INTERNAL DEVELOPMENT WORKS DESIGN AND COST ESTIMATES

FOR

PROPOSED GROUP HOUSING

ON 14.30 Acres

IN

SECTOR – 89A
AT GURGAON, MANESAR URBAN COMPLEX

(Licence no. 41 of 2013 dt. 6.6.2013)

DEVLOPED BY M/S VATIKA LTD.

ESTIMATE FOR BUILDING PLAN OF RESIDENTIAL COMPLEX MEASURING 14.30 ACRES IN SECTOR -89A AT GURGAON, HARYANA

REPORT

Gurgaon town of Haryana State is situated on Delhi - Jaipur National Highway No.8 at a distance of 30 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 inhabited to an extent. Further to the increasing demand HUDA has planned to develop new sectors at outskirt of Gurgaon town. This report and estimate is for approval of proposed 14.30 acres Residential Complex in Sector-89A, Guragon.

WATER SUPPLY

The source of water supply shall be HUDA water supply connection, augmented through tubewells. As the underground water is potable, provision for one number of tubewell 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 under ground tanks will be fed from the borewells and HUDA supply, from there water will be pumped to O.H tanks on the roof of the Buildings.

DESIGN :

The scheme has been designed for population as given in attached sheet. The rate of water supply per head / day has been taken as 155.25 litres for apartments (15% over 135 lpcd permitted under Haryana State Environmental Appraisal Committee EIA norms) and 135 lpcd for EWS.

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 and it shall be either provided separately or added to the capacity of main generator.

SEWERAGE SCHEME

Sewer line from proposed development will be connecting to a captive Sewage Treatment and Recycling Plant and the excess sewage water only shall be connected to proposed HUDA Master Sewer. The sewerage system has been marked on the respective plans.

Sewer lines have been designed for 3.0 times average D.W.F in relation to water supply demand. It has been assumed that about 80% of the domestic water supply shall find its way into the proposed sewer. Sewer lines shall be laid to a gradient maintaining minimum 2.46 ft/sec (0.75 m/sec) self cleansing velocity. Sewer line up to 400 mm dia has been designed to run half full and above 400 mm dia has been designed to run three fourth full at peak flow. Necessary provision for laying S.W / RCC pipe sewer line, construction of required number of manholes etc. have been made in the estimate.

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

STORM WATER DRAINAGE

It is proposed to lay under ground R.C.C pipe drains with required number of catch basins for disposal of storm water which will be connected to the Proposed HUDA Master storm drain. The intensity of rain fall has been taken as 40 mm per hour. Minimum dia of pipe has been taken as 150 mm dia from catch basins and 400 mm between deep manholes of depth 1.5 m and above.

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 estimate is prepared as per revised specifications adopted by HUDA.

Street Lighting
Provision for streets lighting has been included.

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

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

Cost:
The total cost of the scheme, including cost of all services works out to be ~~1034~~ 1376.20 lakhs (Rs. ~~72.57~~ 95.82 Lakhs per acre Only) including 3% contingencies @ 49% departmental charges, price escalation, unforeseen & admin charges etc.

For VATIKA LTD.

for

Authorized signatory

I **DESIGN CALCULATION:**

(i) Domestic Water requirement

(a)	Dwelling Units - Main	=	580 Units
	580 units population @ 5.0 persons per unit	=	2900 Persons
(b)	Dwelling Units - EWS	=	112 Units
	112 units population @ 2 persons per unit	=	224 Persons
(c)	Servant's Room	=	60 Units
	60 units population @ 2 persons per unit	=	120 Persons
(c)	Maintenance Staff (Lumpsum)	=	50 Persons
(d)	Visitor's (Lumpsum)	=	290+22= 312 Persons
	Total Population	=	3606 Persons

(A) Water requirement@ 155.25 lpcd for DU =2900 x 155.25= 450.225 KLD

(B) Water requirement @ 135.00 lpcd for EWS=224x135.00 = 30.240 KLD

(C) Water requirement @ 135.00 lpcd for SR =120 x 135.00 = 16.200 KLD

(C) Water requirement @ 45 lpcd for Staff =50 x 45 = 2.250 KLD

(D) Water requirement @ 15 lpcd for Visitor's =312 x 15 = 4.680 KLD

(II) Infra-structural facilities

(a) Club @ 20 KLD (Lumpsum)	=	20 KLD
(b) Nursery school (Lumpsum)	=	10 KLD
(c) Convenient Shopping (Lumpsum)	=	1 kLD
TOTAL WATER REQUIREMENT (I+II)	=	450.225+30.240+16.200+ 2.250+4.680+20+10+1 KLD
	=	534.595 KLD
Total of domestic and flushing requirement	=	534.595 KLD
SAY	=	540 KLD
Domestic requirement @ 70% of total	=	378 KLD
Flushing requirement @ 30% of total	=	162 KLD
STP Capacity @ 80% of total water requirement	=	80% of 540 KLD
	=	432 KLD
SAY	=	450 KLD

(iii) Horticultural water requirement (Organized Green) @15.61% over Site Zoning area of 14.143 Acres 8938.636 SM or

	a) Total area of 2.208 acre @ 25 KLD / Acre	=	55.2 KLD
	SAY	=	**55 KLD**
(iv)	Fire Fighting requirement	=	800 KL
	TOTAL WATER DEMAND (I+II+III) (excluding fire fighting requirement)	=	~~540~~ 660 + 55 = ~~595~~ 715 KLD
	SAY	=	~~600~~ 715 **KLD**

II.	Summary & Source of water		
(i)	Domestic water (From Bore well / HUDA)	=	~~383~~ 460 KLD
(ii)	Flushing water (From STP)	=	~~162~~ 200 KLD
(iii)	Horticulture (From STP)	=	55 KLD
III.	Summary of UGT		
(i)	Domestic water tank (One day requirement)	=	~~385~~ 460 **KLD**
(ii)	Fire fighting water tank	=	**400 KLD**
(iii)	Flushing & horticulture water tank (In STP)	=	~~60~~ 260 **KLD**

Therefore it is proposed to construct under ground tanks as per following configuration:

Tank Name	North side	South Side	Total (North+South)
Fire	400 kL	400 kL	800 kL
Raw Water	45 kL	90 kL	135 kL
Domestic water	90 kL	180 kL	270 kL
Recycled STP water	~~50.20~~ kL	60 ~~40~~ kL	110 ~~60~~ kL
Total	~~555~~ 585 kL	~~710~~ 730 kL	~~1265~~ 1315 kL

I. BOREWELLS

(a)	Approx. discharge from each bore well	=	14.00 KL/hr
(b)	Operating time of bore wells	=	16 hrs/day
(c)	Total yield from each bore well	=	14.00x16 = 224.00 KLD
(d)	Total water requirement	=	460 ~~385~~ KLD
(e)	Number of bore wells	=	460 ~~385~~ / 224.00 = ~~1.719~~ 2.5 Nos.
	~~Add 10% standby~~	=	~~0.172 Nos.~~
	TOTAL	=	1.891 Nos.
	SAY	=	~~1.0 No.~~ 2.0 NO

Since the entire water to the proposed development is to be supplied by HUDA so, it is proposed to install 1 number of bore-well as supplementary source of water.

