SUBMISSION REPORT
ON
"SERVICES PLAN AND ESTIMATE"

FOR EXTERNAL SERVICES

(SWERAGE, STORM WATER DRAINAGE, WATER SUPPLY, ROAD WORKS, LIGHTING & HORTICULTURE)

FOR

ADDITIONAL BUILDING PLAN OF
GROUP HOUSING COLONY MEASURING 13.2118 ACRES
(LICENSE NO.93 OF 2014 DATED 13.08.2014) SECTOR 68
(HD ZONE) GURGAON MANESAR URBAN COMPLEX

BEING DEVELOPED BY:

M/S HANS PROPCON PVT. LTD., DEVIKA TOWER,
NEHRU PLACE, NEW DELHI

JUNE 2021

PROJECT REPORT/ESTIMATE FOR PROVIDING EXTERNAL SERVICES - WATER SUPPLY, SEWERAGE, STORM WATER DRAINAGE, ETC. IN RESPECT OF ADDITIONAL BUILDING PLAN OF GROUP HOUSING COLONY MEASURING 13.2118 ACRES (LICENSE NO.93 OF 2014 DATED 13.08.2014) SECTOR 68 (HD ZONE) GURGAON MANESAR URBAN COMPLEX

REPORT

Gurgaon is a leading financial and industrial city of India in the state of HARYANA, situated in the National Capital Region near the National Capital along the national highway No-8 at a distance of 32 kms south-west from New Delhi. Being in the national capital Region, the town has fast developing tendency and potential. Further, it has also started sharing the growing Industrial load of Delhi. In order to relieve the growing pressure of population in National Capital of Delhi, Haryana Urban Development Authority has already developed residential sector which are inhabited to an extent. Further to the increasing demand HUDA has planned to develop new sectors at outskirt of Gurgaon town. The ADDITIONAL BUILDING PLAN OF GROUP HOUSING COLONY MEASURING 13.2118 ACRES (LICENSE NO.93 OF 2014 DATED 13.08.2014) SECTOR 68 (HD ZONE) GURGAON MANESAR URBAN COMPLEX

WATER SUPPLY

The source of water supply shall be water supply connection from the existing water supply network in the complex.

DESIGN:

The scheme has been designed for population of residential colony. The rate of water supply per head per day has been taken assumed as ~~150~~ 135 liters + 15% wastage ie. ~~172.5~~ 155.25 liter per head per day as per HSVP norms.

PUMPING EQUIPMENTS

It has been proposed to utilize the existing pumping set.

SEWERAGE SCHEME

Sewer line from proposed development will be connecting to proposed external Sewage network within the complex. The sewerage system has been marked on the respective plans.

Sewer lines have been designed for 2.5 or 3.0 times average D.W.F in relation to water supply demand. It has been assumed that about 80% of the domestic water supply shall find its way into the proposed sewer. Sewer lines shall be laid to a gradient maintaining minimum 2.46 ft/sec (0.75 m/sec) self cleaning velocity. Sewer line up to 400 mm dia has been designed to run half full and above 400 mm 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. have been made in the estimate. The sewer line has been designed as per Manning's formulae.

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

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STORM WATER DRAINAGE:

We are proposing to lay underground R.C.C pipe drains with required number of MANHOLES for disposal of storm water which will be connecting to the existing storm network /rain water harvesting system to recharge the aquifer and surplus storm water will be allowed to flow to the HSVP Master drain along the services road. The intensity of rain fall has been taken as ¼" (6.25mm) per hour and storm water line has been designed as per Manning's formulae.

SPECIFICATIONS:

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

Roads:
Cost of road has been taken in the estimate.

Street Lighting:
Provision for streets lighting has been included.

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

Rates:
The estimate has been prepared based on the present market rates.

Cost:
The total cost of the scheme, including cost of all services works out to be **Rs.** ~~29.61~~ 47.84 **lakhs** ~~(Rupees Twenty nine lakhs sixty one thousand only)~~ including 3% contingencies @ 49% departmental charges, price escalation, unforeseen & admin charges etc.

For **M/S HANS PROPCON PRIVATE LIMITED**

Sunil Kumar

KUMAR ENDECON PVT. LTD.

