

## Directorate of Town and Country Planning, Haryana

Nagar Yojana Bhawan, Plot No.3, Sector-18A, Moolhya Marg, Chandigarh, web site: tcharyana.gov.in  
Phone: 0172-2549349, e-mail: tcharyana79@gmail.com

Regd.

To

Smt. Sumita Rathee W/o Sh. Virender Kumar Rathee,  
Flat No. 1401, Mohinder Apartment, Plot no. 17,  
Sector 12, Dwarka, South West Delhi.

Memo. No. LC-5384-PA(MK)-2025/ 42465 Dated: 07-11-25

**Subject: Approval of Service Plan/Estimates in respect of licence no. 39 of 2025 dated 25.03.2025 granted for setting up Affordable Residential Plotted Colony DDJAY Policy -2016 over an area measuring 9.64375 acres in the revenue estate of village Bannoli, Sector-50, Bahadurgarh, District Jhajjar- Smt. Sunita Rathee W/o Sh. Virender Kumar Rathee.**

**Reference:** Chief Administrator, HSVP, Panchkula office memo dated 25.09.2025 on the subject cited matter..

Please refer your application on the matter as subject cited above.

The service plan/ estimates in respect of licence no. 39 of 2025 dated 25.03.2025 granted for setting up Affordable Residential Plotted Colony DDJAY Policy -2016 over an area measuring 9.64375 acres in the revenue estate of village Bannoli, Sector-50, Bahadurgarh, District Jhajjar has been checked and corrected wherever necessary and are hereby approved subject to the following terms and conditions:-

1. That you shall abide by the terms and conditions of letter issued by Chief Administrator HSVP Panchkula in respect of subject cited licence colony issued vide memo no. CA-HSVP/CE-I/II / SE(HQ)/ EE(M)/SDE(C)/2025 / 313016 dated 25.09.2025 (copy enclosed as **Annexure 1 & 2**).
2. That you will have to pay External Development Charges as a full and no deduction on account of any services proposed from other Department/from own sources by the colonizer for the time being, as EDC works for a town as a whole will have to be got executed in view of overall planning, proposed area also covered/to be covered in EDC, Jhajjar Town.
3. The category wise area shown on the plans and proposed density of population thereof has been treated to be correct for the purpose of services only.
4. That you are liable to maintain the licensed area for ten years or as per HSVP norms till such time, the colony is taken over by the local authority/State Govt.
5. The wiring system of street lighting will be under ground and the specifications of the street lighting fixture etc. will be as per relevant standard of HVPNI. LED lamps shall be provided to meet the requirement of HVPNI and as well environment.
6. It is made clear that appropriate provision for fire-fighting arrangement as required in the NBC/ISI should also be provided by you and fire safety certificate should also be obtained from the competent authority before undertaking any construction. You shall be sole responsible for fire safety arrangement.

7. All technical notes and comments incorporated in the estimates in two sheets will also apply. A copy of these is also appended as Annexure-A.
8. The correctness of the levels of the colony will be sole responsibility of the owner for integrating the internal sewer/ storm water drainage of the colony by gravity with the master services.
9. That level/extent of external services to be provided by HSVP will be in accordance with EDC deposited. The colonizer will be fully responsible to meet the demand, to dispose of effluent and rain water till these services are provided by HSVP.
10. You shall be solely responsible for disposal of sewage of your colony as per requirement of HSPCB/Environment Deptt. till such time the external services are made available as per the proposal of the town. All the link connections with the external services shall be made by you at your own cost after seeking approval from competent authority. There should be no pollution due to disposal of sewerage of the colony. The disposal of the effluent should be accordance to the standard norms fixed by Haryana State Pollution Board/Environment Department.
11. The estimate does not include the provision of electrification of the colony. However, it is clear that the supervision charges and O&M charges shall be paid by you directly to the HVPNL.
12. That you shall be solely responsible to lay the services upto the external services laid/to be laid by HSVP or any developing agency on Sector dividing road at respective locations/points.
13. You have proposed to utilize recycled water for flushing purposes and provision of separate flushing line, storage tank, metering system, pumping system and plumbing has been made. Therefore, it is clarified that no tap or outlet of any kind will be provided from the flushing lines/plumbing lines for recycled water except for connection to the cistern of flushing tanks and any scouring arrangement. Even ablution taps should be avoided.
  - (i) Two separate distribution systems, independent to each other, will be adopted, one for potable water supply and second for recycled water. Every Home/Office/business establishment will have access to two water pipe lines.
  - (ii) Potable water and recycled water supply lines will be laid on opposite berms of road. Recycled water lines will be above sewer lines. Wherever unavoidable and if all pipes are required to be laid on same side of road, these will be located from the ground surface in order of descending quality. Potable water shall be above recycled water which should be above sewer. Minimum clear vertical separation between a potable water line and a recycled water line shall be one ft, if it not possible then readily identifiable sleeve should be used.

**To avoid any accidental use of recycled water for potable purposes all:-**

- (a) Recycle water pipes, fitting, appurtenances, valves, taps, meters, hydrants will be of Red Colour or painted red.
- (b) Sign and symbols signifying and clearly indicating "Recycle Water" "Not fit for Drinking" must invariably be stamped/fixed on outlets, Hydrants Valves both

surface and subsurface, Covers and at all conspicuous places of recycle distribution system.

- (c) Detectable marker tapes of red colour bearing words "Recycle Water" should be fixed at suitable interval on pipes.
- (d) Octagonal covers, red in colour or painted red and words "Recycle Water-Not fit for Drinking" embossed on them should be used for recycled water.
14. That it shall be mandatory to provide dual/two button or lever flushing system in toilets.
15. You shall be solely responsible for the construction of various structures such as RCC underground tank etc. according to the standard specification good quality and its workmanship. The structural stability responsibility will entirely rest upon you.
16. In case some additional structures are required to be constructed and decided by HSVP/development agency at a later stage, the same will be binding upon you. Flow of control valves will be installed preferably of automatic type on water supply connection with main water supply line, laid by developing agency or HSVP.
17. The formation level of internal road should match with sector roads. Similar other services like water supply, sewerage and SWD level etc. should be fixed in integration of levels of EDC services of water supply, sewerage and SWD etc, which shall be ensured by you.
18. In case it is decided by Govt. that HSVP/Govt. will construct 24 m wide road and will extend master services on 24 m wide internal circulation road, then additional amount at rates as decided by the authority/Govt. will be recoverable over and above EDC.
19. Since, the construction of master plan roads is yet to take place, you will get the road level/formation level of your service fixed from the concerned Superintending Engineer, before execution.
20. This estimate does not include the common services like water supply, storage tank on the top of the building block, the plumbing works etc. will part of the building works.
21. You will have to ensure that the sewer/storm water drainage to be laid by you will be connected with the proposed existing master services by gravity. If it is not possible to connect the services by gravity, it will be your sole responsibility to make the pumping arrangement and maintenance thereof for all the time to come.
22. That you shall not make any connection with the master services i.e. water supply, sewerage, storm water drainage, without prior approval of the competent authority in writing.
23. That the detailed technical proposal/scheme shall be got approved from this office before execution of work at site.
24. The firm will provide solar water heating system as per the guidelines issued by Haryana Govt./Ministry of Environment/Govt. of India.
25. It is made clear that roof top rain harvesting system shall be provided by you as per Central Ground Water Authority norms/Haryana Govt. Notification and the same shall be kept operational/maintained all the time. The arrangement for segregation of first rain water not to be entered into the system shall also be made by you.

26. That you shall transfer the land under master plan road as well as service road to Govt./HSVP for construction of road/service road free of cost and proportionate cost for construction of service road shall also be paid by you.

**Note:-**

- a. That you shall implement the directions given by National Green Tribunal O.A. No. 21 of 2014 and no. 95 of 2014 (in the matter of VardhmanKaushik V/s Union of India & Others) and instructions have been issued by HSVP time to time may be implementation of these instructions at site.
- b. That you shall execute the development works as per Environmental Clearance and comply with the provisions of Environment Protection Act, 1986, Air (Prevention and Control of Pollution of Act 1981) and Water (Prevention and Control of Pollution of 1974). In case of any violation of the provisions of said statutes, you shall be liable for penal action by Haryana State Pollution Controlled Board or any other Authority Administering the said Acts.

