

LC-4584

**WATER IS PRECIOUS**

**6.50625 ACRES AFFORDABLE RESIDENTIAL  
PLOTTED COLONY IN SECTOR 95 GURUGRAM**

License no 17 of 2022 dated 09.03.2022

*(UNDER DEEN DAYAL JAN AWAS YOJNA 2016)*

**SOLUTREAN BUILDING**  
**TECHNOLOGIES PVT.**  
**LTD.**

**ESTIMATE FOR PROVIDING WATER SUPPLY, SEWERAGE, STORM WATER DRAINAGE,  
ROADS, STREET LIGHTING AND HORTICULTURE IN RESPECT OF 6.50625 ACRES  
AFFORDABLE RESIDENTIAL PLOTTED COLONY IN SECTOR 95, GURUGRAM**

**CONSERVE WATER**

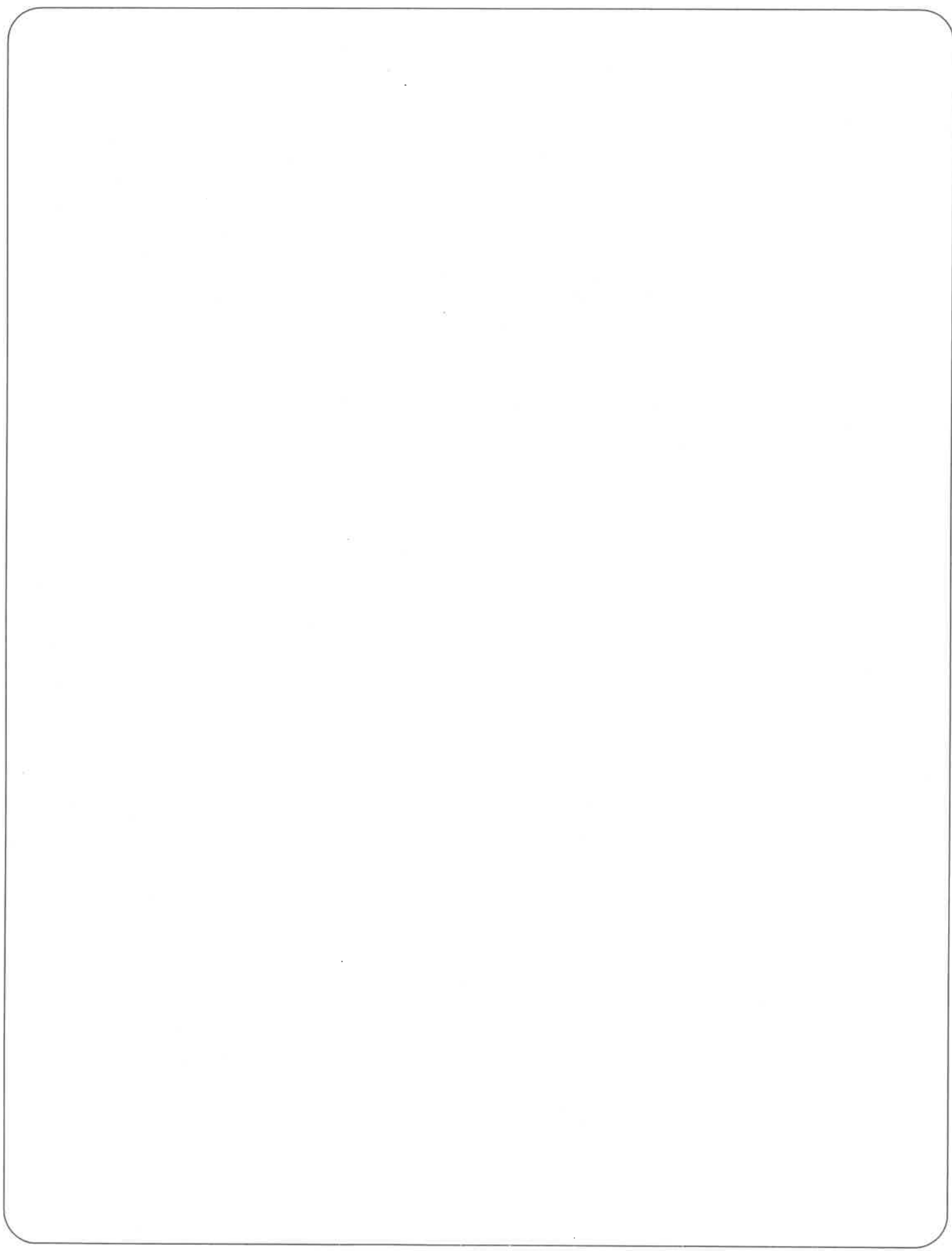
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*Pradeep Mohan*

Authorised Signatory



**PROJECT REPORT/ESTIMATE FOR PROVIDING WATER SUPPLY, SEWERAGE, STORM WATER DRAINAGE, ROADS, STREET LIGHTING AND HORTICULTURE IN RESPECT OF 6.50625 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY IN SECTOR 95 GURUGRAM.**

**REPORT**

The Haryana Government has prepared a master plan for development of Residential/Industrial / Commercial urban estate GURUGRAM. M/S SOLUTREAN BUILDING TECHNOLOGIES PVT LTD has decided to develop a part of the area in this master plan and has named this part as 6.50625 Acres Affordable Residential plotted colony . This scheme is located in sector –95 of HARYANA SAHIRI VIKAS PARADHIKARAN GURUGRAM . License no 17 of 2022 dated 09.03.2022 has already been granted by DTCP HARYANA. The brief details of the colony are as under:-

**WATER SUPPLY**

**1 Source**

The source of water supply in this area is tubewells at present as the underground water is potable and fit for human consumption. Moreover water is available at reasonable depth. The average yield of tubewell with 40-45 ft strainers will be about 25,000 litre per hour. The recharging of underground water table in this belt is stated to be good. However still we shall resort to rain water harvesting system to keep up the recharging system. The number of tubewells required for the above area has been worked out and the tubewells will be bored in tune with growth of demand to avoid absolence of the tubewells. The ultimate requirement of tubewells includes provisions of 10% stand by. Ultimately, water shall be supplied to the Project by HARYANA SAHIRI VIKAS PARADHIKARN, GURUGRAM .

**2 Design**

The scheme has been designed for approved population of 1674 persons. The rate of water supply per head per day has been taken as 172.5 litres (150 + 15 %) as per HSVP norms. In addition to above necessary provision of water for community area, shopping centres, parks etc. have been taken into account for calculating the maximum quantity of water requirement.

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*Prabhat Mokeer*

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### 3 Pump chambers and Pumping Machinery

It is proposed to equip each tubewell with an electrically driven set ejecto type or submersible pump capable of delivering of 25,000 litre per hour. It is also proposed to equip required Nos pumping sets with stand by diesel engines / gen set engines for operation during failure of electricity.

### 4 Under Ground Storage

Underground storage tank provision has been made for 200KL capacity.

- (a) In two compartments, which caters for the domestic as well as for firefighting requirement. The water for domestic water compartment shall overflow the fire compartment so that the water in the fire compartment also remains fresh.

### 5 Boosting Station

The boosting station is being planned near UGSR catering to the above requirement

### 6 Distribution System

The distribution system for this development has been designed to supply @ 172.5 litre per head her day @ 3 times the average rate of flow on Hazen William formula. Necessary provision for laying CI/DI pipes conforming to relevant IS standards along with valves and specials has been made in the project. The minimum terminal head at any point will be more than 27.00 meters so that it can serve the stilt and four floors stories construction envisaged in the plan. Minimum pipe dia for distribution is kept as 100 mm dia. For drinking water supply and 80mm dia for flushing cum irrigation water supply.

### 7 Rising mains

Rising mains from HSVP water main or sector road to water works have also been proposed and provision has been made in this estimate.

