

**DDJAY PLOTTING IN SECTOR - 2, VILLAGE PATAUDI,
DISTT GURUGRAM HARYANA. TO BE DEVELOPED BY
M/S VK AND SONS INFRATECH PVT LTD,**

EXTERNAL SERVICE ESTIMATE

ARCHITECT



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Architecture

Interior

Planning

Vastu

PROJECT

Affordable Plotted Colony Under Deen Dayal Jan Awas Yojna-2016 (Licence No. 65 of 2025 dated 07/05/2025 area measuring 6.475 Acres at Sector - 2, Village Pataudi, Distt. Gurugram, Haryana being developed by M/s VK and Sons Infratech Pvt Ltd.

SUBJECTS

PROJECT REPORT / ESTIMATES FOR PROVIDING EXTERNAL SERVICES (WATER SUPPLY, FIRE, SEWERAGE & STORM WATER DRAINAGE, GARDEN HYDRANT & STREET LIGHTING)

Pataudi is a town, a tehsil and one of the 4 sub-divisions of Gurugram district, in the Indian state of Haryana, within the boundaries of the National Capital Region of India. It is located 28 km (17.4 mi) southwest of Gurugram city.

The small princely state Pataudi State was formed in 1804 by East India Company with 40 villages including Pataudi village (as it was then) as reward to Faiz Talab Khan a Pashtun of the Barech tribe for aiding the Company against the Maratha Empire during the Second Anglo-Maratha War and the English made Faiz Talab Khan Nawab of Pataudi. It was subsumed into Union of India in 1947.

As of 2001 India census, Pataudi had a population of 16,064. Males constitute 53% of the population and females 47%. Pataudi has an average literacy rate of 57%, lower than the national average of 59.5%: male literacy is 65%, and female literacy is 48%. In Pataudi, 17% of the population is under 6 years of age. Their main occupation is farming. Rao Kanwar Singh Yadav (father of Krishan Lal Yadav and Ram Avtar Yadav) the famous freedom fighter of Quni Daultabad village is also from Pataudi.

Water Supply

1. Source

The source of water supply in this area is tube well as underground water is fit for human consumption, moreover, the water is available at reasonable depth, and the average yield of Tube wells, with approximate 60 to 80-meter depth will be about 15 KL per hour. 2 No. Tube wells are required to meet with the daily requirement of water till to city supply made available.

2. 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 2 Nos. tube wells and further tube wells will be drilled as the demand develops till the scheme is handed over the department.

3. Pump Chambers and Pumping Machinery



It is proposed to occupy each tube well with an electricity driven pumping set-submersible pump capable of delivering about 15000 Liters per hour. It has been proposed to install pumping set as described with standby of equal capacity.

4. **Under Ground Storage**

Underground tank 60% storage of one day storage of total daily demand of water supply have been proposed at one location in the scheme. The same shall be fed by Tube well at present and shall be later augmented through HSVP mains canal supply at later date.

6. **Distribution System**

The distribution system for this development is has been designed for 172.5 Liters per person per day @3.0 times the average rate of flow on "Hazen Williams" formula with C-100. Necessary provision for laying D.I. pipes only conforming to relevant IS standards along with valves and specials has been made in this Estimate.

7. **Rising Main**

Rising mains from HSVP water main on sector road to water works have also been designed and provision for D.I. pipe line has been made in this estimate

8. **Sewerage**

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 80 % of the domestic water supply shall find its way into the proposed sewer. All the SW pipes, sewer has been designed to run half/full/three fourth full.

Necessary design statement for entire internal sewerage system has been prepared and attached with estimate.

Necessary provision for laying SW/DWC pipes sewer lines and manholes etc. has been made in this estimate.

9. **Storm water drainage**

It has been proposed to lay underground RCC-NP3 pipe drains on the road widths 9.0 M. to lay underground drains. The intensity of rain fall has been taken as 1/4th inch per hour. The internal storm water drains will be jointed into external storm water drainage to be laid by HSVP on sector dividing roads. Necessary provision for curves and channels has been made in the estimate. The estimate for these closed drains has been included as sub work no. III A minimum size of 400 mm RCC storm water line will be provided.

10. **Specifications**

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



11. Roads

Cost of road has been taken in the estimate

12. Street Lighting

Provision for street lighting on surrounding area has been made.

13. Horticulture

Estimates and details of plantation, landscaping, signage's etc. has been included.

14. Specifications

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

15. Rates

The estimate has been based on the present market rates and probable escalation in prices.

16. Cost

804.72 The total cost of the Scheme including cost of all services works out to Rs. ~~738.23~~ lakhs including 3% contingencies and 49% departmental charges, unfrozen, price escalation and admin charges.



PROJECT: M/S VK AND SONS INFRATECH PVT LTD

SUBJECT: FINAL ABSTRACT OF COST

		Amount in Rs. Lakhs
SUB WORK NO. I	WATER SUPPLY SCHEME	195.52
SUB WORK NO. II	SEWERAGE SCHEME	114.33
SUB WORK NO. III	STORM WATER DRAINAGE	86.32
SUB WORK NO. IV	ROADS & FOOT PATHS	181.49
SUB WORK NO. V	STREET LIGHTING	24.84
SUB WORK NO. VI	HORTICULTURE (PLANTATION & ROAD SIDE TREES)	7.80
SUB WORK NO. VII	MTC CHARGES INCL RESURFACING OF ROADS AFTER 1st 5 YEARS AND 2nd YEAR OF MTC AS/HSVP	194.42
	TOTAL	804.72

Cost Per Acre = 804.72 Lakh / 6.475 acres = 124.28 Lakh per gross acre.

