DESIGN AND COST ESTIMATE For EXTERNAL DEVELOPMENT WORKS

(WATER SUPPLY, SEWERAGE, STORM WATER DRAINAGE, STREET LIGHTING, ROADS AND HORTICULTURE)

PROPOSED COMMERCIAL PLOTTED COLONY PHASE-II 3.4583 ACRES FROM AN AREA MEASURING 5.5583 ACRES FALLING IN SECTOR-88A, GURUGRAM BEING DEVELOPED BY M/S BETTER CHOICE REALTORS PVT. LTD.

Submitted by

BETTER CHOICE REALTORS PVT. LTD.

ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS FOR PROJECT : PROPOSED COMMERCIAL PLOTTED COLONY PHASE-II 3.4583 ACRES FROM AN AREA MEASURING 5.5583 ACRES FALLING IN SECTOR-88A, GURUGRAM BEING DEVELOPED BY M/S BETTER CHOICE REALTORS PVT. LTD.

REPORT

The Haryana Government has prepared a master plan for development of Gurugram on Dwarka Expressway. M/s. BETTERCHOICE REALTORS PVT. LTD. has decided to develop a part of the area in this master plan and has named this part as Phase-II 3.4583 Acres from 5.5583 Acres Commercial Plotted colony. This colony is located in Sector-88A of HSVP, Gurugram. Development of this Commercial project is planned in phases. License has already been granted for by D.T.C.P drawing No. 10717 to be read with License ------ Dated 19-12-2024. The brief details of the colony are as under:

WATER SUPPLY

HSVP water supply is expected to be provided on main sector roads in future. At present Tube wells are proposed to cater the potable water demand. It has been proposed to construct underground tanks of capacity as per attached details and at location for domestic purpose and for fire protection. Flushing and Horticulture water tank will be constructed as part of STP. The underground domestic tanks will be fed from HSVP supply, from there water shall pump out to each plot. Flushing water and Irrigation water demand will be met from treated effluent from Sewerage Treatment Plant. The water supply system has been designed as per the Hazen William formula.

DESIGN

The scheme has been designed for 3sqm/Person in Shops and 10sqm./person in Offices. Out of that 10% of total population is considered as Staff and 90% as visitors, whereas 90% Staff and 10% visitor are considered in Office space. Daily water demand is considered as 45 lpcd for staff and 15 lpcd for the visitors.

PUMPING EQUIPMENTS

It has been proposed to install pumping set as described with standby of equal capacity shall be provided. Standby electric power requirement is added to the main DG Sets or independently in case of electricity failure.

SEWERAGE SCHEME

Sewer line from proposed development will be connecting to a centralized Sewage treatment plant located within the site with a bye-pass line to HSVP sewer to dispose off the surplus water from STP. The sewerage system has been marked on the respective plans.

Sewer lines have been designed for three times average D.W.F in relation to water supply demand. It has been assumed that about 80% of the domestic & flushing water supply shall find its way into the proposed sewer. Sewer lines shall be laid to a gradient maintaining minimum 2.46 ft./sec self-cleaning velocity. Sewer line up to 400mm dia has been designed to run half full and above 400mm dia has been designed to run three fourth full at peak flow. Necessary provision for laying S.W. pipe sewer line, construction of required number of manholes etc., has been made in the estimate.

Necessary design statement for entire sewerage system has been prepared and attached with estimate. Manning's formula has been used for the design of sewerage system.

STORM WATER DRAINAGE

The storm water drainage is being designed to carry 6.25mm rainfall per hour. Also suitable provisions are contemplated in our scheme to ensure better recharging of underground water table in the area R.C.C. Hume pipes drain with minimum 400mm dia is proposed in this area.

SPECIFICATIONS

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

ROADS

Estimate of Road is prepared as per revised specifications adopted by HSVP. The roads in the colony have been planned with interlock Paver block pavement.

STREET LIGHITING

Provision for street lighting also has been made

PLANTATION

Estimates of plantation, landscaping, signage, etc., have been included

RATES

The estimate has been prepared based on the present market rates

COST

The total cost of development works in the scheme including various P.H. and B&R services works out to be **Rs. 565.91 Lakh** which includes 3% Contigencies and 49% Departmental Charges, price escalation, unforseen, Admin. Charges.

The cost per gross acre for this, works out to **Rs. 163.63 Lakh / acre** which covers the provision of services like Water Supply, Sewerage, Storm Water Drainage, Roads, Street Lighting and Plantation including maintenance thereof as well as future expansion where-so-ever indicated.

For: M/S BETTER CHOICE REALTORS PVT. LTD.

Authorized Signatory

PROJECT : PROPOSED COMMERCIAL PLOTTED COLONY PHASE-II 3.4583 ACRES FROM AN AREA MEASURING 5.5583 ACRES FALLING IN SECTOR-88A, GURUGRAM BEING DEVELOPED BY M/S
BETTER CHOICE REALTORS PVT. LTD.

TITLE	: DAILY WATER REQUIREMENT CHART	REQUIREME	NT CHART													
		Area	ea		Total Area	Area					Daily	Daily Water Demand	nand	Daily	Daily	
Ē.	Type of SCO	Ground	Proposed	Nos.	Chowo	Officer	Shc	Shops	offi	Offices	20040		Tatol	Domestic	Flushing	Dewage
		Coverage	F.A.R.		squus	OIIICes	Staff	Visitors	Staff	Visitors	squue	OIIICES	I OLAI	Water	Water	NOIL
A	A1 & A4	122.2135	536.73	2	244.427	829.03	8	73	75	8	1467	3482	6767	2722	2227	3959
	A2 & A3	120.21	526.71	2	240.420	813.00	8	72	73	ω	1443	3415	4857	2671	2186	3886
В	B1 & B4	70.4855	278.90	2	140.971	416.83	5	42	38	4	846	1751	2597	1428	1168	2077
	B2 & B3	69.33	274.94	2	138.660	411.22	5	42	37	4	832	1727	2559	1407	1152	2047
ပ	C1	93.269	392.82	1	93.269	299.55	3	28	27	3	560	1258	1818	1000	818	1454
	C2, C3 & C4	91.74	386.99	3	275.220	885.75	6	83	80	6	1651	3720	5371	2954	2417	4297
D	D1 - D4	72.12	287.07	4	288.480	859.80	10	87	77	6	1731	3611	5342	2938	2404	4274
ш	E1	70.4855	278.90	1	70.4855	208.41	2	21	19	2	423	875	1298	714	584	1039
	E2 - E8	69.33	274.94	7	485.310	1439.27	16	146	130	14	2912	6045	2368	4926	4031	7165
ш	F1 - F4	147.49	644.71	4	589.960	1988.88	20	177	179	20	3540	8353	11893	6541	5352	9514
ი	G1 - G3	81	334.80	3	243.000	761.40	8	73	69	8	1458	3198	4656	2561	2095	3725
т	H1 & H2	91.6745	384.03	2	183.3490	584.71	6	55	53	6	1100	2456	3556	1956	1600	2845
	H3 & H4	85.0233	355.24	2	170.0466	540.43	6	51	49	5	1020	2270	3290	1810	1481	2632
_	1	91.67445	384.03	1	91.674	292.36	3	28	26	3	550	1228	1778	978	800	1422
	12 & 13	85.02327	355.24	2	170.047	540.43	6	51	49	5	1020	2270	3290	1810	1481	2632
J	J1 & J15	78.08	318.40	2	156.160	480.64	5	47	43	5	937	2019	2956	1626	1330	2365
	J2 - J11 & J14	76.8	313.80	11	844.800	2607.00	28	253	235	26	5069	10949	16018	8810	7208	12815
	J12 & J13	68.224	267.48	2	136.448	398.51	5	41	36	4	819	1674	2492	1371	1122	1994
	J16 & J19	78.08	318.40	2	156.160	480.64	5	47	43	5	937	2019	2956	1626	1330	2365
	J17 & J18	76.8	313.80	2	153.600	474.00	5	46	43	5	922	1991	2912	1602	1311	2330
	TOTAL			57	4872.487		162		1378				93545	51450	42095	74836
	Public Toilet	-	I	1	I	ı	I	I	•		'	ı	10000	5500	4500	8000
					-	TOTAL							103545	56950	46595	82836
					SA	SAY IN KLD							104	22	47	83

PROJECT : PROPOSED COMMERCIAL PLOTTED COLONY PHASE-II 3.4583 ACRES FROM AN AREA MEASURING 5.5583 ACRES FALLING IN SECTOR-88A, GURUGRAM BEING DEVELOPED BY M/S BETTER CHOICE REALTORS PVT. LTD.