### 8 Sewerage

The sewer lines have been designed for 3 times average DWF in relation to the water supply demand assuming that <sup>80%</sup>75% of the domestic water supply shall find its way into the proposed sewer. SW pipe sewers have been proposed and designed to run half full. The sewers

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have been designed on 0.77 M per second minimum velocity i.e. self cleansing velocity. Necessary provision for laying s.w. /R.C.C. pipes manholes etc. has been made in this estimate.

#### **9 Storm water Drainage**

The storm water drainage is being designed to carry 6.25mm rainfall per hour. Also suitable provisions are contemplated in our scheme to ensure better recharging of underground water table in the area R.C.C. Hume pipes drain with minimum 400mm dia is proposed in this area.

#### **10 Roads**

The roads in the colony have been planned 9m wide. The following specifications have been adopted which are reproduced below.

- (i) 200 mm GSB
- (ii) 250 mm stone aggregate
- (iii) 50 mm thick B.M *DBM*
- (iv) 25 mm BC

The above construction shall be done on well compacted sub grade as per specifications. Complete work will be carried out as per MORTH specifications, IRC guide lines or HSVP specifications, which ever applicable.

#### **11 Street lighting**

The provision has been made on lump sum basis.

#### **12 Horticulture**

The usual provision of road side plantation of tree guards has been made for all roads. The parks shall be developed by providing lawns etc.

#### **13 Specifications**

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

#### **14 Rates**

Estimate for providing services in this pocket has been prepared on the recent market rates.

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**15 Cost**

The total cost of development in this project including various P.H. and B & R services works out to Rs ~~661.70~~<sup>623.35</sup> Lacs.

The cost per gross acre for the phase works out to be Rs ~~101.70~~<sup>95.81</sup> which covers the provision of services like water supply, sewerage, storm water drainage, roads, street lighting and plantation including maintenance thereof as well as escalation, administrative departmental and unforeseen charges.

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*Pradeep Makkar*

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**6.50625 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY**

**SECTOR -95 GURUGRAM**  
**DESIGN CALCULATIONS**

**Daily Requirement**

1. **Total No. of Plots** = 124  
Population per plot (@ 13.5) = 1674 persons  
Therefore population =  $13.5 \times 124$   
Water requirement for plots @ 172.5 litres/head/day = 288765.00 litres  
 $1674 \times 172.5$  or  
= 288.76 KL
2. **Add Requirement for Institutions etc.**
- a. No of commercials = 1 No  
Daily water requirement @ 32000 litre/Acre  
Area of commercial = 0.2602 Acre  
Therefore daily water requirement =  $0.2602 \times 32000$  = 8326.40 litres  
= 8.33 KL
- b. **Community FACILITIES**  
Area of community place = 0.6512 acres  
Daily water requirement @ 25000 litre/acre  
=  $0.6512 \times 25000$  = 16280.00 litres  
= 16.28 KL
- Total** = **24.61 KL**
3. **Area under Parks** 0.4912<sup>6</sup> Acre  
Green Parks  
Therefore daily water requirement = 12281.50  
@ 25000 litre/Acre = 12280.00 Litres  
=  $0.4912 \times 25000$  = 12.28 KL  
*0.49126* *12.30*

[Pick the date]

5

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4. Assume daily water requirement for sweeping of roads etc = 10.00 KL

**Total daily requirement**

a. For domestic use (1+2) = 288.76+24.61 = 313.37 KL  
Say <sup>12.30</sup> = 315.00 KL  
b. Under parks & roads (3+4) = ~~12.28~~<sup>22.30</sup>+10.00 = ~~22.28~~ KL  
SAY = 25.00 KL

Assuming requirement for flushing as 1/3 of total domestic demand and therefore daily requirement for flushing = 1/3 X 315.00 = 105.00 KL ✓

Daily requirement of potable drinking water supply = 210.00 KL ✓  
= 315.00 – 105.00

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**6.50625 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY**

**SECTOR -95 GURUGRAM**

**TUBEWELL**

Assuming working hours of tube well	= 16
Assuming discharge/hour of each tube well	= 25000 lit/hour
Total domestic demand (DRINKING)	= 210.00 KL
No. of tubewells required for drinking water supply	= $\frac{210.00}{25 \times 16} = 0.52$
No. of tube wells Required for Total demand	= $\frac{(315.00+25.00)}{25 \times 16} = 0.85$
Add 10% stand by	= 0.09
Total no of tubewells required = 0.85 + 0.09	= 0.94 nos.
SAY	= 1.00

So it is proposed to provide 1 Nos of tube wells at present. Moreover the requirement of flushing water supply is to met from treated sewage from S.T.P. and ultimately water is to be supplied by HSVP

**Pumping machinery for tube wells**

Gross working load	= 45.00 m
Average fall in is S.L.	= 3.00 m
Depression head	= 9.00 m
Friction Loss	= 3.00m
Total	= 60.00 m
B.H.P. = $\frac{25000 \times 60}{60 \times 60 \times 75 \times 0.6}$	With 60% efficiency
	= 9.25 B.H.P.
Say	= 10.00

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**Boosting Machinery (Drinking water)**

Daily requirement for domestic use (Drinking) = 210.00 KLD

Assuming 8 hours running 1 pump (with one stand by) discharge/hour. =  $\frac{210.00}{8}$  = 26.25 KL/HR = 437.50 ltr/m

say = 450.00 ltr/m

**Head of Pump**

- i) Suction Lift 4m
  - ii) Friction Loss in main & specials 4m
  - iii) Clear Head 27m
- 35m
- say 40m

B.H.P. of Motor  $\frac{450.00 \times 40}{60 \times 75 \times 0.6}$  = 6.66  
Say 7.50 H.P.

**Underground Storage Tank (Drinking water supply)**

Daily requirement for domestic use including institutional demand = 210.00 KL

Capacity of under ground tank taking storage (25 + 33 = 58%) say 60% of daily demand =  $210.00 \times 0.6$  = 126.00 KL

Fire fighting 100√P Say = 150.00 KL  
=  $100\sqrt{1.67 \times 1/3}$  = 43.00 KL

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Say = 50.00 KL

Hence it is proposed to provide underground tank of capacity 200 KL which also includes 50 KL capacity for firefighting as well.

This tank will have two compartments, one for fire and the other for domestic use. The water first enters the fire compartment then over flows to the domestic use compartment so that the water in the fire compartment shall remain fresh.

**BOOSTING MACHINERY(Flushing water supply)**

Daily requirement for domestic use (flushing) = 105.00 KL

Add for horticulture and roads = 25.00 KL

**TOTAL** = 130.00 KL

Assuming 8 hours running 1 pumps (with one stand by)

Discharge/hour =  $\frac{130.00}{8}$  = 16.25 KL

Discharge/minute = 270.83 liter/m

say = 300.00 liter/m

**HEAD OF PUMP**

i) Suction lift = 4 M

ii) Friction Loss in main & specials = 4 M

iii) Clear head = 27 M

**TOTAL** = 35 M

SAY = 40 M

B.H.P. of Motor = 4.44

$$= \frac{300 \times 40.00}{60 \times 75 \times 0.6}$$

say = **5.00**

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**UNDERGROUND STORAGE TANK(Flushing water supply)**

Daily requirement for flushing including horticulture = 130.00 KL

Capacity of underground tank taking 8 hours storage = 78.00 KL

= (25 + 33=58 %)

= 130.00 x 0.6

=100.00KL

SAY

~~=100.00 KL~~  
80 KL

**DIESEL GENERATING SET (BOOSTING MACHINERY DRINKING W/S )**

Pumping sets 1 Nos. each = 7.50 H.P.

Lightening etc = 1.50 H.P.

---

= 9.00 H.P.

