

Estimate For Providing Internal Development Works in Group Housing Scheme Measuring 8.32 Acres In Sector 2, Paras Quartier at Gwal Pahari, Gurgaon , Haryana Developed By M/S FANTASY BUILDWELL PVT LTD.

REPORT

Gurgaon town of Haryana State is situated on Delhi – Jaipur National highway No.8 at a distance of 2 kms for Delhi. Being in the national capital region, the town has fast developing tendency and potential. Further, it has also started sharing the growing Industrial load of Delhi. In order to relieve the growing pressure of population in national capital of Delhi, Haryana Urban Development Authority has already developed residential sector which are fully inhabited to an extend. Further to the increasing demand HUDA has planned to develop new sectors at outskirts of Gurgaon town. This report and estimate is for approval of 8.32 acres Group Housing scheme of SEC 2 Gurgaon.

WATER SUPPLY

At present the source of water supply in this area is bore well. As the underground water is potable, provision for three numbers of bore wells 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 pumped to O.H. tanks on the roof of the buildings. The water supply system has been designed as per the Hazen William formula.

DESIGN

The scheme has been designed for population considering five persons for each main dwelling. The rate of water supply per head/day has been taken as 172.5 liters per head per day.

PUMPING EQUIPMENTS

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

SEWERAGE SCHEME

Sewer lines from proposed development will be connected to proposed master sewer on sector dividing road. 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 75% of the domestic water supply shall find its way into the proposed sewer. Sewer lines shall be laid to a gradient maintaining minimum 2.5 ft/sec self cleaning velocity. Sewer line upto 400 mm dia has been designed to run half full. However, in the present case, the maximum dia works out to 250 dia and at 1 in 195 Creating Velocity of 2.5 ft./Sec for 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 for the design of sewerage system.

STORM WATER DRAINAGE

We propose to lay under ground R.C.C. pipe drains with required number of catch basins, manholes and rainwater harvesting pits / wells. Over flow of storm water will be connected 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

Cost of road has been taken in the estimate.

Street Lighting

Provision for lighting on surrounding area has been made.

Horticulture

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

Rates

The estimate has been based on the present market rates.

Cost

The total cost of the schemes, including cost of all services works out to be Rs. ^{994.90}1008.81 Lacs including 3% contingencies and 49% departmental charges which includes Price Escalation & Deptt. Charges, *unforseen*

Admn.

For Fantasy Buildwell Private Limited

For _____

[Signature]
Authorised Signatory

Authorized signatory



AREA STATEMENT
South Side + North Side

- a) Site Area
 Licensed Area = 10.096875 Acres
 Area of site as per Zoning = 8.317375 Acres or (33659.169 sqm)
- b) FAR
 Permissible FAR@175% = 58903.546 sqm
 Proposed FAR = 58033.368 sqm (172.414 %)
- c) Ground Coverage
 Permissible Ground Coverage@35% = 8414.792 sqm
 Proposed Ground Coverage = 3515.093 sqm
 (10.443 %)
- d) Convenient Shopping
 Permissible Area of Convenient Shopping @0.5% = 168.296 sqm
 Proposed Area of Convenient Shopping = 157.314 sqm (0.467 %)

Permissible density = 100 to 112.65 PPA
Proposed density = 100.27 PPA

f) Public Amenities

Required EWS Units = 15% of Total Units(Main + EWS)
= $15 \times 177 / 100 = 26.5$ nos

Proposed EWS Units = 27 Nos. or $27 \times 100 / 177 = 15.27\%$

Required Servant Rooms = 10% of Main Units = $10 \times 150 / 100 = 15$ Nos.

Proposed Servant Rooms = 15 Nos. or $15 \times 100 / 150 = 15\%$

POPULATION CALCULATION

Main Units	= 150 X 5	= 750 persons
EWS	= 27 X 2	= 54 persons.
Servants	= 15 X 2	= 30 persons
Total		= 834 persons

TOT – LOT and Green Area Required = 5048.875 sqm. =15% of the plot.

TOT - LOT and Green Area Provided = 7338.455 sqm =16.385% of the plot

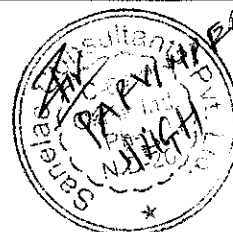


PROJECT: PROPOSED PARAS QUARTIER AT GWAL PAHARI, GURGAON							
1	DETAILS FOR DAILY WATER CONSUMPTION						
I	Domestic Water Demand						
S. No.	Tower	Floor	Units	Service Quarter	Population 5 person@ main units SEWS , 2 person for EWS @Service Quarter	Water Requirement 172.5 ltr/day @ person	Unit / Remark
	Plot No. 1						
1	Block 1A (H)	G+31	31		155	26737.5	
2	Block 1A (H)	G+7	7		35	6037.5	
3	Plot No. 3 Block 3A	G+43	84		420	72450	
4	Plot No. 4 Block 4A	G+14	28		140	24150	
5	Plot No. 5 Block 5A EWS	G+2	27	5 Person	135 135 54	23287.5 9315	232.87.50
6	Service Quarter (15Nos.)	with Plot No. 4	15		30	5175	
7	Plot No. 2 Block 2A Community Center Floating Population				1015	15225	@15 Liters/Day/ Person
8	Plot No. 2 Block 2A Community Center Staff Population				102	4590	@45 Liters/Day/ Person
9	Plot No. 1 Convenient Shopping Floating Population				53	795	@15 Liters/Day/ Person
10	Convenient Shopping Shop Owner, Service & Maintenance Staffs				6	270	@45 Liters/Day/ Person
					2010	178717.50 164745	
	G. Total		177		2091 2091	478717.5	
Total Domestic/Flushing Water per day Demand						479 165 178.72	
			Say		KL	479 165	A
						180	
II	Horticultural Water requirement (Organized Green)						
	7338.46 (1.84 acre) @ 25 kl/acre/per day					46 KL	
					Say (KL)	46	B
III	Fire Demand as per NBC/Fire Authority Recom.					1200	C



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	Total water demand (except fire) A +B	225	KL
		226	
2	Type of water & type of source		
I	Portable water demand/day (From borewell/HUDA) 70%	126	KL
II	Flushing water demand /day (From STP)	39-53-54	KL
III	Horticulture (From STP)	46	KL
3	HUDA Main water supply		
a	Required Fresh water per day	126	KL
b	Supply duration	24	Hrs
c	Line flow rate	0.0875	(Cum/Min)
d	Proposed line dia	80(with automatic flow control meter)	mm
e	Flow velocity	1.25	(M/sec)
f	Friction Head loss/1000m	6.69	Mtr.
g	Length of line	100	Mtr.
h	Total head loss	0.669	Mtr.
4	Bore Well Calculation		
a	Yield pre Bore well app.	167	KL/Hr
b	Operation Bore well per day	8	Hrs
c	Required Fresh water per day	180 126	KL
d	Required number of Bore well	1.60 1.05 1.13	Nos.
e	Add 10% as standby	0.16 0.105 0.11	Nos.
f	Total number of bore well	1.76 1.155 1.24	Nos.
	Say	2	Nos.
5	Pumping Machinery for Bore Well		
a	Gross working head	60	Mtr
b	Average Fall in S.L.	5	Mtr
c	Depression head loss	5	Mtr
d	Friction loss in main	10	Mtr
e	Total head required	80	Mtr
f	Power required $\frac{10000 \times 80}{60 \times 60 \times 75 \times 0.65}$ (Efficiency)	6.91 6.83	HP
	Say	7.5	HP
6	Total U.G. Fire Storage as based on NBC		
i	Fire Water Tank	400	KL
ii	Total U.G. Storage as based one day (DOM) requirement	180 479-165	KL
	TOTAL OVER HEAD STORAGE AS BASED HALF DAY	80.5	KL
		82.50 90.00	



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	Therefore it is proposed to construct under ground tank of		
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7	PUMPS FOR FIRE PROTECTION				
S. No.	PUMPS DESCRIPTION	LOCATION	NOS.	DISCHARGE D (LPM)	HEAD IN Mtr.
	Block 1A				
i	Sprinkler Pump	Pump Room	1	2850	80
			1		190
ii	Hydrant Pump	Pump Room	1	2850	80
			1		190
iii	Jocky Pump	Pump Room	1	180	80
			1		190
vi	Diesel Pump	Pump Room	1	4500	80
			1		190
	Block 2A & 3A				
i	Sprinkler Pump	Pump Room	1	2850	80
			1		230
ii	Hydrant Pump	Pump Room	1	2850	80
			1		230
iii	Jocky Pump	Pump Room	1	180	80
			1		230
vi	Diesel Pump	Pump Room	1	4500	80
			1		230
	Block 5A				
i	Sprinkler Pump	Pump Room	1	2850	110
ii	Hydrant Pump	Pump Room	1	2850	110
iii	Jocky Pump	Pump Room	1	180	110
			1		110
vi	Diesel Pump	Pump Room	1	4500	110
8	PUMPS FOR DOMESTIC WATER SUPPLY FOR BLOCK-1A Plot No. 1				
I	Potable Water	32.775 Ltrs @	70%.		22.94 KL
li	Pumping duration per day			2.87 KWH or	8
lii	Suction lift			47.79 LPM	0
lv	Clear Head required				139
V	Residual Head			Say 50 Lpm	5
Vi	Friction head loss				10
vii	Total head required			50 X 154	154
viii	Power required (LPM x			6 x 75 X 0.60	2.542.
		Say		HP	3.0
	It is proposed for domestic water transfer pump (1w+1s) with capacity 50 Lpm 48-				

4 3 HP.