A copy of the approved service plan/estimates is enclosed herewith. You are requested to supply three additional copies of the approved service plan/ estimates to the Chief Administrator, HSVP, Panchkula under intimation to this office.

DA/As above



(Sanjay Saini)  
District Town Planner (HQ)  
For Director, Town & Country Planning  
Haryana, Chandigarh

Endst. No LC-5384-PA(MK)-2025/

Dated :

A copy is forwarded to the Chief Administrator, HSVP, Panchkula with reference to his memo No. CA-HSVP/CE-1/II / SE(HQ)/ EE(M)/SDE(C)/2025 / 313016 dated 25.09.2025 (copy enclosed as Annexure 1 & 2). for information and necessary action please.



(Sanjay Saini)

District Town Planner (HQ)  
For Director, Town & Country Planning  
Haryana, Chandigarh

AFFORDABLE RESIDENTIAL PLOTTED COLONY UNDER DEEN DAYAL JAN AWAS YOJNA-2016, OVER AN AREA MEASURING 9.64375 ACRES, LICENSE NO. 39 OF 2025 DATED 26-03-2025 IN THE REVENUE ESTATE OF VILLAGE BAMNOLI, SECTOR-50, TEH. BAHADURGARH & DISTT. JHAJJAR(HARYANA).

DEVELOPED BY SMT. SUNITA W/o SH. VIRENDER KUMAR.

ESTIMATE FOR PROVIDING WATER SUPPLY, SEWERAGE, STORM WATER DRAINAGE, ROADS, STREET LIGHTING AND HORTICULTURE IN RESPECT OF AFFORDABLE RESIDENTIAL PLOTTED COLONY UNDER DEEN DAYAL JAN AWAS YOJNA-2016, OVER AN AREA MEASURING 9.64375 ACRES, LICENSE NO. 39 OF 2025 DATED 26-03-2025 IN THE REVENUE ESTATE OF VILLAGE BAMNOLI, SECTOR-50, TEH. BAHADURGARH & DISTT. JHAJJAR(HARYANA).

Bahadurgarh is a city and municipal council within Jhajjar district in the Indian state of Haryana and Part of National Capital Region or NCR of Delhi. The city comprises 31 wards and is approximately 21 km from National Capital Territory (NCT) of Delhi and 31 km from Jhajjar, the district headquarter.

PROJECT REPORT/ESTIMATE FOR PROVIDING WATER SUPPLY, SEWERAGE, STORM WATER DRAINAGE, ROADS, STREET LIGHTING AND HORTICULTURE IN RESPECT OF AFFORDABLE RESIDENTIAL PLOTTED COLONY UNDER DEEN DAYAL JAN AWAS YOJNA-2016, OVER AN AREA MEASURING 9.64375 ACRES, LICENSE NO. 39 OF 2025 DATED 26-03-2025 IN THE REVENUE ESTATE OF VILLAGE BAMNOLI, SECTOR-50, TEH. BAHADURGARH & DISTT. JHAJJAR(HARYANA).

The Haryana Government has prepared a master plan for development of Residential/Industrial/ Commercial urban estate Bahadurgarh Jhajjar. Project is developed by SMT. SUNITA RATHEE W / O SH. VIRENDER KUMAR RATHEE. They have decided to develop the area in this master plan as a plotted residential colony and has named this part as Proposed Affordable residential plotted Colony for an area measuring 9.64375 Acres in the revenue estate of Village Bamnoli, Sector-50, Teh-Bahadurgarh, Dist Jhajjar, Haryana.

### Water Supply

#### 1 Source

The source of water supply in this area is from HSVP how ever tubewells shall be proposed for Emergency if permission will get from CGWA. At present water supply is from HSVP municipal supply and tanker supply is sweet and fit for human consumption. However in borewell water is available at reasonable depth. The average yield of tubewell with 40-45 ft strainers will be about 20,000 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 after the permission from CGWA in tune with growth of demand. The ultimate requirement of tubewells includes provisions of 10% stand by. Ultimately, water shall be supplied to the Project by HARYANA SHAHARI VIKAS PRADHIKARAN, JAJJAR, HARYANA.

#### 2 Design

The scheme has been designed for approved population of 3096 persons in 9.64375 acres. The rate of water supply per head per day has been taken as 155.25 litres (135+15%) as per NBC 2016 / HSVP norms. In addition to above necessary provision of water for community area, commercial area, parks etc. have been taken into account for calculating the maximum quantity of water requirement.

#### 3 Pumping Equipments

It has been proposed to install pumping set as described with standby of equal capacity. The provision for standby generating set has been provided in case of any electricity failure. Generator will be provided separately or added to the capacity of main generator.

#### 4 Under Ground Storage

Underground storage tank provision has been made for 290KL capacity. In 4 compartments, which caters for the raw, domestic as well as for fire-fighting requirement. The water from fire compartment shall overflow to the raw water compartment so that the water in the fire compartment always remain fresh.

#### 5 Boosting Station

A boosting station having monoblock centrifugal pump set is planned near under ground reservoir to pump water from domestic/ treated under ground water tank to over head water tank provided at individual plot terrace.

#### 6 Distribution System

The distribution system for this development has been designed to supply @ 155.25 litre per head per day @ 2.5 times the average rate of flow on 'Hazen william' formula with C-140. Necessary provision for laying D.I. pipe K-7 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 30.00 meters so that it can serve the still and four floors stories construction envisaged in the plan. Minimum pipe dia for distribution is kept as 100 mm dia for domestic water supply.

#### 7 Rising Mains

Rising mains from HSVP water main or sector road to water works have also been designed and provision for 100 mm dia D.I. pipe line (dia as per design) has been made in this estimate.

*Sunita*



**8 Sewerage**

This scheme is designed for sewer connecting to the proposed sewage treatment plant. The sewage system has been marked on the respective plans.

The sewer lines have been designed for 3 times average DWF in relation to the water supply demand assuming that 80% of water supply shall find its way into the proposed sewer. DWC HDPE SN8 pipe sewers have been proposed and designed to run half full. The sewers have been designed on 0.75 M per second minimum velocity i.e. self cleansing velocity. Necessary provision for laying DWC HDPE SN8 pipes and manholes etc. has been made in this estimate.

**Size/ Shape of Manholes**

As per IS 4111:1986 "Circular type of manholes are much stronger than rectangular and arch type manholes thus these type of manholes are preferred over rectangular as well as arch type manholes. However both rectangular and circular type of manholes are proposed to be provided. The brick masonry rectangular manhole is proposed to be provided for depth upto 0.9m.

The brick masonry/ concrete circular manholes are proposed to be provided for all depth exceeding 0.9 m upwards. Circular manholes are straight down in lower portion and slanting on top portion so as to narrow down the top opening equal to internal dia of manhole cover.

Depending on the depth of manhole, brick circular manhole of dia 910, 1220, 1520, 1820 mm dia are proposed to be provided.

**9 Storm Water Drainage**

The storm water is designed to carry 6.25 mm rainfall per hour or 0.123 cusecs per acre as discharge. Also suitable provisions are contemplated in our scheme to ensure better recharging of underground water table in the area. Underground R.C.C. pipe drain with minimum 400 mm dia are proposed to be provided in this area with circular manhole.

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

**10 Rain Water Storage**

As the water level is very high in this site as per NBC guidelines here we have proposed the Rain Water harvesting pit.

**11 Roads**

The roads are proposed to be provided in the plotted development in such a way that main 10 m wide colony road connects with 12 m service road. Internal service of the roads of the colony 10m wide provide approach for construction of roads to the plots. Detailed calculation of the various item of works have been made on the basis of the detail design of the roads as approved by Chief Engineer HSVP, Jhajar.

*Shub*



**12 Street Lighting**

Street lighting system has been designed to provide illumination of 15 to 20 lux on roads. Street lights are provided on 6 m high steel tubular poles are located on one side of 10.0 m wide road. Luminaries with 65 watts LED lights are proposed to be provided for achieving the desired illumination.

