ESTIMATE FOR PROVIDING

EXTERNAL DEVELOPMENT SERVICES

FOR

25.499 ACRE GROUP HOUSING COLONY
AT
GURGAON

DEVELOPED BY

M/S EMAAR MGF LAND LTD.

Consultant

A K Pande
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SERVICE ESTIMATE, DESIGN REPORT AND CALCULATION OF
INTERNAL DEVELOPMENT WORKS FOR GROUP HOUSING COLONY 25.499 ACRE SECTOR 65-PART-1 & 2

DEVELOPED BY M/S EMAAR MGF LAND LTD.

Report

Gurgaon town of Haryana State is situated on G. 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 fully inhabited to an extent. Further to the increasing demand HUDA has planned to develop new sectors at outskirt of Gurgaon town.

WATER SUPPLY

At present the source of water supply in this area is HUDA and optional bore well. As the underground water is potable, provision for one Bore well have been made in this estimate. It has been proposed to construct underground tanks of capacity as per attached details and at location for domestic purpose and for fire protection. The underground tanks will be fed from the bore wells and HUDA supply, from there water will be supplied by set of variable frequency pump to each plot which is now a days universally adopted. The water supply system has been designed as per the Hazen William formula.

DESIGN

The scheme has been designed for population considering 5 person for each apartment and 2 person for EWS & each service apartment.The rate of water supply per head/day has been taken as (150+15%) i.e. 172.5 liters per head per day.

PUMPING EQUIPMENTS

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

SEWERAGE SCHEME

Sewer line from proposed development will be connecting to a centrallzed Sewage treatment plant with a bypass to HUDA sewer to dispose excess sewage. 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 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/RCC 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 on the design of sewerage system.

STORM WATER DRAINAGE

We proposed to lay underground R.C.C. pipe drains with required number of catch basins, manholes and rainwater recharge pits with over flow to the Proposed HUDA storm drain on sector Road. The intensity of rain fall has been taken as ¼" per hour. R.C.C storm water line will be designed as per Manning's formula.

SPECIFICATIONS

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

ROADS

Roads have been provided to above zones and estimate is prepared as per revised specifications adopted by HUDA

STREET LIGHITING

Provision for streets also has been made

HORTICULTURE

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

RATES

The estimate has been prepared based on the present market rates

25465 ~~23497~~ lacs.

COST

The total cost of the scheme, including cost of all services works out to be Rs. ~~176,813,413~~

Including 3% Contigencies @ 49% Departmental, price escalation Admin unforseen charges

Say ~~Seventeen crore Sixty Eight lakh Thirteen thousand Four hundred thirteen rupees only.~~

For: M/S EMAAR MGF LAND LTD.

Authorized Signatory

Manish Kr. Bagga, Architect
Council of Architecture
Registration No. CA/95/18626

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON-PART1

DAILY WATER DEMAND & PUMPING SYSTEM (Annexure - 1)

S.No.	Building	Nos. of Aprt. in each Bldg.	Nos. of Bldg.	Total Nos. of Aprt.	Population @5 Person/Unit & @2 Person/Unit for service/EWS	Water Req. @ 172.5 lpcd		Water Req. Flushing 33%	Water Req. Domestic 67%
		Nos.	Nos.	Nos.		In LPD	In KLD	In KLD	In KLD
1	Block A,B,C,D,F&J (G+12)	72	6	432	2160	372600	372.60	123	250
2	Block E (G+6)	24	1	24	120	20700	20.70	7	14
3	Block G (G+12)	72	1	72	360	62100	62.10	20	42
4	Block K,H (G+12)	72	2	144	720	124200	124.20	41	83
5	Block P (G+6)	20	1	20	100	17250	17.25	6	12
6	Nursary school	1		692		10000	10.00	3	7
6	Primary school	1				25000	25.00	8	17
7	Community Center (G+2)	1				10000	10.00	3	7
	Total				3460	641850.00	641.85	211.81	430.04
	Total Domestic water demand for Zone-1) for Pumping							109.30	221.90
	Total Domestic water demand for Zone-2							102.51	208.14
II	HortiCulture Total area of 1.78 acres @ 25000 / Acre from STP					44,500	45	Say	45
III	Fire demand 100 * (P in thousand)^0.6 only for Undrground static Reservior)				196.011			~~480~~ 240	KL
IV	STP capacity 80% of daily domestic and flushing water 641.85 X 80 %.				513.48			520	KLD
2	Under ground water tank								
I	Daily fresh water demand 67%						430	KL	KL
II	Daily flushing water demand 33 %.						212	KL	KL
III	For Fire Fighting Static demand					240	~~480~~	KL	KL
IV	Total under ground Tank Capacity					~~802~~ 842		KL	KL
						Say	850	KL	KL
	Therefore it is proposed to construct under ground water tank of								
	Fire Reserve				100 ~~.65~~ X 2		200 ~~480~~	KL	
	Raw Water Tank				220 X 1		220	KL	
	Domestic Tank				220 X 1		220	KL	
	Flushing Tank				120 ~~220~~ X 1		240 ~~220~~	KL	
	Total						760 ~~850~~	KL	
3A	Fresh Water Transfer Pumpset								
a)	Pump Capacity						222		KLD
I	Total Domestic Demand for Main (I)						8.0		Hrs
II	Daily Working Hrs for pumping						462		LPM
III	Required Pumping Capacity					Say	460		LPM
IV	Proposed pump set (2 W + 1S)				2 Nos.	Say	230		LPM
V	Total No. of pump & capacity of each pump								
b)	Pump Head						3.5		Mtr
I	Suction lift						47		Mtr
II	Elevation Height						15		Mtr
III	Residual Head						4.0		
IV	Friction Head Loss						69.5		Mtr
V	Total pump head required 230 X 70 / 4500 X 0.60					Say	70		Mtr
c)	Pump HP						~~6.0~~ 5.96		HP
I	Power Required each pump (Lpm*head (m)/4500*.65(effl)					Say	~~6.0~~ 7.5		HP
3B	Fresh Water Transfer Pumpset for Zone-2								
a)	Pump Capacity						208		KLD
I	Total Domestic Demand for ~~Main~~ (II)						8.0		Hrs
II	Daily Working Hrs for pumping						434		LPM
III	Required Pumping Capacity					Say	440		LPM
IV	Proposed pump set (2 W + 1S)				2 Nos.	Say	220		Mtr
	Total No. of pump & capacity of each pump								
b)	Pump Head						3.5		Mtr
I	Suction lift						47		Mtr
II	Elevation Height						15		Mtr
III	Residual Head						3.0		Mtr
IV	Friction Head Loss						68.50		Mtr
V	Total pump head required 230 X 70 / 4500 X 0.60					Say	70		
c)	Pump HP						~~6.3~~ 5.70		HP
I	Power Required each pump (Lpm*head (m)/4500*.65(effl)					Say	~~5.0~~ 7.5		HP
4A	Flushing Water Transfer Pumpset for Zone 1								
a)	Pump Capacity						109		KLD
I	Total Flu. / Irr. Demand (I)						8.0		Hrs
II	Daily Working Hrs for pumping						228		LPM
III	Required Pumping Capacity					Say	230		LPM
IV	Total No. of pump & capacity of each pump (1w+1s)								
b)	Pump Head						3.5		Mtr
I	Suction lift						47		Mtr
II	Elevation Height						15		Mtr
III	Residual Head						1.50		
IV	Friction Head Loss						67.0		Mtr
V	Total pump head required 230 X 70 / 4500 X 0.60					Say	70		Mtr
c)	Pump HP						~~6.6~~ 5.96		HP
I	Power Required each pump (Lpm*head (m)/4500*.65(effl)					Say	~~6.0~~ 7.5		HP
4B	Flushing Water Transfer Pumpset for Zone 2								
a)	Pump Capacity						103		KLD
I	Total Flu. / Irr. Demand (I)						8.0		Hrs
II	Daily Working Hrs for pumping						214		LPM
III	Required Pumping Capacity					Say	220		LPM
V	Total No. of pump & capacity of each pump (1w+1s)								
b)	Pump Head						3.5		Mtr
I	Suction lift								

	ii	Elevation Height					47		Mtr
	iii	Residual Head					15		Mtr
	iv	Friction Head Loss					3.07		
	v	Total pump head required					1.5		Mtr
						Say	70		Mtr
	c)	Pump HP					~~5.2~~ 5.70		HP
	I	Power Required each pump (Lpm*head (m)/4500*.65(effl)				Say	~~6.0~~ 7.5		HP
5	~~Irrigation Water Transfer Pumpset~~								
	a)	Irr. water Pump Capacity							
	I	Total Irr. Demand (i)					40		KLD
	Ii	Daily Working Hrs for pumping					5		Hrs
	iii	Required Pumping Capacity					150		LPM
	iv	Proposed pump set (1 W + 1S)		1	Nos.	Say	250		LPM
	b)	Pump Head							
	I	Suction lift					3.5		Mtr
	ii	Elevation Height					20		Mtr
	iii	Residual Head					10		Mtr
	iv	Friction Head Loss					5		
	v	Total pump head required					39		Mtr
						Say	40		Mtr
	c)	Pump HP							
	I	Power Required each pump (Lpm*head (m)/4500*.65(effl)					3.1		HP
						Say	4.0		HP
6	Fire Pumpset								
	I	Wet Riser Pump (Electric operated)					2,280		LPM
	II	Sprinkler pump (Electric operated)					2,280		LPM
	III	Diesel pump (Diesel operated)					2,280		LPM
	IV	Jockey pump (Electric operated)					180		LPM
	v	Jockey pump (Electric operated)					180		LPM
	b)	Pump Head (for main electrical pumps)							
	I	Suction lift					3.5		Mtr
	ii	Elevation Height					47		Mtr
	iii	Residual head					35		Mtr
	iv	Friction Head Loss					10		
	v	Total pump head required					96		Mtr
						Say	100		Mtr
	c)	Pump HP (for main electrical pumps)							
	I	Power Required each pump (Lpm*head (m)/4500*.65(effl)					77.9		HP
						Say	78.0		HP
	d)	Pump Head (for jockey electrical pumps)							
	I	Suction lift					3.5		Mtr
	ii	Elevation Height					47		Mtr
	iii	Residual head					35		Mtr
	iv	Friction Head Loss					10		
	v	Total pump head required					95		Mtr
						Say	100		Mtr
	e)	Pump HP (for jockey electrical pumps)							
	I	Power Required each pump (Lpm*head (m)/4500*.65(effl)					6.2		HP
						Say	6.6		HP
7		Borewell Number & Pumping machinery (borewells will be installed of authorities Permits)							
	a)	Number of borewell							
	I	Yield / Borewell					19 ~~12.0~~		KL/Hr
	ii	Operation Borewell per day					16 ~~12.0~~		Hrs
	iii	Half Day Requirement					215.0		KL
	iv	Required number of Borewell					0.95 ~~1.0~~		Nos
	v	~~Add 10% as standby~~					0.89 ~~0.1~~		Nos
	vi	Total Number of bore well					1.84 ~~1.0~~		Nos
							Say 2.0		Nos
	b)	Pumping Machinery for Borewell							
	I	Gross working head					60		Mtr
	ii	Average Fall in S.L.					6		Mtr
	iii	Depression Head loss					5		Mtr
	iv	Friction Loss in main					10		Mtr
	v	Total Head Required					80		Mtr
	vi	Power Required each pump (Lpm*head (m)/4500*.65(effl)					6.91 ~~6.47~~		HP
						Say	~~6.0~~ 7.5		HP

8	CAPACITY OF DG SET							
	Equipment Description	No of Pump				Total Power Cons.		Unit
	I Dom. Water Transfer Pumps Zone-1 (Working)	4	2	5.0	7.5	~~10.~~ 7.5		HP
	II Dom. Water Transfer Pumps Zone-2 (Working)		2	0.0		~~0.~~		HP
	III Bore wells		2	~~5.0~~	7.5	12.0 15		HP
	IV Flu. Water Transfer Pumps Zone-1 (Working)	2	1	~~5.0~~		~~5~~		HP
	V Flu. Water Transfer Pumps Zone-2 (Working)		1	~~5.0~~		~~5~~ 3.0		HP
	~~VI Irr. Water Transfer Pumps (Working)~~		1	~~1.0~~		~~1~~		HP
	VII Total HP Required					~~36.3~~ 29. 75		HP
	VIII DG KVA Required (HP*.8)					23.8		KVA
	DG Capacity					30		KVA
								100 KVA

9	HUDA Water Suply Line										
	Total Water Demand	Line	Flow			Proposed Dia	Length of Line	Fractional Head Loss		Velocity	Total Head Loss
	LPD		LPM			mm	Mtr.	Mtr./ Mtr.		Mtr./Sec.	Mtr.
	I 430040	A - Tank	298.64			100	250	0.00607		0.6334	1.517

Part - II

main DU = 654 Nos

Semi Personal = 144 Nos

EWS 239 Nos

Grand Total — Part I + II

main DU. 692 + 654 = 1346 Nos

Semi Personal — + 144 = 144 Nos

EWS — 239 Nos = 239 Nos

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON-PART2

DAILY WATER DEMAND & PUMPING SYSTEM (Annexure - 1)

S No.	Building	Nos. of Aprt. in each Bldg.	Nos. of Bldg.	Total Nos. of Aprt.	Population @5 Person/Unit & @2 Person/Unit for service/EWS	Water Req. @ 172.5 lpc/d In LPD	Water Req. @ 172.5 lpc/d In KLD	Water Req. Flushing 33% In KLD	Water Req. Domestic 67% In KLD
		Nos.	Nos.	Nos.					
1	Block A upto G+6	12	17	204	1020	175950	175.95	58	118
2	Block A 6th Floor Service Apt.	4	17	68	136	23460	23.46	8	16
3	Block A1 upto G+5	6	1	6	30	5175	5.18	2	3
4	Block A1 6th Floor Service Apt.	2	1	2	4	690	0.69	0	0
5	Block B upto G+5	12	12	144	720	124200	124.20	41	83
6	Block B 6th Floor Service Apt.	4	12	48	96	16560	16.56	5	11
7	Block B1 upto G+5	6	3	18	90	15525	15.53	5	10
8	Block B1 6th Floor Service Apt.	2	3	6	12	2070	2.07	1	1
9	Block C (G+5)	12	6	72	360	62100	62.10	20	42
10	Block D (G+5)	12	5	60	300	51750	51.75	17	35
11	Block D (Service)	4	5	20	40	6900	6.90	2	5
11	Block E (G+5)	12	9	108	540	93150	93.15	31	62
12	Block E1 upto G+5	6	1	6	30	5175	5.18	2	3
13	Block E2 upto G+5	12	3	36	180	31050	31.05 206.10		21
14	EWS G+8	1	239	239	~~478~~ 1195 206/138	~~82455~~	~~82.46~~	~~27~~ 68.02 ~~55~~	138.10
15	Nursary School	1				~~10000~~ 10000	10.00	3	7
17	Community Center	1				10000	10.00	3	7
18	Shopping Block 1&2	2				5000	5.00 864.94	~~285.43~~	3 565.10
	Total				~~4753~~ ~~4036~~ 5995	~~721210.00~~	~~721.21~~	~~238.00~~ 718	~~483.21~~ 577.51
	Total for Zone-1 (As per Design Sheet)				844893	~~372,250~~	~~372.25~~	~~123~~ 142.90	~~249~~ 292.75
	Total for Zone-2 (As per Design Sheet)				436049	~~348,960~~	~~348.96~~	~~115~~ 134.80	~~234~~ 273.82 274.10
					408844		436.05 408.84		
	ii HortiCulture Total area of 2.7 acres @ 26000 / Acre from STP					67,500	68	Say	70
	iii Fire demand 100 * (P in thousand)^0.5 only for Undrground static Reservior)				200,898			200	KL
	iv STP capacity 80% of daily domestic and flushing water				~~576.97~~ 691.85			~~600~~ 700	KLD
2	Under ground water tank						565		
	i Daily fresh water demand						~~488~~	KL	KL
	ii Daily flushing water demand						~~238~~ 276	KL	KL
	iii For Fire Fighting Static demand						200	KL	KL
	iv Total under ground Tank Capacity						~~621~~ 1043	KL	KL
						Say	~~950~~ 1100	KL	KL
	Therefore It is proposed to construct under ground water tank of								
	Fire Reserve				~~400~~ X 2	200	KL		
	Raw Water Tank				~~300~~ 250 X 1	~~300~~ 250	KL		
	Domestic Tank				~~300~~ 250 X 1	~~300~~ 250	KL		
	Flushing Tank				~~200~~ 250 X 1	~~200~~ 250	KL 150		
	Total				150	~~900~~ 950	KL		
						950			
3A	Fersh Water Transfer Pumpset for Zone-1								
	a) Pump Capacity						~~245~~ 293		KLD
	i Total Domestic Demand for Main (i)						8.0		Hrs
	ii Daily Working Hrs for pumping						~~520~~ 610		LPM
	iii Required Pumping Capacity					Say	~~520~~ 610		LPM
	iv Proposed pump set (2 W + 1S)				2 Nos.	Say	~~260~~ 300		LPM
	v Total No. of pump & capacity of each pump								
	b) Pump Head						3.5		Mtr
	i Suction lift						29		Mtr
	ii Elevation Height						15		Mtr
	iii Residual Head 30 M						1.0		
	iv Friction Head Loss 45+3.5						48.5		Mtr
	v Total pump head required					Say	50		Mtr
	c) Pump HP								
	i Power Required each pump (Lpm*head (m)/4500*.65(effi)					5.56	~~4.4~~ 5.43		HP
					Say	7.50	~~5.0~~		HP
3B	Fersh Water Transfer Pumpset for Zone-2								
	a) Pump Capacity						~~234~~ 274		KLD
	i Total Domestic Demand for EWS (ii)						8.0		Hrs
	ii Daily Working Hrs for pumping						~~487~~ 571		LPM
	iii Required Pumping Capacity					Say	~~490~~ 570		LPM
	iv Proposed pump set (2 W + 1S)				2 Nos.	Say	~~245~~ 300		Mtr
	Total No. of pump & capacity of each pump								
	b) Pump Head						3.5		Mtr
	i Suction lift						23		Mtr
	ii Elevation Height						15		Mtr
	iii Residual Head						3.4		Mtr
	iv Friction Head Loss								

	v	Total pump head required				44.85		Mtr
					Say	45		
	c)	Pump HP				5.56		
	i	Power Required each pump (Lpm*head (m)/4500*.65(effi)				~~3.0~~ 4.61		HP
					Say	~~4.0~~ ~~5.00~~ 7.5		HP
4A	Flushing Water Transfer Pumpset for Zone-1							
	a)	Pump Capacity						
	i	Total Flu. / Irr. Demand (i)				~~123~~ 144		KLD
	ii	Daily Working Hrs for pumping				8.0		Hrs
	iii	Required Pumping Capacity				~~256~~ 300		LPM
	iv	Proposed pump set (1 W + 1S)	1	Nos.		~~260~~ 300		LPM
	b)	Pump Head						
	i	Suction lift				3.5		Mtr
	ii	Elevation Height				29		Mtr
	iii	Residual Head				15		Mtr
	iv	Friction Head Loss				3.07		
	v	Total pump head required				50.6		Mtr
					Say	50		Mtr
	c)	Pump HP				5.56		
	i	Power Required each pump (Lpm*head (m)/4500*.65(effi)				~~4.4~~ 5.5		HP
					Say	~~5.0~~ 7.50		HP
4B	Flushing Water Transfer Pumpset for Zone-2							
	a)	Pump Capacity						
	i	Total Flu. / Irr. Demand (i)				~~115~~ 135		KLD
	ii	Daily Working Hrs for pumping				8.0		Hrs
	iii	Required Pumping Capacity				~~240~~ 281.25		LPM
	iv	Proposed pump set (1 W + 1S)	1	Nos.	Say	~~240~~ 300		LPM
	b)	Pump Head						
	i	Suction lift				3.5		Mtr
	ii	Elevation Height				23		Mtr
	iii	Residual Head				15		Mtr
	iv	Friction Head Loss				1.0		
	v	Total pump head required				42.5		Mtr
					Say	45		Mtr
	c)	Pump HP				5.56		
	i	Power Required each pump (Lpm*head (m)/4500*.65(effi)				~~4.7~~ 4.61		HP
					Say	~~5.0~~ ~~5.08~~ 7.50		HP
5	Irrigation Water Transfer Pumpset							
	a)	Irr. water Pump Capacity						
	i	Total Irr. Demand (i)				70		KLD
	ii	Daily Working Hrs for pumping				5		Hrs
	iii	Required Pumping Capacity				233		LPM
	iv	Proposed pump set (1 W + 1S)	1	Nos.	Say	250		LPM
	b)	Pump Head						
	i	Suction lift				3.5		Mtr
	ii	Elevation Height				20		Mtr
	iii	Residual Head				10		Mtr
	iv	Friction Head Loss				5		
	v	Total pump head required				39		Mtr
					Say	40		Mtr
	c)	Pump HP						
	i	Power Required each pump (Lpm*head (m)/4500*.65(effi)				3.4		HP
					Say	4.0		HP
6	Fire Pumpset							
	i	Wet Riser Pump (Electric operated)				1,620		LPM
	ii	Sprinkler pump (Electric operated)				1,620		LPM
	iii	Diesel pump (Diesel operated)				1,620		LPM
	iv	Jockey pump (Electric operated)				180		LPM
	v	Jockey pump (Electric operated)				180		LPM
	b)	Pump Head (for main electrical pumps)						
	i	Suction lift				3.5		Mtr
	ii	Elevation Height				30		Mtr
	iii	Residual head				35		Mtr
	iv	Friction Head Loss				10		
	v	Total pump head required				79		Mtr
					Say	80		Mtr
	c)	Pump HP (for main electrical pumps)						
	i	Power Required each pump (Lpm*head (m)/4500*.65(effi)				44.3		HP
					Say	45.0		HP

	d)	Pump Head (for jockey electrical pumps)									
	i	Suction lift						3.5			Mtr
	ii	Elevation Height						30			Mtr
	iii	Residual head						35			Mtr
	iv	Friction Head Loss						10			
	v	Total pump head required						79			Mtr
							Say	80			Mtr
	e)	Pump HP (for jockey electrical pumps)									
	i	Power Required each pump (Lpm*head (m)/4500*.65(effi)						4.9			HP
							Say	5.0			HP
7		Borewell Number & Pumping machinery (borewells will be istalled of authorities Permits)									
	a)	Number of borewell						~~12.6~~ 14			KL/Hr
	i	Yield / Borewell						~~12.6~~ 16			Hrs.
	ii	Operation Borewell per day						~~244.8~~ 290			KL
	iii	Half Day Requirement						~~1.7~~ 1.30			Nos
	iv	Required number of Borewell						~~0.22~~ 0.13			Nos
	v	Add 10% as standby						1.43 1.8			Nos
	vi	Total Number of bore well					Say	2.0			Nos
	b)	Pumping Machinery for Borewell									
	i	Gross working head						60			Mtr
	ii	Average Fall in S.L.						5			Mtr
	iii	Depression Head loss						5			Mtr
	iv	Friction Loss in main						10			Mtr
	v	Total Head Required						80			Mtr
	vi	Power Required each pump (Lipm*head (m)/4500*.65(effi)						5.47			HP
							Say	~~6.0~~ 7.5			HP
8		CAPACITY OF DG SET									
		Equipment Description				No of Pump	7.5			Total Power Cons.	Unit
	i	Dom. Water Transfer Pumps for Zone-1 (Working)				2	~~5.0~~			~~10~~ 15	HP
	ii	Dom. Water Transfer Pumps for Zone-2 (Working)				2	7.5 ~~4.0~~ 5.0			~~8~~ 10 15	HP
	iii	Bore wells				2	~~6.0~~ 7.5			~~12.0~~ 15	HP
	iv	Flu. Water Transfer Pumps Main(Working)				1	~~5.0~~ 7.5			~~5~~ 7.5	HP
	v	Flu. Water Transfer Pumps EWS(Working)				1	~~4.0~~ 7.5			~~4~~ 7.5	HP
	vi	~~In. Water Transfer Pumps (Working)~~				1	~~4.0~~ 5.0			~~4~~ 5	HP
	vii	Total HP Required								~~43.0~~ 45 60	HP
	viii	DG KVA Required (HP*.8) Add for Lighting					67.14			~~34~~ 37	KVA
		DG Capacity					10.4			~~35~~ 50	KVA
							77.14			or 80 KVA	
9		HUDA Water Suply Line									
		Total Water Demand	Line	Flow		Proposed Dia	Length of Line	Fractional Head Loss		Velocity	Total Head Loss
		LPD		LPM		mm	Mtr.	Mtr./ Mtr.		Mtr./Sec.	Mtr.
	i	483211	A - Tank	335.56		100	250	0.00753		0.7117	1.883

FINAL ABSTRACT OF COST OF SERVICES FOR PART-I & II

Sr. No.	Name of Service	Amount in Lacs	Amount in Lacs	~~Total amount in lacs~~
		Part-I +	Part-II	
Sub Work-1	Water Supply	~~291.30~~ 449.75	~~405.95~~ Lacs	~~697.25~~
Sub Work-2	Sewerage	~~112.75~~ 256.74	~~139.30~~ Lacs	~~252.05~~
Sub Work-3	Drainage	~~53.70~~ 146.64	~~64.20~~ 81.35	~~117.90~~ 144.95
Sub Work-4	Road Works	~~315.10~~ 683.43	~~374.61~~ Lacs	~~689.71~~
Sub Work-5	Street Lighting	~~20.15~~ 58.70	~~28.76~~	~~48.91~~
Sub Work-6	Plantation	~~6.65~~ 14.40	~~6.10~~	~~12.75~~
Sub Work-7	Mtc. of Services and Resurfacing of Road	~~296.50~~ 936.70	~~234.00~~ Lacs	~~530.50~~
Total		~~1106.15~~ 2546.36 Lacs	~~1252.92~~ Lacs	~~2349.07~~ Lacs 2546.50 Lacs
	Amount per acre	Rs. ~~92.17~~ 99.86 Lacs		
For:	M/S EMAAR MGF LAND (P) LTD.			
Authorized Signatory				

Executive Engineer
HUDA Division No.1
Gurgaon

Superintending Engineer
HUDA Circle-II, Gurgaon

Manish Kr. Bagga, Architect
Council of Architecture
Registration No. CA/95/18626

Director General
Town & Country Planning
Haryana Chandigarh

Checked subject to comments in forwarding letter No. 12779 Dt. 28/10/14 and notes attached with the estimate

28/10/14

Executive Engineer (W)
for Chief Engineer
HUDA Panchkula

27/10/14

SUB WORK No. 1 — **WATER SUPPLY**

S No.	Heads	Description	Part I + II	Amount
1	Sub Head 01	~~Bore well & rising Main~~ HEBP Work	@ 90.06 Lacs	~~41,05,000/-~~ Rs. ~~4,811,000.00~~
2	Sub Head 2	HUDA Rising Mains	@ 6.72 Lacs	~~8,15,000/-~~ Rs. ~~412,500.00~~
3	Sub Head 03	Pumping and Machinery	@ 63.00 Lacs	~~6475000/-~~ Rs. ~~6,150,000.00~~
4	Sub Head 04	Water Supply and distribution	@ 92.01 Lacs	~~5039100/-~~ Rs. ~~4,955,600.00~~
5	Sub Head 05	Flushing/Irr. System Dom + Fire Fighting	@ 41.27 Lacs	~~2544940/-~~ Rs. ~~2,247,890.00~~
		TOTAL	@ 293.06 8.79	~~18790400/-~~ Rs. ~~18,576,990.00~~

Add 3% Contingencies & P.E charges. Rs. ~~569371/-~~

301.85 Rs. ~~19548411/-~~

Add 49% Deptt. charges, Price Escalation 147.90
unforseen. Admn. charges. 449.75 Lacs ~~29127327/-~~

Say Rs. ~~29130~~ lacs.

