

**SERVICE ESTIMATE, DESIGN REPORT AND CALCULATION OF
INTERNAL DEVELOPMENT WORKS
FOR RESIDENTIAL COLONY MEASURING 5.65 Acres GURGAON.**

DEVELOPED BY M/S Pioneer Ltd.

Report

Gurgaon town of Haryana State is situated on Delhi - Jaipur National Highway No.8 at a distance of 30 kms from 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 extent. Further to the increasing demand HUDA has planned to develop new sectors at outskirts of Gurgaon town.

5.65 acres Group Housing Scheme at Gurgaon.
This report and estimate is for approval of

5.65 Acres

Group Housing colony.

WATER SUPPLY

At present the source of water supply in this area is HUDA and optional bore well. As the underground water is potable, provision for one 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 supplied by set of variable frequency pump to each plot which is now a days universally adopted. The water supply system has been designed as per the Hazen William formula.

DESIGN

The scheme has been designed for population considering Population for residential area as per NBC 2016 also as indicated in water demand sheet. The rate of water supply per head/day has been taken as 135 liters per head per day for residential and for others as per NBC 2016 based on their occupancy.

PUMPING EQUIPMENTS

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

SEWERAGE SCHEME

Sewer line from proposed development will be connecting to a centralized Sewage treatment plant with a bypass to HUDA sewer to dispose excess sewage. The sewerage system has been marked on the respective plans.

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

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

STORM WATER DRAINAGE

We proposed to lay underground R.C.C. pipe drains with required number of catch basins, manholes and rainwater recharge pits with over flow to the Proposed HUDA storm drain on sector Road. The intensity of rain fall has been taken as 1-2" per hour. R.C.C storm water line will be designed as per Manning's formula.



Residential Colony, Pioneer, GURUGRAM
Service Estimate for HUDA |Report|

SPECIFICATIONS

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

ROADS

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

STREET LIGHTING

Provision for streets has also been made

HORTICULTURE

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

RATES

The estimate has been prepared based on the present market rates

COST

The total cost of the scheme, including cost of all services works out to be **Rs. 1,005.67** Lacs
Including 3% Contingencies & PE @ 49% Departmental

Say apx. Ten crore Five lacs Sixty Six thousand Seven hundred and Ninety rupees only

For: **M/S Pioneer Ltd.**
For Pioneer Urban Land & Infrastructure Ltd.

Authorized Signatory


Authorized Signatory



PROPOSED BUILDING PLAN OF RESIDENTIAL COLONY MEASURING 5.65 ACRES FOR PIONEER, GURGAON
DAILY WATER DEMAND & PUMPING SYSTEM (Annexure - 1)

Description	Total Units	Total Population	Domestic Water Requirement		Flushing Water Requirement (D)		Gross Water Req. (E)=(C+D)	%age flow to Sewer		Flow to Sewer LPD
			LPD	LPD	LPD	LPD		Dom.80%	Fius.100%	
1 4BHK/5BHK	228	1,596	127.5	203490	45	71820	275310	162792	71820	234612
2 Duplex	13	91	127.5	11602.5	45	4095	15697.5	9282	4095	13377
3 Sky Villa	1	7	127.5	892.5	45	315	1207.5	714	315	1079
4 Club House		593	25	14825	20	11860	26685	11860	11860	23720
5 Miscellaneous Staff		80	25	2000	20	1600	3600	1600	1600	3200
6 Pool Make up				15000						
7 Filter Backwash Water				8605			8605			8605
Total Water Requirement (in Ltrs.)	242	2367		256415		89690	331105			284543
Say (in Kl)				257		90	332			285



Residential Colony, Pioneer, GURUGRAM
 Service Estimate for HUDA | Water Demand |

Fire demand 100 * (P in thousand) x 0.5 only for Underground static Reservoir)	Req	Proposed
Horticulture Total area of (15% of Site) @ 25000 / Acre from STP	153.85	675 KLD
Green Area (15% of Total Site)	21.19	20 KLD
STP capacity 100% Flushing + 80% Domestic	0.85	
	285.00	300 KLD