AUTHORISED SIGNATORY


Executive Engineer
HSVP Division No. V
Gurugram


Superintending Engineer,
HSVP Circle-I, Gurugram

Checked subject to Comments
In forwarding letter No. 162136
Dt. 19/05/2025 and notes
Attached with the estimate


Executive Engineer (M)
for Chief Engineer-I
HSVP, Panchkula




Director
Town & Country Planning
Haryana, Chandigarh

PROJECT: M/S VK AND SONS INFRA TECH PVT LTD

SUBJECT: FINAL ABSTRACT OF COST

		Amount in Rs. Lakhs
SUB WORK NO. I	WATER SUPPLY SCHEME	166.41 195.52
SUB WORK NO. II	SEWERAGE SCHEME	104.36 114.33
SUB WORK NO. III	STORM WATER DRAINAGE	83.26 86.32
SUB WORK NO. IV	ROADS & FOOT PATHS	463.18 181.49
SUB WORK NO. V	STREET LIGHTING	24.84 195
SUB WORK NO. VI	HORTICULTURE (PLANTATION & ROAD SIDE TREES)	3.64 7.80
SUB WORK NO. VII	MTC CHARGES INCL RESURFACING OF ROADS AFTER 1st 5 YEARS AND 2nd YEAR OF MTC AS/HSVP	192.54 194.42
	TOTAL	238.23 804.72 195
TOTAL : (Rupees Eight Crores Sixty Lakhs and Fifty Thousand Only)/-		
Cost Per Acre = 238.23 Lakh / 6.475 acres = 114.01 Lakh per gross acre.		
	804.72	124.28

AUTHORISED SIGNATORY


Executive Engineer
HSVP Division No. V
Gurugram

Checked subject to Comments
In forwarding letter No. 162186
Dt. 19/05/2025 and notes
Attached to the estimate


Executive Engineer (M)
for Chief Engineer-I
HSVP, Panchkula


Superintending Engineer,
HSVP Circle-I, Gurugram


Director
Town & Country Planning
Haryana, Chandigarh





हरियाणा शहरी विकास प्राधिकरण

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C.E.I-No. 162136
Dated: 19/05/2025
Annexure-A

SUB:-

Approval of service plan estimate for Affordable Plotted Colony under DDJAY-2016 over an area measuring 6.475 acres (License no. 65 of 2025 dated 07.05.2025) situated in the revenue estate of Village Pataudi, Sector-2 & 3, Pataudi, Gurugram being developed by VK & Sons Infratech Pvt. Ltd.

Technical note and comments:-

1. All detailed working drawings would have to be prepared by the colonizer for Integrating the internal services proposals with the master proposals of town.
2. The correctness of the levels will be the sole, responsibility of the colonizer for the integration of internal proposals, with the master proposals, of town and will be got confirmed before execution.
3. The material to be used shall the same specifications as are being adopted by HSVP and further shall also confirm to such directions, as issued by Chief Engineer, HSVP from time to time.
4. The work shall be carried out according to Haryana PWD specification or such specifications as are being followed by HSVP. Further it shall also confirm to such other directions, as are issued by Chief Engineer, HSVP from time to time.
5. The colonizer will be fully responsible to meet the demand of water supply and allied services till such time these are made available by State Government/ HSVP. All link connections with the State Government/ HSVP system and services will be done by the colonizer. If necessary extra tube-wells shall also be installed to meet extra demand of water beyond the provision according to EDC deposited.
6. Structural design & drawings of all the structures, such as pump chamber, boosting chamber, RCC OHSR underground tanks quarters, manholes chamber, sections of RCC pipes sewer and SW pipes, sewer, ventilating shafts for sewerage and Masonry Ventilation Chamber for Chamber for storm water drainage, temporary disposal/ arrangement etc. will be as per relevant I.S codes and PWD specifications; colonizer himself will be responsible for structural stability of all structures.
7. Potability of water will be checked and confirmed and the tube-wells will be put into operation after getting chemical analysis of water tested.



हरियाणा शांति विकास प्राधिकरण

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Panchkula

8. Only D.I pipes will be used in water supply and flushing system, UPVC/ HDPE pipe for irrigation purposes.
9. A minimum 100 & 150mm i/d/D.I (K-7), 200mm i/d SW and 400mm id RCC NP-3 pipes will be used for water supply, sewerage and storm water drainage respectively.
10. Standard X-section for S.W. pipes sewer, RCC pipes sewer etc. will be followed as are being adopted in Haryana Public Health Engineering Deptt. or HSVP. If needed, the same may be sought by the colonizer from concerned Executive Engineer of HSVP.
11. The developer may be directed to get the Sewage Treatment Plant (STP) got designed from a Govt. Institute like IIT, NIT etc. so as to ensure that the technology adopted by him is appropriate. He must take this action before construction of STP and submit documentary proof for the same at the time of grant of occupation certificate. The efficacy of such STP shall be checked randomly by the concerned Regional Officer of HSPCB.
12. The X-section, width of roads, will be followed as approved by the Chief Town Planner, Haryana, Chandigarh. The kerbs and channels will also be provided as per approved X-section and specifications. If needed, the same may be sought by the colonizer from concerned Executive Engineer of HSVP
13. The specifications for various roads will be followed as per IRC/MORTH specifications.
14. The wiring system of street lighting and specifications of street lighting fixture will be as per relevant standards.
15. This shall confirm to such other conditions as are incorporated in the approved estimate and the letter of approval.