**Capacity of gen set required**

9.00 x 0.746 x 1.50

= 10.00 KVA

Add 10 % extra

= 1.00

---

= 11.00 ✓

SAY

= 12.50 KVA ✓

**DIESEL GENERATING SET (TUBE WELL )**

Capacity of GEN SET =10X 0.746X1.5

11.19  
=11.12

ADD 10% extra

= 1.12  
~~= 1.11~~

---

= 12.33

Say

12.31  
= 12.50 KVA ✓

**DIESEL GENERATING SET (FLUSHING )**

= 5.59

Capacity of GEN SET = 5X 0.746X1.5

ADD 10% extra

= 0.56

= 6.15

Say

=7.5 KVA ✓

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[Pick the date]

**OVER HEAD SERVICE RESERVIOR**

There is no necessity of O.H.S.R. as the capacity of U.G.S.T. has been increased from 33 % to 60% which includes 25 % capacity of O.H.S.R. of daily requirement

**Capacity of S.T.P.**

Capacity of S.T.P. = <sup>0.75</sup> 0.75 X 315.00

*Add 5% marginal factor →*

$$\begin{array}{r} 252.00 \\ = 236.25 \text{ KLD} \\ \hline 12.60 \\ \hline 264.60 \\ \text{SAY} = 0.25 \text{ MLD} \end{array}$$

*Say 270.00 KL*

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*Prashant Mopkar*  
Authorised Signatory

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**6.50625 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY**

**SECTOR -95 GURUGRAM**

**FINAL ABSTRACT OF COST**

		<b>Amount (Rs. In Lacs)</b>
Sub Work No. I	Water Supply	Rs. 144.80 <i>130.40</i>
Sub Work No. II	Sewerage	Rs. 106.50 <i>91.62</i>
Sub Work No. III	Storm Water Drainage	Rs. 61.80 <i>67.91</i>
Sub Work No. IV	Road and Footpath	Rs. 148.20 <i>147.15</i>
Sub Work No. V	Street Lighting	Rs. 24.80 <i>24.97</i>
Sub Work No. VI	Horticulture Work	Rs. 3.50 <i>3.53</i>
Sub Work No. VII	Maintenance Charges for 10 years i/c resurfacing of roads after 1 <sup>st</sup> 5 years and 2 <sup>nd</sup> 5 years	Rs. 157.76 <i>172.10</i>
Total		Rs. <u>661.70</u> <i>623.34</i>

*Say Rs 623.35 Lakh.*

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*Prabhat Malhotra*

Authorised Signatory

*Cost per acre =  $\frac{623.35}{6.50625} = 95.81$  lacs per acre.*

Checked subject to Comments  
In forwarding letter No. *78766*  
Dt. *16/05/2022* and notes  
attached with the estimate

*[Signature]*

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

*13.5.2022*  
*SDEL (Vij)*

*[Signature]*

Superintending Engineer,  
HSVP Circle, Gurugram

Executive Engineer  
HSVP Division No. V,  
Gurugram

Director of  
Town & Country Planning  
Haryana

[Pick the date]

**FINAL ABSTRACT OF COST (WATER SUPPLY)**

	Amount (Rs in Lacs)
Sub Head No. 1 Head Works	<del>67.50</del> 50.65
Sub Head No. 2 Pumping Machinery	<del>37.60</del> 36.83
Sub Head No. 3 Distribution System (Drinking)	<del>21.40</del> 22.69
Sub Head No. 4 Distribution System (Flushing)	<del>18.30</del> 20.23
<b>Total</b>	<del>144.80</del> 130.40

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*Prabhakar Mokher*

Authorised Signatory

[Pick the date]



**Sub Work-I**

**Sub Head No. 1**

**Water Supply**

**Head Works Rs (Lacs.)**

1. Boring and installing 200 i/d tubewells with reserve/ direct rotary rig complete with pipe strainer to a depth of about 150m complete.  
1 Nos. @ 10.00 Lacs each 10.00
  
2. Constructing pump chambers as per standar design of PWD PH/HSVP of size 4.90x4.25 m  
1 Nos. @ <sup>2.00</sup>4.00 Lacs each ~~4.00~~  
2.00 (L.S.)
  
3. Construction of boundary wall around the Tubewell site  
Water Works 1 No. @ Rs <sup>2.00</sup>3.00 lac ~~3.00~~  
2.00 (L.S.)  
Tube wells 1 Nos. @ Rs <sup>1.50</sup>1.50 ~~1.50~~  
1.50 (L.S.)
  
4. Provision of footpath hedges and lawns at tubewell 1 Nos.  
(L.S.) 1.00
  
5. Construction of boosting chambers of suitable size along with under ground tank of capacity ~~300~~ <sup>200</sup> KL pumping machinery and generating set etc. complete in all respects.

Details of boosting station

- i) Construction of boosting chamber 4.00
- ii) U.G. tank ~~300~~ <sup>200</sup> KL capacity incl ~~75~~ <sup>50</sup> KL 13.50  
For fire fighting in two compartments  
~~And 100 KL for flushing~~  
@ RS ~~300~~ <sup>200</sup> /KL = 4500x~~300~~ <sup>200</sup> ~~9.00~~  
9.00

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*Pradip Kumar*  
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6. Provision for staff quarters for Maintenance <i>staff</i> ] <i>L.S</i>		<i>3.00</i>
<del>i) 1 No 350 sft @ Rs 6.00 Lac</del>	<del>6.00 lac</del>	<del>6.00</del>
7. Prov. for carriage of material (L.S.)	1.00 lac	1.00
P.E. & contingency charges @ 3%		<del>44.00</del> <i>33.00</i>
		<del>1.32</del> <i>0.99</i>
		<hr/> 45.32 <i>33.99</i>
Department escalation unforeseen and administrator charges @ 49%		<del>22.21</del> <i>16.66</i>
		<hr/> 67.53 <i>50.65</i>
	<u>Total Say</u>	<del>67.50</del> <i>50.65</i>

C.O to final abstract of cost

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*Prabir Mondal*

Authorised Signatory

[[Pick the date]]

**Sub Work I**

**Sub Head No. 2**

**Water Supply  
Pumping Machinery**

**Amount (Rs.)  
(in Lacs)**

- |  |                         |
|--|-------------------------|
| 1. Providing and installing electricity driven electro or submersible pumping sets capable of delivering about 25.00KL water per hour against a total head of 60 M complete with motor and other accessories (8 B.H.P.)<br>1 Nos. @ Rs 2.00 lac each | 2.00                    |
| 2. Provision for diesel engine genset or solar power store stand by arrangement for tubewells (12.5 KVA) (L.S.)  | 3.50<br><del>4.00</del> |
| 3. Provision for cheap pressure type chlorination plant complete<br>1 Nos. @ Rs <del>1,00,000/-</del> <sup>1,50,000/-</sup>  | 1.50<br><del>1.00</del> |
| 4. Provision for making foundations and erection of pumping machinery (L.S.)   | 1.00<br><del>2.00</del> |
| 5. Provision for pipes, valves, and specials inside the pump chamber   | 1.00<br><del>2.00</del> |
| 6. Provision for electric services connection including electric transformer and fittings for tubewells chambers complete including transformers L.S.  | 2.00<br><del>2.50</del> |
| 7. Providing and installing centrifugal boosting pumping sets, capable of delivering water at 40 M head complete in all respects (2X7.5+2X5=25H.P.) domestic & flushing<br>4 Sets @ Rs <del>1.25</del> <sup>2.00</sup> lac each (L.S.)               | 8.00<br><del>5.00</del> |

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*Pradheep M. K. Varma*  
Authorised Signatory

[Pick the date]

