

BNB COLONIZER PVT. LTD.
DDJAY PLOTTING IN SECTOR 70, VILLAGE
BADSHAHPUR, DISTT. GURGAON, HARYANA

EXTERNAL SERVICE ESTIMATE

ARCHITECT

studio archRoK

717, Gaur Heights, Sector-4, Vaishali, Ghaziabad-201010

PROJECTS
---GURGAON, HARYANA

SUBJECTS

PROJECT REPORT / ESTIMATES FOR PROVIDING EXTERNAL SERVICES (WATER SUPPLY, SEWERAGE & STORM WATER DRAINAGE AND GARDEN HYDRANT))

Water Supply

1. Source

The source of water supply in this area is tube well as underground water is sweet and fit for human consumption, moreover, the water is available at reasonable depth, the average yield of Tube wells, with approximate 60 ' to 80 metre depth will be about 15 KL per hour. 2(1 working+1 standby) Nos. Tube wells are required to meet with the daily requirement of water.

2. Tube wells

The proposed tube wells shall be 510 mm bore drilled with reverse rotary rig and installed with 80 mm i/d housing pipe and 50 mm i/d slotted tube as strainer. The provision taken in the estimate under the sub-head tube well includes the cost of pea gravel packing. The lift of tube well is limited due to incrustation and rusting of strainer. Therefore, out of these tube wells the drilling of tube wells will be done for 1 No. tube wells and further tube wells will be drilled as the demand develops till the scheme is handed over the department.

3. Pump Chambers and Pumping Machinery

It is proposed to occupy each tube well with an electricity driven pumping set-submersible pump capable of delivering about 15,000 Liters per hour. It has been proposed to install pumping set as described with standby of equal capacity.

4. Ground Storage

Underground storage tank for One day of total daily demand of water supply have been proposed at one location in the scheme. The same shall be fed by Tube well at present and shall be later augmented through HSVP mains canal supply at later date.

6. Distribution System

The distribution system for this development is has been designed for 172.5 Liters per person per day @3.0 times the average rate of flow on "Hazen Williams" formula with C-100. Necessary provision for laying HDPE pipes only conforming to relevant IS standards along with valves and specials has been made in this Estimate.

7. Rising Main

Rising mains from HSVP water main on sector road to water works have also been designed and provision for HDPE pipe line has been made in this estimate

8. Sewerage

The internal sewer lines have also been designed for three times average D.W.F in relation to water supply demand. It has been assumed that about 85 % of the domestic water supply shall find its way into the proposed sewer. All the DWC pipes, sewer has been designed to run half/full/three fourth full.

Necessary design statement for entire internal sewerage system has been prepared and attached with estimate.

Necessary provision for laying DWC pipes sewer lines and manholes etc. has been made in this estimate.

9. Storm water drainage

It has been proposed to lay underground DWC pipe drains on the road widths where it is possible to lay underground drains. The intensity of rain fall has been taken as ¼th inch per hour. The internal storm water drains will be jointed into external storm water drainage to be laid by HSVP on sector roads. Necessary provision for curves and channels has been made in the estimate. The estimate for these closed drains has been included as sub work no. III A minimum size of 400 mm DWC storm water line will be provided.

10. Specifications

The work will be carried out in accordance with the standard specifications of P.H. as laid down by the Haryana Government.

11. Roads

Cost of road has been taken in the estimate

12. Street Lighting

Provision for street lighting on surrounding area has been made.

13. Horticulture

Estimates and details of plantation, landscaping, signage etc. has been included.

14. Specifications

The work will be carried out in accordance with the standard specifications of PH as laid down by the Haryana Government.

15. Rates

The estimate has been based on the present market rates and probable escalation in prices.

16. Cost

The total cost of the Scheme including cost of all services works out to **Rs. 398.81 lakhs** including 3% contingencies and 49% departmental charges.

PROJECT: BNB COLONIZER PLOTTING SERVICES

SUBJECT: FINAL ABSTRACT OF COST

		Amount in Rs. Lacs
SUB WORK NO. I	WATER SUPPLY SCHEME	100.99
SUB WORK NO.	SEWERAGE SCHEME	93.37
SUB WORK	STORM WATER DRAINAGE	84.56
SUB WORK	ROADS & FOOT PATHS	69.17
SUB WORK NO.V	STREET LIGHTING	19.25
SUB WORK NO.	HORTICULTURE (PLANTATION & ROAD SIDE TREES)	5.14
SUB WORK NO. VII	MTC CHARGES INCL RESURFACING OF ROADS AFTER 1st 5 YEARS AND 2nd YEAR OF MTC AS/HUDA	26.33
	TOTAL	398.81

TOTAL : (Rupees Three Crore ninety eight Lakhs and eighty one Thousand Only)/-

AUTHORISED SIGNATORY

SUB WORK No. 1 (Abstract of Cost)		<u>Water Supply</u>	
1	Sub Head No. 01	Head Works	Rs.3,535,500
2	Sub Head No. 02	Pumping Machinery	Rs.1,425,000
3	Sub Head No. 03	Rising Main	Rs.276,375
4	Sub Head No. 04	Distribution System	Rs.1,343,425
		TOTAL	Rs.6,580,300
		Add 3% contingencies &	Rs.1,97,409
		PH Charges	
		TOTAL	Rs.67,77,709
		Add 49% Departmental charges + Price escalation	Rs.33,21,077.41
		TOTAL	Rs.1,00,98,786.41
		Say in lacs	100.99

Sub Work No. 1
Sub Head No. 01

Water Supply
Head Works

Amount in Rs.