**13 Horticulture**

Provision of road side plantation of trees with tree guards has been made for all roads. The parks shall be developed by providing lawns & ornamental trees with tree guards.

**14 Specifications :**

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

**15 Rates**

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

**16 Cost**

The total cost of development in this project including various P.H. and B & R services works out to **Rs. 1045.09** which includes 3% contingency and PE charges and 4% departmental charges also.

The cost per gross acre for this phase works out to App. **Rs. 108.37** Lacs/acre which covers the provision of services like water supply, sewerage, storm water drainage, roads, street lighting and plantations including plantations maintenance thereof as well as future expansion whatsoever indicated.

**DESIGN CALCULATION**

**Daily water requirement**

Total No. of Plots (General)

Total No. of Plots (EWS)

Population per plot (General)

Population per plot (EWS)

1 Therefore population (General)

Therefore population(EWS)

Total Population

SAY

Total daily Water requirement for plots (135 LPCD + 15%) @

For 9.64375 Acres

Acres

Unit

172

Nos

0

Nos

18

Person/Plot

9

Person/Plot

3096

Persons

0

Persons

3096

Persons

3096

Persons

155.25

LPCD

Domestic @ 65% Flushing @ 35%

312425.10

168228.90

LPD

Or Say

312.50

168.30

KLD (1)

*Shreed*



2 Non Residential building water requirement					
a	No. of commercial area		1	No.	
	Daily water requirement	@	32000	Ltrs/Acre/day	
	Area of commercial		0.3854	Acre	
	Daily water requirement	@	20800	11200	Ltrs/Acre/day
	Therefore daily water requirement		8020.48	4318.72	lit/day
		Or Say	8.02	4.32	KLD
b	No. of community center		1	No.	
	Area of community center		0.9634	Acre	
	Daily water requirement	@	25000	lit/acre/day	
	Daily water requirement		15631.50	8434.125	lit/day
		Or Say	15.66	8.43	KLD
c	No. of milk booth <i>misc.</i>		1	No.	
	Daily water requirement	@	1000	lit/acre/day	
	Daily water requirement		650	350	lit/day
		Or Say	0.65	0.35	KLD
	<b>Total 2 (a+b+c)</b>		<b>24.33</b>	<b>13.10</b>	<b>KLD (2)</b>
3	Area under Parks		0.724	Acre	
	Daily water requirement	@	25000	lit/acre/day	
	Therefore daily water requirement			18100	lit/day
				18.10	KLD
4	Area under Roads & footpath		2.47	Acre	
	Daily water requirement	@	5000	lit/acre/day	
	Therefore daily water requirement			12350	lit/day
				12.35	KLD
	<b>Total</b>			<b>30.45</b>	<b>KLD</b>

*Sub*



<b>I Total daily requirement</b>			
a) For (1+2)	336.83	181.40	KLD
b) Under Road+ Parks (3+4)	0.00	30.44	KLD
<b>Total Daily Requirement</b>	<b>336.83</b>	<b>211.85</b>	<b>KLD</b>
<b>Or Say</b>	<b>337.00</b>	<b>212.00</b>	<b>KLD</b>

<b>II Tubewell</b>			
Assuming working hours of tubewells	12	hours	
Assuming discharge/hour of each tubewell	20	KL/hours	
Total domestic water requirement	337	KLD	
No. of tubewells required	1.40	Nos.	
Add 10% standby	0.14		
<b>Total</b>	<b>1.54</b>	<b>Nos.</b>	
<b>Proposed</b>	<b>2.0</b>	<b>Nos.</b>	

50% req. is done

So It is proposed 1 nos of tubewell if permission will get from CGWA. The provision of 1 no of tubewell has been made in the estimate because the water demand for flushing, horticulture and the road washing purpose is to be met from re circulated after treatment at STP and ultimate water supply is to be provided by HSVP.

<b>III Pumping machinery for tubewell</b>			
a) Gross working load	=	45.00	m
b) Average Fall in S.L	=	3.05	m
c) Depression head	=	6.10	m
d) Friction loss	=	2.50	m
<b>Say</b>	=	<b>66.65</b>	<b>m</b>
<b>Proposed</b>	=	<b>7.41</b>	<b>HP</b>
<b>Proposed</b>	=	<b>7.50</b>	<b>HP</b>

BHP =  $(20 \times 1000 \times 60) / (60 \times 60 \times 75 \times 0.6)$   
 With 60% efficiency

It is proposed to install 1 no. Submersible pumping set with a discharge of 20000 ltr./hour (335 lpm) driven with 7.5 HP electric motor.

<b>IV Underground Tank</b>			
Daily requirement for domestic use and other except fire fighting	=	336.83	KLD
Capacity of under ground tank 14 hr storage except fire fighting @ 60% storage requirement	=	202.10	KLD
<b>Say</b>	=	<b>210.00</b>	<b>KLD</b>
Total Population in General plots	=	3096	Person
Total Population in Commercial area	=	520	Person
Total Population in community centre	=	1300	Person
Total Population	=	4916	Person
Fire Tank Capacity as $100 \times [\text{sqrt}(4916) / 1000] \times 1/3$	=	73.91	KLD
<b>Say</b>	=	<b>80.00</b>	<b>KLD</b>
<b>Total</b>		<b>290.00</b>	<b>KLD</b>

18 Person/plot  
3 sqm/ Person  
3 sqm/ Person

It is proposed to provide 1 no. under ground tank of capacity 290 KL which also includes 80 KL capacity for fire fighting. Tank will have four compartments, Two for fire, one for raw and one for domestic use. The water first enters the fire compartment, then over flows to the domestic water use compartment so that the water in the fire compartment shall remain fresh.

It is proposed to provide under ground tank of following capacity

a) Capacity of Fire tank-1	40.00	KLD
b) Capacity of Fire tank-2	40.00	KLD
c) Capacity of Raw tank	105.00	KLD
d) Capacity of Domestic tank	105.00	KLD

*Shub*



**V BOOSTING MACHINERY (Drinking water)**  
UG. Tank

**a) Filter Feed Pump**

Daily requirement for domestic use	=	336.83	KLD
Assuming 12 hours running 1 pumps (with one standby)			
Discharge/hour	=	28.07	KL/HR
		467.82	LPM
	Or Say	470.00	LPM

Head of pump

i) Suction lifts	=	0.0	m
ii) Friction loss in M-main & specials	=	0.0	m
iii) Clear head	=	30.0	m
	=	30.0	m
Say	=	40 30.0	m

BHP of motor  $(470 \times 40) / (60 \times 75 \times 0.6)$

	=	5.22	6.96	HP
	Or Say	7.50		HP

**b) Domestic Water Transfer Pump**

Daily requirement for domestic use	=	336.83	KLD
Assuming 8 hours running 2 pumps (with one standby)			
Discharge/hour	=	21.05	KL/HR
		350.67	LPM
	Or Say	350.00	LPM

Head of pump

i) Suction lifts	=	5.0	m
ii) Friction loss in M-main & specials	=	10.0	m
iii) Clear head	=	15.0	m
iv) Residual head	=	15.0	m
	=	45.0	m
Say	=	45.0	m

BHP of motor  $(350 \times 45) / (60 \times 75 \times 0.6)$

	=	5.83	HP
	Or Say	7.50	HP

**VI Gen Set**

	Nos.	HP			
a) Raw Water Transfer Pump	1	7.5	=	7.5	HP
b) Domestic Water Transfer Pump	2	7.5	=	15	HP
c) Flushing Water Transfer Pump	2	5.0	=	10	HP
d) Tubewell	?	7.5	=	7.50 + 5	HP
e) Lighting		5.0	=	5.0	HP
				45.0	HP
				50.25	58.7
				60	KVA
					KVA