C.a. to final abstract of cost

SUB WORK No. 1 : WATER SUPPLY
Sub Head 01 : Borewell & Rising Main

Head Works PART I + II

S No.	Description	Amount
1	Boring and installing 510 mm I/d Bore well with reverse rotary rig complete with pipe and strainer to a depth of about 120 meter	@ 21.00 Lacs 7,00,000/-
	1+2=3 Nos. @ Rs. 700,000 each.	Rs. ~~1,400,000~~
2	Provision for rising mains, connecting Bore wells with water main and bye-pass arrangements: for tank feeding.	@ 5.00 Lacs
a)	100 mm dia 400 ~~225~~ 200 Mtr. @ Rs. ~~1,100~~ 1250/-	~~2,80,500~~/- Rs. ~~220,000~~
b)	~~150 mm dia~~ ~~400 mm dia~~ 45 ~~55~~ Mtr. @ Rs. ~~1,200~~ 1575/-	@ 0.71 Lacs Rs. ~~66,000~~
3	Construction of UG Tank 760 + 90 = 1710 KL ~~850~~ KL @ Rs. 3,500 /-KL in two locations incl. 40 KL Fire fighting & 5 KL for Plumbing near STP	59.85 Lacs Rs. ~~2,975,000~~
4	Provision of unseen items/carriage of materials	Rs. 50,000
5	Provision for construction of pump chamber of Size 1.5 x 5 x 1.5 m for Housing	
	Bore wells 1+ 2 Nos. @ Rs. ~~50,000~~ 1.00 Lacs each	3.00 Rs. ~~100,000~~
	Total of Sub Head 01 Carried over to summary of Sub work - 1	Rs. ~~4,811,000~~ 4,05,000/- 90.06 Lacs

~~MATERIAL STATEMENT OF BOREWELL RISING MAINS REFERS TO ANNEXURE 5~~

SUB WORK No. 1 — WATER SUPPLY
Sub Head 2 — HUDA Rising Mains

PART I+II

S No.	Description	Amount
1	1. Providing, laying, jointing and testing CILA pipe lines including cost of excavation etc. complete in all respects.	
a)	100 mm dia pipe 250+110 Mtr. = 360 @ Rs. ~~1,400~~ 1250/- P. mtr.	4.50 Lacs Rs. ~~454,000.00~~
2	Providing and fixing sluice valve including cost of surface boxes and masonary chambers etc. complete in all respects	
a)	100 mm dia 1+ 1 Nos. ~ 2 Nos @ Rs. ~~8,000~~ 10,000/-	~~10,000/-~~ Rs. ~~8,000.00~~ 0.20 Lacs
3	Providing and fixing indicating plates for sluice valve and air valves	
a)	1 Nos. @ Rs. ~~500~~ 1000/- each	0.02 ~~1000/-~~ Rs. ~~500.00~~
4	Provision for carriage for materials and other unforeseen items (L/S)	Rs. 50,000.00
5	Provision for cutting of roads and making good to its original conditions (L/S)	0.50 Rs. ~~100,000.00~~
6	Provision for making connection with HUDA (L/S) on master road	1.00 Rs. ~~500,000.00~~
	Total of Sub Head 2 Carried over to summary of Sub work - 1	Rs. ~~412,500.00~~ 8,15,000/- 6.72 Lacs

MATERIAL STATEMENT OF HUDA MAINS REFERS TO ANNEXURE 5A

SUB WORK No. 1 : WATER SUPPLY
Sub Head 3 : Pumping and machinery

PART I + II

S No.	Description				Amount
1	Providing and installing electricity driven submersible pumping set capable of delivering about 14 KL/Hr of water against a total head of 80m complete with motor and other accessories				6.00 Lacs
	(1+2) = (3 Nos) 1 Nos.	Rs. 2 00,000.00			Rs. ~~1~~00,000.00
2	Providing & installing pumping set of following capacity for Water supply Booster Pumps				3.00 Lacs
a)	Capacity ~~230~~ 300 LPM @ ~~50~~ mtr. Head (Zone-1)	3 Nos. @	Rs. ~~975,000.00~~ 1.00	each.	Rs. ~~1,125,000.00~~
b)	Capacity ~~330~~ 300 LPM @ ~~50~~ mtr. Head (Zone-2)	3 Nos. @	Rs. ~~350,000.00~~ 1.05	each.	Rs. ~~1,050,000.00~~ 3.15
3	Providing & installing pumping set of following capacity for Flushing Pumps				2.00
a)	Capacity ~~300~~ 200 LPM @ ~~50~~ mtr. Head (Zone-1)	2 Nos. @	Rs. ~~225,000.00~~ 1.00	each.	Rs. ~~450,000.00~~
b)	Capacity ~~300~~ 200 LPM @ ~~50~~ mtr. Head (Zone-2)	2 Nos. @	Rs. ~~200,000.00~~ 1.00	each.	Rs. ~~400,000.00~~ 2.00
4	Providing & installing pumping set of following capacity for Fire Pumps				
a)	(Fire Pump) Capacity 2280 LPM @ 100 mtr. Head (Main	2 Nos. @	Rs. ~~450,000.00~~ 6.00	each.	Rs. ~~900,000.00~~ 12.00
b)	Capacity 180 LPM @ 100 mtr. Head (Jockey	2 Nos. @	Rs. 150,000.00	each.	Rs. 300,000.00
b)	Capacity 2280 LPM @ 100 mtr. Head (Diesel	1 Nos. @	Rs. ~~550,000.00~~ 9.00	each.	Rs. ~~550,000.00~~ 18.00
5	~~Providing & installing pumping set of following capacity for Irrigation Pumps~~				
a)	~~Capacity 250 LPM @ 40 mtr. Head~~	~~2 Nos. @~~	~~Rs. 125,000.00~~	~~each.~~	Rs. ~~250,000.00~~
6	Provisions for chlorination plant complete	2 Nos @	Rs. 100,000.00	each	Rs. 200,000.00
7	Provision for making foundations and erection of pumping machinery 5 Set @	Rs. ~~25,000.00~~ 50,000/- each.			2,50,000/- Rs. ~~125,000.00~~
8	Provision for pipes, valves and specials inside the boosting chamber 5 Set @	Rs. ~~25,000.00~~ 50000/- each			250000/- Rs. ~~125,000.00~~
9	Provision for electric service connection including electrical fittings for bore well and boosting etc. ~~1 Set~~ incl. cost of Transformer				250000/- Rs. ~~175,000.00~~
10	Provision for carriage of material and other unforeseen items etc. L/S				Rs. 100,000.00
11	Provision for diesel engine Gen set each for standby arrangements for T.W. & booster pump complete with gear head arrangements of ~~35~~ 80 KVA capacities – 1 No.				Rs. ~~5~~00,000.00
	TOTAL CO to SUB WORK - 1				Rs. ~~6,150,000.00~~ 6475000/- 63.00 Lacs

SUB WORK No. 1 — **WATER SUPPLY**
Sub Head 4 — **Water supply and distribution**

PART I + II (Fire Fighting)

S No.	Description	Amount
1	Providing, laying, jointing and testing ~~CI~~ CI pipe lines including fittings, valves, cost of excavation etc. complete in all respects.	0.79 Lacs
a)	150 mm Pipe 50 ~~147~~ Mtr @ Rs. ~~4,500~~ 1575/-	Rs. ~~175,500~~
b)	100 mm Pipe 2536 ~~256~~ Mtr @ Rs. ~~1,200~~ 1250/-	31.70 Lacs Rs. ~~307,200~~
c)	~~65 mm Pipe 207 Mtr @ Rs. 950~~	~~Rs. 196,650~~
d)	~~50 mm Pipe 230 Mtr @ Rs. 750~~	~~Rs. 172,500~~
e)	~~40 mm Pipe 135 Mtr @ Rs. 550~~	~~Rs. 74,250~~
f)	~~32 mm Pipe 0 Mtr @ Rs. 450~~	Rs. 0
2	Providing, laying, jointing and testing MS pipe lines for fire mains including fittings, valves, cost of excavation etc. complete in all respects.	37.19 Lacs
a)	150 mm 1463 + 898 = 2361 Each @ Rs. ~~2,600~~ 1575/-	Rs. ~~2,334,800~~
b)	100 mm 369 Each @ Rs. ~~2,400~~ 1250/-	4.61 Rs. ~~885,600~~
c)	80 mm ~~402~~ 186 Each @ Rs. ~~2,100~~ 1000/-	4.02 Rs. ~~390,600~~
3	Providing and fixing sluice valve including cost of surface boxes and masonry chambers etc. complete in all respects.	~~40,000~~/-
b)	100 mm 20 Each @ Rs. ~~7,500~~ 12,000/-	2.40 Rs. 30,000
c)	150 mm 2 Each @ Rs. 15,000	0.30 Rs. 0
e)	~~65 mm 9 Each @ Rs. 8,000/-~~	Rs. ~~72,000~~
f)	~~50 mm 3 Each @ Rs. 2500~~	~~10,500/-~~ Rs. ~~7,500~~
h)	~~40 mm 2 Each @ Rs. 2,500~~	~~5000/-~~ Rs. ~~3,000~~
g)	~~32 mm 0 Each @ Rs. 1,200~~	~~Rs.~~ 0
4	Providing and fixing air release valve	2.00
	50 Nos @ Rs. ~~5,000~~ 7500/- (L.S)	~~9750/-~~ Rs. ~~65,000~~
5	Providing and fixing External Fire Hydrants.	5.00
	27 ~~59~~ Nos @ Rs. ~~8,000~~ 10,000/-	~~2,70,000/-~~ Rs. ~~216,000~~
6	Provision for carriage of materials and other unforeseen items	~~50,000/-~~ Rs. ~~25,000~~ 2.00
	TOTAL CO to SUB WORK - 1	Rs. ~~4,955,600.00~~

MATERIAL STATEMENT OF DWS REFERS TO ANNEXURE 3&5b

7) Prov. for Road cutting & making its original condition L.S 200000/-

Rs. ~~50,29,100~~/-

Rs 92.01 Lacs

PART. I + II

SUB WORK No. 1 — WATER SUPPLY
Sub Head 4 — Flushing/Irr. System

S No.	Description	Amount
1	Providing, laying, jointing and testing pipes lines conforming to IS:4985 including cost of excavation etc. complete in all respects.	34.06 Lacs
a)	100 mm Pipe 2725 ~~416~~ Mtr @ Rs. 1250/-	Rs. ~~121,800~~
b)	~~80 mm Pipe 1270 Mtr @ Rs. 950~~	Rs. ~~1,206,500~~
c)	~~65 mm Pipe 337 Mtr @ Rs. 800~~	~~Rs. 269,600~~
d)	~~50 mm Pipe 255 Mtr @ Rs. 550~~	~~Rs. 140,250~~
e)	~~40 mm Pipe 276 Mtr @ Rs. 400~~	~~Rs. 110,400~~
f)	~~32 mm Pipe 45 Mtr @ Rs. 350~~	~~Rs. 15,750~~
g)	~~25 mm Pipe 412 Mtr @ Rs. 220~~ 25 mm ϕ 412 m @ 250	1.03 ~~Rs. 90,640~~
2	Providing and fixing sluice valve including cost of surface boxes and masonry chambers etc. complete in all respects.	2.50 Lacs
a)	100 mm 25 ~~1 Each~~ @ Rs. ~~5,000~~ 10,000/-	10,000/- Rs. ~~5,000~~
b)	~~80 mm 12 Each @ Rs. 4,000~~ 7500/-	90,000/- Rs. ~~48,000~~
c)	~~65 mm 1 Each @ Rs. 3,000~~ 5500/-	5500/- Rs. ~~3,000~~
d)	~~50 mm 13 Each @ Rs. 2,500~~ 4500/-	58500/- Rs. ~~32,500~~
e)	~~40 mm 3 Each @ Rs. 1,500~~ 3000/-	9000/- Rs. ~~4,500~~
f)	~~32 mm 1 Each @ Rs. 1,200~~ 2000/-	2000/- Rs. ~~1,200~~
g)	~~25 mm 25 Each @ Rs. 850~~ 1500/-	37500/- Rs. ~~21,250~~
3	Providing and fixing Garden Hydrant Chamber	
	25 Nos. @ Rs. 3,500 each	Rs. 87,500.00
4	Providing and fixing air release valve	
	13 Nos. @ Rs. 10,000 each	1.30 Lacs Rs. ~~65,000.00~~
5	Provision for carriage of materials and other unforeseen items	1.00 Rs. ~~25,000.00~~
	~~TOTAL CO to SUB WORK - 1~~	Rs. ~~2,247,890.00~~

MATERIAL STATEMENT OF FLUSHING & IRRIGATION SUPPLY REFERS TO ANNEXURE 4 & 6

6. Prov. for Road cutting and Making its original Condition 0.50 Lacs
L.S Rs. 2000/-

Rs. ~~2,15,44,940~~/-
41.27 Lacs

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON-PART1

Water supply hydraulic calculation

S No.	Line No	Length	Dia	Valve	40 mm	50 mm	65 mm	80 mm	100 mm
1	TA-1	75	~~65~~ 100	1			~~75~~		75
2	TB-1	12	~~65~~ 100	1			~~12~~		
3	1-2	50	~~80~~ 100					~~60~~	50
4	TC-2	30	65	1			~~30~~		
5	2-3	46	~~80~~ 100					~~46~~	46
6	TD-3	30	65	1			~~30~~		
7	3-6	22	100	1					22
8	TH-4	12	65	1			~~12~~		
9	4-5	20	100						20
10	TE-5	12	50	1		~~12~~			
11	5-6	15	100	1					15
12	6-PUMP	10	100	1					10
1	PS-1A	126	~~50~~ 100	1		~~126~~			126
2	TP-1A	92	~~50~~ 100	1		~~92~~			92
3	1A-1	22	~~80~~ 100					~~22~~	22
4	TK-1	16	~~65~~	1			~~16~~		
5	1-2	32	~~80~~ 100					~~32~~	32
6	TG-2	12	~~65~~ 100	1			~~12~~		
7	2-3	18	~~80~~ 100					~~18~~	18
8	TJ-3	12	65	1			~~12~~		
9	3-4	18	~~80~~ 100					~~18~~	18
10	Club-4	45	~~40~~	1	~~45~~				
11	4-6	25	~~80~~ 100					~~25~~	25
12	NS-5	90	~~40~~	1	~~90~~				90
13	TF-5	8	~~65~~	1			~~8~~		
14	5-6	45	~~80~~ 100					~~45~~	45
15	6-7	40	100	1					40
16	7-Pump	10	100						10
	TOTAL				~~435~~	~~230~~	~~207~~	~~256~~	~~117~~ 756 mh
	Total Sluice Valve				~~2~~	3	~~9~~	~~8~~	4

Annexure-5 Bore well Supply

S No	Line No	Length	Dia	80 mm	100 mm	150 mm
1	BW1-1	145	80	145		
2	BW2-1	55	80	55		
3	1-PUMP	55	100		55	
	Total			200	55	0

Annexure-5A HUDA Supply

S No	Line No	Length	Dia	80 mm	100 mm
1	Main-Pump UGT	110	100	-	110

Part I

Part II

m - UGT | 250 m | 100 mm

360 mh

Borewell line

	Part - I	Part - II
100 mm	255 mh	145 m = 400 mh
150 mm	4	45 m = 45 mh

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON-PART1

Water supply hydraulic calculation (Flushing)

S No.	Line No	Length	Dia	Valve	32 mm	40 mm	50 mm	65 mm	80 mm	100 mm
1	TA-1	75	~~50~~ 100	1			~~75~~			75
2	TB-1	12	50	1			~~12~~			+
3	1-2	50	~~65~~ 100					~~58~~		58
4	TC-2	30	50	1			~~90~~			
5	2-3	46	~~65~~ 100					~~46~~		46
8	TD-3	30	50	1			~~30~~			
9	TP-1A	92	~~40~~ 100	1		~~92~~				92
10	TK-1	16	50	1			~~16~~			
11	1-2	32	~~65~~ 100					~~32~~		32
12	TG-2	12	50	1			~~12~~			
13	2-3	13	~~65~~ 100					~~13~~		13
14	TJ-7	12	50	1			~~12~~			
15	6-7	18	~~65~~ 100					~~18~~		
16	TF-4	8	50	1			~~8~~			
17	4-5	45	~~65~~ 100					~~45~~		
18	TH-5	12	50	1			~~12~~			
19	5-STP	116	100	1						116
24	PS-1A	92	~~40~~ 100	1		~~92~~				92
24	TP-1A	92	40	1		92				
25	TK-1	16	50	1			16			
26	1-2	32	65					32		
27	TG-2	12	50	1			12			
28	2-3	13	65	1				13		
29	NS-4	90	30	1						
30	TF-4	8	50	1			8			
31	4-5	45	~~65~~ 100					~~45~~		45
32	Club-5	45	32	1	45					
33	5-6	25	~~65~~ 100					~~25~~		25
34	TJ-7	12	50	1			12			
35	6-7	18	~~65~~ 100					~~18~~		18
36	7-3	5	80	1					5	
37	3-STP	10	~~80~~ 100	1					~~10~~	
38	TOTAL				45	276	255	337	~~15~~	116
	Total Sluice Valve				1	3	13	1	2	1

726 m³

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON-PART1

External Fire Hydrant (Annexure 5B)

S No.	Ref.	Length	Dia
1	UGT-1	15	150
2	1-2	63	150
3	EFH-1	7	80
4	2-3	128	150
5	EFH-2	2	80
6	EFH-3	2	80
7	EFH-4	2	80
8	3C-3A	79	100
9	EFH-7	37	80
10	EFH-6	16	80
11	3B-3A	4	100
12	EFH-5	13	80
13	3A-3	20	100
14	EFH-8	4	80
15	3-4	58	150
16	A-EFH24	38	150
17	EFH24-EFH25	42	150
18	A-EFH26	19	150
19	EFH26-EFH27	41	150
20	EFH26-EFH25	46	150
21	EFH25-9C	52	150
22	EFH-9C	20	80
23	9C-9	10	150
24	1-5	52	150
25	5A-5	39	100
26	EFH-21	1	80
27	EFH-22	1	80

S No.	Ref.	Length	Dia
21	5-6	22	150
22	EFH-23	43	80
23	6-7	32	150
24	7A-7	51	100
25	EFH-20	1	80
26	EFH-19	1	80
27	7-8	68	150
28	EFH-17	7	80
29	EFH-18	7	80
30	8A-8	90	100
31	EFH-15	7	80
32	EFH-16	7	80
33	8-9	19	150
34	9A-9	86	100
35	EFH-14	2	80
36	EFH-13	2	80
37	9-4	193	150
38	EFH-10	2	80
39	EFH-11	1	80
40	EFH-12	1	80

Total pipe	**80 mm**	**186 Mtr.**
	100 mm	**369 Mtr.**
	150 mm	**898 Mtr.**
	EFH	**27 Nos.**

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON -PART2

Water supply hydraulic calculation

S No.	Line No	Length	Dia	32 mm	40 mm	50 mm	65 mm	100 mm	150 mm
1	1-2	100	~~80~~ 100					100	
2	2-4	39	~~65~~ 100				~~39~~	39	
3	3-4	104	~~65~~ 100				~~104~~	104	
4	4-5	90	100					90	
5	5-6	45	100					45	
6	NS-6A	15	40		~~45~~				
7	6A-6	35	~~65~~ 100				~~35~~	35	
8	5-11	165	100					165	
9	6-10	78	100					78	
10	7-9	52	~~65~~ 100				~~52~~	52	
11	8-9	68	~~65~~ 100				~~68~~	68	
12	9-10	12	~~65~~ 100				~~12~~	12	
13	10-11	42	100					42	
14	11-12	34	100					34	
15	12`-12	54	65				~~54~~		
16	12-Pump	36	150						36
17	1-5	102	100					102	
18	2`-2	35	40		~~35~~				
19	2-4	90	~~65~~ 100				~~90~~	90	
20	3-4	54	~~65~~ 100				~~54~~	54	
21	4-5	9	~~65~~ 100				~~9~~	9	
22	5-6	117	100					117	
23	6-10	60	100					60	
24	7-9	53	~~65~~ 100				~~53~~	53	
25	8-9	50	~~65~~ 100				~~50~~	50	
26	9-10	9	~~65~~ 100				~~9~~	9	
27	10-12	66	100					66	
28	1-11	180	100					180	
29	11-12	126	100					126	
30	12-Pump	15	150					1780	~~45~~ 51

Qty. of pipes from main line to Riser bottom (Not shown in design Calculation)

	Block								
Zone 1	E,E1,E2	18	40		18				
	B	40	40		40				
	A & D	100	40		100				
Zone 2	E	14	40		14				
	A	112	40		112				
	A,B	156	40		156				
	C	102	40		102				
	TOTAL			0	592	0	629	1105	51
	Total Sluice Valve			0	59	1	13	10	2

Annexure-5 Bore well Supply

S No	Line No	Length	Dia	80 mm	100 mm	150 mm
1	BW1-1	123	80	123		
2	BW2-1	5	80	5		
3	1-PUMP	54	100		54	
	Total			128	54	0

Annexure-5A HUDA Supply

S No	Line No	Length	Dia	80 mm	100 mm
1	Main-Pump	225	100	-	100

WATER SUPPLY
Grand total

PART- I
100 mm 756 m + 1780 = 2536
150 mm — 51 = 51 m

PART- II

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON -PART2

External Fire Hdrant (Annexure 5B)

S No.	Ref.	Length	Dia		S No.	Ref.	Length	Dia
1	E5-B	39	150		36	E21-21	9	150
2	B-E6	6	150		37	20-I	10	150
3	B6-B7	45	150		38	C-21	22	150
4	B7-C	58	150		39	E21-21	9	150
5	C-E	34	150		40	21-22	41	150
6	E9-E10	41	150		41	E22-22	9	80
7	E10-D	10	150		42	22-K	6	150
8	E8-D	31	150		43	E23-E24	47	150
9	D-E	9	150		44	E24-J	20	150
10	E-F	39	150		45	E25-E26	48	150
11	X-E11	30	150		46	E26-J	30	150
12	E11-E12	40	150		47	J-K	9	150
13	E12-E13	40	150		48	K-27	34	150
14	E13-F	24	150		49	E27-27	9	80
15	EN1-NS	19	80		50	27-28	40	150
16	EN2-NS	15	80		51	E28-28	9	80
17	NS-14`	45	150		52	28-L	20	150
18	F-14	71	150		53	X-29	12	150
19	E14-14	6	80		54	E29-29	5	80
20	14-15	48	150		55	29-30	45	150
21	E15-15	6	80		56	E30-30	5	80
22	15-H	5	150		57	30-L	9	150
23	E18-19	42	80		58	L-31	81	150
24	E19-19	6	80		59	E31-31	9	80
25	18-G	9	150		60	31-N	47	150
26	16-17	40	150		61	E33-33	55	80
27	E17-17	6	80		62	E34-34	5	80
28	17-G	31	150		63	34-M	21	150
29	G-H	5	150		64	E35-M	30	150
30	H-I	49	150		65	M-N	7	150
31	X-20	34	150		66	E32-N	10	150
32	E20-20	6	80		67	N-36	43	150
33	20-I	10	150		68	E36-36	10	80
34	20-I	10	150		69	36-O	15	150
35	C-21	22	150		70	O-PUMP	15	150

Total pipe	80 mm	222 Mtr.
	150 mm	1463 Mtr.
	EFH	42 Nos.