1.	Boring and installing tube well with reverse Rotary Rig Complete with pipe and strainer to a depth of about 120 meter in all respect 1 Nos. for overall 5.01874 Acre Site Area Total –1 No. @ Rs. 10,00,000/- each.	Rs.1,00,000.00
2.	Provision for rising mains, connecting tube wells with UGT Tanks including Valve & NRV a) 80 mm dia – 15 m @ Rs. 700/-	Rs. 10,500.00
3.	Providing Tube well Submersible Pumps : Capacity 15000 LPH at 88 M head , 1 Nos. @ Rs. 200,000/-each	Rs.200,000.00
4.	Construction of UG Tanks 200 KL @ Rs. 3500/KL	Rs.700,000.00
5.	Provision of Construction of Tube well Chambers of Size 1.5X1.5X1.5 m tube well - 1 Nos @ Rs.100000 each	Rs.100,000.00
6.	Provision for Carriage of material & other unforeseen items	Rs.75,000.00
7.	Provision for footpath, lawn, boundary wall around tubewell & waterworks (L.S)	Rs.250,000.00
8.	Construction of boosting chamber (L.S.)	Rs.400,000.00
9.	Provision for staff offices & for maintenance staff	Rs.8,00,000.00
TOTAL		Rs.3,535,500.00

(C/O To Abstract of Cost for Sub work No.1)

For Tube Well Line

S. No.	Line Designation	Size of Pipe Provided	Length of pipe(in meters)
		mm	
1	TW – UGT	80	15

Sub Work No. 1	Water Supply	Amount in Rs.
Sub Head No. 02	Pumping Machinery	
1A. Providing and installing electricity driven Domestic Transfer pumping Set capable of delivering about 150 LPM of water against a total Head of 35 M complete with motor and other accessories including Valve & NRV. (2 Working + 1 Stand by) 3 Nos. @ 85000/- Each		Rs.255,000.00
1B. Providing and installing electricity driven Flushing & Garden pumping Set capable of delivering about 90 LPM of water against a total Head of 35 M complete with motor and other accessories including Valve & NRV. (1 Working + 1 Stand by) 2 No. @ 70000/- Each		Rs.140,000.00
2. Provision for making foundations and erection of Pumping Machinery: - Lump Sum		Rs.80,000.00
3. Provision for electric service connection including electrical Fittings for tube-well and boosting chamber etc. - Lump Sum		Rs.200,000.00
4. Provision for pipes, valves and specials inside boosting chamber. (L.S)		Rs.100,000.00
5. Provision for carriage of material		Rs.50,000.00
6. Provision for formation of plant etc		Rs.100,000.00
7. Provision for diesel engine generator set each for stand by arrangement for tubewell is boosting pump craft etc.(25kVA)		Rs.500,000.00
TOTAL		Rs.1,425,000.00
(C/O To Abstract of Cost for Sub work No.1)		

Sub-Work No. 1
Sub Head No. 03

Water Supply
Rising Main from HSVP

Amount in Rs.

1. Providing, laying, jointing and testing pipe lines including
 Cost of excavation etc. complete in all respects.
 80 mm dia. HDPE Pipe 95 m @ Rs. 625/M- Rs.59,375.00
2. Providing and fixing sluice valve including cost of surface box
 and masonry chamber etc. complete in all respects.
 80 mm i/d 1 No. @ Rs. 11000/- Rs.11,000.00
3. Providing and fixing indicating plates for sluice valve and air
 Valves. - 1 @ Rs. 1000/- each Rs.1,000.00
4. Provision for carriage for materials (Lump Sum) Rs.25,000.00
5. Making Water Supply Connection, including road cut with HSVP master line. Rs.100,000.00
6. Provision for roads cut and make up good condition Rs.80,000.00

TOTAL Rs.276,375.00

For HSVP Supply Line			
S. No.	Line Designation	Size of Pipe Provided	Length of pipe(in meters)
		mm	
1	MU Connection -- UGT	80	95

Sub Work No. 1**Water Supply
Water Distribution System (Domestic, Flushing And
Irrigation)****Sub-Head No. 04****Amount in Rs.**