Authorized signatory

I DESIGN CALCULATION:

(i) Water requirement Chart (Additional Tower – 13)

PROJECT- M3M MARINA (ADDL.TOWER),GURUGRAM

WATER CONSUMPTION SHEET

S.NO.	DESCRIPTION	AREA (SQM)	OCCUPENCY LOAD	TOTAL POPULA-TION	TOTAL WATER REQUIRED ACC. TO NBC	FLUSH WATER REQUIRED		DOMESTIC (HOT) WATER REQUIRED		DOMESTIC (COLD) WATER REQUIRED		DOMESTIC (HOT+COLD) WATER	TOTAL GROSS WATER	WATER FLOW IN STP		
					LPD	LPCD	LPD			LPCD	LPD		LPD	FLUSHING WATER 100%	DOMESTIC WATER 85%	TOTAL WATER IN STP
1	TYPICAL FLOORS (1ST TO 20TH)															
1.1	UNIT-01 (3BHK)		6 PERSON/UNIT	120	173	45	5400	35	4200	93	11160	15360	20760	5400	13056	18456
1.2	UNIT-02 (2BHK)		5 PERSON/UNIT	100	173	45	4500	35	3500	93	9300	12800	17300	4500	10880	15380
1.3	UNIT-03 (2BHK)		5 PERSON/UNIT	100	173	45	4500	35	3500	93	9300	12800	17300	4500	10880	15380
1.4	UNIT-04 (2BHK)		5 PERSON/UNIT	100	173	45	4500	35	3500	93	9300	12800	17300	4500	10880	15380
1.5	UNIT-05 (2BHK)		5 PERSON/UNIT	100	173	45	4500	35	3500	93	9300	12800	17300	4500	10880	15380
1.6	UNIT-06 (3BHK)		6 PERSON/UNIT	120	173	45	5400	35	4200	93	11160	15360	20760	5400	13056	18456
2	VISITORS (15% OF TOTAL POPULATION)			96	15	10	960		0	5	480	480	1440	960	408	1368
3	MAINTENANCE STAFF			25	45	20	500	5	125	20	500	625	1125	500	531	1031
4	FILTER BACKWASH & FLOOR MOPPING											5000	5000			
	TOTAL			761			30260		22525		60500	88025	118285	30260	70571	100831
	SAY IN KLD						30		23		61	88	118	30	71	101

(i) Total *domestic* and *flushing* requirement = 118.00 KLD
Total *domestic* water requirement = 88.00 KLD
Total *flushing* water requirement = 30.00 KLD

- Typical floors (1st to 20th)
- Total Nos of Units = 114 Nos
- occupancy load = 5 Person / Unit
- Population = 114 × 5 = 570 Person.
- water demand/requirement = 570 × 155.25 = 88493 litre
  Say 89 KL

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- Domestic water @ 65% = 58 KL
- flushing water @ 35% = 31 KL
- UGT for Domestic water = 58/2 = 29 KL Say 30 KL
  (½ day capacity)
- UGT for flushing water = 31/2 = 16 KL Say 20 KL.

SERVICE ESTIMATE, DESIGN REPORT AND CALCULATIONS OF
EXTERNAL DEVELOPMENT WORKS OF ADDITIONAL BUILDING PLANS OF GROUP HOUSING COLONY MEASURING 13.2118 ACRES (LICENSE NO.93 OF 2014 DATED 13.08.2014) SECTOR 68 (HD ZONE) GURGAON MANESAR URBAN COMPLEX

FINAL ABSTRACT OF COST (ADDL. TOWER)

			Amount in Rs. Lacs
1	SUB WORK NO. I	WATER SUPPLY SCHEME	~~5.13~~ 6.08
2	SUB WORK NO. II	SEWERAGE SCHEME	~~2.60~~ 4.74
3	SUB WORK NO.III	STORM WATER DRAINAGE	~~5.00~~ 8.33
4	SUB WORK NO.IV	ROADS & FOOT PATHS	~~5.46~~ 10.11
5	SUB WORK NO.V	STREET LIGHTING	~~1.10~~ 2.50
6	SUB WORK NO. VI	PLANTATION & ROAD SIDE TREES	~~1.58~~ 1.74
	SUB WORK NO. VII	MAINTENANCE CHARGES & SURFACING OF ROAD	~~7.58~~ 14.34
		TOTAL	~~29.61~~ 47.84
	Cost per acre Say	~~45.547~~ ~~46.00~~ 73.60 Lakh/Acre	Lakhs Per Acre

Executive Engineer
HSVP Division No. IV
Gurugram

Checked subject to comments in forwarding letter No. 13904 Dt. 10/8/2021.....and notes attached with the estimate

