-1	375	232.723	232.621	648.48	648.48	0.00	38			
122	D'31-D35	59	12	231.500	231.250	-1	375	232.621	232.464	826.78	826.78	0.00	59			
123	D35-D36	81	12	231.250	230.750	-1	375	232.464	232.248	1318.13	1318.13	0.00	81			
124	D32- D33	67	12	231.000	231.000	-1	50	232.723	231.383	846.43	846.43	0.00	67			
125	D33-D34	60	15	231.000	231.500	1	5000	231.383	231.395	124.89	124.89	0.00		60		
126	D33-D'21	61	12	231.000	231.250	-1	1400	231.383	231.339	172.74	172.74	0.00	61			
127	D'21-D'25	64	12	231.250	231.000	-1	1400	231.339	231.293	146.95	146.95	0.00	64			
128	D'25-D'34	64	12	231.000	231.000	-1	1500	231.293	231.251	209.01	209.01	0.00	64			
129	D'21-D17	18	12	231.250	231.250	1	5000	231.339	231.343	19.66	19.66	0.00	18			
130	D17-D41	90	12	231.250	231.500	1	500	231.343	231.523	62.42	62.42	0.00	90			

Sector 82 VATIKA (Gurgaon) Design Statement of Roads

Sr No.	Name of Road	Length of Road	Width of Road	Natural Surface Levels		Slope Character	Longitudinal Slope	Formation Levels		Quantity	Earthwork in Filling	Excavation in Cutting	Length of Roads			
				Upstream Level	Downstream Level			Upstream Level	Down stream Level				12 M Wide Road	15 M Wide Road	18 M Wide Road	24 M Wide Road
		m	m					m	m	cu.m	cu.m	cu.m	m	m	m	m
131	D17- D'19	43	12	231.250	231.250	1	5000	231.343	231.351	50.10	50.10	0.00	43			
132	D'19- D16	52	12	231.250	231.250	1	5000	231.351	231.362	66.52	66.52	0.00	52			
133	D16-D'18	45	12	231.250	231.500	1	300	231.362	231.512	33.37	33.37	0.00	45			
134	D'15- D16	61	12	231.250	231.250	1	3300	231.362	231.380	88.60	88.60	0.00	61			
135	D11- D'15	69	15	231.250	231.350	1	3300	231.380	231.401	145.67	145.67	0.00		69		
136	D11-D10	80	12	231.350	231.120	-1	725	231.401	231.291	106.58	106.58	0.00	80			
137	D10-D'9	37	12	231.120	231.000	1	5000	231.291	231.298	104.14	104.14	0.00	37			
138	D10-D'14	22	12	231.120	231.120	1	5000	231.291	231.295	45.69	45.69	0.00	22			
139	D11-D7	55	15	231.350	231.370	1	390	231.401	231.542	92.16	92.16	0.00		55		
140	D7-D8	150	15	231.370	231.050	-1	825	231.542	231.360	542.95	542.95	0.00		150		
141	D8-D'12	40	12	231.050	231.250	1	60	231.360	232.027	260.99	260.99	0.00	40			
142	D7-D6	55	15	231.370	231.500	1	725	231.542	231.618	119.75	119.75	0.00		55		
143	D6-D'5	39	12	231.500	231.500	1	5000	231.618	231.626	57.09	57.09	0.00	39			
144	D6- D'2	84	12	231.500	232.000	1	150	231.618	232.178	149.27	149.27	0.00	84			
145	B5-B4	23	15	233.430	233.500	1	200	233.668	233.783	89.97	89.97	0.00		23		
146	B4- B24	210	12	233.500	234.250	1	200	233.783	234.833	1091.84	1091.84	0.00	210			
147	B4-B3	53	15	233.500	233.500	1	225	233.783	234.019	318.83	318.83	0.00		53		
148	B3- B23	210	12	233.500	234.300	1	255	234.019	234.842	1337.09	1337.09	0.00	210			
149	B24-B23	54	12	234.250	234.300	1	6000	234.833	234.842	364.67	364.67	0.00	54			
150	B3-E4	65	12	233.500	233.600	-1	800	234.019	233.938	334.00	334.00	0.00	65			

Sector 82 VATIKA (Gurgaon) Design Statement of Roads

Sr.No.	Name of Road	Length of Road	Width of Road	Natural Surface Levels		Slope Character	Longitudinal Slope	Formation Levels		Quantity	Earthwork in Filling	Excavation in Cutting	Length of Roads			
				Upstream Level	Downstream Level			Upstream Level	Down stream Level				12 M Wide Road	15 M Wide Road	18 M Wide Road	24 M Wide Road
		m	m					m	m	cu.m	cu.m	cu.m	m	m	m	m
151	B3-B2	56	15	233.500	234.100	1	200	234.019	234.299	301.41	301.41	0.00		56		
152	B2- B6	69	15	234.100	234.500	1	235	234.299	234.592	150.73	150.73	0.00		69		
153	B2-E3	64	15	234.100	234.050	-1	775	234.299	234.216	175.23	175.23	0.00		64		
154	E2-B36	46	15	234.160	234.250	1	900	234.485	234.536	210.53	210.53	0.00		46		
155	B36-B37	34	15	234.250	234.250	1	5000	234.536	234.542	147.42	147.42	0.00		34		
156	B36-B1	90	12	234.250	234.500	1	925	234.536	234.633	226.06	226.06	0.00	90			
157	B23- B25	142	12	234.300	234.250	-1	675	234.842	234.632	787.39	787.39	0.00	142			
158	B25-B32	49	12	234.250	234.200	-1	275	234.632	234.454	186.87	186.87	0.00	49			
159	B32- B35	114	12	234.200	234.500	1	775	234.454	234.601	242.50	242.50	0.00	114			
160	B32- B31	6	12	234.200	234.000	-1	325	234.454	234.435	24.80	24.80	0.00	6			
161	B31- B33	57	12	234.000	233.900	1	6000	234.435	234.445	335.16	335.16	0.00	57			
162	B31- B30	50	12	234.000	234.000	-1	325	234.435	234.281	215.00	215.00	0.00	50			
163	B30- B29	114	12	234.000	234.250	1	500	234.281	234.509	369.92	369.92	0.00	114			
164	B30- B9	18	12	234.000	233.900	-1	325	234.281	234.226	65.60	65.60	0.00	18			
165	B25- B26	9	12	234.250	234.380	1	325	234.632	234.660	35.72	35.72	0.00	9			
166	B26- B34	124	15	234.380	234.500	1	775	234.660	234.820	557.24	557.24	0.00		124		
167	B26- B27	48	12	234.380	234.500	1	275	234.660	234.834	176.75	176.75	0.00	48			
168	B27- B28	106	15	234.500	234.750	1	4600	234.834	234.857	350.85	350.85	0.00		106		
169	B27-B22	59	12	234.500	234.750	1	1000	234.834	234.893	168.96	168.96	0.00	59			
170	B22-B21	119	12	234.750	234.800	1	1000	234.893	235.012	253.67	253.67	0.00	119			

Sector 82 VATIKA (Gurgaon) Design Statement of Roads

Sr No.	Name of Road	Length of Road	Width of Road	Natural Surface Levels		Slope Character	Longitudinal Slope	Formation Levels		Quantity	Earthwork in Filling	Excavation in Cutting	Length of Roads			
				Upstream Level	Downstream Level			Upstream Level	Down stream Level				12 M Wide Road	15 M Wide Road	18 M Wide Road	24 M Wide Road
		m	m					m	m	cu.m	cu.m	cu.m	m	m	m	m
171	E1-B15	205	12	234.300	235.120	1	305	234.705	235.377	813.33	813.33	0.00	205			
172	B15- B16	121	12	235.120	234.750	1	5000	235.377	235.401	658.90	658.90	0.00	121			
173	B16- B17	26	15	234.750	234.750	1	5000	235.401	235.406	254.86	254.86	0.00		26		
174	B16-B18	13	15	234.750	234.750	1	5000	235.401	235.403	127.18	127.18	0.00		13		
175	B15-B'20	40	12	235.120	235.200	1	325	235.377	235.500	133.55	133.55	0.00	40			
176	E5-E15	129	12	233.350	233.100	-1	825	233.618	233.462	487.76	487.76	0.00	129			
177	E15-E'20	159	12	233.100	233.500	-1	600	233.462	233.197	56.11	56.11	0.00	159			
178	E4-E14	130	12	233.600	233.400	-1	775	233.933	233.765	543.95	543.95	0.00	130			
179	E14-E19	189	12	233.400	233.500	-1	525	233.765	233.405	305.76	305.76	0.00	189			
180	E19-E24	62	12	233.500	233.500	-1	725	233.405	233.319	102.63	0.00	102.63	62			
181	E14-E15	54	15	233.400	233.100	-1	180	233.765	233.465	295.50	295.50	0.00		54		
182	E19-E'20	63	12	233.500	233.500	-1	300	233.405	233.195	151.34	0.00	151.34	63			
183	E24-E26	84	12	233.500	233.000	-1	475	233.319	233.142	19.28	0.00	19.28	84			
184	E24-E'23	22	12	233.500	233.500	1	100	233.319	233.539	18.67	0.00	18.67	22			
185	E3- E12	131	15	234.050	233.750	-1	800	234.216	234.052	460.54	460.54	0.00		131		
186	E12- E'18	152	15	233.750	233.750	-1	700	234.052	233.835	442.15	442.15	0.00		152		
187	E12- E14	56	15	233.750	233.400	-1	200	234.052	233.772	283.50	283.50	0.00		56		
188	E'18- E19	87	12	233.750	233.500	-1	205	233.835	233.411	1.92	0.00	1.92	87			
189	E12- E11	56	15	233.750	234.000	1	190	234.052	234.347	272.89	272.89	0.00		56		