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON-PART2
Flushing MB Annexure-4

S No.	Line No	Length	Dia	25 mm	32 mm	40 mm	50 mm	65 mm	80 mm	100 mm
1	1`-1	89	65					~~89~~		~~89~~ 89
2	1-5	42	100							42
3	2-3	36	65					~~36~~		~~36~~ 36
4	4-3	67	65					~~67~~		~~67~~ 67
5	3-5	13	65					~~13~~		~~13~~ 13
6	5-7	75	100							75
7	6-7`	9	40			~~0~~				
8	7`-7	42	50				~~42~~			
9	7-9	43	100							43
10	1-8	43	100							43
11	8-9	118	100							118
12	9-13	84	100							84
13	10-12	139	~~65~~ 100					~~139~~		~~139~~ 139
14	11-12	103	~~65~~ 100					~~103~~		~~103~~ 103
15	12-13	8	65					~~8~~		~~8~~ 8
16	13 STP	216	100							216
17	1-2	178	100							178
18	2-6	102	100							102
19	3`-3	20	40			~~20~~				
20	3-5	108	65					~~108~~		~~108~~ 108
21	4-5	36	65					~~36~~		~~36~~ 36
22	5-6	10	65					~~10~~		~~10~~ 10
23	6-13	101	100							101
24	1-7	81	100							81
25	7-8	51	100							51
26	8-12	56	100							56
27	9-11	41	65					~~41~~		~~41~~ 41
28	10-11	61	65					~~61~~		~~61~~ 61
29	11-12	10	65					~~10~~		~~10~~ 15
30	12-13	74	100							74
31	13 STP	15	100							15
										2005 m2
Qty. of pipes from main line to Riser bottom (Not shown in design Calculation)										
	Block									
Zone 1	E,E1,E2	18	40			18				
	B	40	40			40				
	A & D	100	40			100				
Zone 2	E	14	40			14				
	A	112	40			112				
	A,B	156	40			156				
	C	102	40			102				
	Total			0	0	571	42	721	0	1279
	Irrigation			102	63	0	0	0	0	1099
	Total Flu+Irr.			102	63	571	42	721	0	2378
	Valves					60		12		10

Flushing Water supply

Grand Total

PART-I + PART-II

100 mm

720m + 2005 m = 2725 mt

PART- I + II

SUB WORK No. 2 — **SEWERAGE SCHEME**

S No.	Description	Amount
1	Providing , jointing , cutting and testing SW pipe and lowering into trenches including cost	
	Providing, laying,cutting, jointing and testing SW pipe and lowering into trenches including cost of excativation, bed concrete, cost of manhole etc.	5.91 Lacs
a)	150 mm dia From STP to HUDA line 375 ~~25~~ Mtr. @ Rs. ~~1,700~~ 1575/- CILA Class (Bye Pass Line)	Rs. ~~59,500.00~~
b)	200 mm dia 226 ~~978~~ Mtr. @ Rs. 1,250 SW Pipe	27.56 Lacs Rs. ~~1,222,500.00~~
c)	250 mm dia 316 ~~152~~ Mtr. @ Rs. 1,700 SW Pipe	5.27 Lacs Rs. ~~242,800.00~~
d)	300 mm dia 5 Mtr. @ Rs. ~~1,700~~ 2150/- SW Pipe	0.11 Lacs ~~Rs. 0.00~~
2	Provision for carriage of material ~~(L.S)~~ c/u Road cutting & making its original Condition	2.50 Lacs Rs. ~~100,000.00~~
3	Provision for making connection with HUDA sewer on master road (2 Nos)	1.00 Rs. ~~500,000.00~~
4	Provision for temporary disposal arrangement ~~till such time HUDA services are made~~ available STP.	Rs. ~~50,000.00~~
5	Providing STP of 520 KLD Rs. ~~8,000~~ 10000/- per KLD	26.00 Rs. ~~4,160,000.00~~ 5200000/-
	Prov. for vent pipe at suitable place, tinkering, shoring etc	5.00 Lacs
	TOTAL CO to FINAL ABSTRACT OF COST	Rs. ~~5,864,800.00~~

MATERIAL STATEMENT OF SEWERAGE SCHEME REFERS TO ANNEXURE 1

Rs. 73,44,800/- 167.29

Add 3% Contingencies c/u P.E Charges. Rs. 2,20,344/- 5.02

Rs. 75,65,144/- 172.31

Add 49% Dep#. charges, Price escalation, unforseen, Admin. charges. 84.43

37,06,921/-

1,12,72,065/- 256.74

Say Rs. 112.75 Lacs.

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON-PART1 Sewer MB Annexure 4

S No.	Line No	Length	Dia Proposed	200mm	250mm	300mm
		In Meter	mm	In Meter	In Meter	In Meter
1	1-2	64	200	64		
2	2A-2	41	200	41		
3	2-3	13	200	13		
4	3A-3	63	200	63		
5	3-4	27	200	27		
6	4A-4	21	200	21		
7	4-5	70	200	70		
8	5B-5C	45	200	45		
9	5A-5C	99	200	99		
10	5C-5	165	200	165		
11	5-6	55	200	55		
12	6A-6C	112	200	112		
13	6B-6C	90	200	90		
14	6C-6	20	200	20		
15	6-7	152	250		152	
0	0	0	0			
16	7A-7	93	200	93		
17	7-STP	40	250		40	
Total				978 mtr	~~152~~ 192 mtr	
				150 mm		
STP 520 KL		STP Bye Pass		~~515~~ M		
				35		

ROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON-PAR							
Material statement for Sewerage (Annexure-7)							
S No.	*Line No*		*Length*	*Pipe Dia*	*200 mm*	*250 mm*	*300 mm*
			Mtr	*mm*	*Mtr.*	*Mtr.*	*Mtr.*
1	1	3	158	200	158	-	-
2	2	3	140	200	140	-	-
3	3	4	67	200	67	-	-
4	4	5	152	200	152	-	-
5	5	5	135	200	135	-	-
6	5	12	48	250	-	48	-
7	6	7	105	200	105	-	-
8	7	8	25	200	25	-	-
9	8	9	52	200	52	-	-
10	9	10	232	200	232	-	-
11	10	11	17	250	-	17	-
12	11	11	147	200	147	-	-
13	11	12	51	250	-	51	-
14	12	STP	5	300	-	-	5
TOTAL					**1213**	**116**	**5**
STP	**600 KL**	(Refer to Anne 1)					

Grand total

	200mm	250mm	300mm
Part - I	978 m	192 m	-
Part - II	1213 m	116 m	5 m
	2191 m	308 m	5 m
Say :	2200 m	310 m	5 m

over Flow line = 150mm ϕ

Part - I = 35 m

Part - II = 340 m

375 m

SUB WORK No. 3 — STORM WATER DRAINAGE

PART-I + II

S No.	Description	Amount
1	Providing, laying, RCC pipe class NP-2 manholes etc. complete in all respects	70.50 Lacs
a)	400 mm dia 2802 ~~1215~~ Mtr. @ Rs. ~~1500~~ 2500/- P. mtr.	Rs. ~~1,458,000.00~~
b)	450 mm dia 0 Mtr. @ Rs. 1,350	Rs. 0.00
2	Provision for lighting and watching	Rs. 50,000.00
3	Provision for road gullies & connecting pipe L.S. 300mm ϕ	Rs. 500,000.00
4	Provision for rainwater harvesting arrangements	~~12,50,000~~/- 15.60
	Rs. ~~100,000.00 per acre~~ 125,000/- each Recharge Pit (Size 4.3 m dia with 2 bore.) 10 Nos.	Rs. ~~500,000.00~~
5	Provision for timbering & shoring (L.S.)	Rs. 150,000.00
6	Provision for lighting, watering and timbering drains & other unforeseen charges Prov. for road cutting and making its original condition	Rs. 150,000.00
7	Provision for making connection with HUDA Mains. on master plan	Rs. 100,000.00
	~~TOTAL CO to FINAL ABSTRACT OF COST~~	Rs. ~~2,808,000.00~~

95.55 Lacs

MATERIAL STATEMENT OF STORM WATER DRAINAGE REFERS TO ANNEXURE 2

Rs ~~34,97,500~~/- 2.87 Lacs

Add 3% Contingencies & PE charges. Rs. ~~104925~~/- 123675/-

Rs. ~~36,02,425~~ 98.42 1246175

Add 49% Deptt. charges, Price escalation, unforseen, Admn. charges. Rs. ~~17,65,188~~ 48.22 ~~606625~~

Rs. 53,67,613/- ~~63,26,800~~/-

≈ 146.64 Lacs

Say Rs. ~~53.70~~ Lacs. 63.30

(8) Providing, lowering, laying and jointing RCC NP3 pipe and depositing into trenches including manholes chamber etc. excavation back filling and disposal of surplus earth complete in all respect

c.o. to final abstract of cost

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON-PART1

MATERIAL STATEMENT FOR STORM WATER DRAINAGE SYSTEM ANNEXURE-4

SL NO	NAME OF LINE	LENGTH	PIPE DIA	400MM	500MM	600MM
		MTR	MM	MTR	MTR	MTR
1	1-2	181.00	400	181.000		
2	2A-2B	70.00	400	70.000		
3	2B-2	190.00	400	190.000		
4	2-3	57.00	400	57.000		
5	3A-3	280.00	400	280.000		
6	3-4	115.00	400	115.000		
7	4-EXT	30.00	400	30.000		
8						
9	1-2	63.00	400	63.000		
10	2-RCP	2.00	400	2.000		
11	RCP-Ext	15.00	400	15.000		
12						
13	5-6	182.00	400	182.000		
14	6-EXT	30.00	400	30.000		
	Total			**1215.00** m	**0.00**	**0.00**

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON-PART2					
MATERIAL STATEMENT FOR STORM WATER DRAINAGE SYSTEM (ANNEXURE-8)					
SL NO	NAME OF LINE	LENGTH	PIPE DIA	400MM	450MM
		MTR	MM	MTR	MTR
1	1`-1	103.00	400	103.000	
2	1-RCP1	7.00	400	7.000	
3	RCP1-2	13.00	400	13.000	
4	2`-2	153.00	400	153.000	
5	2-3	65.00	400	65.000	
6	3-RCP2	2.00	400	2.000	
7	4`-4	220.00	400	220.000	
8	4-RCP3	3.00	400	3.000	
9	RCP3-5	15.00	400	15.000	
10	5`-5	149.00	400	149.000	
11	5-6	94.00	400	94.000	
12	6a-6b	129.00	400	129.000	
13	6b-RCP4	3.00	400	3.000	
14	6b-6	7.00	400	7.000	
15	6-7	141.00	400	141.000	
16	7-RCP2	12.00	400	12.000	
17	R2-Ext.	15.00	400	15.000	
1	1-2	118.00	400	118.000	
2	2`-2	96.00	400	96.000	
3	2-3	20.00	400	20.000	
4	4-5	82.00	400	82.000	
5	3`-3	38.00	400	38.000	
6	3-RCP6	2.00	400	2.000	
7	5-RCP6	9.00	400	9.000	
8	R6-Ext	15.00	400	15.000	
1	1-2	59.00	400	59.000	
2	2-RCP5	2.00	400	2.000	
3	R5-Ext	15.00	400	15.000	
	TOTAL			1587.00	0.00

Grand total

Part-I + Part-II

400mm 1215m + 1587m = 2802mh

(PART- I + II)

SUB WORK No. 4 — **ROAD WORK**

Width in meter	length in meter	Metalled Portion	Area in Sqm.
6	387.3	6	2323.8
7	1215.8	7	8510.6
VARIABLE (Hard Surface near entrance)	VARIABLE	VARIABLE	556
Total	1603.1		11390.4
		Add 10% for curves	1139.04
		Total Road Area	12529.44
Surface Car Parking			
	Car Parks on Surface	258 nos.	
	Surface Car Parking Area	258 x 5.5 x 2.5	3547.5
		Total Area (road + parking)	**16076.94**

Pl. see on calculation of road length

Surface area of road 35767 Sqm

Kerb & Channel Length = 7858 Rmt

S No.	Description	Amount
1	Provision for leveling & earth filling as per site condition	
	Approx 14.99 + 10.5 @ Rs. 100,000 per acre	Rs. ~~1,050,000.00~~
2a	P/L 300mm thick (compacted) GSB with earth as per most Specification. = 25.499 Acre	Rs 25.50 Lacs
2b	P/L 250mm thick (compacted) WMM with earth as per most Specification using 53-22.5 size stone aggregate. The rate is Inclusive of all labour, material & equipment etc.	
2c	50mmB M of ~~40~~ mm MSS type A	357.67 Lacs
	35767 ~~16076.94~~ @ Rs. 1,000 per sqm	Rs. ~~16,076,940.00~~
3a	Providing of kerbs and channel of CC (1:2.4) on both side of road	
	7858 ~~3206.2~~ @ Rs. ~~600~~ /M	47.15 Rs. ~~1,603,100.00~~
4	Provision for guide map and other unforeseen item L.S	Rs. 100,000.00
5	Provision for making approach to each block and pavement L.S	10.00 Rs. ~~500,000.00~~
6	Provision for parking arrangement L.S	Rs. 200,000.00
7	Provision for carriage of material & unforeseen Items L.S	2.00 Lacs Rs. ~~1,000,000.00~~
	~~TOTAL CO to FINAL ABSTRACT OF COST~~	445.32 Rs. ~~20,530,040.00~~
a	Add 3% of contingencies of P.H. charges	13.36 Rs. ~~615,901.20~~
	Total	458.68 Rs. ~~21,145,941.20~~
9	Add 49% Deptt. Charges, price escalation, unforeseen, admin charges.	224.75 Rs. ~~10,361,511.19~~
	GRAND TOTAL CO to FINAL ABSTRACT OF COST	683.43 Rs. ~~31,507,452~~.39

MATERIAL STATEMENT OF ROAD NODS REFERS TO ANNEXURE 9

Say Rs. 315 to lacs.

Project -Emerald Estate Sec-65, Gurgaon PART-I								
Road Length Annexure 9								
S No.	Description of Road Nods		Description		Road Length (In Mtrs.)			
			Length	Width	5Mtr	6Mtr	7Mtr	Misc. (area)
1	6A		61.7	6Mtr		61.7		
2	6B		61.7	6Mtr		61.7		
3	6C		13.7	6Mtr		13.7		
4	6D		182.2	6Mtr		182.2		
5	6E		18	6Mtr		18		
6	6F		50	6Mtr		50		
7	7A		534	7Mtr			534	
8	7B		564	7Mtr			564	
9	7C		102.8	7Mtr			102.8	
10	7D		15	7Mtr			15	
11	AB		-	-				556 sqm
		Total	1603.1		0	387.3	1215.8	

x 6 x 7

2323.80 8510.60 Sqm

Car parking on surface = 258 Nos

Area = 2.50 x 5.50 x 258 = 3547.50 Sqm

Total surface area = 2323.80 + 8510.60 + 3547.50 =
14381.90 Sqm

Add 10% for curves = 1438.19 Sqm

15820.09 Sqm

Say = 15820 Sqm

Length for kerb on channels = 1603 Rmt

1603 x 2 = 3206 Rmt.

Project -Emerald Estate Sec-65, Gurgaon						
Road Length Annexure 9						
S No.	Des	Description				
		Length	Width	6Mtr	8Mtr	9Mtr
1	6A	156.967	6Mtr	156.967		
2	6B	113.571	6Mtr	113.571		
3	6C	113.571	6Mtr	113.571		
4	6D	113.571	6Mtr	113.571		
5	6E	161.367	6Mtr	161.367		
6	6F	134.573	6Mtr	134.573		
7	6G	127.738	6Mtr	127.738		
8	6H	127.738	6Mtr	127.738		
9	6I	141.52	6Mtr	141.52		
10	6J	217.388	6Mtr	217.388		
11	6K	230.809	6Mtr	230.809		
12	6L	18.889	6Mtr	18.889		
13	6M	26.001	6Mtr	26.001		
14	6N	63.668	6Mtr	63.668		
15	6O	109.194	6Mtr	109.194		
16	6P	110.493	6Mtr	110.493		
17	6Q	110.493	6Mtr	110.493		
18	6R	18.031	6Mtr	18.031		
19	6S	44.495	6Mtr	44.495		
20	6T	9.91	6Mtr	9.91		
20	8A	22.581	8Mtr		22.581	
20	8B	33.168	8Mtr		33.168	
21	8C	54.852	8Mtr		54.852	
22	9A	65.19	9Mtr			65.19
		Total		2149.987	110.601	65.19
				X 6	X 8	X 9
				12899.92	+ 884.80	+ 586.71 Sqm = 14371.43

Add 10% for curves = 1437.14

15808.57 Sqm

Car parking on surface = 301 Nos

Area = 2.50 X 5.50 X 301 = 4138.75 Sqm

Total for Kerb & channels = 2149.987 + 110.601 + 65.19 = 2325.78 Rmt

2326 X 2 = 4652 Rmt

Grand total for part - I + II

Surface area = 15820 + 11947.32 = 35767.32 Sqm

Kerb and channels = 3206 + 4652 = 7858 Rmt

PART- I + II

SUB WORK No. 5 : Street Lighting

S No.	Description	Amount
1	Providing street lightning on roads as per standard specifications of HVPN.	
	Approx 14.99 + 10.50 Acre @ Rs. ~~100,000~~ 1,50,000/- per acre	Rs. ~~2,500,000.00~~ 38.25 Lacs
	TOTAL CO to FINAL ABSTRACT OF COST Add 3% Contingencies & P.E Charges	Rs. ~~2,500,000.00~~ 1.15 Lacs

Add 4% Dep H. charges, Price escalation. unforseen, Admn. charges.

Rs. ~~1312500/-~~ ~~39,375/-~~ ~~51,875/-~~

Rs. 39.40 Lacs ~~8,62,419/-~~

Rs. 19.38 ~~14,294/-~~

58.70 Lacs

Say Rs. ~~20.15~~ Lacs.
58.70

C.O. to final abstract of cost

PART. I + II

SUB WORK No. 6 - Plantation & Road side Trees

S No.	Description	Amount
1	Development of Green areas (organised green of ~~1.78~~ Acres)	
a	Trenching the ordinary soil up to dept of 60 cm 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	
	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	4.48 Lacs
	Approx. 4.48 ~~4.78~~ Acres @ Rs. 100,000 per Acres	Rs. ~~478,000.00~~
2	Planting Tree	
a	Provision of trees, gaurds & planting trees along road at 12m interval including excavation, filling manure, tree plantation & providing tree gaurds.	4.91 Lacs
	~~247.1066667~~ Trees @ Rs. ~~800~~ per tree	Rs. ~~197,685.33~~
	TOTAL CO to FINAL ABSTRACT OF COST	9.39 Lacs Rs. ~~375,685.33~~

Add 3% contingencies & P.E charges. Rs. 9.67 Lacs

Add 4% Deptt. charges & Price escalation unforseen, Admn. charges. Rs. 14.40 Lacs

Say Rs. ~~6.65 lacs~~

C.O. final abstract of cost

Part - I + II

SUB WORK No. 7 M/C Charges for Services & Resurfacing of road

S No.	Description	Amount
1	Providing of M/C charges for water supply , strom water drainage, sewerage, Road, Street lighting, Horticulture etc. complete in all aspect, including Operational and establishment charges as per HUDA norms for 10 years completion	127.50 Lacs
	Approx. 14.99+10.51 Acres @ Rs. ~~950,000~~ 5.10 per Acres	Rs. ~~3,675,000.00~~
2	Providing of resurfacing of roads after 5 years 100mm thick layer 100mm thick BUSG complete to 25mm thick premix carpet with seal cost	214.60 Lacs ~~104,28,000/-~~
	Approx. 17380 35767 ~~13202.40~~ Sqm @ Rs. ~~400~~ 600/- per Sqm	Rs. ~~5,280,996.00~~
3	Providing of resurfacing of roads after 10 years with 25mm thick premix carpet with seal coat with mech.paver	268.25 Lacs ~~52,14,000/-~~
	Approx. ~~13202.49~~ Sqm @ Rs. ~~600~~ 750 ~~200~~/- per Sqm	Rs. ~~7,921,494.00~~
	17380 35767 ~~TOTAL CO to FINAL ABSTRACT OF COST~~	~~Rs. 16,877,490.00~~

Rs. 193,17,000/- 610.35

Add 3% contingencies & P.E charges. Rs. ~~5,79,510/-~~ 18.31

Rs. ~~198,96,510/-~~ 628.66

Add 49% Deptt. charges, Price escalation, unforseen, Adum. charges. Rs. ~~97,49,490/-~~ 308.04

936.70

Rs. ~~296,45,000/-~~

~~Say Rs 296.50 Lacs.~~

C.O. to final asstract of cost

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR-65 GURGAON-PART1

HYDRAULIC CALCULATION FOR DOMESTIC WATER

S.NO	Line reff.	Aprt.	Total population (Main unit*5+Ser unit*2)	Daily water demand (Total)	Domestic 67% Self	Domestic 67% Cumm.	Peak Flow	Flow rate	Flow rate	Line Length	Effective Length (L*1.3)	Velocity	Dia of Pipe	Frictional Headloss	Total Frictional Headloss on line	Total Cumm. Head loss	Level at Sturt	Level at End	Remarks
			No:-	LPD	LPD	LPD	LPD	LPS	LPM	MTR.	MTR.	M/SEC	MM	MTR/MTR.	MTR.	MTR.	MTR.	MTR.	
Overhead Water Tank Capacity																			
1	TA-1	72	360	62100	41607	41607	124821	1.445	87	75.0	97.5	0.522	65	0.007	0.684	0.684	47.00	47.68	
2	TB-1	72	360	62100	41607	41607	124821	1.445	87	12.0	15.6	0.522	65	0.007	0.109	0.109	47.00	47.11	
3	1-2		0	0	0	83214	249642	2.889	173	50.0	65.0	0.689	80	0.009	0.599	1.283	47.68	48.28	
4	TC-2	72	360	62100	41607	41607	124821	1.445	87	30.0	39.0	0.522	65	0.007	0.274	0.274	47.00	47.27	
5	2-3		0	0	0	124821	374463	4.334	260	46.0	59.8	1.034	80	0.020	1.167	2.450	48.28	49.45	
6	TD-3	72	360	62100	41607	41607	124821	1.445	87	30.0	39.0	0.522	65	0.007	0.274	0.274	47.00	47.27	
7	3-6		0	0	0	166428	499284	5.779	347	22.0	28.6	0.882	100	0.011	0.321	2.770	49.45	49.77	
8	TH-4	72	360	62100	41607	41607	124821	1.445	87	12.0	15.6	0.522	65	0.007	0.109	0.109	47.00	47.11	
9	4-5		0	0	0	41607	124821	1.445	87	20.0	26.0	0.221	100	0.001	0.022	3.503	47.11	47.13	
10	TE-5	24	120	20700	13869	13869	41607	0.482	29	12.0	15.6	0.294	50	0.003	0.051	0.051	29.00	29.05	
11	5-6		0	0	0	55476	166428	1.926	116	15.0	19.5	0.294	100	0.001	0.029	3.532	47.13	47.16	
12	6-PUMP		0	0	0	221904	665712	7.705	462	10.0	13.0	1.177	100	0.019	0.248	3.780	49.77	50.02	
			1920													Residual Head		15.00	
																Suction lift		3.50	
																		68.52	

Domestic water transfer pump
2w+1s Each pump Cap. Say 230 lpm @ 70 Mtr.

Domestic Water Supply For Zone-2

1	PS-1A			25000	16750	16750	50250	0.552	35	126.0	163.8	0.355	50	0.005	0.765	0.765	29.00	29.76	
2	TP-1A	20	100	17250	11558	11558	34673	0.401	24	92.0	119.6	0.245	50	0.002	0.281	0.281	29.09	29.28	
3	1A-1		0	0	0	28308	84923	0.983	59	22.0	28.6	0.235	80	0.001	0.036	0.036	29.76	29.80	
4	TK-1	72	360	62100	41607	41607	124821	1.445	87	16.0	20.8	0.522	65	0.007	0.146	0.146	47.00	47.15	
5	1-2		0	0	0	69915	209744	2.428	146	32.0	41.6	0.579	80	0.007	0.278	0.558	47.15	47.42	
6	TG-2	72	360	62100	41607	41607	124821	1.445	87	12.0	15.6	0.522	65	0.007	0.109	0.109	47.00	47.11	
7	2-3		0	0	0	111522	334565	3.872	232	18.0	23.4	0.924	80	0.016	0.371	0.929	47.42	47.79	
8	TJ-3	72	360	62100	41607	41607	124821	1.445	87	12.0	15.6	0.522	65	0.007	0.109	0.109	47.00	47.11	
9	3-4		0	0	0	153129	459386	5.317	319	18.0	23.4	1.269	80	0.028	0.667	1.596	47.79	48.46	
10	Club-4		0	10000	6700	6700	20100	0.233	14	45.0	58.5	0.222	40	0.003	0.148	0.148	15.00	15.15	
11	4-6		0	0	0	159829	479486	5.550	333	25.0	32.5	1.324	80	0.031	1.003	2.598	48.46	49.46	
12	NS-5		0	10000	6700	6700	20100	0.233	14	90.0	117.0	0.222	40	0.003	0.297	0.297	15.00	15.30	
13	TF-5	72	360	62100	41607	41607	124821	1.445	87	8.0	10.4	0.522	65	0.007	0.073	0.073	47.00	47.07	
14	5-6		0	0	0	48307	144921	1.677	101	45.0	58.5	0.400	80	0.003	0.197	0.494	47.07	47.27	
15	6-7		0	0	0	208136	624407	7.227	434	40.0	52.0	1.104	100	0.017	0.882	3.481	49.46	50.35	
16	7-Pump		0	0	0	208136	624407	7.227	434	10.0	13.0	1.104	100	0.017	0.221	3.701	50.35	50.57	
			1540													Residual Head		15.00	
																Suction lift		3.50	
																		69.07	Zone2

Domestic water transfer pump
2w+1s Each pump Cap. Say 220 lpm @ 70 Mtr.