Superintending Engineer,
HSVP Circle Gurugram

Additional Chief Engineer (HQ)
for Chief Engineer-I, HSVP
Panchkula

Director
Town & Country Planning
Haryana, Chandigarh

SERVICE ESTIMATE, DESIGN REPORT AND CALCULATIONS OF EXTERNAL DEVELOPMENT WORKS OF ADDITIONAL BUILDING PLANS OF GROUP HOUSING COLONY MEASURING 13.2118 ACRES (LICENSE NO.93 OF 2014 DATED 13.08.2014) SECTOR 68 (HD ZONE) GURGAON MANESAR URBAN COMPLEX

S.No	SUB WORK No. 1		Water Supply & Fire Fighting
1	Sub Head No. 01	Water Supply distribution	1.57 Lakh ~~112,500.00~~
2	Sub Head No. 02	Fire Fighting	1.94 " 237,900.00
3	Sub Head No. 03	Water Supply Rising Main from Main Line	0.26 " ~~24,700.00~~
4	Sub Head No. 04	Water supply Irrigation	0.19 " ~~24,200.00~~
		TOTAL	3.96 Lakh ~~399,300.00~~
		Add 3% contingencies & PE Charges	0.12 " ~~11,979.00~~
		TOTAL	4.08 Lakh 411,279.00
		Add 49% Departmental charges, price escalation, unforeseen, Admin.	2.00 " ~~201,526.71~~
			6.08 Lakh
		TOTAL	~~612,805.71~~
		SAY IN LAKHS	6.08 Lakh ~~6.13~~

SERVICE ESTIMATE, DESIGN REPORT AND CALCULATIONS OF
EXTERNAL DEVELOPMENT WORKS OF ADDITIONAL BUILDING PLANS OF GROUP HOUSING COLONY MEASURING 13.2118 ACRES (LICENSE NO.93 OF 2014 DATED 13.08.2014) SECTOR 68
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	Sub -Work No. 1			Water Supply & Fire Fighting	
	Sub -Head No. 01			Water Supply distribution	
SL.NO	Description	Unit	Qty	Rate	Amount
2	Provision for water supply risers from pump room (DOMESTIC WATER SUPPLY) (D.I. pipe)			650/-	61,100/-
a.	50 mm dia	M	94	~~550.00~~	~~51,425.00~~
3	Provision for water supply risers from pump room (FLUSHING WATER SUPPLY) (D.I. pipe)			650/-	61,100/-
a.	~~40~~ 50 mm dia	M	94	~~450.00~~	~~42,075.00~~
4	Provision&Fixing valve.				
a.	~~40 mm dia~~	~~Each~~	~~2~~	~~2000.00~~	~~4,000.00~~
b	50 mm dia	Each	~~2~~ 4	~~2500.00~~	~~5,000.00~~
5	Provision for carriage of materials			6000/-	24000/-
		~~LS~~			10,000.00
					15620/-
	TOTAL				~~112,500.00~~
	(C/O To Abstract of cost for subwork No.1)		SAY		~~1.13~~ 1.57 Lakhs
	Sub -Work No. 1			Water Supply & Fire Fighting	
	Sub -Head No. 02			FIRE FIGHTING	
SL . NO	Description	Unit	Qty	Rate	Amount
1	Providing , Laying , jointing and testing MS. pipes lines including			1000/-	1,00,000/-
(a)	80 mm dia. Pipe.	M	100	~~1800~~	~~180,000.00~~
(a)	150 mm dia. Pipe.	M	18	1575/- ~~1800~~	~~32,400.00~~ 28350/-
2	Providing and fixing external fire hydrants etc.	EACH	3	15000/- ~~8500~~	45000/- ~~25,500.00~~
(3)	Add for carriage of material & unforeseen items		L.S		20,000/-
	Total cost of Abstract of cost for Subwork No.1				~~237,900.00~~ 193500/-
	SAY				~~2.38 Lakhs~~ Say Rs 1.94 Lakh