Capacity of Tanks:	Capacity of under ground tank is on the basis of 1 day requirement and overhead on 1/2 day requirement.			
	U.G. Tank	O.H. Tank	Location	Nos of Tank
1 Fire Tank (Proposed cap.)	675 KLD		U.G. Plant Room	3 x 225
2 Raw Water Tank (Total domestic demand/2)	129 KLD		U.G. Plant Room	2 x 65
3 Dom Water Tank (Total domestic demand/2)	129 KLD		U.G. Plant Room	2 x 65
4 Flu. + Irrigation Water Tank	111 KLD		S.T. Plant Room	2 x 60
			Total	1055 Kl



Pump Calculation

1 Domestic water transfer pump			2 Flushing water transfer pump		
1.1 Pump Capacity	230 LPM	(2w+1s)	1.1 Pump Capacity	170 LPM	(1w+1s)
a) Total Demand	219 KLD		a) Total Demand	78 KLD	
b) Daily working hours	8.0 Hrs		b) Daily working hours	8.0 Hrs	(24/3)
c) Required pump capacity	227.7 LPM		c) Required pump capacity	162.1 LPM	
d) Nos. of working pumps	2 Nos.		d) Nos. of working pumps	1 Nos.	
1.2 Pump Head	200 Mtr.	Say	1.2 Pump Head	205 Mtr.	Say
a) Suction lift	0		a) Suction lift	0	
b) Elevation height (UGT+Tower+OHT)	179		b) Elevation height (UGT+Tower+OHT)	183	
c) Residual head	10		c) Residual head	10	
d) Frictional head loss (As per design sheet)	7.13		d) Frictional head loss (As per design sheet)	7.8150	
1.3 Pump HP	40.0 HP	Say	1.3 Pump HP	10.0 HP	Say
a) $(Lpm \times head (m) / 4500 \times .65(\text{effi}))$	17.0		a) $(Lpm \times head (m) / 4500 \times .65(\text{effi}))$	12.9	

3 Irrigation water transfer pump			4 Fire pumpsets		
3.1 Pump Capacity	115 LPM	(1w+1s)	a) Wet riser pump (Electric operated)	2850 LPM	MSMO
a) Total Demand	20 KLD		b) Jockey pump (WR) (Electric operated)	180 LPM	MSMO
b) Daily working hours	3.0 Hrs		c) Sprinkler pump (Electric operated)	2850 LPM	MSMO
c) Required pump capacity	111.1 LPM		d) Jockey pump (Spr) (Electric operated)	180 LPM	MSMO
d) Nos. of working pumps	1 Nos.		e) Diesel Engine driven pump (SB-1)	2850 LPM	MSMO
3.2 Pump Head	45 Mtr.	Say	f) Curtain Nozzel pump (Electric operated)	5300 LPM	
a) Suction lift	0		g) Diesel Engine driven pump (SB-2)	2850 LPM	MSMO
b) Elevation height	15		4.2 Pump Head (For Curtain Nozzels)	40 Mtr.	Say
c) Residual head	20		a) Suction lift	0	
d) Frictional head loss	10		b) Elevation height (B3-B1 (12.5))	12.5	
3.3 Pump HP	1.5 HP	Say	c) Residual head	15	
a) $(Lpm \times head (m) / 4500 \times .65(\text{effi}))$	1.9		d) Frictional head loss	10	
			4.2 Pump Head (For Hydrant and Sprinkler)	235 Mtr.	Say
			a) Suction lift	0	
			Elevation height (B3-B1 (12.5) +GF to Terrace	179	
			b) + 1M on Terrace	179	
			c) Residual head	35	
			d) Frictional head loss	20	
			4.3 Pump HP for Main Electric pumps	300.0 HP	Say
			a) $(Lpm \times head (m) / 4500 \times .65(\text{effi}))$	248.1	HP
			4.4 Pump HP for Jockey pumps	20.0 HP	Say
			a) $(Lpm \times head (m) / 4500 \times .65(\text{effi}))$	15.7	
			4.4 Pump HP for Curtain pumps	100.0 HP	Say
			a) $(Lpm \times head (m) / 4500 \times .65(\text{effi}))$	78.5	

5 Capacity of DG Set				Total Power cons.
a) Domestic water transfer pump	2 Nos.	40.0 HP		80.0 HP
b) Flushing water transfer pump	1 Nos.	10.0 HP		10.0 HP
c) Irrigation water transfer pump	1 Nos.	1.5 HP		1.5 HP
6.2 Total HP required				91.5 HP
a) DG Capacity 80% of total power				73.2 KVA
6.3 DG Capacity (Total power required)	75 KVA			To be fed from Main DG Set of the building