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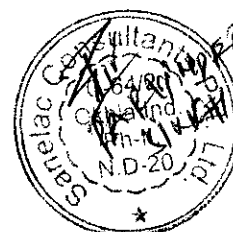
9	PUMPS FOR DOMESTIC WATER SUPPLY FOR BLOCK-5A Plot No. 5 (EWS)			
i	Potable Water		23287.50 @ 70%	16.3 KL 20KL
ii	Pumping duration per day			8
iii	Suction lift		2.04 KLH or	0
iv	Clear Head required		33.96 LPM	22
v	Residual Head		Say 50 LPM	5
vi	Friction head loss			3
vii	Total head required		50 X 30	30
viii	Power required (LPM x		60 X 75 X 0.60	0.348 0.56
		Say	HP 1 HP	0.5
It is proposed for domestic water transfer pump (1w+1s) with capacity				1 HV -34
10	PUMPS FOR DOMESTIC WATER SUPPLY FOR BLOCK-2A & 3A Plot No. 2 & 3			
i	Potable Water		93060 LPM @ 70%	64.58 65.14 KL
ii	Pumping duration per day			8 Say 70 KL
iii	Suction lift		8.14 KLH or	0
iv	Clear Head required		135.70 LPM	189
v	Residual Head		Say 150 LPM	5
vi	Friction head loss			15
vii	Total head required			209
viii	Power required (LPM x head (m)/4500x0.65 (effi.)		150 X 209 60 X 75 X 0.60 =	11.61 9.64 12.50
		Say	HP	40.0
It is proposed for domestic water transfer pump (1w+1s) with capacity				135
11	PUMPS FOR FLUSHING WATER SUPPLY FOR BLOCK-1A, 2A, 3A & 5A Plot No. 1, 2, 3 & 5			
i	Flushing Water		149122.50 @ 30%	44.74 46.37 KL
ii	Pumping duration per day			8 Say 50 KL
iii	Suction lift		5.59 KLH	0
iv	Clear Head required		93.20 LPM	189
v	Residual Head		Say 100 LPM	5
vi	Friction head loss			15
vii	Total head required			209
viii	Power required (LPM x		100 X 209 60 X 75 X 0.60 =	7.74 6.93
		Say	HP	7.0
It is proposed for domestic water transfer pump (1w+1s) with capacity				10.97 HP



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12	PUMPS FOR DOMESTIC WATER SUPPLY FOR BLOCK-4A Plot No. 4				
i	Potable Water			29325 Ltr @ 70%	20.53 u
ii	Pumping duration per day			or 42.77 LPM	16.9
iii	Suction lift			Say 8 LPM	8
iv	Clear Head required				0
v	Residual Head				72
vi	Friction head loss			50 x 87	5
vii	Total head required			60 x 75 x 0.6	10
viii	Power required (LPM x				87
		Say		HP	1.61 4.04
					2.11 1.00
It is proposed for domestic water transfer pump (1w+1s) with capacity					25.2-
13	PUMPS FOR FLUSHING WATER SUPPLY FOR BLOCK-4A Plot No. 4				
i	Flushing Water			29325 Ltr @ 30%	7.25-
ii	Pumping duration per day			1.10 KLH	8
iii	Suction lift			or 18.33 LPM	0
iv	Clear Head required			Say 25 LPM	72
v	Residual Head				5
vi	Friction head loss			25 x 87	10
vii	Total head required			60 x 75 x 0.6	87
viii	Power required (LPM x				0.45
		Say		HP	0.80 0.50
					1 HP
It is proposed for domestic water transfer pump (1w+1s) with capacity					15.104
14	CAPACITY OF DG SET				
	Equipment Description	Nos.	Each Power cons (H)	Total power cons (HP)	
i	Bore Well	42	7.5	30 15	
ii	Fire Jockey Pump	5	10	50	
iii	Domestic Water Trans	(1w+1s)	3.0	3	
iv	Domestic Water Trans	(1w+1s)	10.0 12.50	10 12.50	
v	Domestic Water Trans	(1w+1s)	0.50 1.00	0.5 1.00	
vi	Flushing Water Trans	(1w+1s)	7.0 10.0	7 10.0	
vii	Domestic Water Trans	(1w+1s)	1 2.0	1 2.0	
viii	Flushing Water Trans	(1w+1s)	0.5 1.0	0.5 1.0	
		Say		102 94.50	HP
				76.092 70.497	KW
				95.115 105.75	KVA
				95 730.75	KVA

Say 130 KVA



SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON

SUB WORK NO.1

**Water Supply &
Fire Fighting**

			Amount in Rs. Lakhs	
1.	Sub Head No. 01	Head Works	91.10 99.33	-85.60 Lcr
2.	Sub Head No. 02	Pumping Machinery	131.00 117.10	+153.00 Lcr
3.	Sub Head No. 03	Rising Main +Distribution	17.88 20.76	-24.70 Lcr
4.	Sub Head No. 04	Fire Rising Main	26.48 40.16	-25.66 Lcr
5.	Sub Head No. 05	Irrigation	10.77 9.80	-11.20 Lcr
		Total	277.23 287.15 Lakhs	300.16 Lcr
		Add 3% contingencies & PC Charges	8.32 8.62	9.00 Lcr
		Total	285.55 295.77	309.16 Lcr
		Add 49% Departmental charges, prices escalation unforeseen, Admin	139.92 144.93	+151.49 Lcr
		Total	425.47 432.08 Lakhs	460.65 Lcr
		Say in Lakhs	432.08 Lakhs	460.65 Lcr

(C.O. to final Abstract of cost)



SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON

Sub Work No. 1
 Sub Head No. 01

Water Supply & Head Works
Amount in Rs.

1. Boring and installing tubewell with reverse rotary rig complete with pipe and strainer to a depth of about 100 metre in all respect. Including providing & fixing 200 mm dia V - wise section of stainless steel of --- make blind pipe (For Part-I).
~~2~~ Nos. @ Rs. ~~3,00,000~~ Rs. ~~20,00,000~~ ^{10,00,000/-} 14.00 Lacs
 2. Provision for rising mains, connecting borewells with water main and bypass arrangements for T.W. scheme.
 a) ¹⁰⁰ 80 mm dia ⁴²⁵ ~~300~~ m @ Rs. 1200/- ^{p.mtr.} Rs. ~~2,40,000/-~~ ^{3,60,000/-} 5.10 Lacs
 b) ¹⁵⁰ 100 mm dia ³⁰ ~~0~~ m @Rs. ¹⁵⁷⁵ ~~1650~~ / mtr Rs. 0/- 0.47 Lacs
 3. Providing tubewell submersible pumps
 Capacity 15000 lph at 80 m head, ~~2~~ Nos. @ Rs. 2,50,000 each Rs. ~~40,00,000/-~~ ^{5,00,000/-}
 4. Provision for carriage for materials and other foreseen items L.S
 Rs. 1, 00,000/-
 5. Construction of U.G. Tanks 1400 KL @ 3500 Per KL
^{200KL Dorn & 1200 KL for Fire} Rs. 49,00,000/-
 6. construction of tubewell chambers of size 1.5x1.5x1.5 m for housing tubewell ~~2~~
 Nos. @ ~~800000/-~~ ^{1.00 lac each.} Rs. ~~3,20,000/-~~ ^{2,00,000/-}
 7. Provision for diesel engine generator set each for standby arrangement for booster pump complete with gear head arrangement 1 no. ⁹⁵ ~~130~~ kVA @ Rs. ~~13,72,500/-~~ ^{14.53 lac} each ^{15,00,000/-}
- Total (For Part-I)** Rs. ~~99,32,500~~ ^{85,60,000/-} 94.10 Lacs

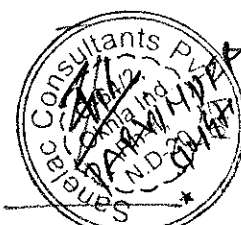
(C/O to Abstract of cost of Subwork No.1)

Say (For Part-I)

Rs. 99.33 Lakhs

85.60 lac

T.W. No. 1 to UGT. Plot No. 4	<u>100 mm</u> 175	<u>150 mm</u> —
T.W. No. 1 to Plot No. 4 to A (connecting line)	180	—
T.W. No. 2 to A	70	—
A to main UGT. in Plot No. 3	30	30m

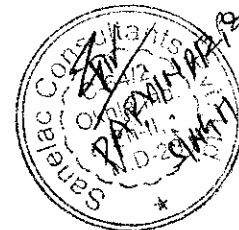


SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON

Material Statement

Sl. No.	Name of Pipe Line	Dia (MM)	Length
1.	Tubewell 1 to A	80	3 ✓
2.	A to B	80	59 ✓
3.	B to C	80	9
4.	C to D	80	5
6.	D to Fire tank	80	20
7.	Tubewell 2 to A (EWS)	80	47 ✓ 45.
8.	A to Fire tank	80	5 ✓
9.	Tubewell 3 to A (P/R No. 2 & 3)	80	60 ✓
10.	A to B	80	31 ✓
11.	B to Fire tank	80	20 ✓
12.	Tubewell 4 to A	80	10 ✓
13.	A to Fire tank	80	10 ✓

