EXTERNAL DEVELOPMENT WORKS
DESIGN
& COST ESTIMATES

FOR

PROPOSED

PROPOSED BUILDING PLAN FOR MIX LAND USE COLONY (99.00% RESIDENTIAL COMPONENT + 1.00% COMMERCIAL COMPONENT) UNDER TOD POLICY DATED 09.02.2016 FOR AN AREA MEASURING 4.00 ACRES (LICENCE NO. 141 OF 2024 DATED 11.11.2024 IN SECTOR 88-A, GURUGRAM BEING DEVELOPED BY DEVASYA DEVELOPERS PVT. LTD.

IN

SECTOR – 88,
AT GURUGRAM, HARYANA

Date: - 14-07-2025

DEVLOPED BY

DEVASYA DEVELOPER PVT. LTD.

REPORT

1. Water Supply Source

The source of water supply shall be HUDA water supply connection. It has been proposed to construct underground tank will be filled up from the riser and then pumped to the overhead water tank of each tower.

2. Pumping Equipment

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.

3. Sewerage

The scheme is designed for sewer connection to the proposed sewerage treatment. The sewerage system has been marked on the respected plans.
The sewer line has been designed for 3 times average DWR in relation to the water supply demand assuming that 80% for the domestic water supply shall finds its way into the proposed sewer SW pipe sewer have been proposed to run half full. The sewer has been designed on 2.5 ft per second velocity i.e. self-cleaning velocity.
Necessary design statement for entire sewerage system has been prepared and attached with estimate.

4. Storm water Drainage
The storm water drain is being designed to carry 6.25 mm rainfall per hour. Also, suitable provisions are contemplated in our scheme to ensure better recharging of underground water table in area RCC NP3 pipe drain with minimum 400 mm dia. is proposed in this area.

5. Roads
Cost of road has been taken in the estimate.

6. Street lighting
Provisions of street lighting on surrounding area has been made.

7. Horticulture
Estimate and details of plantation, landscaping, signage etc. has been included.

8. Specification
The work will be carried out in accordance with the standard specifications of PH is laid down by the HUDA/ Haryana government.

9. Rates
Estimate for providing services in this site has been prepared on the recent market rates.

10. Cost
The total cost of development in this revised project including various PH & B & R services work to Rs. 668.0 Lacs which include 3% contingencies and PE charges and 49% department charge also.

(Authorized Signatory)

PROPOSED BUILDING PLAN FOR MIX LAND USE COLONY (99.00% RESIDENTIAL COMPONENT + 1.00% COMMERCIAL COMPONENT) UNDER TOD POLICY DATED 09.02.2016 FOR AN AREA MEASURING 4.00 ACRES (LICENCE NO. 141 OF 2024 DATED 11.11.2024 IN SECTOR 88-A, GURUGRAM BEING DEVELOPED BY DEVASYA DEVELOPERS PVT. LTD.

DESIGN CALCULATION

1. Daily requirement for Tower 1

Nos of Dwelling units (main) for tower 1, Phase-1	= 108 Nos.
Population per flat @5	= 108 X 5 Nos.
Total population	= 540 Nos
Water requirement for flats @ 172.5 liters /head/day	= 93150 Liters.
Say	**= 95 KL…….…… (i)**

2. Daily requirement for Tower 2

Nos of Dwelling units (main) Tower 2 for Phase-2	= 150 Nos.
Population per flat @5	= 150 X 5 Nos.
Total population	= 750 Nos
Water requirement for flats @ 172.5 liters /head/day	= 129375 Liters .
Say	**= 130 KL…….…… (ii)**

3. Daily requirement for EWS Building

Nos of Dwelling units	= 48 Nos.
Population per flat @2	= 48 X 2 Nos.
Total population	= 96 Nos.
Water requirement for plots @ 172.5 liters/head/day	= 16560 liters.
Say	**= 20 KL…….…… (iii)**

4. Daily requirement for Servants Quarter for Phase -1 & 2

Nos of servant quarters (main)	= 28 Nos.
Population per servant quarter @2	= 28 X 2 Nos.
Total population	= 56 Nos.
Water requirement for plots @ 172.5 liters/head/day	= 9660 liters
Say	**= 10 KL…….…… (iv)**