7 HUDA water supply line calculation	Demand	Flow	Dia	Line length	F. Loss	Velocity	Total loss
	LPD	LPM	mm	Mtr	Mtr/Mtr	M/Sec	Mtr/Mtr
7.1 From Municipal conn. To UGT	257000	178.47	65	220	0.019	0.896	4.194



FINAL ABSTRACT OF COST

Description	Total of sub work	3% Contingencies and PE charges	TOTAL	49% departmental charges price circulation & unforseen admin charges	Grand Total
Sub Work-1 Water Supply	2,39,64,400	7,18,932	2,46,83,332	1,20,94,833	3,67,78,165
Sub Work-2 Sewerage	58,85,000	1,76,550	60,61,550	29,70,160	90,31,710
Sub Work-3 Drainage	72,79,185	2,18,376	74,97,561	36,73,805	1,11,71,365
Sub Work-4 Road Works	1,35,26,250	4,05,788	1,39,32,038	68,26,698	2,07,58,736
Sub Work-5 Street Lighting	10,45,250	31,358	10,76,608	5,27,538	16,04,145
Sub Work-6 Plantation	2,44,500	7,335	2,51,835	1,23,399	3,75,234
Sub Work-7 Services & Resurfacing of road	1,35,84,000	4,07,520	1,39,91,520	68,55,845	2,08,47,365
TOTALS	Rs. 6,55,28,585.00	Rs. 19,65,857.55	Rs. 6,74,94,442.55	Rs. 3,30,72,276.85	Rs. 10,05,66,719

Total Cost — Say appx. Ten crore Five lacs Sixty Six thousand Seven hundred and Ninety rupees only

Amount per acre Rs. 1,77,99,419.36

For: M/S Pioneer Ltd.

For Pioneer Urban Land & Infrastructure Ltd.

Authorized Signatory

Authorised Signatory

Superintending Engineer,
HSVP Circle, Gurugram

Executive Engineer
HSVP Division No. VI
Gurugram



Residential Colony, Pioneer, GURUGRAM
Service Estimate for HUDA |W.S. SUMMARY|

SUB WORK No. 1

WATER SUPPLY

S No.	Heads	Description	Amount
1	Sub Head 1	HUDA Rising Mains	Rs. 85,39,000.00
2	Sub Head 2	Pumping and machinery	Rs. 1,08,75,000.00
3	Sub Head 3	Water supply and distribution	Rs. 10,37,000.00
4	Sub Head 4	Irrigation System	Rs. 12,65,250.00
5	Sub Head 5	Fire Fighting	Rs. 22,48,150.00
Total Carried over to grand summary			Rs. 2,39,64,400.00



Residential Colony, Pioneer, GURUGRAM
Service Estimate for HUDA | Water Supply Dist. |

SUB WORK No. 1	WATER SUPPLY
Sub Head 3	Water supply and distribution

S No.	Description	Amount
1	Providing, laying, jointing and testing DI/GI pipe lines including fittings etc. complete in all respects.	
1a	Domestic	
a)	40 mm Pipe 150 Mtr @ Rs. 950	Rs. 1,42,500
b)	80 mm Pipe 180 Mtr @ Rs. 1,500	Rs. 2,70,000
c)	100 mm Pipe 0 Mtr @ Rs. 1,650	Rs. 0
d)	150 mm Pipe 0 Mtr @ Rs. 2,000	Rs. 0
1b	Flushing	
a)	32 mm Pipe 110 Mtr @ Rs. 850	Rs. 93,500
b)	50 mm Pipe 160 Mtr @ Rs. 1,050	Rs. 1,68,000
c)	100 mm Pipe 0 Mtr @ Rs. 1,650	Rs. 0
d)	150 mm Pipe 0 Mtr @ Rs. 2,000	Rs. 0
2	Providing and fixing sluice valve including cost of surface boxes and masonry chambers etc. complete in all respects.	
2a	Domestic	
a)	80 mm 3 Each @ Rs. 18,500	Rs. 55,500
b)	40 mm 1 Each @ Rs. 9,500	Rs. 9,500
2b	Flushing	
a)	50 mm 3 Each @ Rs. 13,500	Rs. 40,500
b)	32 mm 1 Each @ Rs. 7,500	Rs. 7,500
3	Provision for carriage of materials and other unforeseen items	Rs. 2,50,000
Total carried over to summary of Sub work - 1		Rs. 10,37,000.00