1. Providing , Laying , jointing and testing HDPE pipe IS:4984 line including Fittings, valves, cost of excavation etc. complete in all respect.	
HDPE Pipe (PE100) 25 mm , 145 M @ Rs.95/- per meter	Rs.13,775.00
HDPE Pipe (PE100) 32 mm , 185 M @ Rs.115/- per meter	Rs.21,275.00
HDPE Pipe (PE100) 40 mm , 260 M @ Rs.145/- per meter	Rs.37,700.00
HDPE Pipe (PE100) 50 mm , 175 M @ Rs.210/- per meter	Rs.36,750.00
HDPE Pipe (PE100) 65 mm , 550 M @ Rs.340/- per meter	Rs.1,87,000.00
HDPE Pipe (PE100) 80 mm , 615 M @ Rs.625/- per meter	Rs.3,84,375.00
HDPE Pipe (PE100) 100 mm , 210 M @ Rs.960/- per meter	Rs.2,01,600.00
HDPE Pipe (PE100) 150 mm , 15 M @ Rs.1730/- per meter	Rs.25,950.00
2. Providing and fixing 20 mm dia. irrigation hydrant Valve,Chamber & Cover Etc. complete in all respect. 10 Nos. @ Rs. 3500/ each	Rs.35,000.00
	Rs.150,000.00
3. Provision for carriage of materials (Lump Sum)	Rs.80,000.00
4. Provision for cutting of road and making its good condition	Rs.150,000.00
5. Provision for air valve 4 No. and sluice valve complete with masonry chamber (L.S)	Rs.20,000
6. Providing & Fixing indicating plates for sluice valve,air valve (L.S)	
Total	Rs.1,343,425.00

(C/O To Abstract of Cost for Sub work No.1)

Sub-Work No. II**SEWERAGE SCHEME****Amount in Rs.**

1. Providing, jointing, cutting and testing DWC pipe IS:16098 and lowering into trenches including cost of Excavation, bed concrete, cost of manholes etc. complete in all respect

a) DWC pipe 200 mm i/d avg. depth 1.93 - 2.25 M
620 M @ Rs. 3200/M

Rs.19,84,000

2. STP Cap. 232 KLD upto tertiary level excluding civil work
with irrigation water transfer pumps (L.S)

Rs.35,00,000

Rs.100,000

3. Provision for making HSVP Connection on main line (L.S)

Rs.100,000

4. Provision for watering & lighting

Rs.200,000

5. Provision for vent pipe as per

Rs.100,000

6. Provision for cutting of roads and making good condition

Rs.100,000

7. Provision for timbering & shovering (L.S)

Total

Rs.60,84,000

Add 3% contingencies & PH charges

Rs.182,520

Total

Rs.62,66,520

Add 49% Price Escalation, Departmental charges

Rs.30,70,594.80

TOTAL**Rs.93,37,114.8**

Say in lacs 93.37

(Cost to Final abstract of cost)

Sub-Work No. III**STORM WATER SCHEME****Amount in Rs.**

1. Providing, jointing, cutting and testing DWC pipe IS:16098 and lowering into trenches including cost of Excavation, bed concrete, cost of Catch Basins & Road gullies, manholes etc. complete in all respect
 - a) 400 mm dia. 560 M @ Rs. 6000/m Rs.33,60,000
 - b). Providing Rain Harvesting arrangements
5 Nos @ Rs 150,000 Rs.750,000
3. Provision for Carriage of Material (L.S) Rs.150,000
4. Provision for watering & timbering and unforeseen (L.S) Rs.100,000
5. Provision for connection with HSVP line Rs.50,000
6. Provision for Road gullies and cement (L.S) Rs.450,000
7. Provision for watering & lighting Rs.100,000
8. Provision for temporary disposal arrangements till HSVP services are provided. Rs.550,000

Total

Rs.5,510,000

Add 3% for contingencies and PH charges

Rs.165,300

Total

Rs.5,675,300

Add 49% Departmental charges

Rs.2,780,897

TOTAL

Rs.8,456,197

(Cost to Final abstract of cost)

Say in lacs**84.56**

Project : BNB Colonizer Plotting Services, Sector-70, Gurugram

S. NO.	Description	Area in SQM.	No. of Plots	Per Unit population	Total Population	LPCD	Total Requirement	Domestic Water Requirement @ 70% of Total Water	Flushing Water Requirement @ 30% of Total Water	Sewerage Flow (Litres)
1	Total Plots		80	18	1440	172.5	248400	173880	74520	211140
2	Commercial @ 10 sqm / person	1908.000			191	45	8586	6010	2576	7298
3	Visitors @ 15% of Popultion				245	15	3669			3119
4	Filter backwash						10000			10000
5	Horticultures on lumpsum	0.641 Acre @ 24300 Ltrs / Acre					15576			
					1875		286232	179890	77096	231557

I) TOTAL DAILY WATER DEMAND

a) TOTAL DOMESTIC 193559.50 LTRS.

b) FLUSHING 77095.80 LTRS.

c) HORTICULTURE 15576.30 LTRS.

