DETAILED PROJECT REPORT

RESIDENTIAL PLOTTED COLONY
PROPOSED FOR BEING SET UP ON AN
AREA AD-MEASURING 11.85 ACRES
IN THE REVENUE ESTATE OF
VILLAGE JHAMRA, SECTOR – 3, TEHSIL SHAHABAD,
DISTRICT KURUKSHETRA, HARYANA

ARNIKA DEVELOPERS LLP
654/22, Prabhu Nagar, Near Gopi Mandir,
Sonepat - 131001, Haryana

Company Profile

Arnika Developers LLP is a Limited Liability Partnership firm duly registered with the Ministry of Corporate Affairs, Government of India bearing LLP Identification No. AAV-8060. The copy of the Certificate of Registration issued along with the Partnership Deed is enclosed.

The firm is desirous of entering the space of Real Estate by developing a Residential Plotted Colony at Shahabad Markanda. The management strongly believes in the theory of building a loyal customer base.

The firm keeping in mind and avenues India offers in the field of Real Estate specially offering "***Housing for All @ 2022***" has decided to diversify its activities by foraying in the Real Estate Sector. In our opinion there exists immense potential in the country for development of **'Residential Plotted Colony's'** in the Low and Medium Potential Zone apart from High and Hyper Potential Zones.

In order to open door to the new world of urban lifestyle for the achievers of today the Company plans to develop compact, charming, cool and classy living with large green spaces for people of all demography's to unwind themselves and experience the comfort. An attempt is being made that right from gateway to the interiors, the township touches the heart with a rare warmth. With every possible amenity from daily conveniences to safety and security taken care of, the city of pleasures stands at an ideal location welcoming the dwellers to fulfil their aspirations and dreams.

The Partners of the Limited Liability Partnership firm as on date with their Address, PAN Card and Aadhaar Card details are enlisted hereunder –

S. No.	Name & Address	Gender	Date of Birth	Aadhaar Card No.	PAN Card No.
1	Mr. Ashwani Kumar S/o Sh. Puran Singh R/o H. No. 654/22, Prabhu Nagar, Near Gopi Mandir, Sonepat – 131 001, Haryana	Male	02-10-1968	7133 0502 2765	AYAPK5695F
2	Mr. Harsh S/o Sh. Ashwani Kumar R/o H. No. 654/22, Prabhu Nagar, Near Gopi Mandir, Sonepat – 131 001, Haryana	Male	19-08-1994	6664 9035 8711	AMWPH4393R
3	Mr. Rakesh Kumar S/o Sh. Singh Ram R/o VPO Shahzadpur, Sandal Kalan, Sonepat – 131 001, Haryana	Male	15-12-1974	4210 5300 1221	AYXPK9161D
4	Mr. Dharambir Kadian S/o Sh. Sukh Ram R/o 588, Ward – 5, Adarsh Nagar, Gohana, Sonepat – 131 001, Haryana	Male	28-05-1959	6017 9786 5029	ABFPK4500R

The PAN CARD No. of Arnika Developers LLP is ABUFA1463A, enclosed as**.** Net Worth of the Limited Liability Partnership firm and the Partners duly certified by the Chartered Accountant is enclosed**.**

PROJECT LOCATION

The proposed project site is located at Sector -3, Village Jhambra, Tehsil – Shahabad, District Kurukshetra, Haryana and has the connectivity through the

existing service lane adjoining the National Highway # NH 44. The Google Map of the proposed site is appended as under –

ABOUT SHAHABAD

Shahabad, Kurukshetra lies 21 Kms South of Ambala on the Ambala Delhi section of the historical G. T. Road (National Highway # NH-44). It is 22 Kms North of Kurukshetra and has a railway station.

It lays on the banks of river Markanda, a tributary of Ghagar and spies to be part of ancient Vedik Saraswati river basin system.

There is also a road from Panchkula via Ramgarh and Dosarka that comes out near Shahabad and there are direct roads to Ladwa, Radore as well as Yamuna Nagar.

Shahabad due to its location has a potential to develop and share the growing industrial load of Ambala and Kurukshetra. In order to relieve the growing pressure of population in Ambala and Kurukshetra, it has been decided by the

For ARNIKA DEVE

Haryana Government to promote new Residential Sectors in Shahabad and a step forward towards this has been notification of Final Development Plan 2031 AD of Shahabad by the DTCP Haryana vide CCP (NCR)/FDP/SBD/2020/494 dated 3rd June 2020.

LAND DETAILS

Arnika Developers LLP is now desirous for setting up of a **"Residential Plotted Colony"** in the revenue estate of Village Jhambra (Hadbast # 253) falling under Sector – 3, Tehsil – Shahabad, District Kurukshetra, Haryana with the land details as under –

Arnika Developers LLP

Land Schedule for setting up of "Residential Plotted Colony" on Land ad-measuring 11.85 Acres, i.e., 94K-16M-0S at Village Jhamra (Hadbast # 253), Tehsil Shahabad, District Kurukshetra, Haryana

Land Schedule

Village	Jamabandi	Khasra No.	Area			
			K	M	S	Acres
Jhamra (Hadbast # 253)	2019-20	181/1/1	47	18	0	5.98750
		181/2/1	26	8	0	3.30000
		82//21/1	0	4	0	0.02500
		83//25/2/1	0	17	0	0.10625
		180/1/1/1/2	19	6	0	2.41250
		180/2/2	0	3	0	0.01875
TOTAL		**7 Kitta**	**94**	**16**	**0**	**11.85000**

For ARNIKA DEVEL

The land parcel ownership and title are in the name of Arnika Developers LLP as per the revenue records. Copy of Land Schedule is enclosed**.** Copy of Aks Sajra of proposed site duly certified by Halqa Patwari is enclosed**.**

Certified copy of Jamabandi duly certified by Halqa Patwari is enclosed. Statement of land purchase and exchange is enclosed and copy of Sale / Exchange Deeds and Mutations duly certified by Halqa Patwari are enclosed.

PROJECT PLANNING PROPOSITION

Arnika Developers LLP proposes to develop ***"Residential Plotted Colony"*** comprising of the modern facilities, namely,

a) Water Supply System comprising of dual plumbing to conserve the raw water needs and recycle the wastewater from sewage treatment plant for flushing, horticulture and pavement washing, etc.

b) A low maintenance and self-sustaining sewerage system to be laid using SW Pipes/DWC SN4 Pipes and drainage system using RCC Pipes designed all around the colony.

c) Rainwater Harvesting system have been provisioned as per norms for conservation of water and recharge of water table.

For ARNIKA DEVE

d) Sufficient water supply through Underground Tank (UGT) and submersible pumping / distribution system shall be provisioned in the colony.

e) The Parks and Green Spaces shall be landscaped in such a way to provide walkways beautifully hardscaped to enable usage by all sections of demography, be it children, housewives or senior.

f) Pedestrian Walkways on either side of the 24-meter-wide road passing through the licensed area as well as along the 12-meter-wide road sections shall be provided for senior citizens and other sections of the society to unwind themselves.

g) Motorable roads with WBM and bituminous top shall be planned for easy manoeuvrability within the colony.

h) The streets shall be lighted using solar energy operated Light Emitting Diode (LED) lamp fittings along with conventional LED lamp to ensure safety and comfort to the residents.

i) Commercial area has been provisioned in the colony as per policy to cater to daily needs and necessities being met at a walking distance. Also, a milk booth is being proposed in the colony.

j) A robust power distribution system with independent Feeder Pillars for each block shall be laid, in turn connected to LT distribution panels fed by outdoor transformers in the colony to ensure stable power supply to the residents.

k) A collection tank for Sewage shall be constructed in the Colony and a modular Sewage Treatment Plant (STP) shall be provided for the time being till the operative load builds up for installation of STP of the designed capacity.