80 dia = 195M 294
Say = 200M 300M

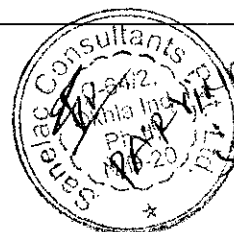


SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON

Sub Work No.1
Sub Head No.2

**Water Supply & Fire Fighting
Pumping Machinery
Amount in Rs.**

1. (i) Providing and installing electricity driven pumping set capable of delivering about
~~50~~ 48 LPM of water against a total head of 154 M complete with motor and other accessories. (For Domestic) (3.0HP) ~~2~~ ✓
~~2~~ Nos. @ Rs. 50,000/- (1Working + 1Standby) (For Plot No. 1) Rs.1,00,000/-
- (ii) Providing and installing electricity driven pumping set capable of delivering about
~~50~~ 34 LPM of water against a total head of 30 M complete with motor and other accessories (for Domestic) (0.5 HP) 2 Nos. @ Rs 40,000/-(1Working +1 Standby) (For EWS) Rs. 80,000/-
- (iii) Providing and installing electricity driven pumping set capable of delivering about
~~150~~ 135 LPM of water against a total head (Plot No. 2 & 3) of 209 M complete with motor and other accessories (for Domestic) (10 HP) ~~2~~ ✓
~~2~~ Nos. @ Rs 1,30,000/- (12.5) Rs. 2,60,000/-
- (iv) Providing and installing electricity driven pumping set capable of delivering about
~~100~~ 97 LPM of water against a total head (Plot No 1, 2, 3) of 209 m complete with motor and other accessories (for Flushing) (7.0 HP) ~~2~~ ✓
~~2~~ Nos. @ Rs. 1,10,000/- (10.5) 2.00 Lacs Rs. 2,00,000/-
- (v) Providing and installing electricity driven pumping set capable of delivering about
~~50~~ 35.2 LPM of water against a total head (Plot No. 4) of 87 M complete with motor and other accessories (for Domestic) (1 HP) ~~2~~ ✓
~~2~~ Nos. @ Rs 40,000/- 0.80 Rs. 1,60,000/-
- (vi) Providing and installing electricity driven pumping set capable of delivering about
~~25~~ 15-104 LPM of water against a total head (Plot No. 4) of 209 m complete with motor and other accessories (for Flushing) (0.5 HP) 2 Nos. @ Rs. 65,000/- 0.80 Rs. 4,30,000/-
2. Provision for diesel engine generator set each for standby head arrangement for T.W. & Booster pump complete with gear head arrangements of following capacities:-
1 No. 95 KVA (L.S.) Rs. 9,40,000/- 15,00,000/-



SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON

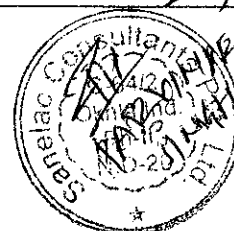
2. Providing and installing pumping set of following capacities for fire protection.
180 LPM at 80 M head 1 No. @ Rs. 1,15,000 (5 HP) Rs. 1,15,000/- 1,50,000/-
2850 LPM at 80 M head 1 Nos. @ Rs. 3,50,000/- (76 HP) Rs. 3,50,000/- 5,00,000/-
(Elect Driven) (Block-1A) 5,00,000/-
4500 LPM at 80 M head 1 No. DG Pump @ Rs. 7,00,000/- Rs. 7,00,000 10,00,000/-
10,00,000/-
3. Providing and installing pumping set of following capacities for fire protection.
180 LPM at 190 M head 1 No. @ Rs. 1,90,000 (12.5HP) 2,50,000/- Rs. 1,90,000 2,50,000/-
2850 LPM at 190 M head 1 Nos. @ Rs. 6,50,000/- (182 HP) Rs. 6,50,000 8,50,000/-
(Elect Driven) (Block-1A) 8,50,000/-
4500 LPM at 190 M head 1 No. DG Pump @ Rs. 10,00,000/- Rs. 10,00,000 12,50,000/-
12,50,000/-
4. Providing and installing pumping set of following capacities for fire protection.
180 LPM at 80 M head 1 No. @ Rs. 1,10,000 (5 HP) 1,10,000/- 1,50,000/-
2850 LPM at 80 M head 1 Nos. @ Rs. 3,50,000/- (76 HP) Rs. 3,50,000 5,00,000/-
(Elect Driven) (Block-2A & 3A) 5,00,000/-
4500 LPM at 80 M head 1 No. DG Pump @ Rs. 7,00,000/- Rs. 7,00,000 10,00,000/-
10,00,000/-
5. Providing and installing pumping set of following capacities for fire protection.
180 LPM at 230 M head 1 No. @ Rs. 3,00,000 (15HP) Rs. 2,20,000 3,00,000/-
2850 LPM at 230 M head 1 Nos. @ Rs. 8,50,000/- (221 HP) Rs. 8,50,000 10,00,000/-
(Elect Driven) (Block-2A & 3A) 10,00,000/-
4500 LPM at 230 M head 1 No. DG Pump @ Rs. 43,00,000/- Rs. 43,00,000 15,00,000/-
15,00,000/-
6. Providing and installing pumping set of following capacities for fire protection.
180 LPM at 110 M head 2 No. @ Rs. 2,00,000 (7.5 HP) Rs. 2,00,000 4,00,000/-
2850 LPM at 110 M head 1 Nos. @ Rs. 4,50,000/- (76 HP) Rs. 4,50,000 5,50,000/-
(Elect Driven) (Block-4A) 5,50,000/-
4500 LPM at 110 M head 1 No. DG Pump @ Rs. 8,00,000/- Rs. 8,00,000 10,00,000/-
10,00,000/-
7. Provision for chlorination plant complete - 2 No. @ Rs. 80000/- Rs. 2,40,000/- 2,40,000/- ✓
1,00,000/- ✓ 2,00,000/-
8. Provision for making foundations and erection of pumping machinery: (LS) Rs. 250000/- 500,000/-
9. Provision for pipes, valves and specials inside boosting chamber (LS) Rs. 450000/- 5,00,000/-
10. Provision for electric service connection including electrical fittings for tubewell and boosting chamber etc. (LS) Rs. 500000/- 10,00,000/-
(Including cost of transformer)
12. Provision for carriage of material and other unforeseen items etc (LS). Rs. 3,00,000.00 ✓

**Total
Say**

**Rs. 1,17,10,000/-
Rs. 117.10 Lakhs**

**Rs. 1,53,00,000/-
131.00 Lakhs**

Say Rs. 153.00 Lacs



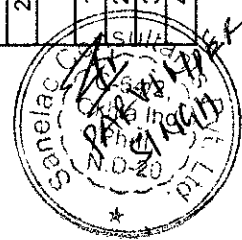
SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON

(C.O. to Abstract Cost of S.W.I.)



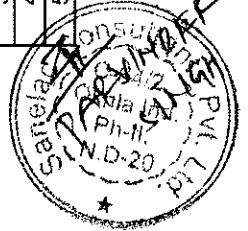
Design Statement for Flushing Water Supply

Flushing Water Supply										
Sr. No.	Nodes	SELF DEMAND	BRANCH DEMAND	TOTAL DEMAND IN LITRE	PEAK DISCHARGE @8 HRS. IN LPH	PEAK DISCHARGE @8 HRS. IN LPM	Pipe dia (in mm)	Length (in Meter)	VELOCITY	FRICTION LOSS (BAR)
Block-1A,2A,3A & 5A										
1	STP to S1	46370		46370	5796.25	96.60	65.00	8	1.5	
2	S1 to S2	9832.5		9832.5	1229.0625	20.48	25.00	73	1.5	
3	S2 to S3	9832.5		9832.5	1229.0625	20.48	25.00	13	1.5	
4	S3 to S4	8021.25		8021.25	1002.65625	16.71	25.00	7	1.5	
5	S4 to OHT1		8021.25	8021.25	1002.65625	16.71	25.00	127	1.5	
6	S3 to S5	1811.25		1811.25	226.40625	3.77	20.00	13	1.5	
7	S5 to S6	1811.25		1811.25	226.40625	3.77	20.00	16	1.5	
8	S6 to OHT2		1811.25	1811.25	226.40625	3.77	20.00	40	1.5	
9	S1 to S7	36537.5		36537.5	4567.1875	76.12	50.00	29	1.5	
10	S7 to S8	36537.5		36537.5	4567.1875	76.12	50.00	16	1.5	
11	S8 to S9	6986.25		6986.25	873.28125	14.55	20.00	5	1.5	
12	S9 to OHT3		6986.25	6986.25	873.28125	14.55	20.00	15	1.5	
13	S8 to S10	29551.25		29551.25	3693.90625	61.57	40.00	9	1.5	
14	S10 to S11	29551.25		29551.25	3693.90625	61.57	40.00	29	1.5	
15	S11 to S12	29551.25		29551.25	3693.90625	61.57	40.00	35	1.5	
16	S12 to S13	21735		21735	2716.875	45.28	40.00	26	1.5	
17	S13 to OHT4		21735	21735	2716.875	45.28	32.00	180	1.5	
18	S12 to S14	7816.25		7816.25	977.03125	16.28	25.00	56	1.5	
19	S14 to S15	7816.25		7816.25	977.03125	16.28	25.00	33	1.5	
20	S15 to S16	7816.25		7816.25	977.03125	16.28	25.00	6	1.5	
21	S16 to OHT5		7816.25	7816.25	977.03125	16.28	25.00	16	1.5	
Block-4A										
1	STP to F1	7250		7250	906.25	15.10	40.00	70	1.5	
2	F1 to F2	7250		7250	906.25	15.10	25.00	20	1.5	
3	F2 to F3	7250		7250	906.25	15.10	25.00	5	1.5	
4	F3 to OHT1		7250	7250	906.25	15.10	25.00	65	1.5	