	POTABLE WATER REQUIREMENT FOR SCO's		
)	Daily Domestic Water Demand	57	KLD
)	Daily Flushing Water Demand	47	KLD
	Total	104	KLD
)	HORTICULTURE DEMAND		
<u>.</u>	Lump Sum	10	KLD
)	SEWAGE TREATMENT PLANT		
a)	Total waste water generated (80% of daily water consumption)	83	KLD
b)	Waste water from Phase-I	50	KLD
c)	Total waste water generated	133	KLD
	Add 5 % for Future Load as per HSVP	7	KLD
	STP capacity required	140	KLD
f)	STP capacity provided	140	KLD
)	WATER BALANCE CALCULATIONS		
/	Total waste water generated	133	KLD
	Recycled water available (90% waste water generated)	120	KLD
	Recycled water usage (Horticulture + Flushing)	57	KLD
	Recycled water usage for Flushing in Phase-I	29	KLD
	Total Recycled water demand	86	KLD
	Fresh water demand Phase-II	57	KLD
	Fresh water demand Phase-I	35	KLD
	Total Fresh water demand	92	KLD
,	Total excess water to GMDA Main	34	KLD
\ \	UNDER CROUND WATER TANK REQUIREMENT (INCLUDINC DIA		
)	UNDER GROUND WATER TANK REQUIREMENT (INCLUDING PHA	SE-1)	
ι)	Fire Water Tank = $100 \sqrt{P}$ (in thousand) / 3 = $100 \times \sqrt{2.59}$ / 3 = 53.64 KL (2590 persons including Phase-I) Say	55	KL
	Under Ground Water Tank Storage @ 60% of Daily Water Demand = $(57 + 35) \times 0.60 = 55.20$, Say	60	KL
)	Raw Water Tank @ 50% of Under Ground Storage	30	KL
)	Domestic Water Tank @ 50% of Under Ground Storage	30	KL
)	Flushing Water Tank @ 60% of Daily Recycled Water Demand = (57 +29) x 0.60 = 52 KL, Say	55	KL
	It is proposed to construct Underground fire tank of 55 KL, Raw Water tank and Flushing/Irrigation water tank of 55 KL capacity as part of STP.	of 30 KL, D	Domestic water tank of 3
)	TUBE WELL FOR PHASE-II		T
l)	Assuming working hours of tube wells	10	Hrs./day
)	Assuming discharge / hour of each tube well	15	Cu.M/Hr
`	Frotal Domostia Water Domond	57	Cu.M/day
:) l)	Total Domestic Water Demand No. of tube well required	0.38	No.

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	Total	0.42	No.
	or Say Minimum	1	No.
F)	PUMPING MACHINERY FOR TUBE WELL		
i)	Gross Working Head	50	М
ii)	Avg. fall in S.L.	3	М
ii)	Depression Head	9	М
v)	Frictional Head Loss in Mains & Specials	8	М
	Total Head	70	M
v)	BHP of Pump	6.48	HP
	Say	7.50	HP
I)	BOOSTING MACHINERY (DOMESTIC WATER SUPPLY PUMPS)		I
a)	Discharge per Hour @ 8 Hours/Day = 92 / 8 =	11.50	Cu.M/Hr
	Say	192	LPM
b)	Number of Working Pumps	1	No.
c)	Proposed Pump Discharge (Each)	192	LPM
	Say	200	LPM
d)	Gross Working Head		
、 、	Suction Lift-Positive Suction	0	М
`	Elevation Head	7	М
	Residual Head required at farthest ferrule	30	M
(iv	Frictional Head Loss in Mains & Specials	8	M
	Total	45	M
	Say	45	М
e)	HP of Each Pump Required = $200 \times 45 / 60 \times 75 \times 0.6$	3.33	HP
	Say	3.50	HP
)	HSVP WATER SUPPLY LINE		
a)	Total Domestic Water Demand	92	Cu.M/Day
		96	LPM
b)	Flow		
b) c)	Proposed Diameter of pipe line	65	MM
/	Proposed Diameter of pipe line Total Length of Line	65 75	М
c) d) e)	Proposed Diameter of pipe line Total Length of Line Frictional Head Loss	65 75 0.0084	M M
c) d) e)	Proposed Diameter of pipe lineTotal Length of LineFrictional Head LossVelocity	65 75 0.0084 0.48	M M M/Sec
c) d)	Proposed Diameter of pipe line Total Length of Line Frictional Head Loss	65 75 0.0084	M M
c) d) e) f)	Proposed Diameter of pipe line Total Length of Line Frictional Head Loss Velocity Total Head Loss BOOSTING MACHINERY (FLUSHING / IRRIGATION WATER SUPP)	65 75 0.0084 0.48 0.6 <i>LY PUMPS</i>)	M M M/Sec
c) d) e) f) g)	Proposed Diameter of pipe line Total Length of Line Frictional Head Loss Velocity Total Head Loss BOOSTING MACHINERY (FLUSHING / IRRIGATION WATER SUPP Discharge per Hour @ 8 Hours/Day = (59 kl + 27 kl) / 8 =	65 75 0.0084 0.48 0.6	M M M/Sec
c) d) e) f) g)	Proposed Diameter of pipe line Total Length of Line Frictional Head Loss Velocity Total Head Loss BOOSTING MACHINERY (FLUSHING / IRRIGATION WATER SUPP) Discharge per Hour @ 8 Hours/Day = (59 kl + 27 kl) / 8 = Or in LPM	65 75 0.0084 0.48 0.6 <i>LY PUMPS</i>) 10.75 179.17	M M M/Sec M Cu.M/Hr LPM
c) d) e) f) g)	Proposed Diameter of pipe line Total Length of Line Frictional Head Loss Velocity Total Head Loss BOOSTING MACHINERY (FLUSHING / IRRIGATION WATER SUPP) Discharge per Hour @ 8 Hours/Day = (59 kl + 27 kl) / 8 = Or in LPM Say	65 75 0.0084 0.48 0.6 <i>LY PUMPS</i>) 10.75	M M M/Sec M Cu.M/Hr
c) d) e) f) g)	Proposed Diameter of pipe line Total Length of Line Frictional Head Loss Velocity Total Head Loss BOOSTING MACHINERY (FLUSHING / IRRIGATION WATER SUPP Discharge per Hour @ 8 Hours/Day = (59 kl + 27 kl) / 8 = Or in LPM Say Number of Working Pumps	65 75 0.0084 0.48 0.6 <i>LY PUMPS</i>) 10.75 179.17 180.00 1	M M M/Sec M Cu.M/Hr LPM LPM No.
c) d) e) f) g) y) a)	Proposed Diameter of pipe lineTotal Length of LineFrictional Head LossVelocityTotal Head LossBOOSTING MACHINERY (FLUSHING / IRRIGATION WATER SUPP)Discharge per Hour @ 8 Hours/Day = (59 kl + 27 kl) / 8 =Or in LPMSayNumber of Working PumpsProposed Pump Discharge (Each)	65 75 0.0084 0.48 0.6 <i>LY PUMPS</i>) 10.75 179.17	M M M/Sec M Cu.M/Hr LPM LPM LPM No. LPM
c) d) e) f) g) a) b)	Proposed Diameter of pipe lineTotal Length of LineFrictional Head LossVelocityTotal Head LossBOOSTING MACHINERY (FLUSHING / IRRIGATION WATER SUPP)Discharge per Hour @ 8 Hours/Day = (59 kl + 27 kl) / 8 =Or in LPMSayNumber of Working PumpsProposed Pump Discharge (Each)Say	65 75 0.0084 0.48 0.6 <i>LY PUMPS</i>) 10.75 179.17 180.00 1	M M M/Sec M Cu.M/Hr LPM LPM No.
c) d) e) f) g) a) b)	Proposed Diameter of pipe lineTotal Length of LineFrictional Head LossVelocityTotal Head LossBOOSTING MACHINERY (FLUSHING / IRRIGATION WATER SUPP)Discharge per Hour @ 8 Hours/Day = (59 kl + 27 kl) / 8 =Or in LPMSayNumber of Working PumpsProposed Pump Discharge (Each)	65 75 0.0084 0.48 0.6 <i>LY PUMPS</i>) 10.75 179.17 180.00 1 180.00	M M M/Sec M Cu.M/Hr LPM LPM LPM No. LPM