II. PUMPING MACHINERY FOR BOREWELLS

	Gross working head	=	40.00 mts.
	Average fall in S.L	=	3.05 mts.
	Depression Head	=	6.10 mts.
	Friction loss in main	=	3.05 mts
	TOTAL	=	52.20 mts.

SAY = 60.00 mts.

HP = $\frac{14000 \times 60 \times 1}{60 \times 60 \times 75 \times 0.6}$ = 5.185 HP, SAY = 7.50 HP

DETAILS OF PUMPING EQUIPMENT

(A) Total domestic water requirement = 385 kL

Requirement in north side is ½ of south side and two separate water works stations are planned. The pumping sets are accordingly planned.

1. **For North Side : Net daily domestic water demand= ~~385/3~~= ~~128~~ kLD** (185)

(i) Pumping @ 8 hours / day = ~~128~~ (185) / 8 = ~~16~~ (23.125) kL/hr
= ~~266.67~~ lpm (385.42 LPM)
SAY = ~~3~~00 lpm

BOOSTING MACHINERY FOR DOMESTIC PUMP

(ii) Gross working head = 0.00 meter
(iii) Suction lift = 15.00 meter
(iv) Friction loss+residual head at OHT = 72.450 meter
(v) Clear head required = 8.00 meter
(vi) Basement height = 8.00 meter

TOTAL = 95.45 meter
SAY = 100.00M

(vi) HP = $\frac{300 \times 100}{60x75x0.65}$ (400) (14.81) = ~~10.256~~ HP, SAY = ~~12.50~~ HP (15.00)

It is proposed to provide 2 Nos. pumping sets of ~~3~~00 lpm @ 100 Mtr. Head (1Working + 1 Stand by) for Domestic Supply (North side).

2. **For South Side : Net daily domestic water demand= ~~385x2/3~~= ~~258~~ kLD** (280)

(i) Pumping @ 8 hours / day = ~~258~~ (280) / 8 = ~~32.25~~ (35) kL/hr
= ~~537.50~~ lpm (583.33)
SAY = 600 lpm or 2x300 lpm

BOOSTING MACHINERY FOR DOMESTIC PUMP

(ii) Gross working head = 0.00 meter
(iii) Suction lift = 15.00 meter
(iv) Friction loss+residual head at OHT = 72.450 meter
(v) Clear head required = 8.00 meter
(vi) Basement height = 8.00 meter

TOTAL = 95.45 meter
SAY = 100.00M

(vi) HP = $\frac{300 \times 100}{60 \times 75 \times 0.65}$ = ~~10.256~~ 11.11 HP, SAY = 12.50 HP

It is proposed to provide 3 Nos. pumping sets of 300 lpm @ 100 Mtr. Head (2Working + 1 Stand by) for Domestic Supply (South side).

(B) **Total flushing water requirement** = ~~162~~ 80 **KL**

Requirement in north side is ½ of south side and two separate water works stations are planned. The pumping sets are accordingly planned.

1. **For North Side : Net daily domestic water demand= ~~162/3= 54~~ 80 kLD**

(i) Pumping @ 8 hours / day = ~~54~~ 80 / 8 = ~~6.75~~ 10 KL/hr
= ~~112.50~~ 166.66 lpm
SAY = ~~120~~ 200 lpm

BOOSTING MACHINERY FOR FLUSHING PUMP

(ii) Gross working head
(iii) Suction lift = 0.00 meter
(iv) Friction loss+Residual head at OHT = 15.00 meter
(v) Clear head required = 72.450 meter
(vi) Basement height = 8.00 meter

TOTAL = 95.45 meter
SAY = 100.00M

(vi) HP = $\frac{200 \times 100}{60 \times 75 \times 0.65}$ = ~~4.103~~ 7.40 HP, SAY = ~~5.0~~ 7.50 HP

It is proposed to provide 2 Nos. pumping sets of ~~120~~ 200 lpm @ 100 Mtr. Head (1Working + 1 Stand by) for Flushing Supply (North side).

2. **For South Side : Net daily domestic water demand= ~~162x2/3= 108~~ 120 kLD**

(i) Pumping @ 8 hours / day = ~~108~~ 120 / 8 = ~~13.5~~ 15 KL/hr
= ~~225~~ 250 lpm
SAY = ~~225~~ 250 lpm

BOOSTING MACHINERY FOR FLUSHING PUMP

(ii) Gross working head
(iii) Suction lift = 0.00 meter
(iv) Friction loss+Residual head at OHT = 15.00 meter
(v) Clear head required = 72.450 meter
(vi) Basement height = 8.00 meter

TOTAL = 95.45 meter

SAY = 100.00M

(vi) HP = 225 x 100 / 60x75x0.65 = 7.692 HP, SAY = 10.0 HP

It is proposed to provide 2 Nos. pumping sets of 225 lpm @ 100 Mtr. Head (1Working + 1 Stand by) for Flushing Supply (South side).

PUMPS FOR FIRE PROTECTION

S.NO.	PARAMETERS	LOCATION	PUMP SETS		
		Pump room	JOCKEY	MAIN	DIESEL
1.					
a)	Discharge in lpm		180	2850	2850
b)	Head in meters		120	120	120
c)	HP		7.5	110.0	125.0
d)	Quantity in nos		1	2	1

CAPACITY OF DG SETS.

S.NO.	EQUIPMENT	QTY	HP	TOTAL HP
1	BOREWELL	1 2	7.5	7.5 15
2	FIRE JOCKEY PUMPS	1	7.5	7.5
3	BOOSTER PUMPS (Domestic):1 working in north side and 2 working in south side	3 (2x15 + 12.5)		37.5 42.50
4	BOOSTER PUMPS (Flushing): north side of 5 HP and south side of 10 HP	1+1	5.0+10 7.50	15.0 17.50
	TOTAL			67.50 82.50
				50.355 KW
		SAY		63.94 KVA

82.50 x 0.746 x 1.50 = 92.32 KVA

SAY 100 KVA

It is proposed to add 75 KVA capacity for above said machinery to the main DG set.