PROJECT PLANNING PARAMETERS

The colony being developed as a **'Residential Plotted Colony'** proposes 57 plots having sizes varying between 275.08 – 492.27 square yards (i.e., 230.00 - 411.60 sq. meters) classified in four types namely Type A & B, respectively. Apart from this the colony proposes 26 NPNL plots conforming to minimum 25% NPNL plots being provisioned as per policy parameters having sizes between 212.89 – 269.10 square yards (i.e., 178.00 - 225.00 sq. meters) apart from 21 EWS plots conforming to minimum 20% EWS plots being provisioned as per policy parameters having size of 59.97 square yards (i.e., 50.14 sq. meters). Thus, the colony proposes total 104 plots.

The land area utilization under various heads with the efficiency proposed being achieved in the colony is detailed hereunder –

LAND AREA ALLOCATION & EFFICIENCY @ 11.85000 Acres

AREA CHART OF 'RESIDENTIAL PLOTTED COLONY' TO BE LICENSED					
S. NO.	**PARTICULARS**	**PERMISSIBLE AS PER POLICY**		**PROPOSAL OR ACHIEVED**	
		(IN ACRES)	**%**	**(IN ACRES)**	**%**
I	**AREA OF THE SCHEME (For Low Potential Zone)**	**10.0 (Minimum)**		**11.85000**	
II	AREA FALLING IN 30.0 MT. GREEN BELT (AS PER FDP 2031 AD SHAHABAD)			0.29010	
III	BALANCE AREA (I- II)			11.55990	
IV	50% AREA UNDER 30.0 MT. GREEN BELT [II/2]			0.14505	
V	**NET PLANNED AREA**			**11.70495**	
VI	**AREA UNDER PLOTS**	**5.96953**	**51.00%**	**5.96904**	**51.00%**
VII	**MAX. AREA UNDER COMMERCIAL**	**0.46820**	**4.00%**	**0.46632**	**3.98%**
VIII	**TOTAL SALEABLE AREA**	**6.44772**	**55.00%**	**6.43536**	**54.98%**
IX	**OPEN SPACE OR PARKS**	**1.07861**	**2.50 SQM Per Person**	**1.25520**	**10.59%**

***N.B.**: The Saleable Area is calculated as a percentage of Net Planned Area whereas the Area under Open Spaces or Parks is tabulated on Licensed Area as per Policy.*

Details of Land Areas falling under Various Heads @ 11.85000 Acres –

	Total Area (in SQM)	**Total Area (in Acres)**	**% w. r. t. Licensed Area**
Plots (104 Nos.) @ 51.00% of Net Planned Area	24,155.87	5.96904	50.37
Commercial @ 3.98% of Net Planned Area	1,886.41	0.46632	3.94
Total Saleable Area	***26,042.28***	***6.43536***	***54.31***
Green Area			
Organized - Green # 1 to 10 (@ 2.50 square meter per person)	***5,079.63***	***1.25520***	***10.59***
Services Area			
STP	450.18	0.11124	0.94
UGT	313.84	0.07755	0.65
	764.02	***0.18879***	***1.59***
Electrical Sub-Station (ESS) Area			
Electrical Transformer Area (3 Nos.)	***142.54***	***0.03522***	***0.30***
Milk Booth	***27.50***	***0.00680***	***0.06***
Roads & Pavements			
24-meter road	2,442.04	0.60344	5.09
12-meter road	12,871.28	3.18056	26.84
	15,313.32	***3.78400***	***31.93***
Area falling under 30.0 MT. Green Belt (50%)	***586.00***	***0.14505***	***1.22***
Total	**47,955.29**	**11.85000**	**100.00**

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PLOT – TYPE WITH AREA @ 11.85000 Acres

DETAILS OF PLOTS						
TYPE	PLOT NO.	PLOT SIZE		AREA (SQ.MT.)	NO. OF PLOTS	TOTAL AREA (SQ.MT.)
		WIDTH (METERS)	LENGTH (METERS)			
A	1	13.30	28.97	385.30	1	385.30
	2	13.00	24.61	319.93	1	319.93
	18 to 24	14.70	28.00	411.60	7	2881.20
	25	12.90	25.00	322.60	1	322.60
	26 to 32	12.00	25.00	300.00	7	2100.00
	40 to 46	12.00	25.00	300.00	7	2100.00
	47	14.00	25.00	350.00	1	350.00
	48	13.81	23.00	317.63	1	317.63
	58	13.81	23.00	317.63	1	317.63
	59	12.80	24.60	314.88	1	314.88
	72 & 73	13.00	24.60	319.80	2	639.60
	74	14.60	24.60	359.16	1	359.16
B	3	10.00	23.00	230.00	1	230.00
	33	13.00	19.75	256.75	1	256.75
	34	13.00	22.50	292.50	1	292.50
	49 to 57	11.50	23.00	264.50	9	2380.50
	60 to 71	12.00	24.60	295.20	12	3542.40
	75 & 76	13.00	23.50	305.50	2	611.00
C (NPNL)	4 to 7	9.75	23.00	224.25	4	897.00
	8 to 11	8.90	20.00	178.00	4	712.00
	12 & 13	9.33	20.00	186.60	2	373.20
	14 to 17	8.90	20.00	178.00	4	712.00
	35 to 39	10.00	22.50	225.00	5	1125.00
	77 to 83	9.50	23.50	223.25	7	1562.75
D (EWS)	84 to 104	4.60	10.90	50.14	21	1052.94
TOTAL					**104**	**24155.87**
					ACRES	**5.96904**

DENSITY CALCULATION @ 11.85000 Acres

S. NO.	DESCRIPTION		UNITS
1	TOTAL NO. OF PLOTS	104	Plots
2	TOTAL NO. OF REGULAR & NPNL PLOTS	83	Plots
3	POPULATION PER PLOT	18	Persons
4	POPULATION OF REGULAR & NPNL PLOTS	1,494	Persons
5	TOTAL NO. OF EWS PLOTS	21	Plots

6	POPULATION PER PLOT	12	Persons
7	POPULATION OF EWS PLOTS	252	Persons
8	TOTAL POPULATION (4+7)	1,746	Persons
9	NET PLANNED AREA	11.70495	Acres
10	DENSITY ACHIEVED	149.17	PPA

SECTOR WISE DENSITY UTILIZED

S. NO.	DETAIL OF AREA	SECTOR – 3, SHAHABAD
1	TOTAL AREA OF SECTOR	139.00 Acres
2	AREA OF 30.0 M WIDE SECTOR ROAD BETWEEN SECTOR - 3 & 4 (1/2)	2.00 Acres
3	AREA UNDER 30.0 M WIDE GREEN BELT ALONG G. T. ROAD & RAILWAY LINE	22.40 Acres
	NET PLANNED AREA UNDER RESIDENTIAL ZONE	**114.60 Acres**
(A)	**DENSITY ALLOCATED AS PER FDP 2031 AD SHAHABAD FOR RESIDENTIAL USE**	***67.36%***
(B)	**LICENSES ISSUED**	NIL
(C)	**LICENSES APPLIED FOR**	
(i)	M/s ARNIKA DEVELOPERS LLP (NEW LICENSE -RPC)	11.85000 Acres
	DENSITY UTILIZED UNDER LICENSES A/F	***15.35%***
(D)	**NET DENSITY UTILIZED [B + C(i)]**	***15.35%***
(E)	**DENSITY AVAILABLE AS PER FDP 2031 AD SHAHABAD FOR RESIDENTIAL USE**	***52.01%***

SANITARY ENGINEERING SERVICES

Water supply and wastewater disposal constitute a very important part of the services in a township. Maintenance of hygiene and cleanliness are indispensable to the wellbeing of the occupants.