Sector 82 VATIKA (Gurgaon) Design Statement of Roads

Sr No.	Name of Road	Length of Road	Width of Road	Natural Surface Levels		Slope Character	Longitudinal Slope	Formation Levels		Quantity	Earthwork in Filling	Excavation in Cutting	Length of Roads			
				Upstream Level	Downstream Level			Upstream Level	Down stream Level				12 M Wide Road	15 M Wide Road	18 M Wide Road	24 M Wide Road
		m	m					m	m	cu.m	cu.m	cu.m	m	m	m	m
190	E11-E'11	98	12	234.000	234.000	1	1000	234.347	234.445	465.97	465.97	0.00	98			
191	E11-E27	26	15	234.000	234.500	1	150	234.347	234.521	71.72	71.72	0.00		26		
192	E11-E'17	143	12	234.000	234.000	-1	3000	234.347	234.300	554.95	554.95	0.00	143			
193	E'17-E16	67	12	234.000	233.880	-1	2600	234.300	234.274	278.73	278.73	0.00	67			
194	E16- E'10	255	12	233.880	234.250	1	750	234.274	234.614	1159.12	1159.12	0.00	255			
195	E16- E21	85	12	233.880	233.750	-1	625	234.274	234.138	398.61	398.61	0.00	85			
196	E21-E'22	37	12	233.750	233.500	-1	200	234.138	233.953	186.61	186.61	0.00	37			
197	82C34-B'7	109	12	232.000	232.000	1	5000	232.518	232.540	692.23	692.23	0.00	109			
198	B'7-81'4	77	24	232.000	232.250	1	5000	232.540	232.556	781.39	781.39	0.00				77
199	B'7-81'1	60	12	232.000	232.250	1	5000	232.540	232.552	303.21	303.21	0.00	60			
200	B'7-81'2	170	12	232.000	231.750	1	5000	232.540	232.574	1391.54	1391.54	0.00	170			
Total		15435								97918.54	98542.21	623.68	10116	2526	483	2310

DESIGN STATEMENT OF WATER SUPPLY

For Vatika Limited

Authorised Signatory

Abstract of Water Supply Length

Sr. No	Description	160 mm I/d	150 mm I/d	200 mm I/d	250 mm I/d	300mm I/d	400mm I/d	Total Length
		m	m	m	m	m	m	m
	(Distribution Main)			DI K9				
1	Zone 1	14338	2535	1334	1116	465	280	20068
2	Zone 2	7695	1558	167	737	200	237	10594
3	Sub Total	22033	4093	1501	1853	665	517	30662
4	(Rising Main)	DI K9	DI K9	DI K9	DI K9	DI K9	DI K9	
5	HUDA Source -Boosting Station						380	380
6	Tube wells -Boosting Station		1967	352	146	169		2634
7	Sub Total	0	1967	352	146	169	380	3014
8	Total Length	22033	6060	1853	1999	834	897	33676
				Sluice Valves				
9	No.	No.	No.	No.	No.	No.	No.	No.
10	Zone 1	203	38	18	18	5	3	285
11	Zone 2	98	21	3	12	1	2	137
12	Sub Total	301	59	21	30	6	5	422
13	(Rising Main)							
14	HUDA Source -Boosting Station						2	2
15	Tube wells -Boosting Station	21	7	1	1	1		31
16	Sub Total	21	7	1	1	1	2	33
17	Total	322	66	22	31	7	7	455

Detail of Area Residential Vatika India Next,Gurgaon								Daily Water Requirement		
Sr. No.	Description Residential (Plotted) Category of Plots	Size of Plot Width	Depth	Area of each Unit / Plot	Total Area		Total Persons	Water Allowance	Water Requirement	Net Water Requirement
		m	m	Sq.m.	Sq.m.	Acres	No.	Ltrs /Capita/ Day	Ltrs./Day	Ltrs./Day
1.11	A	4.50	12.50	56.25	27956	6.91	4473	135	603855	603855
1.12	A1	5.00	10.00	50.00	2600	0.64	468	135	63180	63180
1.13	B	8.20	18.40	150.88	21576	5.33	1931	172.5	333011	333011
1.14	C	10.54	19.04	200.68	24483	6.05	1647	172.5	284108	284108
1.15	D	8.20	18.40	150.88	54468	13.46	4874	172.5	840679	840679
1.16	E	10.60	19.04	201.82	54291	13.42	3632	172.5	626434	626434
1.17	F	10.60	24.00	254.40	33326	8.24	1769	172.5	305066	305066
1.18	F1	11.40	22.00	250.80	43388	10.72	2336	172.5	402874	402874
1.19	G	12.36	24.00	296.20	63763	15.76	2916	172.5	503010	503010
1.20	H	14.13	23.36	330.07	52481	12.97	2147	172.5	370271	370271
1.21	H1	12.98	25.77	334.49	31442	7.77	1269	172.5	218903	218903
	H2	13.68	25.00	342.00	4788	1.18	189	172.5	32603	32603
1.23	I	15.80	25.90	409.22	29464	7.28	972	172.5	167670	167670
1.24	H	14.50	28.80	417.60	418	0.10	14	172.5	2329	2329
1.25	J	15.90	25.90	411.81	9060	2.24	297	172.5	51233	51233
1.26	K	14.40	23.60	339.84	9516	2.35	378	172.5	65205	65205
1.27	L	11.62	25.91	301.07	1806	0.45	81	172.5	13973	13973
1.28	M	9.99	20.56	205.39	13967	3.45	918	172.5	158355	158355
	Sub Total				478795	118.31	30308		5042756	5042756
2	Area under Group Housing				113341	28.08	8400	172.5	1449000	1449000
3	Commercial Area			Sqm	Sq.m	Acres				
3.1	Commercial Area				52083	12.87		25000	321750	321750
3.2	Nursing Home	2.21		1127	8943	2.21		5000	40000	40000
4	Community Area			Acres	Sq.m	Acres				
4.1	High School		16.76	5.00	67825	16.76		150000	450000	450000
4.2	Primary School		4.22	1.00	17078	4.22		50000	200000	200000
4.3	Nursery School		1.54	0.20	6232	1.54		10000	60000	60000
4.4	Creche		0.75	0.20	3038	0.75		10000	30000	30000
4.5	Dispensary		2.26	1.25	9146	2.26		25000	56500	56500
4.6	Club / Community		4.11	2.00	16632	4.11		25000	102750	102750
4.7	Religious Building		0.59	0.20	2388	0.59		10000	20000	20000
4.8	Taxi Stand		3.1605	0.50	12790	3.16		5000	30000	30000
4.9	Police Post		1.02	1.02	4128	1.02		25000	25500	25500
4.10	Health Centre		2.63	2.63	10643	2.63		25000	65750	65750
	Sub Total				149896	37.04			1040500	1040500
5	Undetermined use				138644	34.26		25000	856500	856500
5	Green Area									
5.1	Organised Green - Area under Green			13.16	53256.2	13.16		25000	329000	
5.2	Incidental Green -			8.6	34762.2	8.59		25000	214750	
	Sub Total				88018	21.750			543750	
6	Area under Master Roads				75676	18.700		10000	187000	
7	Area under Roads				486485	120.214		10000	1202140	
	Total Area / Total Demand				1591858	393.358			10683396	8750506
	Fire Demand Plotted					550.52			9234396	7301506

Vatika

Abstract of Water Supply Length

Sr. No.	Description	100 mm i/d	150 mm i/d	200 mm i/d	250 mm i/d	300mm i/d	400mm i/d	Total Length
		m	m	m	m	m	m	m
	(Distribution Main)	DI K9						
1	Zone 1	14338	2535	1334	1116	465	280	20068
2	Zone 2	7693	1558	167	737	200	237	10594
3	Sub Total	22031	4093	1501	1853	665	517	30662
4	(Rising Main)	DI K9	DI K9	DI K9	DI K9	DI K9	DI K9	
5	HUDA Source -Boosting Station						380	380
6	Tube wells -Boosting Station		1967	352	146	169		2634
7	Sub Total	0	1967	352	146	169	380	3014
8	Total Length	22033	6060	1853	1999	834	897	33676
		Sluice Valves						
9	No.	No.	No.	No.	No.	No.	No.	No.
10	Zone 1	203	38	13	18	5	3	285
11	Zone 2	98	21	3	12	1	2	137
12	Sub Total	301	59	21	30	6	5	422
13	(Rising Main)							
14	HUDA Source -Boosting Station						2	2
15	Tube wells -Boosting Station	21	7	1	1	1		31
16	Sub Total	21	7	1	1	1	2	33
17	Total	322	66	22	31	7	7	455