RESIDENTIAL COMPLEX MEASURING 14.30 ACRES AT SECTOR-89A, GURGAON

FINAL ABSTRACT OF COST

S.No.	Descriptions	Amount in Rs. Lacs
SUB WORK NO. I	WATER SUPPLY SCHEME Rs. 292.82 Lacs	~~174.00~~ ~~207.38~~
SUB WORK NO. II	SEWERAGE SCHEME ₹ 189.25 Lacs	~~61.47~~ ~~68.77~~
SUB WORK NO.III	STORM WATER DRINAGE ₹ 95.92 Lacs	~~39.04~~ ~~43.19~~
SUB WORK NO.IV	ROADS & FOOT PATHS ₹ 299.68 Lacs	~~164.94~~ ~~168.00~~
SUB WORK NO.V	STREET LIGHTING ₹ 54.86 Lacs	~~14.30~~ ~~13.30~~
SUB WORK NO. VI	PLANTATION & ROAD SIDE TRESS 35.22 Lacs	~~15.75~~
SUB WORK NO. VII	MTC CHARGES & RESURFACING OF ROADS 402.42 Lacs	~~205.70~~ ~~212.77~~
TOTAL	Total ₹ 1370.17	~~675.2~~ ~~700.91~~
~~Add 3% contingencies & PH Charges~~		~~20.26~~ ~~21.49~~
TOTAL	Say ₹ 1370.20 Lacs	~~695.46~~ ~~722.40~~
~~Add 49% Departmental charges, price escalation, unforeseen,~~		~~340.78~~ ~~353.99~~
TOTAL	Dev. Cost ₹ 1370.20 Lacs / 14.30 Acres = 95.82 Lacs	~~1036.24~~ ~~1076.13~~
SAY IN LAKHS		~~1,037~~ ~~1076~~ 1084
		~~1037/14.30 = 72.52~~ ~~75.80~~
Cost per acre		~~72.52~~ ~~75.80~~
		Lakhs Per Acre

For M/S VATIKA LIMITED

for

Authorised Signatory

Executive Engineer
HUDA Divn. No. 3
Gurgaon

Superintending Engineer
HUDA Circle-I, Gurgaon

Checked subject to comments in forwarding letter No. 8336 Dt. 3/7/15 and notes attached with the estimate

Director General
Town and Country Planning,
Haryana, Chandigarh

Executive Engineer (W)
for Chief Engineer
HUDA Panchkula

2/7/15

RESIDENTIAL COMPLEX MEASURING 14.30 ACRES AT SECTOR-89A, GURGAON		
SUB WORK No. 1	Descriptions Head Works	Water Supply and Fire
Sub Head No. 01	Bore well Arrangement ~~(Temporary~~	~~4,349,000.00~~ ~~62.43~~ 51.97 Las
Sub Head No. 02	Water Supply & Fire Fighting Pumping machinery	~~3,910,000.00~~ ~~50.25~~ 78.00 Las
Sub Head No. 03	Rising Main From HUDA, ~~Tubewell and~~ and Distribution (Dom. + Flushing)	~~3,533,695.00~~ ~~39.26~~ 22.44 Las
Sub Head No. 04	Fire fighting Fire Rising Main	~~3,545,700.00~~ ~~35.48~~ 33.80 Las
Sub Head No. 05	Water supply Irrigation System	4.59 ~~1,997,760.00~~ ~~19.98~~
		190.80 Las ~~207.38~~
TOTAL		~~17,336,155.00~~
~~SAY IN LAKHS~~		~~173.36155~~

Add 3% Contingency & PE charges = 5.72 Las

Rs 196.52 Las

Add 49% deptt; price escalation, unforeseen, Admn. charges = 96.30 Las

Rs 292.82 Las

For M/S VATIKA LIMITED
for [signature]
Authorised Signatory

Sub -Work No. 1 (~~Cost of Bore well~~)

Sub -Head No. 01 HEAD WORKS

SL.NO	Description	Unit	Qty	Rate	Amount
1	Boring and installing 510 mm i/d borewell with reverse rotary rig complete with pipe and strainer to a depth of about ~~120~~ 135 metre including cost of Valve chamber complete in all respect .			1000000	2000000
(a)	Block	Each	~~1~~ 2	~~450000.00~~	~~450,000.00~~
2	Providing and fixing valve. including cost of surface box			~~3500~~	~~1500~~
(a)	~~80~~ 100 dia	Each	~~1~~ 2	~~4000.00~~ 12000/-	~~4,000.00~~ 0.24
3	Provision for carriage of material and other unforeseen items.			LS	50,000.00
4	Construction of U.G tanks (Combined capacity for North and South Sides) 405 KL (Dom) including 400KL for Fire Fighting and			3500	28.18 lacs ~~4,429,000~~
(a)	Block	KL	~~1265~~ 805	~~3000.00~~	~~3,795,000.00~~
5	Provision for construction of Tubewell chambers of Size 1.5x1.5x1.5 m for Housing tubewell.				2.00
		Each	1 (L.S)	~~50000.00~~	~~50,000.00~~
	TOTAL				~~4,349,000.00~~ ~~6542500/-~~

~~by 62.43 lacs~~

6) Provision for borewell line and by Pass arrangement upto under ground tank
100 mm ϕ CI/DI line = 124 mt @ ₹1250/- ₹ 1.55 lacs

51.97 lacs

Sub -Head No. 02

SL . NO	Description	Unit	Qty	Rate	Amount
1	Providing and installing electricity driven submersible pumping set capable of delivering about 14 KL/Hr. of water against a total head of 60 M complete with motor and other accessories.				
(a)	Block	Each	2	200000.00	~~100,000.00~~
2	Provision for diesel engine generator set each for standby arrangements for T.W & Booster pump complete in all respects with following capacities.				
(a)	~~75~~ 100 KVA	Each	1	LS	750,000.00
3	Providing and installing pumping set of following capacity for fire protection.				
(a)	180 lpm at 120m Head, 7.5 HP (Jockey Pump)	Each	1 +1	~~125000.00~~ 250000	~~125,000.00~~ 250000
(b)	2850 lpm at 120m Head, 125 BHP (Diesel Pump)	Each	1 +1	~~750000.00~~ 1500000	~~750,000.00~~ 1500000
(c)	2850 lpm at 120m Head, 110 HP (Electric Pump)	Each	2	~~425000.00~~ 750000	~~850,000.00~~ ~~750000~~
4	Providing and installing electricity driven pumping set for domestic and flushing supply capable of delivering following capacities of water complete with motor and other accessories.				
(a)	Domestic Supply, ~~400~~ 300 lpm @ 100 mtr, ~~12.50~~ 15 HP		(3+2) 5	~~120000.00~~ 2.00	~~600,000.00~~ 10.00
(b)	Flushing Supply, ~~120~~ 200 lpm @ 100 mtr, ~~5.0~~ 7.50 HP (North side)		2	~~65000.00~~ 75000 1.00	~~130,000.00~~ 150000 2.00
(c)	Flushing Supply, ~~225~~ 250 lpm @ 100 mtr, 10.0 HP (South side)		2	~~90000.00~~ 100000	~~180,000.00~~ 200
5	Provision for chlorination plant complete.			1.00	2.00 Lss
(a)		Each	2	~~25000.00~~	~~50,000.00~~
6	Provision for making foundation and erection of pumping Machinery.			LS	2.00 Lss ~~25,000.00~~
7	Provision for pipes, valves and specials inside the pump chamber and boosting chamber.			LS	2.50 Lss ~~50,000.00~~
8	Provision for elecric service connection including electrical fitting for tube-well and boositing chamber etc. (lumpsum) including cost of transfarmor.			LS	5.00 Lss ~~250,000.00~~
9	Provision for carriage of material and other unforeseen items.			LS	1.00 Lss ~~50,000.00~~
	TOTAL				~~3,910,000.00~~ 5025000 78.00 Lss