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(iii)	Residual Head required at farthest fe	errule			30	М	
(iv)	Frictional Head Loss in Mains & Sp	ecials			8	М	
				Total	45	М	
				Say	45	М	
(e)	HP of Each Pump Required = 180 x	45 / 60 x 75	x 0.60		3.00	HP	
				Say	3.00	HP	
K)	GENERATOR SETS						
				Power	Total Power		
	Equipment Description	Working	Stand by	Consumptio	Consumptio	Unit	
				n	n		
a)	HP of Domestic Pumps	1.0	1.00	3.50	3.50	HP	
b)	HP of Flushing Pumps	1.0	1.00	3.00	3.00	HP	
c)	HP of Tube well Pumps	1.0	0.00	7.50	7.50	HP	
		T	otal Power	Consumption	14.00	HP	
		10.44	K.W.				
		15.67	KVA				
			Ad	d for Lignting	5.00	KVA	
			DG Capa	city Required	20.67	KVA	
				Say	25.00	KVA	
<i>L</i>)	SEWAGE TREATMENT PLANT						
a) STP capacity required				140	KLD	

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SUBJECT: ESTIMATE FOR PROVIDING EXTERNAL DEVELOPMENT WORKS

FINAL ABSTRACT OF COST

Description	Items	Amount (In Lakh)
SUB WORK NO. I	WATER SUPPLY SCHEME	92.65
SUB WORK NO. II	SEWERAGE SCHEME	49.45
SUB WORK NO. III	STORM WATER DRAINAGE SCHEME	49.57
SUB WORK NO. III		48.56
SUB WORK NO. IV	ROADS & FOOT PATHS	299.21
SUB WORK NO. V	STREET LIGHTING	7.96
SUB WORK NO. VI	HORTICULTURE	5.25
SUB WORK NO. VII	MTC CHARGES & RESURFACING OF ROADS	62.82
TOTAL IN LAKH		565.91

Cost per Acre = 565.91 / 3.4583 =

Rs. 163.63 Lakh per Gross Acre

For For: M/S BETTER CHOICE REALTORS PVT. LTD.

AUTHORISED SIGNATORY

SUB V	VORK NO. I	WATER S	UPPLY SCHEME
Sl. No.	Description	Items	Amount (In Lakh)
1	Sub Head No. 01	Head Works	19.74
2	Sub Head No. 02	Pumping Machinery	23.50
3	Sub Head No. 03	Domestic Water supply Distribution	9.12
4	Sub Head No. 04	Flushing & Irrigation System	8.01
	Total in Lakh		60.37
	P.E. and Contingency Charges @ 3%		1.81
	Total		62.18
	Departmental, Price Escalation, Unforeseen & Adm. Charges @ 49%		30.47
	Total		92.65
	(C/O to Final abstract of cost)		

SUB WORK NO. I Sub Head No. 01 WATER SUPPLY SCHEME

Head Works

Sl. No.	Description	Quantity	Rate	Amount (In Lakh
1	Providing, laying, jointing and testing pipe lines including cost of excavation etc. complete in all respects.			
a)	65 mm dia. G.I. pipe 75m @ Rs. 750/- (From HSVP main)	75	750	0.56
b)	100 mm dia. D.I. pipe 10m @ Rs. 1400/- (For Tubewell)	10	1,400	0.14
2	Boring and installing 300 mm i/d tubewell with reverse rotary rig complete with pipe and strainer to depth of about 80 m in all respect 1 No. @ Rs. 10,00,000/- each	1	1,000,000	10.00
3	Provision for borewell chamber of size 1.5 x 1.5 x 1.5 m For Housing borewell 1 No. @ Rs.100000/- each	1	100,000	1.00
4	Construction of boundary wall arround Tube Well	Lump Sum		1.50
5	Providing and fixing sluice valve/butter fly valve and air release valve including cost of surface boxes and masonary chambers etc. complete in all respects	Lump Sum		0.50
6	Providing and fixing indicating plates for sluice valve, butterfly valve and air valves etc.			
a)	2 Nos. @ Rs. 2000/- each	2	2,000	0.04
7	Provision for carriage for materials and other unforeseen items.	Lump Sum		1.00
8	Provision for cutting of roads and making good to its original conditions.	Lump Sum		1.50
9	Provision for making connection with HSVP on master road.	Lump Sum		2.00
10	Supply and installation of electrically driven Submersible Pumping sets in TWs complete with lowering pipes, submersible cables, control panels and other accessories on tube wells discharge 15 kl/hr. @ 70 m head with 7.5 H.P. motor.	1	150,000	1.50
	(C/O to abstract of cost of Sub work No. I)			19.74

SUB WORK NO. I Sub Head No. 02 WATER SUPPLY SCHEME

Pumping Machinery

Sl. No.	Description	Quantity	Rate	Amount (In Lakh
1	Providing & installing booster pumping set of following capacity for Water supply Booster Pumps for Domestic purpose complete with motor and other accessories.			
a)	200 LPM of 45 M head of 1 Set (1 Working + 1 Standby) of 3.5 HP Each @ Rs. 1,00,000/-	2	100,000	2.00
2	Providing & installing booster pumping set of following capacity for Water supply Booster Pumps for Flushing/ Irrigation purpose complete with motor and other accessories.			
a)	180 LPM of 45 M head of 1 Set (1 Working + 1 Standby) of 3.00 HP Each @ Rs. 75,000/-	2	75,000	1.50
3	Provision for chlorination plant complete 1 No. @ Rs.1,50,000/- Each	1	150,000	1.50
4	Provision for making foundations and erection of Pumping Machinery.	Lump Sum		1.00
5	Provision for pipes, valves and specials inside boosting chamber.	Lump Sum		1.00
6	Provision for electric service connection including electrical fittings for booster pumps etc.	Lump Sum		1.00
7	Provision for carriage of material and other unforeseen items etc	Lump Sum		1.00
8	Providing and construction of Under Ground Water Storage Tank			
	170 KL capacity including 55 kl for Fire, 30 kl for Raw, 30 kl for Domestic and 55 KL capacity for Flushing water near STP	170	5,000	8.50
9	Construction of boosting chamber of suitable size	Lump Sum		2.00
10	Provision for Generator set of 25 KVA	Lump Sum		4.00
	Total in Lakh			23.50