For Vatika Limited

Authorised Signatory

Sheet No. 1

Design Statement of Water Supply

Sr No.	Name of Road	Length of Pipe	Diameter of Pipe	Total Water Demand	Net Water Demand (Total Water Demand - Total Horticulture Water Demand)	Design of Pipe Line							
						Net Water Demand			Total Water Demand	Head Loss per M	Total Head Loss	Head Loss Progressive	Terminal Head
						self	previous	total	20 HRS				
		m	mm	L	L	KLD	KLD	KLD	LPM	m	m	m	m
	1	2	3	4	5	6	7.00	8	9	10	11	12	13
1	WW-U	30	400	1144	0	0.00	7306.19	7306.19	15221.22	0.0144	0.433	0.433	29.57
	-												
2	U-82D'2	27	400	1030	0	0.00	4653.33	4653.33	9694.44	0.0063	0.169	0.602	29.40
	-												
	SECTOR 82-												
3	D'2-D6	91	100	7800	4329	4.33	313.03	317.36	661.17	0.0371	3.372	3.974	26.03
4	D6-D'5	30	100	12052	10908	10.91	0.00	10.91	22.72	0.0001	0.002	3.976	26.02
5	D6-D7	56	100	23664	21528	21.53	280.60	302.13	629.43	0.0338	1.895	5.869	24.13
6	D7-D8	125	100	61658	56890	56.89	0.00	56.89	118.52	0.0015	0.192	6.061	23.94
7	D7-D11	56	100	11451	9315	9.32	214.39	223.71	466.06	0.0194	1.086	6.955	23.05
	-												
8	D11-D10	78	100	19277	16301	16.30	10.41	26.71	55.64	0.0004	0.030	6.984	23.02
9	D10-D'14	8	100	10713	10408	10.41	0.00	10.41	21.68	0.0001	0.001	6.985	23.02
	-												
10	D11- D'15	65	100	54373	13644	13.64	174.04	187.68	391.01	0.0140	0.911	7.865	22.13
11	D'15- D16	62	100	11615	9250	9.25	164.79	174.04	362.59	0.0122	0.755	7.710	22.29
12	D16- D'18	29	100	12750	11644	11.64	0.00	11.64	24.26	0.0001	0.002	7.712	22.29
13	D16- D'19	61	100	5077	2750	2.75	150.40	153.15	319.06	0.0096	0.586	8.296	21.70
14	D'19- D17	28	100	12712	11644	11.64	138.75	150.40	313.33	0.0093	0.260	8.557	21.44
15	D17-D41	66	100	24148	21630	21.63	0.00	21.63	45.06	0.0003	0.017	8.574	21.43
16	D17-D'21	21	100	11301	10500	10.50	106.62	117.12	244.01	0.0059	0.123	8.680	21.32
17	D'21-D33	56	100	2886	750	0.75	105.87	106.62	222.13	0.0049	0.275	8.955	21.05
18	D33-D34	35	100	29808	28473	28.47	0.00	28.47	59.32	0.0004	0.015	8.970	21.03
19	D33-D32	70	100	17999	15329	15.33	62.07	77.40	161.25	0.0027	0.190	9.145	20.85
20	D32-D'31	27	100	12437	11408	11.41	0.00	11.41	23.77	0.0001	0.002	9.147	20.85
21	D32- D29	61	100	11642	9315	9.32	41.35	50.66	105.55	0.0012	0.076	9.221	20.78
22	D29- D25	67	100	21262	18706	18.71	0.00	18.71	38.97	0.0002	0.013	9.234	20.77
23	D29-D'28	112	100	23666	19394	19.39	3.25	22.64	47.17	0.0003	0.031	9.252	20.75
24	D'28-D'27	220	100	59892	0	0.00	3.25	3.25	6.77	0.0000	0.002	9.254	20.75
25	D'27- D'26	48	100	5081	3250	3.25	0.00	3.25	6.77	0.0000	0.000	9.254	20.75
26	82D'2- D'1	31	400	1182	0	0.00	4335.97	4335.97	9033.26	0.0055	0.170	0.772	29.23
27	82D'1-82F8	67	400	14792	12236	12.24	4323.73	4335.97	9033.26	0.0055	0.368	1.140	28.86
	-												
28	82F8- F7	55	300	2098	0	0.00	1874.82	1874.82	3905.88	0.0047	0.259	1.399	28.60

Design Statement of Water Supply

Sr No.	Name of Road	Length of Pipe	Diameter of Pipe	Total Water Demand	Net Water Demand (Total Water Demand - Total Horticulture Water Demand)	Design of Pipe Line							
						Net Water Demand			Total Water Demand	Head Loss per M	Total Head Loss	Head Loss Progressive	Terminal Head
						self	previous	total	20 HRS				
		m	mm	L	L	KLD	KLD	KLD	LPM	m	m	m	m
29	F7-F26	87	100	36236	32917	32.92	0.00	32.92	68.58	0.0006	0.049	1.448	28.55
30	F7-F25	21	100	12173	11372	11.37	0.00	11.37	23.69	0.0001	0.002	1.401	28.60
31	F7- F6	136	300	40119	34931	34.93	1795.60	1830.53	3813.61	0.0045	0.614	2.013	27.99
	-												
32	F6-F23	54	100	9046	6986	6.99	30.27	37.26	77.63	0.0007	0.038	2.051	27.95
33	F23-F24	117	100	34737	30274	30.27	0.00	30.27	63.07	0.0005	0.056	2.106	27.89
	-												
34	F6-F21	56	100	9122	6986	6.99	2.33	9.32	19.41	0.0001	0.003	2.016	27.98
35	F21-F22	11	100	2748	2329	2.33	0.00	2.33	4.85	0.0000	0.000	2.016	27.98
	-												
36	F6- F5	61	300	58827	50000	50.00	1699.03	1749.03	3643.81	0.0041	0.253	2.266	27.73
	-												
37	F5-F20	28	100	5250	4182	4.18	16.47	20.65	43.03	0.0002	0.007	2.272	27.73
38	F20-F21	88	100	19829	16473	16.47	0.00	16.47	34.32	0.0002	0.014	2.286	27.71
	-												
39	F5- F4	53	250	6679	4658	4.66	1673.72	1678.37	3496.61	0.0093	0.495	2.761	27.24
40	F4-F3	9	250	2672	2329	2.33	1671.39	1673.72	3486.91	0.0093	0.084	2.844	27.16
	-								0.00				
41	F3-F12	44	100	10165	6986	6.99	0.00	6.99	14.55	0.0000	0.001	2.846	27.15
	-												
42	F3-F15	170	100	67032	60548	60.55	34.39	94.94	197.79	0.0040	0.674	3.518	26.48
43	F15-F16	55	100	9084	6986	6.99	27.41	34.39	71.65	0.0006	0.033	3.552	26.45
44	F16-F17	22	100	839	0	0.00	0.00	0.00	0.00	0.0000	0.000	3.552	26.45
45	F16-F18	12	100	458	0	0.00	27.41	27.41	57.10	0.0004	0.005	3.557	26.44
46	F18-F19	18	100	10002	9315	9.32	0.00	9.32	19.41	0.0001	0.001	3.558	26.44
47	F18-F11	86	100	35373	18093	18.09	0.00	18.09	37.69	0.0002	0.016	3.572	26.43
	-								0.00				
48	F3-F2	49	250	8855	6986	6.99	1562.47	1569.46	3269.71	0.0082	0.404	3.248	26.75
	-												
49	F2-F14	170	100	50731	44246	44.25	6.99	51.23	106.73	0.0013	0.215	3.464	26.54
50	F14-F15	57	100	9160	6986	6.99	0.00	6.99	14.55	0.0000	0.002	3.465	26.53
	-												
51	F2- F1	54	250	18812	16752	16.75	1494.49	1511.24	3148.42	0.0077	0.415	3.664	26.34
	-												
52	F1-F9	194	100	86670	79270	79.27	18.63	97.90	203.96	0.0042	0.814	4.478	25.52
53	F9-B5	66	100	21148	18630	18.63	0.00	18.63	38.81	0.0002	0.013	4.491	25.51