MATERIAL STATEMENT OF DWS AND FWS REFERS TO ANNEXURE 3 & 4

Sunil Nayyar Consulting Engineers LLP
JAN - 2025



PROPOSED BUILDING PLAN OF RESIDENTIAL COLONY MEASURING 5.65 ACRES FOR PIONEER, GURGAON
 Water supply hydraulic calculation

Domestic Water Supply															
S No.	Line No	Total water Dom. demand As/Design	Peak Water Demand	Length of Pipe	Effective Length (actual)	Proposed line dia.	Velocity In m/sec	Frictional head losses	Elev. Height	F. Loss in Riser	Total Frictional head losses	Commulative Frictional head losses	Head at Start	Head at End	Remarks
		LPD	LPM	Mtr	Mtr	MM	Mtr/sec	Mtr/Mtr	Mtr	Mtr	Mtr	Mtr	Mtr	Mtr	
1	Tower	Tower+POOL 116493	242.7	180.0	216.0	80	0.9651	0.0172	183	3.143	6.852	6.852	-12.3	177.51	
2	Club	CLUB 14825	30.9	150.0	180.0	40	0.4913	0.0110	20	0.221	2.208	2.208	177.5	199.72	
3			273.6	28.0	35.0	100	0.6963	0.0072		0.000	0.253	7.105	199.7	199.97	
4	PUMP		291.5	20.0	25.0	150	0.3297	0.0011		0.000	0.028	7.133	200.0	200.00	



Residential Colony, Pioneer, GURUGRAM
Service Estimate for HUDA | Sewerage Scheme |

SUB WORK No. 2 **SEWERAGE SCHEME**

S No.	Description	Amount
1	Providing , jointing , cutting and testing SW pipe and lowering into trenches including cost excavation, bed concrete, cost of manhole etc.	
a)	150 mm dia 240 Mtr. @ Rs. 1,500 CI class LA (Bye Pass Line)	Rs. 3,60,000
b)	200 mm dia 0 Mtr. @ Rs. 2,000 CI Class LA (In Basement to STP)	Rs. 0
c)	250 mm dia 0 Mtr. @ Rs. 750 RCC Pipe	Rs. 0
d)	300 mm dia 0 Mtr. @ Rs. 950 RCC Pipe	Rs. 0
e)	400 mm dia 0 Mtr. @ Rs. 1,550 RCC Pipe	Rs. 0
2	Provision for carriage of material (L.S)	Rs. 50,000
3	Provision for making connection with HUDA sewer on Master Road	Rs. 1,50,000
4	Provision for cutting of roads & making good to its original condition (L.S.)	Rs. 50,000
5	Provision for lighting and watering (L.S.)	Rs. 25,000
6	Providing STP of 300 KLD Rs. 17,500 per KLD Including machinery	Rs. 52,50,000
Total carried over to final abstract of cost		Rs. 58,85,000

MATERIAL STATEMENT OF SEWERAGE SCHEME REFERS TO ANNEXURE 2



Residential Colony, Pioneer, GURUGRAM
Service Estimate for HUDA |Storm Water|

SUB WORK No. 3

STORM WATER DRAINAGE

S No.	Description	Amount
1	Providing, laying, RCC pipe class NP-2 manholes etc. complete in all respects	
a)	400 mm dia 437.70 Mtr. @ Rs. 1,550	Rs. 6,78,435.00
b)	500 mm dia 120.30 Mtr. @ Rs. 2,500	Rs. 3,00,750.00
c)	600 mm dia 0.00 Mtr. @ Rs. 3,200	Rs. 0.00
d)	700 mm dia 0.00 Mtr. @ Rs. 3,500	Rs. 0.00
2	Provision for lighting and watering	Rs. 1,00,000.00
3	Provision for road gullies & connecting pipe L.S.	Rs. 15,50,000.00
4	Provision for rainwater harvesting arrangements	
	Rs. 6,50,000.00 per acre Recharge Pit 6 Nos.	Rs. 39,00,000.00
5	Provision for timbering & shoring (L.S.)	Rs. 2,00,000.00
6	Provision for watering and timbering drains & other unforeseen charges	Rs. 2,50,000.00
7	Provision for making connection with HUDA Mains. (L.S.) 2 Nos.	Rs. 3,00,000.00
TOTAL CO to FINAL ABSTRACT OF COST		Rs. 72,79,185.00