SUB WORK NO. I	WATER SUPPLY SCHEME
Sub Head No. 03	Domestic Water supply Distribution

Sl. No.	Description	Quantity	Rate	Amount (In Lakh)
1	Providing, Laying, jointing and testing D.I pipe line including			
	fittings, valves, cost of excavation etc. complete in all respect.			
a)	100mm dia D.I Pipe	446	1,400	6.24
b)	150mm dia D.I Pipe	0	1,800	0.00
2	Providing and fixing sluice valve including cost of surface boxes and masonry chambers etc. complete in all respects.			
a)	100mm, 5 Nos. Each @ Rs.10000/-	5	10,000	0.50
b)	150mm, 0 Nos. Each @ Rs.12000/-	0	12,000	0.00
3	Providing and fixing air release valve and scour valve			
a)	2 Nos. Each @ Rs.12000/-	2	12,000	0.24
4	Indication plate for valves, hydrant AV etc.			
a)	7 Nos. @ Rs.2000/- each	7	2,000	0.14
5	Provision for carriage of materials and other unforeseen items	Lump Sum		1.00
6	Provision for cutting of roads and making good to its original conditions.	Lump Sum		1.00
	Total in Lakh			9.12
	(C/O to abstract of cost of Sub work No. I)			

SUB WORK NO. IWATER SUPPLY SCHEMESub Head No. 04Flushing & Irrigation System

Sl. No.	Description	Quantity	Rate	Amount (In Lakh)
1	Providing, Laying, jointing and testing HDPE pipe line			
1	including fittings, valves, cost of excavation etc. complete in			
	all respect.			
a)	100mm dia Pipe	442	1,000	4.42
	150mm dia Pipe	0	1,500	0.00
0)		0	1,500	0.00
2	Providing and fixing sluice/butter fly valve including cost of			
	surface boxes and masonry chambers etc. complete in all			
	respects.			
a)	150mm - 0 No. Each @ Rs.12000/-	0	12,000	0.00
b)	100mm - 5 Nos. Each @ Rs.10000/-	5	10,000	0.50
3	Providing and fixing air release valve and scour valve			
a)	2 Nos. Each @ Rs.10000/-	2	10,000	0.20
4	Indication plate for valves etc.			
a)	7 Nos. Each @ Rs.2000/-	7	2,000	0.14
5	Provision for carriage of materials and other unforeseen items	Lump Sum		1.00
	Trovision for carriage of materials and other unforescen items	Lump Sum		1.00
6	Description for sufficiency of reads and making acced to its arisingly			
0	Provision for cutting of roads and making good to its original conditions.	Lump Sum		1.00
7	Providing and fixing 25mm dia Garden Hydrant valve			
	complete in all respect.	Lump Sum		0.75
	Total in Lakh			8.01
	(C/O to abstract of cost of Sub work No. I)			

SUB V	VORK NO. II		SEW	ERAGE SCHEMI
Sl. No.	Description	Quantity	Rate	Amount (In Lakh
1	Providing, laying, jointing and testing S.W. Sewer pipe lines including Manholes & cost of excavation etc. complete in all respects. (Upto 2 Mtr. Depth)			
a)	200 mm i/d - 230 M @ Rs. 1500/M	230	1,500	3.45
b)	250 mm i/d - 0 M @ Rs. 2000/M	0	2,000	0.00
c)	100 mm dia HDPE Pipe (STP Bye Pass Riser Line)	115	1,000	1.15
2	Providing, laying, jointing and testing Sewer pipe lines including Manholes & cost of excavation etc. complete in all respects. (Above 2 Mtr. Up to 4.0 Mtr. Depth)			
a)	200 mm i/d 174 M @ Rs. 1800/M	174	1,800	3.12
b)	250 mm i/d 0 M @ Rs. 2500/M	0	2,500	0.00
3	Provision for carriage of material and other unforeseen charges.	Lump Sum		1.00
4	Provision for making connection with HSVP sewer on master road.	L.S.		1.50
5	Providing & installation 140 KLD compact sewerage plant complete in all respects. (Including Tertiary Treatment) @ Rs. 15,000/- per KLD	140	15,000	21.00
6	Provision for road cutting and making its original condition	Lump Sum		1.00
	Total in Lakh			32.22
	P.E. and Contingency Charges @ 3%			0.97
	Total			33.19
	Departmental, Price Escalation, Unforeseen & Adm. Charges @ 49%			16.26
	Total in Lakh			49.45
	(C/O to Final abstract of cost)			

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SUB WORK NO. III STORM WATER DRAINAGE SCHEME Sl. No. Description Quantity Amount (In Lakh) Rate 1 Providing, laying, RCC pipe class NP-3 including jointing, cutting, special, excavation, manholes, chambers etc. complete in all respects (Upto 2 Mtr. Depth) a) 400 mm dia. 632 M @ Rs. 2000/M 632 2,000 12.64 2 Providing, laying, RCC pipe class NP-3 including jointing, cutting, special, excavation, manholes, chambers etc. complete in all respects (Above 2m And up to 4m Depth) a) 400 mm dia. 0 M @ Rs. 2500/M 0 2,500 0.00 3 Provision for lighting and watching Lump Sum 1.50 4 Provision for road gullies & 200mm dia connecting pipes. Lump Sum 2.50 5 Provision for rainwater harvesting arrangements at selected 4 300,000 12.00 places 6 Provision for Shoring & Timbering Lump Sum 1.50 7 Provision for making connection with HSVP Mains.on master 1.50 Lump Sum road Total in Lakh 31.64 P.E. and Contingency Charges @ 3% 0.95 Total 32.59 Departmental, Price Escalation, Unforeseen & Adm. Charges 15.97 @ 49% Total in Lakh 48.56 (C/O to Final abstract of cost)

SUB V	VORK NO. IV		ROAD	S & FOOT PATH
Sl. No.	Description	Quantity	Rate	Amount (In Lakh)
1	Provision for leveling and earth filling as per site conditions.	3.095	1,400,000	43.33
2	Construction of road by :- (i) 125 mm thk. GSB (ii) 175 mm thk. WMM (iii) 30 mm thk. Sand bed (iv) 80 mm thk. Paver blocks			
	9273 sqm. @ Rs. 1500/- per sqm.	9273	1,500	139.10
3	Providing of kerbs stone & Channels of CC 1:2.5:5 (kerb stone on one side of roads) (712 X 2 = 1424 m @600.0/Metre	1,424	600	8.54
5	Provision for guide map and other unforeseen item	Lump Sum		0.50
6	Provision for plot indicators	Lump Sum		0.50
7	Provision for demarcating burgies	Lump Sum		0.50
8	Provision for traffic arrangement	Lump Sum		0.50
9	Provision for carriage of material & unforeseen items	Lump Sum		2.00
	Total in Lakh			194.97
	P.E. and Contingency Charges @ 3%			5.85
	Total			200.81
	Departmental, Price Escalation, Unforeseen & Adm. Charges @ 49%			98.40
	Total in Lakh			299.21
	(C/O to Final abstract of cost)			

