4 ACRES OF COMMERCIAL COLONY AT VILLAGE WAZIRPUR, SEC-95A, GURUGRAM, HARYANA

DEVELOPED BY M/S MICROTEK URBAN DEVELOPER'S PVT LTD

ESTIMATE FOR PROVIDING WATER SUPPLY.SEWERAGE. STORM WATER DRAINAGE, ROADS,STREET LIGHTING AND HORTICULTURE IN RESPECT OF 4 ACRES OF COMMERCIAL COLONY AT VILLAGE WAZIRPUR, SEC-95A, GURUGRAM, HARYANA.

Gurugrama is a town and municipal corporation in the Gurugram district of the state of Haryana, India. It is a part of the National Capital Region (NCR) of Delhi. Its proximity to the burgeoning city of Gurgaon has in recent years caused its character and demographics to change dramatically. It has many factories, offices, hotels, IT parks and educational institutes. There are several sightseeing spots around the area, some overlapping with Gurgaon.

PROJECT REPORT/ESTIMATE FOR PROVIDING WATER SUPPLY, SEWERAGE, STROM WATER DRAINAGE, ROADS, STREET LIGHTING AND HORTICULURE IN RESPECT OF 4 ACRES OF COMMERCIAL COLONY AT VILLAGE WAZIRPUR, SEC-95A, GURUGRAM, HARYANA.

The Haryana Government has prepared a master plan for development of Commercial urban estate Gurugram. Project is doveloped by M/S Microtek Urban Developers Pvt Ltd. They have decided to develop the area in this master plan as a commercial colony for an area measuring 4 Acres at Village Wazirpur, Sector 95A, Gurugram, Haryana.

Water Supply

1 **Source**

The source of water supply in this area is from **HSVP** GMDA 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 10,000 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, GURUGRAM, HARYANA**~~ G.M.D.A.

ANOJ TEVATIA
B. Arch (Hons)
CA/95/18739

2 **Design**

The scheme has been designed for approved population of **4725 persons in 4 acres**. The rate of water supply per head per day has been taken as 51.75 litres (45+15%) as per NBC 2016 / HSVP norms.

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 **250KL** capacity. in 4 compartments, which caters for the raw, domestic as well as for firefighting 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 reservior 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 @ 51.75 litre per head her 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 relevent 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 thet 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 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/ design) has been made in this estimate.

8 **Sewerage**

This scheme is designed for sewer connecting to the proposed sewage treatment plant. The sewage system has been marked on the respsctive 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 propoesd 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 propsed to be provided. The brick masonary 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 strsaight 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 recarging 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 estiamte.

10 **Rain Water Harvesting**

The main emphasis on recharging the underground aquifers and safe disposal of storm water with flooding the site has been laid in designing/ planning of storm water drainage system. Modular type rain water harvesting are proposed to be provided.

11 **Roads**

The roads are proposed to be provided in the plotted development in such a way that main 6m wide colony road connects with 24 m sector road. Internal service of the roads of the colony 6m 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~~, Gurugram.

GMDP

12 **Street Lighting**

Street lighting system has been designed to provide illumination of 15 to 20 lux on roads. Street lights are provided on 5 m high steel tubular poles are located on road. Luminaries with 60 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 sprcification of P.H. Department as laid down by ~~HSVP~~ GMDA & Haryana Government.

15 Rates

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

16 Cost

The total cost of development in this project including various P.H. and B & R services works out to **Rs. ~~554.83~~ 668.53 Lacs** which includes 3% contingency and PE charges and 49% departmental charges also.

The cost per gross acre for this phase works out to App. **Rs. ~~138.71~~ 167.13 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

			For 4 Acres	Unit	
	Daily water requirement		**Acres**		
1	Total No. of Commercial Plots		53	Nos	
	Total No. of Plots Shops		265	Nos	
	Staff per Shops		3	Person/Shops	
	Total No. Staff		795 ✓	Persons	
	Total daily Water requirement for Staff (45 LPCD + 15%)	@	51.75	LPCD	
			Domestic @ 65%	Flushing @ 35%	
			26741.81 ✓	14399.44 ✓	LPD