Executive Engineer (M),
For Chief Administrator, HSVP,

Panchkula.

SUB WORK No. 1 (Abstract of Cost)		Water Supply & Fire Fighting	
1	Sub Head No. 01	Head Works	Rs. 5,805,600
			76.82 lacs
2	Sub Head No. 02	Pumping Machinery	Rs. 2,150,000
			21.50 lacs
3	Sub Head No. 03	Rising Main	Rs. 492,800
			6.34 lacs
4	Sub Head No. 04	Distribution System	Rs. 2,394,500
		(Dom. + Flushing)	22.74 lacs
		TOTAL	Rs. 10,842,900
		Add 3% contingencies &	Rs. 325,287.00
		PH Charges	3.82 lacs
		TOTAL	Rs. 11,168,187
		Add 49% Departmental charges +	Rs. 5,472,412
		Price escalation	64.30 lacs
		TOTAL	Rs. 16,640,599
		TOTAL	185.52 lacs
		Say in lacs	166.41



Sub Work No. 1
Sub Head No. 01

Water Supply
Head Works

Amount in Rs.

1. Boring and installing tube well with reverse Rotary Rig Complete with pipe and strainer to a depth of about 120 meter in all respect Total ~2 No. @ Rs. 15,00,000/- each.	Rs. 2,000,000 30.0
2. Provision for rising mains, connecting tube wells with UGT Tanks including Valve & NRV	
a) 150 mm dia - 110 m @ Rs. 1420/-	Rs. 223,200
b) 100 mm dia - 10 m @ Rs. 1460/- 14751	Rs. 20,400 1.77
3. Providing Tube well Submersible Pumps : Capacity 15000 LPH at 78 M head , 2 Nos. @ Rs. 200,000/-each	Rs. 400,000
4. Construction of UG Tanks 210 KL (including fire water tank)+100kl flushing water tank=310kl @ Rs. 5500/KL	Rs. 1,612,000 17.05
5. Provision of Construction of Tube well Chambers of Size 1.5X1.5X1.5 m tube well - 2 Nos @ Rs.100000 each	Rs. 200,000
6. Provision for Carriage of material & other unforeseen items	Rs. 100,000
7. Provision for footpath, lawn, boundary wall around tubewell & waterworks (LS)	Rs. 400,000
8. Construction of boosting chamber (LS.)	Rs. 200,000
9. Provision for staff offices & for maintenance staff 9 Nos (L.S.)	Rs. 750,000 15.0
TOTAL	Rs. 76.82 Lakhs
(C/O To Abstract of Cost for Sub work No.1)	Rs. 5,805,600



Sub Work No. 1
Sub Head No. 02

Water Supply
Pumping Machinery

Amount in Rs.

1A. Providing and installing electricity driven Domestic Transfer pumping Set capable of delivering about 300 LPM of water against a total Head of 45 M complete with motor and other accessories including Valve (5.0HP) & NRV. 3 (2+1) Nos. @ 100000/- Each	3.00 Lacs Rs. 3,00,000
1B. Providing and installing electricity driven Flushing & Garden pumping Set capable of delivering about 300 LPM of water against a total Head of 45 M complete with motor and other accessories including Valve (5 HP) & NRV. 2(1+1) Nos. @ 100000/- Each	2.00 Lacs Rs. 2,00,000
2. Provision for making foundations and erection of Pumping Machinery; - Lump Sum	Rs. 200,000
3. Provision for electric service connection including electrical Fittings etc. - Lump Sum	Rs. 250,000 Rs. 400,000
4. Provision for pipes, valves and specials inside boosting chamber. (L.S)	Rs. 100,000
5. Provision for carriage of material	Rs. 100,000
6. Provision for chlorination plant etc	Rs. 100,000
7. Provision for diesel engine generator set each for stand by arrangement for tubewell is boosting pump craft etc. (40kVA)	Rs. 600,000
TOTAL	Rs. 2,150,000
(C/O To Abstract of Cost for Sub work No.1)	



Sub-Work No. 1
Sub Head No. 03

Water Supply
Rising Main from HSVP

	Amount in Rs.
1. Providing , laying , jointing and testing pipe lines including Cost of excavation etc. complete in all respects. 100 mm dia. D.I. Pipe 115 m @ Rs. 1425/-	Rs. 1,58,750
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. 12000/-	Rs. 12,000
3. Providing and fixing indicating plates for sluice valve and air Valves. - 1 @ Rs. 2000/- each	Rs. 2,000
4. Provision for carriage for materials (Lump Sum)	Rs. 50,000
5. Making Water Supply Connection, including road cut with HSVP master line.	Rs. 200,000
6. Provision for roads cut and make up good condition	Rs. 1,00,000
TOTAL	Rs. 4,92,800



Sub Work No. 1

Water Supply
Water Distribution System
(Domestic And Flushing)

Sub-Head No. 04

Amount in Rs.