GRAND TOTAL **2,86,232 LTRS.**

II) SEWAGE FLOW

a) DAILY REQUIREMENT 1,93,560 LPD

b) RATE OF FLOW TO SEWER 85% of total water requirement

c) FLOW TO SEWER 2,31,557 LPD

d) SEWAGE FLOW **232 KLD**

e)	CAPACITY OF SEWAGE TREATMENT PLANT	232	KLD
f)	WATER AVAILABLE FOR RECYCLING (GARDENING & ROAD WASHING)	208	KLD

III) SOURCE OF WATER

a)	TUBE WELL / TANKER		LTRS.
b)	MUNICIPAL MAIN	1,93,560	LTRS.
c)	STP RECYCLED	2,08,401	LTRS.
d)	TOTAL DAILY WATER DEMAND	2,86,232	LTRS

IV) NOS. OF TUBEWELL

a)	WATER REQUIRED	1,93,560	Ltrs
b)	TUBEWELL YIELD (ASSUMED)	15,000	L/Hr
c)	TUBEWELL RUNNING	7	Hrs
d)	NOS. OF TUBEWELL REQUIRED	1.84	Nos
	SAY	2	Nos

V) PUMPING MACHINERY FOR TUBEWELLS

a)	Gross Working Head	70	Mtrs
b)	Average fall in S.L	2	Mtrs
c)	Depression Head	6	Mtrs
d)	Friction loss in main	10	Mtrs
	Total	88	Mtrs
e)	Discharge	15,000	L/Hr

f) Horse Power 8.15 HP

$$HP = (15000 \times 88 \times 1) / (60 \times 60 \times 75 \times 0.6)$$

SAY 10 HP

VI) BOOSTING MACHINERY (Water Supply Pumps)

a) Daily Domestic Water Demand 1,93,560 LTRS.

SAY 200 KLD

b) Discharge per hour @ 8 hr.
pumping / day 25 KL/H

SAY 417 LPM

c) No. of Working pump
(2 working + one standby) 3

d) Proposed Pump discharge
(Working) 139 LPM

SAY 150 LPM

Gross Working Head

a) Suction lift – positive suction 6 Mtrs

b) Frictional Loss in Mains &
Specials 9 Mtrs

c) Max Clear Head required 20 Mtrs

Total 35 Mtrs

VII) BOOSTING MACHINERY (Flushing Water Supply Pumps from STP)

a) Daily Flushing Water Demand. 77,096 LTRS.

SAY 80 KLD

b) Discharge per hour @ 8 hr.
pumping / day 10 KL/H

SAY 167 LPM

c) No. of Working pump
(one working + one standby) 2

d)	<i>Proposed Pump discharge (Working)</i>	83 LPM
	SAY	90 LPM

Gross Working Head

a)	<i>Suction lift – positive suction</i>	6 Mtrs
b)	<i>Frictional Loss in Mains & Specials</i>	9 Mtrs
c)	<i>Max Clear Head required</i>	20 Mtrs
	Total	35 Mtrs

VII) BOOSTING MACHINERY (Irrigation Water Supply Pumps from STP)

a)	<i>Daily Horticultural Water Demand.</i>	15,576 LTRS.
	SAY	16 KLD

b)	<i>Discharge per hour @ 3 hr. pumping / day</i>	5 KL/H
	SAY	89 LPM

c)	<i>No. of Working pump (one working + one standby)</i>	2
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d)	<i>Proposed Pump discharge (Working)</i>	44 LPM
	SAY	50 LPM

Gross Working Head

a)	<i>Suction lift – positive suction</i>	6 Mtrs
b)	<i>Frictional Loss in Mains & Specials</i>	9 Mtrs
c)	<i>Max Clear Head required</i>	20 Mtrs
	Total	35 Mtrs