2	Total Area of Ground Floor		5363.540	sqm	
	Total No. of Person		3	Sqm/Person	
	Total No. Person		1788	Persons	
	Floating Population (Total person- 3 PersonX Shops)		1629	Persons	
	Total daily Water requirement for Floating Population (15 LPCD + 15%)	@	17.25	LPCD	
			Domestic @ ~~35%~~ 65%	Flushing @ ~~65%~~ 35%	
			~~9834.16~~ 18265.16	~~18263.44~~ 9835.08	LPD
3	Total Area of Upper floor		17624.591	sqm	
	Total No. of Person		6	Sqm/Person	
	Total No. Person		2937	Persons	
	Floating Population (Total person- 3 PersonX Shops)		2301	Persons	
	Total daily Water requirement for Floating Population	@	17.25	LPCD	
			Domestic @ ~~35%~~ 65%	Flushing @ ~~65%~~ 35%	
			~~13894.89~~ 25799.96	~~25804.80~~ 13892.28	LPD
	All Total Water requirement (1 +2 +3)		~~50470.87~~ 70806.93	~~58467.69~~ 38126.80	LPD
		Or Say	**~~50.50~~ 70.80**	**~~58.50~~ 38.12**	**KLD**
4	Area under Green (5% of Total area)		0.20	Acre	
	Daily water requirement	@	25000	lit/acre/day	
	Therefore daily water requirement			5000	lit/day
				5.00	KLD
5	Area under Roads		1.92	Acre	
	Daily water requirement	@	5000	lit/acre/day	
	Therefore daily water requirement			9611	lit/day
				9.61	KLD
		Total		**9.61**	**KLD**

I	**Total daily requirement**				
a)	For (1+2+3)		70.80 ~~50.50~~	38.12 ~~58.50~~	KLD
b)	Under Road+ Parks (4+5)		0.00	52.73 ~~14.61~~	KLD
	Total Daily Requirement		70.80 ~~50.50~~	52.73 ~~73.11~~	KLD
		Or Say	71.00 ~~51.00~~	53.00 ~~74.00~~	**KLD**
II	**Tubewell**				
	Assuming working hours of tubewells		**6**	hours	
	Assuming discharge/hour of each tubewell		**10**	KL/hours	
	Total domestic water requirment		**51**	**KLD**	
	No. of tubewells required		0.85	Nos.	
	Add 10% standby		0.09		
		Total	0.94	Nos.	
		Proposed	**1.0**	Nos.	

So It is proposed 1 nos of tubewell if permission will get from 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.

III	**Pumping machinery for tubewell**				
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
			=	56.65	m
		Say	=	60.00	m
	BHP = (20x1000x60)/(60x60x75x0.6)		=	3.70	HP
	With 60% efficiency	**Proposed**		**5.00**	HP

It is proposed to install **1 no. Submersible pumping set** with a discharge of **10000 ltr./hour (167 lpm) driven with 5 HP** electric motor.

IV	**Underground Tank**				
	Daily requirement for domestic use and other except fire fighting	=	~~50.50~~ 70.80	KLD	
	Capacity of under ground tank storage except fire fighting @ ~~60%~~ 100 of Total water requirement	=	~~30.30~~ 70.80	KLD	
	Say	=	~~30.00~~ 71.00	KLD	
	Total Population in Commercial area	=	**4725**	Person	3 sqm/person
	Fire Tank Capacity as 100 x [sqrt(4725) /1000]	=	217.38	KLD	
	Say	=	**220.00**	KLD	
	Total		~~250.00~~ 290	**KLD**	

It is proposed to provide 1 no. under ground tank of capacity ~~15~~ 35 KL for raw water, 1 no. underground tank capacity of ~~15~~ 35 KL for domestic and another 2 no. underground tank of **110 KL** each 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 raw 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	**110.00**	KLD
b)	Capacity of Fire tank-2	**110.00**	KLD
c)	Capacity of Raw Water tank	~~15.00~~ 35	KLD
d)	Capacity of Domestic Water tank	~~15.00~~ 35	KLD

V	**BOOSTING MACHINERY (Drinking water)**			
	UG. Tank			
	Domestic Water Transfer Pump			
	Daily requirement for domestic use	=	~~50.50~~ 70.80	KLD
	Assuming 6 hours running 1 pumps (with one standby)			
	Discharge/hour	=	~~8.42~~ 11.80	KL/HR
			~~140.28~~ 196.66	LPM
		Or Say	~~140.00~~ 197	LPM
	Head of pump			
i)	Suction lifts	=	5.0	m
ii)	Friction loss in M<main & specials	=	5.0	m
iii)	Clear head	=	15.0	m
iv)	Residual head	=	10.0	m
		=	35.0	m
	Say	=	35.0	m