1. Providing , Laying , jointing and testing D.I pipe line including Fittings, valves, cost of excavation etc. complete in all respect. D.I Pipe 100 mm , 1325 (665+600) M @ Rs. 1400/- per meter 1230 (580 + 650) 1475L	18.14 /as Rs. 1,934,500
2. Providing and fixing 20 mm dia. irrigation hydrant Valve, Chamber & Cover Etc. complete in all respect. 10 Nos. @ Rs. 5000/ each	Rs. 50,000
3. Provision for carriage of materials (Lump Sum)	Rs. 100,000
4. Provision for cutting of road and making its good condition	Rs. 100,000
5. Provision for air valve 2 No. and sluice valve complete with masonry chamber (L.S)	Rs. 100,000
6. Providing & Fixing indicating plates for sluice valve, air valve (L.S)	Rs. 10,000
7. Providing & Fixing fire hydrant complete with masonry chamber (L.S)	Rs. 100,000
Total	Rs. 2,394,500
(C/O To Abstract of Cost for Sub work No.1)	Rs. 28.74 /as



Sub-Work No. II

SEWERAGE SCHEME

Amount in Rs.

1. Providing jointing, cutting and testing SW/DWC pipe class "A" and lowering into trench including cost of Excavation, bed concrete, cost of manholes etc. complete in all respect

a) SW pipe 200 0 mm i/d / 615M @1700/-per m

Rs.1,045,500

2. Rising main from STP to MH

a) 200 mm dia 95 m @ Rs. 2150/m

Rs.204,250

3. STP Cap. 325 KLD upto tertiary level, complete in all respect @ ^{16000/-}~~14000/-~~ per kl

Rs. ^{52.00}~~4550,000~~

4. Provision for making HSVP Connection on main line (L.S)

Rs.200,000

5. Provision for watering & lighting

Rs.200,000

6. Provision for vent pipe as per P.H. requirements at suitable places

Rs.300,000

7. Provision for cutting of roads and making good condition

Rs.200,000

8. Provision for timbering & shoring (L.S)

Rs.100,000

Total

Add 3% contingencies & PH charges

Rs. ~~6,799,750~~

Rs.203,993

Total

Add 49% Price Escalation, Departmental charges

Rs. ~~7,003,743~~

Rs.3,431,834

TOTAL

Rs. ~~10,435,576~~

(Cost to Final abstract of cost)

SAY IN LACS

104.36



Sub-Work No. III

STORM WATER SCHEME

Amount in Rs.

1. Providing and laying R.C.C. pipe drain class NP-3 With cement joint, Catch Basins & Road Gullies, manholes excavation etc complete in all respect.	
a) 400 mm dia. 750 M @ Rs. 2500/m	Rs. 1,875,000
b). Providing Rain Harvesting arrangements, complete in all respects(if applica 6 Nos @ Rs 300,000	Rs. 1,800,000 ^{21.00 lacs}
2. Provision for Carriage of Material (L.S)	Rs. 100,000
3. Provision for watering & timbering and unforeseen (L.S)	Rs. 200,000
4. Provision for connection with HSVP line	Rs. 200,000
5. Provision for Road gullies and cement (L.S)	Rs. 250,000
6. Provision for watering & lighting	Rs. 100,000
7. Provision for temporary disposal arrangements till HSVP services are provided.	Rs. 600,000
8. Provision for road cutting and making road to its in original condition, L.S	Rs. 200,000
Total	Rs. 5,425,000
Add 3% for contingencies and PH charges	Rs. 162,750 ^{56.25}
Total	Rs. 5,587,750
Add 49% Departmental charges	Rs. 2,737,998 ^{1.68}
TOTAL	Rs. 8,325,748
(Cost to Final abstract of cost)	86.32 lacs
SAY IN LACS	83.26



PROJECT: M/S VK AND SONS INFRA TECH PVT LTD, DDJAY PLOTTING EXTERNAL SERVICES ESTIMATE

SUBJECT: WATER DEMAND CALCULATIONS

S. No.	Unit Type	Category as per latest NBC	Total No. of Plots	Total Area (in Sqm)	Persons considered per plot as per HSPV norms	Total Population	LPCD Factor for Potable Water Req.	LPCD Factor for Flushing Water Req.	Potable Water Requirement (LPD)	Flushing Water Requirement (LPD)	Total Water Requirement (LPD)
I. DOMESTIC WATER DEMAND											
1	Plots	Residential	115		18	2070	115.57	56.93	239229.9	117845.1	357075
2	Commercial Block	Business		943.704 or 0.23319 ac		32000 Ltr./Acre			54150	2462	74453
4	Common Facilities			2622 or 0.64791 ac		25000 Ltr./Acre			10852.5	5345.3	16398
				Total					255082.4	125693.4	380735
				Grand Total					255082.4	125693.4	380735
	Say in Cum/day								255	126	381
II. HORTICULTURAL WATER DEMAND											
(a)	Total Green area = 0.50036Acre @ 25000 ltr/ Acre/day										
(b)	Road Washing = Area under Roads 20% out of 6.475 Acre = 1.295 Acre @ 5000 ltr/ Acre/day										
	Total, Say (in Cum. per day)										
TOTAL WATER REQUIREMENTS FOR ALL PURPOSES											
											12509
											6475
											19
											400
III. TUBE WELLS											
(a)	Yield									15	KL/Hr
(b)	Working Hours per Day									12	Hours per Day
(c)	Discharge per Tube well									180	
	Total Fresh water demand									255	m ³ /day
(d)	Number of Tube wells required.									1.42	
(e)	Add 10% as standby									0.14	
										1.56	Nos.
										2.00	Nos.

(Water to the proposed development is to be supplied by HSPV and it is proposed to install the tube wells for augmentation/standby purposes).