Design Statement for Domestic Water Supply

Non-Flushing Water Supply										
Sr. No.	Nodes	SELF DEMAND	BRANCH DEMAND	TOTAL DEMAND IN LITRE	PEAK DISCHARGE @8 HRS. IN LPH	PEAK DISCHARGE @2 HRS. IN LPM	Pipe dia (in mm)	Length (in Meter)	VELOCITY	FRICTION LOSS (BAR)
Block-1A,2A,3A & 5A										
1	WTP1 to D1	22940		22940	2867.5	47.79	65.00	11	1.5	
2	D1 to D2	22940		22940	2867.5	47.79	50.00	18	1.5	
3	D2 to D3	4226.25		4226.25	528.28125	8.80	20.00	12	1.5	
4	D3 to OHT1		4226.25	4226.25	528.28125	8.80	20.00	40	1.5	
5	D2 to D4	18716.25		18716.25	2339.53125	38.99	32.00	5	1.5	
6	D4 to D5	18716.25		18716.25	2339.53125	38.99	32.00	20	1.5	
7	D5 to D6	18716.25		18716.25	2339.53125	38.99	32.00	9	1.5	
8	D6 to OHT2		18716.25	18716.25	2339.53125	38.99	32.00	127	1.5	
9	WTP2 to D7	16300		16300	2037.5	33.96	32.00	8	1.5	
10	D7 to D8	16300		16300	2037.5	33.96	32.00	24	1.5	
11	D8 to D9	16300		16300	2037.5	33.96	32.00	9	1.5	
12	D9 to OHT3		16300	16300	2037.5	33.96	32.00	15	1.5	
13	WTP3 to D10	64580		64580	8072.5	134.54	65.00	10	1.5	
14	D10 to D11	64580		64580	8072.5	134.54	65.00	12	1.5	
15	D11 to OHT4		50715	50715	6339.375	105.66	50.00	180	1.5	
16	D10 to D12	13865		13865	1733.125	28.89	32.00	27	1.5	
17	D12 to D13	13865		13865	1733.125	28.89	32.00	10	1.5	
18	D13 to D14	13865		13865	1733.125	28.89	32.00	10	1.5	
19	D14 to OHT5		13865	13865	1733.125	28.89	32.00	16	1.5	
Block-4A										
1	WTP4 to W1	20527.5		20527.5	2565.9375	42.77	50.00	63	1.5	
2	W1 to W2	20527.5		20527.5	2565.9375	42.77	32.00	9	1.5	
3	W2 to W3	20527.5		20527.5	2565.9375	42.77	32.00	11	1.5	
4	W3 to W4	20527.5		20527.5	2565.9375	42.77	32.00	11	1.5	
5	W4 to OHT1		20527.5	20527.5	2565.9375	42.77	32.00	65	1.5	



material

Design Statement for Flushing Water Supply

Flushing Water Supply			
Sr. No.	Nodes	Pipe dia (in mm)	Length (in Meter)
Block-1A,2A,3A & 5A			
1	STP to S1 A	65.00 100	29 8✓
2	S1 to S2 A to B	25.00 100	55 73✓
3	S2 to S3 B to Plot No 1	25.00 100	60 13✓
4	S3 to S4 B to C	25.00 100	30 7✓
5	S4 to OHT1 C to Comm. Plot-2	25.00 100	33 127✓
6	S3 to S5 C to bldg Plot 3	20.00 100	56 43✓
7	S5 to S6	20.00	16✓
8	S6 to OHT2	20.00	40✓
9	S1 to S7	50.00	29✓
10	S7 to S8	50.00	16✓
11	S8 to S9	20.00	5✓
12	S9 to OHT3	20.00	15✓
13	S8 to S10	40.00	9✓
14	S10 to S11	40.00	29✓
15	S11 to S12	40.00	35✓
16	S12 to S13	40.00	26✓
17	S13 to OHT4	32.00	180✓
18	S12 to S14	25.00	56✓
19	S14 to S15	25.00	33✓
20	S15 to S16	25.00	6✓
21	S16 to OHT5	25.00	16✓
Block-4A			263
1	STP to F1	100 40.00	70✓
2	F1 to F2	25.00	20✓
3	F2 to F3	25.00	5✓
4	F3 to OHT4	25.00	65✓

Total (dia)	Length (m)
20 mm	69✓
25 mm	42✓
32 mm	180✓
40 mm	169✓
50 mm	45✓
65 mm	8✓
80 mm	0
100 mm	0

70 m

$$263 + 70 = 333 \text{ m}$$



Material
Design Statement for Domestic Water Supply

Non-Flushing Water Supply			
Sr. No.	Nodes	Pipe dia (in mm)	Length (in Meter)
Block-1A,2A,3A & 5A			
1 UGT	WTP1 to D1	65.00 100	11 ✓
2	D1 to D2	50.00 100	18 ✓
3	D2 to D3	20.00 100	12 ✓
4	D3 to OHT1	20.00	40 ✓
5	D2 to D4	32.00 100	5 ✓
6	D4 to D5	32.00 100	20 ✓
7	D5 to D6	32.00 100	9 ✓
8	D6 to OHT2	32.00	127 ✓
9	WTP2 to D7	32.00 100	8 ✓ 18
10	D7 to D8	32.00 100	24 ✓ 12
11	D8 to D9	32.00 100	9 ✓ 27
12	D9 to OHT3	32.00	45 ✓
13	WTP3 to D10 UGT, Envs block	65.00 100	40 ✓ 25
14	D10 to D11	65.00 100	12 ✓
15	D11 to OHT4	50.00	180 ✓
16	D10 to D12	32.00	27 ✓
17	D12 to D13	32.00	10 ✓
18	D13 to D14	32.00	10 ✓
19	D14 to OHT5	32.00	10 ✓
Block-4A			
1	WTP4 to W1	100 50.00	63 ✓
2	W1 to W2	32.00	0 ✓
3	W2 to W3	32.00	41 ✓
4	W3 to W4	32.00	41 ✓
5	W4 to OHT1	32.00	65 ✓

Total (dia)	Length (m)
20 mm	52 ✓
25 mm	0
32 mm	376 ✓
40 mm	0
50 mm	261 ✓
65 mm	33 ✓
80 mm	0
100 mm	0

Total Length Flushing + Domestic	
Total	Length (In Meter)
15 mm	0
20 mm	141
25 mm	421
32 mm	556
40 mm	169
50 mm	306
65 mm	41
80 mm	0
100 mm	0

230

Total Dom + Flushing

$$333 + 230 = 563 \text{ m}$$



Sub Work No.1
Sub Head No. 03 Water Supply
(Distribution & Rising Main)

Water Supply Dam + Flushing
 and Rising main

- (i) Providing, laying, jointing and testing pipe lines including cost of complete in all respects 100 mm dia pipe GI pipe 0 M @ 1650/- ~~Rs.0/-~~
- (ii) Providing, Laying, jointing and testing pipe lines including cost of complete in all respects 80 mm dia pipe GI pipe 0 M @ 1200/- ~~Rs.0/-~~
- (iii) Providing, Laying, Jointing and testing pipe lines including cost of complete in all respects 65 mm dia GI pipe 41 M @ 950/- ~~Rs.38950/-~~ P/mh
- (iv) Providing, laying, jointing and testing pipe lines including cost of complete in all respects 50 mm dia pipe GI pipe 306 M @ 775/- ~~Rs.237150/-~~ P/mh
- (ii) Providing, laying, jointing and testing pipe lines including cost of complete in all respects 40 mm dia pipe GI pipe 169 M @ 600/- ~~Rs.101400/-~~ P/mh
- (iii) Providing, laying, jointing and testing pipe lines including cost of complete in all respects 32 mm dia pipe GI pipe 556 M @ 525/- ~~Rs.291900/-~~ P/mh
- (i) (iv) Providing, laying, jointing and testing pipe lines including cost of complete in all respects 25 mm dia pipe GI pipe 421 M @ 425/- ~~Rs.178925/-~~ P/mh
 100 mm @ 563 m @ 1200/-
 Sluice Valve
- (ii) (iv) Providing, laying, jointing and testing pipe lines including cost of complete in all respects 20 mm dia pipe GI pipe 141 M @ 315/- ~~Rs.44415/-~~ P/mh
 100 mm @ 25 Nos @ 1500/-
 150 mm @ 15 Nos @ 1200/-
- (vi) Providing, laying, jointing and testing pipe lines including cost of complete in all respects 15 mm dia pipe GI pipe 0 M @ 250/- ~~Rs.0/-~~
- (vii) (vii) Providing, laying, jointing and testing pipe lines including cost of complete in all respects (From HUDA supply) 50 mm dia pipe DI kg pipe 150 M @ 1200/- ~~Rs.180000/-~~ P/mh
 0.60 Lacs
- (v) 1. Providing and fixing indicating plates for sluice valve and air valves 25 Nos. @ Rs. 5000/- ~~Rs.125000/-~~ 10,000/-
 10,000/-
 0.25 Lacs
- (v) 2. Providing and fixing air release valve and scour valve 4 Nos. @ 2500 each ~~Rs.30000/-~~ 40,000/-
- (vi) 3. Provision for carriage for materials and other unforeseen items (L/S) ~~Rs.100000/-~~