Sub -Work No. 1

Rising Main From HUDA, Tubewell and water supply distribution lines (Domestic & Flushing)

Sub -Head No. 03

SL .NO	Description	Unit	Qty	Rate	Amount
1	Providing , laying, jointing and testing of pipe lines including cost of excavation etc. complete in all respects.				
(a)	80 mm dia (Tw to tank)	Metre	93	975.00	90,675.00
2	Provision of water supply risers line to OHT from pump room / STP. GI (Medium class) or PVC Schedule 40 with Schedule 80 fittings considered. (Dom + Flushing line)				
(a)	40 mm dia	Metre	784	650.00	509,600.00
(b)	50 mm dia	Metre	784	780.00	611,520.00
(c)	100 mm dia	Metre	592	1350.00	7.40 799,200.00
(d)	150 mm dia	Metre	592 1575	1800.00	9.32 1,065,600.00
3	Providing and fixing valves including cost of surface boxes and masonry chamber etc. completed in all respects.			15000	6 1000.00
(a)	150 mm dia	Each	4	12000.00	48,000.00
(b)	100 mm dia	Each	4 12000	11525.00	46,100.00 0.48
(c)	50 mm dia	Each	15	6500.00	97,500.00
(d)	40 mm dia	Each	15	4500.00	67,500.00
4	Providing and fixing indicating plates for valve and air Valves.				0.08
(a)		Each	38 8	1000.00	38,000.00
5	Providing and fixing air release valve and scour valve.				
		Each	4	10000.00	40,000.00
6	Provision for carriage for materials and other unforeseen items .			LS	1.00 20,000.00
7	Provision for cutting of roads and making good to its original conditions.			LS	1.00 250,000.00
8	Provision for making connection from HUDA Master line. 2 Nos				1.00
(a)	80 mm dia	Each	1		1.16 3925695.00
9	Prov for Rising main from HUDA to UGT both side				
	TOTAL 100 mmØ 93 mt @ ₹ 1250/-				3,533,695.00
				Say	39.26 22.44 Lacs

S.No	Name of pipe line	Dia (MM)	Length	
1	Tubewell line to UGT	80 100	96	Refer Annexure-"F" & "G"
2	HUDA line to UGT	80 100	93	
3	P. Room to OHT (Dom)	50	784	
4	P. Room to OHT (Dom)	150	592	
5	STP to OHT (Flush)	40	784	
6	STP to OHT (Flush)	100	592	

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

Sub -Work No. 1 Fire fighting Fire Rising Main

Sub -Head No. 04

SL . NO	Description	Unit	Qty	Rate	Amount
1	Providing , Laying , jointing and testing M.S pipes lines including cost of excavation etc. complete in all respect. (North + South Side)			1575/-	24.70 Lacs
(a)	150 mm	Metre (1069 + 499)	1568	~~1650.00~~	~~2,587,200.00~~
(b)	100 mm	Metre	RO	1325.00	3.50 Lacs
(c)	80 mm	Metre	350	~~1150.00~~	~~402,500.00~~
2	Providing & fixing valves including cost of surface boxes and masonry chambers etc. complete in all respects.			1000/-	0.60
(a)	150 mm	Each	4	~~14~~000.00	~~56,000.00~~
3	Providing and fixing indicating plates for valve and air valves.				
(a)	Each		40	1000.00	40,000.00
4	Providing and fixing external fire hydrants etc.				
(a)	Each		36	10000.00	360,000.00
5	Provision for carriage for materials and other unforeseen items.			LS	50,000.00
6	Provision for cutting of roads and making good to its original conditions.			LS	50,000.00
	Total cost of Abstract of cost for Subwork No.1				~~3,545,700.00~~
	Material statement for Fire Line refer Annexure-"A"			597	~~35.45~~ 33.80 Lacs

SL . NO	Description	Unit	Qty	Rate	Amount
1	Providing, Laying, Jointing and testing uPVC pipe line Confirming to IS : 4985 including cost of excavation etc. complete in all respect. (Garden Hydrant Line) connect to flushing line				
~~(b)~~	~~90 mm OD (80 mm dia)~~	~~Meter~~	~~1876~~	~~885~~	~~1,660,260.00~~
2	Providing and fixing ball valves including cost of surface boxes and masonry				
(a)	25 mm dia	Each	54	3500	189,000.00
~~(b)~~	~~80 mm dia~~	~~Each~~	~~6~~	~~4750~~	~~28,500.00~~
3	Providing and fixing air release valve.				
(a)		Each	2	10000	20,000.00
4	Provision for carriage of Material and other unforeseen Items.			LS	50,000.00
5	Provision for ~~cuting of roads and making good to its original conditions.~~ 32/25/20 mm ϕ			LS	2.00 Lac ~~50,000.00~~
	TOTAL				~~1,997,760.00~~
	Material statement for GH Line refer Annexure-"B"				

(C/o to Abstract of Cost of SUI) Say ~~1.98 Lac~~ 4.59 Lac

	Sub -Work No. II		Sewerage System		
SL . NO	Description	Unit	Qty	Rate	Amount
1	Providing, jointing, cutting and testing "SW" pipe class "A" and lowering into				
(a)	~~150 mm dia~~ trenches including cost of excavation, mh. Complete in all respect	Meter	~~RO~~	~~950~~	4.05 Las
(b)	200 mm dia	Meter	324	1350	~~437,400.00~~
(c)	250 mm dia	Meter	518	~~1550~~ 1700/-	~~802,900.00~~ 8.81
(d)	300 mm dia c/DS	Meter	177	~~1625~~ 2150/-	~~287,625.00~~ 3.81
2	Provision for ~~MPC~~ from STP outfall by pumping(STP overflow)				
(a)	300 mm dia	Meter	30	~~1625~~ 2150	0.65 ~~48,750.00~~
3	Provision for carriage of Material and other unforeseen Items.			LS	20,000.00
4	Provision for making connection with HUDA Master sewer.			LS	50,000.00
5	~~Capacity of~~ STP (~~450~~ KLD) Prov. for 550 upto territory treatment				100-m Las
6.	Prov. for cutting of roads & making	~~KL~~	~~450~~	~~10000~~	~~4,500,000.00~~ 5.cr
	TOTAL Good to its in original condition, vent pipe			~~6378675~~	~~6,146,675.00~~
	SAY IN LAKHS Lamp Hole etc.			~~63.77~~	~~61.47~~
	Material statement for Sewer Line refer Annexure-"C"				