IV. PUMPING MACHINERY FOR TURBOWELLS

(a)	Gross Working Head	60	Meters
(b)	Average fall in S.L.	2	Meters
(c)	Depression Head	6	Meters
(d)	Friction loss in main	10	Meters
	Total	78	Meters
(e)	Discharge	Say 8000	
(f)	Horse Power 30	15000	LPH
	HP = $(15000 \times 0.75) / (60 \times 75 \times 0.6)$	7.22	HP
		Say	
		7.50	HP

V. UNDER GROUND TANK

(a)	Total water demand (Daily for Domestic purposes)	255	m ³ /day
	Capacity of U.G. tank @ 60 % of 255		
(b)	Proposed capacity of underground tanks (Raw + Domestic) for domestic use, (25+33%) = 58% (SAY 60%) storage of (One day Storage) = $0.6 \times 255 = 153.0$ say 160 kl	160.0	m ³
(c)	Proposed capacity of underground static tank for fire = $100 \times \sqrt{\text{ground of } 2070/1000} = 143.67 \text{ KL} = 1/3 \times 143.67 = 47.96 \text{ KL}$ say 50 kl	50.00	m ³
	TOTAL	210	kl
(d)	Flushing Water 120kl @ 60% = 75.6 KL	75.6	kl
(e)	Horticulture Water = 19 KL	19.0	kl
	TOTAL	94.6	kl
		100	kl

VI. (A) BOOSTING MACHINERY (Water Supply Pumps)

(a)	Daily Domestic Water Demand	255	m ³ /day
(b)	Discharge per hour @ 8 hr. pumping / day	31.89	m ³ /hour
	Say	540.0	LPM
(c)	No. of Working pump (2 working + one standby)	2.0	
(d)	Proposed Pump discharge (Working)	270.00	LPM
	Gross Working Head	300.00	LPM
(a)	Suction lift - positive suction		
(b)	Frictional Loss in Mains & Specials	6	Meters
(c)	Max Clear Head required	9	Meters
	Total	30	Meters
(g)	H.P. of each pump required	45	Meters
	Pump H.P.	5.00	HP
		Say	
		5.00	HP



VII. BOOSTING MACHINERY (Flushing & Garden Supply Pumps from STP)

(a)	Daily Flushing & Horticultural Water Demand.		m ³ /day
(b)	Discharge per hour @ 8 hr. pumping / day		m ³ /hour
(c)	No. of Working pump		LPM
(d)	Proposed Pump discharge (Working)		LPM
	Gross Working Head		LPM
(e)	Suction lift - positive suction		Meters
(f)	Frictional Loss in Mains & Specials		Meters
(g)	Max Clear Head required		Meters
(h)	H.P. of each pump required (Pump H.P.)		HP
			HP

VII. GENERATING SETS

1	HP of Tube well pump = $2 \times 7.5 = 15$	15.00	
2	HP of Domestic water supply Pump = $2 \times 5 = 10$	10.00	
3	HP of Flushing water supply Pump = $1 \times 5 = 5$	5.00	
4	Add for lighting	5.00	
	Total	35.00	HP
	In KVA = $35 \times 0.746 \times 1.5$	39.17	KVA
	SAY	40.00	KVA

VIII. STP CAPACITY

1	Total water required Domestic + Flushing	381	KL
2	Water go to STP @ 80%	304.80	
3	Add for 5 % for margin	15.21	
	TOTAL	319.97	
	SAY	320.00	KL



PROJECT: M/S V & SONS INTALTECH PVT LTD. DRIAT FLOTTING EXTERNAL SERVICES ESTIMATE
 SUBJECT: SEWERAGE SYSTEM DESIGN SHEET

S. No.	Sewer Line	No. of Poles	Population / PLOT	Total Population	Water Supply LPCD	Total Water Requirement			Sewage Discharge (LFD)			Average Sewage Discharge		Depth Discharge	Length of Line	Slope	Fall in Meters		Ground level		Invert Level		Depth of Silt	Average depth of pipe	
						LPCD	LFD	Bed	Branch	Total	LPS	TPD	Cu sec				As per slope	As per Gradient	Start	End	Start	End			
2	3	1	3	6	7	3	6	7	8	3	11	33	11	12	33	16	18	19	20	21	22	23	25	28	
From	To																								
1	2	2	18	36	172.5	6210	4.568		4.568	0.168	0.17	0.01	0.17	200	2.42	0.74	0.41	0.002	0.001	0.00	0.00	-1.20	-1.28	1.20	1.25
2	3	0	18	54	172.5	18630	14.944		14.944	0.173	0.52	0.02	0.52	200	2.42	0.74	0.41	0.166	0.001	0.00	0.00	-1.20	-1.40	1.20	1.30
3	5	4	58	72	172.5	32400	9.936	19.872	29.808	0.340	1.04	0.04	1.04	300	2.42	0.74	0.41	0.164	0.001	0.00	0.00	-1.40	-1.56	1.40	1.56
4	5	20	18	360	172.5	62100	49.680		49.680	0.375	1.73	0.08	1.73	300	2.42	0.74	0.41	0.160	0.001	0.00	0.00	-1.56	-1.80	1.80	1.48
5	5	44, connection for day	18	792	172.5	132816	122.294	79.488	201.742	2.305	7.00	0.29	7.00	300	2.42	0.74	0.41	0.160	0.001	0.00	0.00	-1.80	-2.36	2.36	1.40
6	10	10	18	144	172.5	24810	19.872	80.992	102.864	1.101	1.37	0.13	1.37	300	2.42	0.74	0.41	0.260	0.001	0.00	0.00	-2.36	-2.98	1.80	1.90
7	10	8	18	126	172.5	24810	5.908		5.908	0.069	0.21	0.01	0.21	300	2.42	0.74	0.41	0.265	0.001	0.00	0.00	-2.98	-3.36	1.90	2.15
8	10	7	38	126	172.5	21771	17.588	26.036	37.004	0.991	2.57	0.09	2.57	300	2.42	0.74	0.41	0.260	0.001	0.00	0.00	-3.36	-3.99	1.90	1.55
9	8	4	18	72	172.5	13420	9.936		9.936	0.115	0.35	0.01	0.35	300	2.42	0.74	0.41	0.210	0.001	0.00	0.00	-3.99	-4.65	1.80	1.82
10	8	18	18	360	172.5	62100	49.680		49.680	0.575	1.73	0.06	1.73	300	2.42	0.74	0.41	0.210	0.001	0.00	0.00	-4.65	-5.36	1.20	1.20
11	11	5, 11P	18	0	172.5	0	104.800	344.800	449.600	3.526	10.58	0.37	10.58	300	2.42	0.74	0.41	0.240	0.001	0.00	0.00	-5.36	-6.00	1.20	1.47
																		0.000	0.000	0.00	0.00	-6.00	-6.33	2.30	2.53
																									2.45