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON -PART2

HYDRAULIC CALCULATION FOR DOMESTIC WATER

S.NO	Line ref.		Total Population (Main unit*3+ser unit*2)	Daily water demand (Total)	Domestic 67% Self Cumm.		Peak Flow	Flow rate	Flow rate	Line Length	Effective Length (L*1.4)	Velocity	Dia of Pipe	Frictional Headloss	Total Frictional Headloss	Total Cumm. Headloss	Level at Start	Level at End	Remarks
			Nos	LPD	LPD	LPD	LPD	LPS	LPM	MTR	MTR	M/SEC	MM	MTR/MTR	MTR	MTR	MTR	MTR	
Domestic Water Supply Zone - 1																			
1	1-2	D*5	340	58650	39296	39296	117887	1.364	82	100.0	130.0	0.326	80	0.002	0.298	0.298	23.00	23.2984	
2	2-4			0	0	39296	117887	1.364	82	39.0	50.7	0.493	65	0.006	0.320	0.618	23.30	23.6183	
3	3-4	A*5	340	58650	39296	39296	117887	1.364	82	104.0	135.2	0.493	65	0.006	0.853	0.853	23.00	23.8532	
4	4-5				0	78591	235773	2.729	164	90.0	117.0	0.417	100	0.003	0.327	0.945	23.62	23.9453	
5	5-6				0	39296	117887	1.364	82	45.0	58.5	0.208	100	0.001	0.045	0.991	23.95	23.9906	
6	NS-6A			10000	6700	6700	20100	0.233	14	15.0	19.5	0.222	40	0.003	0.049	0.049	10.00	10.0495	
7	6A-6	NS				6700	20100	0.233	14	35.0	45.5	0.084	65	0.000	0.011	0.011	10.05	10.0603	
8	5-11	B*4+B1*1	306	52785	35366	74661	223984	2.592	156	165.0	214.5	0.396	100	0.003	0.545	1.490	23.95	24.4905	
9	6-10	B*2+B1*1	170	29325	19648	65643	196930	2.279	137	78.0	101.4	0.348	100	0.002	0.203	1.194	23.99	24.1937	
10	7-9	E*2	120	20700	13869	13869	41607	0.482	29	52.0	67.6	0.174	65	0.001	0.062	0.062	22.50	22.5620	
11	8-9	E2*3+E1*1	210	36225	24271	24271	72812	0.843	51	68.0	88.4	0.305	65	0.003	0.229	0.229	22.50	22.7286	
12	9-10				0	38140	114419	1.324	79	12.0	15.6	0.479	65	0.006	0.093	0.322	22.73	22.8217	
13	10-11	B*2	136	23460	15718	119501	358504	4.149	249	42.0	54.6	0.634	100	0.006	0.332	1.525	24.19	24.5252	
14	11-12				0	194163	582488	6.742	405	34.0	44.2	1.029	100	0.015	0.659	2.185	24.53	25.1846	
15	12-12	EWS	478	82455	55245	55245	165735	1.918	115	54.0	70.2	0.693	65	0.012	0.832	0.832	29.00	29.8325	
16	12-Pump				0	249408	748223	8.660	520	36.0	46.8	0.588	150	0.003	0.154	2.339	29.83	29.9865	
			2100				Pump Required		520	LPM						Residual Head		15.00	
							Say		520	LPM	Domestic water transfer pump for zone-1					Suction lift		3.50	Zone 1
											2w+1s Each pump Cap. Say 260 lpm @ 50 Mtr.							48.49	
Domestic Water Supply Zone - 2																			
1	1-5	4*5	320	58656	39296	39296	117887	1.364	82	102.0	132.6	0.705	100	0.001	0.103	0.10	23.00	23.1027	
2	2-2	Shop		5000	3350	3350	10050	0.116	7	35.0	45.5	0.111	40	0.001	0.032	0.03	10.00	10.0320	
3	2-4	E*4	240	41400	27738	31088	93264	1.079	65	90.0	117.0	0.390	65	0.004	0.478	0.51	23.03	23.5104	
4	3-4	E*3	180	31050	20804	20804	62411	0.722	43	54.0	70.2	0.261	65	0.002	0.136	0.14	23.00	23.1364	
5	4-5			0	0	51892	155675	1.802	108	9.0	11.7	0.651	65	0.011	0.124	0.77	23.51	23.6340	

6	5-6	A*2+B*1	204	35190	23577	114764	344293	3.985	239	117.0	152.1	0.609	100	0.006	0.857	1.73	23.63	24.4909	
7	6-10	A*2+A1*1	170	29325	19648	134412	403236	4.667	280	60.0	78.0	0.713	100	0.008	0.589	2.32	24.49	25.0798	
8	7-9	C*3	180	31050	20804	20804	62411	0.722	43	53.0	68.9	0.261	65	0.002	0.134	0.13	23.00	23.1339	
9	8-9	C*3	180	31050	20804	20804	62411	0.722	43	50.0	65.0	0.261	65	0.002	0.126	0.13	23.00	23.1263	
10	9-10			0	0	41607	124821	1.445	87	9.0	11.7	0.522	65	0.007	0.082	0.34	23.13	23.2160	
11	10-12	A*3	204	35190	23577	199596	598789	6.930	416	66.0	85.8	1.058	100	0.016	1.347	4.01	25.08	26.4270	
12	1-11	Club		10000	6700	6700	20100	0.233	14	180.0	234.0	0.036	100	0.000	0.007	0.01	23.00	23.0068	
13	11-12	B*3+B1*1	238	41055	27507	34207	102621	1.188	71	126.0	163.8	0.181	100	0.001	0.098	0.10	23.01	23.1049	
14	12-Pump			0	0	233803	701410	8.118	487	15.0	19.5	0.551	150	0.003	0.057	4.17	26.43	26.4839	
																Residual Head		15.00	Zone 2
			1936			233803		Say 490 LPM		Domestic water transfer pump for zone-2						Suction lift		3.50	
										2w+1s Each pump Cap. Say 245 lpm @ 45 Mtr.								44.98	

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR-65 GURGAON-PART1

HYDRAULIC CALCULATION FOR FLUSHING WATER

S.NO	Line reff.	Apart.	Total population (Main unit*5+Ser unit*2)	Daily water demand (Total)	Flushing 33% Self	Flushing 33% Curam.	Peak Flow	Flow rate	Flow rate	Line Length	Effective Length (L*1.3)	Velocity	Dia of Pipe	Frictional Headloss	Total Frictional Headloss on line	Total Cumm. Head loss	Level at Start	Level at End	Remarks
			Nos.	LPD	LPD	LPD	LPD	LPS	LPM	MTR.	MTR.	M/SEC	MM	MTR/MTR.	MTR.	MTR.	MTR.	MTR.	
Flushing water Supply for zone-2																			
1	TA-1	72	360	62100	20493	20493	61479	0.712	43	12.0	97.5	0.435	50	0.007	0.661	0.661	47.00	47.66	
2	TB-1	72	360	62100	20493	20493	61479	0.712	43	12.0	15.6	0.435	50	0.007	0.106	0.106	47.00	47.11	
3	1-2		0	0	0	40986	122958	1.423	85	50.0	65.0	0.514	65	0.007	0.443	1.211	47.66	48.10	
4	TC-2	72	360	62100	20493	20493	61479	0.712	43	30.0	39.0	0.435	50	0.007	0.265	0.265	47.00	47.26	
5	2-3		0	0	0	61479	184437	2.135	128	46.0	59.8	0.772	65	0.014	0.864	2.340	48.10	48.97	
6	TD-3	72	360	62100	20493	20493	61479	0.712	43	30.0	39.0	0.435	50	0.007	0.265	0.265	47.00	47.26	
7	3-4		0	0	0	81972	245916	2.846	171	37.0	48.1	0.679	80	0.009	0.431	3.035	48.97	49.40	
10	TE-4	24	120	20700	6831	6831	20493	0.237	14	12.0	15.6	0.226	40	0.003	0.041	0.041	29.00	29.04	
11	4-5		0	0	0	88803	266409	3.083	185	15.0	19.5	0.736	80	0.010	0.203	3.279	49.40	49.60	
8	TH-5	72	360	62100	20493	20493	61479	0.712	43	12.0	15.6	0.435	50	0.007	0.106	0.106	47.00	47.11	
12	5-STP		0	0	0	109296	327888	3.795	228	116.0	150.8	0.580	100	0.005	0.776	4.161	49.40	50.18	
			1920													Residual Head		15.00	Roof-1
																Suction lift		3.50	
																Req. Head		68.68	

Flushing water transfer pump
1w+1s Each pump Cap. Say 230 lpm @ 70 Mtr.

Flushing water Supply for zone-3																			
1	PS-1A		0	25000	8250	8250	24750	0.760	17	92.0	119.6	0.273	40	0.004	0.446	0.446	29.00	29.45	
2	TF-1A	20	100	17256	5693	5693	17078	0.196	12	92.0	119.6	0.189	40	0.002	0.224	0.224	29.00	29.22	
3	1A-1		0	0	0	13943	41828	0.484	29	126.0	163.8	0.175	65	0.001	0.152	0.376	29.22	29.38	
4	TK-1	72	360	62100	20493	20493	61479	0.712	43	16.0	20.8	0.435	50	0.007	0.141	0.141	47.00	47.14	
5	1-2		0	0	0	34436	103307	1.196	72	32.0	41.6	0.432	65	0.005	0.206	0.571	47.14	47.35	
6	TG-2	72	360	62100	20493	20493	61479	0.712	43	12.0	15.6	0.435	50	0.007	0.106	0.106	47.00	47.11	
7	2-3		0	0	0	54929	164786	1.907	114	13.0	16.9	0.689	65	0.012	0.198	0.875	47.35	47.54	
8	NS-4		0	10000	3300	3300	9900	0.115	7	90.0	117.0	0.194	30	0.003	0.325	0.325	15.00	15.32	
9	TF-4	72	360	62100	20493	20493	61479	0.712	43	8.0	10.4	0.435	50	0.007	0.071	0.071	47.00	47.07	
10	4-5		0	0	0	23793	71379	0.826	50	45.0	58.5	0.299	65	0.002	0.146	0.541	47.07	47.22	
11	Club-5		0	10000	3300	3300	9900	0.115	7	45.0	58.5	0.171	32	0.002	0.119	0.119	15.00	15.12	
12	5-6		0	0	0	27093	81279	0.941	56	25.0	32.5	0.340	65	0.003	0.103	0.763	47.62	47.72	
13	TJ-7	72	360	62100	20493	20493	61479	0.712	43	12.0	15.6	0.435	50	0.007	0.106	0.106	47.00	47.11	
14	6-7		0	0	0	27093	81279	0.941	56	18.0	23.4	0.340	65	0.003	0.074	0.837	47.54	47.62	
15	7-3		0	0	0	47586	142758	1.652	99	5.0	6.5	0.394	80	0.003	0.021	0.964	47.72	47.74	
16	3-STP		0	0	0	102515	307544	3.560	214	10.0	65.0	0.849	80	0.014	0.881	2.720	47.74	48.62	
			1540													Residual Head		15.00	Roof-2

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON-PART2

HYDRAULIC CALCULATION FOR FLUSHING WATER

S.NO	Line reff.	Total population (Main unit*5+Ser unit*2)		Daily water demand (Total)	Flushing 33% Self	Flushing 33% Cumm.	Peak Flow	Flowrate		Line Velocity	Effective Length (L*1.3)	Velocity v	Dia of Pipe	Frictional Headloss	Total Frictional Headloss	Total Cumm. Head loss	Level at Start	Level at End	Remarks
			Nos.	LPD	LPD	LPD	LPD	LPS	LPM	MTR	MTR	M/SEC	MM	MTR/M	MTR	MTR	MTR	MTR	
Flushing Water Supply Ring Main - ZONE 1																			
1	1-1	EWS	478	82455	27210	27210	81630.5	0.945	57	89.0	115.7	0.341	65	0.003	0.370	0.37	29.00	29.370	
2	1-5	B*1	68	11730	3871	17476	52427.9	0.607	36	42.0	54.6	0.093	100	0.000	0.009	0.379	29.37	29.379	
3	2-3	E*2	120	20700	6831	6831	20493.0	0.237	14	36.0	46.8	0.086	65	0.000	0.012	0.012	22.50	22.512	
4	4-3	E1*1+E2*3	210	36225	11954	11954	35862.8	0.415	25	67.0	87.1	0.150	65	0.001	0.061	0.061	22.50	22.561	
5	3-5				0	18785	56355.8	0.652	39	13.0	16.9	0.236	65	0.002	0.027	0.088	22.56	22.588	
6	5-7	B*3+B1*1	238	41055	13548	49809	149428.1	1.729	104	75.0	97.5	0.264	100	0.001	0.117	0.205	29.38	29.496	
7	6-7	N5		10000	3300	3300	9900.0	0.115	7	9.0	11.7	0.109	40	0.001	0.008	0.008	13.00	13.008	
	7-7					3300	9900.0	0.115	7	42.0	54.6	0.070	50	0.000	0.013	0.013	13.01	13.021	
8	7-9				0	53109	159328.1	1.844	111	43.0	55.9	0.282	100	0.001	0.076	0.088	29.50	29.572	
9	1-8				0	13605	40815.2	0.472	28	43.0	55.9	0.072	100	0.000	0.006	0.006	23.00	23.006	
10	8-9	B*4+B1*1	306	52785	17419	31024	93072.4	1.077	65	118.0	153.4	0.164	100	0.000	0.077	0.083	23.01	23.083	
11	9-13				0	84134	252400.5	2.921	175	84.0	109.2	0.446	100	0.003	0.346	0.434	29.57	29.918	
12	10-12	D*5	340	58650	19355	19355	58063.5	0.672	40	139.0	180.7	0.243	65	0.002	0.307	0.307	23.00	23.307	
13	11-12	A*5	340	58650	19355	19355	58063.5	0.672	40	103.0	133.9	0.243	65	0.002	0.228	0.228	23.00	23.228	
14	12-13			0	0	38709	116127.0	1.344	81	8.0	10.4	0.486	65	0.006	0.064	0.371	23.31	23.371	
15	13-STP			0	0	122843	368527.5	4.265	256	216.0	280.8	0.651	100	0.006	1.795	2.229	29.92	31.713	
			2100				Required Pump		256	LPM				Residual Head		15.00	Zone 1		
							Say		260	LPM				Suction lift		3.50			
														1W+1S Say 260 lpm @ 50 m Head		50.21			
Flushing Water Supply Ring Main - ZONE 2																			
1	1-2	D*1+B*6	34	15665	5286	5286	15706.4	0.182	11	178.0	231.4	0.0278	100	0.000	0.004	0.004	23.00	23.004	
2	2-6	A*5	340	58650	19355	24590	73769.9	0.854	51	102.0	132.6	0.130	100	0.000	0.043	0.047	23.00	23.0474	
3	3-3	Shop		5000	1650	1650	4950.0	0.057	3	20.0	26.0	0.055	40	0.000	0.005	0.005	10.00	10.0049	
4	3-5	E*5	300	51750	17078	18728	56182.5	0.650	39	108.0	140.4	0.235	65	0.002	0.225	0.230	23.00	23.2246	
5	4-5	E*2	120	20700	6831	6831	20493.0	0.237	14	36.0	46.8	0.086	65	0.000	0.012	0.012	23.00	23.0116	
6	5-6			0	0	25559	76675.5	0.887	53	10.0	13.0	0.321	65	0.003	0.037	0.278	23.22	23.2616	
7	6-13	A*2	136	23460	7742	57890	173670.8	2.010	121	101.0	131.3	0.307	100	0.002	0.208	0.534	23.26	23.4699	
8	1-7	B*4	272	46920	15484	15484	46450.8	0.538	32	81.0	105.3	0.082	100	0.000	0.015	0.015	23.00	23.0145	
9	7-8			0	0	15484	46450.8	0.538	32	51.0	66.3	0.082	100	0.000	0.009	0.024	23.01	23.0237	
10	8-12	A*3	204	35190	11613	27096	81288.9	0.941	56	56.0	72.8	0.144	100	0.000	0.028	0.052	23.02	23.0520	
11	9-11	C*3	180	31050	10247	10247	30739.5	0.356	21	41.0	53.3	0.129	65	0.001	0.028	0.028	23.00	23.0279	
12	10-11	C*3	180	31050	10247	10247	30739.5	0.356	21	61.0	79.3	0.129	65	0.001	0.042	0.042	23.00	23.0415	
13	11-12			0	0	20493	61479.0	0.712	43	10.0	13.0	0.257	65	0.002	0.025	0.094	23.04	23.0661	
14	12-13	A*2+A1*1	170	29325	9677	57267	171799.7	1.988	119	74.0	96.2	0.304	100	0.002	0.150	0.296	23.05	23.2016	
15	13-STP			0	0	115157	345470.4	3.999	240	15.0	19.5	0.611	100	0.006	0.111	0.940	23.47	23.5805	
			1936											Residual Head		15.00	Zone 2		
														Suction lift		3.50			
														1W+1S Say 240 lpm @ 45 m Head		42.08			

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON-PART2

DESIGN STATEMENT OF SEWERAGE LINE

S.No	Line No.		Length	Name of the Bldg & number of apartments											Total Population		Daily water	Other building	Total water	Daily waste water	Total waste water	Total design waste water	Dia proposed	Gradient	Velocity	Design discharge	Check for carrying capacity	Fall in (m)	G. Level Upper	G. Level Lower	Invert Level Upper	Invert Level Lower	Depth Start	Depth End	REMARKS
	From	To	Mtr	A	A1	B	B1	C	D	E	E1	E2	Serv	Others	Ser	Dom	LPD	LPD	LPD	LPD	[illegible]	LPS	mm	1/	m/Sec	LPS		Mtr	Mtr	Mtr	Mtr	Mtr	Mtr	Mtr	
	Total Ser. Per.			136	4	96	12		40																										
2	1	2	156							[illegible]	0.5	5		[illegible]	[illegible]	[illegible]	[illegible]	10000	[illegible]	[illegible]	[illegible]	1.07	200	190	0.66	10.31	OK	0.83	[illegible]	[illegible]	[illegible]	[illegible]	1.000	[illegible]	
3	2	3	140			8.0	2.0			1.0	0.5	[illegible]	22.0		777	777	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	200	190	0.66	10.31	OK	0.74	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.987	
4	3	4	67											EWS	478	1420	244950	10000	254950	203960	611880	7.08	200	190	0.66	10.31	OK	0.35	-0.550	-1.000	-2.132	-2.404	1.582	1.484	
5	4	5	152					3.0							180	1600	276000	10000	286000	228800	686400	7.94	200	190	0.66	10.31	OK	0.60	-1.000	-0.700	-2.484	-3.284	1.484	2.584	
6	5	6	155	5.0	1.0	4.0	1.0	3.0					80.0		850	850	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	200	190	0.66	10.31	OK	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.900	[illegible]	
7	[illegible]	12	45											[illegible]	0	[illegible]	[illegible]	10000	[illegible]	[illegible]	[illegible]	[illegible]	250	250	[illegible]	16.30	OK	0.19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Discharge
8	6	7	105	5.0						5.0	[illegible]		80.0	[illegible]	680	680	117300	10000	127300	101840	[illegible]	3.54	200	190	0.66	10.31	OK	0.55	-0.700	-0.700	[illegible]	[illegible]	0.900	1.453	
9	7	8	25												0	680	117300	10000	127300	101840	305520	3.54	200	190	0.66	10.31	OK	0.13	0.200	0.450	-1.253	-1.384	1.453	1.834	
10	8	9	52												0	680	117300	10000	127300	101840	305520	3.54	200	190	0.66	10.31	OK	0.27	0.450	-0.400	-1.384	-1.658	1.834	1.258	
11	9	10	232	[illegible]						7.0			28.0	Shop	658	1338	230805	15000	245805	196644	589932	6.83	200	190	0.66	10.31	OK	1.22	-0.400	-0.400	-1.653	-2.879	1.258	2.479	
12	10	11	17												0	1338	230805	15000	245805	196644	589932	6.83	250	250	0.66	16.30	OK	0.07	-0.400	-0.400	-2.879	-2.947	2.479	2.547	
13	11	[illegible]	147	[illegible]									28.0		[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	200	190	0.66	10.31	OK	0.77	[illegible]	[illegible]	[illegible]	-1.474	[illegible]	[illegible]	
14	[illegible]	[illegible]	[illegible]												[illegible]	[illegible]	[illegible]	15000	[illegible]	[illegible]	[illegible]	[illegible]	250	250	[illegible]	16.30	OK	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Discharge
[illegible]	[illegible]	[illegible]	[illegible]												[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGA( )ART1

DESIGN OF STORM WATER DRAINAGE SYSTEM

SL NO	NAME OF LINE	LENGTH	SELF AREA TO BE DRAINED IN SQM	AREA IN ACRE			DISCHARGE IN CUM/SEC RAIN INTENSITY =6.25mm	DISCHARGE	DIA	SLOPE	VELOCITY	DISCHARGE CAPACITY	FALL	GROUND LEVEL AT START	GROUND LEVEL AT END	INVERT LEVEL AT START	INVERT LEVEL AT END	DEPTH AT START	DEPTH AT END	REMARKS
		MTR		SELF	ADDL	TOTAL		IN LPS	400MM	1 IN	(m/sec)	IN LPS	IN MTR	IN MTR	IN MTR	IN MTR.	IN MTR	IN MTR.	IN MTR	
1	1-2	181.00	5200	1.28	0.00	1.28	0.008	8.02	400	450	0.677	85.11	0.402	0.75	0.75	-0.450	-0.852	1.200	1.602	
2	2A-2B	70.00	5800	1.43	0.00	1.43	0.009	8.94	400	450	0.677	85.11	0.156	0.85	0.85	-0.350	-0.506	1.200	1.356	
3	2B-2	190.00	5200	1.28	0.00	1.28	0.008	8.02	400	450	0.677	85.11	0.422	0.85	0.75	-0.506	-0.928	1.356	1.678	
4	2-3	57.00	0	0.00	2.57	2.57	0.016	16.04	400	450	0.677	85.11	0.127	0.75	0.75	-0.928	-1.054	1.678	1.804	
5	3A-3	280.00	1500	0.37	0.00	0.37	0.002	2.31	400	450	0.677	85.11	0.622	0.75	0.75	-0.450	-1.072	1.200	1.822	
6	3-4	115.00	5885	1.45	2.94	4.39	0.027	27.42	400	450	0.677	85.11	0.256	0.75	0.85	-1.072	-1.328	1.822	2.178	
7	4-EXT	30.00	2800	0.69	4.39	5.09	0.032	31.74	400	450	0.677	85.11	0.067	0.85	0.85	-1.328	-1.394	2.178	2.244	
1	1-2	63.00	5135	1.27	0.00	1.27	0.008	7.92	400	450	0.677	85.11	0.140	0.75	0.75	-0.450	-0.590	1.200	1.340	
2	2-RCP	2	0	0.00	1.27	2.54	0.016	15.84	400	450	0.677	85.11	0.004	0.75	0.75	-0.590	-0.594	1.340	1.344	
3	RCP-Ext	15	0	0.00	1.27	3.81	0.024	23.75	400	450	0.677	85.11	0.033	0.75	0.75	-0.594	-0.628	1.344	1.381	
8	5-6	182.00	6500	1.61	0.00	1.61	0.010	10.02	400	450	0.677	85.11	0.404	0.85	0.75	-0.350	-0.754	1.200	1.504	
9	6-EXT	30.00	0	0.00	1.61	1.61	0.010	10.02	400	450	0.677	85.11	0.067	0.75	0.75	-0.754	-0.821	1.504	1.571	
						10.50														

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON-PART2

DESIGN OF STORM WATER DRAINAGE SYSTEM

S N	Line Reff.	Length	Area in Sqm						Discharge In Cum/Sec Rain Fall=6.25 mm	Discharge	Pipe Dia	Slope	Velocity	Discharge Capacity	Check	Ground Level at Start	Ground Level at Start	FALL	INVERT LEVEL AT START	INVERT LEVEL AT END	DEPTH AT START	DEPTH AT END	REMARKS
		MTR	Hard	Cum.	Green	Cum.	Terrace	Cum.		IN LPS	400MM	1 IN	(m/sec)	IN LPS		MTR	MTR	MTR	MTR.	MTR	MTR.	MTR	
1	1-1	103	3600	3600	600	600	1350	1350	0.007	6.55	400	450	0.677	85.11	OK	0.000	-0.550	0.229	-0.700	-0.929	0.379	0.394	
2	1-RCP1	7		3500		800		1350	0.007	6.55	400	450	0.677	85.11	OK	-0.550	-0.550	0.016	-0.929	-0.944	0.379	0.394	
3	RCP1-2	13		3500		800		1350	0.007	6.55	400	450	0.677	85.11	OK	-0.550	-0.550	0.029	-0.944	-0.973	0.394	0.423	
4	2-2	154	4790	4790	1800	1800	2800	2800	0.009	8.91	400	450	0.677	85.11	OK	-0.550	-0.550	0.330	-0.973	-1.315	1.200	0.765	
5	2-3	65	1500	8790	250	2850	1050	5200	0.019	18.61	400	450	0.677	85.11	OK	-0.550	-1.000	0.144	-1.315	-1.459	0.765	0.459	
6	3-RCP2	2		8790		2850		5200	0.019	18.61	400	450	0.677	85.11	OK	-1.000	-1.000	0.004	-1.459	-1.464	0.459	0.464	
7	4-4	220	3250	3250	900	900	2200		0.005	4.83	400	450	0.677	85.11	OK	-0.400	-0.400	0.439	-0.839	-1.239	1.200	1.139	
8	4-RCP3	3		3250		900		0	0.005	4.83	400	450	0.677	85.11	OK	-0.400	-0.400	0.007	-1.239	-1.246	0.839	0.846	
9	RCP3-5	15		3250		900		0	0.005	4.83	400	450	0.677	85.11	OK	-0.400	-0.400	0.033	-1.246	-1.279	0.846	0.879	
10	5-5	149	6700	5700	2850	2850	2500	2550	0.016	16.99	400	450	0.677	85.11	OK	-0.400	-0.700	0.231	-1.003	-1.231	1.200	0.931	
11	5-6	94		8950		3750		2550	0.016	16.39	400	450	0.677	85.11	OK	-0.400	-0.700	0.209	-1.331	-1.540	0.931	0.840	
12	6a-6b	29	2850	2850	1100	1100	3500	3500	0.008	7.99	400	450	0.677	85.11	OK	-0.700	-0.700	0.297	-2.178	-2.462	1.200	1.762	
13	6b-RCP4	3		2850		1100		3500	0.008	7.99	400	450	0.677	85.11	OK	-0.700	-0.700	0.007	-2.462	-2.468	1.762	1.768	
14	6b-6	7		2850		1100		3500	0.008	7.99	400	450	0.677	85.11	OK	-0.700	-0.700	0.016	-2.462	-2.477	1.762	1.777	
15	6-7	141	1150	12950	850	5700	1625	7675	0.028	27.96	400	450	0.677	85.11	OK	-0.700	-1.000	0.313	-2.477	-2.791	1.777	1.791	
16	7-RCP2	12		12950		5700		7675	0.028	27.96	400	450	0.677	85.11	OK	-1.000	-1.000	0.027	-2.791	-2.817	1.791	1.817	
17	R2-Ext.	15		12950		5700		7675	0.028	27.96	400	450	0.677	85.11	OK	-1.000	-1.000	0.033	-2.817	-2.851	1.817	1.851	
1	1-2	18	2025	2025	150	150	1500	1500	0.004	4.45	400	450	0.677	85.11	OK	0.200	0.200	0.262	-1.150	-1.362	1.400	1.462	
2	2-2	96	795	795	775	775	1250	1250	0.003	2.66	400	450	0.677	85.11	OK	0.200	0.200	0.213	-1.050	-1.213	1.200	1.413	
3	2-3	20		2810		925		2750	0.007	7.09	400	450	0.677	85.11	OK	0.200	0.200	0.044	-1.252	-1.307	1.462	1.507	
4	4-5	82	1950	1950	550	550	1500	1500	0.004	4.45	400	450	0.677	85.11	OK	0.200	0.200	0.182	-1.050	-1.182	1.200	1.382	
5	3-4	38	1075	1075	400	400	850	850	0.003	2.92	400	450	0.677	85.11	OK	0.200	0.200	0.084	-1.000	-1.084	1.200	1.284	
6	3-RCP6	2		3150		2950		3600	0.009	8.84	400	450	0.677	85.11	OK	0.200	0.200	0.004	-1.307	-1.311	1.507	1.511	
7	5-RCP6	9		1950		550		1500	0.004	4.46	400	450	0.677	85.11	OK	0.200	0.200	0.020	-1.182	-1.202	1.382	1.402	
8	R6-Ext	15		5100		2600		5100	0.013	13.30	400	450	0.677	85.11	OK	0.200	0.200	0.033	-1.311	-1.344	1.511	1.544	
1	1-2	50	1285	1285	350	350	850	850	0.003	2.79	400	450	0.677	85.11	OK	0.200	0.200	0.131	-1.003	-1.134	1.203	1.291	
2	2-RCP5	2		1285		350		850	0.003	2.79	400	450	0.677	85.11	OK	0.200	0.200	0.004	-1.131	-1.135	1.331	1.336	
3	R5-Ext	15		1285		350		850	0.003	2.79	400	450	0.677	85.11	OK	0.200	0.200	0.033	-1.136	-1.169	1.336	1.369	
			28860		10775		21025			0													

SERVICE ESTIMATE, DESIGN REPORT AND CALCULATION OF INTERNAL DEVELOPMENT WORKS FOR GROUP HOUSING COLONY 25.499 ACRE SECTOR 65-PART-1 DEVELOPED BY M/S EMAAR MGF LAND LTD.