It is proposed to design the services, storage capacities and piping network of the township in totality. It is proposed to locate all the pumps and equipment's in the pump room which shall accommodate all major pumps and equipment's and electrical panels, etc.

WATER SUPPLY SYSTEM

Design Parameters

The scheme has been designed for population of approximately 1,710 persons for housing in the colony.

Total Water Requirement

The total water requirement is proposed to be catered by an underground water tank. The water requirement as per I.S. specifications and Government manuals shall be as below:

The rate of water supply per head / day has been taken as 115 + 40.5 (U.F.W.@ 35%) = 155.5 litres as per HSVP norms. In addition to above, necessary provisions of water for community facility and parks etc. have been considered for calculating the maximum quantity of water requirement.

WATER REQUIREMENT FOR PLOTTED COLONY UNDER DDJAY @ 11.85000 ACRES

S. No.	Unit Type	Category as per latest NBC	Total No. of Plots	Total Area (in Sqm)	Persons considered per plot as per HSVP norms	Total Popul-ation	LPCD Factor for Pota-ble Water Req. @ 67 %	LPCD Factor for Flushing Water Req. @ 33 %	Potable Water Require-ment (LPD)	Flushing Water Require-ment (LPD)	Total Water Require-ment (LPD)
I.	**DOMESTIC WATER DEMAND**										
1	**Plots (Regular &NPNL)**	Res.	83		18	1,494	104.20	51.30	150,067	73,891	223,958
	Plots (EWS)		21		12	252			28,138	13,855	41,992
2	**Commercial Block**	Business		1,886.41 Sqm or 0.46632 Acre			32,000 Ltr./Acre		9,773	4,813	14,586
	Grand Total								**187,977**	**92,559**	**280,536**
	Say in Cum/day							**(KLD)**	**200**	**100**	**300**
II.	**HORTICULTURAL WATER DEMAND**										
	Approx. 30 % of Total Site Area, i.e., 3.55500 Acre @ 15000 litre/ Acre(say)										53,325
	Total, Say (in Cu.m. per day)										**50 KLD**
	TOTAL WATER REQUIREMENTS FOR ALL PURPOSES										**350 KLD**
III.	**TUBE WELLS**										
(a)	**Yield**								**45**		**KL/Hr**
(b)	**Working Hours per day**								**8**		**Hrs/Day**
	Discharge per Tube well								**360**		

(c)	Total water demand	300	KLD
(d)	Number of Tube wells required.	0.83	
	(Water Demand/Discharge/Hours working per day)	0.08	
	Total	0.92	Nos.
	Say	1.00	Nos.
(Water to the proposed development is to be supplied by HSVP and it is proposed to install the tubewells for augmentation/standby purposes).			
IV.	PUMPING MACHINERY FOR TUBEWELLS		
(a)	Gross Working Head	60	Meters
(b)	Average fall in S.L	5	Meters
(c)	Depression Head	5	Meters
(d)	Friction loss in main	10	Meters
	Total	80	Meters
(e)	Discharge	45,000	LPH
(f)	Horse Power	22.22	HP
	HP = (45,000 X 80 X 1)/(60 X 60 X 75 X 0.6)		
	Say	22.50	HP
V.	UNDER GROUND		
(a)	Total water demand (Daily for Domestic purposes)	200	KLD
(b)	Proposed capacity of underground tanks (Raw + Domestic) for domestic use.		
	(25+33)%=58% (SAY 60%) Storage 120 KLD Say 125 KLD	125	m^3
(c)	Proposed capacity of underground static tank for fire =100X √(1710/1000)=130.77 KLD (Say 150 KLD)	150	m^3
	TOTAL	275	m^3
VI. (A)	BOOSTING MACHINERY (Water Supply Pumps)		
(a)	Daily Domestic Water Demand	200	m^3 /day
(b)	Discharge per hour @ 8 hr. pumping / day	25	m^3 /Hr
	Say	420.0	LPM
(c)	No. of Working pump	1.0	
(d)	Proposed Pump discharge (Working)	420.0	LPM
	Say	420.0	LPM
	Gross Working Head		
(a)	Suction lift – positive suction + Delivery head (4+5)	9	Meters
(b)	Frictional Loss in Mains & Specials	8	Meters
(c)	Max Clear Head required	15	Meters
	Total	32	Meters
	or Say	35	Meters
(g)	H.P. of each pump required (420 * 35 * 100/60 * 60 * 75 * 0.6)	9.07	HP
	Pump H.P.		
	or Say	10.00	HP
VI. (B)	BOOSTING MACHINERY (Flushing & Garden Supply Pumps from STP)		
(a)	Daily Flushing & Horticultural Water Demand (100 + 50 = 150)	150	m^3 /day

(b)	Discharge per hour @ 8 hr. pumping / day	18.75	m^3 /Hour
		320.0	LPM
	Say	320.0	LPM
(c)	No. of Working pump	1	
(d)	Proposed Pump discharge (Working)	320	LPM
	Gross Working Head		
(e)	Suction lift – positive suction	9	Meters
(f)	Frictional Loss in Mains & Specials	8	Meters
(g)	Max Clear Head required	15	Meters
	Total	32	Meters
	or Say	35	Meters
(h)	H.P. of each pump required (Pump H.P.)	6.91	HP
	or Say	7.50	HP
VII.	GENERATING SETS		
1	HP of Tube well pump (1 No. of Tubewell * 22.5 HP)	22.50	
2	HP of Domestic water supply pump (1 No. of pump * 10.0 HP)	10.00	
3	HP of Flushing water supply Pump (1 No. of pump * 7.5 HP)	7.50	
4	Add 10% for Lighting	4.00	
	Total	44.00	HP
	in KVA	49.00	KVA
	SAY	62.5	KVA

Source of Water

The source of water supply in this area is tube well as underground water is sweet and fit for human consumption, moreover, the water is available at reasonable depth, the average yield of Tube wells, with approximate 60' to 80'; strainer will be about 45 KL per hour. 1 Nos Tube well are required to cope with the daily requirement of water for the initial period of 5 years by which time services for water supply is expected to be laid by Municipal Corporation / HSVP.

Tube Wells

The proposed tube wells shall be 510 mm bore drilled with reverse rotary rig and installed with 80 mm i/d housing pipe and 50 mm i/d slotted tube as strainer. The provision taken in the estimate under the sub-head tube well includes the cost of pea gravel packing. The lift of tube well is limited due to incrustation and rusting of strainer. Therefore, out of these tube wells the drilling of tube wells will be done for 1 No. tube well and further tube wells will be drilled as the demand develops till

the scheme is handed over the department or till the canal filtration scheme starts supplying water, whichever is earlier.

Pumping Chamber and Pumping Equipments

It is proposed to occupy each tube well with electricity driven pumping Set-Electro type or submersible pump capable of delivering about 45,000 Litres per hour. It is also proposed to equip 1 No. pumping set with stand by diesel genset engines for operation during failure of electricity. 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.

Underground Storage Tanks

Underground storage tank for one day of total daily demand of water supply has been proposed in the scheme. The same shall be fed through HSVP mains canal supply or through Proposed Tube wells lines if possible.