Project : BNB Colonizer Plotting Services, Sector-70, Gurugram

SUBJECT : SEWERAGE SYSTEM DESIGN SHEET

Manhole No.		Ground Level at Upper MH	Ground Level at Lower MH	Length	Dia.	Slope	Area Served		Population	Sewage flow	Peak Flow		Pipe Capacity	Velocity		q/Q	d/D	Total Fall	Invert Elevation		DEPT H OF 1 ST MH	DEPT H OF 2 nd MH
From	To						Increment	Total			Q _{actual}	Q _{actual}	Q _{full}	V _{full}	V _{actual}				upper end	lower end		
		(m)	(m)	(m)	(mm)	1 in	Units	Units	persons	mld	mld	lps	(lps)	(mps)	(mps)			(m)	(m)	(m)		
S1	S2	231.50	231.50	110	200	150	30	30	540	0.0792	0.24	2.75	34.83	1.11	0.62	0.08	0.173	0.73	230.55	229.82	0.95	1.68
S2	S3	231.50	231.50	45	200	150	1	31	558	0.082	0.25	2.84	34.83	1.11	0.65	0.08	0.188	0.30	229.59	229.29	1.91	2.21
S3A	S3	231.50	231.50	110	200	150	28	28	504	0.074	0.22	2.57	34.83	1.11	0.62	0.07	0.173	0.73	230.55	229.82	0.95	1.68
S3	S4	231.50	231.50	50	200	150	33	61	1098	0.161	0.48	5.59	34.83	1.11	0.80	0.16	0.267	0.33	229.29	228.95	2.21	2.55
S4A	S4	231.50	231.50	37	200	150	5	5	90	0.013	0.04	0.46	34.83	1.11	#N/A	0.01	#N/A	0.25	230.55	230.30	0.95	1.20
S4	S5	231.50	231.50	27	200	150	61	66	1188	0.174	0.52	6.05	34.83	1.11	0.82	0.17	0.276	0.18	228.95	228.77	2.55	2.73
S5A	S5	231.50	231.50	67	200	150	4	4	72	0.011	0.03	0.37	34.83	1.11	#N/A	0.01	#N/A	0.45	230.55	230.10	0.95	1.40
S5	S6	231.50	231.50	21	200	150	66	70	1260	0.185	0.55	6.41	34.83	1.11	0.83	0.18	0.285	0.14	228.77	228.63	2.73	2.87
S6A	S6B	231.50	231.50	81	200	150	10	10	180	0.026	0.08	0.92	34.83	1.11	0.44	0.03	0.100	0.54	230.55	230.01	0.95	1.49
S6B	S6	231.50	231.50	22	200	150	0	10	180	0.026	0.08	0.92	34.83	1.11	0.44	0.03	0.100	0.15	229.52	229.37	1.98	2.13
S6	S7	231.50	231.50	25	200	150	70	80	1440	0.211	0.63	7.33	34.83	1.11	0.87	0.21	0.310	0.17	228.63	228.47	2.87	3.03
S7	STP	231.50	231.50	7	200	150	0	80	1440	0.211	0.63	7.33	34.83	1.11	0.87	0.21	0.310	0.05	228.47	228.42	3.03	3.08
S7	OUT	231.50	231.50	12	200	150	0	80	1440	0.211	0.63	7.33	34.83	1.11	0.87	0.21	0.310	0.08	228.42	228.34	3.08	3.16

Project : BNB Colonizer Plotting Services, Sector-70, Gurugram

SUBJECT : DRAINAGE SYSTEM DESIGN SHEET

Catch Pit No.		Ground Level at Upper CP	Ground Level at Lower CP	Length	Dia.	Slope	Area Served		Actual Discharge	Pipe Capacity	q/Q	Velocity	Total Fall	Invert Elevation		DEPTH OF 1 ST CP	DEPTH OF 2 ND CP
From	To						Increment	Total	Q _{actual}	Q _{full}				upper end	lower end		
		(m)	(m)	(m)	(mm)	1 in	(Ac)	(Ac)	(m ³ /sec)	(m ³ /sec)		(mps)	(m)	(m)	(m)		
D1	D2	231.50	231.50	117	400	600	1.33	1.33	0.02	0.11	0.17	0.88	0.20	230.00	229.81	1.50	1.69
D2	D3	231.50	231.50	44	400	600	0.10	1.43	0.02	0.11	0.18	0.88	0.07	229.81	229.73	1.69	1.77
D3A	D3	231.50	231.50	117	400	600	1.24	1.24	0.02	0.11	0.16	0.88	0.20	230.00	229.81	1.50	1.69
D3	D4	231.50	231.50	41	400	600	1.53	2.77	0.04	0.11	0.35	0.88	0.07	229.73	229.66	1.77	1.84
D4A	D4	231.50	231.50	45	400	600	0.30	0.30	0.00	0.11	0.04	0.88	0.08	230.00	229.93	1.50	1.57
D4	D5	231.50	231.50	30	400	600	2.82	3.11	0.04	0.11	0.40	0.88	0.05	229.66	229.61	1.84	1.89
D5A	D5	231.50	231.50	49	400	600	0.49	0.49	0.01	0.11	0.06	0.88	0.08	230.00	229.92	1.50	1.58
D5	D6	231.50	231.50	18	400	600	3.24	3.73	0.05	0.11	0.47	0.88	0.03	229.61	229.58	1.89	1.92
D6	OUT	231.50	231.50	12	400	600	0.03	3.76	0.05	0.11	0.48	0.88	0.02	229.58	229.56	1.92	1.94
E1	E2	231.50	231.50	75	400	600	1.24	1.24	0.02	0.11	0.16	0.88	0.13	230.00	229.88	1.50	1.63
E2	OUT	231.50	231.50	10	400	600	0.03	1.26	0.02	0.11	0.16	0.88	0.02	229.88	229.86	1.63	1.64

**PROJECT: BNB COLONIZER PLOTTING SERVICES,
SECTOR-70, GURUGRAM**

SUBJECT : DRAINAGE SYSTEM SHEET

S. No.	Line No.		Pipe dia.	Length
	From	To	mm	Meters
1	D1	D2	400	117.00
2	D2	D3	400	44.00
3	D3A	D3	400	117.00
4	D3	D4	400	41.00
5	D4A	D4	400	45.00
6	D4	D5	400	30.00
7	D5A	D5	400	49.00
8	D5	D6	400	18.00
9	D6	OUT	400	12.00
10	E1	E2	400	75.00
11	E2	OUT	400	10.00
Total 400 Dia Pipe				558
SAY				560