MATERIAL STATEMENT OF STORM WATER DRAINAGE REFERS TO ANNEXURE 2a

Sunil Nayyar Consulting Engineers LLP
JAN - 2025



PROPOSED BUILDING PLAN OF RESIDENTIAL COLONY MEASURING 5.65 ACRES FOR PIONEER, GURUGRAM

Drainage calculation

SL NO	NAME OF LINE	LENGTH	SELF AREA TO BE DRAINED SQM	AREA IN ACRE	DISCHARGE IN CUM/SEC RAIN INTENSITY	DISCHARGE IN LPS	PIPE DIA MM	SLOPE 1 IN	VELOCITY (m/sec)	DISCHARGE CAPACITY IN LPS	CHECK	GROUND LEVEL AT START	GROUND LEVEL AT END	FALL	INVERT LEVEL AT START	INVERT LEVEL AT END	DEPTH AT START	DEPTH AT END	RWH	REMARKS
1	MH-1	27	510	0.13	0.13	0.004	4.46	400	0.68	85.11	OK	550	550	0.050	548.940	548.940	1.000	1.050		
2	MH-2	29	450	0.11	0.24	0.008	8.40	400	0.68	85.11	OK	550	550	0.054	548.940	548.876	1.060	1.124		
3	MH-3	2	500	0.09	0.32	0.011	11.56	400	0.68	85.11	OK	550	550	0.004	548.976	548.871	1.124	1.179		
4	MH-4	24	500	0.12	0.45	0.016	15.83	400	0.68	85.11	OK	550	550	0.053	548.871	548.818	1.129	1.182	1	
5	MH-5	31	1550	0.36	0.83	0.029	29.39	400	0.68	85.11	OK	550	550	0.059	548.818	548.749	1.182	1.251		
6	MH-6	31	950	0.24	1.07	0.038	37.29	400	0.68	85.11	OK	550	550	0.066	548.749	548.681	1.251	1.319		
7	MH-7	26	1200	0.30	1.36	0.048	48.29	400	0.68	85.11	OK	550	550	0.058	548.681	548.623	1.319	1.377		
8	MH-8	2	500	0.13	1.50	0.053	53.01	400	0.68	85.11	OK	550	550	0.004	548.623	548.619	1.377	1.381	1	
9	MH-9	2	750	0.19	1.68	0.060	59.58	400	0.68	85.11	OK	550	550	0.004	548.619	548.546	1.381	1.454		
10	MH-10	31	840	0.21	1.89	0.067	66.92	400	0.68	85.11	OK	550	550	0.059	548.546	548.477	1.454	1.523		
11	MH-11	31	1360	0.34	2.23	0.079	78.82	400	0.68	85.11	OK	550	550	0.069	548.477	548.428	1.523	1.572		
12	MH-12	27	1650	0.46	2.68	0.095	95.01	500	0.71	139.59	OK	550	550	0.049	548.428	548.428	1.572	1.575		
13	MH-13	2	450	0.11	2.79	0.099	98.94	500	0.71	139.59	OK	550	550	0.003	548.428	548.425	1.575	1.575	1	
14	MH-14	2	0	0.00	2.79	0.099	98.94	500	0.71	139.59	OK	550	550	0.004	548.425	548.421	1.575	1.575	1	
15	MH-15	21	430	0.11	0.11	0.004	3.76	400	0.68	85.11	OK	550	550	0.003	548.421	548.954	1.000	1.046		
16	MH-16	30	260	0.06	0.17	0.006	6.04	400	0.68	85.11	OK	550	550	0.067	548.954	548.888	1.046	1.112		
17	MH-17	5	750	0.19	0.36	0.013	12.60	400	0.68	85.11	OK	550	550	0.011	548.888	548.877	1.112	1.123	1	
18	MH-18	6	781	0.19	0.55	0.019	19.43	400	0.68	85.11	OK	550	550	0.013	548.877	548.863	1.123	1.137		
19	MH-19	20	550	0.14	0.69	0.024	24.33	400	0.68	85.11	OK	550	550	0.044	548.863	548.819	1.137	1.181		
20	MH-20	14	814	0.20	0.89	0.031	31.45	400	0.68	85.11	OK	550	550	0.030	548.819	548.769	1.181	1.211		
21	MH-21	18	535	0.13	1.02	0.036	36.13	400	0.68	85.11	OK	550	550	0.039	548.769	548.750	1.211	1.250		
22	MH-22	25	2100	0.52	1.54	0.055	54.50	400	0.68	85.11	OK	550	550	0.055	548.750	548.694	1.250	1.305		
23	MH-23	3	905	0.22	1.76	0.062	62.42	400	0.68	85.11	OK	550	550	0.006	548.694	548.689	1.306	1.311	1	
24	MH-24	2	850	0.21	1.97	0.070	69.85	400	0.68	85.11	OK	550	550	0.004	548.689	548.684	1.311	1.316	1	
25	MH-25	26	650	0.16	2.13	0.076	75.54	400	0.68	85.11	OK	550	550	0.057	548.684	548.628	1.316	1.372		
26	MH-26	35	350	0.09	2.22	0.079	78.60	400	0.68	85.11	OK	550	550	0.078	548.628	548.550	1.372	1.450		
27	MH-27	19	1250	0.31	2.53	0.090	89.54	500	0.71	139.59	OK	550	550	0.035	548.550	548.515	1.450	1.485		
28	MH-28	31	675	0.17	2.70	0.095	95.44	500	0.71	139.59	OK	550	550	0.056	548.515	548.459	1.485	1.541		
29	MH-29	31	375	0.09	2.79	0.099	98.72	500	0.71	139.59	OK	550	550	0.055	548.459	548.404	1.541	1.596		
30	MH-30	2	270	0.07	2.86	0.101	101.09	500	0.71	139.59	OK	550	550	0.004	548.404	548.400	1.596	1.600		
31	MH-31	7	0	0.00	2.86	0.101	101.09	500	0.71	139.59	OK	550	550	0.013	548.400	548.387	1.600	1.613	1	