PROJECT: M/S VK AND SONS INFRATECH PVT LTD. DDJAY PLOTING EXTERNAL SERVICES ESTIMATE					
SUBJECT : SEWERAGE SYSTEM SHEET					
S.No.	Sewer Line		Size of Pipe MM	Length of Line in m	
	From	To		200mm	250mm
1	1	2	200	12	
2	2	3	200	39	
3	2	5	200	33	
4	5	4	200	79	
5	5	11	200	157	
6	11	10	200	53	
7	10	9	200	30	
8	10	8	200	69	
9	8	7	200	23	
10	8	6	200	90	
11	11	STP	300	29	
Total Pipe				615	
Say				615	



PROJECT: M/S VK AND SONS INFRA TECH PVT LTD. DULAY PLOTTING, EXTERNAL SERVICES ESTIMATE

SUBJECT: DRAINAGE SYSTEM DESIGN SHEET

S. No.	LINE NO.	FROM	TO	Self Area (m ²)	Self Area (Acres)	Branch Area (Acres)	Total Area (Acres)	Total Area (Hectare)	Rain Fall mm/hr	Discharge @17.36 LPS/Hectare	Length in m	Pipe dia in mm	Slope 1 in	Velocity m/sec	Cap of pipe in tps	Fall in line m	Ground Level		Invert Level		Depth	
																	Start	End	Start	End	Start	Average
1	10	DISPENSAL		0.00	0.00	6.15	0.00	0.00	6.25	0.00	10	400	500	0.64	80.75	0.02	0.00	0.00	-2.35	-2.37	2.37	2.36
2	10	9		1985.00	0.49	5.66	6.15	2.49	6.25	43.20	188	400	500	0.64	80.75	0.38	0.00	0.00	-1.98	-2.35	2.35	2.16
3	9	8		1240.00	0.30	0.00	0.30	0.12	6.25	2.14	26	400	500	0.64	80.75	0.06	0.00	0.00	-1.20	-1.26	1.20	1.23
4	9	7		943.00	0.23	5.12	5.36	2.17	6.25	37.62	34	400	500	0.64	80.75	0.07	0.00	0.00	-1.91	-1.08	1.91	1.94
5	7	6		2553.00	0.63	0.00	0.63	0.26	6.25	4.43	69	400	500	0.64	80.75	0.14	0.00	0.00	-1.20	-1.34	1.20	1.27
6	7	5		11960.00	2.96	1.54	4.49	1.82	6.25	31.55	203	400	500	0.64	80.75	0.41	0.00	0.00	-1.50	-1.91	1.50	1.71
7	5	4		1212.00	0.30	0.00	0.30	0.12	6.25	2.10	34	400	500	0.64	80.75	0.07	0.00	0.00	-1.43	-1.50	1.43	1.46
8	5	3		1365.00	0.39	0.84	1.24	0.50	6.25	8.68	71	400	500	0.64	80.75	0.14	0.00	0.00	-1.36	-1.50	1.36	1.43
9	3	2		1163.00	0.29	0.00	0.29	0.12	6.25	2.82	25	400	500	0.64	80.75	0.05	0.00	0.00	-1.20	-1.25	1.20	1.23
10	3	1		2253.00	0.56	0.00	0.56	0.23	6.25	3.91	80	400	500	0.64	80.75	0.16	0.00	0.00	-1.20	-1.36	1.20	1.28



PROJECT: M/S VK AND SONS INFRATECH PVT LTD. DDJAY PLOTING EXTERNAL SERVICES ESTIMATE					
SUBJECT: DRAINAGE SYSTEM SHEET					
S. No.	Line No.		Pipe dia.	Length of pipe in m	
	From	To	mm	400mm	500mm
1	10	DISPOSAL	400	10	
2	10	9	400	188	
3	9	8	400	28	
4	9	7	400	34	
5	7	6	400	69	
6	7	5	400	203	
7	5	4	400	34	
8	5	3	400	71	
9	3	2	400	25	
10	3	1	400	80	
Total 400 Dia Pipe				742	
Say				750	