45.0  
or 52.5 x 0.746 x 1.50  
Say

*Sub*



<b>5 Sewage Treatment Plant capacity</b>				
Gross domestic + Flushing water requirement/day			518.2	KLD
Sewage flow will be 80% of total load			414.59	KLD
<i>Add 5% for marginal factor</i>			<i>20.73</i>	
STP Capacity (Or Say)			<del>420.00</del>	KLD
			<i>435.32</i>	<i>say 440.00</i>
<b>VII STP Treated Tank</b>				
Daily requirement for flushing, horticulture, road washing		=	211.85	KLD
Capacity of under ground tank 14 hr storage @60% storage		=	<i>127.11</i> 126.79	KLD
Say		=	130.00	KLD
<b>VIII BOOSTING MACHINERY (Flushing water)</b>				
<b>STP</b>				
Daily requirement for Flushing & Horticulture use		=	211.85	KLD
Assuming 8 hours running 2 pumps (with one standby)				
Discharge/hour		=	13.24	KL/HR
			220.07	LPM
Head of pump		Or Say	<del>220.08</del>	LPM
			<i>225.0</i>	
i)	Suction lifts	=	5.0	m
ii)	Friction loss in M-main & specials	=	10.0	m
iii)	Clear head	=	15.0	m
iv)	Residual head	=	15.0	m
Say		=	45.0	m
			45.0	m
BHP of motor $(225 \times 45) / (60 \times 75 \times 0.6)$		=	3.75	HP
		Or Say	5.0	HP

*Shreeb*



PROJECT - AFFORDABLE RESIDENTIAL PLOTTED COLONY UNDER DEEN DAVAL JAN AWAS YOJNA-2018 OVER AN AREA MEASURING 9.5375 ACRES, LICENSE NO. 39 OF 2025 DATED 26-01-2025 IN THE  
 REVENUE ESTATE OF VILLAGE BANWOL, SECTOR-56, TEH. BANARDURGARI & DISTT. JHAJJARHARYANA, BEING DEVELOPED BY SMT. SONITA W/O SH. VIRENDER KUMAR.

TITLE :- STORM WATER QTY. SHEET

S.No.	Line No.	Length (mtr.)	Pipe MATERIAL	Size of Pipe		Start (mtr.)	End (mtr.)	Avg. (mtr.)	0-1.2mtr	EXCAVATION			Total No. of Manhole	Manhole					Extra Depth			Catch Basin (sqm)			
				(mm)	(M)					1.5-3.0 mtr	3.0-4.5 mtr	4.5 above		Type-A	Type-B	Type-C	Type-A	Type-B	Type-C	Type-A	Type-B		Type-C		
1	R-01	31	RCC NP-2	400	0.400	1.40	1.47	1.43	30.5	0.0	0.0	0.0	2	2	0	0	0	1.048	0.000	0.000	-	-	-	-	
2	R-02	22	RCC NP-2	400	0.400	1.40	1.45	1.42	21.3	0.0	0.0	0.0	2	2	0	0	0	1.028	0.000	0.000	-	-	-	-	
3	R-03	62	RCC NP-2	400	0.400	1.47	1.41	1.54	0.0	69.0	0.0	0.0	5	5	0	0	0	3.132	0.000	0.000	-	-	-	-	
4	R-04	34	RCC NP-2	400	0.400	1.40	1.48	1.44	34.0	0.0	0.0	0.0	3	3	0	0	0	1.583	0.000	0.000	-	-	-	-	
5	R-05	69	RCC NP-2	400	0.400	1.51	1.36	1.60	0.0	69.0	0.0	0.0	5	5	0	0	0	0.000	3.096	0.000	-	-	-	-	
6	R-06	53	RCC NP-2	400	0.400	1.40	1.52	1.46	53.5	0.0	0.0	0.0	4	4	0	0	0	2.190	0.000	0.000	-	-	-	-	
7	R-07	30	RCC NP-2	400	0.400	1.76	1.87	1.81	0.0	30.0	0.0	0.0	3	3	0	0	0	0.000	0.427	0.000	-	-	-	-	
8	R-08	102	RCC NP-2	400	0.400	1.40	1.63	1.51	0.0	102.0	0.0	0.0	7	7	0	0	0	4.223	0.000	0.000	-	-	-	-	
9	R-09	41	RCC NP-2	400	0.400	1.92	1.95	1.91	0.0	41.0	0.0	0.0	2	2	0	0	0	0.000	0.467	0.000	-	-	-	-	
10	R-10	101	RCC NP-2	400	0.400	1.40	1.82	1.91	0.0	101.0	0.0	0.0	2	2	0	0	0	4.216	0.000	0.000	-	-	-	-	
11	R-11	32	RCC NP-2	400	0.400	1.95	2.03	1.99	0.0	32.0	0.0	0.0	2	2	0	0	0	0.000	0.649	0.000	-	-	-	-	
12	R-12	101	RCC NP-2	400	0.400	1.40	1.82	1.51	0.0	101.0	0.0	0.0	2	2	0	0	0	4.216	0.000	0.000	-	-	-	-	
13	R-13	34	RCC NP-2	400	0.400	1.40	1.46	1.44	34.0	0.0	0.0	0.0	2	2	0	0	0	1.056	0.000	0.000	-	-	-	-	
14	R-14	25	RCC NP-2	400	0.400	1.40	1.45	1.43	24.5	0.0	0.0	0.0	2	2	0	0	0	1.634	0.000	0.000	-	-	-	-	
15	R-15	42	RCC NP-2	400	0.400	1.48	1.57	1.52	0.0	42.0	0.0	0.0	3	3	0	0	0	1.807	0.000	0.000	-	-	-	-	
16	R-16	505	RCC NP-2	400	0.400	1.92	1.95	1.74	0.0	505.0	0.0	0.0	8	8	0	0	0	0.000	0.589	0.000	-	-	-	-	
17	R-17	38	RCC NP-2	400	0.400	2.03	2.11	2.07	0.0	38.0	0.0	0.0	3	3	0	0	0	0.000	1.200	0.000	-	-	-	-	
18	R-18	0	RCC NP-2	400	0.400	2.11	2.12	2.12	0.0	0.0	0.0	0.0	1	1	0	0	0	0.000	0.446	0.000	-	-	-	-	
<b>Total</b>		<b>942</b>							<b>197</b>	<b>748</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>63.0</b>	<b>44.9</b>	<b>24.0</b>	<b>0.0</b>	<b>25.6</b>	<b>3.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	
<b>Manhole Depth</b>		<b>10.0 - 1.51</b>		<b>1.5 - 3.0</b>	<b>3.0 - 4.5</b>	<b>4.5 - above</b>																			
	200 mm Dia pipe	0		0	0	0																			
	400 mm Dia pipe	197		748	0	0																			
	450 mm Dia pipe	0		0	0	0																			
	500 mm Dia pipe	0		0	0	0																			
	550 mm Dia pipe	0		0	0	0																			
	700 mm Dia pipe	0		0	0	0																			
	800 mm Dia pipe	0		0	0	0																			

*Shub*



PROJECT :- AFFORDABLE RESIDENTIAL PLOTTED COLONY UNDER DEEN DAYAL JAN AWAS YOJNA-2016, OVER AN AREA MEASURING 9.54375 ACRES, LICENSE NO. 39 OF 2025 DATED 26-03-2025 IN THE REVENUE ESTATE OF VILLAGE BARNOLI, SECTOR-50, TEH. BAHADURGARH & DISTT. JHAJJAR (HARYANA). BEING DEVELOPED BY SMT. SUNITA W/o SH. VIRENDER KUMAR.