SANELAC CONSULTANTS PVT. LTD

(VII) 4. Labour for making water supply connection in HUDA (line) Rs. 187000/- ~~5,00,000/-~~

(VIII) Prov. for inter connect line from under ground tank to underground tank

Total Rs. 100 mm dia = 373 m @ 1200/m

Say Rs. 20.76 Lakhs ~~24.70 Lakhs~~

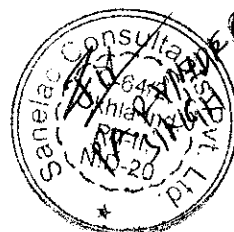
HUDA - A 150 mm dia 50 m @ 1575/m

1.00 Lac
Rs. 48000/- ~~10,00,000/-~~
Rs. 2075740/- ~~24,62,740/-~~
4.48 Lac
0.79 Lac
17.88 Lac

Material Statement	HUDA - A
Line	A - U.G. Tank
Daily domestic demand - This include half days storage capacity of O.H.T. (in KL) 179 + 89.5	268.5
Length (Mtr.)	150
Dia (MM)	(80 MM)
Friction loss in line (M) L.S.	5
Velocity (M/S)	1.5m

150 mm dia = 50 m

100 mm dia Connecting line = 100 + 188 + 55 + 30 = 373 m



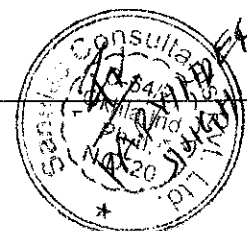
SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON

Material Statement for Fire Fighting External Block-1A

FIRE RISING MAIN		
Nodes	Pipe Dia (mm)	Length (M)
Pump Room to A	150	8 ✓
A to B	150	4 ✓
YH 01 – B	80	2.5 ✓
B – C	150	37 ✓
YH 02 to C	80	2.5 ✓
C – D	150	45 ✓
YH 03 – D	80	2.5 ✓
D – E	150	45 ✓
YH 04 – E	80	2.5 ✓
E – F	150	21 ✓
YH 05 – F	80	2.5 ✓
F – G	150	43 ✓
YH 06 – F	80	2.5 ✓
G – H	150	25 ✓
YH 07 – G	80	3 ✓
H – B	150	24 ✓
TOTAL		
80 mm Dia	18 M ✓	
150 mm Dia	252 M ✓	

Material Statement for Fire Fighting External Block-5A

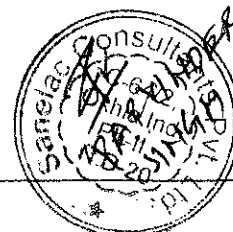
FIRE RISING MAIN		
Nodes	Pipe Dia (mm)	Length (M)
Terrace to A	150	25 ✓
A to B	150	2 ✓
YH 01 – B	80	2.5 ✓
B – C	150	30 ✓
YH 02 to C	80	2.5 ✓
C – D	150	35 ✓
YH 03 – D	80	3 ✓
D – B	150	23 ✓
TOTAL		
80 mm Dia	8 M ✓	
150 mm Dia	115 M ✓	



SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON

Material Statement for Fire Fighting External Block-2A & 3A

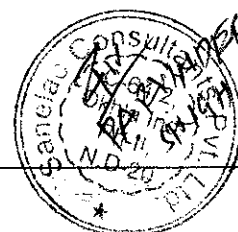
FIRE RISING MAIN		
Nodes	Pipe Dia (mm)	Length (M)
Pump Room to A	150	15 ✓
A to B	150	24 ✓
YH 01 – B	80	2.5
B – C	150	45 ✓
YH 02 to C	80	2.5
C – D	150	48
YH 03 – D	80	2.5
D – E	150	46 ✓
YH 04 – E	80	2.5
E – F	150	45 ✓
YH 05 – F	80	2.5
F – G	150	46 ✓
YH 06 – G	80	2.5
G – B	150	46 ✓
B – H	150	6 ✓
H – I	150	2 ✓
YH 07 to I	80	2.5
I – J	150	39 ✓
YH 08 – J	80	2.5
J – K	150	46 ✓
YH 09 – K	80	2.5
K – L	150	45 ✓
YH 10 – L	80	2.5
L – M	150	36 ✓
YH 11 – M	80	3
M – H	150	43 ✓
TOTAL		
80 mm Dia	28 M ✓	
150 mm Dia	532 M ✓	



SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON

Material Statement for Fire Fighting External Block-5A

FIRE RISING MAIN		
Nodes	Pipe Dia (mm)	Length (M)
Pump Room to A	150	10 ✓
A to B	150	12 ✓
B to C	150	6 ✓
YH 01 – C	80	2.5
C – D	150	45 ✓
YH 02 to D	80	2.5
D – E	150	45 ✓
YH 03 – E	80	2.5
E – F	150	45 ✓
YH 04 – F	80	2.5
F – G	150	45 ✓
YH 05 – G	80	2.5
G – H	150	45 ✓
YH 06 – H	80	2.5
H – I	150	45 ✓
YH 07 to I	80	2.5
I – J	150	45 ✓
YH 08 to J	80	2.5
J – B	150	50 ✓
TOTAL		
80 mm Dia	20 M ✓	
150 mm Dia	393 M ✓	
GRAND TOTAL		
80 mm Dia	74 M ✓	
150 mm Dia	1292 M ✓	



SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON

Sub Work No. 1
Sub Head No. 02

Fire Fighting Fire Main
Amount in Rs.

1. Providing, laying, jointing and testing M.S. pipes lines for fire rising main including cost of fittings, valves, connection etc. complete in all respect.
 - (i) 150 mm M.S. pipe line 1292m
 @ Rs. ~~2650~~ per mtr. ^{1500/-} 1575/- = Rs. ^{20.35 Lacs} ~~34,23,800/-~~ ^{19,38,000/-}
 - (ii) 80 mm i/d 74 m @ Rs. ^{1000/-} ~~1200/-~~ = Rs. ^{0.74 Lacs} ~~88,800/-~~
 2. Providing and fixing sluice valve 150 mm dia
 8 nos. @ Rs. ~~12000/-~~ each ^{15000/-} = Rs. ~~96,000/-~~ ^{1,20,000/-}
 3. Providing and fixing fire hydrant 29 Nos. @Rs.10000/- = Rs. 2,90,000/-
 2. Providing for carriage of material as other
 Unforeseen items (L.S) = Rs. 1,00,000/-
 5. Providing for indication plates 29 Nos. @Rs. ^{1000/-} ~~600/-~~ = Rs. ~~17,400/-~~ ^{29,000/-}
- Total cost of abstract of cost for Subwork No.1

Total (For Part-I) = **Rs. 40,16,000** ^{25.65,000/-}
Say (For Part-I) = **Rs. 40.16 Lakhs** ^{26.48 Lacs} **25.66 Lacs**

(C.O. to Abstract of cost in sub work no -I)

Fire Fighting External - Material Statement (For Part-I)

Sl. No.	Name of Pipe Line	Dia (MM)	Length
1.	Fire Main Ring (29 Hydrants)	150	1292
2.	Fire Hydrant 80 Dia	80	74



SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON

MATERIAL STATEMENT FOR IRRIGATION SYSTEM BLOCK- 1A,2A,3A & 4A

GARDEN HYDRANT

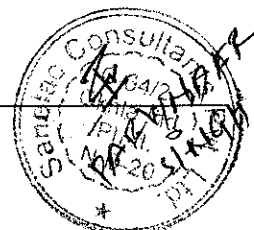
S.No.	Reference Line	Pipe Dia (in mm)	Length
1.	STP to A	65	10✓
2.	A to GH-1	65	30✓
3.	GH-1 to GH-2	65	30✓
4.	GH-2 to GH-3	65	30✓
5.	GH-3 to GH-4	65	30✓
6.	GH-4 to GH-5	65	30✓
7.	GH-5 to GH-6	65	30✓
8.	GH-6 to GH-7	65	30✓
9.	GH-7 to GH-8	65	30✓
10.	GH-8 to GH-9	65	30✓
11.	GH-9 to GH-10	65	15✓
12.	GH-10 to GH-11	65	30✓
13.	GH-11 to GH-12	65	30✓
14.	GH-12 to GH-13	65	30✓
15.	GH-13 to GH-14	65	30✓
16.	A to GH-14	65	30✓
17.	GH-14 to GH-15	65	30✓
18.	GH-15 to GH-16	65	30✓
19.	GH-16 to GH-17	65	30✓
20.	GH-17 to GH-18	65	30✓
21.	GH-18 to GH-19	65	30✓
22.	GH-19 to GH-20	65	30✓
23.	GH-20 to GH-21	65	30✓
24.	GH-21 to GH-22	65	30✓
25.	GH-22 to GH-23	65	30✓
26.	GH-23 to GH-24	65	30



SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON

27 GH-24 to G.H.25		65	30
28	GH-25 to GH-17	65	38 ✓
Total			813 M

✓



SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON

MATERIAL STATEMENT FOR IRRIGATION SYSTEM

GARDEN HYDRANT

S.No.	Reference Line	Pipe Dia (in mm)	Length
28.	STP to A	65	10 ✓
29.	A to GH-1	65	12 ✓
30.	GH-1 to GH-2	65	30 ✓
31.	GH-2 to GH-3	65	30 ✓
32.	GH-3 to GH-4	65	30 ✓
33.	GH-4 to GH-5	65	30 ✓
34.	GH-5 to GH-6	65	30 ✓
35.	GH-6 to GH-7	65	30 ✓
36.	GH-7 to GH-8	65	30 ✓
37.	GH-8 to GH-9	65	30 ✓
38.	GH-9 to GH-10	65	30 ✓
39.	GH-10 to GH-11	65	30 ✓
40.	GH-11 to A	65	30 ✓
	Total		352 M ✓