Residential Colony, Pioneer, GURUGRAM
Service Estimate for HUDA [Anne. 2]

PROPOSED BUILDING PLAN OF RESIDENTIAL COLONY MEASURING 5.65 ACRES FOR PIONEER, GURGAON
Material statement for Sewerage (Annexure 2)

Towers Sewerqage MB							
				0	0	0	0
STP Bye pass	CILA	150 mm	200 mm	STP	300	KL	
		240					



PROPOSED BUILDING PLAN OF RESIDENTIAL COLONY MEASURING 5.65 ACRES FOR PIONEER, GURGAON
MATERIAL STATEMENT FOR STORM WATER DRAINAGE SYSTEM ANNEXURE-2a

SL NO	NAME OF LINE		LENGTH	PIPE DIA	400MM	500MM	600MM	700MM
			MTR	MM	MTR	MTR	MTR	MTR
Drainage MB for Towers								
1	MH-1	MH-2	27	400	27			
2	MH-2	MH-3	29	400	29			
3	MH-3	RWH-1	2	400	2			
4	RWH-1	MH-4	24	400	24			
5	MH-4	MH-5	31	400	31			
6	MH-5	MH-6	31	400	31			
7	MH-6	MH-7	26	400	26			
8	MH-7	RWH-2	2	400	2			
9	RWH-2	MH-8	2	400	2			
10	MH-8	MH-9	31	400	31			
11	MH-9	MH-10	31	400	31			
12	MH-10	MH-11	27	500		27		
13	MH-11	RWH-3	2	500		2		
14	RWH-3	O/F	2	500		2		
15	MH-12	MH-13	21	400	21			
16	MH-13	MH-14	30	400	30			
17	MH-14	RWH-4	5	400	5			
18	RWH-4	MH-15	6	400	6			
19	MH-15	MH-16	20	400	20			
20	MH-16	MH-17	14	400	14			
21	MH-17	MH-18	18	400	18			
22	MH-18	MH-19	25	400	25			
23	MH-19	RWH-5	3	400	3			
24	RWH-5	MH-20	2	400	2			
25	MH-20	MH-21	26	400	26			
26	MH-21	MH-22	35	400	35			
27	MH-22	MH-23	19	500		19		
28	MH-23	MH-24	31	500		31		
29	MH-24	MH-25	31	500		31		
30	MH-25	RWH-6	2	500		2		
31	RWH-6	O/F	7	500		7		
TOTAL					437.70	120.30	0.00	0.00