PROJECT: M/S VN AND SONS INFRATECH PVT LTD, DUJAY PLOTTING EXTERNAL SERVICES ESTIMATE

SUBJECT: DOMESTIC WATER SUPPLY DESIGN SHEET

S. No.	Line Designation		No. of Plot	Water Requirements (in KLD)	Self Water requirement (in KLD)	Branch Water requirement (in KLD)	Total Water Requirements (in KLD)	Discharge per Hour considering Pumping	Size of Pipe Provided	Velocity in m/sec.	Velocity in m/sec.	Total Loss per 1000m	Loss of head as per pipe length	Length of pipe (in meters)	Ground Level		Hydraulic Level		Terminal Head
	FROM	TO													Start	End	Start	End	
1	WTP	1	0	0.00	0.0	267.6	267.6	15.447	100	3.89	1.19	27	0.605	25	100.00	100.00	134.335	134.335	34.335
2	1	2	5	10.4	10.4	257.2	267.6	33.447	100	3.89	1.19	27	0.798	30	100.00	100.00	134.202	134.202	34.202
3	1	3	5	10.4	10.4	246.8	257.2	32.147	100	3.74	1.14	25	0.321	13	100.00	100.00	134.679	134.679	34.679
4	1	2A	3	16.6	16.6	0.0	16.6	2.080	100	0.24	0.07	0	0.006	37	100.00	100.00	134.994	134.994	34.994
5	3	4	20	41.6	41.6	0.0	41.6	5.261	100	0.60	0.18	1	0.184	217	100.00	100.00	134.816	134.816	34.816
6	5	5	54+common facility	125.2	125.2	65.3	188.5	23.566	100	2.74	0.84	14	0.571	41	100.00	100.00	134.429	134.429	34.429
7	5	6	commercial	5.0	5.0	0.0	5.0	0.627	100	0.07	0.02	0	0.001	89	100.00	100.00	134.999	134.999	34.999
8	5	7	6	12.5	12.5	47.8	60.3	7.541	100	0.88	0.27	2	0.046	39	100.00	100.00	134.934	134.934	34.934
9	7	8	5	10.4	10.4	0.0	10.4	1.300	100	0.15	0.05	0	0.003	42	100.00	100.00	134.997	134.997	34.997
10	7	9	18	37.4	37.4	0.0	37.4	4.681	100	0.54	0.17	1	0.027	39	100.00	100.00	134.973	134.973	34.973



PROJECT: M/S VK AND SONS INFRA TECH PVT LTD. DDJAY PLOTTING EXTERNAL SERVICES ESTIMATE				
SUBJECT: DOMESTIC WATER SUPPLY SHEET				
S. No.	Line Designation		Size of Pipe	Length of pipe in m
			mm	100mm
1	WTP	1	100	35
2	1	2	100	15
3	1	3	100	27
4	2	4	100	79
5	3	4	100	74
6	3	5	100	215
7	3	6	100	33
8	5	7	100	71
9	7	8	100	29
10	7	9	100	83
TOTAL FOR 100 DIA				663
SAY				665

580 MTK



PROJECT: M/S VK AND SONS INFRA TECH PVT LTD. DDJAY PLOTTING EXTERNAL SERVICES ESTIMATE

SUBJECT: FLUSHING & GARDEN WATER SUPPLY DESIGN SHEET

S. No.	Node No.	No. of Plot	Flushing Water Requirement In KLD	Branch Water	Total KLD	Discharge per Hour considering 8 Hours Pumping	Size of Pipe Provided	Velocity		Head Loss per 1000 m	Loss of head as per pipe length	Length of pipe (in meters)	Ground level		Hydraulic Level		Terminal Head
								in ft/sec	in m/s				Start in m	End in m	Start in m	End in m	
1	STP	1	0.0	132.0	132.0	16.504	150	0.85	0.26	1	0.033	36	94.00	100.00	129.00	128.97	28.97
2	1	10	10.2	38.6	48.8	6.101	150	0.32	0.10	0	0.007	52	101.30	101.30	136.30	136.29	34.99
3	2	Commercial	2.5	0.0	2.5	0.309	100	0.04	0.01	0	0.000	31	101.30	101.30	136.30	136.30	35.00
4	2	?	13.5	22.5	36.1	4.511	100	0.52	0.16	1	0.026	49	101.30	101.30	136.30	136.27	34.97
5	4	4	4.1	0.0	4.1	0.512	100	0.06	0.02	0	0.000	28	101.30	101.30	136.30	136.30	35.00
6	4	18	18.4	0.0	18.4	2.306	100	0.27	0.08	0	0.012	91	101.30	101.30	136.30	136.29	34.99
7	1	43+common facility	49.4	33.8	83.2	10.403	100	1.21	0.37	3	0.413	149	101.30	101.30	136.30	135.89	34.59
8	7	20	20.5	0.0	20.5	2.562	100	0.30	0.09	0	0.015	90	101.30	101.30	136.30	136.28	34.98
9	7	5	5.1	8.2	13.3	1.665	100	0.19	0.06	0	0.006	81	101.30	101.30	136.30	136.29	34.99
10	9	2	2.0	0.0	2.0	0.256	100	0.03	0.01	0	0.000	12	101.30	101.30	136.30	136.30	35.00
11	9	6	6.1	0.0	6.1	0.769	100	0.09	0.03	0	0.000	32	101.30	101.30	136.30	136.30	35.00