Design Statement of Water Supply

Sr No.	Name of Road	Length of Pipe	Diameter of Pipe	Total Water Demand	Net Water Demand (Total Water Demand - Total Horticulture Water Demand)	Design of Pipe Line							
						Net Water Demand			Total Water Demand	Head Loss per M	Total Head Loss	Head Loss Progressive	Terminal Head
						self	previous	total	20 HRS				
		m	mm	L	L	KLD	KLD	KLD	LPM	m	m	m	m
	-												
54	F1- B7	66	250	16490	13973	13.97	1382.62	1396.59	2909.56	0.0066	0.439	4.102	25.90
	-												
55	B7- B8	65	100	29979	27500	27.50	14.66	42.16	87.83	0.0009	0.057	4.160	25.84
56	B8-F33	41	100	20971	14658	14.66	0.00	14.66	30.54	0.0001	0.005	4.165	25.84
	-												
57	B7- B5	195	250	47726	23288	23.29	1317.17	1340.46	2792.62	0.0062	1.201	5.303	24.70
	-												
58	B5- B4	15	100	572	0	0.00	175.26	175.26	365.13	0.0123	0.185	5.488	24.51
59	B4- B24	211	100	35993	27945	27.95	0.00	27.95	58.22	0.0004	0.087	5.575	24.42
60	B4-B3	54	100	20690	18630	18.63	128.69	147.32	306.91	0.0089	0.483	5.971	24.03
61	B3- B23	223	100	99249	90743	90.74	19.32	110.06	229.29	0.0052	1.163	7.134	22.87
62	B23- B24	55	100	21413	19315	19.32	0.00	19.32	40.24	0.0002	0.011	7.146	22.85
63	B3-B2	57	100	20804	18630	18.63	0.00	18.63	38.81	0.0002	0.011	5.982	24.02
	-												
64	B5-E6	72	250	5746	0	0.00	1141.91	1141.91	2378.98	0.0046	0.330	5.633	24.37
65	E6- E7	91	100	75444	71973	71.97	0.00	71.97	149.94	0.0024	0.216	5.849	24.15
66	E6- E5	6	250	229	0	0.00	1069.94	1069.94	2229.03	0.0041	0.024	5.657	24.34
	-												
67	E5-E15	125	100	16412	11644	11.64	59.42	71.06	148.04	0.0023	0.290	5.947	24.05
68	E15-E20	151	100	33047	27288	27.29	13.50	40.79	84.97	0.0008	0.125	6.072	23.93
69	E20-E19	62	100	28356	13500	13.50	0.00	13.50	28.13	0.0001	0.007	6.079	23.92
	-												
70	E15-E14	54	100	20690	18630	18.63	0.00	18.63	38.81	0.0002	0.010	5.957	24.04
	-												
71	E5- E4	54	250	18361	16301	16.30	982.57	998.88	2080.99	0.0036	0.193	5.850	24.15
	-												
72	E4-E14	126	100	37409	32603	32.60	108.06	140.66	293.04	0.0082	1.035	6.885	23.12
73	E14-E19	175	100	76538	69863	69.86	19.57	89.43	186.31	0.0035	0.621	7.506	22.49
74	E19- E18	88	100	22922	19565	19.57	0.00	19.57	40.76	0.0002	0.019	7.525	22.48
	-												
75	E14- E12	57	100	20804	18630	18.63	0.00	18.63	38.81	0.0002	0.011	6.896	23.10
	-								0.00				
76	E4- E3	57	200	18475	16301	16.30	825.61	841.91	1753.99	0.0077	0.440	6.290	23.71
	-												
77	E3-B2	68	100	7251	4658	4.66	23.91	28.57	59.52	0.0004	0.029	6.319	23.68

Design Statement of Water Supply

Sr No.	Name of Road	Length of Pipe	Diameter of Pipe	Total Water Demand	Net Water Demand (Total Water Demand - Total Horticulture Water Demand)	Design of Pipe Line							
						Net Water Demand			Total Water Demand	Head Loss per M	Total Head Loss	Head Loss Progressive	Terminal Head
						self	previous	total	20 HRS				
		m	mm	L	L	KLD	KLD	KLD	LPM	m	m	m	m
78	B2- B6	67	100	26468	23912	23.91	0.00	23.91	49.82	0.0003	0.021	6.340	23.66
	-												
79	E3- E'2	21	100	5459	4658	4.66	86.19	90.85	189.27	0.0037	0.077	6.366	23.63
80	E'2-B36	50	100	3407	1500	1.50	84.69	86.19	179.56	0.0033	0.166	6.532	23.47
81	B36-B1	87	100	46750	43431	43.43	0.00	43.43	90.48	0.0009	0.081	6.613	23.39
82	B36- E1	55	100	2098	0	0.00	41.26	41.26	85.96	0.0008	0.047	6.579	23.42
83	E1-B15	184	100	14005	6986	6.99	34.27	41.26	85.96	0.0008	0.156	6.735	23.27
84	B15- B16	118	100	65788	22287	22.29	11.99	34.27	71.40	0.0006	0.071	6.806	23.19
85	B16- B17	16	100	10268	9658	9.66	0.00	9.66	20.12	0.0001	0.001	6.807	23.19
86	B16-B18	13	100	2825	2329	2.33	0.00	2.33	4.85	0.0000	0.000	6.806	23.19
	-												
87	E3- E12	127	200	28132	23288	23.29	682.91	706.20	1471.24	0.0056	0.708	6.997	23.00
88	E12- E'18	125	100	42028	37250	37.26	0.00	37.26	77.63	0.0007	0.088	7.085	22.91
89	E12- E11	54	200	20690	18630	18.63	627.02	645.65	1345.10	0.0047	0.255	7.252	22.75
90	E11-E'11	93	100	36821	33274	33.27	0.00	33.27	69.32	0.0006	0.053	7.305	22.69
91	E11-E'17	151	200	59492	53733	53.73	537.68	591.42	1232.11	0.0040	0.606	7.858	22.14
92	E11- E27	6	100	2558	2329	2.33	0.00	2.33	4.85	0.0000	0.000	7.252	22.75
	-								0.00				
93	E'17-E16	68	200	9344	6750	6.75	530.93	537.68	1120.17	0.0034	0.229	8.087	21.91
94	E16- E'10	249	200	65484	34866	34.87	496.07	530.93	1106.11	0.0033	0.818	8.905	21.09
	-												
	SECTOR 82A-												
95	82E'10-82A1	73	200	2785	0	0.00	496.07	496.07	1033.47	0.0029	0.212	9.117	20.88
96	A1-A'55	110	150	144245	77500	77.50	0.00	77.50	161.46	0.0004	0.042	9.158	20.84
	-												
97	A1-A'7	56	100	4636	2500	2.50	34.27	36.77	76.61	0.0007	0.038	9.155	20.85
98	A'7-A64	254	100	9689	0	0.00	34.27	34.27	71.40	0.0006	0.153	9.308	20.69
99	A64-A43	81	100	48503	0	0.00	34.27	34.27	71.40	0.0006	0.049	9.356	20.64
100	A43-A62	11	100	420	0	0.00	34.27	34.27	71.40	0.0006	0.007	9.363	20.64
101	A62-A44	65	100	11794	9315	9.32	0.00	9.32	19.41	0.0001	0.004	9.366	20.63
102	A62-A63	70	100	6670	4000	4.00	20.96	24.96	52.00	0.0003	0.023	9.386	20.61
103	A63-A'45	20	100	5420	4658	4.66	0.00	4.66	9.70	0.0000	0.000	9.387	20.61
104	A63-A46	41	100	17865	16301	16.30	0.00	16.30	33.96	0.0002	0.006	9.392	20.61
	-									-			
105	A1-A2	56	150	6794	4658	4.66	377.14	381.79	795.40	0.0072	0.406	9.522	20.48
106	A2-A3	6	150	229	0	0.00	377.14	377.14	785.70	0.0071	0.042	9.565	20.44

Design Statement of Water Supply

Sr No.	Name of Road	Length of Pipe	Diameter of Pipe	Total Water Demand	Net Water Demand (Total Water Demand - Total Horticulture Water Demand)	Design of Pipe Line							
						Net Water Demand			Total Water Demand	Head Loss per M	Total Head Loss	Head Loss Progressive	Terminal Head
						self	previous	total	20 HRS				
		m	mm	L	L	KLD	KLD	KLD	LPM	m	m	m	m
107	A'3-A'58	74	150	7823	5000	5.00	372.14	377.14	785.70	0.0071	0.524	10.089	19.91
108	A'58-A9	95	150	29240	25616	25.62	346.52	372.14	775.28	0.0069	0.656	10.745	19.26
109	A9-A'8	18	100	3015	2329	2.33	0.00	2.33	4.85	0.0000	0.000	10.745	19.26
110	A9-A10	67	150	16528	13973	13.97	330.22	344.19	717.06	0.0060	0.401	11.145	18.85
	-												
111	A10-A'22	88	100	43172	39815	39.82	87.50	127.31	265.23	0.0068	0.601	11.746	18.25
112	A'22-A'23	88	100	7185	3829	3.83	83.67	87.50	182.28	0.0034	0.300	12.046	17.95
113	A'23-A'24	107	100	14081	10000	10.00	73.67	83.67	174.31	0.0031	0.336	12.382	17.62
114	A'24-A'25	64	100	29520	27079	27.08	46.59	73.67	153.47	0.0025	0.159	12.541	17.46
115	A'25-A'26	74	100	28439	25616	25.62	20.97	46.59	97.06	0.0011	0.079	12.619	17.38
116	A'26-A'27	73	100	2785	0	0.00	20.97	20.97	43.69	0.0002	0.018	12.637	17.36
117	A'27-A'28	80	100	24024	20973	20.97	0.00	20.97	43.69	0.0002	0.019	12.656	17.34
	-												
118	A10-A14	103	150	17901	13973	13.97	188.93	202.91	422.72	0.0022	0.231	11.377	18.62
	-												
119	A14-A'59	71	100	5208	2500	2.50	14.32	16.82	35.03	0.0002	0.011	11.388	18.61
120	A'59-A'60	44	100	15993	14315	14.32	0.00	14.32	29.82	0.0001	0.005	11.393	18.61
	-												
121	A14-A15	25	150	3282	2329	2.33	169.79	172.12	358.58	0.0017	0.041	11.418	18.58
122	A15-A16	76	100	19200	16301	16.30	0.00	16.30	33.96	0.0002	0.012	11.430	18.57
123	A15-A20	23	150	5535	4658	4.66	148.83	153.49	319.77	0.0013	0.031	11.449	18.55
124	A20-A21	19	100	5382	4658	4.66	0.00	4.66	9.70	0.0000	0.000	11.449	18.55
125	A20-A16	70	150	17643	13973	13.97	130.20	144.17	300.36	0.0012	0.084	11.532	18.47
	-												
126	A16-A17	39	100	8474	6986	6.99	123.22	130.20	271.25	0.0071	0.278	11.810	18.19
127	A17-A18	11	100	10420	10000	10.00	0.00	10.00	20.83	0.0001	0.001	11.811	18.19
128	A17-A5	74	100	14466	11644	11.64	101.57	113.22	235.86	0.0055	0.407	12.217	17.78
	-												
129	A5-A'60	97	100	17673	13973	13.97	0.00	13.97	29.11	0.0001	0.011	12.228	17.77
130	A5-A6	71	100	2708	0	0.00	87.60	87.60	182.50	0.0034	0.243	12.459	17.54
	-												
131	A6-A37	13	100	496	0	0.00	15.32	15.32	31.91	0.0001	0.002	12.461	17.54
132	A37-A'37	42	100	6602	5000	5.00	0.00	5.00	10.42	0.0000	0.001	12.462	17.54
133	A37-A36	30	100	1144	0	0.00	10.32	10.32	21.49	0.0001	0.002	12.463	17.54
134	A36-A35	50	100	12222	10315	10.32	0.00	10.32	21.49	0.0001	0.003	12.466	17.53
	-												