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	Sub -Work No. 1			Water Supply & Fire Fighting		
	Sub -Head No. 03			Water Supply Rising Main from MAIN		
SL .NO	Description	Unit	Qty	Rate	Amount	
1	Providing , laying, jointing and testing pipe lines including Cost of excavation etc. complete in all respects . (D.I. pipe) 650/- 1300/-					
	50 ~~40~~ mm dia.	Each	2	~~600.00~~	~~1,200.00~~	
2	Providing and fixing sluice valve including cost of surface box and masonry chamber etc. completed in all respects.					
	50 ~~40~~ mm dia.	Each	2	6000.00	12,000.00	
3	Providing and fixing indicating plates for sluice valve and air Valves . 1000/- 2000/-					
		Each	2	~~750.00~~	~~1,500.00~~	
4	Provision for carriage for materials and other unforeseen items .					
		LS			5,000.00	
5	Provision for cutting of roads and making good to its original condition					
		LS			5,000.00	
					25300/-	
	Total cost of Abstract of cost for Subwork No.1				~~24,700.00~~	
	SAY				~~0.25~~ Lakhs	
					0.26	
	Sub -Work No. 1			Water supply & Fire fighting		
	Sub -Head No. 04			Water supply Irrigation		
SL . NO	Description	Unit	Qty	Rate	Amount	
1	Providing , Laying, Jointing and testing pipe line including cost of excavation etc. complete in all respect. (UPVC pipe)					
a	~~55 mm dia~~	~~M~~	~~0~~	~~850~~		
a	~~32 25~~ dia	M	18	~~650~~ 350/-	~~11,700.00~~ 6300/-	
2	Providing and fixing 20 mm dia irrigation hydrant Valve complete in all respect.					
		Each	3	3500	10,500.00	
3	Provision for carriage of Material and other as foreseen Items.				1,000.00	
4	Provision for cutting of roads and making good to its original condition					
		LS			1,000.00	
	Total cost of Abstract of cost for Subwork No.1				~~24,200.00~~ 18600/-	
	SAY				0.19 Lakhs ~~0.24 Lakhs~~	
	Material statement of irrigaton line (See Enclosed Sheet Annexure-II)					
	~~Sub -Work No. II Sewerages Scheme~~					

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Sub Work No 2 : Sewerage Scheme

SL . NO	Description	Unit	Qty	Rate	Amount	
1	Providing, jointing, cutting and testing .S W pipe class "A" and lowering into trenches including cost of Excavation, bed concrete, cost of manholes etc.			1250/-	218750/-	
a	200 mm dia	M	175	~~800~~	~~140,000.00~~	
(3)	Provision for vent pipe as per P.E requirement	L.S			50,000/-	
		~~LS~~			~~5,000.00~~	
(3)	Provision for cartage of material an other unforeseen items.				20,000/-	
(4)	Provision for cutting of roads & making good to its original condition.	~~LS~~ L.S.			~~20,000.00~~ 20,000.00	
	~~TOTAL~~				~~175,000.00~~	308750/-
	Add 3% contingencies & PE charges				~~5,250.00~~	9263/-
	TOTAL				~~180,250.00~~	318013/-
	Add 49% Departmental charges, price escalation Unforeseen, Admin.				155826/- ~~88,322.50~~	
	TOTAL				~~268,572.50~~	473839/-
	SAY				~~2.69 Lakhs~~	4.74
	Material statement of sewer line (See Enclosed Sheet Annexure-III)					

	Sub -Work No. III			Storm Water Scheme		
SL .NO	Description	Unit	Qty	Rate	Amount	
1	1. Providing and laying R.C.C. pipe (NP3) drain class NP-3 with cement joint, manholes excavation etc complete in all respect including refilling earth.		177	2500/-	442500/-	
a	400 mm dia.	M	~~30~~	~~1500~~	~~45,000.00~~	
a	~~250 mm dia.~~	~~M~~	~~130~~	~~1000~~	~~130,000.00~~	
a	~~150 mm dia.~~	~~M~~	~~75~~	~~750~~	~~56,250.00~~	
2	Provision for road gullies with pipe connection					
		LS			50,000.00	✓
4	Provision for carriage of material and unforseen items				20,000.00	✓
5	Provision for timbering & shoring					
		LS			10,000.00	✓
8	Provision for cutting of roads and making good to its original					
		LS			10,000.00	✓
9	Provision for temporary disposal arrangement					✓
		LS			10,000.00	
	TOTAL				~~542500/-~~ ~~331,250.00~~	
	Add 3% for contingencies and PE charges.				16275/- ~~9,937.50~~	
	TOTAL				~~341,187.50~~	558775/-
	Add 49% Departmental charges, price escalation,				~~167,181.88~~	273800/-
					Total	832575/-
	~~TOTAL~~				~~508,369.38~~	
	SAY				~~5.08 Lakhs~~	8.33 Lakh.
	Material statement of strom line (See Enclosed Sheet Annexure-IV)					