813 M

1165 M

Sub Work No. 1

Sub Head No. 05

Water Supply Irrigation/Horticulture Green

1. Providing, laying, jointing and testing UPVC pipe ^{HDPE} ~~lien~~ confirming to IS4985 including cost of excavation etc. complete in all respect.

a) 25 mm dia 35 metre @ Rs. 350/- M ✓ = Rs. 12,250.00

b) 65 mm dia ¹¹⁶⁵ ~~1125~~ metre @ Rs. 800/- M ✓ = Rs. ~~9,00,000.00~~
9,32,000/-

2. Providing and fixing 20 mm dia. Irrigation hydrant valve complete in all respect.
35 Nos. @ Rs. 500/- each = Rs. ~~17,500.00~~
1,22,500/-

3. Provision for carriage of Material and other as foreseen
Item = Rs. ~~50000/-~~
10000

Total = **Rs. 9,79,750/-** ~~11,16,750/-~~

Say

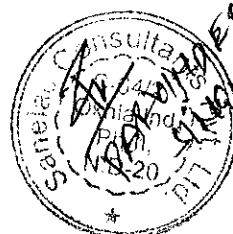
= **Rs. 9.80 Lakhs**

(C.O. to Abstract of Cost of Sub Work No. I)



SUB WORK NO II (B)**SERVICE ESTIMATE FOR SEWERAGE**

S.No.	Description	Unit	Amount
1.0	<i>lowering, cutting salt glazed pipe</i> Providing, laying and jointing non pressure NP2 S & S REC pipes with rubber ring joints including filling of joints with cement mortar 1:2 (1 cement : 2 Fine Sand). Also including testing of joints & encasement & bed concrete and special ind. trenches incl. cast & excavation, bed concrete, cast & m.p. complete in all respects.		3,88,800/-
(a)	250 mm dia for depth upto 3.0 m & for length of 400 M @ Rs. 880 per m. 800/- P.mtr. <i>535</i>	Per m	345900 <i>6.69 lacs</i>
2.0	Excavating Trenches for laying of R.C.C pipes of 250 depth to 1.5 m depth for length of 500 meter <i>@ 250/- P.mtr.</i>	Per m	125000
3.0	Extra for depth up to 3.0 m @ 15% of Amount of Item-2 above.	15%	18750
4.0	Provision for cutting of Roads i/c Restoration and also i/c for shuttering, shoring & barricading etc. at 82 200/- per meter	L.S. Per m	2,00,000/- 87200
5.0	<i>Sewage Sump Well along with</i> Provision for manholes of 0.91 m dia Rs. 8700/- <i>12500/-</i> machinery (L.S.)	18	1,20,000/- 81224 <i>2.50 lacs</i>
6.0	Provision for manholes of 1.22 m dia Rs. 45204/- <i>20,000/-</i> GI/DP Pipe from sump well to EWS MH. <i>(25 mm x 5 m h @ Rs. 26/-)</i>	6	1,00,000/- 75040 <i>1.31 lacs</i>
7.0	Provision for manholes of 1.5 m dia Rs. 18760	4	50,000/- 30000
8.0	Provision for watch & ward etc.	L.S.	1,00,000/- 50000
9.0	Provision for Vent Shafts	L.S.	30,00,000/- 50000
10.0	Provision for temporary arrangements for Disposal of Sewerage. <i>for 2 nos. STP. 150KD at two locations</i>	L.S.	5,00,000/- 50000 <i>20.00 lacs</i>
11.0	Provision of extending up to Hudas sewer and Connection <i>with Huda master Sewer Line (2 nos)</i>	L.S.	50000 <i>1.00 lacs</i>
	Total		4,78,2550/- <i>-1060794</i> <i>35.00</i> <i>1.05</i>
	Adding 3% of Contingencies & PE. Charge		143477/- <i>-31024</i> <i>36.05</i>
	Total		4,92,6027/- <i>-1092818</i> <i>17.66</i>
	Adding 49% of Departmental Changes & Price Escalation, <i>under Sew. Adm.</i>		535383 <i>-535383</i> <i>53.71</i> <i>Lacs</i>
	Total		7,33,7780/- <i>1628000</i>
	Say		<i>Say = 73.40 Lacs</i> <i>1628000</i>



SUB WORK NO II (B)**SERVICE ESTIMATE FOR STORM WATER DRAINAGE**

S.No.	Description	Unit	Amount (Rs.)
1.0	Providing, laying and jointing non pressure NP3 S & S RCC pipes with rubber ring joints including filling of joints with cement mortar 1:2 (1 cement : 2 Fine Sand). Also including testing of joints & encasement & bed concrete. <i>Cost of mtl etc.</i>		
(a)	400 mm dia for depth upto 3.0 m & for length of 960 m @ Rs. 1000 per m. <i>1110 1036</i>	Per m	<i>16,45,000/-</i> <i>18.13 lac</i> 960000 <i>0.60 lac</i>
2.0	<i>b) 450 mm dia over flow pipe = 30 m @ Rs. 2000</i> Excavating Trenches for laying of R.C.C. pipes of 300 to 800 mm dia upto 1.5 m depth - <i>1200</i> m length @ Rs. 260/- per m.	Per m	<i>3,12,000/-</i> 286000
3.0	Extra for depth from 1.5 m to 3.0 m. 20% of Amount of Item 2 above.	L.S.	<i>62,400/-</i> 57200
4.0	<i>2. Provision for road gullies with 300 mm dia Fibre (L.S.)</i> Provision for cutting of Roads i/c Restoration and also i/c for shuttering, shoring & barricading <i>etc. Shoring & Timbering</i>	L.S.	<i>3,00,000/-</i> 200000
5.0	<i>4</i> Provision for watch & ward etc.	L.S.	<i>2,00,000/-</i> 30000
6.0	Provision for Vent Shafts	L.S.	<i>1,00,000/-</i> 50000
7.0	Provision for temporary arrangements for Disposal of storm water.	L.S.	100000
8.0	<i>5</i> Provision for 64 Nos. Manholes i/c provision of foot rests & including extra depth of manholes & including for extra depth of manholes & R.C.C. Manhole covers @ Rs. <i>12000/-</i> 9000 each	L.S.	<i>7,68,000/-</i> 576000
9.0	Providing 7 Nos. R.H.Wells @ Rs. 150000 each.	L.S.	1050000
10.0	Provision for extending pipe up to Hudad System. <i>and Connection with Hudad S.W.D. line</i>	L.S.	200000 <i>2,50,000/-</i>
	Total on master roads		<i>4807400/-</i> 3509200 <i>38.73 lac</i>
	Adding 3% of Contingencies & P.E. charges		<i>144222/-</i> 105276 <i>1.16 lac</i>
	Total		<i>4951622/-</i> 3614476 <i>39.89 lac</i>
	Adding 49% of Departmental Changes & Price Escalation <i>unforseen, Admin.</i>		<i>2426295/-</i> 1771093.24 <i>19.55 lac</i>
	Total		<i>7377917/-</i> 5385569.24 <i>59.44 lac</i>
	Say		<i>say 73.80 lac</i> 5386000



**SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON**

Sub Work No. IV

ROAD WORK FOR (BY OTHERS)

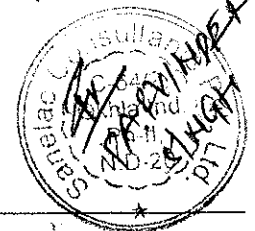
Annexure -11

Roads & Foot Paths

S. No.	Description of Work	Area in Sq.mt.
1	Provision for Levelling & Earth filling as per site Conditions 8.317375 acres @Rs. 70000/- per acres 1,00,000/-	8,31,738/- 5,82,216
2	Soling coat 100 mm thick (63-45) mm gauge compacted to 75 mm thick WBM conforming to MOT specifications (Table 400-6, Grading No. 2) 300mm thick Granular Sub Base	
#	Wearing (Top coat) coat 100 mm thick (53-22.4) mm gauge compacted to 75 mm thick WBM conforming to MOT specifications (Table 400-6, Grading No. 3) 250 mm thick wet mix macadam	64.69 Lacs
#	25 mm thick premix carpet with seal coat 8164.6 sq.mt. @ Rs. 350/- per sq.mt. 50mm thick Bm and 20mm mss (Type A) 8290 sq.mt. @ 1000/-	89,90,000/- 28,57,610/-
3	Provision for Kerbs & Channels of CC 1:2:5 - 4978.2 Rmt. @Rs. 350/- per Rmt. 1802301 500/-	11,50,000/- 6,92,370/-
4	Provision for making approach to each block and pavements. LS	500,000.00
5	Provision for guide map and other unforeseen & indicating board etc. LS	2,00,000.00
6	Provision for Traffic Light arrangement LS	2,00,000.00
7	Provision for carriage of material & unforeseen charges LS	100,000.00
8	Provision for culvert on exist. Nallah. (L.S) 25.00 Lacs	
	TOTAL	119,72,238/- 48,32,196 135.03
	Add 3% contingencies & PE charges	3,59,167/- 1,44,965 4.05
	TOTAL	123,31,405/- 49,77,161 139.08
		24,38,809
	Add 49% Department Charges, Price Escalation, unforeseen, Admn. Charges	60,42,389/- 68.15
		207.23
	GRAND TOTAL	183,73,794/- 74,15,972
	SAY	183.75 Cro 74,16,000

(C.O. to final abstract of cost.)