Ky consultants Pvt Ltd

Design Statement of Water Supply

Sr No.	Name of Road	Length of Pipe	Diameter of Pipe	Total Water Demand	Net Water Demand (Total Water Demand - Total Horticulture Water Demand)	Design of Pipe Line							
						Net Water Demand			Total Water Demand	Head Loss per M	Total Head Loss	Head Loss Progressive	Terminal Head
						self	previous	total	20 HRS				
		m	mm	L	L	KLD	KLD	KLD	LPM	m	m	m	m
135	A6-A32	43	100	10048	4658	4.66	67.63	72.28	150.59	0.0024	0.103	12.562	17.44
136	A32-A31	55	100	11413	9315	9.32	41.59	50.90	106.05	0.0013	0.069	12.631	17.37
137	A32-A35	54	100	14454	12394	12.39	4.33	16.72	34.84	0.0002	0.009	12.571	17.43
138	A35-A33	49	100	8698	4329	4.33	0.00	4.33	9.02	0.0000	0.001	12.571	17.43
139	A31-A49	28	100	7726	6658	6.66	0.00	6.66	13.87	0.0000	0.001	12.632	17.37
140	82A31-82A33	77	100	30882	27945	27.95	6.99	34.93	72.77	0.0006	0.048	12.679	17.32
141	82A33-82A34	25	100	7940	6986	6.99	0.00	6.99	14.55	0.0000	0.001	12.680	17.32
	-												
142	82F8-F27	48	400	6488	4658	4.66	2444.25	2448.91	5101.89	0.0019	0.091	1.231	28.77
	-												
143	F27-F28	149	100	56916	51233	51.23	21.80	73.03	152.15	0.0024	0.364	1.595	28.41
144	F28-F31	13	100	7482	6986	6.99	0.00	6.99	14.55	0.0000	0.000	1.595	28.41
145	F28-F36	61	100	3327	1000	1.00	13.82	14.82	30.86	0.0001	0.008	1.602	28.40
146	F36-F34	41	100	15379	13815	13.82	0.00	13.82	28.78	0.0001	0.005	1.607	28.39
	-												
147	F27- D'22	47	350	18293	16500	16.50	2354.71	2371.21	4940.03	0.0034	0.162	1.393	28.61
148	D'22-D38	53	350	14008	11986	11.99	2342.73	2354.71	4905.66	0.0034	0.180	1.573	28.43
	-												
149	D38-D39	62	100	2365	0	0.00	17.72	17.72	36.92	0.0002	0.011	1.584	28.42
150	D39-D40	47	100	19515	17723	17.72	0.00	17.72	36.92	0.0002	0.008	1.592	28.41
	-												
151	D38- D'20	180	350	48784	41918	41.92	2283.09	2325.01	4843.76	0.0033	0.597	2.170	27.83
	-												
152	82D'20-82F'30	51	250	7945	6000	6.00	525.43	531.43	1107.14	0.0011	0.057	2.226	27.77
153	F'30-F'31	25	100	5532	4579	4.58	0.00	4.58	9.54	0.0000	0.000	2.227	27.77
154	F'30-C8	61	200	6327	4000	4.00	516.85	520.85	1085.10	0.0032	0.193	2.420	27.58
155	C8-F'29	62	100	18337	15973	15.97	0.00	15.97	33.28	0.0001	0.009	2.429	27.57
156	C8-C48	30	200	3473	2329	2.33	498.55	500.88	1043.49	0.0029	0.088	2.508	27.49
157	C48- C7	26	200	3321	2329	2.33	496.22	498.55	1038.64	0.0029	0.076	2.584	27.42
158	C7-C47	63	200	23889	21486	21.49	474.73	496.22	1033.79	0.0029	0.183	2.767	27.23
159	C47-C'25	125	200	9268	4500	4.50	470.23	474.73	989.03	0.0027	0.334	3.101	26.90
160	C'25-C26	69	200	14276	11644	11.64	458.59	470.23	979.65	0.0026	0.181	3.282	26.72
161	C26-C27	51	100	36260	9315	9.32	0.00	9.32	19.41	0.0001	0.003	3.284	26.72
162	C26-C45	29	200	3356	2250	2.25	447.03	449.28	935.99	0.0024	0.070	3.352	26.65
163	C45-C44	38	200	2199	750	0.75	446.28	447.03	931.30	0.0024	0.091	3.442	26.56
164	C44-C42	57	150	25712	23538	23.54	422.74	446.28	929.74	0.0097	0.551	3.994	26.01

Design Statement of Water Supply

Sr No.	Name of Road	Length of Pipe	Diameter of Pipe	Total Water Demand	Net Water Demand (Total Water Demand - Total Horticulture Water Demand)	Design of Pipe Line							
						Net Water Demand			Total Water Demand	Head Loss per M	Total Head Loss	Head Loss Progressive	Terminal Head
						self	previous	total	20 HRS				
		m	mm	L	L	KLD	KLD	KLD	LPM	m	m	m	m
	-												
165	C42-C43	57	100	2174	0	0.00	8.99	8.99	18.72	0.0001	0.003	3.997	26.00
166	C43-C43	36	100	10359	8986	8.99	0.00	8.99	18.72	0.0001	0.002	3.998	26.00
	-												
167	C42-C24	91	150	20036	16565	16.57	397.19	413.75	861.98	0.0084	0.765	4.759	25.24
168	C24- C22	36	150	3873	2500	2.50	394.69	397.19	827.47	0.0078	0.281	5.039	24.96
169	C22- C21	64	150	14518	6986	6.99	387.70	394.69	822.26	0.0077	0.493	5.532	24.47
170	C21-C21	10	100	2710	2329	2.33	0.00	2.33	4.85	0.0000	0.000	5.532	24.47
171	C21-C1	170	150	52166	45681	45.68	339.69	385.37	802.86	0.0074	1.253	6.785	23.22
	-												
172	C1-F35	64	100	4770	2329	2.33	24.49	26.82	55.86	0.0004	0.024	6.809	23.19
	-												
173	F35- C2	27	100	2530	1500	1.50	21.74	23.24	48.41	0.0003	0.008	6.817	23.18
174	C2- C4	61	100	24063	21736	21.74	0.00	21.74	45.28	0.0003	0.016	6.833	23.17
	-												
175	F35-F32	35	100	2585	1250	1.25	0.00	1.25	2.60	0.0000	0.000	6.809	23.19
	-												
176	C1- B11	66	150	9504	6986	6.99	305.89	312.88	651.82	0.0050	0.331	7.115	22.88
177	B11-B'12	124	100	67452	62723	62.72	0.00	62.72	130.67	0.0018	0.228	7.344	22.66
178	B11-B10	54	100	23019	20959	20.96	222.21	243.17	506.60	0.0226	1.222	8.338	21.66
179	B10-F32	92	100	14574	11065	11.07	0.00	11.07	23.05	0.0001	0.007	8.344	21.66
180	B10- B9	56	100	16701	14565	14.57	196.58	211.14	439.88	0.0174	0.976	9.313	20.69
181	B9- B31	62	100	41601	6986	6.99	189.59	196.58	409.54	0.0153	0.946	10.260	19.74
182	B31- B33	41	100	6221	4658	4.66	0.00	4.66	9.70	0.0000	0.001	10.260	19.74
183	B31- B32	7	100	267	0	0.00	184.93	184.93	385.28	0.0136	0.095	10.355	19.64
184	B32- B35	118	100	40432	35931	35.93	0.00	35.93	74.86	0.0007	0.077	10.433	19.57
185	B32-B25	48	100	18132	16301	16.30	132.70	149.00	310.42	0.0091	0.439	10.794	19.21
186	B25- B23'	70	100	28286	25616	25.62	0.00	25.62	53.37	0.0004	0.025	10.818	19.18
187	B25- B26	11	100	420	0	0.00	107.09	107.09	223.09	0.0050	0.055	10.848	19.15
188	B26- B34	126	100	37936	33130	33.13	0.00	33.13	69.02	0.0006	0.071	10.919	19.08
189	B26- B27	47	100	11608	9815	9.82	64.14	73.96	154.07	0.0025	0.117	10.966	19.03
190	B27- B28	89	100	29761	26366	26.37	0.00	26.37	54.93	0.0004	0.033	10.999	19.00
191	B27- B22	57	100	2174	0	0.00	37.77	37.77	78.70	0.0007	0.041	11.007	18.99
192	82B22-82B21	87	100	41092	37774	37.77	0.00	37.77	78.70	0.0007	0.063	11.069	18.93
	-												
	-												