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SUB V	VORK NO. V		ST	TREET LIGHTING
Sl. No.	Description	Quantity	Rate	Amount (In Lakh)
1	Providing street lighting on roads as per standard specifications of HVPN.			
	3.4583 acres @ 1,50,000/- per acres	3.458	150,000	5.19
	Total in Lakh			5.19
	P.E. and Contingency Charges @ 3%			0.16
	Total			5.34
	Departmental, Price Escalation, Unforeseen & Adm. Charges @ 49%			2.62
	Total in Lakh			7.96
	(C/O to Final abstract of cost)			

SUB W	VORK NO. VI			HORTICULTUR
Sl. No.	Description	Quantity	Rate	Amount (In Lakh
1	Development of Green areas			
a)	Trenching the ordinary soil up to dept of 60cm including			
	removal and stacking of serviceable material and disposing of by spreading and leveling within a lead to 50m and making up			
	the trenches area of proper leads by filling with earth mixed			
	with manure before and after flooding trench with water			
	including cost of imported earth and manure			
b)	Rough dressing of roof area			
c)	Grassing with "Doob Grass" including watering and			
	maintenance of lawns for 30 days till the grass a thick lawn,			
	free weeds and fit for moving in rows 7.5m apart in either			
	direction including provision for hedges and barbed wire			
	fencing around park.			1.70
	Lump sum			1.50
2	Planting Trees			
a)	Provisions trees, along the road at 12mt interval			
	Total Road length =712 Metres			
	(712 x 2)/12 =118.66, Say 120 nos @ Rs. 1600/- per Tree	120.00	1,600	1.92
	Total in Lakh			3.42
	P.E. and Contingency Charges @ 3%			0.10
	Total			3.52
	Departmental, Price Escalation, Unforeseen & Adm. Charges @ 49%			1.73
	Total in Lakh			5.25
	(C/O to Final abstract of cost)			

SUB WORK NO. VII

MTC CHARGES & RESURFACING OF ROADS

Sl. No.	Description	Quantity	Rate	Amount (In Lakh)
1	Providing of M/C charges for Water supply, Sewerage, Strom water drainage, Roads, Street lighting, Plantation etc. complete in all aspect, including Operational and Establishment charges as per HSVP norms for 10 years completion			
	Area 3.4583 acre @ 5.00 lacs per acre	3.45830	500,000	17.29
2	Providing of resurfacing of roads after 5 years of MTC of 15% area of Paver blocks and its joints.			
	Total Road Area 1390 sqm @ 600 per sqm	1390	600	8.34
3	Providing of resurfacing of roads after 10 years of MTC of 20% area of Paver blocks and its joints.			
	Total Road Area 1855 sqm @ 825 per sqm	1855	825	15.30
	Total in Lakh			40.94
	P.E. and Contingency Charges @ 3%			1.23
	Total			42.16
	Departmental, Price Escalation, Unforeseen & Adm. Charges @ 49%			20.66
	Total in Lakh			62.82
	(C/O to Final abstract of cost)			

	Flow	•				4		68	8					5
	Sewage Flow	LPD	9531	24914	0	24914	20717	13239	30198			9151	0	
	Gross Daily Water Demand	LPD	11914	31143	0	31143	25896	16549	37748			11439	0	
	Total Daily Water Demand	LPD	6846 5068	31143	0	31143	25896	4656 11893	5342	7189 9806	10255 5156	1439 10000	0	
	No. of SCOs		4 ω		0		18	ю 4	4	4 4	8 4	1	0	
	Per Block Daily Water Demand		1711.495 1689.347		0		1438.649	1551.96 2973.264	1335.51	1797.3 2451.405	1281.881 1288.898	1438.649 10000	0	
TITLE : LOAD ON SEWAGE LINES	Type of SCOs		Н	PHASE - I LOAD	1	PHASE - I LOAD	ŗ	IJЦ	D	A	BE	J Public Toilet		
OAD ON	No.	TO	S3	S3	S5	S5	S9	S7	S8			S9	STP	
TITLE : L	Line No.	FROM	S1	S2	S3	S4	S5	S6	S7			S8	S9	