Considering minimum requirement of storage for one full day in the underground tanks (excluding for horticulture purpose), the capacity in underground tanks shall be as follows:

S. No.	Total Water Requirement	In 11.85 Acres Area
(a)	Raw Water Tank	50 KLD
(b)	Treated Water Tank	75 KLD
(c)	Fire Tank	150 KLD

Distribution System

The distribution system for this development have been designed as per the requirement of plot & commercial complex @ 3.0 times the average rate of flow on "Hazen Williams" formula with C-100. Necessary provision for laying C.I. / D.I. pipes only conforming to relevant IS standards along with valves and specials has been made in the Estimate.

Rising Main

Rising mains from HSVP water main on sector road to water works have also been designed and provision for C.I. (class LA)/DI pipeline has been made in the Estimate.

Estimate of Bore Well

Sub Work No. 1		**Water Supply**	
Sub Head No. 01		**Head Works**	***Amount in Rs.***
1. Boring and installing tube well with reverse Rotary Rig 12" * 6" i/d			
complete with pipe and strainer to a depth of about 170 meter in all respect			
1 No. for overall 11.85 Acre Site Area			
Total –1 No. @ Rs. 10,00,000/- each.			Rs.1,000,000.00
2. Provision for rising mains, connecting tube wells with UGT Tanks including Valve & NRV			
a) 100 mm dia – 145 m @ Rs. 1,250/-			Rs.181,250.00
b) 150 mm dia – 10 m @ Rs. 1,575/-			Rs.15,750.00
3. Providing Tube well Submersible Pumps :			
Capacity 45,000 LPH at 80 M head, 1 No. @ Rs. 2,00,000/-each			Rs.200,000.00
4. Construction of UG Tanks 275 KL @ Rs. 14,500/KL			Rs.3,987,500.00
5. Provision of Construction of Tube well Chambers of			
Size 1.5x1.5x1.5 m tube well - 1 No. @ Rs.1,00,000/- each			Rs.100,000.00
6. Provision for Carriage of material & other unforeseen items			Rs.50,000.00
7. Provision for footpath, lawn, boundary wall around tube well & waterworks (L.S)			Rs.150,000.00
8. Construction of boosting chamber (L.S.)			Rs.250,000.00
9. Provision for staff offices & for maintenance staff			Rs.500,000.00
TOTAL			**Rs.6,434,500.00**

(C/O To Abstract of Cost for Sub work No.1)			**or Say Rs.64.35 Lacs**
For Tube Well Line			
S. No.	**Line Designation**	**Size of Pipe Provided**	**Length of pipe(in meters)**
		mm	
1	**TW 1 - 2A**	100	145
2	**2A - UGT**	150	10

Estimation of Pumping Machinery

Sub Work No. 1		**Water Supply**	***Amount in Rs.***
Sub Head No. 02		**Pumping Machinery**	
1A. Providing and installing electricity driven Domestic Transfer pumping Set capable of delivering about 420 LPM of water against			
a total Head of 35 M complete with motor and other accessories			
including Valve(10.0 HP) & NRV (1 Working + 1 Stand by) 2 Nos.			
@ 2,50,000/- each			Rs.500,000.00
1B. Providing and installing electricity driven Flushing & Garden			
pumping Set capable of delivering about 320 LPM of water against			
a total Head of 35 M complete with motor and other accessories			
including Valve(7.5 HP)& NRV (1 Working + 1 Stand by) 2 No.			
@ 200000/- each			Rs.400,000.00
2. Provision for making foundations and erection of Pumping Machinery:			
- Lump Sum			Rs.50,000.00
3. Provision for electric service connection including electrical			
Fittings for tube-well and boosting chamber etc.			
- Lump Sum			Rs.125,000.00
4. Provision for pipes, valves and specials inside boosting chamber. (L.S)			Rs.100,000.00
5. Provision for carriage of material			Rs.50,000.00
6. Provision for formation of plant etc			Rs.50,000.00
7. Provision for diesel engine generator set each for stand by arrangement for			
Tube well is boosting pump craft etc.(62.5 KVA)			Rs.400,000.00
TOTAL			**Rs.1,675,000.00**
(C/O To Abstract of Cost for Sub work No.1)			**Say Rs. 16.75 Lacs**

Estimation of Rising Main from Municipal Corporation Supply Point

Sub-Work No. 1		**Water Supply**	
Sub Head No. 03		**Rising Main from HUDA**	
			Amount in Rs.
1. Providing , laying , jointing and testing pipe lines including			
Cost of excavation etc. complete in all respects.			
100 mm dia. G.I. Pipe 790 m @ Rs. 250/M-			Rs.312,500.00
2. Providing and fixing sluice valve including cost of surface box			
and masonry chamber etc. complete in all respects.			
100 mm i/d 1 No. @ Rs. 17,000/-			Rs.17,000.00
3. Providing and fixing indicating plates for sluice valve and air			
Valves. - 1 No. @ Rs. 1,000/- each			Rs.1,000.00
4. Provision for carriage for materials (Lump Sum)			Rs.25,000.00
5. Making Water Supply Connection, including road cut with HUDA master line.			Rs.50,000.00
6. Provision for roads cut and make up good condition			Rs.50,000.00
		TOTAL	**Rs.455,500.00**
			Say Rs. 4.56 Lacs
For HUDA Supply Line			
S. No.	**Line Designation**	**Size of Pipe Provided**	**Length of pipe(in meters)**
		mm	
1	**MU Connection -- UGT**	100	225

Estimation of Water Supply (Domestic & Flushing) Distribution System

Sub Work No. 1		**Water Supply**	
Sub-Head No. 04		**Water Distribution System (Domestic And Flushing)**	
3. Provision for carriage of materials (Lump Sum)			Rs.50,000.00
4. Provision for cutting of road and making its good condition			Rs.50,000.00
5. Provision for air valve 1 No. and sluice valve complete with masonry chamber (L.S)			Rs.50,000.00
6. Providing & Fixing indicating plates for sluice valve,air valve (L.S)			Rs.5,000.00
7. Providing & Fixing fire hydrant complete with masonry chamber(L.S)			Rs.25,000.00
Total			**Rs.4,535,000.00**
(C/O To Abstract of Cost for Sub work No.1)			**Say Rs. 45.35 Lacs**

SUB WORK No. 1 (Abstract of Cost)		Water Supply & Fire Fighting	
1	Sub Head No. 01	Head Works	Rs.6,434,500.00
2	Sub Head No. 02	Pumping Machinery	Rs.1,675,000.00
3	Sub Head No. 03	Rising Main	Rs.455,500.00
4	Sub Head No. 04	Distribution System Dom. & Flushing	Rs.4,535,000.00
		TOTAL	**Rs.13,100,000.00**
		Add 3% contingencies & PH Charges	Rs. 393,000.00
		TOTAL	**Rs.13,493,000.00**
		Add 49% Departmental charges + Price escalation	**Rs.6,611,570.00**
		TOTAL	**Rs.20,104,570.00**
		or Say Rs. in lacs	**201.05**

Quality of Water Supply

Since, the water will be required for different purposes, i.e., for drinking, cooking, in the toilets, etc. it must be of a required standard quality. The exact treatment of water will be suggested after getting the municipal and bore well water tested for potability.

However, as a standard, the water shall be passed through multi-grade filter disinfection (U.V.) and chlorinated prior to its supply to the plots.

It is also advisable to maintain a strict monitoring system on the quality of the water during the operation of the system.

Water Supply System

The water from the potable water supply line will be brought into Compartment # 1, which will serve exclusively as a raw water tank of capacity as suggested herein above. The water from these tanks shall be taken for treatment through filtration disinfection (U.V.) and chlorination units and then stored in Treated Water Tank Compartment No. 2 of capacity as suggested herein above.