Extra on roads on basement 700 mtr @ 1867.86/mtr 13.22 Lacs.
(Detail Pl. See on back Page)



Length of road on basement

$$19 + 26 + 175 + 111 + 13.5 + 18 + 28.5 + 192 + 12 + 33 = 628 \text{ m}$$

$$\text{Add 10 \% for curves} = \frac{62.80}{690.80}$$

$$\text{Say} = 700 \text{ Rmt}$$

Specification

HSR. 10.29 C.C. 1:8:16 with stone aggregate 20mm nominal size in foundation & plinth

HSR. 10.132 C.C. 1:2:4 with stone aggregate 20mm nominal size in Pavement, road, taxi tracks and runway leads to required slope and camber including consolidation finishing and tamping complete

Taking length 10m

$$(2^{\text{nd}}) \quad 1:8:16 = 10 \times 6 \times 0.03 \text{ m} = 3 \text{ cum @ } 336.25 \text{ P.cu}$$

$$= 1008.75$$

$$(3^{\text{rd}}) \quad 1:2:4 = 10 \times 6 \times 0.075 \text{ m} = 4.50 \text{ cum @ } 729.30 \text{ P.cum}$$

$$= 3281.85$$

$$\text{45} \quad \frac{4290.60}{14588.04}$$

$$\text{Add 340 \% C.P. on above } 14588.04$$

$$18878.64$$

$$\text{Rate per mtr} = 18878.64 / 10 = 1887.86 \text{ P.mtr}$$

**SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON**

Road no.	Width in Meter	Length in Meter	Metalled Portion	Area in Sq.m.
PLOT-1				
1-2	6.000	6.000	----	36.000 Sq.m.
2-3	6.000	19.000	----	114.000 Sq.m.
3-4	6.000	31.000	----	186.000 Sq.m.
4-3	6.000	26.000	----	156.000 Sq.m.
4-2	6.000	175.000	----	1050.000 Sq.m.
PLOT-2				
1-1	6.000	104.000	✓	624.000 Sqm
PLOT-3				
1-2	6.000	17.000	----	102.000 Sq.m.
2-3	6.000	14.000	----	84.000 Sq.m.
2-4	6.000	111.000	----	666.000 Sq.m.
4-5	6.000	39.500	----	237.000 Sq.m.
5-6	8.500	13.50	----	114.750 Sq.m.
6-7	11.50	18.000	----	207.000 Sq.m.
6-4	4.50	28.50	----	128.250 Sq.m.
PLOT-4				
1-2	6.000	55.000	----	330.000 Sq.m.
2-3	6.000	23.000	----	138.000 Sq.m.
3-4	6.000	192.000	----	1152.000 Sq.m.
4-2	6.000	12.000	----	72.000 Sq.m.
4-3	9.000	32.000	----	272.000 Sq.m.
PLOT-5				
1-2	6.000	21.000	----	126.000 Sq.m.
2-2	6.000	109.000	----	654.000 Sq.m.
	SAY	1046.50		6449.000 Sqm
	ADD 10% FOR CURVES			644.9 Sqm.m.
	TOTAL			7093.90 Sqm.
			SAY	7094.000 Sqm

6m wide road without basement = 420.50 mtr

Area = 420.50 x 6 = 2523 Sqm

Add 10% for curves = 252.30

Annexure -11

TOTAL LENGTH OF ROADS = 1046-M

TOTAL AREA UNDER ALL ROADS except on basement = 2775.30
7094.00 SQM

ADD 10% FOR CURVES = 709.4

24m wide road = 75+40 = 115 m

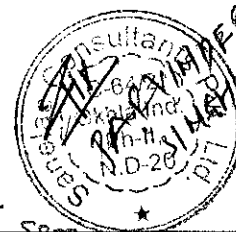
metalled road = 115 x 14 = 1610 Sqm

ADD 10% FOR APPROACH TO TOWERS = 161

18m wide road (service) = 275 x 10 = 2750 Sqm

Total area

7135.30 Sqm



SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON

TOTAL AREA REQUIRED FOR ROADS = $\frac{7135.30}{8513} \text{ Sqm}$

NO. OF CAR PARKING ON SURFACE = 19 / *Not*

AREA REQUIRED FOR CAR PARKING (25 SQM. PER CAR) = 475 *Sqm.*

TOTAL AREA REQUIRED FOR ROADS & CAR PARKING = $\frac{7610.30}{8988} \text{ Say } 8990 \text{ Sqm}$
 $\frac{7610}{7610}$

LENGTH OF KERB = $1046 \times 2 + 10\%$ FOR APPROACH ROADS = $\frac{1800}{2301} \text{ mtr.}$
 $420.50 + 75 + 40 + 275 = 810.50 \times 2 = 1621$
 Add 10% for Curves = $\frac{162}{1783} \text{ mtr}$

Sub Work No. V Roads on basement = 700 Rmtr

- with CPL fitting*
1. Providing street lighting on roads as per standard specifications of HVPN approx.
 8.317375 acres @ ~~1,00,000~~ *1,00,000/-*
 Add 3% contingencies and PC Charges

Total
 Add 49% Departmental charges, Price Escalation, Unforeseen Adm.

Total

Say

Amount in Rs.

$\frac{8.32 \text{ lacs}}{8.31,740/-} \text{ } 10,39,672/-$
 = Rs. $\frac{0.25}{24,955/-} \text{ } 31,190/-$
 $\frac{8.57 \text{ lacs}}{8,56,695/-} \text{ } 10,70,862/-$
 = Rs. $\frac{4.20 \text{ lacs}}{4,19,780.55/-} \text{ } 5,24,722/-$
 $\frac{12.77 \text{ lacs}}{12,76,475.55/-} \text{ } 15,95,584/-$
 = Rs. ~~12.76 Lakhs~~ *16.00 lacs*

Carry Over to Final Abstract of Cost



SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON

Annexure -13

Sub Work No. VI

Plantation & Road side Trees

HORTICULTURE

S. No.	Description of Work	Area in Sq.mt.
--------	---------------------	----------------

Development of Lawn Areas

1

Trenching the ordinary soil upto depth of 60 cm i.e. removal and staging of serviceable material & disposing by spreading and leveling within a lead of 50 mt. and making up the trench area for proper levels by filling with e-arth or earth mixed with manure before or after flooding trench with water i.e. cost of imported earth and manure

#

Rough dressing of Turfed Area

#

Grassing with " DOOB GRASS " i.e watering and maintenance of lawns for 30 days till the grass forma a thick lawn, free from weeds and fit mowing in rows 7.5cm part in either direction including provisioning for hedges and turbed wire around park. 7338.455 Sqm $1,00,000/-$

#

8.317375 acre organized green @ Rs. 70000/acre Rs. 5,82,220

$8,31,738/-$
1.82 Lac

Providing and planting trees along 6.0mt. Wide and more width at 12mt. Interval

Total Road Length = 4046 Rmt.

1200

$420 + 2(115 + 275) = 1200 \text{ Rmt}$

2

No. of Trees $(4046/12 \times 2) = 174 \text{ Nos.}$

Cost Details

Excavation = Rs. 30.00

Manure = Rs. 60.00

Tree Plant = Rs. 60.00

Tree Guard = Rs. 600.00

Total = Rs. 750.00

174 Nos. @ Rs. 750.00 each

Rs. 1,30,500

TOTAL = 7,12,720

Add 3% contingencies & PE charges

TOTAL = 21,382

Rs. 7,34,102

Add 49% Department Charges, Price Escalation, unforeseen,

Admn. Charges

8,59,710

GRAND TOTAL 10,93,812

SAY 10.94

Say Rs. 10.94 lakhs

SERVICE PLAN ESTIMATE FOR PROPOSED GROUP HOUSING AT SECTOR-2
GUAL PAHARI, GURGAON

(C.O. to final abstract of cost)

Annexure -14

Sub Work No. VII

SUBHEAD VII - MTC CHARGES & RESURFACING OF ROADS

S. No.	Description of Work	Area in Sq.mt.
--------	---------------------	----------------

- Provision for Maintenance charges for Water Supply, Sewerage, Storm Water, Drainage, Roads, Street Lighting, Horticulture, etc. including Operation & establishment charges as HUDA norms after completion
- 1
8.317375 acres @ Rs. ~~375~~Lacs per acre

~~31,19,016/-~~
~~22,87,278~~
 41.60 lacs

- Provision of Resurfacing of Roads after first five years of maintenance i.e. 100mmthk. With 25mmthk. premix carpet with seal coat with mechanical paver
- 2
~~8988~~ sq.mt @ ~~180~~ per sq.mt.

~~53,84,000/-~~
~~16,17,840~~
 47.24 lacs

- Provision of Resurfacing of Roads after first ten years of maintenance i.e. 100mmthk. With 25mmthk. premix carpet with seal coat with mechanical paver
- 3
~~8988~~ sq.mt @ Rs. ~~90~~ per sq.mt.

~~80,86,400/-~~
~~8,08,920~~
 70.86 lacs

TOTAL 47,14,038

Add 3% contingencies & PE charges

TOTAL 1,41,421

TOTAL

= ~~48,55,459~~

Add 49% Department Charges, Price Escalation, unforeseen, Admn. Charges

TOTAL ~~23,79,175~~

GRAND TOTAL ~~72,34,634~~

SAY

~~72,35,000~~

Say Rs. ~~72,35~~ lakhs.