Residential Colony, Pioneer, GURUGRAM
Service Estimate for HUDA [Anne-3, 4, 5, 6 & 7]

USED BUILDING PLAN OF RESIDENTIAL COLONY MEASURING 5.65 ACRES FOR PIONEER, GUR

Material statement for Domestic water supply (Annexure-3)								
S No.	Line No	Length	Valves	Dia	100 MM	150 MM	40 MM	80 MM
	Tower	180	3	80				180
	Club	150	1	40			150	
	Pump		1	100	0			
	TOTAL				0	0	150	180
	Valves				0	0	1	3

Valve Dia
80
40

Material statement for Flushing water supply (Annexure-4)								
S No.	Line No	Length	Valves	Dia	100 MM	150 MM	50 MM	32 MM
	Tower	160	3	50			160	
	Club	110	1	32				110
	PUMP	20	1	65				
	Total				0	0	160	110
	Valves				0	0	3	1

Valve Dia
50
32
65

Annexure-5 Municipal supply line						
S No	Line No	Length	Dia	65 mm	80 MM	100 MM
1	Main-Pump	220	65	220		

Annexure-6 Garden hydrant ring									
S No.	Line No	Length	GH	Dia	100 MM	80 MM	50 MM	32 mm	25 mm
1	1-2	29		80		29			
2	2-3	28.5		80		28.5			
3	3-4	31		80		31			
4	4-5	27		80		27			
5	5-6	31		80		31			
6	6-7	30.5		80		30.5			
7	7-8	30		80		30			
8	8-9	30		80		30			
9	9-10	30		80		30			
10	10-11	32		80		32			
11	11-12	29		80		29			
12	12-13	30		80		30			
13	13-14	30		80		30			
14	14-15	30		80		30			
15	15-16	30		80		30			
16	16-17	30		80		30			
17	17-18	30		80		30			
18	18-19	30		80		30			
19	19-20	31		80		31			
20	20-21	30		80		30			
21	21-1	46	21	80		46	105	105	105
	Total		21		0	645	105	105	105



Residential Colony, Pioneer, GURUGRAM
 Service Estimate for HUDA [Anne-3, 4, 5, 6 & 7]

Annexure-7 External Fire hydrant ring							
S No.	Line No	Length	EFH	DIA	80 mm	100 mm	150 mm
1	1-2	45	2	150	10		45
2	2-3	45	1	150	5		45
3	3-4	44	1	150	5		44
4	4-5	38	1	150	5		38
5	5-6	45	1	150	5		45
6	6-7	45	1	150	5		45
7	7-8	45	1	150	5		45
8	8-9	42	1	150	5		42
9	9-10	45	1	150	5		45
10	10-11	34	1	150	5		34
11	11-12	50	1	150	5		50
12	12-13	45	1	150	5		45
13	13-14	40	1	150	5		40
14	14-1	45	1	150	5		45
15	Fire Brigade	50		150			50
16	Draw Out	50		150			50
	Total		15		75	0	708

40



Residential Colony, Pioneer, GURUGRAM
Service Estimate for HUDA | Road Work |

SUB WORK No. 4

ROAD WORK

Width in meter	length in meter	Metalled Portion	Area in Sqm.
5	0.00	5	0.00
6	0.00	6	0.00
7.5	540.00	7.5	4050.00
Total	540		4050.00
Add 5% for curves			202.50
Total Area			4252.50