PROJECT: M/S VK AND SONS INFRATECH PVT LTD. PLOTTING EXTERNAL SERVICES ESTIMATE					
SUBJECT: FLUSHING & GARDEN WATER SUPPLY SHEET					
S. No.	Line Designation		Size of Pipe mm Dia	Length of pipe	
				100MM	150MM
1	STP	1	100	36	
2	1	2	100	52	
3	2	3	100	31	
4	2	4	100	49	
5	4	5	100	28	
6	4	6	100	90	
7	1	7	100	149	
8	7	8	100	90	
	7	9	100	81	
	9	10	100	12	
	9	11	100	32	
TOTAL PIPE FOR 1000				650	
SAY				640	

650



PROJECT: M/S VK AND SONS INFRATECH PVT LTD. DDJAY PLOTTING EXTERNAL SERVICES ESTIMATE
SUBJECT: ROAD WORKS

S. No.	Description	Unit	Qty	Rate (in Rs.)	Amount (in Rs.)
1	Provision for leveling & earth filling as per site conditions	Acre.	6.47500	175,000	1,133,125
2	Construction of Roads 200mm granular surface, 250mm water mix macadam, 50mm DBM, 30mm BC.	Sqm	4570 4,960	1750/- 1,500	79.98 Lacs 7,440,000
3	Provision for Kerbs & channels of CC 1:2, 5:5.complets in all respect	Metre	1,670	700.00	11.69 Lacs 1,169,000
4	Provision for Pavement in commercial area and pavements. (50% OF AREA)	Sqm	471.85	1750/- 1,500.00	8.26 Lacs 7,077,250
5	Provision for Traffic arrangement	LS			200,000
6	Provision for carriage of materials, Guid map Plot indecater etc.	LS			5.00 Lacs 500,000
	Sub Total				118.26 10,632,900
	Add 3% contingencies & PH charges				3.55 318,987
	Sub Total				121.81 10,951,887
	Add 49% Departmental Charges , Price escalation, unforeseen & Admin. Charges				59.69 5,366,425
	Total				181.49 Lacs
	Say Rs in Lakhs (C/O to Final abstract of cost)				163.18



PROJECT: M/S VK AND SONS INFRA TECH PVT LTD. DDJAY PLOTTING
EXTERNAL SERVICES ESTIMATE

SUBJECT : ROAD AREA

S. NO	ROAD NO	ROAD LENGTH IN M	ROAD WIDTH (CARPETED)	AREA IN SQM
1	01 - 02	167	5.50	918.5
2	02 - 03	19	5.50	104.5
3	03 - 04	40	5.50	220.0
4	03 - 05	34	5.50	187.0
5	05 - 06	80	5.50	440.0
6	06 - 07	9	5.50	49.5
7	05 - 08	213	5.50	1171.5
8	08 - 10	26	5.50	143.0
9	08 - 11	74	5.50	407.0
10	11 - 12	44	5.50	242.0
11	11 - 13	85	5.50	467.5
12	TOTAL	791		4350.5
ADD 5% FOR CURVES		39.5		236.1 217.52
TOTAL		830.50		4586.6 4568.02
SAY		835		4960 4570
LENGTH OF KERB STONE			830.5X2	1661 RM
SAY				1670 RM



PROJECT: M/S VK AND SONS INFRA TECH PVT LTD. DDJAY PLOTTING. EXTERNAL SERVICES

SUBJECT: EXTERNAL LIGHTING

S.No.	Description	UM	Qty.	Rate	Amount
1	Providing and installing street light on roads as for standard specification of DHVPN with LED	Acre	6.47500	250000	1618750
2	Contingency and Freight Charges @ 3%				48562.5
	TOTAL				1667312.5
3	ADD 49% Depts charges, price escalation unforeseen & admin charges				816983.125
4	TOTAL				2484295.625
	Say Rs in Lakhs (C/O to Final abstract of cost)				24.84 lacs



PROJECT: M/S VK AND SONS INFRATECH PVT LTD, DDJAY PLOTTING EXTERNAL SERVICES ESTIMATE
SUBJECT: PLANTATION & ROAD SIDE TRESS

S.No.	Description	Unit	Qty	Rate (in Rs.)	Amount (in Rs.)
1	Development of organised lawn green area.	Acre	0.50036	150,000.00 2.0	75,054.00 1.09 la
a	Trenching of ordinary soil upto 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.				
2	Providing and planting trees along ^{makes both side} boundary @ 12 m interval = $(1062/12) = 88.5$ 89 177 No	Nos.- Each	177 -90 Nos	4,800.00 2310/-	462,000.00 4.09 la
Cost Detail					
	Excavation	60.00			
	Manure	100.00			
	Tree Plant	150.00			
	Tree Guard	900.00			
		2310/-			
	Total	1800.00			
	Sub Total				5.09
	Add 3% contingencies & PH charges				237,054.00 0.15
	Sub Total				241,165.62 5.24
	Add 49% Departmental charges				119,641.15 2.56
	Total				363,806.77 7.80 la



Say Rs in Lakhs (C/O to Final abstract of cost)					3.64
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PROJECT: M/S VK AND SONS INFRATECH PVT LTD. DDJAY PLOTTING EXTERNAL SERVICES ESTIMATE
SUBJECT : 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 HSVP norms for 10 years completion.	Acre	6.47500	800,000	5,180,000.00
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	4570	660	3,018,200.00
b	Resurfacing of road after 10 years of MTC.	Sqm	4960.00	825	4,092,000.00
	Sub Total		5042		12,615,600.00
	Add 3% contingencies & PH charges				378,468.00
	Sub Total				12,994,068.00
	Add 49% Departmental charges				6,387,093.32
	Total				19,381,161.32
	Say Rs in Lakhs (C/O to Final abstract of cost)				193.81