Report

Gurgaon town of Haryana State is situated on G. 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 fully inhabited to an extent. Further to the increasing demand HUDA has planned to develop new sectors at outskirt of Gurgaon town.

WATER SUPPLY

At present the source of water supply in this area is HUDA and optional bore well. As the underground water is potable, provision for one Bore well have been made in this estimate. It has been proposed to construct underground tanks of capacity as per attached details and at location for domestic purpose and for fire protection. The underground tanks will be fed from the bore wells and HUDA supply, from there water will be supplied by set of variable frequency pump to each plot which is now a days universally adopted. The water supply system has been designed as per the Hazen William formula.

DESIGN

The scheme has been designed for population considering 5 person for each apartment and 2 person for EWS & each service apartment.The rate of water supply per head/day has been taken as (150+15%) i.e. 172.5 liters per head per day.

PUMPING EQUIPMENTS

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

SEWERAGE SCHEME

Sewer line from proposed development will be connecting to a centralized Sewage treatment plant with a bypass to HUDA sewer to dispose excess sewage. 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 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/RCC 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 on the design of sewerage system.

STORM WATER DRAINAGE

We proposed to lay underground R.C.C. pipe drains with required number of catch basins, manholes and rainwater recharge pits with over flow to the Proposed HUDA storm drain on sector Road. The intensity of rain fall has been taken as ¼" per hour. R.C.C storm water line will be designed as per Manning's formula.

SPECIFICATIONS

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

ROADS

Roads have been provided to above zones and estimate is prepared as per revised specifications adopted by HUDA

STREET LIGHITING

Provision for streets also has been made

HORTICULTURE

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 the scheme, including cost of all services works out to be Rs. ~~80,787,645~~ 1096.15 Lacs.
Including 3% Contigencies @ 49% Departmental

Say Eight crore ninty seven lakh sixty eight seven thousand six hundred forty five rupees only

For: M/S EMAAR MGF LAND LTD.

Authorized Signatory

Manish Kr. Bagga, Architect
Council of Architecture.
Registration No. CA/95/18626

Flushing water transfer pump	Suction lift	3.50	
1w+1s Each pump Cap. Say 220 lpm @ 70 Mtr.	Req. Head	67.12	

FINAL ABSTRACT OF COST

Description	Total of sub work	3% Contigencies	TOTAL	49% departmental	Grand Total
Sub Work-1 Water Supply	18,576,990	557,310	19,134,300	9,375,807	28,510,107
Sub Work-2 Sewerage	5,864,800	175,944	6,040,744	2,959,965	9,000,709
Sub Work-3 Drainage	2,808,000	84,240	2,892,240	1,417,198	4,309,438
Sub Work-4 Road Works	11,502,049	345,061	11,847,110	5,805,084	17,652,194
Sub Work-5 Street Lighiting	2,500,000	75,000	2,575,000	1,261,750	3,836,750
Sub Work-6 Plantation	375,685	11,271	386,956	189,608	576,564
Sub Work-7 Services & Resurfacing of road	16,877,490	506,325	17,383,815	8,518,069	25,901,884
TOTAL	Rs. 58,504,014	[illegible]	[illegible]	[illegible]	[illegible]

Total Cost — Say Eight crore ninty seven lakh sixty eight seven thousand six hundred forty five rupees only

Amount per acre Rs. 8,551,204.31

For: M/S EMAAR MGF LAND LTD.

Authorized Signatory

Manish Kr. Bagga, Architect
Council of Architecture
Registration No. CA/95/18626

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON-PART1

Qty. Take off for Irrigation Anne.-6

S NO.	LENGTH	DIA	80 MM	25 MM
STP-1	15	80	15	
1-2	58	80	58	
GH-16	14	25		14
GH-15	4	25		4
2-3	64	80	64	
GH-14	33	25		33
GH-13	24	25		24
3-4	97	80	97	
GH-12	13	25		13
4-5	133	80	133	
GH-11	5	25		5
10	11	25		11
GH-9	13	25		13
5-6	133	80	133	
GH-8	9	25		9
GH-7	16	25		16
6-7	136	80	136	
GH-6	2	25		2
GH-5	2	25		2
GH-4	2	25		2
7-8	58	80	58	
GH-3	7	25		7
GH-2	7	25		7
1-9	75	80	75	
GH-17	26	25		26
9-10	158	80	158	
GH-18	3	25		3
GH-19	15	25		15
GH-20	13	25		13
GH-21	13	25		13
10-11	66	80	66	
GH-22	7	25		7
11-8	262	80	262	
GH-23	9	25		9
GH-24	9	25		9
GH-25	20	25		20
GH-26	42	25		42
GH-27	55	25		55
GH-28	16	25		16
GH-1	22	25		22
	28 Nos. GH	**Total**	**1255**	**412**

Valves

80 mm	25 mm
10	25

SERVICE ESTIMATE, DESIGN REPORT AND CALCULATION OF
INTERNAL DEVELOPMENT WORKS FOR GROUP HOUSING COLONY 25.499 ACRE SECTOR 65-PART-2
DEVELOPED BY M/S EMAAR MGF LAND LTD.

Report

Gurgaon town of Haryana State is situated on G. 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 fully inhabited to an extent. Further to the increasing demand HUDA has planned to develop new sectors at outskirt of Gurgaon town.

WATER SUPPLY
At present the source of water supply in this area is HUDA and optional bore well. As the underground water is potable, provision for one Bore well have been made in this estimate. It has been proposed to construct underground tanks of capacity as per attached details and at location for domestic purpose and for fire protection. The underground tanks will be fed from the bore wells and HUDA supply, from there water will be supplied by set of variable frequency pump to each plot which is now a days universally adopted. The water supply system has been designed as per the Hazen William formula.

DESIGN
The scheme has been designed for population considering 5 person for each apartment and 2 person for EWS & each service apartment.The rate of water supply per head/day has been taken as (150+15%) i.e. 172.5 liters per head per day.

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

SEWERAGE SCHEME
Sewer line from proposed development will be connecting to a centralized Sewage treatment plant with a bypass to HUDA sewer to dispose excess sewage. 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 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/RCC 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 on the design of sewerage system.

STORM WATER DRAINAGE
We proposed to lay underground R.C.C. pipe drains with required number of catch basins, manholes and rainwater recharge pits with over flow to the Proposed HUDA storm drain on sector Road. The intensity of rain fall has been taken as ¼" per hour. R.C.C storm water line will be designed as per Manning's formula.

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

ROADS
Roads have been provided to above zones and estimate is prepared as per revised specifications adopted by HUDA

STREET LIGHITING
Provision for streets also has been made

HORTICULTURE
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 the scheme, including cost of all services works out to be Rs. ~~87,025,768~~ 1252.98 Lacs
Including 3% Contigencies @ 49% Departmental

Say Eight crore Seventy lakh twenty five thousand seven hundred sixty eight rupees only

For: M/S EMAAR MGF LAND LTD.

Authorized Signatory

Manish Kr. Bagga, Architect
Council of Architecture
Registration No. CA/95/18626

FINAL ABSTRACT OF COST

Description	Total of sub work	3% Contigencies	TOTAL	49% departmental	Grand Total
Sub Work-1 Water Supply	23,826,740	714,802	24,541,542	12,025,356	36,566,898
Sub Work-2 Sewerage	7,275,150	218,255	7,493,405	3,671,768	11,165,173
Sub Work-3 Drainage	3,354,400	100,632	3,455,032	1,692,966	5,147,998
Sub Work-4 Road Works	7,473,494	224,205	7,697,699	3,771,872	11,469,571
Sub Work-5 Street Lighiting	2,500,000	75,000	2,575,000	1,261,750	3,836,750
Sub Work-6 Plantation	382,610	11,478	394,088	193,103	587,191
Sub Work-7 Services & Resurfacing of road	11,893,000	356,790	12,249,790	6,002,397	18,252,187
TOTAL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Total Cost — Say Eight crore Seventy lakh twenty five thousand seven hundred sixty eight rupees only

Amount per acre Rs. 5,805,588.26

For: M/S EMAAR MGF LAND LTD.

Authorized Signatory

Manish Kr. Bagga, Architect
Council of Architecture
Registration No. CA/95/18626

SUB WORK No. 1 **WATER SUPPLY**

S No.	Heads	Description	Amount
1	Sub Head 01	Bore well & rising Main	57,21,800/- Rs. ~~5,000,000.00~~
2	Sub Head 2	HUDA Rising Mains	10,11,000/- Rs. ~~698,500.00~~
3	Sub Head 03	Pumping and Machinery	70,75,000/- Rs. ~~6,600,000.00~~
4	Sub Head 04	Water Supply and distribution	81,00,650/- Rs. ~~7,516,650.00~~
5	Sub Head 05	Flushing/Irr. System	45,42,590/- Rs. ~~4,020,990.00~~
		TOTAL	Rs. ~~23,826,740.00~~ Rs. 264,51,040/-

Add 3% Contingencies & PH charges Rs. 7,93,531/-

Rs. 272,44,571/-

Add 49% Deptt. charges, Price escalation Rs. 133,49,840/-

Misc. & Admin charges

Rs. 405,94,411/-

Say Rs. 405.95 Lacs

SUB WORK No. 1 — WATER SUPPLY
Sub Head 01 — Bore well & rising Main

S No.	Description	Amount
1	Boring and installing 510 mm i/d Bore well with reverse rotary rig complete with pipe and strainer to a depth of about 120 meter	
	2 Nos. @ Rs. 700,000 each.	Rs. 1,400,000
2	Provision for rising mains, connecting Bore wells with water main and bye-pass arrangements: for tank feeding.	
a)	80 mm dia 128 Mtr. @ Rs. 1,100/ p.mtr	Rs. 140,800
b)	100 mm dia 54 Mtr. @ Rs. 1,200/- p.mtr	81,000/- ~~Rs. 64,800~~
3	Construction of UG Tank 1100 ~~950~~ KL @ Rs. 3,500 /-KL	38,50,000/- ~~Rs. 3,325,000~~
4	Provision of unseen items/carriage of materials	Rs. 50,000
5	Provision for construction of pump chamber of Size 1.5 x 5 x 1.5 m for Housing	
	Bore wells 2 Nos. @ Rs. ~~50,000~~ 1.00 lac each.	Rs. ~~1~~00,000
	Total of Sub Head 01 Carried over to summary of Sub work - 1	~~Rs. 5,080,600~~

MATERIAL STATEMENT OF BOREWELL RISING MAINS REFERS TO ANNEXURE 5

Rs. 57,21,800/-

SUB WORK No. 1 WATER SUPPLY
Sub Head 2 HUDA Rising Mains

S No.	Description	Amount
1	1. Providing, laying, jointing and testing CILA pipe lines Including cost of excavation etc. complete in all respects.	
a)	100 mm dia pipe 250 Mtr. @ Rs. 1,400/- P.mtr	Rs. 350,000.00
2	Providing and fixing sluice valve including cost of surface boxes and masonary chambers etc. complete In all respects	
a)	100 mm dia 1 Nos. @ Rs. ~~8,000~~ 10,000/- each	10,000/- Rs. ~~8,000.00~~
3	Providing and fixing indicating plates for sluice valve and air valves	
a)	1 Nos. @ Rs. ~~500~~ 1000/- each	1000-00 Rs. ~~500.00~~
4	Provision for carriage for materials and other unforeseen items (L/S)	Rs. 50,000.00
5	Provision for cutting of roads and making good to its original conditions (L/S)	Rs. 100,000.00
6	Provision for making connection with HUDA (L/S)	Rs. 500,000.00
	Total of Sub Head 2 Carried over to summary of Sub work - 1	Rs. ~~600,500.00~~ 10,11,000/-

MATERIAL STATEMENT OF HUDA MAINS REFERS TO ANNEXURE 5A

SUB WORK No. 1 — WATER SUPPLY
Sub Head 3 — Pumping and machinery

S No.	Description	Amount
1	Providing and installing electricity driven submersible pumping set capable of delivering about 14 KL/Hr of water against a total head of 80m complete with motor and other accessories	
	2 Nos. Rs. 100,000.00	Rs. 200,000.00
2	Providing & installing pumping set of following capacity for Water supply Booster Pumps	
a)	Capacity 260 LPM @ 50 mtr. Head (Zone-1) 3 Nos. @ Rs. 225,000.00 each.	Rs. 675,000.00
b)	Capacity 245 LPM @ 45 mtr. Head (Zone-2) 3 Nos. @ Rs. 200,000.00 each.	Rs. 600,000.00
3	Providing & installing pumping set of following capacity for Flushing Pumps	
a)	Capacity 260 LPM @ 50 mtr. Head (Zone-1) 2 Nos. @ Rs. 225,000.00 each.	Rs. 450,000.00
b)	Capacity 240 LPM @ 45 mtr. Head (Zone-2) 2 Nos. @ Rs. 200,000.00 each.	Rs. 400,000.00
4	Providing & installing pumping set of following capacity for Fire Pumps	
a)	Capacity 1620 LPM @ 80 mtr. Head (Main 2 Nos. @ Rs. 900,000.00 each.	Rs. 1,800,000.00
b)	Capacity 180 LPM @ 80 mtr. Head (Jockey 2 Nos. @ Rs. 150,000.00 each.	Rs. 300,000.00
b)	Capacity 1620 LPM @ 80 mtr. Head (Diesel 1 Nos. @ Rs. 1,000,000.00 each.	Rs. 1,000,000.00
5	Providing & installing pumping set of following capacity for Irrigation Pumps	
a)	Capacity 250 LPM @ 40 mtr. Head 2 Nos. @ Rs. 125,000.00 each.	Rs. 250,000.00
6	Provisions for chlorination plant complete 1 Nos @ Rs. 100,000.00 each	Rs. 100,000.00
7	Provision for making foundations and erection of pumping machinery 5 Set @ Rs. ~~25,000.00~~ 50,000/- each	2,50,000/- Rs. ~~125,000.00~~
8	Provision for pipes, valves and specials inside the boosting chamber 5 Set @ Rs. ~~25,000.00~~ 50,000/- each.	2,50,000/- Rs. ~~125,000.00~~
9	Provision for electric service connection including electrical fittings for bore well and boosting etc. 2 Set	2,00,000/- Rs. ~~175,000.00~~
10	Provision for carriage of material and other unforeseen items etc. L/S	Rs. 100,000.00
11	Provision for diesel engine Gen set each for standby arrangements for T.W. & booster pump complete with gear head arrangements of 35 KVA capacities – 1 No.	5,00,000/- Rs. ~~300,000.00~~
	TOTAL CO to SUB WORK - 1	~~Rs. 6,600,000.00~~ 70,75,000/-

SUB WORK No. 1 — WATER SUPPLY
Sub Head 4 — Water supply and distribution

S No	Description			Amount
1	Providing, laying, jointing and testing GI pipe lines including fittings, valves, cost of excavation etc. complete in all respects.			
a)	150 mm Pipe	51 Mtr @	Rs. 1,500	Rs. 76,500
b)	100 mm Pipe	1105 Mtr @	Rs. 1,200	Rs. 1,326,000
c)	65 mm Pipe	629 Mtr @	Rs. 950	Rs. 597,550
d)	50 mm Pipe	0 Mtr @	Rs. 750	Rs. 0
e)	40 mm Pipe	592 Mtr @	Rs. 550	Rs. 325,600
f)	32 mm Pipe	0 Mtr @	Rs. 450	Rs. 0
2	Providing, laying, jointing and testing MS pipe lines for fire mains including fittings, valves, cost of excavation etc. complete in all respects.			
b)	150 mm	1463 Each @	Rs. 2,600	Rs. 3,803,800
c)	80 mm	222 Each @	Rs. 2,100	Rs. 466,200
3	Providing and fixing sluice valve including cost of surface boxes and masonry chambers etc. complete in all respects.			
b)	150 mm	2 Each @	Rs. ~~7,500~~ 15,000/-	Rs. ~~15,000~~ 30,000/-
c)	100 mm	10 Each @	Rs. ~~5,000~~ 10,000/-	Rs. ~~50,000~~ 1,00,000/-
e)	65 mm	13 Each @	Rs. 8,000 ✓	Rs. 104,000 ✓
f)	50 mm	1 Each @	Rs. ~~2,500~~ 3500/-	Rs. ~~2,500~~ 3,500/-
h)	40 mm	59 Each @	Rs. ~~1,500~~ 2500/-	Rs. ~~88,500~~ 147500/-
g)	32 mm	0 Each @	Rs. 1,200 ✓	Rs. 0
4	Providing and fixing air release valve			
	60 Nos @		Rs. ~~5,000~~ 7500/-	Rs. ~~300,000~~ 4,50,000/-
5	Providing and fixing External Fire Hydrants.			
	42 Nos @		Rs. ~~8,000~~ 10000/-	Rs. ~~336,000~~ 4,20,000/-
6	Provision for carriage of materials and other unforeseen items			Rs. ~~25,000~~ 50,000/-
	~~TOTAL CO to SUB WORK - 1~~			~~Rs. 7,516,650.00~~

MATERIAL STATEMENT OF DWS REFERS TO ANNEXURE 3&5b

7) Prov. for Road cutting and making it to original Condition. Rs. 2,00,000/-

(L3) Rs. 81,00,650/-

SUB WORK No. 1 — WATER SUPPLY
Sub Head 4 — Flushing/Irr. System

S No.	Description		Amount
1	Providing, laying, jointing and testing pipes lines conforming to IS:4985 including cost of excavation etc. complete in all respects.		
a)	100 mm Pipe	2378 Mtr @ Rs. 1,050	Rs. 2,496,900
b)	80 mm Pipe	0 Mtr @ Rs. 950	Rs. 0
c)	65 mm Pipe	721 Mtr @ Rs. 800	Rs. 576,800
d)	50 mm Pipe	0 Mtr @ Rs. 550	Rs. 0
e)	40 mm Pipe	571 Mtr @ Rs. 400	Rs. 228,400
f)	32 mm Pipe	63 Mtr @ Rs. 350	Rs. 22,050
g)	25 mm Pipe	102 Mtr @ Rs. 220	Rs. 22,440
2	Providing and fixing sluice valve including cost of surface boxes and masonry chambers etc. complete in all respects.		
a)	100 mm	18 Each @ Rs. ~~5,000~~ 10,000/-	Rs. ~~90,000~~ 1,80,000/-
b)	80 mm	0 Each @ Rs. 4,000	Rs. 0
c)	65 mm	12 Each @ Rs. ~~3,000~~ 5500/-	Rs. ~~36,000~~ 66,000/-
d)	40 mm	60 Each @ Rs. ~~4,500~~ 4500/-	Rs. ~~90,000~~ 2,70,000/-
e)	32 mm	1 Each @ Rs. ~~1,200~~ 2000/-	Rs. ~~1,200~~ 2000/-
f)	25 mm	32 Each @ Rs. ~~850~~ 1500/-	Rs. ~~27,200~~ 48,500/-
3	Providing and fixing Garden Hydrant Chamber		
	30 Nos. @ Rs. 3,500 each		Rs. 105,000.00
4	Providing and fixing air release valve		
	60 Nos. @ Rs. 5,000 each		Rs. 300,000.00
5	Provision for carriage of materials and other unforeseen items		Rs. 25,000.00
	TOTAL CO to SUB WORK - 1		~~Rs. 4,020,990.00~~

MATERIAL STATEMENT OF FLUSHING & IRRIGATION SUPPLY REFERS TO ANNEXURE 4 & 6

Rs. 2,00,000/-

6 Prov. for road cutting & making its in original Condition (L.S)

Rs. 45,42,590/-

SUB WORK No. 2 — SEWERAGE SCHEME

S No.	Description				Amount
1	Providing, jointing , cutting and testing SW pipe and lowering into trenches including cost				
	Providing, laying, cutting, jointing and testing SW pipe and lowering into trenches including cost of excativation, bed concrete, cost of manhole etc.				
a)	150 mm dia (from STP to Huda line)	340 Mtr.	@ Rs. 1,700/- P.mtr.	CILA Class (Bye Pass Line)	Rs. 578,000.00
b)	200 mm dia	1213 Mtr.	@ Rs. 1,250/- P.mtr.	SW Pipe	Rs. 1,516,250.00
c)	250 mm dia	116 Mtr.	@ Rs. 1,400/- P.mtr.	SW Pipe	Rs. 162,400.00
d)	300 mm dia	5 Mtr.	@ Rs. 1,700/- P.mtr.	SW Pipe	Rs. 8,500.00
2	Provision for carriage of material ~~(L.S)~~ and Prov. for Road cutting & making its original condition				Rs. 300,000.00
3	Provision for making connection with HUDA sewer				Rs. 500,000.00
4	Provision for temporary disposal arrangement till such time HUDA services are made available				Rs. 10,000.00
5	Providing STP of (Tertiary Level Treatment)	600 KLD	Rs. 8,000	per KLD	Rs. 48,00,000.00
	TOTAL CO to FINAL ABSTRACT OF COST				~~Rs. 7,275,150.00~~

MATERIAL STATEMENT OF SEWERAGE SCHEME REFERS TO ANNEXURE Rs. 90,75,150/-

Add 3% Contingencies & PA charges Rs. 2,72,255/-

Rs. 93,47,405/-

~~Add 49%~~ Deptt. charges, Price escalation & Forseen & Admin charges Rs. 45,80,228/-

Rs. 139,27,633/-

Say Rs. 139.30 Lacs

SUB WORK No. 3 **STORM WATER DRAINAGE**

S No.	Description	Amount
1	Providing, laying, RCC pipe class ~~NP-2~~ NP-3 manholes etc. complete in all respects	~~238,050/-~~
a)	400 mm dia 1587 Mtr. @ Rs. ~~1,200~~ 1500/- P. mtrs.	Rs. ~~1,904,400.00~~
b)	450 mm dia 0 Mtr. @ Rs. 1,350	Rs. 0.00
2	Provision for lighting and watching	Rs. 50,000.00
3	Provision for road gullies & connecting pipe L.S.	Rs. 500,000.00
4	Provision for rainwater harvesting arrangements	~~[illegible]~~ 1875000/-
	Rs. ~~100,000.00~~ 1,25,000/- per ~~[illegible]~~ Recharge Pit (Size 4.3 m dia with 2 bore.) ~~[illegible]~~ 15 Nos.	Rs. ~~600,000.00~~
5	Provision for timbering & shoring (L.S.)	Rs. 150,000.00
6	Provision for lighting, watering and timbering drains ~~& other unforeseen charges~~ Prov. for Road Cutting & making it in original Condition	Rs. 150,000.00
7	Provision for making connection with HUDA Mains.	Rs. 100,000.00
	TOTAL CO to FINAL ABSTRACT OF COST	~~Rs. 3,354,400.00~~

MATERIAL STATEMENT OF STORM WATER DRAINAGE REFERS TO ANNEXURE 2

Rs. ~~[illegible]~~ 5305500/-

Add 3% Contingencies & PB charges — Rs. ~~[illegible]~~ 159165/-

Rs. ~~93,95,917~~ 5464665/-

~~8623,998~~ / 2677686

Add 49% for Deptt. charges, Price escalation unforseen & Admin charges — Rs. ~~[illegible]~~

Rs. ~~64,25,[illegible]~~ ~~[illegible]~~ 8142350/-

Say Rs. ~~64.20~~ Lac ~~[illegible]~~ 81.45

Width In meter	length In meter	Metalled Portion	Area In Sqm.
6	2149.987	6	12899.922
8	110.601	8	884.808
9	65.19	9	586.71
Total	2325.778		14371.44
	Add 10% for curves		1437.144
	Add area for 301 nos. surface car parking (301x2.5x5.5)		4138.75
	Total Area		19947.334

S No.	Description				Amount
1	Provision for leveling & earth filling as per site condition				
	Approx	14.99 Acre	@ Rs. 100,000	per acre	Rs. 1,499,000.00
2a	P/L 300mm thick (compacted) GSB				
					Rs. 0.00
2b	P/L 250mm thick (compacted) WM with earth as per most Specification using 53-22.5 size stone aggregate. The rate is inclusive of all labour, material & equipment etc.				
2c	50mm thick BM & 20mm MSS type A				
		19947.3 Sqm	@	Rs. 1,000 per sqm	Rs. 19,947,334.00
3a	Providing of kerbs and channel of CC (1:2,4) on both side of road				
		2326 m	@	Rs. 500 /M	Rs. 1,163,000.00
4	Provision for guide map and other unforeseen item L.S				Rs. 100,000.00
5	Provision for making approch to each block and pavement L.S				Rs. 500,000.00
6	Provision for parking arrangement L.S				Rs. 200,000.00
7	Provision for carriage of material & unforeseen items L.S				Rs. 1,000,000.00
	TOTAL CO to FINAL ABSTRACT OF COST				Rs. 24,409,334.00

MATERIAL STATEMENT OF ROAD NODS REFERS TO ANNEXURE 9

Add 3% contingencies & P.H. charges — RS. 732280
Add 49% Dept. Charge, Price escalation Unforsen & admin. Charges — RS. 12319391
RS. 37461005

Say Rs. 374.61 Lacs.