₹ 123.32 las

Add 3% Contingency & PE charges ₹ 3.70 las

₹ 127.02 las

Add 49% debit, price escalation, unforseen Admin. charges ₹ 62.23 las

₹ 189.25 las

C.O. to final abstract of cost

	Sub -Work No. III		Storm Water System		
SL .NO	Description	Unit	Qty	Rate	Amount
1	Providing lowering, and laying jointing R.C.C pipe class NP-3 cutting specials				
(a)	~~250 mm dia.~~ Complete in all respects	~~Metre~~	~~RO~~	~~1500~~ 875	~~2150x750~~
(b)	400 mm dia.	Metre	1049	~~1850~~ 1750 2500/-	1,835,750.00 26.23
(d)	450 mm dia	Metre	~~RO~~	2200 ~~1975~~	
2	Provision for Road gully chambers & connecting pipe. 2.00			LS	~~100,000.00~~ 2.00
3	Provision for rainwater harvesting arrangements @ Rs. ~~1.25~~ lacs per acre for				
		Nos	Shoring 14.143	2.00 ~~125000~~	28.28 Lacs ~~1,767,875.00~~
4	Provision for lighting watering and timbering drains & other unforeseen			LS	~~500~~,000.00
5	Provision for connection with HUDA 1 No. on master road (L.S)			(L.S)	1.00 Lac
6.	Prov. for cutting of road & making good to its in original condition (L.S)			LS	100,000.00
	TOTAL			~~4,218,325~~	3,903,625.00
	SAY IN LAKHS			~~42.19~~	39.04
	Material statement for Storm Line refer Annexure-"D"				

(C.O. to. final Abstract of cost) = 62.51 Lacs

Add 3% Contingency & P&. charges = 1.87 Lacs

= 64.38 Lacs

Add 49% debth., price escalation, unforseen Admn. charges = 31.54 Lacs

= 95.92 Lacs

C.O. to final abstract of cost

	Sub -Work No.IV		Roads and Footpaths		
Sl.No.	Road No.	Road width(m)	Road Length(m)	Area(sqm)	
1	1-2.	6.000	4.500	27.000	sqm
2	2-3.	6.000	482.500	2895.000	sqm
3	3-5.	8.500	88.055	748.468	sqm
4	5-4.	5.530	11.030	60.996	sqm
5	5-6.	8.500	37.535	319.048	sqm
6	6-7.	11.916	19.385	230.992	sqm
7	6-8.	6.000	76.095	456.570	sqm
8	8-9.	5.166	10.995	56.800	sqm
9	8-10.	6.000	79.365	476.190	sqm
10	10-3.	6.000	247.815	1486.890	sqm
11	10-2.	6.000	161.475	968.850	sqm
12	11-12.	11.777	10.640	125.307	sqm
13	12-13.	4.800	15.375	73.800	sqm
14	12-14.	9.700	20.565	199.481	sqm
15	14-15.	6.000	47.610	285.660	sqm
16	15-16.	6.000	77.150	462.900	sqm
17	16-17.	6.000	80.400	482.400	sqm
18	16-19.	6.000	57.535	345.210	sqm
19	19-20.	6.460	10.300	66.538	sqm
20	19-17.	6.460	7.675	49.581	sqm
21	17-18.	6.000	3.425	20.550	sqm
22	17-16	6.000	80.400	482.400	sqm
23	15-21.	6.000	52.900	317.400	sqm
24	21-22.	6.000	50.920	305.520	sqm
25	21-23.	6.000	47.610	285.660	sqm
26	23-14.	9.700	52.900	513.130	sqm
27	23-25.	9.700	36.000	349.200	sqm
28	25-24.	15.858	8.800	139.550	sqm
29	25-26.	6.995	19.895	139.166	sqm
			1898.850	12370.255	sqm
	Total Road Length (Metre)		1898.85		
	Total Road Area		12370.25	Sq.m	
	Add 5% for curves		618.513	Sq.m	
	Total Road Area		12988.768	Sq.m	
	No. Of Car parking on Surface		91		
	Area required for car parking(5x2.5=12.5)sqm		1137.500		
	Total Area Required for Road & car parking.		14126.268	sqm.	
	Total Length of kerbs =(1898.85x2 +10% for Approach road		4177.747	sqm.	
SL .NO	Description	Unit	Qty	Rate	Amount
1	Provision for leveling and earth filling as Per site condition,				
a)	Block	Acre	14.30	1.50 ~~100000~~	21.45 ~~1,430,000.00~~
2	The necessary provision for construction of roads parking etc has beeb made				
(I)	Constriction of roads by providing granular sub base 300 mm as per MORT & H specifications conforming to clause 401 grading -II 400.1				
(II)	Providing, laying, spreading and compacting hand broken/crushed stone aggregate to wet mix conforming to physical requirement laid in 400 of MORT & H specification n in two layers (Compacting to 250mm (125+125mm) by				

(III)	50mm thick B.M			
(IV)	20mm thick ~~mix seal surfacing~~ SDBC		1000/-	141.26 Las
(a)	Sqm	14126.268 Sqm	~~850~~	~~12,007,327.53~~
3	Provision for kerbs and channels			25.07 Las
(a)	Metre	4177.747	600	~~2,506,648.20~~
4	Provision for making approach and pavement to building.		LS	500,000.00
5	Provision for carriage of materials & other unforeseen Itmes.		LS	50,000.00
6.	TOTAL Prov for Guide map, Traffic light Control etc (LS)			~~16,493,975.73~~ 2.0 Las
	SAY IN LAKHS			164.94
	Material statement for Road refer Annexure-"E"			~~Say = 165 Las~~

195.28 Las

~~(C.O. to final Abstract of cost)~~

Add 3% Contingency & PE charges ₹ 5.85 Las

₹ 201.13 Las

Add 49% price escalation, unforseen Admn, debit charges ₹ 98.55 Las

₹ 299.68 Las

C.O. to final abstract of cost

Sub -Work No.V

Street Lighting

SL .NO	Description	Unit	Qty	Rate	Amount
1	Providing Street lighting on roads as per standard specification of HVPN.				
(a)	~~Acre~~		14.30 Acre	2.50 Lacs ~~100000~~ Bar	35.75 Lacs ~~1,430,000.00~~
	TOTAL				~~1,430,000.00~~
	SAY IN LAKHS				~~14.30~~ 35.75 Lacs

Add 3% Contingency & PB charges @ 1.07 Lacs

~~Cost to final Abstract of cost~~ 36.82 Lacs

Add 49% depth, unforseen, price escalation, Admn-charges @ 18.04 Lacs

Rs. 54.86 Lacs

C.O. to final abstract of cost

SL .NO	Description	Unit	Qty	Rate	Amount
1	Development of lawn areas				
(i)	Acres		14.30 Acre	~~100000~~ 1.50 lacs/ Acre	~~1,430,000.00~~ 21.45 Lacs
(a)	Trenching the ordinary soil up to dept of 60cm including removal and				
(b)	Rough dressing of turfed area				
(c)	Grassing with "Doob Grass" including watering and maintenance of lawns for				
2	Providing tress, guards and planting tress along road at 6.0 m internals for 6.0m wide road Total road length = 1898.850M No of Tress = 1898.850/12 = 158.237 no. Say = ~~159~~ 200 NOS				
(a)	Each cost details Excavation ₹s. 30- manure ₹ 60- Tree Plant ₹ 60- Tree guard ₹ 600- ₹ 750/-		~~159~~ 200	~~900~~ 750/-	~~143,100.00~~ 1.50 lacs
	TOTAL				~~1,573,100.00~~
	SAY IN LAKHS				~~15.750~~