8. Providing Gen set 12.5 KVA for Boosting Pumps for drinking water supply 7.50KVA for flushing water supply L.S.

4.00  
~~5.00~~

9. Provision for carriage for materials and other unforeseen items L.S.

1.00

Total

~~24.50~~  
24.00

P.E. & contingency charges @ 3%

0.72  
~~0.73~~

Department escalation unforeseen and administrator charges @ 49%

~~25.23~~  
24.72

Total

~~12.36~~  
12.11

~~say~~

~~37.59~~  
36.83  
37.60

C.O to final abstract of cost

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*Prabhat Mokles*

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**6.50625 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY**

**SECTOR -95 GURUGRAM**

SUB WORK NO. I

WATER SUPPLY

SUB HEAD NO. 3

DISTRIBUTION SYSTEM/RISING MAIN

	Amount (Rs in lacs)
1. <sup>(a)</sup> Providing, laying, jointing and testing C.I./D.I. K9 Pipes including cost of excavation complete as per specifications.	
100 mm dia i/d <sup>490</sup> 530 mtrs @ Rs. ( <sup>1250/-</sup> 1060+156 )/=1216 /mtr	6.13 <del>6.44</del>
150 mm dia i/d <sup>195</sup> 220 mtrs @ Rs. ( <sup>1575/-</sup> 1537+156 )/=1693/ mtr	3.07 <del>3.72</del>
1 <sup>(b)</sup> Add cost for D.I. specials L.S.	1.60
2. Providing and fixing sluice valve including cost brick masonry chambers complete in all respect.	
100 mm dia i/d <sup>4</sup> 2Nos. @ Rs. 12000/- each	0.48 <del>0.24</del>
150 mm dia i/d 2 Nos. @ Rs. 15000/- each	0.30
3. Providing and fixing air valves and scour valves or scour taps including cost of brick masonry chamber	
6Nos. @ Rs. 10,000/- each	0.60
4. Providing and fixing fire hydrants complete with masonry chambers	
<sup>6</sup> 4 Nos. @ Rs. <sup>15000/-</sup> 10,000/- each	0.90 <del>0.40</del>
5. Providing and fixing indicator plates for sluice valve, air valve etc.	
<sup>18</sup> 14Nos. @ Rs. 1000/- each	0.18 <del>0.14</del>
6. Provision for rising main D.N. 100mm from main HSVP water line to U.G.S.T. 70 mtrs @ Rs <sup>1250/-</sup> 1216/- mtr	0.88 <del>0.85</del>
7. Provision for D.N. 110mm D.I. rising main from tube well to U.G.S.T. 20 mtrs @ Rs. <sup>1250/-</sup> 1216/- mtr	0.25 <del>0.24</del>

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Prabhu N. Mehta  
Authorised Signatory

[Pick the date]

8. Providing for carriage of material  
L.S.

1.00

~~13.93~~

14.79

Add P.E. & Contingency charges @ 3%

0.44

~~0.42~~

15.23

~~14.35~~

Department escalation unforeseen and administrator<sup>ive</sup>  
charges @ 49%

7.46

~~7.03~~

Total

21.38

Say: \_\_\_\_\_

22.69

Lateh

~~21.40~~

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*Prabhat Makhari*

Authorised Signatory

[Pick the date]

Sub Work No. I

Sub Head No. 4

Water Supply  
Flushing and Irrigation and  
overflow

Amount (Rs. in Lacs)

- 1 (a) Providing, laying, jointing and testing DI pipe K-9 pipes including cost of excavation etc. complete in all respect.
- |                               |  |                         |
|-------------------------------|--|-------------------------|
| a)                            | 80mm dia C.I./D.I. 460m @ Rs. 1000/- M   | 4.50<br><del>4.60</del> |
| b)                            | 100mm dia C.I./D.I. 340 m @ Rs. 1216/- M | 3.50<br><del>4.13</del> |
| c) Add cost for O.I. specials |  | L. 5 1.00               |
- 2 Providing and fixing sluice valves including cost of brick masonry chambers complete in all respect.
- |    |                                    |      |
|----|------------------------------------|------|
| a) | 100mm dia 5nos. @ Rs. 12000/- each | 0.60 |
| b) | 80mm dia 2 nos. @ Rs. 10000/- each | 0.20 |
3. Providing and fixing air valves and scour Valves or scour taps including cost of brick masonry chambers 6 nos. @ Rs. 10000/- each 0.60
4. Providing and fixing indicating plates for sluice Valves, air valves etc. 13 nos. @ Rs. 1000/- each 0.13
- 5 Providing and fixing 25mm and irrigation hydrants
- |                           |        |                         |
|---------------------------|--------|-------------------------|
| 15 nos. @ Rs. 1000/- each | 5000/- | 0.75<br><del>0.15</del> |
|---------------------------|--------|-------------------------|

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Prasanna M. K. K. K.  
Authorized Signatory

[Pick the date]

⑥ Provision for 25mm dia UPVC pipe line 300M approx. 0.90  
e R30W - Per meter for irrigation purpose.

⑦ 6: Provision for carriage of material and other unforeseen items. 1.00  
1.50  

---

13.18  
**11.91**  
Add 3% contingencies & P.E. charges -0.36  
0.40  

---

**12.27**  
13.58

Add 49% departmental, escalation, adm. and unforeseen charges. 6.65  
6.01

**Total** 20.23  
**say** 18.28  
~~18.30~~

For SOLUTREAN BUILDING TECHNOLOGIES PVT. LTD.

Prakant Madkar

Authorised Signatory

[[Pick the date]]



**6.50625 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY**

**SECTOR -95 GURUGRAM**

**SUB WORK II**

**SEWERAGE SCHEME**

**Amount (Rs. in Lacs)**

1.	Providing, lowering, cutting, salt glazed stoneware pipes and specials into trenches including cost of excavation, bed concrete, cost of manholes complete in all respect.		
	i)    200 mm i/d	720	1250
	Av. Depth upto 3M – 760M @ Rs. 1700- per M		9.00 <del>12.93</del>
2.	Provision for providing oblique junctions (L.S.)		2.00
3.	Provision for providing and fixing vent shafts at suitable places as per PH requirement (L.S.)		2.00 <del>1.50</del>
4.	Provision of temporary disposal arrangement till HSVP sewer laid (including cost of STP capacity 0.25MLD) and over flow pipe upto main HSVP sewer	<i>consd. of STP including cost of machines</i>	
			50.00 43.20
5.	Provision of temporary timbering etc. & shoring etc.		0.50 1.00
⑥	Provision for over flow pipe from STP to HSVP sewerline. L.S.		1.00
⑦	Provision for cutting of roads and carriage of materials etc. and other unforeseen charges (L.S.)		1.00
⑧	Provision for connection with HSVP main (L.S.)		1.00
			-----
		Total	69.43 59.70
	P.E. & Contingency charges @ 3%		2.08 1.79
			-----
		Total	71.51 61.49
	Department escalation unforeseen and administrator charges @ 49%		35.04 30.13
			-----
		Total	106.55 91.62
		<del>Say:</del>	<del>106.50</del>

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*Prabhat Nohar*  
Authorized Signatory

[Pick the date]

**6.50625 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY**

**SECTOR -95 GURUGRAM**

**SUB WORK – III**

**STORM WATER DRAINAGE**

**Amount (Rs. in Lacs)**

1. Providing, laying RCC pipes drain class NP – 3 with cement joint, manholes, excavation etc. complete in all respect  
400 mm i/d  
Av. Depth upto 2.0 m – <sup>710</sup>750 M @ Rs. 2500/- per M 17.75  
~~18.75~~
  
2. Provision for road gullies with 300 mm dia pipe connection L.S. 3.00  
~~2.00~~
  
3. Provision for Construction of Rain water harvesting pits at selected place. L.S. 15.00  
9.00  
*6 Nos @ Rs 2.50 lacs each*
  