SUB WORK No. 5 : Street Lighting

S No.	Description	Amount
1	Providing street lightning on roads as per standard specifications of HVPN.	18,73,750/-
	Approx 14.99 Acre @ Rs. ~~100,000~~ 1,25,000 per acre	Rs. ~~2,600,000.00~~
	TOTAL CO to FINAL ABSTRACT OF COST	Rs. ~~2,500,000.00~~

Rs. 18,73,750/-

Add 3% Contingencies & PH charges — Rs. 56,213/-

Rs. 19,29,963/-

Add 49% Deptt. charges, Price escalation, Unforseen & Admin charges — Rs. 9,45,682/-

Rs. 28,75,645/-

say Rs. 28.76 Lacs

SUB WORK No. 6 — **Plantation & Road side Trees**

S No.	Description	Amount
1	Development of Green areas (organised green of 2.70 Acres)	
a	Trenching the ordinary soil up to dept of 60 cm 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	
	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	
	Approx. 2.70 Acres @ Rs. 100,000 per Acres	Rs. 270,000/-
2	Planting Tree	
a	Provision of trees, gaurds & planting trees along road at 10 m interval including excavation, filling manure, tree plantation & providing tree gaurds.	1,27,500/-
	140.6666667 ~~Trees~~ 150 @ Rs. 800/- per tree 850/-	Rs. ~~112,533.33~~
	TOTAL CO to FINAL ABSTRACT OF COST	Rs. ~~382,609.83~~

Rs. 3,97,500/-

Add 3% Contingencies & P/F charges Rs. 11,925/-

Rs. 4,09,425/-

~~Add 49% for Deptt. charges, Price~~ escalation & Admi charges Rs. 2,00,618/-

Rs. 6,10,043/-

Say Rs. 6.10 Cr.

SUB WORK No. 7 M/C Charges for Services & Resurfacing of road

S No.	Description	Amount
1	Providing of M/C charges for water supply , strom water drainage, sewerage, Road, Street lighting, Horticulture etc. complete in all aspect, including Operational and establishment charges as per HUDA norms for 10 years completion	
	Approx. 14.99 Acres @ Rs. 350,000 per Acres	Rs. 5,246,500.00
2	Providing of resurfacing of roads after 5 years 100mm thick layer 100mm thick BUSG complete to 25mm thick premix carpet with seal cost	66,66,000/-
	Approx. 11110 ~~6646.50~~ Sqm @ Rs. ~~400~~ 600/- per Sqm	~~Rs. 2,658,000.00~~
3	Providing of resurfacing of roads after 10 years with 25mm thick premix carpet with seal coat with mech.paver	33,33,000/-
	Approx. ~~6646.50~~ Sqm @ Rs. ~~600~~ 300/- per Sqm	Rs. ~~3,987,000.00~~
	11110 TOTAL CO to FINAL ABSTRACT OF COST	Rs. 11,893,000.00

Rs. 152, 45,500/-

Add 3% Contingencies & PH charges Rs. 4,57,365/-

Rs. 157, 02, 865/-

Add 49% Deptt. charges, Price escalation Rs. 76, 94, 404/-

unforseen & Admin charges

Rs. 233, 97, 269/-

Say Rs. 234.00 Lac

GROUP HOUSING COLONY OF 25.499 ACRE AT SECTOR -65 GURGAON-PART2

Garden Hydrant MB Annexure-6

S No.	Line No	Length	Dia	25 mm	32 mm	40 mm	50 mm	65 mm	80 mm	100 mm
1	1-2	45	100							45
2	2-3	44	100							44
3	3-4	44	100							44
4	4-5	44	100							44
5	5-6	57	100							57
6	6-7	42	100							42
7	7-8	40	100							40
8	8-9	40	100							40
9	9-10	40	100							40
10	10-11	40	100							40
11	11-12	40	100							40
12	12-13	51	100							51
13	14-15	37	100							37
14	15-A	24	25	24						
14	A-16	48	25	48						
15	16-B	63	32		63					
16	13-17	22	100							22
17	17-31	23	100							23
18	1-18	18	100							18
19	18-19	26	100							26
20	19-20	41	100							41
21	20-21	40	100							40
22	21-22	40	100							40
23	22-23	40	100							40
24	23-24	41	100							41
25	24-25	41	100							41
26	25-26	40	100							40
27	26-27	40	100							40
28	27-28	40	100							40
29	28-29	38	100							38
30	29-30	32	100							32
31	30-31	13	100							13
	Vertical pipe with each GH			30						
	Total			102	63	0	0	0	0	1099
	Flushing			0	0	571	42	721	0	1279
	Total Flu + Irr			**102**	**63**	**571**	**42**	**721**	**0**	**2378**
	Valves			32	1		0			8

[illegible]

- Blocks already approved
- New added blocks

Total site area a per licence: 25.499 Acres= 103190.628 sq. m

ABSTRACT			
TOTAL SITE AREA = (for FAR calculation)	25.4835 ACRES	=	103,129.48 sq m

PARAMETERS FOR HOUSING		PERMISSIBLE / REQUIRED	Total PART-1	Total PART-2	TOTAL (PART 1+PART 2)		ALREADY APPROVED PART-1	ALREADY APPROVED PART-2	TOTAL (PART 1+PART 2)		PROPOSED PART-1	PROPOSED PART-2	TOTAL (PART 1+PART 2)	
F.A.R.	=	175%	69.483%	103.521%	173.004%		65.89%	62.447%	128.781%		3.59%	40.46%	44.25%	
COVERED AREA	=	180,280.28 sq m	71571.318	106,632.187	178,204.104	sq m	47080.346	84,781.089	132621.41	sq m	3702.07	41896.46	45583.69	sq m
GROUND COVERAGE	=	35.00%	8.74%	18.35%	27.090%		7.56%	11.09%	18.64%		0.01	7.26%	8.44%	
	=	36,092.05 sq m	9001.130	18,903.447	27,904.577	sq m	7789.498	11,421.622	19211.02	sq m	1211.63	7481.825	8693.46	sq m
No.of UNITS (Main)			662	684	1,346	Units	612	372	1044.00	Units	20.00	312.00	302.00	Units
No.of UNITS (Service Personal)		135		144	144	Units		124	124.00	Units	0.00	20.00	20.00	Units
	=	10.00% of TOTAL UNITS										0.00	0.00	
No.of UNITS (EWS)	=	237.589	0	239	239	Units	0	239	239	Units	0.00	0	0.00	Units
	=	17.65% of TOTAL UNITS												

POPULATION			Permissible		Total	ALREADY APPROVED		PROPOSED	
692	Population of Main Units -Part-I	@	5	person per unit	3460 persons	3360	persons	100	persons
654	Population of Main Units -Part-II	@	5	person per unit	3270 persons	1860	persons	1410	persons
144	Population of Service Personal units	@	2	person per unit	288 persons	248	persons	40	persons
239	Population of EWS units	@	2	person per unit	478 persons	478	persons	0	persons
								0	
TOTAL POPULATION					7496 persons	5946	persons	1550	persons
TOTAL DENSITY		=	100 PPA (minimum) to PPA 250 (maximum)		294.405 PPA	131.60	PPA	60.90	PPA

INFRASTRUCTURE	Required		ALREADY APPROVED PART-I	PART-II	TOTAL	
Convenient shopping @ 0.5% of the total area site	515.00	sqm.	0	473.19	473.19	sqm.

PARKING		Required			ALREADY APPROVED PART-I	PART-II	TOTAL		PROPOSED	TOTAL
Parking in Basement	@	covered 35	Sq.mt. Per ECS		559	584	1143	ECS	499	1642
Parking in STILTS	@	covered 30			212	0	212	ECS	16	228
Parking on SURFACE	@	open 25	Sq.mt. Per ECS		258	301	559	ECS	73	638
					Total Number of covered parking minimum					1870
					Total Number of open parking					638
TOTAL PARKING for Main Unit	@	(1.5 ECS per Main Unit)	2019.00	ECS	1029	885	1914	ECS	594.3147801	2508
TOTAL PARKING for EWS	@	(5% of the total parking)	100.95	ECS						

GREEN AREA			Mandatory Required	Already approved PART-I	PART-II	TOTAL
	Total Maintained Green Area Required	@	15% of the total site area			17.62% of the Net site area
			15450.88 Sq.mt.	7217.71	10930.42	18148.13 Sq.mt.

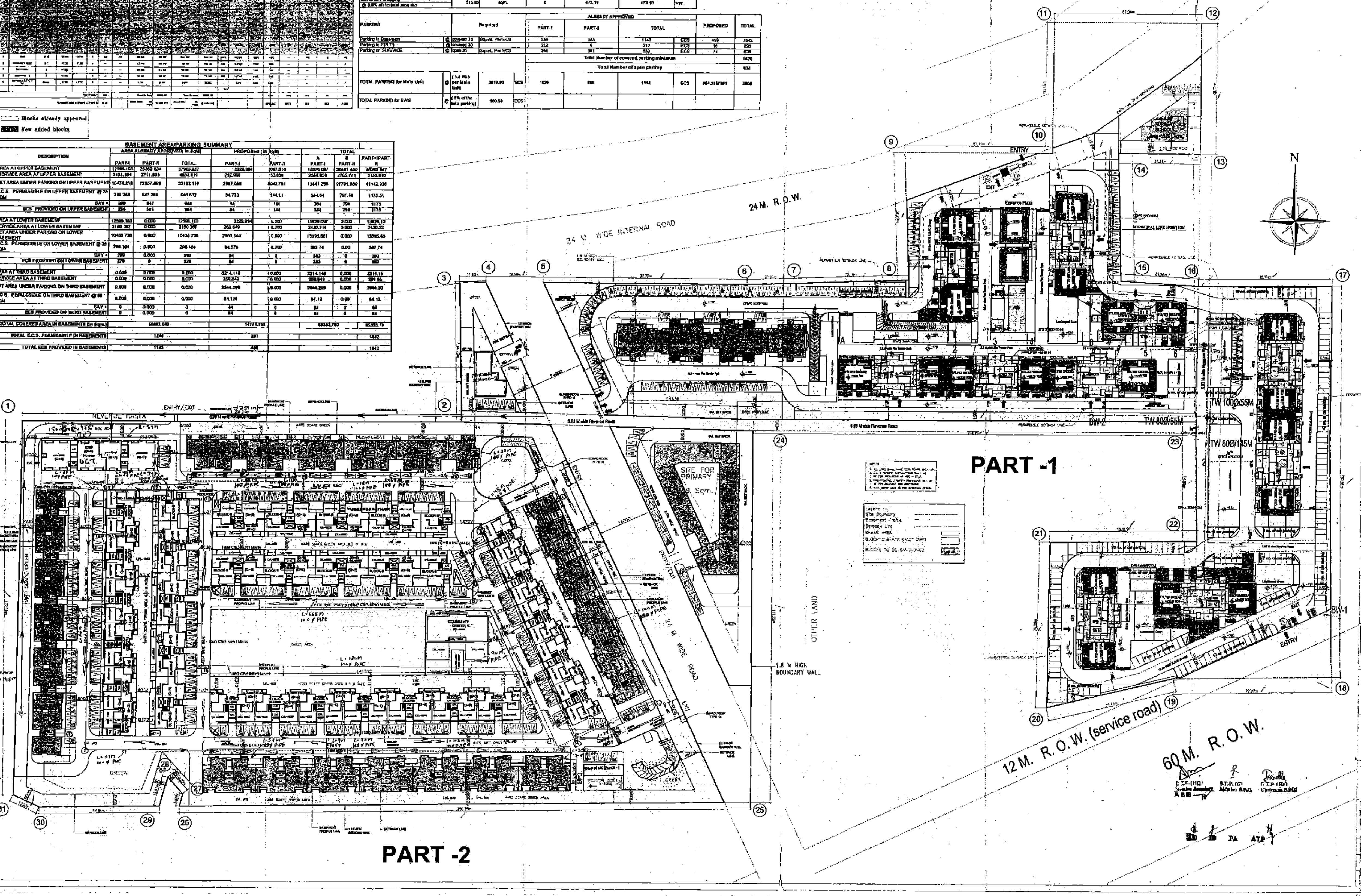
STILTS AREA		
Total Stilt Area proposed	=	6.600%
		6680.547 Sq.mt.

AREA STATEMENT FOR COMMUNITY CENTER -PART1	
TOTAL GROUND FLOOR AREA	344.720
TOTAL FIRST FLOOR AREA	344.400
TOTAL SECOND FLOOR AREA	344.400
TOTAL FAR Area	1033.521
TOTAL GROUND COVERAGE	344.720

AREA STATEMENT FOR COMMUNITY CENTER -PART2

TOTAL F.A.R OF GROUND FLOOR	[illegible]	[illegible]
TOTAL F.A.R OF FIRST FLOOR	[illegible]	[illegible]
Total F.A.R =	[illegible]	[illegible]
TOTAL GROUND FLOOR COVERAGE AREA	[illegible]	[illegible]

BASEMENT AREA/PARKING SUMMARY								
DESCRIPTION	AREA ALREADY APPROVED (in Sqm) PART-I	PART-II	TOTAL	PROPOSED (in Sqm) PART-I	PART-II	TOTAL A PART-I	B PART-II	PART-I+PART-II
AREA AT UPPER BASEMENT	12596.103	25369.634	37965.837	3229.984	5097.818	15825.087	30467.450	46292.947
SERVICE AREA AT UPPER BASEMENT	2121.884	2711.835	4833.819	262.955	53.836	2384.024	2765.771	5150.810
NET AREA UNDER PARKING ON UPPER BASEMENT	10474.218	22657.899	33132.119	2967.039	5043.781	13441.258	27701.680	41142.938
E.C.S. PERMISSIBLE ON UPPER BASEMENT @ 35 SQM	299.263	647.369	946.632	84.773	144.11	384.04	791.48	1175.51
SAY =	299	647	946	84	144	384	791	1175
ECS PROVIDED ON UPPER BASEMENT	280	574	854	84	144	384	791	1175
AREA AT LOWER BASEMENT	12596.103	0.000	12596.103	3229.984	0.000	15826.087	0.000	15826.10
SERVICE AREA AT LOWER BASEMENT	2160.367	0.000	2160.367	269.849	0.000	2430.214	0.000	2430.22
NET AREA UNDER PARKING ON LOWER BASEMENT	10435.736	0.000	10435.736	2960.145	0.000	13395.881	0.000	13395.88
E.C.S. PERMISSIBLE ON LOWER BASEMENT @ 35 SQM	298.164	0.000	298.164	84.576	0.000	382.74	0.00	382.74
SAY =	299	0.000	299	84	0	383	0	383
ECS PROVIDED ON LOWER BASEMENT	279	0	279	84	0	383	0	383
AREA AT THIRD BASEMENT	0.000	0.000	0.000	3214.148	0.000	3214.148	0.000	3214.15
SERVICE AREA AT THIRD BASEMENT	0.000	0.000	0.000	269.849	0.000	269.849	0.000	269.86
NET AREA UNDER PARKING ON THIRD BASEMENT	0.000	0.000	0.000	2944.299	0.000	2944.299	0.000	2944.30
E.C.S. PERMISSIBLE ON THIRD BASEMENT @ 35 SQM	0.000	0.000	0.000	84.129	0.000	84.12	0.00	84.12
SAY =	0	0.000	0	84	0	84	0	84
ECS PROVIDED ON THIRD BASEMENT	0	0.000	0	84	0	84	0	84
TOTAL COVERED AREA IN BASEMENTS (in Sqm.)	50561.940			14771.751		65333.780		65333.79
TOTAL E.C.S. PERMISSIBLE IN BASEMENTS	1246			397				1642
TOTAL ECS PROVIDED IN BASEMENTS	1143			499				1642



Notes:

Issues

No.	Date	By	Description

No.	Date	By	Description

Revisions

Legend :-
Site Boundary
Basement Profile
Setback Line
GREEN AREA
BLOCK ALREADY SANCTIONED
BLOCKS TO BE SANCTIONED

NOTES :-
1. ALL LIFTS SHALL HAVE 100% POWER BACK-UP.
2. ALL ELECTRICAL INSTALLATIONS SHALL BE AS PER PROVISIONS OF NBC - 2005.
3. FIRE-FIGHTING / SAFETY PROVISIONS WILL BE AS PER RELEVANT FIRE PROVISIONS.
4. MAIN ENTRY GATE AS PER STANDARD DESIGN.

TOTAL NO. OF CARS IN SURFACE PARKING 301

Architects :-

Arcop Associates Pvt. Ltd.

Clients :-
M/S Active Promoters Pvt. Ltd. In Collaboration with M/S Emaar MGF Land Ltd.

Architect's Signature:

Harish Kr. Bagga, Architect
Council of Architecture

Owners' Signature:

Job Title
Revised building Plans of Group Housing Scheme measuring 25.499 acres(Licence No. 08 of 2008 Dated17-01-2008) in Sector-65 GURGAON, HARYANA
for Service Estimate only

Drawing Title
MASTER PLAN
(Part-1 and II)
DOMESTIC WATER SUPPLY

Executive Engineer
HUDA Division No.1
Gurgaon

Job No. 2008 / ...		Drawing No. SB_S_A01 PART - II
Drawn	Checked	
Date 25/08/2011	Scale 1:600	Revisions

Total site area s per license: 25.499 acres= 103190.828 sq. m

ABSTRACT			
TOTAL SITE AREA = (for FAR calculation)	25.4634 ACRES	=	103004.88 sq m

PARAMETERS FOR HOUSING		PERMISSIBLE / REQUIRED	Total PART-1	Total PART-2	Total TOTAL (PART 1+PART 2)		Already Approved PART-1	Already Approved PART-2	Already Approved TOTAL (PART 1+PART 2)		Proposed PART-1	Proposed PART-2	Proposed TOTAL (PART 1+PART 2)	
F.A.R	=	175%	68.467%	100.521%	173.064%		64.891%	62.567%	125.751%		3.59%	43.939%	44.33%	
COVERED AREA	=	180,280.28 sq m	71571.915	108,832.187	178,204.105	sq m	67889.345	64,751.669	132421.01	sq m	3702.87	41880.38	45583.09	sq m
GROUND COVERAGE	=	35.00%	8.74%	19.35%	27.090%		7.35%	11.09%	18.56%		0.81	1.36%	8.44%	
	=	36,052.08 sq m	9001.136	19,933.447	27,934.877	sq m	7799.480	11,421.822	19211.91	sq m	1211.63	7481.535	8693.66	sq m
No of UNITS (Main)			582	654	1,348	Units	672	372	1044.00	Units	20.00	282.00	302.00	Units
No of UNITS (Service Personal)		135		144	144	Units		124	124.00	Units	0.00	20.00	20.00	Units
	=	10.00% of TOTAL UNITS										0.00	0.00	
No of UNITS (EWS)	=	237.589	0	239	239	Units	0	239	239	Units	0.00	0	0.00	Units
	=	17.65% of TOTAL UNITS												

POPULATION			Permissible		Total		ALREADY APPROVED		PROPOSED	
692	Population of Main Units -Part-	@	5	person per unit	3480	persons	3360	persons	100	persons
654	Population of Main Units -Part-	@	5	person per unit	3270	persons	1860	persons	1410	persons
144	Population of Service Personal units	@	2	person per unit	288	persons	248	persons	40	persons
239	Population of EWS units	@	2	person per unit	478	persons	478	persons	0	persons
									0	
TOTAL POPULATION		=			7490	persons	5944	persons	1550	persons
TOTAL DENSITY		=	100 PPA (minimum) to PPA 250 (maximum)		254.490	PPA	233.40	PPA	60.90	PPA

INFRASTUCTURE	Required		ALREADY APPROVED PART-1	PART-2	TOTAL	
Convenient shopping @ 0.5% of the total area site	515.03	sqm.	0	473.19	473.19	sqm.

PARKING		Required			ALREADY APPROVED PART-1	PART-2	TOTAL		PROPOSED	TOTAL
Parking in Basement	@	covered 35	Sq.mt. Per ECS		559	584	1143	ECS	499	1642
Parking in STILTS	@	covered 30			212	0	212	ECS	16	228
Parking on SURFACE	@	open 25	Sq.mt. Per ECS		258	301	559	ECS	79	538
					Total Number of covered parking minimum					1870
					Total Number of open parking					636
TOTAL PARKING for Main Unit	@	1.5 ECS per Main Unit	2318.00	ECS	1029	885	1914	ECS	594.3747841	2508
TOTAL PARKING for EWS	@	5% of the total parking	100.88	ECS						

[illegible]

Blocks already approved

New added blocks

BASEMENT AREA/PARKING SUMMARY

DESCRIPTION	AREA ALREADY APPROVED (In SqM) PART-I	PART-II	TOTAL	PROPOSED (In SqM) PART-I	PART-II	TOTAL A PART-I	B PART-II	PART-I+PART-II
AREA AT UPPER BASEMENT	12598.103	25369.834	37965.937	3225.994	5097.616	15825.097	30467.450	46293.547
SERVICE AREA AT UPPER BASEMENT	2121.884	2711.935	4833.819	262.935	53.836	2384.835	2765.771	5150.610
NET AREA UNDER PARKING ON UPPER BASEMENT	13474.219	22657.899	33132.118	2967.038	5043.781	13441.258	27701.680	41142.938
E.C.S. PERMISSIBLE ON UPPER BASEMENT @ 35 SQM	299.263	647.369	946.632	84.773	144.11	384.04	791.48	1175.51
SAY =	299	647	946	84	144	384	791	1175
ECS PROVIDED ON UPPER BASEMENT	280	584	864	84	144	384	791	1175
AREA AT LOWER BASEMENT	12598.103	0.000	12598.103	3225.994	0.000	15828.097	0.000	15828.10
SERVICE AREA AT LOWER BASEMENT	2180.387	0.000	2180.387	258.848	0.000	2439.218	0.000	2439.22
NET AREA UNDER PARKING ON LOWER BASEMENT	10433.736	0.000	10433.736	2960.145	0.000	13395.881	0.000	13395.88
E.C.S. PERMISSIBLE ON LOWER BASEMENT @ 35 SQM	298.184	0.000	298.184	84.575	0.000	382.74	0.00	382.74
SAY =	298	0.000	298	84	0	383	0	383
ECS PROVIDED ON LOWER BASEMENT	279	0	279	84	0	383	0	383
AREA AT THIRD BASEMENT	0.000	0.000	0.000	3214.148	0.000	3214.148	0.000	3214.15
SERVICE AREA AT THIRD BASEMENT	0.000	0.000	0.000	269.849	0.000	269.849	0.000	269.85
NET AREA UNDER PARKING ON THIRD BASEMENT	0.000	0.000	0.000	2944.299	0.000	2944.299	0.000	2944.30
E.C.S. PERMISSIBLE ON THIRD BASEMENT @ 35 SQM	0.000	0.000	0.000	84.123	0.000	84.12	0.00	84.12
SAY =	0	0.000	0	84	0	84	0	84
ECS PROVIDED ON THIRD BASEMENT	0	0.000	0	84	0	84	0	84
TOTAL COVERED AREA IN BASEMENTS (in Sqm.)	40482.040			14771.782		65333.790		65333.79
TOTAL E.C.S. PERMISSIBLE IN BASEMENTS	1246			397				1642
TOTAL ECS PROVIDED IN BASEMENTS	1143			499				1642

GREEN AREA			Mandatory Required	Already approved PART-I	PART-II	TOTAL
	Total Maintained Green Area Required	@	15% of the total site area			17.62% of the Net site area
			15450.88 Sq.m.	7217.71	10930.42	18148.13 Sq.m.

STILTS AREA		
Total Stilt Area proposed	=	6.680%
		6880.547 Sq.m.