Water from the Compartment No. 2 termed as domestic water tank shall transfer the water through Pumping System with ring main system to domestic water overhead tanks of the plots and the water shall in turn be supplied to the pantries and other fixtures from domestic water overhead tanks of the plots by gravity.

An underground additional ring main shall be provided along the roads which shall transfer the treated flushing water from STP through Pumping System with additional ring main system to flushing water overhead tanks of the plots and the flushing water shall in turn be supplied to the toilets from the flushing overhead tanks of the plots by gravity. The underground additional ring main will also be connected to the garden hydrant pumps from the flushing water tank at STP. Garden Hydrants will be provided on the ring main.

Material for Water Supply

All the external pipes to be used for water supply shall be of Ductile Iron of 100 mm dia. and above and Galvanized Steel Tubes confirming to I.S.1239 medium

class of superior quality for below 80 mm dia. pipes. Fittings shall be malleable iron/ brass as applicable. Valves on branches, main line and pumps shall have Brass Ball Valve / CI butterfly valve of good, approved quality, as per requirement.

SEWERAGE SYSTEM

The internal sewer lines have also been designed for three times average D.W.F in relation to water supply demand. It has been assumed that about 85 % of the domestic water supply shall find its way into the proposed sewer. All the DWC pipes (SN4 Grade), sewer has been designed to run half/full/three fourth full.

Estimation for Sewerage System

Sub-Work No. II	**SEWERAGE SCHEME**	
		Amount in Rs.
1. Providing, jointing, cutting, and testing DWC pipe of "SN4" grade and		
lowering into trenches including cost of Excavation, bed concrete, cost of		
manholes etc. complete in all respect		
a) DWC pipe 200 to 250 mm i/d avg. depth 1.50 - 4.62 M		
i) 200 Dia DWC Pipe (SN4 Grade) - 1,085 M @ Rs. 1,250/M		Rs.1,356,250.00
ii) 250 Dia DWC Pipe (SN4 Grade) - 222 M @ Rs. 1,500/M		Rs.333,000.00
2. Rising Main From STP To MH		
a)150 mm dia 95m @ Rs. 1,575/m		Rs.149,625.00
3. STP Cap. 175 KLD upto tertiary level @ Rs. 1,30,00,000/- per MLD (L.S) for Civil Work and Rs. 25,00,000/- for Mechanical Equipment's		Rs.4,775,000.00
4. Provision for making HSVP Connection on main line (L.S)		Rs.50,000.00
5. Provision for watering & lighting		Rs.100,000.00
6. Provision for vent pipe as per		Rs.100,000.00
7. Provision for cutting of roads and making good condition		Rs.100,000.00
8. Provision for timbering & shovering (L.S)		Rs.50,000.00
Total		Rs.7,013,875.00
Add 3% contingencies & PH charges		Rs.210,416.25
Total		Rs.7,224,291.25
Add 49% Departmental Charges, Price escalation, unforeseen & Admin. Charges		Rs.3,539,902.71
TOTAL		**Rs.10,764,193.96**
or Say Rs. in lacs		**107.64**
(Cost to Final abstract of cost)		

Appurtenances & Material's Specifications

(a) Pipes

DWC Pipe – SN4 Grade (For Sewer Lines)

Minimum 200mm dia DWC pipe (SN4 Grade) will be used for external services

For road crossings 150 mm DWC pipe (SN4 Grade) will be used

All road crossing pipes will be in cased all round by cement concrete of 1:3:6 and other pipe will be in cased up to Haunches.

(b) Manholes

The manholes shall be constructed of brick masonry as per standard specifications of National Building Code.

Minimum Depth of Manhole = 0.9 m – 1.67 m depth for 0.91 m dia.
1.68m – 2.29m dia depth for 1.22m dia
2.30m and above for 1.52m dia

Spacing

Manholes shall be provided at all junctions, change of directions, change in diameters, as per connection requirement from every house / unit. 30 meters on the main trunk sewer lines, depending on dia of pipe and local conditions.

Manhole Covers

Medium / Heavy duty for manholes.

SEWAGE TREATMENT PLANT

It is proposed to treat the domestic sewage water in a specific manner through a properly planned sewage / effluent treatment plant. The objective is to stabilize the decomposable organic matters present in sewage to get an effluent

and sludge having characteristics which are within safe limits, and which can be recycled and reutilized for various purposes to help in maintaining the ecology of nature and save energy resources. The treatment process for sewage / effluent and the location of the final waste disposal shall be based on the following considerations:

- Use of Treated Sewage
- Wind Direction
- Availability of suitable land
- Initial cost of the system
- Recurring cost of the system

Salient Features of STP

a) **Characteristics of Influent**

- B.O.D. (5 days at 20^{o}C) (mg / lit) --- 250 – 300
- Suspended Solids (mg / lit) --- 400 – 600
- pH --- 6.5 – 8.5

b) **Characteristics of Effluent (after treatment)**

- B.O.D. (5 days at 20^{o}C) (mg / lit) --- Less than 10 mg / lit
- Suspended Solids (mg / lit) --- Less than 30 mg / lit

The technology suggested to be used for Sewage treatment will be as follows:

Process Description: FAB Process

Sewage generated from the township will reach the last manhole of the trunk sewer line from where it shall be passed through a bar screen of suitable size before entering the equalization cum collection tank. There shall be suitable

arrangement for cleaning and lifting the coarse material from the platform near the screen chamber.

From equalization tank the sewage shall be lifted through submersible automatic control pumps into adjoining FAB aeration tank. The equalization tank shall also have provision of the aeration system to keep the sewage in the homogeneous condition.

In the FAB aeration tank of required capacity wastewater will be mixed with micro-organisms in presence of dissolved oxygen. Micro-organisms will assimilate organic impurities. The FAB aeration tank will be supplied through two positive displacements (roots type) air blowers (1 working + 1 standby) located outside the tank. Submerged air diffusers will provide mixing and oxygen for the needs of micro-organisms. The blowers will be sized to maintain dissolved oxygen level in the aeration tank of approximately 2 mg / lit.

From the FAB aeration tank mixed liquor will flow with gravity in to adjoining plate settler of required capacity. The solids will settle in the plate settler tank. A sludge return pump will be provided for pumping the settled sludge from plate settler tank back to the aeration tank. Plate settler tank will also be provided with skimmer system to pump floating scum back to the aeration tank to keep the plate settler surface clean.

An overflow weir with scum baffle will be provided in plate settler to take treated wastewater out of the plate settler.

From the plate settler, treated wastewater will flow with gravity into adjoining clarified water tank. From this tank the water will be lifted with a submersible pump and passed through a pressure sand filter and an activated carbon filter and stored in the treated water tank. Water from this tank will be

lifted with suitable pumps for further use for flushing and horticulture purpose. In case of extra effluent, the arrangement shall be made to dispose of the same into municipal sewer.

Excess sludge from the plate settler tank will be taken periodically into sludge holding tank. In this tank sludge will be aerated for self-stabilization. Air will be shut off periodically and superannuate water will be transferred to the aeration tank creating stabilized sludge. The stabilized sludge shall be dried in filter presses and used as manure and extra will be carted away.

STORM WATER / RAIN WATER DRAINAGE DISPOSAL SYSTEM

It has been proposed to lay underground RCC pipe. The intensity of rain fall has been taken as ¼th inch per hour. The internal storm water drains will be joined into external storm water drainage to be laid by HSVP/MC on sector dividing roads.

Necessary provision for curves and channels has been estimated. A minimum size of 400 mm RCC storm water line will be provided.