Number of the processing service proces service processing service processing service proces	PRC GUI	JECT NGRA	PROJECT : PROPOSI GURUGRAM BEING	OSED CO	DMMER(CIAL PL(BY M/S F	PROJECT : PROPOSED COMMERCIAL PLOTTED COLONY PHASE-II 3.4583 ACRES FROM AN GURUGRAM BEING DEVELOPED BY M/S BETTER CHOICE REALTORS PVT. LTD.	ILONY PI HOICE R	HASE-II EALTO	3.458: RS PV	3 ACRI T. LTI	ES FRO		LEA M.	EASURI	AREA MEASURING 5.5583 ACRES FALLING IN SECTOR-88A,	83 ACRI	IS FALL	I SNI	N SEC	ror-88	A,
	SUB.	IECT : D	ESIGN O	DF SEWER	AGE SYST	rem																
Severative Node Series Average Severage Discringe Reveal Discringe Length Severage Discringe Reveal Series Table Table Series Table Series Series Table Series				S£	wage Disch	arge		Peak							Ground	l Level	Invert	Level	Ď	pth		
From To< Ipd Ipd <td>SI. No.</td> <td></td> <td>Line Node No.</td> <td></td> <td>Previous</td> <td>Total</td> <td>Average Sewage Discharge</td> <td>Sewage Discharge (3 Times Avg.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Fall in Line</td> <td>Start</td> <td>End</td> <td>Start</td> <td>End</td> <td>Start</td> <td>End</td> <td>Avg. Depth</td> <td>Remarks</td>	SI. No.		Line Node No.		Previous	Total	Average Sewage Discharge	Sewage Discharge (3 Times Avg.)						Fall in Line	Start	End	Start	End	Start	End	Avg. Depth	Remarks
31 3531 0 9531 0.11 0.33 200 190 37 076 1189 0.300 0.300 1.902 <		From		pdl	pdl	pdl	lps	sdl	шш	I in	Mtr	m/s	lps	Mtr	Mtr	Mtr	Mtr	Mtr	Mtr	Mtr	Mtr	
3 24914 0.29 0.87 200 190 0.76 11.89 0.033 0.300 1.508 1.561 1.81 S3 24914 0.24914 0.249 0.87 200 190 10 0.76 11.89 0.030 1.506 1.561 1.769 1.81 S3 55 0 34446 0.40 120 200 190 10 0.76 11.89 0.030 0.300 1.561 1.769 1.81 S4 55 24914 0.29 0.87 200 190 10 0.76 11.89 0.300 0.300 1.561 1.769 1.81 S4 5256 89 0.930 8073 0.930 1.561 1.176 2.361 2.01 2.01 2.01 2.01 2.01 2.01 2.01 2.02 2.01 2.01 2.02 2.01 2.01 2.02 2.02 2.030 0.300 1.159 2.01 2.01	1	S1	S3	9531	0	9531	0.11	0.33	200	190	37	0.76	11.89	0.192	0.300	0.300	-0.900	-1.092	1.20	1.39	1.30	
32 24914 0 24914 0.29 0.87 200 190 10 0.76 11.89 0.030 0.300 1.506 <																						
S3 S5 0 34446 34446 0.40 1.20 200 10.76 1.361 1.769 1.861 1.769 1.861 1.769 1.861 1.769 1.861 1.769 1.861 1.769 1.861 1.769 1.861 1.769 1.861 1.769 1.861 1.769 1.861 1.861 1.861 0.230 0.150 1.561 1.769 1.861 1.861 1.861 0.230 0.300 1.561 1.769 1.861 1.861 1.861 0.300 0.300 1.561 1.861 1.861 1.861 0.300 1.561 1.861 <th1.88< th=""> <th1.88< th=""></th1.88<></th1.88<>	0	S2	S3	24914	0	24914	0.29	0.87	200	190	10	0.76	11.89	0.053	0.300	0.300	-1.508	-1.561	1.81	1.86	1.83	
34 52 24914 0 24914 0 24914 0 24914 0 24914 0 24914 0 24914 0 24914 0 24914 0 24914 0 24914 0 24914 0 24914 0 24914 0 24914 0 24914 0 24914 0 250 0 2300 1.508	\mathfrak{S}	S3	S5	0	34446	34446	0.40	1.20	200	190	40	0.76	11.89	0.208	0.300	0.300	-1.561	-1.769	1.86	2.07	1.96	
S5 S9 2071 59360 80077 0.93 2.78 200 113 0.76 11.89 0.592 0.300 -1.769 2.361 2.07 S6 S7 13239 0 13239 0.15 0.46 200 190 49 0.76 11.89 0.500 0.300 -1.769 2.361 2.07 S6 S7 13239 0 13239 0.15 0.46 200 190 49 0.76 11.89 0.292 0.300 -1.158 1.05 1.20 S7 S8 30198 13239 43437 0.500 1.51 200 190 18 0.447 0.300 -1.158 1.605 1.46 S8 9151 43437 5258 0.61 1.83 200 190 0.200 0.300 -1.158 1.605 1.46 S8 9151 43437 5258 0.61 1.83 0.76 11.89 0.274 0.300	4	S4	S5	24914	0	24914	0.29	0.87	200	190	10	0.76	11.89	0.053	0.300	0.300	-1.508	-1.561	1.81	1.86	1.83	
S6 S7 13239 0 12339 0.15 0.46 200 190 49 0.76 11.89 0.258 0.300 -0.900 -1.158 1.20 S7 13239 0 13239 0.15 0.46 200 190 49 0.76 11.89 0.200 0.900 -1.158 1.20 S7 S8 30198 13239 43437 0.500 1.51 200 190 85 0.76 11.89 0.247 0.300 -1.158 1.605 146 S7 S8 9151 43437 0.500 1.51 200 190 85 0.76 11.89 0.274 0.300 -1.158 1.90 S8 9151 43437 52588 0.61 1.83 200 190 87 8.076 11.89 0.274 0.300 -1.605 1.46 S8 S7P 0 132665 1.54 4.61 200 19 9.076	S	S5	S9	20717	59360	80077	0.93	2.78	200	190	113	0.76	11.89	0.592	0.300	0.300	-1.769	-2.361	2.07	2.66	2.36	
No. No. <td>9</td> <td>S6</td> <td>S7</td> <td>13239</td> <td>0</td> <td>13239</td> <td>0.15</td> <td>0.46</td> <td>200</td> <td>190</td> <td>49</td> <td>0.76</td> <td>11.89</td> <td>0.258</td> <td>0.300</td> <td>0.300</td> <td>006.0-</td> <td>-1.158</td> <td>1.20</td> <td>1.46</td> <td>1.33</td> <td></td>	9	S6	S7	13239	0	13239	0.15	0.46	200	190	49	0.76	11.89	0.258	0.300	0.300	006.0-	-1.158	1.20	1.46	1.33	
S8 S9 9151 43437 52588 0.61 1.83 200 190 52 0.76 11.89 0.274 0.300 -1.605 -1.879 1.91 S8 S9 9151 43437 52588 0.61 1.83 200 190 52 0.76 11.89 0.274 0.300 -1.605 -1.879 1.91 S9 STP 0 132665 1.54 4.61 200 190 9 0.76 11.89 0.047 0.300 -2.361 2.408 2.66 S1 V	7	S7	S8	30198	13239	43437	0.50	1.51	200	190	85	0.76	11.89	0.447	0.300	0.300	-1.158	-1.605	1.46	1.91	1.68	
Normalize <	8	S8	S9	9151	43437	52588	0.61	1.83	200	190	52	0.76	11.89	0.274	0.300	0.300	-1.605	-1.879	1.91	2.18	2.04	
TOTAL TOTAL TOTAL 132665 STP By Pass connection line upto Site 132665 Boundary 100	6	S9	STP	0	132665	132665	1.54	4.61	200	190	6	0.76	11.89	0.047	0.300	0.300	-2.361	-2.408	2.66	2.71	2.68	
STP By Pass connection line upto Site1326656.14100Boundary		TOTAI								1	+											
	10	STP By Bounda	/ Pass com	nection line	tupto Site	132665	6.14		100		115											

PROJECT : PROPOSED COMMERCIAL PL ACRES FALLING IN SECTOR-88A, GURUG	PROPOSED	COMMER(CTOR-88A,		ITED COI AM BEIN(JONY PHA	PROJECT : PROPOSED COMMERCIAL PLOTTED COLONY PHASE-II 3.4583 ACRES FROM AN AREA MEASURING 5.5583 ACRES FALLING IN SECTOR-88A, GURUGRAM BEING DEVELOPED BY M/S BETTER CHOICE REALTORS PVT. LTD.	RES FROM /	NN AREA MI CE REALTO	EASURING 5.5 DRS PVT. LTD.	583
SEWERAGE QUANTITY SHEET	QUANTITY	' SHEET								
Name of Sewer Line	ewer Line	Length of line	Dia of Pipe		Depth of Line	ine	Line Depth l	Line Depth Upto 2.0 Mtr	Line Depth 2.0 Mtr. to 4.0 Mtr	Mtr. to 4.0
From	To	Mtr.	mm	U/End	L/End	Average Depth	200 Dia	250 Dia	200 Dia	250 Dia
S1	S3	37	200	1.20	1.39	1.30	37	0	0	0
S2	S3	10	200	1.81	1.86	1.83	10	0	0	0
S3	S5	40	200	1.86	2.07	1.96	40	0	0	0
S4	S5	10	200	1.81	1.86	1.83	10	0	0	0
S5	S9	113	200	2.07	2.66	2.36	0	0	113	0
S6	S7	49	200	1.20	1.46	1.33	49	0	0	0
S7	S8	85	200	1.46	1.91	1.68	85	0	0	0
S8	S9	52	200	1.91	2.18	2.04	0	0	52	0
S9	STP	6	200	2.66	2.71	2.68	0	0	6	0
STP OVERFLOW LINE	LOW LINE									
STP By Pass connection line upto Site Boundary (Pumping Main)	onnection 3oundary n)	115	100							
			TOTAL				230	0	174	0