4. Provision for temporary disposal arrangement till HSVP services are provide L.S. ~~7.00~~  
5.00
  
5. Provision for lighting, watching and temporary diversion of traffic L.S. 1.00
  
6. Provision for cutting of roads and carriage of materials etc. and other unforeseen items L.S. 1.00
  
- 7 Provision for connection with HSVP on master line L.S. 1.00
  
8. Provision for timbering and shoring. L.S. 0.50

Total ~~40.25~~  
44.25

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*Pradeep Mehta*  
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[[Pick the date]]

P.E. & contingency charges @ 3%	1.33 <del>1.21</del>
	-----
	Total 41.46
Department escalation unforeseen and administrator charges @ 49%	45.58 22.33 20.32
	-----
	Total 61.78 67.91
	say <del>61.80</del>

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*Pradeep NOKIA*  
Authorised Signatory

[Pick the date]

**6.50625 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY**

**SECTOR -95 GURUGRAM**

Sub Work No. IV

Road Work

Item No.	Description of Item	Unit	Qty.	Rate (Rs)	Amount (Rs in lacs)
<b>1</b>	<b>Site Clearance</b>				
1.1	Clearing and grubbing road land including uprooting rank, vegetation, grass, bushes, shrubs, saplings and trees girth upto 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable materials to be used or auctioned, upto a lead of 1000m including removal and disposal of top soil not exceeding 150 mm thickness by manual means in areas of light jungle as per drawings and Clause 201 of Morth Specifications.	Hectare	0.70	50000	0.35
<b>2</b>	<b>Earth Works</b>				
2.1	Provision for leveling + earth filling as per site condition approximate	Acre	6.50625	1,50,000 175000/-	9.76 11.39
<b>3</b>	<b>Provision for</b>				
i.	200mm GSB				
ii.	250mm thick stone aggregate				
iii.	50mm thick B.M. <i>DBM</i>				
iv.	25mm thick BC				
	Total	Sqm	4000	1200/- 1640	48.00 65.60
<b>4</b>	<b>Miscellaneous Items</b>				
4.1	Construction of cement concrete Kerb and Channels as per specifications	Meter	1440	600/- 433	8.64 6.24
4.2	Providing and fixing guide maps at selected locations (L.S.)				1.00
4.3	Provision for plot indicators (L.S.)				1.00
4.4	Provision for demarcating burgies (L.S.)				1.00

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4.5 Provision for consd of footpath with 80mm thick pavers laid on both side of roads =  $720 \times 2 = 1440$  m or length  
 $1440 \times 1.50 = 2160$  sqm @ Rs 750/- sqm = 16.20

4.6	4.5	Provision for traffic arrangement				1.00	
4.7	4.6	Provision for carriage of material (L.S.) & unforeseen items.			525	1200/-	2.00
4.8	4.7	Construction of pavement in shopping area $0.26 \times 50/100 = 0.13$ acres = 525 SQM.	sqm	800	1640	8.61	6.30
						96.56	95.88
		Add 3% contingency & P.E. charges				2.90	2.88
		Total				99.46	98.76
		Department escalation unforeseen and administrator charges @ 49%				48.74	48.39
		Total				148.20	147.15
		Say				148.90	

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Prabhat Morkar  
 Authorised Signatory

[Pick the date]

**SUB WORK – V**

**6.50625 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY**  
**SECTOR -95 GURUGRAM**

**Street Lighting**

	Amount (Rs. in lacs)
Providing street lighting on internal Roads as per standard specification in 6.50625 acre area @ Rs. 2,50,000/- per acre	= 16.27
6.50625 x 2,50,000/-	0.49 <del>= 0.41</del>
Add 3% contingencies & P.E. charges	<hr/> <del>= 16.68</del> 16.76
Add Department escalation unforeseen and administrator charges @ 49%	8.21 <del>= 8.17</del>
<b>Total</b>	<hr/> <del>= 24.85</del> 24.97
<del>Say</del>	= 24.80

C/O to final abstract of cost

For SOLUTREAN BUILDING TECHNOLOGIES PVT. LTD.

*Prabhat Mehta*

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[[Pick the date]]

**6.50625 ACRES AFFORDABLE RESIDENTIAL PLOTTED COLONY**

**SECTOR -95 GURUGRAM**

**SUB WORK – VI**

**COST ESTIMATE**

**HORTICULTURE**

**AMOUNT (RS. IN LACS)**

**1 Development of Lawn area**

- a) Trenching the ordinary soil up to depth of 60 cm. Including removal and packing of serviceable material and disposing at a lead of 50 m/ and making up the trenched area to proper level by filling with earth mixed with manure including cost of imported earth and manure.
- b) Rough dressing of trenched area.
- c) Grassing with “doob grass” including watering and maintenance of lawns free from weeds and fit for moving rows 7.50 cm in either direction including for hedges and grill and barbed wire fencing around park and green belts (as per HSVP Norms) Area 0.4912 Acres @ Rs. 1,50,000/- per acre

0.74

**2 Planting of trees with tree guards on Roads at 40' intervals**

Total length of roads= 720 mtr

No. of trees @ 12 m c/c =  $720 \times 2 / 12 = 120$  Nos.

Say = 120NOS

**Cost of the tree**

Excavation Rs. 60/-

Manure Rs. 90/-

Tree plants Rs. 150/-

Tree guards Rs. 1000/-

Total =  $1300 \times 120$

**TOTAL**

Add 3 % contingencies and P.E charges

1.56

2.30

0.07

2.37

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*Prabhat Mehta*  
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Add 49% departmental charges, price escalation , unforeseen and  
Adm charges

1.16

**TOTAL**

**3.53**

~~SAY~~

~~3.50~~

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*Prabhat Mokher*

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[Pick the date]



**SUB – WORK NO VII**

**MAINTENANCE CHARGES AND RESURFACING OF ROADS**

Amount (Rs. in lacs)

**2<sup>nd</sup> phase after 5 yrs of 1<sup>st</sup> phase**

1. Provision for maintenance charges for water supply, sewerage, storm water drainage, roads, streetlights, horticulture etc. complete including operation and establishment charges as per HSVP norma after completion and resurfacing of roads after 10 years.

6.50625 acres @ Rs. 7.50 lacs = ~~51.05~~ <sup>48.80</sup>  
per acre

2. Provision for resurfacing of roads after 1<sup>st</sup> 5 years of maintenance i.e. <sup>100 mm</sup> 100mm thick B.M. and 25mm premix carpet with mechanical paver  
(4000+525) <sup>sqm</sup> 4525 sqm @ Rs 600/- = ~~27.15~~ <sup>24.00</sup>  
Per Sqm

3. Resurfacing of road after 10 years of maintenance by providing <sup>25 mm thick B.M.</sup> 25 mm thick premix carpet with seal coat with mechanical paver  
(4000+525) <sup>sqm</sup> 4525sqm @ Rs 750/- Per Sqm = ~~33.94~~ <sup>30.00</sup>

TOTAL

= ~~112.14~~ <sup>102.80</sup>

Add 3% PE and contingency charges

= ~~3.36~~ <sup>3.08</sup>

= 115.50 <sup>105.88</sup>

Add 49% Departmental charges, price escalation unforeseen and administrator charges.

= ~~56.59~~ <sup>51.88</sup>

= ~~172.09~~ <sup>157.76</sup>

Total

= ~~172.09~~

Say

= ~~172.10~~

For SOLUTREAN BUILDING TECHNOLOGIES PVT. LTD.