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	Sub -Work No.IV			Roads and Footpaths		
SL .NO	Description	Unit	Qty	Rate	Amount	
	ROAD NAME		Length (M)	Metalled portion	Area in sqmt.	
(a)	6 M WIDE (32+38 = 70 MTR)		70.0	4.5	315.00	
(c)	Total Length of Road				315.00	
	Total Area of Road =			315.00	m2	
	Add 5% for curve =			15.75	m2	
	Total Area			330.75	m2	
	SAY			331.00	m2	
1	Provision for leveling and earth filling as Per site condition 0.65 acres			150000/-	97500/-	
		Acre	0.65	~~60000~~	~~39,000.00~~	
2 (i)	Construction of roads by providing granular sub base 300 mm as per MORT & H specification conforming to clause 401 grading B 400.1					
(ii)	Providing ,laying,spreading & compacting hand broken/ crushed stone aggregate to wet mix macadam conforming to physical requirement laid in 400 of 300 mm GSB 250 mm stone aggregate MORT &H specification in two layers (compacted to 250 mm (125+125) by taking material 1.32 times of the (thickness of the layer) including per mixing of material with water in mechanical mixer .					
(iii)	50 mm thick ~~BM~~ DBM					
(iv)	20 mm thick ~~mix seal surfacing~~ BC			1200/-	397200/-	
		sqmt.	331	~~800~~	~~264,800~~.00	
3	Provision for kerb and channels of CC M35 2(32+38) = 140 MTR			600/-	84000/-	
		RM	~~23.63~~ 140	~~500~~	~~11,812.50~~	
4	Provision for making approach and pavement to building.				50,000/-	
					~~10,000~~.00	
5	Provision for guide map and other unforessn items and Indicating board etc.			L.S.	10,000.00	✓
6	Provision for parking arrangement					
		LS			10,000.00	✓
7	Provision for carriage of material and other unforeseen items.					
		LS			10,000.00	
			TOTAL		~~355,612.50~~	658700/-
		Add 3% contingencies & PE Charges			~~10,668~~.38	19761/-
			TOTAL		~~366,280.88~~	678461/-
		Add 49% Departmental charges, price escalation, unforeseen, Admin.			~~179,477~~.63	332446/-
			TOTAL		~~545,758.50~~	1010907/-
			SAY		~~5.46~~ Lakhs	10.11 Lakh.
	Material statement of road (See Enclosed Sheet Annexure-V)					

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	Sub -Work No.V			Street Lighting		
SL .NO	Description	Unit	Qty	Rate	Amount	
1	Providing Street lighting on roads as I. per standard specification of HVPN			250000/-	162500/-	
		Acre	0.65	~~110000~~	~~71,500.00~~	
			~~TOTAL~~		~~71,500.00~~	
		Add 3% contingencies & PE Charges			~~2,145.00~~ 4875/-	
			TOTAL	167375/-	~~73,645.00~~	
		Add 49% Departmental charges, price escalation, unforeseen, Admin.			82041/- ~~36,086.05~~ 249380/-	
			TOTAL		~~109,731.05~~	
			SAY		2.50 ~~1.10~~ Lakhs	
	Sub -Work No.VI			Plantation and road side trees		
SL .NO	Description	Unit	Qty	Rate	Amount	
1	Development of lawn area 0.65 Acres					
		Acre	0.65	150000	97,500.00	
a	Trenching the ordinary soil up to dept of 60cm including removal and stacking serviceable material and disposing of by spreading and leveling within a lead of 50m and making up the trenches area to 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 turfed area					
c	Grassing with "Doob Grass" including watering and IV. Maintenance of lawns for 30 days till the grass forms a thick lawn, free from weeds and fit for moving in rows 7.5 m Apart in either direction 1.76 Acres @ 100000 per acre					
2	Providing 1 trees, guards and planting trees along road at 12 m inteval (both side) Total road length = ~~102~~ (70 ÷ 12) ×2 = 11.66 No of Trees = ~~12.9~~ Say = ~~8~~ 12 Nos **Cost analysis of Planting Trees** Excavation = ~~30~~ 60 each Manure = ~~40~~ 90 each Tree plants = ~~80~~ 150 each Tree guards = ~~600~~ 1000 each = Rs.~~750~~ 1300/- per tree					
		Each	~~8~~ 12	~~750~~ 1300/-	~~6,000.00~~ 15600/-	
			TOTAL		~~103,500.00~~ 113100/-	
		Add 3% contingencies & PE Charges			~~3,105.00~~ 3393/-	
			TOTAL		~~106,605.00~~	116493/-
		Add 49% Departmental charges, price escalation, unforeseen, Admin.			~~52,236.45~~	57082/-
			TOTAL		~~158,841.45~~	173575/-
			SAY		~~1.59 Lakhs~~ 1.74 Lakh.	
	Sub -Work No.VII			Maintanence Charges & Resurfacing of Road		