PROJECT : PROPOSED COMMERCIAL PLOTTED COLONY PHASE-II 3.4583 ACRES FROM AN AI GURUGRAM BEING DEVELOPED BY M/S BETTER CHOICE REALTORS PVT. LTD.				PED BY	M/S B	ETTE	R CH(VELOPED BY M/S BETTER CHOICE REALTORS PVT. LTD	LTORS	PVT.LTI	Ċ.										î	
SUBJECT : DESIGN OF STORM WATER DRAINAGE SYSTEM	OF	ORM WATER DRAINAGE SYSTEM	ATER DRAINAGE SYSTEM	INAGE SYSTEM	SYSTEM	Μ																
Drainage Line Node No. of Line Drained Area to be Area in Hectares	Length Area to be of Line Drained	Length Area to be of Line Drained	Area to be Drained	Area in Hectares	in Hectares	Ires		Discharge (Rainfall Intensity = 6.25mm)	Maximum Design Discharge (q)	Proposed Pipe Dia	Slope	Velocity (Discharge Capacity of Pipe (Q)	Fall in Line	Ground Level Start Enc	l Level End	Start Er	Level End	Depth Start E	pu	Average Depth	Remarks
From To Mtr Sq.M. Self Branch Total	Mtr Sq.M. Self Branch	Sq.M. Self Branch	Self Branch	Branch				Cu.M/Hour	LPS	mm	1 in	m/sec	LPS	Mtr	Mtr	Mtr	Mtr	Mtr	Mtr	Mtr	Mtr	
D1 D2 44 1,205 0.12 0.00 0.12	44 1,205 0.12 0.00	1,205 0.12 0.00	0.12 0.00	0.00	+ +	0.12		7.53	2.09	400	570	0.60	75.56	0.077	0.300	0.300	-1.150	-1.227	1.45	1.53	1.49	
D2 D3 51 1,025 0.10 0.12 0.22	51 1,025 0.10 0.12	1,025 0.10 0.12	0.10 0.12	0.12		0.22	-+-+-	13.94	3.87	400	570	09.0	75.56	0.089	0.300	0.300	-1.227	-1.317	1.53	1.62	1.57	
D3 D7 26 600 0.06 0.22 0.28	26 600 0.06 0.22	600 0.06 0.22	0.06 0.22	0.22		0.28		17.69	4.91	400	570	0.60	75.56	0.046	0.300	0.300	-1.317	-1.362	1.62	1.66	1.64	
D4 D6 74 2,320 0.23 0.00 0.23	74 2,320 0.23 0.00	2,320 0.23 0.00	0.23 0.00	0.00		0.23	1 1	14.50	4.03	400	570	09.0	75.56	0.130	0.300	0.300	-1.150	-1.280	1.45	1.58	1.51	
D5 D6 88 1,760 0.18 0.00 0.18	88 1,760 0.18 0.00	1,760 0.18 0.00	0.18 0.00	0.00		0.18		11.00	3.06	400	570	0.60	75.56	0.154	0.300	0.300	-1.150	-1.304	1.45	1.60	1.53	
D6 D7 83 1,995 0.20 0.41 0.61	83 1,995 0.20 0.41	1,995 0.20 0.41	0.20 0.41	0.41	++	0.61		37.97	10.55	400	570	09.0	75.56	0.146	0.300	0.300	-1.304	-1.450	1.60	1.75	1.68	
D7 D9 92 1,530 0.15 0.89 1.04	92 1,530 0.15 0.89	1,530 0.15 0.89	0.15 0.89	0.89	+ +	1.04		65.22	18.12	400	570	0.60	75.56	0.161	0.300	0.300	-1.450	-1.611	1.75	1.91	1.83	
D8 D9 171 3,485 0.35 0.00 0.35	171 3,485 0.35 0.00	3,485 0.35 0.00	0.35 0.00	0.00		0.35		21.78	6.05	400	570	0.60	75.56	0.300	0.300	0.300	-1.150	-1.450	1.45	1.75	1.60	
D9 PHASE-I 3 75 0.01 0.35 0.36	3 75 0.01 0.35	75 0.01 0.35	0.01 0.35	0.35		0.36		22.25	6.18	400	570	0.60	75.56	0.005	0.300	0.300	-1.611	-1.617	1.91	1.92	1.91	

PROJECT : PROPOSED COMMERCIAL PLOTTED COLONY PHASE-II 3.4583 ACRES FROM AN AREA MEASURING 5.5583 ACRES FALLING IN SECTOR-88A, GURUGRAM BEING DEVELOPED BY M/S BETTER CHOICE REALTORS PVT. LTD.

SUBJEC	CT:STORM	WATER DR	AINAGE ST	ATEMENT	ſ					
Nan	ne of Line	Length of line	Dia of Pipe	E	Depth of Li	ne	Line Depth U	Jpto 2.0 Mtr	-	2.0 Mtr. to 4.0 Itr
From	То	Mtr.	mm	U/End	L/End	Average Depth	400 Dia	450 Dia	400 Dia	450 Dia
D1	D2	44	400	1.45	1.53	1.49	44	0	0	0
D2	D3	51	400	1.53	1.62	1.57	51	0	0	0
D3	D7	26	400	1.62	1.66	1.64	26	0	0	0
D4	D6	74	400	1.45	1.58	1.51	74	0	0	0
D5	D6	88	400	1.45	1.60	1.53	88	0	0	0
D6	D7	83	400	1.60	1.75	1.68	83	0	0	0
D7	D9	92	400	1.75	1.91	1.83	92	0	0	0
D8	D9	171	400	1.45	1.75	1.60	171	0	0	0
D9	PHASE-I	3	400	1.91	1.92	1.91	3	0	0	0
			TOTAL				632	0	0	0

SUBJECT : DOMESTIC WATER	DMESTIC	WATER (SUPPLY DESIGN																		
Line Node	le		Avg. Domestic		Total Domestic	Dustrians		Dools Ecotor @						Emiotional	Total		Ground Level			Davidual	Davidual
Sl. No. From To	No. of SCO's	f Type of s Plot	Water Requirement per Plot	Domestic Water Requirement	Water Requirement (Self Load on Lines)	Lines	Total Load on Lines	3 times of daily water demand	Flow Rate	Flow Rate	Length Pr of Pipe lii	Proposed V line dia. o	Value Velocity		id Frictional Bend Head Ss Losses	al At Start	At End	H.L. at Start	H.L. at End	Head at Start	Head at End
	Nos.		lpd	lpd	lpd	lpd	lpd	lpd	lph	lpm	m	mm	m/sec	sec m/m	n m	m	ш	m	ш	ш	ш
						_															
1 W1 W2	72 0	I	0.0	0.0	0.0	91207.0	91207.0	273621.12	11400.9	190.0	10	100	100 0.40	40 0.00	0 0.04	-5.500	0.300	39.50	39.46	45.0	39.2
						PHASE-I															
2 W2 W3	73 12	J	791.3	9495.1	9495.1	40810.1	50305.2	150915.585	6288.1	104.8	65	100	100 0.22	22 0.001	0.08 0.08	0.300	0.300	39.46	39.38	39.2	39.1
						PHASE-I															
3 W3 W4	74 0	I	0.0	0.0	0.0	23681.4	23681.4	71044.233	2960.2	49.3	43	100	100 0.10	000.0 01	0.01	0.300	0.300	39.38	39.37	39.1	39.1
_																					
4 W4 W7	7 3	I	929.1	2787.4	6552.7	0.0	6552.7	19658.133	819.1	13.7	49	100	100 0.03	0.00	0 0.00	0.300	0.300	39.37	39.37	39.1	39.1
	4	Η	941.3	3765.3																	
5 W2 W5	7 7	J	791.3	5538.8	11038.8	29863.0	40901.8	122705.535	5112.7	85.2	97	100	100 0.18	0.001	0.08	0.300	0.300	39.46	39.38	39.2	39.1
	-	PUBLIC TOILET	5500.000	5500.0																	
6 W5 W6	76 4	A	1348.3	5393.1	20761.1	9101.9	29863.0	89589.138	3732.9	62.2	77	100	100 0.13	13 0.00	0 0.04	0.300	0.300	39.38	39.35	39.1	39.0
	4	В	708.9	2835.6																	
	4	С	988.5	3954.1																	
	4	D	734.5	2938.1		_															
	∞	Е	705.0	5640.3																	
~ ~ ~ ~ ~		ţ									i c			+	_						
7 W6 W7		Ţ,	1635.3	6541.2	9101.9	0.0	91019	27305.742	1137.7	19.0	105	100	100 0.04	0.000	0.01	0.300	0.300	39.35	39.34	39.0	39.0
_	ς	C	853.578	2560.7							-	_	_	_		_					

PROJECT : PROPOSED COMMERCIAL PLOTTED COLONY PHASE-II 3.4583 ACRES FROM AN AREA MEASURING 5.5583 ACRES FALLING IN SECTOR-88A, GURUGRAM BEING DEVELOPED BY M/S BETTER CHOICE REALTORS PVT. LTD.