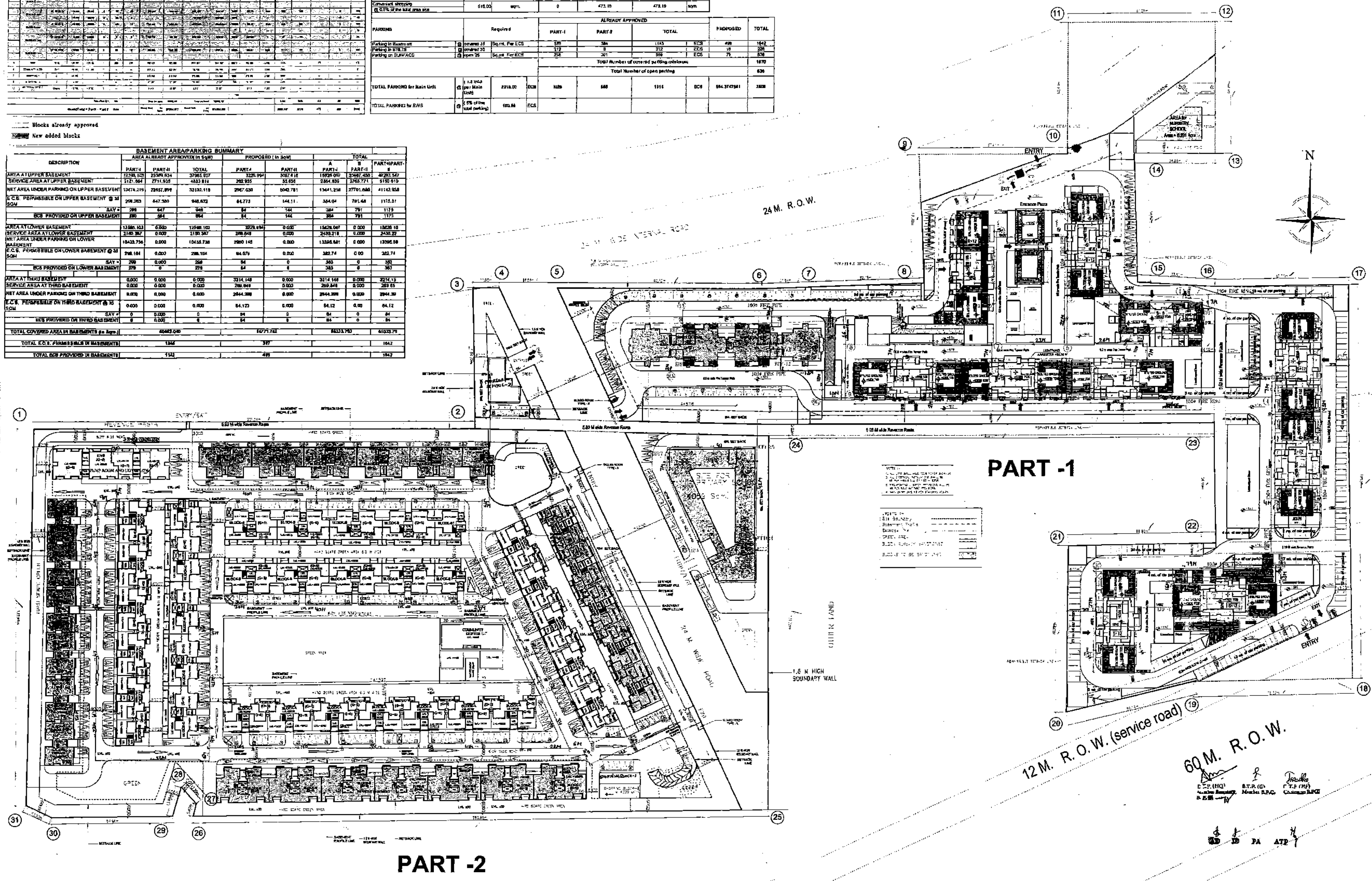
AREA STATEMENT FOR COMMUNITY CENTER -PART1	
TOTAL GROUND FLOOR AREA	344.720
TOTAL FIRST FLOOR AREA	344.[illegible]
TOTAL SECOND FLOOR AREA	344.[illegible]
TOTAL FAR Area	1033.821
TOTAL GROUND COVERAGE	344.720

AREA STATEMENT FOR COMMUNITY CENTER -PART2		
TOTAL F.A.R OF GROUND FLOOR	[illegible]	[illegible]
TOTAL F.A.R OF FIRST FLOOR	[illegible]	[illegible]
Total F.A.R =	[illegible]	[illegible]
TOTAL GROUND FLOOR COVERAGE AREA	[illegible]	[illegible]

Notes

Issues			
No.	Date	By	Description

Revisions			
No.	Date	By	Description



TOTAL NO. OF CARS IN SURFACE PARKING 30

Architects:-

Arcop Associates Pvt. Ltd.

Clients :-

M/S Active Promoters Pvt. Ltd. in collaboration with M/S Emaar MgfLand Ltd.

Executive Engineer (W) for Chief Engineer HUDA Gurgaon

Architect's Signature:

Manish Kr. Bagga, Architect
Council of Architecture
Registration No. CA/98/13098

Owners' Signature:

Director General
Town & Country Planning
Haryana Chandigarh

Job Title
Revised building Plans of Group Housing Scheme measuring 25.499 acres (Licence No. 06 of 2008 Dated 17-01-2008) in Sector-65
GURGAON, HARYANA

for Service Estimate only

Drawing Title
MASTER PLAN
(Part-I and II)
FIRE SUPPRESSION LAYOUT

Executive Engineer HUDA Division No.1 Gurgaon

Superintending Engineer HUDA Circle II, Gurgaon

Job No. 2008 / ..		Drawing No. SB_S_A01 PART - II
Drawn	Checked	
Date 25/06/2013	Scale 1:600	Revisions

D.T.P.(HQ) S.T.P.(G) C.T.P.(H)

Total site area a per licence: 25.499 acres= 103190.626 sq. m

ABSTRACT		
TOTAL SITE AREA = (for FAR calculation)	25.4559 ACRES	103005.68 sq m

PARAMETERS FOR HOUSING		PERMISSIBLE / REQUIRED	Total PART-1	Total PART-2	TOTAL (PART 1+PART 2)		ALREADY APPROVED PART-1	PART-2	TOTAL (PART 1+PART 2)		PROPOSED PART-1	PART-2	TOTAL (PART 1+PART 2)	
F.A.R.	=	175%	69.483%	103.521%	173.004%		84.689%	61.867%	128.781%		3.59%	40.660%	44.23%	
COVERED AREA	=	180,260.26 sq m	71571.818	106,632.187	178,204.180	sq m	67876.345	64,731.669	132607.91	sq m	3792.57	41900.52	45593.09	sq m
GROUND COVERAGE	=	35.00%	8.71%	18.29%	27.007%		7.56%	11.09%	18.65%		0.07	7.20%	8.44%	
	=	36,052.05 sq m	8001.130	18,903.447	27,904.577	sq m	7789.458	11,421.522	19210.92	sq m	121.63	7481.925	8653.58	sq m
No. of UNITS (Main)			692	654	1,346	Units	672	372	1044.00	Units	20.00	282.00	302.00	Units
No. of UNITS (Service Personal)		135		144	144	Units		124	124.00	Units	0.00	20.00	20.00	Units
	=	10.00% of TOTAL UNITS										0.00	0.00	
No. of UNITS (EWS)	=	237.569	0	239	239	Units	0	239	239	Units	0.00	0	0.00	Units
	=	17.65% of TOTAL UNITS												

POPULATION			Permissible		Total		ALREADY APPROVED		PROPOSED	
692	Population of Main Units -Part-	@	5	person per unit	3460	persons	3360	persons	100	persons
654	Population of Main Units -Part-	@	5	person per unit	3270	persons	1860	persons	1410	persons
144	Population of Service Personal units	@	2	person per unit	288	persons	248	persons	40	persons
239	Population of EWS units	@	2	person per unit	478	persons	478	persons	0	persons
									0	
TOTAL POPULATION					7496	persons	5946	persons	1550	persons
TOTAL DENSITY		=	100 PPA (minimum) to PPA 250 (maximum)		294.496	PPA	233.60	PPA	60.90	PPA

INFRASTRUCTURE	Required		ALREADY APPROVED PART-1	PART-2	TOTAL	
Convenient shopping @ 0.5% of the total area site	515.02	sqm	0	473.19	473.19	sqm.

PARKING		Required			ALREADY APPROVED PART-1	PART-2	TOTAL		PROPOSED	TOTAL
Parking in Basement	@	covered 35	Sq.mt. Per ECS		559	584	1143	ECS	499	1642
Parking in STILTS	@	covered 30			212	0	212	ECS	16	228
Parking on SURFACE	@	open 25	Sq.mt. Per ECS		258	301	559	ECS	79	638
Total Number of covered parking minimum										1870
Total Number of open parking										638
TOTAL PARKING for Main Unit	@	(1.5 ECS per Main Unit)	2019.00	ECS	1029	885	1914	ECS	594.3747861	2508
TOTAL PARKING for EWS	@	(5% of the total parking)	100.95	ECS						

GREEN AREA			Mandatory Required	Already approved PART-I	PART-II	TOTAL
	Total Maintained Green Area Required	@	15% of the total site area			17.62% of the Net site area
			15450.85 Sq.m.	7217.71	10930.42	18148.13 Sq.m.

STILTS AREA		
Total Stilt Area proposed	=	6.680%
		6880.547 Sq.m.

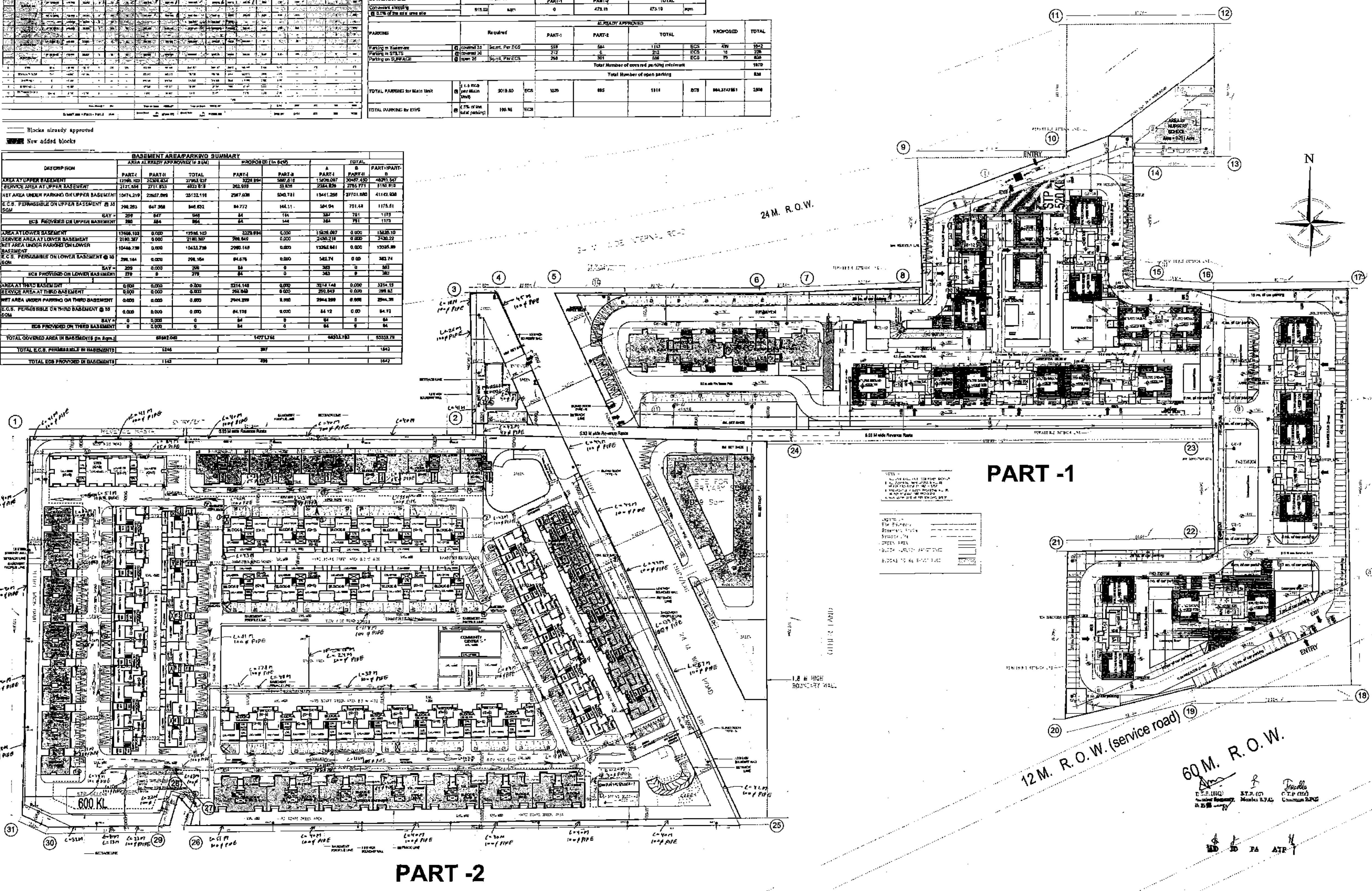
AREA STATEMENT FOR COMMUNITY CENTER -PART1	
TOTAL GROUND FLOOR AREA	344.739
TOTAL FIRST FLOOR AREA	344.499
TOTAL SECOND FLOOR AREA	344.339
TOTAL FAR Area	1033.321
TOTAL GROUND COVERAGE	344.739

AREA STATEMENT FOR COMMUNITY CENTER -PART2			
TOTAL F.A.R. OF GROUND FLOOR		380.810	SQM.
TOTAL F.A.R. OF FIRST FLOOR		385.325	SQM.
	Total F.A.R. =	[illegible]	SQM.
TOTAL GROUND FLOOR COVERAGE AREA		[illegible]	SQM.

Blocks already approved

New added blocks

BASEMENT AREA/PARKING SUMMARY								
DESCRIPTION	AREA ALREADY APPROVED (in SqM) PART-I	PART-II	TOTAL	PROPOSED (in SqM) PART-I	PART-II	TOTAL A PART-I	B PART-II	PART I/PART-II
AREA AT UPPER BASEMENT	12596.103	25369.834	37965.937	3229.894	5087.616	15826.097	30457.450	46283.547
SERVICE AREA AT UPPER BASEMENT	2121.884	2711.835	4833.619	262.955	53.835	2384.839	2765.771	5150.610
NET AREA UNDER PARKING ON UPPER BASEMENT	10474.219	22657.999	33132.116	2967.038	5043.781	13441.256	27701.680	41142.936
E.C.S. PERMISSIBLE ON UPPER BASEMENT @ 35 SQM	299.263	647.358	946.632	84.772	144.11	384.04	791.48	1175.51
SAY =	299	647	946	84	144	384	791	1175
ECS PROVIDED ON UPPER BASEMENT	280	484	864	84	144	384	791	1175
AREA AT LOWER BASEMENT	12596.103	0.000	12596.103	3229.894	0.000	15826.097	0.000	15826.10
SERVICE AREA AT LOWER BASEMENT	2180.387	0.000	2180.387	269.849	0.000	2430.218	0.000	2430.22
NET AREA UNDER PARKING ON LOWER BASEMENT	10446.739	0.000	10433.739	2960.145	0.000	13395.881	0.000	13395.88
E.C.S. PERMISSIBLE ON LOWER BASEMENT @ 35 SQM	298.164	0.000	298.164	84.576	0.000	382.74	0.00	382.74
SAY =	299	0.000	299	84	0	383	0	383
ECS PROVIDED ON LOWER BASEMENT	279	0	279	84	0	383	0	383
AREA AT THIRD BASEMENT	0.000	0.000	0.000	3214.148	0.000	3214.148	0.000	3214.15
SERVICE AREA AT THIRD BASEMENT	0.000	0.000	0.000	269.849	0.000	269.849	0.000	269.85
NET AREA UNDER PARKING ON THIRD BASEMENT	0.000	0.000	0.000	2944.299	0.000	2944.299	0.000	2944.30
E.C.S. PERMISSIBLE ON THIRD BASEMENT @ 35 SQM	0.000	0.000	0.000	84.126	0.000	84.12	0.00	84.12
SAY =	0	0.000	0	84	0	84	0	84
ECS PROVIDED ON THIRD BASEMENT	0	0.000	0	84	0	84	0	84
TOTAL COVERED AREA IN BASEMENTS (in Sqm.)	50562.040			14771.762		66333.790		55333.79
TOTAL E.C.S. PERMISSIBLE IN BASEMENTS	1246			397				1642
TOTAL ECS PROVIDED IN BASEMENTS	1143			499				1642



Notes:

Issues		
No.	Date By	Description

Revisions		
No.	Date By	Description

Legend :-

Site Boundary

Basement Profile

Setback Line

GREEN AREA

BLOCK ALREADY SANCTIONED

BLOCKS TO BE SANCTIONED

Architects:

Arcop Associates Pvt. Ltd.

Clients :-

M/S Active Promoters Pvt. Ltd. in Collaboration with M/S Emaar MgfLand Ltd.

Architect's Signature:

Manish Kr. Bagga, Architect
Council of Architecture
Registration No. CA/[illegible]

Owners' Signature:

Director General
Town & Country Planning
Haryana Chandigarh

Job Title

Revised building Plans of Group Housing Scheme measuring 25.499 acres(Licence No. 08 of 2008 Dated17-01-2008) In Sector-65 GURGAON, HARYANA

For Service Estimate only

Drawing Title

MASTER PLAN (Part-1 and II) FLU/IRR. WATER SUPPLY LAYOUT

Executive Engineer
HUDA Division No.1
Gurgaon

Superintending Engineer
HUDA Circle-II, Gurgaon

Job No.		Drawing No.
2009 /		SB_S_A01 PART - II
Drawn	Checked	
Date	Scale	Revisions
25/08/2011	1:600	

Total site area s per license: 25.499 acres= 103190.628 sq. m

[illegible]

Blocks already approved

New added blocks

ABSTRACT			
TOTAL SITE AREA = (for DB calculation)	24.4849 ACRES	=	103008.86 sq m

PARAMETERS FOR HOUSING		PERMISSIBLE / REQUIRED	Total PART-1	Total PART-II	TOTAL (PART 1+PART 2)		Already Approved PART-1	Already Approved PART-2	Already Approved TOTAL (PART 1+PART 2)		Proposed PART-1	Proposed PART-2	Proposed TOTAL (PART 1+PART 2)	
F.A.R.	=	175%	69.483%	103.521%	173.004%		44.881%	61.847%	128.751%		5.59%	40.653%	44.25%	
COVERED AREA	=	180,260.25 sq m	71571.916	106,822.187	178,394.196	sq m	67867.345	64,751.669	132621.95	sq m	3702.57	41830.83	45583.09	sq m
GROUND COVERAGE	=	35.00%	8.74%	18.35%	27.09%		7.55%	11.07%	18.83%		0.61	7.30%	8.44%	
	=	36,052.05 sq m	9001.136	18,903.447	27,904.677	sq m	7789.496	11,421.522	19211.02	sq m	1211.63	7481.903	8693.56	sq m
No. of UNITS (Main)			682	654	1,346	Units	272	372	1044.00	Units	20.00	282.00	302.00	Units
No. of UNITS (Service Personnel)		135		144	144	Units		124	124.00	Units	0.00	20.00	20.00	Units
	=	10.00% of TOTAL UNITS										0.00	0.00	
No. of UNITS (EWS)	=	237.588	0	239	239	Units	0	239	239	Units	0.00	0	0.00	Units
	=	17.65% of TOTAL UNITS												

POPULATION			Permissible		Total		ALREADY APPROVED		PROPOSED	
692	Population of Main Units -Part-	@	5	person per unit	3460	persons	3360	persons	100	persons
654	Population of Main Units -Part-	@	5	person per unit	3270	persons	1860	persons	1410	persons
144	Population of Service Personnel units	@	2	person per unit	288	persons	248	persons	40	persons
239	Population of EWS units	@	2	person per unit	478	persons	478	persons	0	persons
									0	
TOTAL POPULATION				=	7496	persons	5946	persons	1550	persons
TOTAL DENSITY		=	100 PPA (minimum) to PPA 250 (maximum)		294.400	PPA	233.50	PPA	60.90	PPA

INFRASTUCTURE	Required		Already Approved PART-1	Already Approved PART-2	Already Approved TOTAL	
Convenient shopping @ 0.5% of the total area site	515.03	sqm	0	473.19	473.19	sqm

PARKING		Required			Already Approved PART-1	Already Approved PART-2	Already Approved TOTAL		PROPOSED	TOTAL
Parking in Basement	@	covered 35	Sq.mt. Per ECS		559	584	1143	ECS	499	1642
Parking in STILTS	@	covered 30			212	0	212	ECS	16	228
Parking on SURFACE	@	open 25	Sq.mt. Per ECS		258	301	559	ECS	79	638
					Total Number of covered parking minimum					1870
					Total Number of open parking					638
TOTAL PARKING for Main Unit	@	(1.4 ECS per Main Unit)	2018.00	ECS	1029	885	1914	ECS	594.3747481	2508
TOTAL PARKING for EWS	@	(5% of the total parking)	100.91	ECS						

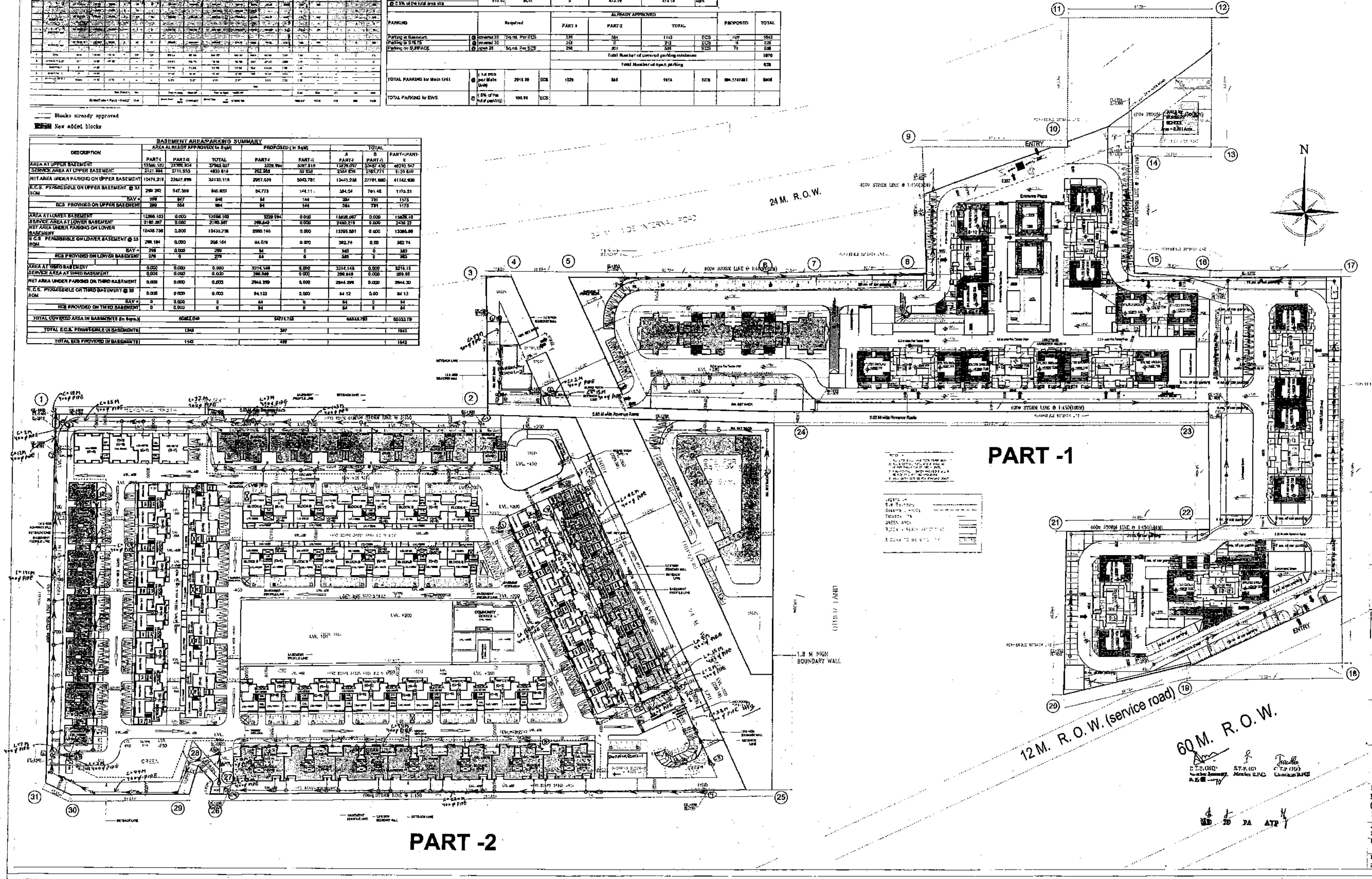
GREEN AREA			Mandatory Required	Already approved PART-I	Already approved PART-II	Already approved TOTAL
	Total Maintained Green Area Required	@	15% of the total site area			17.02% of the Net site area
			15450.88 Sq.mt.	7217.71	10330.42	14148.13 Sq.mt.

STILTS AREA		
Total Stilt Area proposed	=	6.660%
		6650.547 Sq.mt.

AREA STATEMENT FOR COMMUNITY CENTER -PART I		
TOTAL GROUND FLOOR AREA	:	344.7[illegible]
TOTAL FIRST FLOOR AREA	:	344.[illegible]
TOTAL SECOND FLOOR AREA	:	344.[illegible]
TOTAL FAR Area	:	1033.[illegible]
TOTAL GROUND COVERAGE	:	344.7[illegible]

AREA STATEMENT FOR COMMUNITY CENTER -PART2		
TOTAL F.A.R. OF GROUND FLOOR	[illegible]	SQM.
TOTAL F.A.R. OF FIRST FLOOR	[illegible]	SQM.
Total F.A.R =	[illegible]	SQM.
TOTAL GROUND FLOOR COVERAGE AREA	[illegible]	SQM.