GARDEN IRRIGATION LINE			CITY WATER SUPPLY LINE			
SL NO.	DIA OF PIPE IN MM	LENGTH IN M	GARDEN HYDRANT	SL NO.	PIPE DIA IN MM	LENGTH IN M
1	25	130	6	1	100	221
2						
TOTAL			6	BOREWELL WATER SUPPLY LINE		
SL NO.	PIPE DIA IN MM	LENGTH IN M	SL NO.	PIPE DIA IN MM	LENGTH IN M	
1	100	245	1	100	50	

*Sunita*



*[Handwritten signature]*

FINAL ABSTRACT OF COST

	Amount (Lacs.) For 9.64375 Ac
Sub Work 1 – Water Supply	196.23
Sub Work 2 – Sewerage	164.84
Sub Work 3 – S W Drainage	115.35
Sub Work 4 – Roads	248.31
Sub Work 5 – Street Lighting	37.00
Sub Work 6 – Horticulture	9.31
Sub Work 7 – Maintenance of services for 10 year including resurfacing of road after 1 <sup>st</sup> 5 years maintenance (as per HSVP norms)	274.05
<b>TOTAL</b>	<b>1045.09 Lac</b>
	<b>9.64375 Acre</b>
<b>COST / ACRE</b>	<b>108.37 Lac/Acre</b>

Checked by  
31/3/16  
25/09/2016  
and notes  
attached with the estimate

*Shankar*

*H*  
**Executive Engineer  
HSVP Division  
Bahadurgarh**

*Ad*  
Executive Engineer (M)  
Chief Engineer-I  
HSVP, Gurgaon

*Ad*  
Superintending Engineer  
HSVP Circle-II, Gurugram

*ads*  
**Director  
Town & Country Planning  
Haryana, Chandigarh**

**Behra Associates Pvt Ltd**  
MEP  
Consultant  
F202A, GROUND FLOOR, LADO  
SARAI, NEW DELHI 110038  
011-10583898

Amount (Lacs.)  
For 9.64375 Ac

Sub Work 1- Water Supply

~~171.00~~  
196.23

Sub Work 2- Sewerage

~~207.24~~  
164.84

Sub Work 3- S.W. Drainage

~~79.56~~ 49.77  
115.35

Sub Work 4- Roads

~~243.40~~  
248.31

Sub Work 5- Street Lighting

37.00 ✓

Sub Work 6- Horticulture

~~6.20~~  
9.31

Sub Work 7- Maintenance of services for 10 years including resurfacing of roads after 1st 5 years maintenance (as per HSVP norms)

~~166.20~~  
274.05

TOTAL  
COST / ACRE

~~910.68~~ 931.09  
~~94.43~~ 1045.09 lacs  
96.55

₹, 1045.09 lacs

9.64375 Acre = ₹ 108.37 lacs Per acre.

Sub

*H*  
Executive Engineer  
HSVP Division  
Bahadurgarh

*A*  
Superintending Engineer  
HSVP, Circle-II, Gurugram



**WATER SUPPLY HEAD**

Amount (Lacs.)

For 9.64375 Ac

Sub Head 1- Head Works

~~48.40~~

55.60

Sub Head 2- Pumping Machinery

~~28.00~~

29.0

Sub Head 3- Distribution System

*Dom. + Flushing  
fixing main*

~~33.87~~

42.46

Sub Head 4- Irrigation scheme

~~0.83~~

127.86

Total

~~111.10~~

3.84

Add 3% Contingencies & PE Charge

~~3.33~~

131.70

Add 49% Departmental Charges

~~44.44~~

~~56.07~~

64.53

196.23 lacs

TOTAL

~~170.51~~

(CO to final abstract of cost)

SAY

~~171.00~~

*Sub*



Sub Head I

Water Supply  
Head Works  
Rs.(laks)

S. No.	Description	Unit Nos.	Qty	Rate	Amount
1	Boring and installing 510 mm i/d tubewells with reverse/direct rotary rig complete with pipe strainer to a depth of about 80m. complete.	Nos.	1	<del>1000000.00</del> 15.0	<del>20.00</del> 15.0
2	Constructing pump chambers as per standard design of PWD PH/HSVP of size 1.50x1.50 m.	Nos.	1	100000.00	1.00
3	Construction of boosting chambers of suitable size along with under ground tank pumping machinery and generating set etc. complete in all respects. Details of boosting station				
i)	construction of boosting chamber			LS	5.00
ii)	construction of UG Tank	KL	290 KL	<del>6000.00</del> 5500	<del>17.40</del> 23.10 lacs
iii)	Flushing Tank		130 KL 420 KL		1.00 3.00 lacs
4	Provision for carriage of material and other unforeseen items	LS		LS	3.00
5	Provision for boundary wall ground J.W, water works etc	LS		LS	7.50
6	Provision for facilities staff for Maintenance.	LS		LS	<del>48.40</del> 55.60 lacs
(C.O. to abstract of cost of Sub-work No.1)				TOTAL	<del>48.40</del> 55.60 lacs
				SAY	48.40 4.00

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Sub Work I  
Sub Head No. II

Water Supply  
Pumping Machinery  
Amount (Rs.)  
(in Lakhs)

S. No.	Description	Unit Nos.	Qty	Rate	
1	Providing and installing electricity driven electro or submersible pumping set capable of delivering about 20 KL water per hour against a total head of 60 M complete with motor and other accessories. (7.5HP)	Nos.	1	2,00,000	2.00
2	Provision for cheap pressure type chlorination plant complete.			LS	1.00
3	Provision for making foundations & erection of pumping machinery.			LS	1.00
4	Provision for pipes, valves & specials inside the pump chamber.			LS	1.50
5	Provision for electric services connection including electric fittings for tubewells chambers complete. Including cost of transformer.			LS	2.00 2.50
6	Providing and installing electricity driven pumping set, capable of delivering 470 LPM of water at 30M head complete in all respects. (For Filter Feed Pump) (7.5 HP) (1 working + 1 standby)	Nos.	2	150000.00	3.00
7	Providing and installing electricity driven pumping set, capable of delivering 350 LPM of water at 45M head complete in all respects. (7.5HP) (Domestic Water Transfer Pump) (2 working + 1 standby)	Nos.	3	150000.00	4.50
8	Providing and installing electricity driven pumping set, capable of delivering 225 LPM of water at 45M head complete in all respects. (5 HP) (Flushing Water Transfer Pump) (2 working + 1 standby)	Nos.	3	150000.00	4.50
9	Provision of diesel generator set of each for standby arrangements for booster pump complete with gear head arrangements of following 60 KVA.			LS	4.50 3.00
10	Provision for carriage of materials and other unforeseen items.			LS	9.00 6.00
(C.O. to abstract of cost of Sub-work No.I)					1.00
				TOTAL SAY	29.00 28.00

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Sub Work I  
Sub Head No. III

Water Supply  
Distribution System/Rising Main  
*20m + Flushing*

S. No.	Description	Unit	Qty	Rate	IN LACS
1	Providing, laying, jointing & testing D.I. K-7 pipes including cost of excavation complete as per ISI marked. (For Domestic water supply line)				
i)	100 mm dia	M	<del>866</del>	1475.00	10.50
	<i>150 mm dia</i>	<i>m</i>	<i>154</i>	<i>20401</i>	<i>3.14</i>
2	Providing, laying, jointing & testing D.I. K-7 pipes including cost of excavation complete as per ISI marked. (For borewell line)				
i)	100 mm dia	M	50	1475.00	0.74
3	Providing, laying, jointing & testing uPVC SM-80 pipes including cost of excavation complete as per ISI marked. (For Flushing water supply line)				
i)	160 mm dia	M	969	<del>800.00</del>	14.59
4	Providing and fixing sluice valves including cost brick masonry chambers complete in all respects.				
i)	100 mm id	Nos.	<del>7</del>	<del>26000.00</del>	0.84
	<i>150 mm</i>		<i>2</i>	<i>15000</i>	<i>0.30</i>
5	Providing, fixing and testing butterfly valves including cost of valve chambers complete in all				
	80 mm id	Nos.	9	15000.00	1.35
6	Providing and fixing 100 mm dia NRV including cost of valve chambers complete in all respects.				
i)	100 mm dia	Nos.	1	35000.00	0.35
ii)	80 mm dia	Nos.	1	25000.00	0.25

*Shankar*



7	Providing and fixing air valves and scour valves including cost of valve chambers complete in all respects.	Nos.	4	10000.00	0.40
8	Providing and fixing indicating plates for sluice valve, air valve etc.	Nos.	24	<del>2</del> 000.00	0.24
9	Provision for carriage of material			LS	1.00
10	Provision for cutting the roads and making to its original condition			LS	2.00
11	Providing and fixing fire hydrants complete with masonry chambers.	Nos.	9	15000.00	1.35
12	Making water supply connection <i>with HSVP main</i>			LS	2.00
13	Provision for rising main from HSVP water supply line to UG Tank				
i)	100 mm dia (DI Pipe K-7)	M	221	1475.00	3.26
	(C.O. to abstract of cost of Sub-work No.1)				
				<b>TOTAL</b>	<b>33.87</b>
				<b>SAY</b>	<b>33.87</b>
					<b>42.46</b>