SUBJ	ECT : DOME	STIC WATE	R SUPPLY MAT	TERIAL STATE	MENT		
S1.	Weter Supp	ly Node No	Diameter of	Longth of Ding		Quantity of Pipe	
51. No. –	Water Suppl	ly hode ho.	Pipe	Length of Pipe	80mm Dia	100mm Dia	150 Dia
INO.	From	То	mm	Mtr	Mtr	Mtr	Mtr
1	W1	W2	100	10	-	10	-
_	11/0	11/2	100			<i>(</i> 7	
2	W2	W3	100	65	-	65	-
3	W3	W4	100	43	-	43	-
4	W4	W7	100	49	-	49	-
5	W2	W5	100	97	-	97	-
6	W5	W6	100	77	-	77	-
7	W6	W7	100	105	_	105	_
				TOTAL		446	
			Total for	100 mm Dia Pipe	446	Metres	
			Total for	150 mm Dia Pipe		Metres	

PROJECI : PROPOSED TITLE : FLUSHING WAT	TITLE : FLUSHING WAT	WATER SUP	ER SUPPLY DESIGN																					
	Nos.	Plots T	Avg. Flushing Water Requirement per Plot	Total Flushing Water Requirement	Green Area Requirement	Gross Water Requirement (Self Load on Line) LPD	Previous Load on I Lines	Total Load on Lines	Peak P Factor F	Peak Fl Flow R	Flow Fl Rate R	Flow Leng Rate Li	Length of Dia of Line Pipe	of Value of e 'C'	e of Loss m/m	ad Total ss Head m Loss	al Velocity ss	Elevation at Start	ion Elevation rt at End	On c Level at Start	li Hydraulic I Level at t End	c Head at Start	Head at End	Remarks
-							lpd	lpd		lpd l _l	lph lp	lpm M	Mtr. mm	1	Mtr.	r. Mtr.	r. M/Sec	ec Mtr.	Mtr.	Mtr.	Mtr.	Mtr.	Mtr.	
F2	0	,	0	0	10000	10000.00	74623.9	84623.9	3 25	253872 105'	10577.98 176	176.30 1	10 100	0 120	0.00	0 0.02	2 0.37	7 -6.20	0.30	38.80	38.78	45.0	38.5	Pump Room
1																					-			
F3	3 16	ſ	647.392	10358.272		10358.27	33390 4 PHASE-I	43748.3	3 13	131245 546	5468.54 91	91.14 9	97 100	0 120	0.00	0.07	7 0.19	9 0.30	0.30	38.78	38.71	38.5	38.4	At Ground
F4	0	,	0	0		0.00		19375.7	3 58	58127 242	2421.96 40	40.37 4	42 100	0 120	0.00	0 0.01	1 0.09	9 0.30	0.30	38.71	38.71	38.4	38.4	At Ground
F8	3	Ι	760.206	2280.618		5361.31	0	5361.31	3 16(16083.9 670	670.16 11	11.17 4	48 100	0 120	0.00	0.00	0 0.02	2 0.30	0.30	38.71	38.70	38.4	38.4	At Ground
. 1	4	Н	770.173	3080.692																				
1.0	F6 3	ſ	647.392	1942.176		6442.18	24433.4 3	30875.6	3 92(92626.7 385	3859.45 64	64.32 7	70 100	0 120	0.00	0.02	2 0.14	4 0.30	0.30	38.78	38.75	38.5	38.5	At Ground
	-	PUBLIC TOILET	4500	4500			<u> </u>																	
Ц Ц		<	11/02 12:0	903 C111		16096 37		74733 A	2 723	73300 7 305	2054 17 50	20.00		120			011	1 0.30	0.30	30 JE	38 73	36 E	30 /	At Ground
	_	B	580.004	2320.016		10.000.01	_			_								+			_	0.02	H .00	
-	4	C	808.785	3235.14																				
-	4	D	600.98	2403.92																				
	8	Е	576.846	4614.768																				
F8	4	ц	1337.969	5351.876		7447.02	0	7447.02	3 223	22341.1 93(930.88 15	15.51 9	98 100	0 120	0.00	0.00	0 0.03	3 0.30	0.30	38.73	38.73	38.4	38.4	At Ground
		G	698.382	2095.146																				

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PROJECT : PROPOSED COMMERCIAL PLOTTED COLONY PHASE-II 3.4583 ACRES FROM AN AREA MEASURING 5.5583 ACRES FALLING IN SECTOR-88A, GURUGRAM BEING DEVELOPED BY M/S BETTER CHOICE REALTORS PVT. LTD.

SUB	JECT : FLUS	HING WATE	R SUPPLY MATE	CRIAL STATEM	IENT	
S1.	Watar Supr	bly Node No.	Diameter of Pipe	Length of Pipe	Quantit	y of Pipe
No.	water Supp	ny noue no.	Diameter of Tipe	Lengui of Tipe	100mm Dia	150mm Dia
110.	From	То	mm	Mtr	Mtr	Mtr
						-
1	F1	F2	100	10	10	-
2	F2	F3	100	97	97	-
3	F3	F4	100	42	42	-
4	F4	F8	100	48	48	_
	11	10	100	10	10	
5	F2	F6	100	70	70	-
6	F6	F7	100	77	77	
0	10	1'/	100	11	11	-
7	F7	F8	100	98	98	-
		<u> </u>		TOTAL	442	
			Total for	100mm Dia Pipe	442	Metres
			Total for	150mm Dia Pipe		Metres

PROJE FALLIN	PROJECT : PROPOSED COMMERCIAL PLOTTED COLONY PHASE-II 3.4583 ACRES FROM AN AREA MEASURING 5.5583 ACRES FALLING IN SECTOR-88A, GURUGRAM BEING DEVELOPED BY M/S BETTER CHOICE REALTORS PVT. LTD.	IAL PLOTT RAM BEING	ED COLONY PHA	ASE-II 3.4 Y M/S BE	4583 ACRES H TTER CHOIO	'ROM AN AR JE REALTOR	EA MEASURI ts pvt. LTD.	NG 5.5583 A	CRES
TITLE	TITLE : DESIGN OF TUBE WELL LINES	INES							
S.N0	LINE NO	AVERAGE DEMAND	AVERAGE PEAK DEMAND DEMAND @ 1.5 TIMES	FLOW RATE	FLOW LENGTH OF HEAD LOSS RATE PIPE MTR/ MTR	HEAD LOSS MTR/ MTR	TOTAL HEAD LOSS	VELOCITY	VELOCITY DIA OF PIPE
		KLD	KLD	LPM	MTR.	MTR.	MTR.	M/SEC	MM
1	TUBE WELL - 1 TO U.G.T.	15.00	22.50	375.00	10	0.013	0.13	0.80	100
TITLE	TITLE : DESIGN OF HSVP RISING MAIN	MAIN							
S.N0	LINE NO	AVERAGE DEMAND	AVERAGE PEAK DEMAND DEMAND @ 1.5 TIMES	FLOW RATE	LENGTH OF HEAD LOSS PIPE MTR/ MTR	HEAD LOSS MTR/ MTR	TOTAL HEAD LOSS	VELOCITY	VELOCITY DIA OF PIPE
		KLD	KLD	LPM	MTR.	MTR.	MTR.	M/SEC	MM
1	MAIN - U.G.T.	92.00	138.00	95.83	75	0.00845	0.63	0.48	65
									r