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SL .NO	Description				Amount	
1	Provision for maintenance charges for water supply, sewerage, storm water drainage, roads, street light, horticulture etc. complete including operation and establishment charges as per HUDA norms after completion.			750 000/-	4 87 500/-	
		Acre	0.65	~~300000~~	~~195,000.00~~	
2	Provision for resurfacing of roads after 1st 5 years of maintenance i.e by providing 50mm thick B.M. with ~~20~~ 25 mm thick Premix Carpet.					
			331	600	198,600.00	
3	Provision for resurfacing of roads after 10 years of maintenance i.e by providing ~~20~~ 25 mm thick Premix Carpet. BM & 50 mm			750/-	248250/-	
			331	~~300~~	~~99,300.00~~	
			TOTAL		~~492,900.00~~	934350/-
		Add 3% contingencies & PE Charges			~~14,787.00~~	28031/-
			TOTAL		~~507,687.00~~	962381/-
		Add 49% Departmental charges, price escalation, unforeseen, Admin.			~~248,766.63~~	471566/-
			TOTAL		~~756,453.63~~	1433947/-
			SAY		14.34 ~~7.56~~ Lakhs	

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DESIGN CHART FOR WATER SUPPLY SYST[illegible] DOMESTIC ADDITIONAL BUILDING PLAN, SECTO[illegible] (HD ZONE), GURGAON MANESAR URBAN COMPLEX

SL NO	LINE NO			TOTAL POPULATION	TOTAL WATER REQ@45lpdfor fixedand 15lpd for floating population LPD	Total water requirement for other buildings (LPD)	DOMESTICL WATER	TOTAL DOMESTICWATER REQ.PER DAY(SELF)	PR0GRESSIVE WATER REQ. IN LPD	TOTAL DOMESTICWATER REQ.PER DAY	PUMP WORKING 8 HOURS	SELF WATER REQ IN LPM	LENGTH OF PIPE	HEAD LOSS MTR/ MTR	TOTAL HEAD LOSS IN MTRS	VELOCITY IN M/SEC	SIZE OF RISER PIPE IN MM Dia
1	PUMP ROOM- D1			761	118000	118000	88000	0	88000	88000	11000	183	20	0.072	1.44	1.296	50
2	D1- OHT			0	0		88000	88000	0	88000	11000	183	65	0.072	4.67	1.296	50
													85				
											85						

DESIGN CHART FOR WATER SUPPLY SYSTEM (FLUSHING) ADDITIONAL BUILDING PLAN, SECTOR 68 (HD ZONE), GURGAON MANESAR URBAN COMPLEX

SL NO	LINE NO			TOTAL POPULATION	TOTAL WATER REQ@45lpdfor fixedand 15lpd for floating population LPD	FLUSHING@WATER	Total water requirement for other buildings (LPD)	FLUSHING WATER	TOTAL FLUSHING WATER REQ.PER DAY(SELF)	PROGRESSIVE WATER REQ. IN LPD	TOTAL FLUSHINGWATER REQ.PER DAY	PUMP WORKING 10 HOURS	SELF WATER REQ IN LPM	LENGTH OF PIPE	HEAD LOSS MTR/ MTR	TOTAL HEAD LOSS IN MTRS	VELOCITY IN M/SEC	SIZE OF RISER PIPE IN MM Dia
1	PUMP ROOM- F1			761	118000	30000	118000	0	0	30000	30000	3000	50	20	0.019	0.38	0.552	50 ~~40~~
2	F1- OHT			0	0	0		30000	30000	0	30000	3000	50	65	0.019	1.25	0.552	50 ~~40~~
														85				

MATERIAL STATEMENT FOR DOMESTIC AND FLUSHING WATER SUPPLY WORKS FOR ADDL. TOWER				
Domestic Water Supply				
SL NO	**LINE NO**	**SIZE OF RISER PIPE IN MM Dia**	**LENGTH OF PIPE**	**With 20 % Extra**
1	PUMP ROOM- D1	50	20	**22**
2	D1-OHT	50	65	**72**
				94 M
Flushing Water Supply				
SL NO	**LINE NO**	**SIZE OF RISER PIPE IN MM Dia**	**LENGTH OF PIPE**	**With 10 % Extra**
1	PUMP ROOM- F1	50	20	**22**
2	F1- OHT	50	65	**72**