*Sub*



Sub Work I  
Sub Head No. IV

Water Supply  
Irrigation

S. No.	Description	Unit	Qty	Rate	IN LACS
1	Providing, laying, jointing & testing uPVC SH-80 pipes including cost of excavation complete as per ISI marked.				
i)	25 mm dia	M	130	300.00	0.39 <del>0.820</del>
2	Providing & fixing 20 mm PVC Irrigation hydrant valve with PVC lid complete in all respect including cost of PVC keys	Nos.	6	800.00	0.24 0.30
3	Provision for carriage of material	LS		10000.00	0.10
(C.O. to abstract of cost of Sub-work No.I)				TOTAL SAY	0.79 <del>0.83</del> 0.83 lacs

*Shreeb*



Sub Work II

sewerage scheme

S. No.	Description	Unit	Qty	Rate	in Lacs
1	Providing, lowering, jointing, cutting <i>SW</i> DWC HDPE SN8 pipes and specials into trenches including cost of excavation & construction of manholes				
i)	250 mm i/d			1700	5.30 lacs
b)	Average depth upto 1.5M	M	312	2270.00	<del>7.08</del>
c)	Average depth 1.5 m to 4.5 m	M	<i>915</i>	2370.00	9.27
				<i>1800</i>	<del>12.21</del>
ii)	250 mm i/d				
a)	Average depth 1.5 m to 4.5 m	M	122	2570.00	<del>3.14</del>
				<i>2000</i>	2.44
2	Provision for lighting, watching and temporary diversion traffic			LS	5.00
3	Provision for timbering & shoring, <i>vent pipe etc</i>			LS	5.00
4	Provision for cutting of roads and carriage of materials etc. and other unforeseen charges			LS	5.00
5	Provision for connection with HSVP			LS	2.00
6	Providing and installation of STP <i>440</i> 420 KL including civil tanks and all electro mechanical works. It also includes flushing tank.	KL	<i>440</i> <del>420</del> <i>100</i>	<i>16000</i> 25000.00	70.40 <del>105.0</del>
7	Provision for HDPE PE 80 pipe from S.T.P. to HSVP main line (Over flow line)				
i)	<i>100</i> mm dia pipe	M	245	<i>2040</i> 1475.00	5.0 <del>2.61</del>
Add 3% contingencies & PE charges.					3.22
Add 49% Deptt. Charges					4.05
					110.63
					139.09
					54.21
					68.15
TOTAL					207.24
[C.O. TO FINAL ABSTRACT OF COST SUB WORK - II]					164.84 lacs
SAY					207.24

*Sumit*



**Sub Work III**

Storm water drainage

S. No.	Description	Unit	Qty	Rate	Amount
1	Providing, laying, jointing, cutting RCC NP2 pipes and specials into trenches including cost of excavation cost of manholes, ventilating chambers etc. complete in all aspects.				
	i) 400 mm dia		197	2500	4.93
	a) Average depth upto 1.5 m	M	407	2000.00	5.91
	b) Average depth 1.5 m to 4.5 m	M	745	3000.00	22.22
2	<del>Provision for construction of manholes for BWD</del>	Each	35	35000.00	15.35
2	Provision for road gully and drain <i>pipe 300 round</i>			LS	5.00
3	Provision for lighting, watching and temporary diversion of traffic			LS	5.00
4	Provision for cutting of roads and carriage of materials etc. and other unforeseen items.			LS	7.50
5	Construction of rain water harvesting pit as per details and specification given below and as per attached drawing including cost of excavation of all in and soil foundation trenches of drain including dressing of sides of ramming and getting out excavation of soil.	Each	6	350000.00	21.00
6	Provision for connection with HSVP <i>(as applicable)</i> <i>Temporary disposal arrangements till</i> <i>HSVP services are provided</i>	M	10	3050	10.00
7	Provision for connection with HSVP line			LS	2.00
	Add 3% contingencies				77.43
	Add 49% Deptt. Charges				37.95
					115.35
				<b>TOTAL SAY</b>	<b>115.35</b>

(C.O. TO FINAL ABSTRACT OF COST SUB WORK - III)

*Sub*



Sub Work IV					Road Work
S. No.	Description	Unit	Qty	Rate	In Lacs
1	Provision for levelling and earth filling as per site conditions.	Acre	9.64375	175000.00	16.88
2	Construction of road by- i) Providing GSB by 180 mm thick ii) 50 mm thick W.B.M. stone aggregate layer iii) 50 mm thick concrete with reinforcement of 20mm @ 200mm c/c complete in all respect. <i>30mm BC</i>				
	Total	Sq. M	<i>6650</i> <del>5994</del>	<i>17500</i> <del>150000</del>	<i>165.88</i> <del>89.92</del>
3	Miscellaneous items				<i>15.40/00</i>
(a)	Providing for Kerbs & Channels for 9.64375 ACRES 10M wide road 999.07 x 2 = 1998 RM <i>+10% = 2197.8 x 22.00 Rml</i>	RMT	<i>1998</i> <del>2200</del>	<i>600.00</i> <del>7000</del>	<i>41.99</i>
(b)	Provision of foot path of precast conc. for 9.64375 acres (9m wide road) 10 wide road 999.07 x 2 x 2 = 3996 SQM	Sq-M	<del>3996</del>	<del>250.00</del>	29.972
4	Provision for traffic lighting and guide map	LS		<i>(L.S.)</i> <del>100000.00</del>	<i>2.00</i>
5	Provision for carriage of material <i>ex other unproven bus</i>	LS		<i>(L.S.)</i> <del>100000.00</del>	<i>5.00</i>
6	Provision for plot indicator	LS		<i>(L.S.)</i> <del>100000.00</del>	1.00
7	Provision for demarcation & unforeseen items	LS		100000.00	1.00 ✓
8	Provision for parking & pavement for commercial area @ 50% 1558.44 = 779.22 sqm	sqm	779.22	1750.00	<i>13.66</i>
	Add 3% contingencies				<del>159.60</del> <i>4.76</i>
	Add 49% Deptt. Charges				<del>163.96</del> <i>80.04</i>
	(C.O. TO FINAL ABSTRACT OF COST) SUB-WORK-IV			TOTAL SAY	<del>243.40</del> <i>248.31</i>

Sum

Length of Roads = 999.07 m  
 Add 10% for curves 99.90  
 1098.97 m  
 metalled width 5.50 m  
 say 6050 sqm



Sub Work V					Street Lighting
S. No	Description	Unit	Qty	Rate	In Lacs
1	Providing street lighting on internal roads as per standard specification of HVPNL and CFL complete in all respect Provision made on L.S. cost @ Rs.2,50,000.00 per acre	L.S.	9.64375	250000.00	24.11
	Add 3% contingencies				24.11 0.72
	Add 49% Deptt. Charges				24.83 12.17
				<b>TOTAL</b>	<b>37.00</b>
	(C.O. TO FINAL ABSTRACT OF COST) <del>SUB WORK -V</del>			<b>SAY</b>	<b>₹ 37.00 lacs</b>

*Shamb*



Sub Work VI

Horticulture

S. No.	Description	Unit	Qty	Rate	Amount In Lacs
1	Development of lawn area				
a)	Trenching the ordinary soil upto depth of 60 cm. including removal and spoking of servicable material and disposing at the lead of 50m and making upto the trenched area to prope level by filling with earth mixed with manure before and after flooding trenches with water including cost of				
b)	Rough dressing of trenched area.				
c)	Grassing with including watering and maintenance of lawns free from weeds and fit for moving in rows including for hedges, shrubs and green belt (as per HSVP Norms)	Per acre	0.7240	150000.00 <i>2.100</i>	<del>7.09</del> <i>1.45</i> / <i>16</i>
2	Planting of trees with tree guards on roads at 12 m intervals				
	Total length of roads = 999.07 mtr				
	No of trees @ 12m c/c = $999.07 \times 2 / 12 = 166.5$ nos <i>+10% = 183.16</i>				
	say = 167 nos <i>200</i>				
	Cost of the tree @ 1800/- each	Nos. <i>each</i>	167	1800.00	<i>3.01</i>
			<i>200 No</i>	<i>23100</i>	<i>4.62</i>
	<b>TOTAL</b>				<del>4.09</del> <i>6.25</i>
	<b>Add 3% contingencies</b>				<del>0.12</del> <i>0.18</i>
	<b>Add 49% Deptt. Charges</b>				<del>4.21</del> <i>2.06</i>
				<b>TOTAL</b>	<del>6.28</del> <i>9.31</i>
	<b>(C.O. TO FINAL ABSTRACT OF COST SUB-WORK - VI)</b>			<b>SAY</b>	<del>6.28</del> <i>9.31</i> / <i>16</i>