PROJECT : BNB Colonizer Plotting Services, Sector-70, Gurugram

SUBJECT : DOMESTIC WATER SUPPLY DESIGN SHEET

S.No	Node Nos.		Length of pipe line in M	No. of Persons			Population @ 13.5 Person/Plot	Requirement in KL @ 172.5 ltrs. Per head per day	Domestic Water Demand @ 70% of AVWD Apts + 35% Commercial	Peak Requirement in KL @ 3 times (which is provided by the pump)	Proposed size of pipe line in mm	Flow	Velocity	Hazen Williams Coeff.	Head Loss (S)	Head Loss	Hydraulic Level		Ground Level at Lower End	Terminal Head Available
	From	To															Upper End	Lower End		
			(m)	Person			(Persons)	(KL)	(KL)	(KL)	(mm)	(LPS)	(m/sec.)	(C)	(m/m)	(m)	(m)	(m)	(m)	(m)
				Plots	Commercial/Club/Staff	Total														
1	UGT	1	5	1600		1600		276	193	580	150	6.71	0.38	140	0.0011	0.01	266.50	266.49	231.50	34.99
2	1	2	9	1600		1600		276	193	580	150	6.71	0.38	140	0.0011	0.01	266.49	266.48	231.50	34.98
3	2	3	72	1600		1600		276	193	580	100	6.71	0.85	140	0.0079	0.57	266.48	265.91	231.50	34.41
4	3	4	27	1188		1188		205	143	430	100	4.98	0.63	140	0.0046	0.12	265.91	265.79	231.50	34.29
5	4	4A	51	90		90		16	11	33	40	0.38	0.30	140	0.0033	0.17	265.79	265.62	231.50	34.12
6	4	5	45	1098		1098		189	133	398	100	4.60	0.59	140	0.0039	0.18	265.79	265.61	231.50	34.11
7	5	5A	112	270		270		47	33	98	80	1.13	0.23	140	0.0009	0.10	265.61	265.51	231.50	34.01
8	5A	6A	9	270		270		47	33	98	80	1.13	0.23	140	0.0009	0.01	265.51	265.51	231.50	34.01
9	5	6	9	270		270		47	33	98	80	1.13	0.23	140	0.0009	0.01	265.61	265.60	231.50	34.10
10	6	6A	112	270		270		47	33	98	80	1.13	0.23	140	0.0009	0.10	265.60	265.51	231.50	34.01
11	6	7	35	558		558		96	67	202	100	2.34	0.30	140	0.0011	0.04	265.60	265.57	231.50	34.07
12	7	7A	112	270		270		47	33	98	80	1.13	0.23	140	0.0009	0.10	265.57	265.47	231.50	33.97
13	7A	8A	9	288		288		50	35	104	80	1.21	0.24	140	0.0010	0.01	265.47	265.46	231.50	33.96
14	7	8	9	288		288		50	35	104	80	1.21	0.24	140	0.0010	0.01	265.57	265.56	231.50	34.06

15	8	8 A	112	288		288		50	35	104	80	1.21	0.24	140	0.001 0	0.11	265.5 6	265.4 5	231.50	33.95
16	3	9	23	340		340		59	41	123	65	1.43	0.43	140	0.003 7	0.08	265.9 1	265.8 3	231.50	34.33
17	9	9 A	50		120	120		21	7	22	40	0.25	0.20	140	0.001 6	0.08	265.8 3	265.7 5	231.50	34.25
18	9	1 0	87	180	40	220		38	24	72	50	0.84	0.43	140	0.004 9	0.43	265.8 3	265.4 0	231.50	33.90
19	10	1 1	28	72		72		12	9	26	40	0.30	0.24	140	0.002 2	0.06	265.4 0	265.3 4	231.50	33.84

PROJECT: BNB Colonizer Plotting Services, Sector-70, Gurugram				
SUBJECT : DOMESTIC WATER SUPPLY SHEET				
S. No.	Line Designation		Size of Pipe Provided	Length of pipe
			mm	metres
1	UGT	1	150	5
2	1	2	150	9
3	2	3	100	72
4	3	4	100	27
5	4	4A	40	51
6	4	5	100	45
7	5	5A	80	112
8	5A	6A	80	9
9	5	6	80	9
10	6	6A	80	112
11	6	7	100	35
12	7	7A	80	112
13	7A	8A	80	9
14	7	8	80	9
15	8	8A	80	112
16	3	9	65	23
17	9	9A	40	50
18	9	10	50	87
19	10	11	40	28
TOTAL FOR 40 DIA				129
TOTAL FOR 50 DIA				87
TOTAL FOR 65 DIA				23
TOTAL FOR 80 DIA				484
TOTAL FOR 100 DIA				179
TOTAL FOR 150 DIA				14
TOTAL PIPING				916
SAY				920
MUNICIPAL LINE				
1		MU -- UGT	80	92
		TOTAL PIPE 80 DIA (SAY)		95
TUBEWELL LINE				
1		TW-UGT	80	14
		TOTAL PIPE 80 DIA (SAY)		15