94 M

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MATERIAL STATEMENT FOR EXTERNAL FIRE HYDRANT WORKS ADDL. TOWER				
S.N0.	LINE NO		LENGTH in m (PIPE IN 150 MM Dia)	LENGTH in m (PIPE IN 80 MM Dia) Branch pipe
	FROM	TO		
1	EFH1	F3	45	45
2	EFH3	F3	45	45
3	EFH2	F3	5	5
4	F3	MAIN LINE	15	
		PIPE DIA	LENGTH (in m)	#10 % Extra
		150 mm	15	**18**
		80 mm	95	**100**

MATERIAL STATEMENT FOR GARDEN HYDRANT WORKS FOR ADDL. TOWER

S.NO.	LINE NO		LENGTH (in m) (65 mm dia Pipe)	LENGTH (in m) (32 mm dia Pipe) Branch pipe
	FROM	TO		
1	Existing LINE	GH 01		15
2	Existing LINE	GH02		10
3	Existing LINE	GH03		15
		PIPE DIA	**LENGTH (in m)**	**#20 % Extra**
		65 mm	0	**0**
		32 mm	15	**18**

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ANNEXTURE II

DESIGN CALCULATION OF ADDITIONAL BUILDING PLAN, SECTOR 68 (HD ZONE), GURGAON MANESAR URBAN COMPLEX

SI	LINE				Water Requirement. @ 15 lpcd FOR FLOATING	Total Water Requirement. @ 172.5 lpcd for fixed					Peak Load @ 2.5X Av. Load	Subsoil Infiltration @25% of Av Load	Self Discharge	Branch Discharge	Total Discharge	Total Discharge	Length of line	Dia of Pipe	Slope 1 IN	Fall in Line	Velocity In	Capacity of Pipe	CHECK FOR CARRYING CAPACITY	STARTING(G.L)	STARTING(I.L)	END(G.L)	END(I.L)
NO.	FROM	TO	TOTAL FLOATING POPULATION	TOTAL FIXED POPULATION			TYPE OF BUILDING	Total water requirement for other	Total Daily Water Requirement in Litre	Self																	
										LPD	LPD	LPD	LPD	LPD	LPD	LPS	Mtr	MM		Mtr	m/sec	lps		in mm	in mm	in mm	in mm
1.0	S-01	S-02	14	90	210	15525		0	15735	12588	31470	3147	34617	0	34617	0.40	22	200	190	0.12	0.66	10.31	OK	0.000	-0.900	0.000	-1.016
2.0	S-02	S-03	18	115	270	19837.5		0	20108	16086	40215	4021.5	44237	34617	78854	0.91	59	200	190	0.31	0.66	10.31	OK	0.000	-1.016	0.000	-1.326
3.0	S-04	S-03	14	90	210	15525		0	15735	12588	31470	3147	34617		34617	0.40	14	200	190	0.07	0.66	10.31	OK	0.000	-0.900	0.000	-0.974
4.0	S-03	S-07	10	60	150	10350		0	10500	8400	21000	2100	23100	113471	136571	1.58	12	200	190	0.06	0.66	10.31	OK	0.000	-1.326	0.000	-1.389
5.0	S-05	S-06	20	145	300	25012.5		0	25313	20250	50625	5062.5	55688		55688	0.64	23	200	190	0.12	0.66	10.31	OK	0.000	-0.900	0.000	-1.021
6.0	S-06	S-07	20	140	300	24150		0	24450	19560	48900	4890	53790	55688	109478	1.27	23	200	190	0.12	0.66	10.31	OK	0.000	-1.021	0.000	-1.142
7.0	S-07	NETWORK															5	200	190	0.03	0.66	10.31	OK	0.000	-1.326	0.000	-1.353

SEWER MATERIAL STATEMENT FOR ADDL. TOWER

S.NO.	LINE		Length of line	Dia of Pipe
	FROM	TO	Mtr	MM
1.0	S-01	S-02	22	200
2.0	S-02	S-03	59	200
3.0	S-~~04~~ 03A	S-03	~~14~~ 11	200
4.0	S-03	S-07	~~12~~ 15	200
5.0	S-~~05~~ 04	S-~~06~~ 05	23	200
6.0	S-~~06~~ 05	S-~~07~~ 06	~~23~~ 12	200
7.0	S-06	S-07	11	
~~8~~.0	S-07	NETWORK	5	200
		Dia	LENGTH	WITH #10 %
		200 mm	158	175