Estimation for Storm Water / Rainwater Drainage System

Sub-Work No. III		**STORM WATER SCHEME**	
			Amount in Rs.
1. Providing and laying R.C.C. pipe drain class NP-2			
With cement joint, Catch Basins & Road Gullies, manholes excavation			
etc. complete in all respect.			
a) 400 mm dia. 1,155 M @ Rs. 2,500/m			Rs.2,887,500.00
500 mm dia. 106 M @ Rs. 3,200/m			Rs.339,200.00
b). Providing Rain Harvesting arrangements			
8 Nos @ Rs 4,00,000/- each			Rs.1,600,000.00
3. Provision for Carriage of Material (L.S)			Rs.100,000.00

4. Provision for watering & timbering and unforeseen (L.S)	Rs.50,000.00
5. Provision for connection with HUDA line	Rs.50,000.00
6. Provision for Road gullies and cement (L.S)	Rs.100,000.00
7. Provision for watering & lighting	Rs.100,000.00
8. Provision for temporary disposal arrangements till HSVP services are provided.	Rs.200,000.00
Total	Rs.5,426,700.00
Add 3% for contingencies and PH charges	Rs.162,801.00
Total	Rs.5,589,501.00
Add 49% Departmental Charges, Price escalation, unforseen & Admin. Charges	Rs.2,738,855.50
TOTAL	**Rs.8,328,356.50**
(Cost to Final abstract of cost)	
or Say Rs. in lacs	**83.28**

RAIN WATER HARVESTING

The main emphasis given in the planning of the storm water drainage system is on recharging the underground aquifer of the area while having the safe disposal of storm water without flooding the campus. A network of storm water disposal drains will be planned which will finally dispose of into a percolation well for direct injection of collected storm water into the ground water. Bar screens and slit traps shall be incorporated before percolation wells to remove the silt, heavier particles and other objectionable material which can cause the chocking of the percolation well. The overflow of these rainwater harvesting pits will be interconnected and then finally connected to the trunk storm water pipeline.

ROADS AND PAVEMENTS NETWORK

Estimation for Roads & Pavements Work

SUBJECT: ROAD WORKS					
Sub Work No. 4				**Road Works**	
S. No.	**Description**	**Unit**	**Qty**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	Provision for leveling & earth filling as per site conditions	Acres	11.85000	50,000.00	592,500.00
2	Provision for Granular Sub Base 200 mm, 250 mm thick stone aggregate, 50 mm thick MB, 25 mm thick premix carpet with seal coat (MSS)	Sqm	16,197.15	600.00	9,718,290.00
3	Provision for Kerbs & channels of CC 1:2;5:5 complete in all respect	Metre	5,324.00	600.00	3,194,400.00
4	Provision for pavement on either side of 12m, 15 m, 24 m and 30 m roads	Meter	6,388.80	80.00	511,104.00
5	Provision for making CC Pavement in Commercial Area, i.e., 50% of the provisioned area	Meter	922.29	800.00	737,832.00
6	Provision for parking arrangement	LS			100,000.00
7	Provision for carriage of materials, Guide map Plot indicator etc.	LS			100,000.00
	Sub Total				14,954,126.00
	Add 3% contingencies & PH charges				448,623.78
	Sub Total				15,402,749.78
	Add 49% Departmental Charges , Price escalation, unforeseen & Admin. Charges				7,547,347.39
	Total				**22,950,097.17**
	Say Rs in Lakhs (C/O to Final abstract of cost)				**229.50**

STREET LIGHTING WORK

SUBJECT: EXTERNAL LIGHTING					
Sub Work No. 5					
S.No.	**Discription**	**UM**	**Qty.**	**Rate**	**Amount**
(i)	Providing street lighting on internal roads as per standard specification of HVPN with CFL.	Acre	11.85000	250,000.00	2,962,500.00
	Sub Total				2,962,500.00
	Add 3% contingencies & PE charges				88,875.00
	Sub Total				3,051,375.00

	Add 49% Departmental charges , Price escalation, unforeseen & Admin. Charges				1,495,173.75
	Total carried to summary				**4,546,548.75**
	(C/O to Final abstract of cost)				**45.47**

PARKS & PLAYGROUNDS (HORTICULTURE) WORK

SUBJECT: PLANTATION & ROAD SIDE TREES					
Sub Work No. 6					**Plantation & Road Side Trees**
S.No.	**Description**	**Unit**	**Qty**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	Development of organized lawn green area.				
a	Trenching of ordinary soil up to depth of 60 cm i/c removal & stacking of serviceable material & disposing by spreading and levelling within a lead of 50 M and making up the trench area for proper levels by filling with earth or earth mixed with manure before and after flooding trench with water i/c cost of imported earth and manure.				
b	Rough dressing of turfed area.				
c	Grassing with "DOOB GRASS" i/c watering and maintenance of lawns for 30 days till the grass forms a thick lawn, free from weeds and fit for mowing in row 7.5 cm part in either direction.				
		Acre	3.55500	400,000.00	1,422,000.00
2	Providing and planting trees along roads @ 12 m interval	Nos.	115	2,500.00	287,500.00
	Cost Detail				
	Excavation	60.00			
	Manure	190.00			
	Tree Plant	1250.00			
	Tree Guard	1000.00			
	Total	**2500.00**			
S. No.	**Description**	**Unit**	**Qty**	**Rate (in Rs.)**	**Amount (in Rs.)**
	Sub Total				1,709,500.00
	Add 3% contingencies & PH charges				51,285.00
	Sub Total				1,760,785.00
	Add 49% Departmental charges, Price escalation, unforeseen & Admin. Charges				862,784.65
	Total				**2,623,569.65**
	Say Rs in Lakhs (C/O to Final abstract of cost)				**26.24**

MAINTENANCE CHARGES

SUBJECT: SERVICES & RESURFACING OF ROADS					
Sub Work No. 7				**Services & Resurfacing of Roads**	
S. No.	**Description**	**Unit**	**Qty**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	Provision of MTC charges for W/S, SWD & Sewerage, Roads, Street Lighting, Horticulture etc.				
a.	Complete in all aspect, including operational and establishment charges as per HUDA norms for 10 years completion.	Acre	11.85000	700,000.00	8,295,000.00
2	Provision of resurfacing of roads MTC one layer of 100 mm thick WBM compacted to 75 mm thick with 25mm thick premix carpet with seal coat.				
a	Resurfacing of road after 5 years of MTC	Sqm	16,197.15	600.00	9,718,290.00
b	Resurfacing of road after 10 years of MTC.	Sqm	16,197.15	750.00	12,147,862.50
	Sub Total				30,161,152.50
	Add 3% contingencies & PH charges				904,834.58
	Sub Total				31,065,987.08
	Add 49% Departmental charges, Price escalation, unforeseen & Admin. Charges				15,222,333.67
	Total				**46,288,320.74**
	Say Rs in Lakhs (C/O to Final abstract of cost)				**462.88**

ELECTRICAL SYSTEM

GENERAL

The "Residential Plotted Colony" proposed at Shahabad, Kurukshetra consists of following plotted development/ blocks

i) Residential Plots - 100 plots
ii) Commercial Blocks - 1 no.

POWER SOURCE

Power supply authority is UHBVNL at Kurukshetra.

Individual connection to each plot is provided by UHBVNL. In this case individual plot owner shall apply to UHBVNL for Electrical connection. Developers shall have to take connection from UHBVNL for common services (water supply pump, fire pump, external lighting etc.)

In this case, the responsibility of collection of electricity bills/dues from plot owners shall be of UHBVNL. Operation and maintenance of sub-station including LT Distribution network shall also be responsibility of UHBVNL.