₹ 22.95 lacs

Add 3% Contingency & PE charges ₹ 0.69 lacs

₹ 23.64 lacs

Add 49% dept, price escalation, water Seas, Admn charges ₹ 11.58 lacs

₹ 35.22 lacs

C.O. to final abstract of cost

	Sub -Work No. VII		MTC. Charges & Resurfacing of Roads		
SL.NO	Description	Unit	Qty	Rate	Amount
1	Provision for MTC charges for water supply, sewerage storm water drainage,				
(a)	Acres		14.30	500000.00	7,150,000.00
2	Resurfacing of roads after Ist 5 Yrs, 50mm thick B.M & 25 mm thick premier				
(a)	Sqm		14126.268	600 ~~350.00~~	8475761 ~~4,944,193.80~~
3	Provision for resurfacing of roads after 10 yrs. by providing 25mm thick				
(a)	Sqm		14126.27	~~400~~ ~~600.00~~ 750/-	~~8650508~~ 105.95 Lacs ~~8,475,760.80~~
					~~20,569,954.60~~
	SAY IN LAKHS				~~205.70.~~

~~Say : 212.97 Lacs~~

Total ₹ 262.21 Lacs

Add 3 % Contingency & PE charges ₹ 7.87 Lacs

₹ 270.08 Lacs

Add 49 % depth, price escalation
Unforseen, Admin-charges ₹ 132.34 Lacs

₹ 402.42 Lacs

C.O. for final abstract of cost

MATERIAL STATEMENT OF BOREWELL :- (SOUTH BLOCK)								
S. No.	*Reference* Line	Pipe Length (m)	Length of line In mtr.					
			25mm	32mm	40mm	50 mm	63 mm	80 mm
1	B3-B2	12	0	0	0	0	0	12
2	B2-B1	14	0	0	0	0	0	14
3	B1-PUMP ROOM	25	0	0	0	0	0	25
	TOTAL	51	0	0	0	0	0	51

MATERIAL STATEMENT OF BOREWELL :- (NORTH BLOCK)								
S. No.	*Reference* Line	Pipe Length (m)	Length of line In mtr.					
			25mm	32mm	40mm	50 mm	63 mm	80 mm
1	B2-B1	5	0	0	0	0	0	5
2	B1-PUMP ROOM	40	0	0	0	0	0	40
	TOTAL	45	0	0	0	0	0	45

MATERIAL STATEMENT OF MUNCIPAL LINE :- (SOUTH BLOCK)								
S. No.	*Reference* Line	Pipe Length (m)	Length of line In mtr.					
			25mm	32mm	40mm	50 mm	63 mm	80 mm
1	M2-M1	18	0	0	0	0	0	18
2	M1-PUMP ROOM	25	0	0	0	0	0	25
	TOTAL	43	0	0	0	0	0	43

mt

MATERIAL STATEMENT OF MUNCIPAL LINE :- (NORTH BLOCK)								
S. No.	*Reference* Line	Pipe Length (m)	Length of line In mtr.					
			25mm	32mm	40mm	50 mm	63 mm	80 mm
1	M2-M1	20	0	0	0	0	0	20
2	M1-PUMP ROOM	30	0	0	0	0	0	30
	TOTAL	50	0	0	0	0	0	50

mt

HS023 MATERIAL STATEMENT OF FLUSHING :- (SOUTH BLOCK)											
S. No.	Reference Line	Dia of pipe	Length of Pipe	Dia of pipe	Length of Pipe	Length of line In (m)					
		(mm)	(m)	(mm)	(m)	32mm	40mm	50mm	65mm	80mm	100 mm
1	F1-F2	100	31	40	7	0	7	0	0	0	31
2	F2-F3	100	32	40	7	0	7	0	0	0	32
3	F3-F4	100	32	40	8	0	8	0	0	0	32
4	F4-F5	100	32	40	9	0	9	0	0	0	32
5	F5-F6	100	30	40	9	0	9	0	0	0	30
6	F6-F7	100	32	40	10	0	10	0	0	0	32
7	F7-F8	100	30	40	10	0	10	0	0	0	30
8	F8-F9	100	30	40	11	0	11	0	0	0	30
9	F9-F10	100	28	40	11	0	11	0	0	0	28
10	F10-F11	100	5	40	13	0	13	0	0	0	5
11	F11-F12	100	43	0	0	0	0	0	0	0	43
12	F12-F13	100	4	40	6	0	6	0	0	0	4
13	F11-F14	100	30	0	0	0	0	0	0	0	30
14	F14-F15	100	10	40	15	0	15	0	0	0	10
15	F15-PUMP ROOM	100	20	0	0	0	0	0	0	0	20
	TOTAL		389		116	0	116	0	0	0	389

HS023 MATERIAL STATEMENT OF FLUSHING :- (NORTH BLOCK)											
S. No.	Reference Line	Dia of pipe	Length of Pipe	Dia of pipe	Length of Pipe	Length of line In (m)					
		(mm)	(m)	(mm)	(m)	32mm	40mm	50mm	65mm	80mm	100 mm
1	F1-F2	100	22	40	10	0	10	0	0	0	22
2	F2-F3	100	40	40	24	0	24	0	0	0	40
3	F3-F4	100	57	40	12	0	12	0	0	0	57
4	F4-F5	100	55	40	12	0	12	0	0	0	55
5	F5-F6	100	15	40	12	0	12	0	0	0	15
6	F6-PUMP ROOM	100	14	0	0	0	0	0	0	0	14
	TOTAL		203		70	0	70	0	0	0	203

HS023 MATERIAL STATEMENT OF DOMESTIC :- (SOUTH BLOCK)												
S. No.	Reference Line	Dia of pipe	Length of Pipe	Dia of pipe	Length of Pipe	Length of line In (m)						
		(mm)	(m)	(mm)	(m)	32mm	40mm	50mm	65mm	80mm	100 mm	150 mm
1	D1-D2	150	31	50	7	0	0	7	0	0	0	31
2	D2-D3	150	32	50	7	0	0	7	0	0	0	32
3	D3-D4	150	32	50	8	0	0	8	0	0	0	32
4	D4-D5	150	32	50	9	0	0	9	0	0	0	32
5	D5-D6	150	30	50	9	0	0	9	0	0	0	30
6	D6-D7	150	32	50	10	0	0	10	0	0	0	32
7	D7-D8	150	30	50	10	0	0	10	0	0	0	30
8	D8-D9	150	30	50	11	0	0	11	0	0	0	30
9	D9-D10	150	28	50	11	0	0	11	0	0	0	28
10	D10-D11	150	5	50	13	0	0	13	0	0	0	5
11	D11-D12	150	43	0	0	0	0	0	0	0	0	43
12	D12-D13	150	4	50	6	0	0	6	0	0	0	4
13	D11-D14	150	30	0	0	0	0	0	0	0	0	30
14	D14-D15	150	10	50	15	0	0	15	0	0	0	10
15	D15-PUMP ROOM	150	20	0	0	0	0	0	0	0	0	20
	TOTAL		389		116	0	0	116	0	0	0	389