Design Statement of Water Supply

Sr No.	Name of Road	Length of Pipe	Diameter of Pipe	Total Water Demand	Net Water Demand (Total Water Demand - Total Horticulture Water Demand)	Design of Pipe Line							
						Net Water Demand			Total Water Demand	Head Loss per M	Total Head Loss	Head Loss Progressive	Terminal Head
						self	previous	total	20 HRS				
		m	mm	L	L	KLD	KLD	KLD	LPM	m	m	m	m
193	82D'20-	69	300	5132	2500	2.50	1749.16	1751.66	3649.29	0.0042	0.287	2.457	27.54
194	D'23- D24	75	100	19162	16301	16.30	0.00	16.30	33.96	0.0002	0.011	2.468	27.53
195	D'23-D'26	144	300	7243	1750	1.75	1731.11	1732.86	3610.12	0.0041	0.587	3.044	26.96
196	D'26-82C16	27	250	1030	0	0.00	1731.11	1731.11	3606.48	0.0099	0.267	3.311	26.69
	-												
197	82C16-82C52	217	150	76510	64233	64.23	460.76	524.99	1093.73	0.0131	2.835	6.146	23.85
	-												
198	C52-C53	81	100	3090	0	0.00	54.98	54.98	114.55	0.0014	0.117	6.262	23.74
199	C53-C'53	138	100	60246	54983	54.98	0.00	54.98	114.55	0.0014	0.199	6.461	23.54
	-												
200	C52-C38	24	150	915	0	0.00	405.77	405.77	845.36	0.0081	0.195	6.340	23.66
201	C38-C40	38	100	9809	4579	4.58	0.00	4.58	9.54	0.0000	0.001	6.341	23.66
202	C38-C36	84	150	3204	0	0.00	401.20	401.20	835.82	0.0079	0.667	7.007	22.99
203	C36-C14	149	100	57865	49681	49.68	0.00	49.68	103.50	0.0012	0.178	7.185	22.81
204	C36-C35	60	150	2289	0	0.00	351.51	351.51	732.32	0.0062	0.373	7.380	22.62
205	C35-C'12	158	100	78153	72126	72.13	0.00	72.13	150.26	0.0024	0.377	7.757	22.24
206	C35-C50	72	150	10496	0	0.00	279.39	279.39	582.06	0.0041	0.292	7.672	22.33
	-												
207	C50-C51	79	100	28815	25801	25.80	0.00	25.80	53.75	0.0004	0.028	7.701	22.30
	-												
208	C50-C33	66	100	2518	0	0.00	11.74	11.74	24.45	0.0001	0.005	7.678	22.32
209	C33-C48	137	100	25462	11736	11.74	0.00	11.74	24.45	0.0001	0.011	7.689	22.31
	-												
210	C50-C34	89	100	21208	6563	6.56	235.29	241.85	503.86	0.0224	1.994	9.667	20.33
	-												
211	C34-B'7	87	100	53519	50000	50.00	150.00	200.00	416.67	0.0158	1.371	11.038	18.96
212	B'7-81'2	100	100	153814	150000	150.00	0.00	150.00	312.50	0.0093	0.925	11.963	18.04
	-												
213	C34-C31	56	100	30405	0	0.00	35.29	35.29	73.52	0.0006	0.036	9.702	20.30
214	C31-C32	35	100	12071	10736	10.74	0.00	10.74	22.37	0.0001	0.002	9.705	20.30
215	C31-C30	59	100	9257	6986	6.99	17.57	24.55	51.15	0.0003	0.019	9.721	20.28
216	C30-C'30	10	100	2710	2329	2.33	0.00	2.33	4.85	0.0000	0.000	9.721	20.28
217	82C30-82C49	52	100	17220	15236	15.24	0.00	15.24	31.74	0.0001	0.007	9.728	20.27
	-												
	-												
218	82C16-82C'18	43	250	7469	5829	5.83	1200.29	1206.12	2512.75	0.0051	0.218	3.528	26.47

Design Statement of Water Supply

Sr No.	Name of Road	Length of Pipe	Diameter of Pipe	Total Water Demand	Net Water Demand (Total Water Demand - Total Horticulture Water Demand)	Design of Pipe Line							
						Net Water Demand			Total Water Demand	Head Loss per M	Total Head Loss	Head Loss Progressive	Terminal Head
						self	previous	total	20 HRS				
		m	mm	L	L	KLD	KLD	KLD	LPM	m	m	m	m
219	C18-C20	81	250	3090	0	0.00	1200.29	1200.29	2500.61	0.0050	0.407	3.935	26.06
220	82C20-82C54	135	250	5150	0	0.00	1200.29	1200.29	2500.61	0.0050	0.678	4.613	25.39
	-												
221	82C54-82C41	63	100	42630	19223	19.22	0.00	19.22	40.05	0.0002	0.013	4.626	25.37
	-												
	SECTOR 85-												
222	82C54-85B26	71	250	2708	0	0.00	1181.07	1181.07	2460.56	0.0049	0.346	4.959	25.04
223	B26-B25	30	250	1144	0	0.00	1181.07	1181.07	2460.56	0.0049	0.146	5.105	24.90
224	B25-B21	75	250	29261	12150	12.15	1168.92	1181.07	2460.56	0.0049	0.365	5.470	24.53
225	B21-B20	45	250	4571	0	0.00	1155.55	1155.55	2407.40	0.0047	0.211	5.681	24.32
226	B21-B29	51	100	18449	13365	13.37	0.00	13.37	27.84	0.0001	0.005	5.475	24.52
227	B20-B24	48	100	23701	21870	21.87	0.00	21.87	45.56	0.0003	0.013	5.693	24.31
228	B20-B30	94	100	42146	37665	37.67	0.00	37.67	78.47	0.0007	0.067	5.748	24.25
229	B29-B30	40	100	1526	0	0.00	0.00	0.00	0.00	0.0000	0.000	5.475	24.52
	-												
230	B20-B19	47	200	4214	0	0.00	1096.02	1096.02	2283.37	0.0126	0.591	6.272	23.73
231	B19-B31	133	100	63068	57105	57.11	0.00	57.11	118.97	0.0015	0.206	6.477	23.52
232	B30-B31	40	100	1526	0	0.00	0.00	0.00	0.00	0.0000	0.000	5.475	24.52
	-												
233	B19-B18	41	200	2867	0	0.00	1038.91	1038.91	2164.40	0.0114	0.467	6.739	23.26
234	B18-B33	156	150	75041	68040	68.04	427.50	495.54	1032.37	0.0117	1.831	8.570	21.43
235	B18-B17	26	200	3728	2100	2.10	541.28	543.38	1132.03	0.0034	0.089	6.828	23.17
236	B17-B23	75	100	25946	23085	23.09	0.00	23.09	48.09	0.0003	0.022	6.850	23.15
237	B17-B34	167	100	83059	75330	75.33	0.00	75.33	156.94	0.0026	0.431	7.259	22.74
238	B33-B34	36	150	26373	25000	25.00	402.50	427.50	890.62	0.0089	0.321	8.891	21.11
239	B17-B16	52	150	3046	0	0.00	442.86	442.86	922.63	0.0095	0.496	7.324	22.68
240	B16-B35	190	100	89406	81405	81.41	0.00	81.41	169.59	0.0030	0.567	7.890	22.11
241	B34-B35	37	150	1411	0	0.00	402.50	402.50	838.54	0.0080	0.296	9.187	20.81
	-												
242	B16-B15	37	150	10691	8505	8.51	326.22	334.73	697.34	0.0057	0.210	7.534	22.47
243	B16-B22	59	100	28981	26730	26.73	0.00	26.73	55.69	0.0004	0.022	7.346	22.65
	-												
244	B15-B36	176	100	59523	52810	52.81	0.00	52.81	110.02	0.0013	0.236	7.769	22.23
245	B35-B36	39	150	1488	0	0.00	402.50	402.50	838.54	0.0080	0.311	9.498	20.50
246	B36-C1	62	150	2865	500	0.50	402.00	402.50	838.54	0.0080	0.495	9.994	20.01
	-												