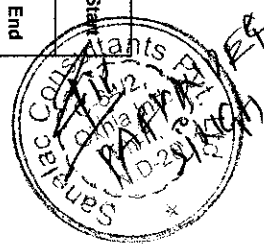
PROJECT: GROUP HOUSING AT PARAS GWAL PAHARI**CALCULATION OF SEWERAGE**

Note :									
1	Minimum dia adopted								
2	Formula used for Velocity								
3	Value of n Adopted								
4	Minimum Velocity Adopted								
5	Pipe Dia upto 400 mm dia Considered flowing 1/2 full								
6	Average Ground Level Assumed as								

**DESIGN CALCULATIONS OF SEWAGE SCHEME**

18-May-13

S. No.	Marked As	No. of Flats	Population at 5 Persons per Flat	Basis of Water Requirement in LPD per person	Total Water Requirement per day in KLD	Total Sewage Generated per Day (75% of water reqd) in KLD			Peak LPS x DWF	Pipe Dia	Gradient	Velocity M / Sec	Design Discharge in LPS	Check for carrying capacity	Length of Line in M	Fall	Ground Level	Invert Start	
						Self	Previous	TOTAL										Start	End
Block-1A (G+31,G+7)																			
1	1-2	40	200+	172.5	36800	27.6	-	27.6	0.958	250	1 in 195	0.75	0.958	18.40	17	0.087	+00	-1.0	-1.087
2	2-3									250	1 in 195	0.75	0.958	18.40	25	0.128	+00	-1.087	-1.215
3	3-4-5									250	1 in 195	0.75	0.958	18.40	20	0.102	+00	-1.205	-1.317
4	5-6									250	1 in 195	0.75	0.958	18.40	22	0.112	+00	-1.317	-1.429
5	6-7									250	1 in 195	0.75	0.958	18.40	17	0.087	+00	-1.429	-1.516
6	9-8									250	1 in 195	0.75	0.958	18.40	25	0.128	+00	-1.0	-1.128



S. No.	Marked As	No. of Flats	Population at 5 Persons per Flat	Basis of Water Requirement in LPD per person	Total Water Requirement per day in KLD	Total Sewage Generated per Day (75% of water reqd) in KLD			Peak LPS x DWF	Pipe Dia	Gradient	Velocity M / Sec	Design Discharge in LPS	Check for carrying capacity	Length of Line in M	Fall	Ground Level	Invert Station	
						Self	Previous	TOTAL										Start	End
8-07										250	1 in 195	0.75	0.958	18.40	23 ✓	0.118	+00	-1.128	-1.246
7-10										250	1 in 195	0.75	0.958	18.40	33	0.169	+00	-1.516	-1.685
10-11										250	1 in 195	0.75	0.958	18.40	17	0.087	+00	-1.685	-1.772

Block-2A (Club)

14-13			Floating & service personal	15 LPD & 45 LPD	21.5	16.125	-	16.1250	0.559	250	1 in 195	0.75	0.559	18.40	17 ✓	0.087	+00	-1.0	-1.087
13-12									0.559	250	1 in 195	0.75	0.559	18.40	25 ✓	0.128	+00	-1.087	-1.215
12-11									0.559	250	1 in 195	0.75	0.559	18.40	15 ✓	0.077	+00	-1.215	-1.292

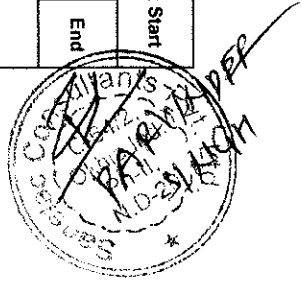
Block-3A

11-15	86	430+visitors +floating+MI sc.	172.5	82	61.5	27.6 16.125 43.725	105.225	3.65	250	1 in 195	0.75	3.65	18.40	18	0.092	+00	-1.772	-1.864
15-16								3.65	250	1 in 195	0.75	3.65	18.40	21 ✓	0.107	+00	-1.864	-1.971
16-17								3.65	250	1 in 195	0.75	3.65	18.40	21 ✓	0.107	+00	-1.971	-2.078
17-18								3.65	250	1 in 195	0.75	3.65	18.40	30 ✓	0.153	+00	2.078	-2.231

S. No.	Marked As	No. of Flats	Population at 5 Persons per Flat	Basis of Water Requirement in LPD per person	Total Water Requirement in KLD	Total Sewage Generated per Day (75% of water reqd) in KLD			Peak LPS 3 x DWF	Pipe Dia	Gradient	Velocity M / Sec	Design Discharge in LPS	Check for carrying capacity	Length of Line in M	Fall	Ground Level	Invert	
						Self	Previous	TOTAL										Start	End
Block-5A																			
18-19		54	EWS-S4 +visitors Misc.	135 LPD	8.2	6.15	105.225	111.375	3.867	250	1 in 195	0.75	3.867	18.4	11 ✓	0.056	+00	-2.231	-2.287
19-20							105.225	111.375	3.867	250	1 in 195	0.75	3.867	18.4	22 ✓	0.113	+00	-2.287	-2.400
20-21									3.867				3.867	18.4	24 ✓		+00	-2.400	-2.523
21-22									3.867				3.867	18.4	13 ✓		+00	-2.523	-2.589
									3.867				3.867	18.4	12 ✓		+00	-2.589	-2.650
				Capacity of treatment plant = $\frac{3.87 \times 24 \times 3600}{3 \times 1000}$														= 111.456m	



S. No.	Marked As	No. of Flats	Population at 5 Persons per Flat	Basis of Water Requirement in LPD per person	Total Water Requirement in KLD	Total Sewage Generated per Day (75% of water reqd) in KLD			Peak LPS 3 x DWF	Pipe Dia	Gradient	Velocity M / Sec	Design Discharge in LPS	Check for carrying capacity	Length of Line in M	Fall	Ground Level	Invert Start / End			
						Self	Previous	TOTAL										Start	End		
Block-4A (G+14 & G+14)																					
	1-2(Block - 4A)	30	150+visitors+ maintenance etc	172.5	30.6	22.95	-	22.95	0.7968	250	1 in 195	0.75	0.7968	18.4	15	0.076	+00	-1.000	1.076		
	2-3												0.7968	18.4	15	0.077	+00	-1.076	-1.153		
	3-4												0.7968	18.4	15	0.077	+00	-1.153	-1.23		
	4-5												0.7968	18.4	15	0.077	+00	-1.230	-1.307		
	5-6						22.95	22.95	0.7968	250	1 in 195	0.75	0.7968	18.4	15	0.077	+00	-1.307	-1.384		
					STP Capacity	0.7968 x 24 x 3600 / 3 x 1000 = 22.94 or say of - 23m3 capacity															



C.E. No. 13442

Dated 01/10/13

Annexure-A

SUB:- Approval of service plan /estimate for Group Housing Colony measuring 10.096875 acres (License No.74 of 2012 dated 31.07.2012) Village Gwal Pahari in Sec-2, Gurgaon Urban Manesar Urban Complex being developed by M/S. Fantasy Buildwell Pvt.Ltd.

Technical note and comments:-

1. All detailed working drawings would have to be prepared by the colonizer for Integrating the internal services proposals with the master proposals of town.
2. The correctness of the levels will be the sole, responsibility of the colonizer for the integration of internal proposals, with the master proposals, of town and will be got confirmed before execution.
3. The material to be used shall the same specifications as are being adopted by HUDA and further shall also confirm to such directions, as issued by Chief Engineer, HUDA from time to time.
4. The work shall be carried out according to Haryana PWD specification or such specifications as are being followed by HUDA. Further it shall also confirm to such other directions, as are issued by Chief Engineer, HUDA from time to time.
5. The colonizer will be fully responsible to meet the demand of water supply and allied services till such time these are made available by State Government/ HUDA. All link connections with the State Government/ HUDA system and services will be done by the colonizer. If necessary extra tube-wells shall also be installed to meet extra demand of water beyond the provision according to EDC deposited.
6. Structural design & drawings of all the structures, such as pump chamber, boosting chamber, RCC OHSR underground tanks quarters, manholes chamber, sections of RCC pipes sewer and SW pipes, sewer, ventilating shafts for sewerage and Masonry Ventilation Chamber for Chamber for storm water drainage, temporary disposal/ arrangement etc. will be as per relevant I.S codes and PWD specifications; colonizer himself will be responsible for structural stability of all structures.
7. Potability of water will be checked and confirmed and the tube-wells will be put into operation after getting chemical analysis of water tested.

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Dated:-

8. Only C.I/D.I pipes will be used in water supply and flushing system, UPVC/HDPE pipe for irrigation purposes.
9. A minimum 100 i/d C.I/D.I, 200mm i/d SW and 400mm id RCC NP-3 pipes will be used for water supply, sewerage and storm water drainage respectively.
10. Standard X-section for S.W. pipes sewer, RCC pipes sewer etc. will be followed as are being adopted in Haryana Public Health Engineering Deptt. or HUDA.
11. The X-section, width of roads, will be followed as approved by the Chief Town Planner, Haryana, Chandigarh. The kerbs and channels will also be provided as per approved X-section and specifications.
12. The specifications for various roads will be followed as per IRC/MORTH specifications.
13. The wiring system of street lighting and specifications of street lighting fixture will be as per relevant standards.
14. This shall confirm to such other conditions as are incorporated in the approved estimate and the letter of approval.

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Executive Engineer (W),
For Chief Administrator, HUDA,
Panchkula

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