*Prabhu Moker*

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[Pick the date]

## STATEMENT FOR CALCULATION OF WATER LOAD

Providing Water Supply Scheme 6.50625 ACRES RESIDENTIAL PLOTTED COLONY  
SECTOR -95, GURUGRAM

Sr. No.	Name of Pipe Line	No of plots		Population @13.5persons per plot	Water requirement @ 115 l/head /day in KLD	Water requirement for non residential plots				Gross requirement in KLPD	Gross water requirement in gallons per day (Total)
		As per plan				Plots area in acres	Type of building	Basis of water requirement	Total water requirement		
1	2	3	4	5	6	7	8	9	10	11	
1	RA	-	-	-	-	-	-	-	-	-	-
2	AA1	3	40.5	4.66	0.6512	COMMUNITY	25KL/ACRE	2/3X16.28 10.85	15.51	3410	
3	AB	3	40.5	4.66	-	-	-	-	4.66	1030	
4	BB1	18	243	27.94	-	-	-	-	27.94	6150	
5	BC	6	81	9.31	-	-	-	-	9.31	2050	
6	CC1	18	243	27.94	-	-	-	-	27.94	6150	
7	CD	2	27	3.1	-	-	-	-	3.10	680	
8	DD1	15	202.5	23.29	-	-	-	-	23.29	5120	
9	DE	-	-	-	-	-	-	-	-	-	
10	EE1	14	189	21.73	-	-	-	-	21.73	4780	

## STATEMENT FOR CALCULATION OF WATER LOAD

Providing Water Supply Scheme 6.50625 ACRES RESIDENTIAL PLOTTED COLONY  
SECTOR -95, GURUGRAM

Sr. No.	Name of Pipe Line	No of plots As per plan	Population @13.5persons per plot	Water requirement @ 115 l/head /day in KLD	Water requirement for non residential plots				Gross requirement in KLPD	Gross water requirement in gallons per day (Total)
					Plots area in acres	Type of building	Basis of water requirement	Total water requirement		
1	2	3	4	5	6	7	8	9	10	11
11	EF	-	-	-	-	-	-	-	-	-
12	FF1	16	216	24.84	0.2602 ACRE	COMMERCIAL	32KL/ACRE	2/3X8.33 =5.55	30.39	6690
13	FG	-	-	-	-	-	-	-	-	-
14	GG1	14	189	21.73	-	-	-	-	21.73	4780
15	GH	-	-	-	-	-	-	-	-	-
16	HH1	15	202.5	23.29	-	-	-	-	23.29	5120

For SOLUTIONEER BUILDING TECHNOLOGIES PVT. LTD.

*Prabhat Kataria*  
Authorised Signatory

## DESIGN STATEMENT

Providing Water Supply Scheme 6.50625 ACRES RESIDENTIAL PLOTTED COLONY  
SECTOR -95, GURUGRAM

S. No	Name of line	Water load in gallons per day			3 times water load in gallons per day	Designed water load in gallons per day	Size in mm	Length in m	Head loss per 1000m	Head loss in pipe line in m	Hydraulic levels in mtr			R.L. at L/E in mtr	Terminal head at L/E in m
		Self	Branch	Total							U/E	L/E	L/E		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	RA	-	45960	45960	137880	217000	150	35.00	5.00	0.18	257.60	257.42	221.32	36.10	
2	AA1	3410	-	3410	10230	24000	100	25.00	0.62	0.02	257.42	257.40	221.32	36.08	
3	AB	1030	41520	42550	127650	217000	150	25.00	5.00	0.13	257.42	257.29	221.34	35.95	
4	BB1	6150	-	6150	18450	30000	100	68.00	0.94	0.06	257.29	257.23	221.38	35.85	
5	BC	2050	33320	35370	106110	176000	150	43.00	3.12	0.13	257.29	257.16	221.37	35.79	
6	CC1	6150	-	6150	18450	30000	100	68.00	0.94	0.07	257.16	257.09	221.40	35.69	
7	CD	680	26490	27170	81510	117000	150	26.00	1.62	0.04	257.16	257.12	221.40	35.72	
8	DD1	5120	-	5120	15360	30000	100	65.00	0.94	0.06	257.12	257.06	221.43	35.63	
9	DE	-	21370	21370	64110	100000	150	25.00	1.21	0.05	257.12	257.07	221.42	35.65	
10	EE1	4780	-	4780	14340	24000	100	50.00	0.62	0.03	257.07	257.04	221.44	35.60	

For SOLUTREAN BUILDING TECHNOLOGIES PVT. LTD.

*Prokesh Mehta*  
Authorized Signatory

## DESIGN STATEMENT

### Providing Water Supply Scheme 6.50625 ACRES RESIDENTIAL PLOTTED COLONY SECTOR -95, GURUGRAM

S.No	Name of line	Water load in gallons per day			3 times water load in gallons per day	Designed water load in gallons per day	Size in mm	Length in m	Head loss per 1000m	Head loss in pipe line in m	Hydraulic levels in mtr		R.L. at L/E in mtr	Terminal head at L/E in m
		Self	Branch	Total							U/E	L/E		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11	EF	-	16590	16590	49770	67000	150	20.00	0.57	0.01	257.07	257.06	221.43	35.63
12	FF1	6690	-	6690	20070	30000	100	68.00	0.94	0.07	257.06	256.99	221.46	35.53
13	FG	-	990	9900	29700	58000	150	20.00	0.44	0.01	257.06	257.05	221.44	25.61
14	GG1	4780	-	4780	14340	30000	100	50.00	0.94	0.05	257.05	257.00	221.46	35.54
15	GH	-	5120	5120	15360	30000	100	45.00	0.94	0.04	257.05	257.01	221.46	35.55
16	HH1	5120	-	5120	15360	30000	100	50.00	0.94	0.05	257.01	256.96	221.48	35.48

For SOLUTREAN BUILDING TECHNOLOGIES PVT. LTD.

*Pradip Kumar*

Authorised Signatory

## SCHEDULE OF QUANTITIES

### Providing Water Supply Scheme 6.50625 ACRES RESIDENTIAL PLOTTED COLONY SECTOR -95, GURUGRAM

Sr. No.	Name of Pipe Line	Pipe (length in M size in mm)								S.V. Qty. in Nos. Size in mm						
		100	150	200	250	300	3	4	5	6	7	8	9	10	11	12
1	2															
1	RA		35.00													
2	AA1	25.00									1					
3	AB		25.00									1				
4	BB1	68.00														
5	BC		43.00													
6	CC1	68.00														
7	CD		26.00													
8	DD1	65.00														
9	DE		25.00										1			
10	EE1	50.00														

FOR SOLUTREAN BUILDING TECHNOLOGIES PVT.LTD.

*Pradham Meekar*

Authorized Signatory

## SCHEDULE OF QUANTITIES

**Providing Water Supply Scheme 6.50625 ACRES RESIDENTIAL PLOTTED COLONY  
SECTOR -95, GURUGRAM**

Sr. No.	Name of Pipe Line	Pipe (length in M size in mm)								S.V. Qty. in Nos. Size in mm								
		100	150	200	250	300	300	250	200	150	100	200	150	100	250	300		
1	2	3	4	5	6	7							8	9	10	11	12	
11	EF		20.00															
12	FF1	68.00											1					
13	FG	<del>20.00</del>	20.00															
14	GG1	50.00																
15	GH	45.00																
16	HH1	50.00																
	<b>TOTAL</b>	489.00	194.00										2	2				
	<b>SAY</b>	<del>496</del> <b>530.00</b>	<del>195</del> <b>220.00</b>										2	2				

For SOLUTREAN BUILDING TECHNOLOGIES PVT. LTD.