	BHP of motor ~~(140*35)~~ 197/(60*75*0.6)			=	~~1.81~~ 2.55	HP
				Or Say	~~2.5~~ 3.00	HP
VI	**Gen Set**	Nos.	HP			
a)	Domestic Water Transfer Pump	1	~~2.5~~ 3.00	=	~~2.5~~ 3.00	HP
b)	Flushing Water Transfer Pump	1	3.0	=	3.0	HP
c)	Tubewell	1	5.0	=	5.0	HP
d)	Lighting	1	2.1	=	2.1	HP
					~~12.6~~ 13.1	HP
			or ~~12.6~~ 13.1 x 0.746 x 1.50		~~14~~ 14.65	KVA
			Say		**15**	KVA
6	**Sewage Treatment Plant capacity**					
	Gross domestic + Flushing water requirement/day				109.0	KLD
	Sewage flow will be 80% of total load				87.2	KLD
	STP Capacity required at 5% extra margin				**91.56**	**KLD**

	STP Capacity (Or Say)			**95.00**	**KLD**
VII	**STP Treated Tank**				
	Daily requirement for flushing, horticulture, road washing		=	~~73.11~~ 53	KLD
	Capacity of under ground tank ~~60%~~ 40 of Total Water requirement		=	~~43.87~~ 53	KLD
		Say	=	~~45.00~~ 53	KLD
VIII	**BOOSTING MACHINERY (Flushing water)**				
	STP				
	Daily requirement for Flushing & Horticulture use		=	~~73.11~~ 53	KLD
	Assuming 6 hours running 1 pumps (with one standby)				
	Discharge/hour		=	~~12.19~~ 8.83	KL/HR
				~~203.09~~ 147.22	LPM
			Or Say	~~210.00~~ 148.00	LPM
	Head of pump				
i)	Suction lifts		=	5.0	m
ii)	Friction loss in M<main & specials		=	5.0	m
iii)	Clear head		=	15.0	m
iv)	Residual head		=	10.0	m
			=	35.0	m
	Say		=	35.0	m
	BHP of motor ~~(210*35)~~ 148/(60*75*0.6) = 1.914P		=	2.72	HP
			Or Say	3.0	HP

FINAL ABSTRACT OF COST

	Amount (Lacs.) For 4 Ac
Sub Work 1- Water Supply	~~93.00~~ 113.16
Sub Work 2- Sewerage	~~37.61~~ 58.96
Sub Work 3- S.W. Drainage	~~25.93~~ 48.09
Sub Work 4- Roads	~~173.43~~ 213.99
Sub Work 5- Street Lighting	~~15.35~~ 15.35
Sub Work 6- Horticulture	~~2.32~~ 11.78
Sub Work 7- Maintenance of services for 10 years including resurfacing of roads after 1st 5 years & II. Phase i.e. 10 years maintenance (as per HSVP norms)	~~207.20~~ 207.20
TOTAL	~~554.83~~ 668.53
COST / ACRE 668.53 / 4	~~138.71~~ 167.13

Checked for service estimate only

Executive Engineer-EDC (Infra-I) GMDA
for roads/lighting/Hort.

Executive Engineer-III
Drainage Division, GMDA,
Gurugram

Checked subject to comments
in forwarding letter No. 11/5376/2022
Dt. 27-12-2022 **and notes**
attached with the estimate

Executive Engineer
Sew. Division No. I
GMDA, Gurugram

Executive Engineer-I
W/S Division, GMDA
Gurugram

Chief Engineer,
(Infra-II), GMDA
Gurugram

Director General
Town & Country Planning
Haryana, Chandigarh

WATER SUPPLY HEAD		Amount (Lacs.) For 4 Ac
Sub Head 1- Head Works		~~25.25~~ 31.40
Sub Head 2- Pumping Machinery		12.10
Sub Head 3- Distribution System		~~11.27~~ 17.67
Sub Head 4- Fire Fighting System		~~12.12~~ 12.57
Total		~~60.74~~ 73.74
Add 3% Contingencies & PE Charge		~~1.82~~ 2.21
		~~62.56~~ 75.95
Add 49% Departmental Charges		~~30.65~~ 37.21
	TOTAL	~~93.21~~ 113.16
(CO to final abstract of cost)	**SAY**	~~93.00~~ 113.16