*Suburb*



Sub Work VII

Maintenance

S. No.	Description	Unit	Qty	Rate	In Lacs
1	Provision for maintenance charges for water supply, sewerage, storm water drainage, roads, street light, horticulture etc. complete including operation and establishment charges as per HSVP norms after completion and resurfacing of roads after 5 years or 1st phase.	Acre	9.64375	750000.00 <i>8.00</i>	<del>72.93</del> <i>77.15</i>
2	Provision for resurfacing and strengthening of roads after 1st five years of 1st phase with <i>30 mm thick M30 concrete base and 30mm thick BC as per court design which ever is safer</i> Sq.M <i>(+ 10mm)</i>	Sq.M	<del>6650</del> <del>5994</del> <i>780</i> <i>6830</i>	800.00 <i>6601</i>	<i>45.08</i> <del>35.97</del> <i>56.35</i>
	Add 3% contingencies				<del>178.58</del> <del>148.29</del> <i>3.25</i> <i>183.93</i>
	Add 49% Deptt. Charges				<del>111.54</del> <del>54.66</del> <i>90.12</i>
				TOTAL	<del>166.20</del> <i>274.05</i>
	(C.O. TO FINAL ABSTRACT OF COST) <del>SUB WORK VII</del>			SAY	<del>166.20</del>

*3) 2nd phase after next five year  
of 1st phase, 50mm BC to 30mm BC  
as per court design which ever is  
safer*

*6830 sqm @ 825 / sqm = Rs 56.35 lacs*







PROJECT : AFFORDABLE RESIDENTIAL PLOTTED COLONY UNDER OPEN DRAIN JAN MWAS VOL 34/16 OVER AN AREA MEASURING 9.66375 ACRES, LICENSE NO. 38 OF 2015 DATED 20-03-2015 IN THE REVENUUE STAYS OF VILLAGE BAWWOL SECTION  
 RUTCH BAWWOLRUBAH & DIST. JALALPURYAWALI BRIND OVERSEEN BY MPT, SUKRIA W/ 51 WIRINDOR TUMAR  
 TITLE : STORM WATER DRAINAGE - HYDRAULIC DESIGN DRAW

S.No	Lane No.	Length to next appor.	wet area in sqm.	Silt area in (sqm)	precipitation area in (sqm)	Total Area in (sqm)	Flow Fall in (m)	Discharge @1:15 in (m <sup>3</sup> /sec)	Pipe dia in (mm)	Slope in (%)	Velocity in (m/sec)	Coef of flow in (m <sup>3</sup> /sec)	F.R in (m)	Head level at Start	invert level at Start	Head level at End	invert level at End	Depth at Start	Depth at End	Average Depth	No. of manholes	Manhole Type			
																						0.15 Dia upto 1.57m	1.220 Dia upto 2.25m	1.820 Dia upto 2.25m	1.820 Dia upto 4.15m
1	R-01	R-03	31	3642	0.184	1000	0.184	6.23	3.74	400	0.823	116.07	0.07	100.00	95.00	100.00	98.51	1.49	1.47	1.43	2	2	0	0	0
2	R-02	R-03	22	498	0.250	0.000	0.024	6.20	0.60	400	0.823	116.07	0.05	100.00	92.00	100.00	98.55	1.45	1.40	1.42	2	2	0	0	0
3	R-03	R-05	62	1425	0.143	0.234	0.319	6.20	4.37	400	0.823	116.07	0.14	100.00	98.53	100.00	98.59	1.43	1.41	1.42	5	5	0	0	0
4	R-04	R-05	34	720	0.072	0.000	0.072	6.20	0.80	400	0.823	116.07	0.08	100.00	98.60	100.00	98.62	1.42	1.41	1.41	3	3	0	0	0
5	R-05	R-07	68	2661	0.285	0.449	0.735	6.20	6.91	400	0.823	116.07	0.18	100.00	98.22	100.00	98.24	1.40	1.48	1.44	3	0	0	0	0
6	R-06	R-07	13	1698	0.170	0.000	0.170	6.20	2.06	400	0.823	116.07	0.12	100.00	98.60	100.00	98.48	1.40	1.52	1.46	4	4	0	0	0
7	R-07	R-08	65	1762	0.078	0.000	0.060	6.24	11.84	400	0.823	116.07	0.11	100.00	98.24	100.00	98.13	1.26	1.87	1.87	3	0	0	0	0
8	R-08	R-09	102	2300	0.732	0.000	0.732	6.25	6.80	400	0.823	116.07	0.23	100.00	98.13	100.00	98.27	1.40	1.02	1.21	2	2	0	0	0
9	R-09	R-11	47	671	0.097	1.714	1.813	6.25	22.21	400	0.823	116.07	0.22	100.00	98.04	100.00	98.24	1.40	1.90	1.81	2	0	0	0	0
10	R-10	R-11	101	4708	0.473	0.000	0.473	6.25	5.01	400	0.823	116.07	0.22	100.00	98.04	100.00	98.24	1.40	1.02	1.21	2	0	0	0	0
11	R-11	R-17	32	918	0.082	2.224	2.316	6.25	28.74	400	0.823	116.07	0.22	100.00	98.04	100.00	98.24	1.40	1.90	1.81	2	0	0	0	0
12	R-12	R-18	101	3902	0.330	0.000	0.330	6.25	4.01	400	0.823	116.07	0.22	100.00	98.00	100.00	98.52	1.42	1.48	1.44	2	0	0	0	0
13	R-13	R-15	34	1038	0.154	0.000	0.154	6.25	1.07	400	0.823	116.07	0.05	100.00	98.60	100.00	99.05	1.42	1.45	1.43	2	2	0	0	0
14	R-14	R-16	25	647	0.065	0.000	0.065	6.25	0.78	400	0.823	116.07	0.05	100.00	98.60	100.00	98.43	1.42	1.57	1.52	2	2	0	0	0
15	R-15	R-16	42	1078	0.108	0.319	0.308	6.25	3.87	400	0.823	116.07	0.09	100.00	98.52	100.00	98.43	1.42	1.57	1.52	2	2	0	0	0
16	R-16	R-17	105	4734	0.413	0.657	1.070	6.25	13.00	400	0.823	116.07	0.23	100.00	98.26	100.00	98.14	1.40	1.86	1.74	4	0	0	0	0
17	R-17	R-18	30	2779	0.278	1.285	1.064	6.25	64.52	400	0.823	116.07	0.26	100.00	97.97	100.00	97.88	2.00	2.11	2.07	3	0	0	0	0
18	R-18	OUT	5	325	0.011	0.004	0.014	6.25	64.51	400	0.823	116.07	0.01	100.00	97.99	100.00	97.88	2.11	2.12	2.11	1	0	0	0	0

*Surud*







PROJECT :- AFFORDABLE RESIDENTIAL PLOTTED COLONY UNDER DEEN DAYAL JAN AWAS YOJNA-2016, OVER AN AREA MEASURING 9.64375 ACRES, LICENSE NO. 39 OF 2025 DATED 26-03-2025 IN THE REVENUE ESTATE OF VILLAGE BANNOLI, SECTOR-50, TEH. BAHADURGARH & DISTT. JHAJJAR(HARYANA), BEING DEVELOPED BY SMT. SUNITA W/O SH. VIRENDER KUMAR.