*Pradman Prakash*

Authorised Signatory

## SCHEDULE OF QUANTITIES

### FLUSHING CUM IRRIGATION CUM OVERFLOW PIPE LINE 6.50625 ACRES RESIDENTIAL PLOTTED COLONY SECTOR -95, GURUGRAM

Sr. No.	Name of Pipe Line	Pipe (length in M size in mm)			S.V. Qty. in Nos. Size in mm		
		80	100	150	80	100	150
1	2	3	4	5	6	7	8
1	R'A'	-	25.00				
2	A'B'	-	70.00			1	
3	B'B1'	-	26.00			1	
4	B1'B2'	58.00	-				
5	B1'B3'	90.00	-		1		
6	B'C'	-	20.00			1	
7	C'C1'	58.00	-				
8	C'D'	-	35.00			1	
9	D'D1'	85.00	-		1		
10	D'E'	-	20.00				
11	E'E1'	75.00	-				
12	E'F'	-	43.00				
13	F'F1'	75.00	-				
14	F'G'	-	40.00				
<del>15</del>	<del>G'HSVP SEWER</del>	-	<del>40.00</del>			1	
	<b>TOTAL</b>	<b>441.00</b>	<b>319.00</b>		<b>2</b>	<b>5</b>	
	<b>SAY</b>	<b>450 460.00</b>	<b>280 340.00</b>		<b>2</b>	<b>5</b>	

For SOUTREAN BUILDING TECHNOLOGIES PVT. LTD.

*Prasant Mohan*

Authorized Signatory



**STATEMENT FOR CALCULATION OF SEWAGE LOAD**

**PROVIDING SEWERAGE SCHEME 6.50625 ACRES RESIDENTIAL PLOTTED COLONY**

**SECTOR -95, GURUGRAM**

S.No.	Name of Line	Water Requirement of plots			Demand of non residential areas			Total requirement in KLPD	Quantity of Sewage @ 75% of water requirement in cusecs.
		No. of Plots	Population@13.5 persons /plot	Water requirement @172.5 LPCD in KLPD	Nature of bdg	Basis of water requirement	Gross requirement in KLPD		
1	AB	6	81	13.97	-	-	13.97	0.004	
2	BIB	18	243	41.92	COMMUNITY 0.6512	25 ACRE	16.28	0.017	
3	BC	6	81	13.97	-	-	13.97	0.004	
4	CIC	18	243	41.92	-	-	41.92	0.012	
5	CD	2	27	4.66	-	-	4.66	0.001	
6	D1D2	15	200.5	34.93	-	-	34.93	0.010	
7	D2D	-	-	-	-	-	-	-	
8	DE	-	-	-	-	-	-	-	
9	E1E	14	189	32.6	-	-	32.6	0.01	
10	EF	-	-	-	-	-	-	-	

For SOLUTREAN BUILDING TECHNOLOGIES PVT. LTD.

*Pradheev M K*

Authorized Signatory

**STATEMENT FOR CALCULATION OF SEWAGE LOAD**

**PROVIDING SEWERAGE SCHEME 6.50625 ACRES RESIDENTIAL PLOTTED COLONY**  
**SECTOR -95, GURUGRAM**

S.No.	Name of Line	Water Requirement of plots			Demand of non residential areas			Total requirement in KLPD	Quantity of Sewage @ 75% of water requirement in cusecs.
		No. of Plots	Population@1 3.5 persons /plot	Water requirement t @172.5 LPCD in KLPD	Nature of bdg	Basis of water requirement	Gross requirement in KLPD		
11	F1F2	15	202.5	34.93	-	-	-	34.93	0.010
12	F2F4	-	-	-	-	-	-	-	-
13	F3F4	14	189	32.60	-	-	-	32.60	0.010
14	F4F	-	-	-	-	-	-	-	-
15	FG	16	216	37.26	-	-	-	37.26	0.010
16	G-STP	-	-	-	COMMERCIAL 0.2602 ACRE	32KL/ACRE	8.33	8.33	0.003

For SOUTREAN BUILDING TECHNOLOGIES PVT.LTD.

*Prashant Arora*

Authorised Signatory

## DESIGN STATEMENT

### PROVIDING SEWERAGE SCHEME 6.50625 ACRES RESIDENTIAL PLOTTED COLONY SECTOR -95, GURUGRAM

S. No.	Name of Line	Sewage Load in cusecs			3 times sewage load in cusecs	Designed discharge in cusecs	Size in mm	Length in m	Slope 1 in	Velocity in m/sec	Fall in m	Formation level in m		Invert level in m		Depth in m		Avg depth in m
		Self	Branch	Total								U/E	L/E	U/E	L/E	U/E	L/E	
1	AB	0.004	-	0.004	0.47	200	45.00	200	0.82	0.23	221.32	221.34	220.32	220.09	1.00	1.25	1.13	
2	B1B	0.017	-	0.017	0.47	200	76.00	200	0.82	0.38	221.38	221.34	220.38	220.00	1.00	1.34	1.17	
3	BC	0.004	0.021	0.025	0.47	200	43.00	200	0.82	0.22	221.34	221.37	220.00	219.78	1.34	1.59	1.47	
4	C1C	0.012	-	0.012	0.47	200	75.00	200	0.82	0.38	221.40	221.37	220.40	220.02	1.00	1.35	1.18	
5	CD	0.001	0.037	0.038	0.47	200	26.00	200	0.82	0.13	221.37	221.40	220.78	219.65	1.59	1.75	1.67	
6	D1D2	0.01	-	0.01	0.47	200	62.00	200	0.82	0.31	221.43	221.41	220.43	220.12	1.00	1.29	1.15	
7	D2D	-	0.01	0.010	0.47	200	25.00	200	0.82	0.13	221.41	221.40	220.12	219.99	1.29	1.41	1.35	
8	DE	-	0.048	0.048	0.47	200	24.00	200	0.82	0.12	221.40	221.42	220.65	219.53	1.75	1.89	1.82	
9	E1E	0.01	-	0.01	0.47	200	57.00	200	0.82	0.29	221.44	221.42	220.44	220.15	1.00	1.27	1.14	
10	EF	-	0.058	0.058	0.47	200	24.00	200	0.82	0.12	221.42	221.42	220.53	219.41	1.89	2.01	1.95	

## DESIGN STATEMENT

### SECTOR -95, GURUGRAM

S. No.	Name of Line	Sewage Load in cusecs			3 times sewage load in cusecs	Designed discharge in cusecs	Size in mm	Length in m	Slope 1 in	Velocity in m/sec	Fall in m	Formation level in m		Invert level in m		Depth in m		Avg depth in m
		Self	Branch	Total								U/E	L/E	U/E	L/E	U/E	L/E	
11	F1F2	0.01	-	0.01	0.03	0.47	200	57.00	200	0.82	0.29	221.48	221.46	220.48	220.19	1.00	1.27	1.14
12	F2F4	-	0.01	0.01	0.03	0.47	200	40.00	200	0.82	0.2	221.46	221.44	220.19	219.99	1.27	1.45	1.36
13	F3F4	0.01	-	0.01	0.01	0.47	200	57.00	200	0.82	0.29	221.46	221.44	22.46	220.17	1.00	1.27	1.14
14	F4F	-	0.02	0.020	0.02	0.47	200	20.00	200	0.82	0.10	221.44	221.42	219.99	219.89	1.45	1.53	1.49
15	FG	0.01	0.078	0.088	0.264	0.47	200	62.00	200	0.82	0.31	221.42	221.46	219.41	219.10	2.01	2.36	2.19
16	G-STP	0.003	0.088	-0.091	0.273	0.47	200	24.00	200	0.82	0.12	221.46	221.76	219.10	218.98	2.36	2.78	2.57

For SOLUTREAN BUILDING TECHNOLOGIES PVT. LTD.

*Praduman Nohar*

Authorised Signatory

## Schedule of Quantities of S.W. Pipes

PROVIDING SEWERAGE SCHEME 6.50625 ACRES RESIDENTIAL PLOTTED COLONY

SECTOR -95, GURUGRAM

S.No.	Name of Line	Dia of pipe in mm and Length in meters						
		200mm	250mm	300mm	350mm	400mm	450mm	500mm
1	AB	45.00						
2	B1B	76.00						
3	BC	43.00						
4	C1C	75.00						
5	CD	26.00						
6	D1D2	62.00						
7	D2D	25.00						
8	DE	24.00						
9	E1E	57.00						
10	EF	24.00						

For SOUTREAN BUILDING TECHNOLOGIES PVT. LTD.