S No.	Description	Amount
1	Provision for leveling & earth filling as per site condition Approx 5.65 Acre @ Rs. 2,00,000 per acre	Rs. 11,30,000.00
2a	Construction of roads by providing granular sub base 300 mm as per MORT & H specification conforming to clause 401 grading B 400.1	
2b	Providing ,laying,spreading & compacting hand broken/ crushed stone aggregate to met mix macadam conforming to physical requirement laid in 400 of 300 mm GSB 250 mm stone aggregate MORT &H specification in two layers (compacted to 250 mm (125+125) by taking material 1.32 times of the (thickness of the layer) including per mixing of material with water in mechanical mixer .	
2c	50 mm thick BM	
2d	20 mm thick mix seal surfacing 4252.50 Sqm @ Rs. 2,000 per sqm	Rs. 85,05,000.00
3a	Providing of kerbs and channel of CC (1:2.4) on both side of road 540 m @ Rs. 1,000 /M	Rs. 5,40,000.00
4	Provision for guide map and other unforeseen item L.S 5.65 Acre @ Rs. 2,25,000 per Acre	Rs. 12,71,250.00
5	Provision for making approach to each block and pavement L.S 5.65 Acre @ Rs. 2,00,000 per Acre	Rs. 11,30,000.00
6	Provision for parking arrangement L.S	Rs. 4,50,000.00
7	Provision for carriage of material & unforeseen items L.S	Rs. 5,00,000.00
TOTAL CO to FINAL ABSTRACT OF COST		Rs. 1,35,26,250.00

MATERIAL STATEMENT OF ROAD NODS REFERS TO ANNEXURE 8



Residential Colony, Pioneer, GURUGRAM

Service Estimate for HUDA [Anne. 8]

SED BUILDING PLAN OF RESIDENTIAL COLONY MEASURING 5.65 ACRES FOR PIONEER, GU

ANNEXURE-8

SL NO	NAME OF LINE	Width	Road Length	5 Mtr.	6 Mtr.	7.5 Mtr.
		MTR	MM	MTR	MTR	MTR
Road MB						
1	A	7.5	540.0			540.0
TOTAL				0.00	0.00	540.00



Residential Colony, Pioneer, GURUGRAM
Service Estimate for HUDA [Light, Plnt & Rsrfc.]

SUB WORK No. 5 **Street Lighting**

S No.	Description	Amount
1	Providing street lightning on roads as per standard specifications of HVPN.	
	Approx 5.65 Acre @ Rs. 1,85,000 per acre	Rs. 10,45,250.00
TOTAL CO to FINAL ABSTRACT OF COST		Rs. 10,45,250.00

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

S No.	Description	Amount
1	Development of Green areas (organised green of 0.85 Acres)	
a	Trenching the ordinary soil up to dept of 60cm including removal and stacking serviceable material and disposing of by spreading and leveling within a lead of 50m and making up the trenches area to proper leads by filling with earth mixed with manure before and after flooding trench with water including cost of imported earth and manure.	
b	Rough dressing of roof area	
	Grassing with "Doob Grass" including watering and IV. Maintenance of lawns for 30 days till the grass forms a thick lawn, free from weeds and fit for moving in rows 7.5 m Apart in either direction	
	Approx. 0.85 Acres @ Rs. 2,00,000 per Acres	Rs. 1,69,500.00
2	Planting Tree	
a	Providing tress, guards and planting trees along road at 12 m interval Total road length = 545 No of Tress = 46 Say = 50 Cost Analysis of Planting Trees Excavation = 150 each Manure = 175 each Tree plants = 175 each Tree guards = 1000 each = Rs.1500 per tree	
	50 Trees @ Rs. 1,500 per tree	Rs. 75,000.00
TOTAL CO to FINAL ABSTRACT OF COST		Rs. 2,44,500.00



Residential Colony, Pioneer, GURUGRAM

Service Estimate for HUDA |Light, Plnt & Rsrfc. |

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

S No.	Description	Amount
1	Providing of M/C charges for water supply , strom water drainage, sewerage, Road, Street lighting, Horticulture etc. complete in all aspect, including Operational and establishment charges as per HUDA norms for 10 years completion	
	Approx. 5.65 Acres @ Rs. 12,00,000 per Acres	Rs. 67,80,000.00
2	Providing of resurfacing of roads after 5 years 100mm thick layer 100mm thick BUSG complete to 25mm thick premix carpet with seal cost	
	Approx. 4252.50 Sqm @ Rs. 600 per Sqm	Rs. 25,51,500.00
3	Providing of resurfacing of roads after 10 years with 25mm thick premix carpet with seal coat with mech.paver	
	Approx. 4252.50 Sqm @ Rs. 1,000 per Sqm	Rs. 42,52,500.00
	TOTAL GO to FINAL ABSTRACT OF COST	Rs. 1,35,84,000.00