DESIGN STA[illegible]ENT - STORM WATER DRAINAGE FOR ADDITIONAL BUILDING PLA[illegible]FOR 68 (HD ZONE), GURGAON MANESAR URBAN COMPLEX

S.No.	DRAINANGE LINE MARKED AS		AREA SERVED			RUNOFF ASSUMING	DIA OF	GRADIANT	VELOCITY	DESIG.	CHECK	LENGTH(M)	FALL IN				
			self(sqm)	BRANCH(sqm)	TOTAL(Sqm)	RF @ 1" (25MM)	PIPE	1/	m/sec	DISCHARGE.	FOR CARRYING CAPACITY	OF LINE	METER	starting(GL)	starting(IL)	End(GL)	End(IL)
	STARTING NODE	ENDING NODE				IN LPS.	IN MM			IN LPS				IN m	IN m	IN m	IN m
1	SW-01	SW-02	400	0	400	1.67	250	350	0.56	24.80	OK	25.0	0.07	0.000	-0.750	0.000	-0.82
2	SW-02	SW-03	630	400	1030	4.29	250	350	0.56	24.80	OK	59.0	0.17	0.000	-0.821	0.000	-0.99
3	SW-03	SW-07	665	1030	1695	7.06	400	450	0.68	76.60	OK	20.0	0.04	0.000	-0.99	0.000	-1.03
4	SW-04	SW-05	230	0	230	0.96	250	350	0.56	24.80	OK	10.0	0.03	0.000	-0.750	0.000	-0.78
5	SW-05	SW-06	485	230	715	2.98	250	350	0.56	24.80	OK	26.0	0.07	0.000	-0.78	0.000	-0.85
6	SW-06	SW-07	630	715	1345	5.60	250	350	0.56	24.80	OK	10.0	0.03	0.000	-0.85	0.000	-0.88
7	SW-07	NETWORK	0	3040	3040	12.67	400	450	0.68	76.60	OK	9.0	0.02	0.000	-1.03	0.000	-1.05

MATERIAL ST[illegible]EMENT FOR STROM WATER WORKS FOR ADE[illegible]TOWER							
S.No.	DRAINANGE LINE MARKED AS		DIA OF PIPE	LENGTH (M) OF LINE	PIPE DIAMETER		
	STARTING NODE	ENDING NODE	IN MM		~~250~~	400	~~150/250~~
1	SW-01	SW-02	~~250~~ 400	25.0	~~25.0~~	25	~~6~~
2	SW-02	SW-03	~~250~~ 400	59.0	~~59.0~~	59	~~10~~
3	SW-03A	SW-0~~4~~3	400	~~20.0~~ 11.00		~~20~~ 11	~~36~~
4	SW-0~~3~~	~~SW-05~~ Existing	~~250~~ 400	~~10.0~~ 20.00	~~10.0~~	20	~~8~~
5	SW-0~~5~~4	SW-~~06~~ 05	~~250~~ 400	~~26.0~~ 10.00	~~26.0~~	10	~~6~~
6	SW-0~~6~~5	SW-07	~~250~~ 400	~~10.0~~ 26.00	~~10.0~~	26	~~6~~
7	SW-07	SEWER NETWORK	400	~~9.0~~ 18.00		~~9~~ 10	
		PIPE DIA			~~130.0~~	161 ~~29.0~~	~~72.0~~
		SAY			~~130~~	with 10% ÷ 177 M or ~~30~~	~~75~~

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ADDITIONAL BUILDING PLAN, SECTOR 68 (HD ZONE), GURGAON MANESAR URBAN					
MATERIAL STATEMENT FOR ROAD					
S. No.	Road Name (m)	Road Length (m)	6 M WIDE	Metal Portion (m)	Area (sqm)
1	R1 - R2	~~50~~ 38	~~50~~ 38	4.5	~~225.0~~ 171
2	R2 - R3	~~52~~ 32	~~52~~ 32	4.5	~~234.0~~ 144
					Total 315 Mtr
~~Total Length~~		~~102~~	~~102~~		~~459~~
~~SAY~~		~~102~~	~~102~~		~~460~~

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