TITLE :- WATER SUPPLY QTY DOMESTIC WATER LINE

S.NO	Line No		Length of Pipe	Dia of Pipe	Sluice valve	PIPE MATERIAL
	From	To				
1	UGT	D-01	5	150	1	DI K-7
2	D-01	D-02	38	100	1	DI K-7
3	D-02	D-05	67	100	0	DI K-7
4	D-02	D-03	44	100	0	DI K-7
5	D-03	D-04	67	100	1	DI K-7
6	D-04	D-05	44	100	1	DI K-7
7	D-05	D-06	62	100	0	DI K-7
8	D-06	D-07	32	100	1	DI K-7
9	D-01	D-08	24	100	0	DI K-7
10	D-08	D-10	43	100	1	DI K-7
11	D-03	D-09	43	100	0	DI K-7
12	D-09	D-10	105	100	0	DI K-7
13	D-10	D-12	43	100	1	DI K-7
14	D-09	D-11	44	100	0	DI K-7
15	D-11	D-12	106	100	1	DI K-7
16	D-12	D-13	42	100	0	DI K-7
17	D-13	D-14	32	100	0	DI K-7
18	D-11	D-15	26	100	1	DI K-7
	TOTAL	100 MM	866		9	

150 mm d OP ~ 154 ml  
100 mm d OP ~ 712 ml

*Shub*



PROJECT :- AFFORDABLE RESIDENTIAL PLOTTED COLONY UNDER DEEN DAYAL JAN AWAS YOJNA-2016, OVER AN AREA MEASURING 9.64375 ACRES, LICENSE NO. 39 OF 2025 DATED 26-03-2025 IN THE REVENUE ESTATE OF VILLAGE BANNOLI, SECTOR-50, TEH. BAHADURGARH & DISTT. JHAJJAR(HARYANA), BEING DEVELOPED BY SMT. SUNITA W/O SH. VIRENDER KUMAR.

TITLE :- WATER SUPPLY QTY FLUSHING WATER LINE

S.NO	Line No		Length of Pipe MTR.	Dia of Pipe MM	Butterfly valve Each	PIPE MATERIAL
	From	To				
1	STP	F-01	41	180	1	UPVC SH-80 <del>DP</del>
2	F-01	F-02	43	180	1	UPVC SH-80 <del>DP</del>
3	F-02	F-03	62	180	0	UPVC SH-80
4	F-03	F-04	48	180	0	UPVC SH-80
5	F-02	F-06	86	180	1	UPVC SH-80
6	F-05	F-06	44	180	1	UPVC SH-80
7	F-06	F-07	62	180	0	UPVC SH-80
8	F-07	F-09	43	180	1	UPVC SH-80
9	F-01	F-05	85	180	0	UPVC SH-80
10	F-05	F-08	43	180	1	UPVC SH-80
11	F-08	F-09	105	180	0	UPVC SH-80
12	F-09	F-11	43	180	0	UPVC SH-80
13	F-08	F-10	43	180	1	UPVC SH-80
14	F-10	F-11	105	180	0	UPVC SH-80
15	F-11	F-12	42	180	1	UPVC SH-80
16	F-12	F-13	16	180	0	UPVC SH-80
17	F-12	F-14	42	180	0	UPVC SH-80
18	F-10	F-15	36	180	1	UPVC SH-80
	TOTAL	80 MM	989		9	

*Swab*

011-40523358  
 2024, REVISED PLAN, LADO  
 52204, NEW DELHI 110020  
 Sunita K

S.No.	Line No.	Length (met.)	PIPE MATERIAL	Size of Pipe (mm)	(M)	Start (met.)	Depth			Excavation					Total No. of Manholes	Manhole				Extra Depth				Rectangle Manhole (900x600)		
							End (met.)	Avg. (met.)	0.0-1.0m	1.0-1.5m	1.5-2.0m	2.0-2.5m	2.5-3.0m	3.0-4.0m		4.0-5.0m	Type-A	Type-B	Type-C	Type-D	Type-A	Type-B	Type-C		Type-D	
1	S-01	S-03	30	DWC SH-6	200.00	0.200	1.20	1.40	1.30	30.0	0.0	0.0	0.0	0.0	0.0	2	2	0	0	0	0	0.700	0.000	0.000	0.000	-
2	S-02	S-03	15	DWC SH-6	200.00	0.200	1.20	1.30	1.25	14.5	0.0	0.0	0.0	0.0	0.0	1	1	0	0	0	0	0.000	0.000	0.000	0.000	-
3	S-03	S-05	120	DWC SH-6	200.00	0.200	1.40	2.20	1.83	0.0	0.0	0.0	0.0	0.0	0.0	2	2	0	0	0	0	0.780	0.000	2.550	0.000	-
4	S-04	S-05	20	DWC SH-6	200.00	0.200	1.20	1.40	1.30	30.0	0.0	0.0	0.0	0.0	0.0	2	2	0	0	0	0	0.000	0.000	0.000	0.000	-
5	S-05	S-11	105	DWC SH-6	200.00	0.200	2.25	2.95	2.61	0.0	0.0	0.0	0.0	0.0	0.0	7	7	0	0	0	0	4.061	0.000	0.000	0.000	-
6	S-06	S-08	30	DWC SH-6	200.00	0.200	1.20	1.41	1.30	31.0	0.0	0.0	0.0	0.0	0.0	2	2	0	0	0	0	0.797	0.000	0.000	0.000	-
7	S-07	S-08	31	DWC SH-6	200.00	0.200	1.20	2.07	1.41	1.50	0.0	0.0	0.0	0.0	0.0	4	4	0	0	0	0	3.000	1.040	0.000	0.000	-
8	S-08	S-10	43	DWC SH-6	200.00	0.200	1.20	1.70	1.53	0.0	0.0	0.0	0.0	0.0	0.0	4	4	0	0	0	0	4.208	0.000	0.000	0.000	-
9	S-09	S-10	50	DWC SH-6	200.00	0.200	1.20	1.80	1.51	0.0	0.0	0.0	0.0	0.0	0.0	7	7	0	0	0	0	0.000	2.187	0.000	0.000	-
10	S-10	S-11	43	DWC SH-6	200.00	0.200	2.07	2.30	2.20	0.0	0.0	0.0	0.0	0.0	0.0	4	4	0	0	0	0	0.000	0.000	5.280	0.000	-
11	S-11	S-17	84	DWC SH-6	200.00	0.200	2.95	3.25	3.17	0.0	0.0	0.0	0.0	0.0	0.0	6	6	0	0	0	0	1.290	0.000	0.000	0.000	-
12	S-12	S-14	42	DWC SH-6	200.00	0.200	1.20	1.45	1.34	43.0	0.0	0.0	0.0	0.0	0.0	3	3	0	0	0	0	0.310	0.000	0.000	0.000	-
13	S-13	S-14	5	DWC SH-6	200.00	0.200	1.20	1.24	1.22	6.0	0.0	0.0	0.0	0.0	0.0	1	1	0	0	0	0	0.000	0.157	0.000	0.000	-
14	S-14	S-15	67	DWC SH-6	200.00	0.200	1.45	1.55	1.48	0.0	0.0	0.0	0.0	0.0	0.0	5	5	0	0	0	0	3.140	0.000	0.000	0.000	-
15	S-15	S-16	70	DWC SH-6	200.00	0.200	1.20	1.67	1.43	75.0	0.0	0.0	0.0	0.0	0.0	6	6	0	0	0	0	0.000	1.150	0.000	0.000	-
16	S-16	S-17	24	DWC SH-6	200.00	0.200	1.50	1.93	2.05	30.0	0.0	0.0	0.0	0.0	0.0	3	3	0	0	0	0	0.000	0.000	3.525	0.000	-
17	S-17	S-17	24	DWC SH-6	200.00	0.200	3.25	3.57	3.45	0.0	0.0	0.0	0.0	0.0	0.0	3	3	0	0	0	0	0.000	0.000	0.000	0.000	-
Total			945							312	0.0	0.0	0.0	0.0	0.0	71.0	31.0	25.0	17.0	0.0	15.7	6.0	11.4	0.0	0.0	
Excavation Depth		(0.0 - 1.5)		(1.5 - 3.0)		(3.0 - 4.5)		(4.5 - Above)																		
	150 mm Dia pipe	0		0		0		0																		
	200 mm Dia pipe	312		515		0		0																		
	250 mm Dia pipe	0		0		122		0																		
	300 mm Dia pipe	0		0		0		0																		

*Sumit*