HS023 MATERIAL STATEMENT OF DOMESTIC :- (NORTH BLOCK)												
S. No.	Reference Line	Dia of pipe	Length of Pipe	Dia of pipe	Length of Pipe	Length of line In (m)						
		(mm)	(m)	(mm)	(m)	32mm	40mm	50mm	65mm	80mm	100 mm	150 mm
1	D1-D2	150	22	50	10	0	0	10	0	0	0	22
2	D2-D3	150	40	50	24	0	0	24	0	0	0	40
3	D3-D4	150	57	50	12	0	0	12	0	0	0	57
4	D4-D5	150	55	50	12	0	0	12	0	0	0	55
5	D5-D6	150	15	50	12	0	0	12	0	0	0	15
6	F6-PUMP ROOM	150	14	0	0	0	0	0	0	0	0	14
	TOTAL		203		70	0	0	70	0	0	0	203

MATERIAL STATEMENT OF GARDEN HYDRANT PIPING :- (SOUTH BLOCK)								
S. No.	*Reference Line*	Pipe Length (m)	Length of line In mtr.					
			25mm	32mm	40mm	50 mm	63 mm	80 mm
1	G1-G2	29	0	0	0	0	0	29
2	G2-G3	21	0	0	0	0	0	21
3	G3-G4	24	0	0	0	0	0	24
4	G4-G5	6	0	0	0	0	0	6
5	G5-G6	34	0	0	0	0	0	34
6	G6-G7	45	0	0	0	0	0	45
7	G7-G8	44	0	0	0	0	0	44
8	G8-G9	15	0	0	0	0	0	15
9	G9-G10	31	0	0	0	0	0	31
10	G10-G11	30	0	0	0	0	0	30
11	G11-G12	36	0	0	0	0	0	36
12	G12-G13	16	0	0	0	0	0	16
13	G13-G14	21	0	0	0	0	0	21
14	G14-G15	2	0	0	0	0	0	2
15	G15-G16	45	0	0	0	0	0	45
16	**G16-G17**	**45**	**0**	**0**	**0**	**0**	**0**	**45**
17	G17-G18	45	0	0	0	0	0	45
18	G18-G19	45	0	0	0	0	0	45
19	G13-G20	21	0	0	0	0	0	21
20	G20-G21	24	0	0	0	0	0	24
21	G21-G22	43	0	0	0	0	0	43
22	G22-G23	28	0	0	0	0	0	28
23	G23-G24	21	0	0	0	0	0	21
24	G24-G25	2	0	0	0	0	0	2
25	G25-G26	30	0	0	0	0	0	30
26	G26-G27	33	0	0	0	0	0	33
27	G27-G28	14	0	0	0	0	0	14
28	G28-G29	45	0	0	0	0	0	45
29	G29-G30	19	0	0	0	0	0	19
30	G30-G31	28	0	0	0	0	0	28
31	G31-G32	32	0	0	0	0	0	32
32	G32-G33	14	0	0	0	0	0	14
33	G33-G34	16	0	0	0	0	0	16
34	G34-G35	29	0	0	0	0	0	29
35	G35-G36	2	0	0	0	0	0	2
36	G36-G37	32	0	0	0	0	0	32
37	G37-G38	14	0	0	0	0	0	14
38	G38-G39	18	0	0	0	0	0	18
39	G39-G40	29	0	0	0	0	0	29
40	G40-G41	6	0	0	0	0	0	6

41	G41-G42	25	0	0	0	0	0	25
42	G42-G43	15	0	0	0	0	0	15
43	G43-G44	14	0	0	0	0	0	14
44	G44-G45	31	0	0	0	0	0	31
45	G45-G46	3	0	0	0	0	0	3
46	G46-G47	35	0	0	0	0	0	35
47	G47-G48	11	0	0	0	0	0	11
48	G48-G49	44	0	0	0	0	0	44
49	G49-G50	6	0	0	0	0	0	6
50	G50-G51	32	0	0	0	0	0	32
51	G51-G52	34	0	0	0	0	0	34
52	G52-G53	7	0	0	0	0	0	7
53	G53-G54	40	0	0	0	0	0	40
54	G54-PUMP ROOM	12	0	0	0	0	0	12
	TOTAL	**1343**	**0**	**0**	**0**	**0**	**0**	**1343**

MATERIAL STATEMENT OF GARDEN HYDRANT PIPING :- (NORTH BLOCK)								
S. No.	*Reference* Line	**Pipe Length (m)**	**Length of line In mtr.**					
			25mm	**32mm**	**40mm**	**50 mm**	**63 mm**	**80 mm**
1	G1-G2	15	0	0	0	0	0	15
2	G2-G3	45	0	0	0	0	0	45
3	G3-G4	2	0	0	0	0	0	2
4	G4-G5	45	0	0	0	0	0	45
5	G5-G6	25	0	0	0	0	0	25
6	G6-G7	21	0	0	0	0	0	21
7	G7-G8	45	0	0	0	0	0	45
8	G8-G9	7	0	0	0	0	0	7
9	G9-G10	44	0	0	0	0	0	44
10	G10-G11	45	0	0	0	0	0	45
11	G11-G12	45	0	0	0	0	0	45
12	G12-G13	44	0	0	0	0	0	44
13	G13-G14	7	0	0	0	0	0	7
14	G14-G15	41	0	0	0	0	0	41
15	G15-G16	23	0	0	0	0	0	23
16	**G16-G17**	**14**	**0**	**0**	**0**	**0**	**0**	**14**
17	G17-G18	9	0	0	0	0	0	9
18	G18-PUMP ROOM	25	0	0	0	0	0	25
	TOTAL	**502**	**0**	**0**	**0**	**0**	**0**	**502**