PROJECT : BNB Colonizer Plotting Services, Sector-70, Gurugram																			
SUBJECT : FLUSHING WATER SUPPLY DESIGN SHEET																			
S.No.	Node Nos.		Length of pipe line in M	No. of Persons		Population @ 13.5 Person/Plot	Requirement in KL @ 172.5 ltrs. Per head per day	Domestic Water Demand @ 30% of AV/WD Apts + 65% Commercial	Peak Requirement in KL @ 3 times (which is provided by the pump)	Proposed size of pipe line in mm	Flow	Velocity	Hazen Williams Coeff.	Head Loss (S)	Head Loss	Hydraulic Level		Ground Level at Lower End	Terminal Head Available
	From	To														Upper End	Lower End		
			(m)	Person	(Persons)		(KL)	(KL)	(KL)	(mm)	(LPS)	(m/sec.)	(C)	(m/m)	(m)	(m)	(m)	(m)	(m)
				Plots	Total														
1	STP	1	27	1440	1440		248	75	224	100	2.59	0.33	120	0.0018	0.05	266.50	266.45	231.50	34.95
2	1	1A	115	180	180		31	9	28	40	0.32	0.26	120	0.0033	0.38	266.45	266.07	231.50	34.57
3	1	2	23	1260	1260		217	65	196	80	2.26	0.45	120	0.0042	0.10	266.45	266.35	231.50	34.85
4	2	2A	70	72	72		12	4	11	32	0.13	0.16	120	0.0018	0.13	266.35	266.23	231.50	34.73
5	2	3	27	1188	1188		205	61	184	80	2.13	0.42	120	0.0038	0.10	266.35	266.25	231.50	34.75
6	3	3A	52	90	90		16	5	14	32	0.16	0.20	120	0.0027	0.14	266.25	266.11	231.50	34.61
7	3	4	45	1098	1098		189	57	170	80	1.97	0.39	120	0.0032	0.15	266.25	266.11	231.50	34.61
8	4	4A	112	270	270		47	14	42	65	0.49	0.15	120	0.0007	0.07	266.11	266.03	231.50	34.53
9	4A	5A	9	270	270		47	14	42	65	0.49	0.15	120	0.0007	0.01	266.03	266.03	231.50	34.53
10	4	5	9	828	828		143	43	129	65	1.49	0.45	120	0.0053	0.05	266.11	266.06	231.50	34.56
11	5	5A	112	270	270		47	14	42	65	0.49	0.15	120	0.0007	0.07	266.06	265.99	231.50	34.49
12	5	6	35	558	558		96	29	87	80	1.00	0.20	120	0.0009	0.03	266.06	266.03	231.50	34.53
13	6	6A	112	270	270		47	14	42	65	0.49	0.15	120	0.0007	0.07	266.03	265.95	231.50	34.45
14	6A	7A	9	288	288		50	15	45	65	0.52	0.16	120	0.0007	0.01	265.95	265.95	231.50	34.45
15	6	7	9	288	288		50	15	45	65	0.52	0.16	120	0.0007	0.01	266.03	266.02	231.50	34.52
16	7	7A	112	288	288		50	15	45	65	0.52	0.16	120	0.0007	0.08	266.02	265.94	231.50	34.44

PROJECT: BNB Colonizer Plotting Services, Sector-70, Gurugram

SUBJECT : FLUSHING AND IRRIGATION WATER SUPPLY SHEET

S. No.	Line Designation		Size of Pipe Provided	Length of pipe
			mm	metres
1	STP	1	100	27
2	1	1A	40	115
3	1	2	80	23
4	2	2A	32	70
5	2	3	80	27
6	3	3A	32	52
7	3	4	80	45
8	4	4A	65	112
9	4A	5A	65	9
10	4	5	65	9
11	5	5A	65	112
12	5	6	80	35
13	6	6A	65	112
14	6A	7A	65	9
15	6	7	65	9
16	7	7A	65	112
TOTAL FOR 32 DIA				122
TOTAL FOR 40 DIA				115
TOTAL FOR 65 DIA				484
TOTAL FOR 80 DIA				130
TOTAL FOR 100 DIA				27
TOTAL PIPING				878
SAY				890
IRRIGATION LINE				
TOTAL FOR 25 DIA				145
TOTAL FOR 32 DIA				60
TOTAL FOR 40 DIA				15
TOTAL FOR 50 DIA				85
TOTAL FOR 65 DIA				40
TOTAL PIPING				345
SAY				350
No. of GARDEN HYDRANT				10 NOS.