BASEMENT AREA/PARKING SUMMARY								
DESCRIPTION	AREA ALREADY APPROVED (in SqM) PART-I	PART-II	TOTAL	PROPOSED (in SqM) PART-I	PART-II	TOTAL A PART-I	B PART-II	PART-I+PART-II
AREA AT UPPER BASEMENT	12596.132	25368.854	37965.327	3229.994	5097.819	15826.097	30467.450	46293.547
SERVICE AREA AT UPPER BASEMENT	2121.884	2711.933	4833.819	262.955	53.638	2384.839	2765.771	5150.610
NET AREA UNDER PARKING ON UPPER BASEMENT	10474.219	22657.899	33132.118	2967.039	5043.781	13441.258	27701.680	41142.938
E.C.S. PERMISSIBLE ON UPPER BASEMENT @ 35 SQM	299.262	547.369	846.632	84.773	144.11	384.04	791.48	1175.51
SAY =	299	547	846	84	144	384	791	1175
ECS PROVIDED ON UPPER BASEMENT	280	584	864	84	144	384	791	1175
AREA AT LOWER BASEMENT	12598.103	0.000	12598.103	3229.994	0.000	15828.097	0.000	15828.10
SERVICE AREA AT LOWER BASEMENT	2160.367	0.000	2160.367	269.649	0.000	2430.216	0.000	2430.22
NET AREA UNDER PARKING ON LOWER BASEMENT	10438.736	0.000	10438.736	2960.145	0.000	13395.881	0.000	13395.88
E.C.S. PERMISSIBLE ON LOWER BASEMENT @ 35 SQM	298.164	0.000	298.164	84.576	0.000	382.74	0.00	382.74
SAY =	298	0.000	298	84	0	383	0	383
ECS PROVIDED ON LOWER BASEMENT	279	0	279	84	0	383	0	383
AREA AT THIRD BASEMENT	0.000	0.000	0.000	3214.148	0.000	3214.148	0.000	3214.15
SERVICE AREA AT THIRD BASEMENT	0.000	0.000	0.000	269.849	0.000	269.849	0.000	269.85
NET AREA UNDER PARKING ON THIRD BASEMENT	0.000	0.000	0.000	2944.299	0.000	2944.299	0.000	2944.30
E.C.S. PERMISSIBLE ON THIRD BASEMENT @ 35 SQM	0.000	0.000	0.000	84.123	0.000	84.12	0.00	84.12
SAY =	0	0.000	0	84	0	84	0	84
ECS PROVIDED ON THIRD BASEMENT	0	0.000	0	84	0	84	0	84
TOTAL COVERED AREA IN BASEMENTS (in Sqm.)	50563.040			14771.753		65333.793		65333.79
TOTAL E.C.S. PERMISSIBLE IN BASEMENTS	1345			397				1642
TOTAL ECS PROVIDED IN BASEMENTS	1143			499				1642



Architect's Signature:

Manish K. Bagga, Architect
Council of Architecture
Registration No. CA/98/18629

Owners' Signature:

Director General
Town & Country Planning
Haryana Chandigarh

Job Title
Revised building Plans of Group Housing Scheme measuring 25.490 acres (Licence No. 06 of 2008 Dated 17-01-2008) in Sector-85
GURGAON, HARYANA
For Service Estimate only

Drawing Title
MASTER PLAN
(Part-I and II)
DRAINAGE LAYOUT

Executive Engineer
HUDA Division No. 1
Gurgaon

Superintending Engineer
HUDA Circle II, Gurgaon

Job No.		Drawing No.
2009 / __		SB_S_A01
Drawn	Checked	PART - II
Date	Scale	Revisions
25/06/2011	1:600	

Total site area s per license: 25.499 acres= 103190.528 sq. m

ABSTRACT			
TOTAL SITE AREA = (as per TCP website)	25.4535 ACRES	=	103008.86 sq m

PARAMETERS FOR HOUSING		PERMISSIBLE / REQUIRED	Total PART-1	Total PART-2	TOTAL (PART-1+PART 2)		ALREADY APPROVED PART-1	PART-2	TOTAL (PART 1+PART 2)		PROPOSED PART-1	PART-2	TOTAL (PART 1+PART 2)	
F.A.R.	=	175%	69.483%	103.521%	173.004%		66.883%	62.882%	129.751%		3.99%	41.668%	44.25%	
COVERED AREA	=	180,250.29 sq m	71571.918	106,832.187	178,384.105	sq m	67999.945	64,751.689	132421.81	sq m	3702.97	41888.42	45583.09	sq m
GROUND COVERAGE	=	35.00%	8.74%	18.54%	27.090%		7.56%	11.08%	18.63%		0.41	7.283%	8.44%	
	=	36,022.05 sq m	9001.130	15,903.447	27,904.577	sq m	7789.498	11,421.522	19211.02	sq m	1311.63	7481.925	8693.56	sq m
No of UNITS (Main)			692	654	1,346	Units	672	372	1044.00	Units	20.00	282.00	302.00	Units
No of UNITS (Service Personal)		135		144	144	Units		124	124.00	Units	0.00	20.00	20.00	Units
	=	10.00% of TOTAL UNITS										0.00	0.00	
No. of UNITS (EWS)	=	237.564	0	239	239	Units	0	239	239	Units	0.00	0	0.00	Units
	=	17.65% of TOTAL UNITS												

POPULATION			Permissible		Total		ALREADY APPROVED		PROPOSED	
692	Population of Main Units -Part-I	@	5	person per unit	3460	persons	3360	persons	100	persons
654	Population of Main Units -Part-II	@	5	person per unit	3270	persons	1860	persons	1410	persons
144	Population of Service Personal units	@	2	person per unit	288	persons	248	persons	40	persons
239	Population of EWS units	@	2	person per unit	478	persons	478	persons	0	persons
									0	
TOTAL POPULATION					7496	persons	5946	persons	1550	persons
TOTAL DENSITY	=	100 PPA (minimum) to PPA 250 (maximum)			294.494	PPA	233.60	PPA	60.90	PPA

INFRASTRUCTURE	Required		ALREADY APPROVED PART-1	PART-2	TOTAL	
Convenient shopping @ 0.5% of the total area site	515.03	sqm.	0	473.19	473.19	sqm.

PARKING		Required			ALREADY APPROVED PART-1	PART-2	TOTAL		PROPOSED	TOTAL
Parking in basement	@	covered 35	Sqmt. Per ECS		559	584	1143	ECS	499	1642
Parking in STILTS	@	covered 30			212	5	217	ECS	18	228
Parking on SURFACE	@	open 25	Sqmt. Per ECS		258	301	559	ECS	79	638
					Total Number of covered parking minimum					1870
					Total Number of open parking					638
TOTAL PARKING for Main Unit	@	1.5 ECS per Main Unit	2019.00	ECS	1029	885	1914	ECS	594.3747861	2508
TOTAL PARKING for EWS	@	5% of the total parking	100.95	ECS						

GREEN AREA		Mandatory Required	Already approved PART-I	PART-II	TOTAL
Total Maintained Green Area Required	@	15% of the total site area			17.62% of the total site area
		15450.68 Sq.m.	7217.71	10930.42	18148.13 Sq.m.

STILTS AREA

Total Stilt Area proposed	=	5.060%
		5550.642 Sq.m.

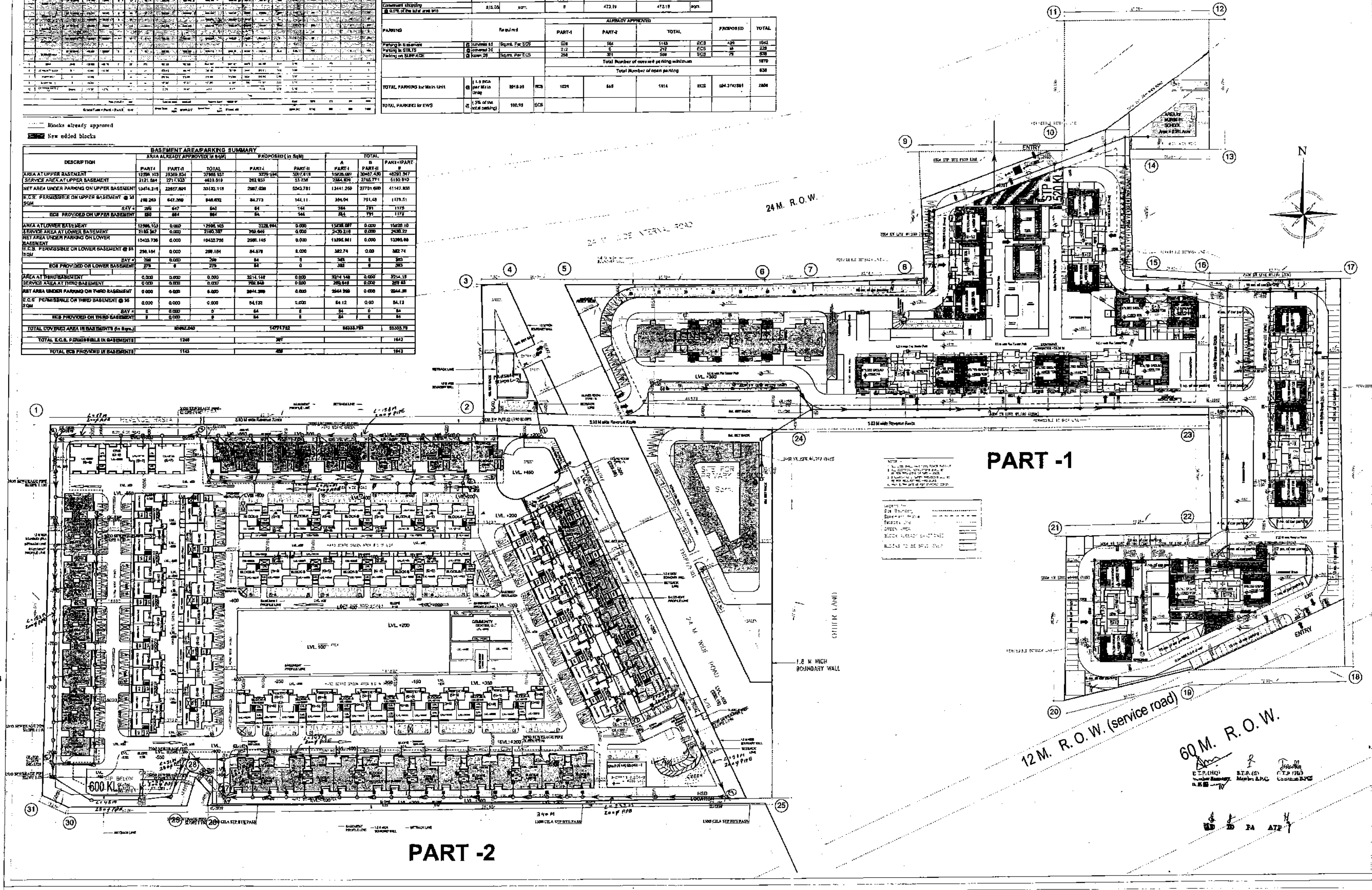
AREA STATEMENT FOR COMMUNITY CENTER -PART-I

AREA STATEMENT FOR COMMUNITY CENTER -PART-II

Blocks already approved

New added blocks

BASEMENT AREA/PARKING SUMMARY								
DESCRIPTION	AREA ALREADY APPROVED (in SqM)			PROPOSED (in SqM)		TOTAL		
	PART-I	PART-II	TOTAL	PART-I	PART-II	A PART-I	B PART-II	PART-I+PART-II
AREA AT UPPER BASEMENT	12598.103	25369.834	37965.932	3229.984	5087.615	15828.087	30457.450	46283.547
SERVICE AREA AT UPPER BASEMENT	2121.884	2711.935	4833.519	262.955	53.836	2384.839	2765.771	5150.610
NET AREA UNDER PARKING ON UPPER BASEMENT	10474.219	22657.899	33132.118	2967.029	5043.781	13441.250	27701.680	41142.930
E.C.S. PERMISSIBLE ON UPPER BASEMENT @ 35 SQM	299.263	647.369	946.632	84.773	144.11	384.04	791.48	1175.51
SAY =	299	647	946	84	144	384	791	1175
ECS PROVIDED ON UPPER BASEMENT	280	584	864	84	144	384	791	1175
AREA AT LOWER BASEMENT	12598.103	0.000	12598.103	3229.984	0.000	15828.087	0.000	15828.10
SERVICE AREA AT LOWER BASEMENT	2160.367	0.000	2160.367	269.845	0.000	2430.218	0.000	2430.22
NET AREA UNDER PARKING ON LOWER BASEMENT	10433.736	0.000	10433.736	2960.145	0.000	13395.881	0.000	13395.88
E.C.S. PERMISSIBLE ON LOWER BASEMENT @ 35 SQM	298.164	0.000	298.164	84.578	0.000	382.74	0.00	382.74
SAY =	298	0.000	298	84	0	383	0	383
ECS PROVIDED ON LOWER BASEMENT	279	0	279	84	0	383	0	383
AREA AT THIRD BASEMENT	0.000	0.000	0.000	3214.148	0.000	3214.148	0.000	3214.15
SERVICE AREA AT THIRD BASEMENT	0.000	0.000	0.000	269.849	0.000	269.849	0.000	269.85
NET AREA UNDER PARKING ON THIRD BASEMENT	0.000	0.000	0.000	2944.299	0.000	2944.299	0.000	2944.30
E.C.S. PERMISSIBLE ON THIRD BASEMENT @ 35 SQM	0.000	0.000	0.000	84.123	0.000	84.12	0.00	84.12
SAY =	0	0.000	0	84	0	84	0	84
ECS PROVIDED ON THIRD BASEMENT	0	0.000	0	84	0	84	0	84
TOTAL COVERED AREA IN BASEMENTS (in Sqm.)	50562.040			14771.732		65333.763		65333.76
TOTAL E.C.S. PERMISSIBLE IN BASEMENTS	1245			397				1642
TOTAL ECS PROVIDED IN BASEMENTS	1143			499				1642



Notes:

Issues		
No.	Date By	Description

Revisions		
No.	Date By	Description

Architects: Arcop Associates Pvt. Ltd.

Clients: M/S Active Promoters Pvt. Ltd. in collaboration with M/S Emaar Mgf Land Ltd.

Architect's Signature:

Manish Kr. Bagga, Architect, Council of Architecture, Registration No. CA/95/18528

Owners' Signature:

Director General, Town & Country Planning, Haryana Chandigarh

Job Title
Revised building Plans of Group Housing Scheme measuring 25.499 acres (Licence No. 03 of 2008 Dated 17-01-2008) in Sector-65 GURGAON, HARYANA
For Service Estimate only

Drawing Title
MASTER PLAN
(Part-I and II)
SEWERAGE LAYOUT

Executive Engineer HUDA Division No.1 Gurgaon

Superintending Engineer HUDA Circle-II, Gurgaon

Job No.		Drawing No.
2009 / ..		SB_S_A01 PART - II
Drawn	Checked	Revisions
Date 25/06/2011	Scale 1:600	

Total site area a per license: 25.499 acres= 103190.820 sq. m

ABSTRACT			
TOTAL SITE AREA = (for FAR calculation)	25.4538 ACRES	=	103006.86 sq m

PARAMETERS FOR HOUSING		PERMISSIBLE / REQUIRED	Total PART-1	Total PART-2	TOTAL (PART 1+PART 2)		ALREADY APPROVED PART-1	ALREADY APPROVED PART-2	TOTAL (PART 1+PART 2)		PROPOSED PART-1	PROPOSED PART-2	TOTAL (PART 1+PART 2)	
F.A.R.	=	174%	68.443%	104.835%	173.004%		84.869%	32.882%	128.751%		3.59%	40.448%	44.25%	
COVERED AREA	=	180,260.29 sq m	71571.918	108,632.187	178,204.105	sq m	87862.345	64,751.589	132621.01	sq m	3702.77	41880.83	45583.60	sq m
GROUND COVERAGE	=	35.00%	8.74%	18.35%	27.090%		7.56%	11.09%	18.65%		0.61	7.282%	8.44%	
	=	36,052.00 sq m	9001.130	18,903.447	27,904.577	sq m	7789.496	11,421.532	19211.02	sq m	1211.63	7481.928	8693.56	sq m
No. of UNITS (Main)			692	654	1,346	Units	572	372	1044.00	Units	120.00	282.00	302.00	Units
No. of UNITS (Service Personal)		135		144	144	Units		124	124.00	Units	0.00	20.00	20.00	Units
	=	10.00% of TOTAL UNITS										0.00	0.00	
No. of UNITS (EWS)	=	237.559	0	239	239	Units	0	239	239	Units	0.00	0	0.00	Units
	=	17.65% of TOTAL UNITS												

POPULATION			Permissible		Total		ALREADY APPROVED		PROPOSED	
692	Population of Main Units -Part-1	@	5	person per unit	3460	persons	3360	persons	100	persons
654	Population of Main Units -Part-2	@	5	person per unit	3270	persons	1860	persons	1410	persons
144	Population of Service Personal units	@	2	person per unit	288	persons	248	persons	40	persons
239	Population of EWS units	@	2	person per unit	478	persons	478	persons	0	persons
									0	
TOTAL POPULATION				=	7496	persons	5946	persons	1550	persons
TOTAL DENSITY		=	100 PPA (minimum) to PPA 250 (maximum)		294.498	PPA	233.60	PPA	60.90	PPA

INFRASTUCTURE	Required		ALREADY APPROVED PART-1	PART-2	TOTAL	
Convenient shopping @ 0.5% of the total area site	515.00	sqm.	0	473.19	473.19	sqm.

PARKING		Required			ALREADY APPROVED PART-1	PART-2	TOTAL		PROPOSED	TOTAL
Parking in Basement	@	covered 35	Sq.mt. Per ECS		559	584	1143	ECS	499	1642
Parking in STILTS	@	covered 30			212	0	212	ECS	16	228
Parking on SURFACE	@	open 25	Sq.mt. Per ECS		158	391	559	ECS	79	638
					Total Number of covered parking minimum					1870
					Total Number of open parking					638
TOTAL PARKING for Main Unit	@	(1.5 ECS per Main Unit)	2319.00	ECS	1029	885	1914	ECS	594.3747581	2508
TOTAL PARKING for EWS	@	(5% of the total parking)	120.18	ECS						

GREEN AREA			Mandatory Required	Already approved PART-I	PART-II	TOTAL
	Total Maintained Green Area Required	@	15% of the total site area			17.67% of the Net site area
			15450.38 Sq.mt.	7217.71	10930.42	18148.13 Sq.mt.

STILTS AREA		
Total Stilt Area proposed	=	5.66%
		5830.547 Sq.mt.

AREA STATEMENT FOR COMMUNITY CENTER -PART1	
TOTAL GROUND FLOOR AREA	344.720
TOTAL FIRST FLOOR AREA	344.400
TOTAL SECOND FLOOR AREA	344.400
TOTAL FAR Area	1033.520
TOTAL GROUND COVERAGE	344.720

AREA STATEMENT FOR COMMUNITY CENTER -PART2

TOTAL F.A.R OF GROUND FLOOR

TOTAL F.A.R OF FIRST FLOOR

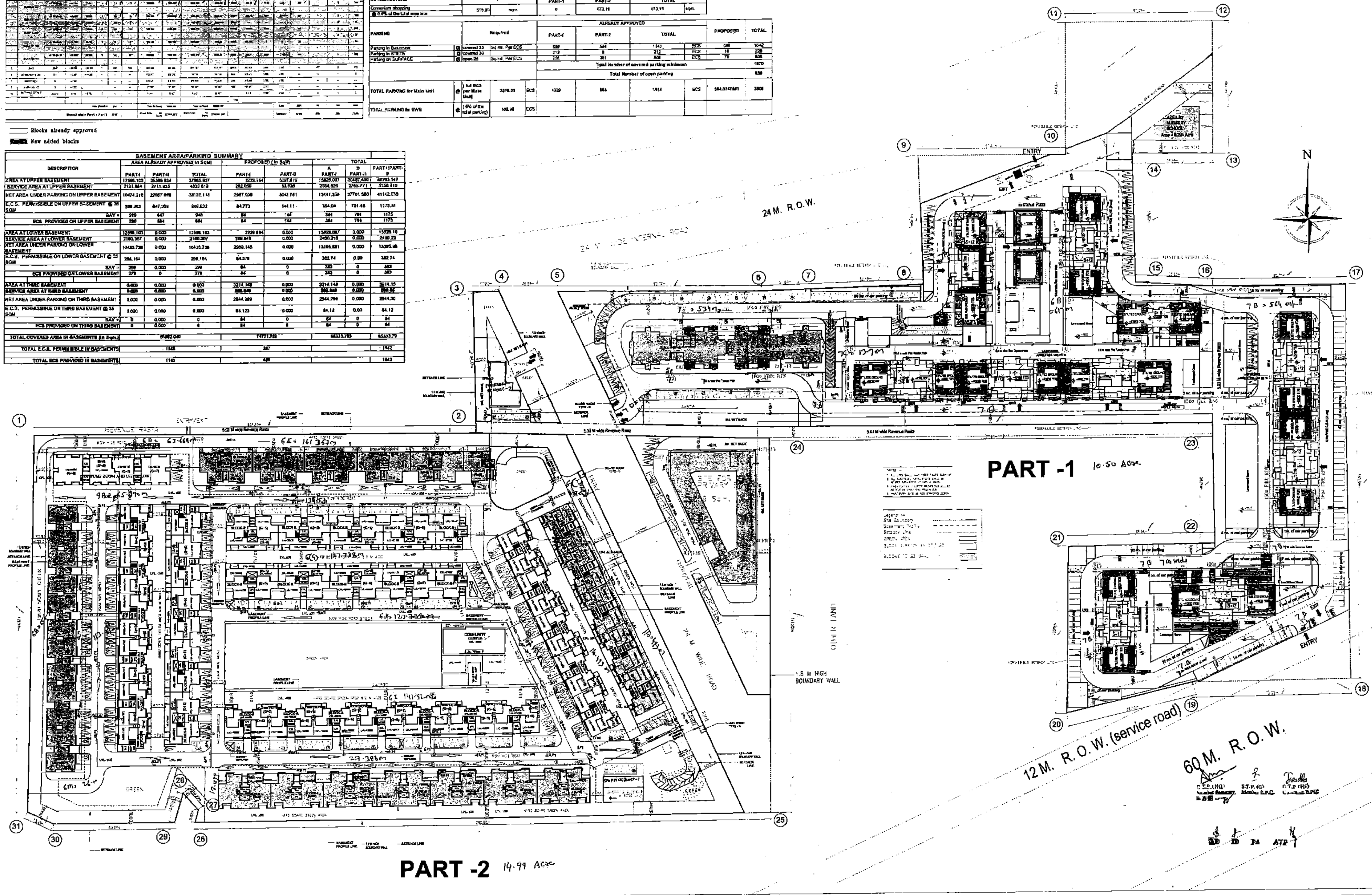
TOTAL GROUND FLOOR COVERAGE AREA

[illegible]

Blocks already approved

New added blocks

BASEMENT AREA/PARKING SUMMARY								
DESCRIPTION	AREA ALREADY APPROVED (in Sqm) PART-I	PART-II	TOTAL	PROPOSED (In Sqm) PART-I	PART-II	TOTAL A PART-I	B PART-II	PART I (PART-II)
AREA AT UPPER BASEMENT	12596.103	25389.834	37985.937	3229.994	5097.616	15826.097	30487.450	46293.547
SERVICE AREA AT UPPER BASEMENT	2121.884	2711.835	4833.619	262.955	53.936	2384.829	2765.771	5150.610
NET AREA UNDER PARKING ON UPPER BASEMENT	10474.219	22657.899	33132.118	2967.039	5043.761	13441.258	27701.660	41142.938
E.C.S. PERMISSIBLE ON UPPER BASEMENT @ 35 SQM	299.263	647.369	946.632	84.773	144.11	384.04	791.48	1175.51
SAY =	299	647	946	84	144	384	791	1175
ECS PROVIDED ON UPPER BASEMENT	280	584	864	84	144	384	791	1175
AREA AT LOWER BASEMENT	12598.103	0.000	12598.103	3229.994	0.000	15828.097	0.000	15828.10
SERVICE AREA AT LOWER BASEMENT	2160.367	0.000	2160.367	269.849	0.000	2430.216	0.000	2430.22
NET AREA UNDER PARKING ON LOWER BASEMENT	10435.736	0.000	10435.736	2960.145	0.000	13395.881	0.000	13395.88
E.C.S. PERMISSIBLE ON LOWER BASEMENT @ 35 SQM	298.164	0.000	298.164	84.578	0.000	382.74	0.00	382.74
SAY =	299	0.000	299	84	0	383	0	383
ECS PROVIDED ON LOWER BASEMENT	279	0	279	84	0	383	0	383
AREA AT THIRD BASEMENT	0.000	0.000	0.000	3214.149	0.000	3214.149	0.000	3214.15
SERVICE AREA AT THIRD BASEMENT	0.000	0.000	0.000	269.849	0.000	269.849	0.000	269.85
NET AREA UNDER PARKING ON THIRD BASEMENT	0.000	0.000	0.000	2944.299	0.000	2944.299	0.000	2944.30
E.C.S. PERMISSIBLE ON THIRD BASEMENT @ 35 SQM	0.000	0.000	0.000	84.123	0.000	84.12	0.00	84.12
SAY =	0	0.000	0	84	0	84	0	84
ECS PROVIDED ON THIRD BASEMENT	0	0.000	0	84	0	84	0	84
TOTAL COVERED AREA IN BASEMENTS (In Sqm.)	50582.040			14771.750		65333.785		65333.79
TOTAL E.C.S. PERMISSIBLE IN BASEMENTS	1245			397				1642
TOTAL ECS PROVIDED IN BASEMENTS	1143			499				1642



Notes:

No.	Date	By	Description

Issues

No.	Date	By	Description

Revisions

Architects:

Arcop Associates Pvt. Ltd.

Clients :-

M/S Active Promotors Pvt. Ltd. in collaboration with M/S Emaar MgfLand Ltd.

Architect's Signature:

Manish Kr. Bagga, Architect
Council of Architecture
Registration No. CA/95/18880

Owners' Signature:

Director General
Town & Country Planning
Haryana Chandigarh

Job Title
Revised building Plans of Group Housing Scheme measuring 25.499 acres (Licence No. 06 of 2008 Dated 17-01-2008) in Sector-65 GURGAON, HARYANA
For Service Estimate only

Drawing Title
MASTER PLAN
(Part-I and II)
LAYOUT
Roads

Executive Engineer
HUDA Division No.1
Gurgaon

Superintending Engineer
HUDA Circle II, Gurgaon

Job No.		Drawing
2008 / –		SB_S_A01 PART – II
Drawn	Checked	
Date	Scale	Revisions
25/06/2011	1:600	