It has been envisaged that the power supply shall be available at the site at 11KV for township from the Local Electric Supply Company (i.e., UHBVNL). The total maximum demand required for this complex for plotted development with basic amenities shall be 1074 KW. 11KV power will be received at individual Substation in the proposed complex (Location of the ESS marking in attached Site plan).

DESIGN CRITERIA

As it is a large development with commercial areas, plotted development and the utilities required for the above areas, the 11KV distribution system shall be designed in the following manner:

The power will be received at 11KV. This 11KV underground cable shall feed 11KV power to the small Substation for plotted development. 11KV power shall be stepped down to 433V with one or two number of transformers located strategically as per load centres. 433V distribution would occur from LT distribution board inside the substation to various feeder pillars located strategically in the plotted areas.

The following codes and standards (latest edition / revision) will be followed during the designing of electrical installation:

a. B.I.S. Bureau of Indian Standards
b. I.E.R. Indian Electricity Rules
c. NEC National Electric Code
d. Haryana Electricity regulatory commission
e. UHBVNL Sales Circular
f. Electrical Wiring Installation (IS : 732 -1989)
g. Fire safety of Buildings (General) Electrical Installation (IS : 1646 - 1997)
h. Installation & Maintenance of Transformer (IS : 10028 - 1985)
i. Earthing (IS : 3043 - 1989)
j. Regulation laid down by the Electrical Inspectorate.

Moreover, the system will be so designed that it is reliable and optimized to meet not only the present requirement but also suitable for future load growth of an about 5-10% only.

SUBSTATION & LOCATION

11KV Distribution Sub-station:

- Multiple sub-stations shall be proposed with single transformers as per load centre and at least six transformers will be provided for entire township.
- RMU with 11KV VCB feeder for transformer shall be proposed as HT breaker inside each substation.
- Oil type Transformers are proposed in Substation building since this is an independent structure.
- Transformer shall be outdoor type & located in fenced area around 3X4M.
- Main LT panel shall be provided in sub-station building to feed power to various feeder pillars and external lighting.

L.T. POWER DISTRIBUTION

The LT power from the transformers shall be connected to LT Panel. The LT power from the Substation shall be distributed through **underground** cables and connected to feeder pillars. The power from feeder pillars to the plots shall be laid/ connected by individual owner at their own expenses.

CABLE / OUTLINE SPECIFICATION

C A B L E S

11KV Cables

11KV cables XLPE inner core, copper screened, Trapdoor sheathed, high short circuit rating and low dielectric loss aluminium conductor cables laid underground.

1100 Volts Grade

1.1KV grade cables shall be pvc insulated outer sheathed, pvc insulated and pvc sheathed as inner core and XLPE, insulated core on Aluminium conductor and they will be armoured through GI wire / strips.

H.V. Panels

11KV metal clad integrated panel, dust and vermin proof with incoming draw out type Vacuum circuit breakers and RMU (ring main unit), aluminium busbars, spring operated motorized mechanism, over current and earth fault protective relays, meters and indicating lamps. The outgoing breakers shall have draw out type Vacuum circuit breakers.

Transformers

11/0.433 KV Step Down Transformer

Naturally oil cooled with OFF load tap changing switch and Copper wound transformer (ONAN type) with oil temp. Indicator with tripping facility and winding temp. indicator with tripping facility.

(Note: For package substation transformer could be dry type)

L.T. Panels

L.T. Panel shall be dust free, vermin free, free standing manufactured with CRCA sheet and powder coated with incoming air circuit breakers complete with protective relays and outgoing in the form of MCCBs and complete panel shall have aluminium busbars.

Distribution Pillars

Outdoor type lockable type with canopy free standing distribution pillars with MCCB as incoming and MCBs/ Isolators in outgoing feeders and adequate spacing for incoming and outgoing cables.

Earthing

The earthing system shall be based on the conventional Indian earthing system having separate earth protective conductor for neutral system and separate earth protective conductor. The earthing conductors proposed to be used are:

- Copper for Transformer and DG Set neutral.
- Galvanised Iron (GI) for body earthing.

STREET LIGHTING

Source of Power

The power shall be received at 433 Volts, 3 phase 4 wire 50 Hz from the Substation.

Distribution

The power for street lighting shall be distributed through distribution boards which are located in various load centres. From the distribution boards, the street lighting shall be connected through PVC insulated aluminium conductor armoured XLPE cables laid in ground of required size, considering voltage drop and current carrying capacity.

Illumination Levels

20- 25 Lux on main roads and 15-20 lux on footpath / parking / service lane/ cycle track will be achieved by using - as per requirement – single arm/ double arm 7m poles with IP 65 fixtures having high efficiency LED lamps (90-100 lumens/Watt) with integral Driver.

Pole Design

6.0 / 7.0 Metres wide roads shall be provided with single arm pole installed on one side of the road.

Energy Conservation

The street lighting shall be operated with timers located in the External Lighting Feeder Pillars.

COMMUNICATION SYSTEMS (VOICE / DATA, INTERNET & TV SYSTEM)

DWC pipe of required size to be laid in ground for cabling of communication & TV system. Manhole also to be provided at suitable location to pull the cable. Cabling & Equipment shall be provided by service provider as per the requirements.

NET CONTRACT DEMAND FROM STATE ELECTRICITY BOARD		
Residential Demand Load	KVA	490.40
Commercial Area Demand Load	KVA	309.90
Utility Demand Load	KVA	45.00
Total Demand Load	KVA	**845.30**
KVA DEMAND FOR ENTIRE PLOTTED COLONY FROM STATE ELECTRICITY BOARD @ 0.9 PF	**KVA**	**939.22**
TRANSFORMER CALCULATION FOR RESIDENTIAL, COMMERCIAL, COMMUNITY, UTILITY AREAS		
Residential Demand Load (3 Nos. 275 KVA each)	KVA	675.00
Commercial Area Demand Load	KVA	450.00
Utility Demand Load	KVA	62.50
REQUIRED KVA RATING @ 0.9 POWER FACTOR & 80% LOADING	KVA	**1,187.50**
SUGGESTED TRANSFORMER CAPACITY	**KVA**	**1,187.50**

EXPENDITURE ENVISAGED

RESIDENTIAL PLOTTED COLONY @ 11.85000 Acres					
EXPENDITURE :					
LAND COST					
Village Jhambra (Hadbast # 253), Tehsil Shahabad, District Kurukshetra					
Khasra No.	**Kanal**	**Marla**	**Sarsai**	**Acre**	**Cost of Land (INR)**

181/1/2	47	18	0	5.98750	3,78,23,551.48
181/2/1	26	8	0	3.30000	2,08,46,383.28
82//21/1	0	4	0	0.02500	13,58,203.00
83//25/2/1	0	17	0	0.10625	
180/1/1/1/2	19	6	0	2.41250	1,52,39,969.60
180/2/2	0	3	0	0.01875	5,45,010.00
TOTAL	**94**	**16**	**0**	**11.85000**	**7,58,13,117.36**
Land Cost				***63.98 Lacs /Acre***	***1,321.85 per SQY***