*Pradeep Kumar*

Authorised Signatory

## Schedule of Quantities of S.W. Pipes

PROVIDING SEWERAGE SCHEME 6.50625 ACRES RESIDENTIAL PLOTTED COLONY  
SECTOR -95, GURUGRAM

S.No.	Name of Line	Dia of pipe in mm and Length in meters								
		200mm	250mm	300mm	350mm	400mm	450mm	500mm		
11	F1F2	57.00								
12	F2F4	40.00								
13	F3F4	57.00								
14	F4F	20.00								
15	FG	62.00								
16	G-STP	24.00								
	<b>Total</b>	<del>718.00</del> 717								
	<b>Say</b>	<del>760.00</del> 720								

For SOLUTREAN BUILDING TECHNOLOGIES PVT. LTD.

*Prabhat Mishra*

Authorised Signatory

## DESIGN STATEMENT

### PROVIDING STORM WATER DRAINAGE SCHEME 6.50625 ACRES RESIDENTIAL PLOTTED COLONY SECTOR -95, GURUGRAM

S.No.	Name of Line	Area in Acres			Discharge in cusecs@1/4" rainfall intensity	Designed discharge in cusecs	Size in mm	Length in mtr	Slope 1 in	Velocity in m/sec	Fall in mtr	Formation level in m		Invert level in mtr		Depth in mtr		Avg depth in mtr
		Self	Branch	Total								U/E	L/E	U/E	L/E	U/E	L/E	
1	AB	0.53	-	0.53	0.13	3.52	400	50.00	560	0.77	0.09	221.48	221.46	220.28	220.19	1.20	1.27	1.24
2	BC	0.09	0.53	0.62	0.15	3.52	400	40.00	560	0.77	0.07	221.46	221.44	220.19	220.12	1.27	1.32	1.30
3	C1C	0.55	-	0.55	0.14	3.52	400	50.00	560	0.77	0.09	221.46	221.44	220.26	220.17	1.20	1.27	1.24
4	CD	0.06	1.17	1.23	0.31	3.52	400	27.00	560	0.77	0.05	221.44	221.43	220.12	220.07	1.32	1.36	1.34
5	D1D	1.17	-	1.17	0.29	3.52	400	74.00	560	0.77	0.14	221.46	221.43	220.26	220.12	1.20	1.31	1.26
6	DE	0.05	2.4	2.45	0.61	3.52	400	20.00	560	0.77	0.03	221.43	221.42	220.07	220.04	1.36	1.38	1.37
7	E1E	0.53	-	0.53	0.13	3.52	400	50.00	560	0.77	0.09	221.44	221.42	220.24	220.15	1.20	1.27	1.24
8	EF	0.05	2.98	3.03	0.76	3.52	400	20.00	560	0.77	0.03	221.42	221.40	220.04	220.01	1.38	1.39	1.39
9	F1F2	0.59	-	0.59	0.15	3.52	400	50.00	560	0.77	0.09	221.43	221.41	220.23	220.14	1.20	1.27	1.24
10	F2F	0.11	3.62	3.73	0.93	3.52	400	12.00	560	0.77	0.02	221.41	221.40	220.14	220.12	1.27	1.28	1.28

## DESIGN STATEMENT

### PROVIDING STORM WATER DRAINAGE SCHEME 6.50625 ACRES RESIDENTIAL PLOTTED COLONY SECTOR -95, GURUGRAM

S. No.	Name of Line	Area in Acres			Discharge in cusecs@1/4" rainfall intensity	Designed discharge in cusecs	Size in mm	Length in mtr	Slope 1 in	Velocity in m/sec	Fall in mtr	Formation level in m		Invert level in mtr		Depth in mtr		Avg depth in mtr
		Self	Branch	Total								U/E	L/E	U/E	L/E	U/E	L/E	
11	FG	0.06	3.73	3.79	0.95	3.52	400	25.00	560	0.77	0.04	221.40	221.37	220.01	219.97	1.39	1.40	1.40
12	GIG	0.72	-	0.72	0.18	3.52	400	68.00	560	0.77	0.12	221.40	221.37	220.20	220.08	1.20	1.29	1.25
13	GH	0.13	4.51	4.64	1.16	3.52	400	43.00	560	0.77	0.08	221.37	221.34	219.97	219.89	1.40	1.45	1.43
14	HIH	1.36	-	1.36	0.34	3.52	400	68.00	560	0.77	0.12	221.37	221.34	220.17	220.05	1.20	1.29	1.25
15	HI	0.07	6.00	6.07	1.52	3.52	400	30.00	560	0.77	0.05	221.34	221.32	219.89	219.84	1.45	1.48	1.47
16	IJ	0.47	6.07	6.54	1.64	3.52	400	40.00	560	0.77	0.07	221.32	221.31	219.84	219.77	1.48	1.54	1.51

For SOLUTREAN BUILDING TECHNOLOGIES PVT. LTD.

*Prabhu - Noicker*

Authorized Signatory



Schedule of Quantities of R.C.C. Pipes

PROVIDING STORM WATER DRAINAGE SCHEME 6.50625 ACRES RESIDENTIAL PLOTTED COLONY  
SECTOR -95, GURUGRAM

S.No.	Name of Line	Dia of pipe in mm and Length in meters					
		400mm	500mm	550mm	600mm	800mm	900mm
1	AB	50.00					
2	BC	40.00					
3	C1C	50.00					
4	CD	27.00					
5	D1D	74.00					
6	DE	20.00					
7	E1E	50.00					
8	EF	20.00					
9	F1F2	50.00					
10	F2F	12.00					

For SOLUTREAN BUILDING TECHNOLOGIES PVT. LTD.

*Prabhat Mohan*

Authorised Signatory

Schedule of Quantities of R.C.C. Pipes

**PROVIDING STORM WATER DRAINAGE SCHEME 6.50625 ACRES RESIDENTIAL PLOTTED COLONY**  
**SECTOR -95, GURUGRAM**

S.No.	Name of Line	Dia of pipe in mm and Length in meters					
		400mm	500mm	550mm	600mm	800mm	900mm
11	FG	25.00					
12	G1G	68.00					
13	GH	43.00					
14	HIH	68.00					
15	HI	30.00					
16	IJ	40.00					
17	R.W.H. TO HSVP STORM	43.00					
	<b>TOTAL</b>	<b>710.00</b>					
	<del>SAY</del>	<del>750.00</del>					

For SOLUTREAN BUILDING TECHNOLOGIES PVT. LTD.

*Prakram Meekar*  
 Authorised Signatory

**DESIGN DATA OF ROADS 6.50625 ACRES RESIDENTIAL PLOTTED COLONY**  
**SECTOR -95, GURUGRAM**

**9.0 M WIDE ROAD**

S.NO	Name of Road	Length in M	
1	R1	132.00	
2	R2	68.00	
3	R3	68.00	
4	R4	50.00	
5	R5	50.00	
6	R6	50.00	
7	R7	50.00	
8	R8	65.00	
9	R9	120.00	
	TOTAL	653.00	
	Add 10 % at curves	65.00	
	TOTAL	718.00	
	SAY	720.00	
	Paved Area of Roads =720M X5.5	3960.00	SQ.M
	SAY	4000.00	SQ.M
	Total length of Roads	720.00	m
	Length of kerbs=720X2	1440.00	m

For SOLUTREAN BUILDING TECHNOLOGIES PVT. LTD.

*Prakash Nohria*

Authorised Signatory