PROJECT: BNB Colonizer Plotting Services, Sector-70, Gurugram**SUBJECT:ROADWORKS**

S. No.	Description	Unit	Qty	Rate (in Rs.)	Amount (inRs.)
1	Provision for leveling & earth filling as per site conditions	acre.	5.01875	1,50,000.00	7,52,812.50
2	20 mm thickness.	Sqm	2300.27	1,200.00	27,60,324.00
3	Provision for Kerbs & channels of CC 1:2,5:5. complete in all respect	Metre	920.108	600.00	5,52,064.80
4	Provision for Pavement in commercial area and pavements	Sqm	486.43	600.00	2,91,858.00
5	Provision for parking arrangement.	LS			50,000.00
6	Provision for carriage of materials, Guide map Plot indicator etc.	LS			100,000.00
	Sub Total				45,07,059.30
	Add 3% contingencies & PH charges				1,35,211.77
	Sub Total				46,42,271.07
	Add 49% Departmental Charges, Price escalation, unforeseen & Admin. Charges				22,74,712.82
	Total				69,16,983.89
	Say Rs in Lakhs (C/O to Final abstract of cost)				69.17

PROJECT: BNB Colonizer Plotting Services, Sector-70, Gurugram

SUBJECT:ROADAREA

S.NO.	ROAD NO.	ROAD LENGTH	ROAD WIDTH (CARPETED)	AREA
		(IN MTS.)	(IN MTS.)	(SQ.M.)
1	1 TO 2	29.341	5	146.705
2	2 TO 3	116.200	5	581.000
3	2 TO 4	43.585	5	217.925
4	4 TO 5	116.200	5	581.000
5	6 TO 7	38.557	5	192.785
6	7 TO 8	23.538	5	117.69
7	8 TO 9	11.210	5	56.050
8	10 TO 11	48.683	5	243.415
9	11 TO 12	32.740	5	163.700
	TOTAL	460.054		2300.27
TOTAL LENGTH OF KERB STONE (IN RM)				920.108

PROJECT: BNB Colonizer Plotting Services, Sector-70, Gurugram					
SUBJECT:EXTERNAL LIGHTING					
S.No.	Discription	UM	Qty.	Rate	Amount
1	Providing and installing street light on roads as for standard specification of DHVPN with LED	Acre	5.01875	250000	1254687.50
2	Contingency and Frieght Charges @ 3%				37640.62
	TOTAL				1292328.12
3	ADD 49% Deptt charges, price escalation unforeseen & admin charges				633240.77
4	TOTAL				1925568.89
	Say Rs in Lakhs (C/O to Final abstract of cost)				19.25

PROJECT: BNB Colonizer Plotting Services, Sector-70, Gurugram					
SUBJECT: PLANTATION & ROADSIDE TREES					
S.No.	Description	Unit	Qty	Rate (in Rs.)	Amount (in Rs.)
1	Development of organized lawn green area.	Acre	0.6410	1,00,000.00	64,100.00
a	Trenching of ordinary soil upto depth of 60cm i/c removal & stacking of serviceable material & disposing by spreading and leveling with in 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 i/c cost of imported earth and manure.				
b	Rough dressing of turfed area.				
c	Grassing with "DOOB GRASS" i/c watering and maintenance of lawns for 30 days till the grass forms a thick lawn , free from weeds and fit for mowing in row 7.5 cm part in either direction.				
	Above a,b,c work for green area	Sqm	2594.03	60.00	1,55,641.85
2	Providing and planting trees along boundary @12 m interval	Nos.	100	1,150.00	1,15,000
Cost Detail					
	Excavation	50.00			
	Manure	100.00			
	Tree Plant	100.00			
	Tree Guard	900.00			
	Total	1150.00			
	Sub Total				3,34,741.85
	Add 3% contingencies & PH charges				10,042.25
	Sub Total				3,44,784.10
	Add 49% Departmental charges				1,68,944.21
	Total				5,13,728.31
	Say Rs in Lakhs (C/O to Final abstract of cost)				5.14

PROJECT: BNB Colonizer Plotting Services, Sector-70, Gurugram					
SUBJECT: SERVICES & RESURFACING OF ROADS					
S.No.	Description	Unit	Qty	Rate (in Rs.)	Amount (in Rs.)
1	Provision of MTC charges for W/S, SWD & Sewarage, Roads, Street Lighting, Horticulture etc.				
a.	Complete in all aspect, including operational and Establishment charges as per HSVP norms for 10 years completion.	Acre	5.01875	1,00,000	5,01,875.00
2	Provision of resurfacing of roads MTC one layer of 100 mm thick WBM compacted to 75 mm thick with 25 mm thick premix carpet with seal coat.				
a	Resurfacing of road after 5 years of MTC.	Sqm	2300.27	225	5,17,560.75
b	Resurfacing of road after 10 years of MTC.	Sqm	2300.27	325	7,47,587.75
	Sub Total				17,67,023.50
	Add 3 % contingencies & PH charges				53,010.70
	Sub Total				18,20,034.20
	Add 49% Departmental charges				8,91,816.76
	Total				26,32,865.01
	Say Rs in Lakhs (C/O to Final abstract of cost)				26.33