Sub Head I

Water Supply
Head Works
Rs.(lakhs)

S. No.	Description	Unit	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	1000000.00	10.00
2	Constructing pump chambers as per standard design of PWD PH/~~HSVP~~ GMDA 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		290	LS	1.00
ii)	construction of UG Tank	KL.	~~250~~	~~4500.00~~ 6000	~~11.25~~ 17.40
4	Provision for carriage of material and other unforeseen items	LS		LS	1.00
5	Provision for facilities staff for Maintenance.	LS		LS	1.00
	(C.O. to abstract of cost of Sub-work No.I)			**TOTAL**	31.40 ~~25.25~~
				SAY	31.40 ~~25.25~~

Sub Work I
Sub Head No. II

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

S. No.	Description	Unit	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.	Nos.	1	200000.00	2.00
2	Provision for cheap pressure type chlorination plant complete.			LS	1.00
3	Provision for making foundations & erection of pumping machinery.			LS	0.50
4	Provision for pipes, valves & specials inside the pump chamber.			LS	0.50
5	Provision for electric services connection including electric fittings for tubewells chambers complete. Including cost of trasfermer.			LS	1.00
6	Providing and installing electricity driven pumping set, capable of delivering 140 LPM of water at 35M head complete in all respects. (~~2.5~~ 3.00 HP) (Domestic Water Transfer Pump) (1 working + 1 standby)	Nos.	2	110000.00	2.20

7	Providing and installing electricity driven pumping set, capable of delivering 210 LPM of water at 35M head complete in all respects. (3 HP) (Flushing Water Transfer Pump) (1 working + 1 standby)	Nos.	2	120000.00	2.40
8	Provision of diesel generator set of each for standby arrangements for booster pump complete with gear head arrangements of following capacities 15 KVA.			LS	1.50
9	Provision for carriage of materials and other unforeseen items.			LS	1.00
	(C.O. to abstract of cost of Sub-work No.I)			**TOTAL**	**12.10**
				SAY	**12.10**

Sub Work I — **Water Supply**
Sub Head No. III — **Distribution System/Rising Main**

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	327	1475 ~~1250.00~~	4.83 ~~4.09~~
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	15	1475 ~~1250.00~~	0.22 ~~0.19~~
3	Providing, laying, jointing & testing ~~HDPE PE-80~~ D.I. K-7 pipes including cost of excavation complete as per ISI marked. (For Flushing water supply line)				
i)	~~80~~ 100 mm dia	M	326	1475 ~~800.00~~	4.81 ~~2.61~~
4	Providing and fixing sluice valves including cost brick masonary chambers complete in all respects.				
i)	100 mm i/d	Nos.	3	25000 ~~12000.00~~	0.75 ~~0.36~~
5	Providing, fixing and testing butterfly valves including cost of valve chambers complete in all respects.				
i)	80 mm i/d	Nos.	3	10000.00	0.30
6	Providing and fixing 100 mm dia NRV including cost of valve chambers complete in all respects.				
i)	100 mmm dia	Nos.	1	14000.00	0.14
ii)	~~80~~ 100 mmm dia	Nos.	1	10000.00	0.10

7	Providing and fixing air valves and scour valves including cost of valve chambers complete in all respects.	Nos.	2	10000.00	0.20
8	Providing and fixing indicating plates for sluice valve, air valve etc.	Nos.	10	1000.00	0.10
9	Provision for carriage of material			LS	1.00
10	Provision for cutting the roads and making to its original condition			LS	1.00
11	Making water supply connection 2 connection Per			LS	4.00 ~~1.00~~
12	Provision for rising main from ~~HSVP~~ GNDP water supply line to UG Tank				
i)	100 mm dia (DI Pipe K-7)	M	15	1475 ~~1250.00~~	0.22 ~~0.19~~
	(C.O. to abstract of cost of Sub-work No.I)			**TOTAL**	~~11.27~~ 17.67
				SAY	~~11.27~~ 17.67 ~~17.67~~