Design Statement of Water Supply

Sr No.	Name of Road	Length of Pipe	Diameter of Pipe	Total Water Demand	Net Water Demand (Total Water Demand - Total Horticulture Water Demand)	Design of Pipe Line							
						Net Water Demand			Total Water Demand	Head Loss per M	Total Head Loss	Head Loss Progressive	Terminal Head
						self	previous	total	20 HRS				
		m	mm	L	L	KLD	KLD	KLD	LPM	m	m	m	m
247	B15-B14	42	150	2352	750	0.75	272.66	273.41	569.60	0.0039	0.164	7.698	22.30
248	B14-B7	52	150	25271	23288	23.29	249.37	272.66	568.04	0.0039	0.202	7.899	22.10
249	B7-B12	38	100	13093	11644	11.64	0.00	11.64	24.26	0.0001	0.003	7.903	22.10
250	B7-B6	67	150	2556	0	0.00	237.73	237.73	495.27	0.0030	0.202	8.101	21.90
251	B6-B11	58	100	20842	18630	18.63	0.00	18.63	38.81	0.0002	0.011	8.113	21.89
252	B6-B5	32	150	1221	0	0.00	219.10	219.10	456.46	0.0026	0.083	8.184	21.82
253	B5-B10	38	100	24737	23288	23.29	0.00	23.29	48.52	0.0003	0.011	8.195	21.80
254	B5-B4	48	150	1831	0	0.00	195.81	195.81	407.94	0.0021	0.101	8.285	21.71
255	B4-B9	38	100	13093	11644	11.64	0.00	11.64	24.26	0.0001	0.003	8.288	21.71
256	B4-B3	31	150	3511	2329	2.33	181.84	184.17	383.68	0.0019	0.058	8.343	21.66
257	B3-B8	27	100	8016	6986	6.99	0.00	6.99	14.55	0.0000	0.001	8.344	21.66
258	B3-B2	169	150	60946	54500	54.50	120.35	174.85	364.28	0.0017	0.288	8.632	21.37
259	B2-B1	15	100	572	0	0.00	120.35	120.35	250.73	0.0062	0.092	8.724	21.28
260	85B1-85A1	156	100	35992	22394	22.39	97.96	120.35	250.73	0.0062	0.960	9.684	20.32
261	A1-A2	23	100	877	0	0.00	97.96	97.96	204.08	0.0042	0.097	9.780	20.22
262	A2-A3	75	100	59123	52000	52.00	0.00	52.00	108.33	0.0013	0.098	9.878	20.12
263	A2-A4	56	100	27136	25000	25.00	20.96	45.96	95.75	0.0010	0.058	9.838	20.16
264	A4-A5	97	100	5200	0	0.00	20.96	20.96	43.66	0.0002	0.023	9.862	20.14
265	A5-A6	49	100	22828	20959	20.96	0.00	20.96	43.66	0.0002	0.012	9.874	20.13
	-												
266	C1-C2	30	150	2144	1000	1.00	401.00	402.00	837.49	0.0080	0.239	10.233	19.77
	-												
267	C2-C15	29	100	1106	0	0.00	103.22	103.22	215.03	0.0046	0.134	10.367	19.63
268	C15-C19	57	100	28540	26366	26.37	0.00	26.37	54.93	0.0004	0.021	10.388	19.61
269	C15-C16	49	100	15842	13973	13.97	62.88	76.85	160.10	0.0027	0.131	10.498	19.50
270	C16-C18	51	100	13589	11644	11.64	0.00	11.64	24.26	0.0001	0.004	10.503	19.50
271	C16-C17	75	100	27162	16301	16.30	34.93	51.23	106.73	0.0013	0.095	10.593	19.41
272	C17-C10	93	100	38479	34931	34.93	0.00	34.93	72.77	0.0006	0.058	10.651	19.35
	-												
273	C2-B40	30	100	1144	0	0.00	106.10	106.10	221.03	0.0049	0.146	10.379	19.62
274	B40-B41	130	100	53879	48920	48.92	0.00	48.92	101.92	0.0012	0.151	10.530	19.47
275	B40-B42	141	100	62553	57175	57.18	0.00	57.18	119.11	0.0016	0.219	10.597	19.40
	-												
276	C2-C4	52	150	1984	0	0.00	191.69	191.69	399.35	0.0020	0.105	10.338	19.66
277	C4-C20	109	100	55061	50904	50.90	0.00	50.90	106.05	0.0013	0.136	10.474	19.53
278	C4-C5	23	150	877	0	0.00	140.78	140.78	293.30	0.0011	0.026	10.364	19.64

Design Statement of Water Supply

Sr No.	Name of Road	Length of Pipe	Diameter of Pipe	Total Water Demand	Net Water Demand (Total Water Demand - Total Horticulture Water Demand)	Design of Pipe Line							
						Net Water Demand			Total Water Demand	Head Loss per M	Total Head Loss	Head Loss Progressive	Terminal Head
						self	previous	total	20 HRS				
		m	mm	L	L	KLD	KLD	KLD	LPM	m	m	m	m
	-												
279	C5-B37	128	100	23107	18225	18.23	31.73	49.95	104.06	0.0012	0.155	10.519	19.48
280	B37-B38	28	100	1068	0	0.00	31.73	31.73	66.09	0.0005	0.015	10.533	19.47
281	B38-B39	94	100	35311	31725	31.73	0.00	31.73	66.09	0.0005	0.049	10.582	19.42
	-												
282	C5-C6	78	100	2975	0	0.00	90.83	90.83	189.24	0.0037	0.285	10.649	19.35
	-												
283	C6-C7	98	100	11302	7564	7.56	25.62	33.18	69.12	0.0006	0.055	10.705	19.30
284	C7-C9	111	100	29850	25616	25.62	0.00	25.62	53.37	0.0004	0.039	10.744	19.26
	-												
285	C6-C9	45	100	17967	0	0.00	57.65	57.65	120.11	0.0016	0.071	10.720	19.28
	-												
286	C9-C10	95	100	3624	0	0.00	57.65	57.65	120.11	0.0016	0.150	10.870	19.13
287	C10-C14	77	100	42526	39589	39.59	0.00	39.59	82.48	0.0008	0.060	10.930	19.07
288	C10-C11	58	100	7212	5000	5.00	13.07	18.07	37.64	0.0002	0.011	10.880	19.12
289	C11-C21	60	100	13854	11565	11.57	0.00	11.57	24.09	0.0001	0.005	10.885	19.11
290	85C11-85C12	58	100	3712	1500	1.50	0.00	1.50	3.13	0.0000	0.000	10.880	19.12
	-			5969325	4653329								
291	U- 82D'3	35	400	13821	12486	12.49	2640.37	2652.86	5526.78	0.0022	0.077	0.510	29.49
292	82D'3-D'13	142	400	5417	0	0.00	2640.37	2640.37	5500.77	0.0022	0.311	0.821	29.18
293	D'13-D'12	22	400	839	0	0.00	2640.37	2640.37	5500.77	0.0022	0.048	0.869	29.13
294	82D'12-A'5	225	400	8583	0	0.00	2640.37	2640.37	5500.77	0.0022	0.493	1.362	28.64
	SECTOR 83-												
295	A'5-83A55	83	400	3166	0	0.00	2640.37	2640.37	5500.77	0.0022	0.182	1.544	28.46
296	A55-A'49	77	350	25977	20000	20.00	2620.37	2640.37	5500.77	0.0042	0.323	1.867	28.13
297	A'49-A'50	160	350	30503	24500	24.50	2595.87	2620.37	5459.10	0.0041	0.662	2.529	27.47
298	A'50-A42	155	100	30621	24709	24.71	0.00	24.71	51.48	0.0003	0.051	2.580	27.42
299	A'50-A'51	60	300	4789	2500	2.50	2568.66	2571.16	5356.59	0.0085	0.508	3.037	26.96
	-												
300	A'51-A40	26	100	992	0	0.00	171.03	171.03	356.32	0.0118	0.307	3.344	26.66
301	A40-A38	41	100	7471	5908	5.91	165.13	171.03	356.32	0.0118	0.484	3.828	26.17
	-												
302	A38-A'36	17	100	1648	1000	1.00	40.54	41.54	86.54	0.0009	0.015	3.842	26.16
303	A'36-A37	155	100	48950	40538	40.54	0.00	40.54	84.45	0.0008	0.127	3.969	26.03
	-												
304	A38-A'32	80	100	3052	0	0.00	123.59	123.59	257.48	0.0065	0.517	4.345	25.66

Ky consultants Pvt Ltd

Design Statement of Water Supply

Sr No.	Name of Road	Length of Pipe	Diameter of Pipe	Total Water Demand	Net Water Demand (Total Water Demand - Total Horticulture Water Demand)	Design of Pipe Line							
						Net Water Demand			Total Water Demand	Head Loss per M	Total Head Loss	Head Loss Progressive	Terminal Head
						self	previous	total	20 HRS				
		m	mm	L	L	KLD	KLD	KLD	LPM	m	m	m	m
	-												
305	A32-A31	107	100	24711	20630	20.63	24.21	44.84	93.41	0.0010	0.106	4.450	25.55
306	A31-A28	53	100	26230	24209	24.21	0.00	24.21	50.43	0.0003	0.017	4.467	25.53
	-												
307	A32-A33	82	100	74878	71750	71.75	7.00	78.75	164.06	0.0028	0.230	4.575	25.43
308	A33-A34	60	100	6289	4000	4.00	3.00	7.00	14.58	0.0000	0.002	4.577	25.42
309	A34-A31	58	100	5212	3000	3.00	0.00	3.00	6.25	0.0000	0.000	4.577	25.42
	-												
310	A51-A41	140	300	43128	26538	26.54	2371.09	2397.63	4995.06	0.0074	1.041	4.079	25.92
	-												
311	A41-E7	30	250	8131	6986	6.99	1021.59	1028.58	2142.87	0.0038	0.113	4.192	25.81
	-												
312	E7-E5	212	100	114532	81445	81.45	71.11	152.56	317.83	0.0095	2.024	6.215	23.78
313	E5-E4	49	100	1869	0	0.00	0.00	0.00	0.00	0.0000	0.000	6.215	23.78
314	E5-E15	63	100	11718	9315	9.32	61.80	71.11	148.15	0.0023	0.146	6.362	23.64
315	E15-E16	119	100	36063	30774	30.77	0.00	30.77	64.11	0.0005	0.059	6.420	23.58
316	E15-E17	88	100	34380	31024	31.02	0.00	31.02	64.63	0.0005	0.044	6.406	23.59
	-												
317	E7-83A37	23	250	4456	3579	3.58	865.45	869.03	1810.49	0.0028	0.063	4.255	25.74
318	A37-E20	229	250	8735	0	0.00	865.45	865.45	1803.03	0.0027	0.627	4.883	25.12
319	E20-E21	60	200	157289	155000	155.00	710.45	865.45	1803.03	0.0081	0.487	5.370	24.63
	-												
320	E21-E27	159	100	30445	24380	24.38	102.27	126.65	263.86	0.0068	1.075	6.445	23.55
	-												
321	E27-E26	56	100	6715	4579	4.58	48.43	53.01	110.44	0.0013	0.075	6.521	23.48
322	E26-E28	95	100	52055	48431	48.43	0.00	48.43	100.90	0.0011	0.108	6.629	23.37
	-												
323	E27-E29	107	100	22711	18630	18.63	8.16	26.79	55.81	0.0004	0.041	6.486	23.51
324	E29-E30	7	100	3770	3503	3.50	0.00	3.50	7.30	0.0000	0.000	6.486	23.51
325	E29-E34	34	100	5954	4658	4.66	0.00	4.66	9.70	0.0000	0.001	6.486	23.51
	-												
326	E27-E33	90	100	37155	22472	22.47	0.00	22.47	46.82	0.0003	0.025	6.470	23.53
327	E33-E34	49	100	1869	0	0.00	0.00	0.00	0.00	0.0000	0.000	6.470	23.53
328	E34-E35	46	100	1755	0	0.00	0.00	0.00	0.00	0.0000	0.000	6.470	23.53
	-												
329	E21-E22	32	200	6169	4949	4.95	578.85	583.80	1216.26	0.0039	0.125	5.495	24.50