LICENSING COST

S. No.	Particulars	Area (In Acres)	Area (In SQM)	Unit Rate (INR) @ per SQM	Amount (INR)
1	**Scrutiny Fee (LC-1)**	11.85000	47,955.29	10/- per SQM	**4,89,161.00**
2	**License Fee**				
a.	Plotted Area (96%)	11.37600	46,037.08	1,25,000/- per Ac	14,22,000.00
b.	Commercial Area (4%) [FAR 150]	0.47400	1,918.21	12,50,000 per Ac	5,92,500.00
					20,14,500.00
3	**Conversion Charges**				
a.	Plotted Area (96%)	11.37600	46,037.08	30/- per SQM	13,81,160.00
b.	Commercial Area (4%)	0.47400	1,918.21	200/- per SQM	3,83,656.00
					17,64,816.00
4	**External Development Charges (EDC)**				
a.	Plotted Area	11.37600	46,037.08	41,63,900/- per Ac	4,73,68,527.00
b.	Commercial Area	0.47400	1,918.21	1,66,55,400 per Ac	78,94,660.00
c.	Interest @ 12% on instalments	-			1,49,15,091.00
					7,01,78,278.00
5	**Internal Development Charges (IDC)**				
a.	Plotted Area	11.37600	46,037.08	70/- per SQM	32,22,540.00
b.	Commercial Area	0.47400	1,918.21	190/- per SQM	3,64,460.00
					35,87,000.00
TOTAL					**7,80,33,755.00**
Licensing Cost				***65.85 Lacs/Ac***	***1,360.56 per SQY***

CONSULTANT, SURVEY AND TESTING FEE

S. No.	Particulars	Area (In Acres)	Area (In SQM)	Unit Rate (INR) @ per Acre	Amount (INR)
1	Planning & Design – Architectural Services (Layout, Demarcation & Zoning)	11.85000	-	30,000/-	3,55,500.00
2	MEP Consultant	11.85000	-	20,000/-	2,37,000.00
3	Landscape Consultant	11.85000	-	15,000/-	1,77,750.00
4	Surveying Fee [15,000/- per Ac for Contour Survey (3 Days) + 15,000/- per day for Demarcation (11 Days)]		L.S.	-	2,10,000.00
5	Geotechnical Survey		L.S.	-	1,20,000.00
6	Water Test		L.S.	-	50,000.00
7	Project Management & Bill Checking	11.85000		50,000/-	5,92,500.00

TOTAL					**17,42,750.00**
Planning & Design Cost				***1.47 Lacs/Ac***	***30.39 per SQY***
INFRASTRUCTURE DEVELOPMENT COST					
S. No.	**Particulars**	**Area (In Acres)**	**Area (In SQM)**	**Unit Rate (INR/Ac)**	**Amount (INR)**
1	Laying of Water Supply (Dual Plumbing) System with UGT	11.85000	47,955.29	16,96,588/-	2,01,04,570.00
2	Laying of Sewage Disposal System with STP	11.85000	47,955.29	9,08,371/-	1,07,64,194.00
3	Laying of Storm Water Drainage System with RWH	11.85000	47,955.29	7,02,815/-	83,28,357.00
4	Laying of Internal Roads & Pavements	-	16,197.15	57,34,085/-	2,29,50,097.00
5	Street Lighting	11.85000	-	3,83,675/-	45,46,549.00
6	Landscaping of Parks + Playgrounds	11.85000	-	2,21,398/-	26,23,570.00
7	Maintenance Charges (10 Years) with Resurfacing of Roads (Twice at 5 Years interval)	11.85000	-	39,06,187/- per Ac for 10 Years period	4,62,88,321.00
Services Development & Maintenance Cost				***97,55,752/-***	***11,56,05,658.00***
8	Electrification (HT / LT & LV)	11.85000	-	8,50,000/-	1,00,72,500.00
9	Meter Room & VCB Room		L.S.	60,675/-	7,19,000.00
Electrification Development Cost				***9,10,675/-***	***1,07,91,500.00***
10	Guard Room		L.S.	33,755/-	4,00,000.00
11	Security System (Boom Barrier, etc.)	-	2 Nos.	27,637/-	3,27,500.00
12	Fire Fighting Installations	-	L.S.	70,000/-	8,29,500.00
13	Signages		L.S.	50,000/-	5,92,500.00
Safety & Security and Social Infrastructure Development Cost				***1,81,392/-***	***21,49,500.00***
TOTAL					**12,85,46,658.00**
Development Cost				***108.48 Lacs per Acre***	***2,241.28 per SQY***

GST payable extra on above rates, as applicable.

MARKETING & SELLING COST			
S. No.	**Particulars**	**Unit Rate (INR)**	**Amount (INR)**
1	Designing & Printing of Brochures, Pamphlets and Flexi	L.S.	2,00,000.00
2	Photography for Brochure	L.S.	2,50,000.00
3	Designing and Hosting of Website	L.S.	2,50,000.00
4	Advertisement through Hoarding	L.S.	5,00,000.00
5	Brokerage Payable to Channel Partners	1.5%	52,14,525.00
	TOTAL		**62,14,525.00**
Marketing & Selling Cost		***5.24 Lacs /Acre***	***108.35 per SQY***

ADMINISTRATIVE & OPERATIVE COST			
S. No.	**Particulars**	**@**	**Amount (INR)**
1	Salaries and Wages	1.5% of Sales Revenue	52,14,525.00
2	Administrative & Operation Cost	1% of Sales Revenue	34,76,350.00
3	Contingencies and Overhead	1.5% of Sales Revenue	52,14,525.00
	TOTAL		**1,39,05,400.00**

Administrative & Operative Cost		*11.73 Lacs /Acre*	*242.45 per SQY*
	TOTAL COST	*256.75 Lacs/Acre*	*5,305.00 per SQY*

REVENUE/EARNINGS ENVISAGED

RESIDENTIAL PLOTTED COLONY @ 11.85000 Acres					
REVENUE/EARNINGS :					
SALES REALIZATION					
S. No.	**Particulars**	**Area (In Acres)**	**Area (In SQ Yds)**	**Unit Rate (INR) @ per SQ. Yd.**	**Amount (INR)**
1	Plot(s)	4.37897	21,194.29	12,000.00	25,43,31,505/-
2	Plot(s) – NPNL	1.32990	6,436.81	7,000.00	4,50,57,685/-
3	Plot(s) – EWS	0.26017	1,259.32	600.00	7,55,590/-
4	Commercial Plot(s)	0.46632	2,256.15	18,000.00	4,06,10,700/-
	TOTAL	**6.43536**	**31,146.57**		**34,07,55,480/-**
	or SAY				***3407.55 Lacs***

FUND FLOW SUMMARY

(A) REVENUE/EARNINGS :					
S. No.	**Particulars**	**Area (In Acres)**	**Area (In Sq Yds)**		**Amount (INR in Lacs)**
	Plot(s) & Commercial (Saleable Area)	**6.43536**	**31,146.57**	**=**	**3,407.55**
(B) EXPENDITURE :					
LAND COST					
1	In revenue estate of Village Jhambra (HB # 253)	11.85000	57,354.00	=	758.13
	Total Land Cost	**11.85000**	57,354.00	**=**	**758.13**
LICENSING COST					
3	Licensing Cost (including EDC & IDC payable)	11.85000	57,354.00	=	**780.34**
CONSULTANT, SURVEY AND TESTING FEE					
4	Design & Planning Fee			**=**	**17.43**
INFRASTRUCTURE DEVELOPMENT COST					
7	Plumbing Services, Internal Roads, Street Lighting, Landscaping with 10 years Maintenance	11.85000	57,354.00	=	1,156.06
8	Electrification (HT / LT & LV)	11.85000	57,354.00	=	107.92
9	Boundary Wall, Guard Room, Security System, Fire Fighting Installations, Signages	-	L.S.	=	21.49
	Total Infrastructure Development Cost			**=**	**1,285.47**
MARKETING & SELLING COST					
	Marketing & Selling Cost			**=**	**62.15**
ADMINISTRATIVE & OPERATIVE COST					
	Administrative & Operative Cost			**=**	**139.05**
	Total Expenditure				**3,042.57**
	Nett Earnings (Revenue – Expenditure)				***364.98***
	Return on Investment				***12.00%***

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