Sub Work I — **Water Supply**

Sub Head No. IV — **Fire Fighting Works**

S. No.	Description	Unit	Qty	Rate	IN LACS
1	Providing and fixing 80 mmdia fire hydrant valve complete with brick masonry chamber .	Each	3	15000.00	0.450
2	Providing & fixing of Diesel operated pump 2850 LPM 45 M Head	Each	1	611622.00	6.12
3	Provision for MS Pipes, sluice valves, air valves complete	LS		500000.00	5.00
3	Provision for carriage of material	LS		100000.00	1.00
	(C.O. to abstract of cost of Sub-work No.I)			**TOTAL**	12.57 ~~12.12~~
				SAY	~~12.12~~ 12.57

Sub Work II **Sewerage Scheme**

S. No.	Description	Unit	Qty	Rate	in Lacs
1	Providing, lowering, jointing, cutting ~~DWC HDPE SN8~~ SW Pipe pipes and specials into trenches including cost of excavation, bed concrete lot of manholes complete.				
i)	200 mm i/d			2270	1.57
a)	Average depth upto 1.5 m	M	69	~~1250.00~~	~~0.86~~
b)	Average depth 1.5 m to 4.5 m	M	142	~~1500.00~~ 2370	~~2.13~~ 3.37
2	Provision for lighting, watching and temporary diversion traffic			LS	1.00
3	Provision for timbering & shoring			LS	1.00
4	Provision for cutting of roads and carriage of materials etc. and other unforsean charges			LS	1.00
5	Provision for connection with ~~HSVP~~ GMDA connection fee etc			LS	4.00 ~~1.00~~
6	Providing and installation of STP 95 KL including civil tanks and all electro mechanical works. It also includes flushing tank.	KL	95	~~16000.00~~ 25000	~~15.2~~ 23.75
7	Provision for DI K-7 pipe from S.T.P. to ~~HSVP~~ GMDA main line (Over flow line)				
i)	100 mm dia pipe	M	185	~~1250.00~~ 1475	~~2.31~~ 2.73
					~~24.51~~ 38.42

Add 3% contingencies & PE charges		1.15 ~~0.74~~ ~~25.24~~ 39.57
Add 49% Deptt. Charges		19.39 ~~12.37~~
	TOTAL	~~37.61~~ 58.96
(C.O. TO FINAL ABSTRACT OF COST SUB WORK - II)	SAY	~~37.61~~ 58.96

Sub Work III — **Storm water drainage**

S. No.	Description	Unit	Qty	Rate	In Lacs
1	Providing, lowering, jointing, cutting RCC NP2 pipes and specials into trenches including cost of excavation cost of manholes, ventilating chambers etc. complete in all respects.				
i)	400 mm i/d			2950.00	4.19
a)	Average depth upto 1.5 m	M	142	~~2500.00~~	~~3.55~~
b)	Average depth 1.5 m to 4.5 m	M	61	~~2600.00~~ 3050.00	~~1.59~~ 1.86
2	Provision for road gully and drain.			LS	1.00
3	Provision for lighting, watching and temporary diversion of traffic.			LS	1.00
4	Provision for cutting of roads and carriage of materials etc. and other unforseen items.			LS	1.00
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 ind soil foundation trenches of drain including dressing of sides of ramming and getting out excavtion of soil.	Nos	~~3~~ 4	450 000 ~~250000.00~~	~~7.50~~ 18.00
6	Provision for connection with ~~HSVP~~ CaMOH.			2950	0.29
	400 mm i/d (Average depth 1.5 m to 4.5 m) Rec 1983	M	10	~~2600~~	~~0.26~~
7	Provision for connection with ~~HSVP~~ line CMOH & comm epbx line			LS	~~1.00~~ 4.00

Add 3% contingencies		~~16.90~~ 31.94 ~~0.51~~ 0.96 ~~47.40~~ 32.28
Add 49% Deptt. Charges		~~8.53~~ 15.81
(C.O. TO FINAL ABSTRACT OF COST SUB WORK - III)	TOTAL SAY	~~25.93~~ 48.09 ~~25.93~~ 48.09