Design Statement of Water Supply

Sr No.	Name of Road	Length of Pipe	Diameter of Pipe	Total Water Demand	Net Water Demand (Total Water Demand - Total Horticulture Water Demand)	Design of Pipe Line							
						Net Water Demand			Total Water Demand	Head Loss per M	Total Head Loss	Head Loss Progressive	Terminal Head
						self	previous	total	20 HRS				
		m	mm	L	L	KLD	KLD	KLD	LPM	m	m	m	m
330	E22-A22	75	200	2861	0	0.00	578.85	578.85	1205.95	0.0039	0.289	5.784	24.22
331	A22-A21	82	100	19785	16658	16.66	0.00	16.66	34.70	0.0002	0.013	5.797	24.20
332	A22-E23	33	150	1259	0	0.00	562.20	562.20	1171.24	0.0148	0.489	6.274	23.73
333	E23-E25	30	150	6644	5500	5.50	556.70	562.20	1171.24	0.0148	0.445	6.719	23.28
334	E25-A14	87	150	10397	7079	7.08	549.62	556.70	1159.78	0.0146	1.267	7.986	22.01
	-												
335	A14-A59	136	100	44790	39603	39.60	13.24	52.84	110.08	0.0013	0.182	8.168	21.83
336	A59-A60	107	100	17318	13236	13.24	0.00	13.24	27.58	0.0001	0.011	8.179	21.82
	-												
337	A14-A11	56	150	21516	19380	19.38	477.40	496.78	1034.96	0.0118	0.660	8.646	21.35
338	A11-A10	181	150	47664	40760	40.76	436.64	477.40	994.58	0.0110	1.983	10.629	19.37
	-												
339	A10-A13	49	100	15842	13973	13.97	0.00	13.97	29.11	0.0001	0.006	10.635	19.37
	-												
340	A10-A7	53	150	15994	13973	13.97	275.32	289.29	602.70	0.0043	0.230	10.859	19.14
341	A7-A7	95	100	36976	33353	33.35	0.00	33.35	69.48	0.0006	0.054	10.913	19.09
342	A7-A'20	70	100	16643	13973	13.97	0.00	13.97	29.11	0.0001	0.008	10.867	19.13
343	A7-A4	56	150	16109	13973	13.97	214.02	228.00	474.99	0.0028	0.156	11.015	18.99
344	A4-A'8	62	100	11522	9158	9.16	0.00	9.16	19.08	0.0001	0.003	11.018	18.98
345	A4-A'4	22	100	66589	65750	65.75	0.00	65.75	136.98	0.0020	0.044	11.059	18.94
346	A4-A5	199	100	63207	55616	55.62	83.50	139.12	289.83	0.0080	1.601	12.616	17.38
347	A5-A2	42	100	85102	83500	83.50	0.00	83.50	173.96	0.0031	0.131	12.747	17.25
	-												
348	A10-A9	181	100	51150	44246	44.25	89.13	133.37	277.86	0.0074	1.347	11.976	18.02
	-												
349	A9-A6	53	100	19232	6986	6.99	38.63	45.62	95.03	0.0010	0.054	12.030	17.97
350	A6-A20	43	100	19955	18315	18.32	0.00	18.32	38.16	0.0002	0.008	12.038	17.96
351	A6-A3	56	100	19346	6986	6.99	13.33	20.32	42.32	0.0002	0.013	12.043	17.96
352	A3-A'3	37	100	14740	13329	13.33	0.00	13.33	27.77	0.0001	0.004	12.047	17.95
	-												
353	A9-A12	56	100	19346	6986	6.99	36.52	43.51	90.65	0.0009	0.052	12.028	17.97
354	A12-A19	54	100	20532	18473	18.47	0.00	18.47	38.48	0.0002	0.010	12.039	17.96
355	A12-A15	53	100	19232	6986	6.99	11.07	18.05	37.61	0.0002	0.010	12.038	17.96
356	A15-A16	38	100	7857	6408	6.41	0.00	6.41	13.35	0.0000	0.001	12.039	17.96
357	83A15-83A18	33	100	5916	4658	4.66	0.00	4.66	9.70	0.0000	0.000	12.039	17.96
	-												

Design Statement of Water Supply

Sr No.	Name of Road	Length of Pipe	Diameter of Pipe	Total Water Demand	Net Water Demand (Total Water Demand - Total Horticulture Water Demand)	Design of Pipe Line							
						Net Water Demand			Total Water Demand	Head Loss per M	Total Head Loss	Head Loss Progressive	Terminal Head
						self	previous	total	20 HRS				
		m	mm	L	L	KLD	KLD	KLD	LPM	m	m	m	m
	-												
358	A41-E6	20	250	7749	6986	6.99	1335.53	1342.51	2796.90	0.0062	0.124	4.202	25.80
	-												
359	E6-E4	211	150	77425	69376	69.38	293.72	363.09	756.45	0.0066	1.393	5.595	24.41
360	E4-E14	113	100	66858	62548	62.55	231.17	293.72	611.91	0.0321	3.628	9.223	20.78
361	E14-E13	56	100	5626	3490	3.49	227.68	231.17	481.60	0.0206	1.154	10.377	19.62
362	E13-E'13	115	100	48804	44418	44.42	0.00	44.42	92.54	0.0010	0.112	10.489	19.51
363	E13-E11	28	100	7726	6658	6.66	176.61	183.26	381.80	0.0134	0.375	10.753	19.25
364	E11-E12	47	100	23173	21380	21.38	0.00	21.38	44.54	0.0003	0.012	10.764	19.24
365	E11-E10	30	100	1144	0	0.00	155.23	155.23	323.39	0.0099	0.296	11.048	18.95
	-												
366	E10-E2	160	100	71651	65548	65.55	26.96	92.51	192.72	0.0038	0.605	11.653	18.35
367	E2-E'2	113	100	31269	26959	26.96	0.00	26.96	56.16	0.0004	0.044	11.697	18.30
368	E2-E1	49	100	1869	0	0.00	0.00	0.00	0.00	0.0000	0.000	11.653	18.35
	-												
369	E10-E8	49	100	10527	4908	4.91	57.81	62.72	130.66	0.0018	0.090	11.138	18.86
370	E8-E1	160	100	63914	57811	57.81	0.00	57.81	120.44	0.0016	0.253	11.392	18.61
	-												
371	E1-B'12	56	100	2136	0	0.00	0.00	0.00	0.00	0.0000	0.000	11.392	18.61
	-												
	-												
372	E6-A42	37	250	9648	8236	8.24	964.20	972.43	2025.90	0.0034	0.126	4.328	25.67
373	A42-A56	13	250	5153	4658	4.66	959.54	964.20	2008.74	0.0033	0.043	4.372	25.63
374	A56-E3	83	100	30125	26959	26.96	0.00	26.96	56.16	0.0004	0.032	4.404	25.60
375	A56-A43	40	250	12262	6986	6.99	925.59	932.58	1942.88	0.0031	0.126	4.497	25.50
376	A43-A58	55	100	14255	12158	12.16	0.00	12.16	25.33	0.0001	0.005	4.502	25.50
377	A43-A57	9	250	843	500	0.50	912.94	913.44	1902.99	0.0030	0.027	4.525	25.48
378	A57-A44	49	250	16592	14723	14.72	898.21	912.94	1901.95	0.0030	0.148	4.673	25.33
	-												
379	A44-A54	100	100	25273	21459	21.46	0.00	21.46	44.71	0.0003	0.025	4.698	25.30
380	A44-E1	209	100	72691	59719	59.72	0.00	59.72	124.41	0.0017	0.351	5.024	24.98
	-												
381	A44-A45	55	250	16070	13973	13.97	803.06	817.04	1702.16	0.0025	0.135	4.808	25.19
	-												
382	A45-A46	71	100	12366	9658	9.66	26.21	35.87	74.72	0.0007	0.046	4.855	25.15
383	A46-B'1	57	100	12739	10565	10.57	0.00	10.57	22.01	0.0001	0.004	4.858	25.14