MATERIAL STATEMENT OF FIRE HYDRANT :- (SOUTH BLOCK)						
S. No.	ReferenceLine	Dia of Pipe	Pipe Length (m)	Length of line In mtr.		
				80mm	100mm	150 mm
1	FH01-FH02	150	16	0	0	16
2	FH02-FH03	150	13	0	0	13
3	FH03-FH04	150	44	0	0	44
4	FH04-FH05	150	6	0	0	6
5	FH05-FH06	150	32	0	0	32
6	FH06-FH07	150	45	0	0	45
7	FH07-FH08	150	45	0	0	45
8	FH08-FH09	150	12	0	0	12
9	FH09-FH10	150	45	0	0	45
10	FH10-FH11	150	45	0	0	45
11	FH11-FH12	150	45	0	0	45
12	FH12-FH13	150	18	0	0	18
13	FH13-FH14	150	7	0	0	7
14	FH14-FH15	150	43	0	0	43
15	FH15-FH16	150	22	0	0	22
16	FH16-FH17	150	21	0	0	21
17	FH17-FH18	150	33	0	0	33
18	FH18-FH19	150	21	0	0	21
19	FH19-FH20	150	7	0	0	7
20	FH20-FH21	150	45	0	0	45
21	FH21-FH22	150	12	0	0	12
22	FH22-FH23	150	7	0	0	7
23	FH23-FH24	150	45	0	0	45
24	FH24-FH25	150	44	0	0	44
25	FH25-FH26	150	45	0	0	45
26	FH26-FH27	150	45	0	0	45
27	FH27-FH28	150	42	0	0	42
28	FH28-FH29	150	45	0	0	45
29	FH29-FH30	150	45	0	0	45
30	FH30-FH31	150	9	0	0	9
31	FH31-FH32	150	16	0	0	16
32	FH32-FH34	150	35	0	0	35
33	FH34-FH33	150	4	0	0	4
34	FH34-FH35	150	16	0	0	16
35	FH35-FH36	150	29	0	0	29
36	FH31-FH37	150	43	0	0	43
37	FH37-PUMP ROOM	150	22	0	0	22
38	BRANCHES	0	0	250	0	0
	TOTAL		1069	250	0	1069
						mh

MATERIAL STATEMENT OF FIRE HYDRANT :- (NORTH BLOCK)						
S. No.	ReferenceLine	Dia of Pipe	Pipe Length (m)	Length of line In mtr.		
				80mm	100mm	150 mm
1	FH01-FH02	150	45	0	0	45
2	FH02-FH03	150	45	0	0	45
3	FH03-FH04	150	45	0	0	45
4	FH04-FH05	150	12	0	0	12
5	FH05-FH06	150	8	0	0	8
6	FH06-FH07	150	21	0	0	21
7	FH06-FH08	150	41	0	0	41
8	FH08-FH09	150	25	0	0	25
9	FH09-FH10	150	45	0	0	45
10	FH10-FH11	150	45	0	0	45
11	FH11-FH12	150	45	0	0	45
12	FH12-FH13	150	22	0	0	22
13	FH13-FH14	150	11	0	0	11
14	FH14-FH15	150	39	0	0	39
15	FH15-FH16	150	3	0	0	3
16	FH16-FH17	150	32	0	0	32
17	FH17-PUMP ROOM	150	15	0	0	15
38	BRANCHES	0	0	100	0	0
	TOTAL		499	100	0	499

mh

HSG 023 MATERIAL STATEMENT OF STORM WATER :- (SOUTH BLOCK)								
S.No	SW Line	Dia of Pipe	Length	Length of line In mtr.				
		(mm)	(mm)	150	200	250	300	400
1	ST01-ST02	400	42	0	0	0	0	42
2	ST02-PIT (RWH-01)	400	5	0	0	0	0	5
3	ST03-ST04	400	30	0	0	0	0	30
4	ST04-ST05	400	24	0	0	0	0	24
5	ST05-ST06	400	62	0	0	0	0	62
6	ST06-PIT (RWH-02)	400	5	0	0	0	0	5
7	ST07-ST08	400	38	0	0	0	0	38
8	ST08-ST09	400	72	0	0	0	0	72
9	ST09-ST10	400	21	0	0	0	0	21
10	ST10-ST11	400	51	0	0	0	0	51
11	ST11-PIT (RWH-03)	400	5	0	0	0	0	5
12	ST12-ST13	400	78	0	0	0	0	78
13	ST13-ST14	400	28	0	0	0	0	28
14	ST14-PIT (RWH-04)	400	5	0	0	0	0	5
15	ST15-ST16	400	124	0	0	0	0	124
16	ST16-PIT (RWH-05)	400	5	0	0	0	0	5
17	ST17-ST18	400	95	0	0	0	0	95
18	ST18-PIT (RWH-06)	400	5	0	0	0	0	5
19	ST19-ST20	400	60	0	0	0	0	60
20	ST20-ST21	400	44	0	0	0	0	44
21	ST21-PIT (RWH-07)	400	5	0	0	0	0	5
22	ST22-OVER FLOW PIPE	400	12	0	0	0	0	12
23	ST23-ST24	400	52	0	0	0	0	52
24	ST24-PIT (RWH-10)	400	5	0	0	0	0	5
25	ST25-ST26	400	48	0	0	0	0	48
26	ST26-PIT (RWH-09)	400	5	0	0	0	0	5
27	ST27-ST28	400	28	0	0	0	0	28
28	ST28-ST29	400	12	0	0	0	0	12
29	ST29-PIT (RWH-08)	400	5	0	0	0	0	5
30	ST30-ST31	400	8	0	0	0	0	8
31	ST31-ST22	400	60	0	0	0	0	60
32	ST22-OVER FLOW PIPE	400	10	0	0	0	0	10
	TOTAL		1049	0	0	0	0	1049

mhs

HSG 023 MATERIAL STATEMENT OF STORM WATER :- (NORTH BLOCK)								
S.No	SW Line	Dia of Pipe	Length	Length of line In mtr.				
		(mm)	(mm)	150	200	250	300	400
1	ST01-ST02	400	78	0	0	0	0	78
2	ST02-PIT (RWH-12)	400	5	0	0	0	0	5
3	ST03-ST04	400	110	0	0	0	0	110
4	ST04-PIT (RWH-11)	400	5	0	0	0	0	5
5	ST05-ST06	400	64	0	0	0	0	64
6	ST06-OVER FLOW PIPE	400	7	0	0	0	0	7
7	ST07-ST08	400	78	0	0	0	0	78
8	ST08-PIT (RWH-13)	400	5	0	0	0	0	5
9	ST09-ST10	400	110	0	0	0	0	110
10	ST10-PIT (RWH-14)	400	5	0	0	0	0	5
11	ST06-OVER FLOW PIPE	400	7	0	0	0	0	7
	TOTAL		474	0	0	0	0	474

mh

HS023 MATERIAL STATEMENT SEWERAGE :- (SOUTH & NORTH BLOCK)							
S.No	SW Line	Dia of Pipe	Length	Length of line In mtr.			
		(mm)	(mm)	150	200	250	300 mm
1	S1-S2	200	123	0	123	0	0
2	S2-S3	250	173	0	0	173	0
3	S3-S4	250	56	0	0	56	0
4	S5-S6	200	48	0	48	0	0
5	S6-S7	200	52	0	52	0	0
6	S7-S4	250	194	0	0	194	0
7	S4-S8	300	55	0	0	0	55
8	S8-S9	300	5	0	0	0	5
9	S10-S11	200	50	0	50	0	0
10	S11-S12	200	51	0	51	0	0
11	S12-S13	250	75	0	0	75	0
12	S13-S14	250	15	0	0	15	0
13	S14-S9	300	102	0	0	0	102
14	S9-(STP)	300	15	0	0	0	15
	Total		1019		324	518	177
15	BY Pass Line From STP	300	30	0	0	0	30
TOTAL			1049	0	324	518	30