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	4	~~150000.00~~ 175000.00	~~6.~~ 7.00
2	Construction of road by-				
	i) Providing GSB by 250 mm thick + 250 mm WBM				
	~~ii) 150 mm thick P.C.C. (1:4:8)~~				
	~~iii) 40 mm Sand.~~ + 50 mm DBM +				
	~~iv) 80 mm Pavers.~~ 30 mm BC				
	Total	Sq. M	7778.65	1500 ~~1200.00~~	116.68 ~~93.34~~
3	Miscellaneous items				
(a)	Providing for Kerbs & Channels for 4 acres Bounday side 560 x 1 = 1107 RM	RMT	560	600.00	3.36
(b)	Provision of foot path of precast conc. for 4 acres 560 x 1.5 = 840 SQM	Sq. M	840	1050 ~~750.00~~	8.40 ~~6.30~~
4	Provision for traffic lighting and guide map	LS		100000.00	1.00
5	Provision for carriage of material	LS		100000.00	1.00
6	Provision for plot indicator	LS		100000.00	1.00

7	Provision for demaracation & unfloreseen items	LS	100000.00	1.00
				139.44
				~~113.00~~
	Add 3% contingencies			~~3.39~~ 4.18
				~~116.39~~ 143.62
	Add 49% Deptt. Charges			~~57.03~~ 70.37
			TOTAL	~~173.43~~ 213.99
	(C.O. TO FINAL ABSTRACT OF COST SUB WORK - IV)		SAY	~~173.43~~
				213.99

Sub Work V Street Lighting

S. No.	Description	Unit	Qty	Rate	In Lacs
1	Providing street lighting on internal roads as per standerd specification of HVPNL and LED complete in all respect				
	Provision made on L.S. cost @ Rs.2,50,000.00 per acre	L.S.	4	250000.00	10.00
					10.00
	Add 3% contingencies				0.30
					10.30
	Add 49% Deptt. Charges				5.05
				TOTAL	**15.35**
	(C.O. TO FINAL ABSTRACT OF COST SUB WORK - V)			**SAY**	**15.35**

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 apcking of servicable material and disposing at the lead of 50m and making upto the tranched area to prope level by filling with earth mixed with manure before and after flooding trenches with water including cost of imported earth and manure.				
b)	Rough dressing of trenched area.		4.00		6.00
c)	Grassing with including watering and maintenance of lawns free from weds and fit for moving in rows including for hedges, shrubs and green belt (as per HSVP Norms)	Per acre	~~0.20~~	150000.00	~~0.30~~
2	Planting of trees with tree guards on roads at 12 m intervals				
	Total length of side = 560 mtr				
	No of trees @ 12m c/c = 560x2/12 = 93 nos				
	say = 93 nos				
	Cost of the tree @ ~~1300~~ 1500/- each	Nos.	93	~~1300.00~~ 1800	~~1.21~~ 1.68
	TOTAL				1.51
	Add 3% contingencies				~~0.05~~ 0.23
					~~1.55~~ 7.91
	Add 49% Deptt. Charges				~~0.76~~ 3.87
				TOTAL	~~2.32~~ 11.78
	(C.O. TO FINAL ABSTRACT OF COST SUB WORK - VI)			**SAY**	~~2.32~~ 11.78

	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 10 years or 1st phase.	Acre	4	750000.00	30.00
2	Provision for resurfacing and strengthening of roads after 1st five years of 1st phase with 80 mm thick paver block @600/sqm	Sq. M	7778.645	600.00	46.67
3	Provision for resurfacing and strengthening of road after 10 years of 2nd phase with 80 mm paver block @ 750/sqm	Sq. M	7778.645	750.00	58.34
					135.01
	Add 3% contingencies				**4.05**
					139.06
	Add 49% Deptt. Charges				**68.14**
				TOTAL	**207.20**
	(C.O. TO FINAL ABSTRACT OF COST SUB WORK - VII)			SAY	**207.20**

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 10 years or 1st phase.	Acre	4	750000.00	30.00
2	Provision for resurfacing and strengthening of roads after 1st five years of 1st phase with 80 mm thick paver block @600/sqm	Sq. M	7778.645	600.00	46.67
3	Provision for resurfacing and strengthening of road after 10 years of 2nd phase with 80 mm paver block @ 750/sqm	Sq. M	7778.645	750.00	58.34
					135.01
	Add 3% contingencies				**4.05**
					139.06
	Add 49% Deptt. Charges				**68.14**
				TOTAL	**207.20**
	(C.O. TO FINAL ABSTRACT OF COST SUB WORK - VII)			**SAY**	**207.20**