5. Community Building	**= 1 No.**
Daily water requirement (L.S)	**= 25 KL…….…… (v)**
Total water demand = (i) + (ii) + (iii) + (iv) + (v)	**= 280 KL**

6. Area under parks/green space = 2430.22 sqm
= 0.6005 Acres

Therefore, daily water @ 25000 liters/Acre = 0.6005 x 25000 Liter
Requirement = 15012.5 Liter

Say = **15 KL**

7. Area under roads = 2.28 Acres

Therefore, daily water
Requirement for sweeping of roads 2.28 x 5000 = 11400 Liter

Say **= 12 KL**

Total daily requirement

a). For domestic use 95 KL+130 KL+20 KL+10 KL+ 25 KL **= 280 KL**

b). Under parks & roads 15 KL+12 KL = **27 KL**

c). Assuming requirement for flushing as 35% of total domestic requirement, then daily water requirement for flushing. = 100 KL

d). Total requirement of portable water 280 KL – 100 KL = 180 KL

Underground Storage Tank (Drinking water)

Daily requirement for domestic use = 180 KL

Filter backwash (L.S) = 7000 Liter

Capacity of domestic water demand = **190 KL**

Firefighting demand (as per NBC) = 200 KL

As the Fire hydrant are more than **100 No**. in count., hence based on requirement given in **NBC Table -7 Clause – 22 & 23**, one additional diesel pump of same capacity and double water tank volume is required.

Hence, Water Tank capacity as per NBC = 200KL+200KL
= 400 KL

Proposed Fire tank capacity = 500 KL

Proposed capacity of underground tank in estimate 1140 KL which also include 700 KL for firefighting as well. Hence no additional capacity of UGT is required.
This tank will have two compartments for raw water tank, two compartments for domestic water tank and three compartments for fire water tank. The water first enters the fire compartment then over flows to the domestic use compartment so that the water in fire compartment shall remain fresh.

Domestic tank = 85 KL X 2 Nos.

Raw water = 85 KL X 2 Nos.

Flushing water = 100 KL

Fire water = 500 KL

Total **= 940 KL**

Boosting machinery (Drinking water)

Daily requirement for domestic use = 190 KL

Assuming 8 hours running 2 pumps (2 Working + 1 stand by) = 190/2x8=11.87 KL/HR
= 197.91 LPM
= 200 LPM Each

Head of pump

i) Suction Lift = 9.0 M
ii) Friction loss in main and special = 15.0 M
iii) Clear Head = 125.55M
= 149.55 M
Say = 150.0 M

BHP of Morter = 200x150/ 60x75x0.60
= 11.11 HP
Say = 12.5 HP for Each Pump

It is proposed to provide 3 nos. of pumping set of 200 liters pe minutes at a total load of 150.0 M
1set (2working + 1 standby)

Underground storage tank (Flushing water)

Daily requirement for flushing at STP = 100 KL

Assuming 8 hours running 2 pumps (2 Working + 1 stand by) = 100/2x8=6.25 KL/HR
= 104.16 LPM
= 105 LPM Each

Head of pump

iv) Suction Lift = 9.0 M
v) Friction loss in main and special = 15.0 M
vi) Clear Head = 125.55M
= 149.55 M
Say = 150.0 M

BHP of Morter = 105x150/ 60x75x0.60
= 5.83 HP
Say = 7.5 HP for Each Pump

It is proposed to provide 3 nos. of pumping set of 105 liters pe minutes at a total load of 150.0 M
1set (2working + 1 standby)

Irrigation Pumping system

Add for cleanings of road and irrigation = 27 KL

Assuming 2 hours running 2 pumps (2 Working + 1 stand by) = 27/2x2 = 6.75 KL/HR
= 112.5 LPM
Say = 115 LPM Each

Head of pump

vii) Suction Lift = 9.0 M
viii) Friction loss in main and special = 15.0 M
ix) Clear Head = 15.0 M
= 39.0 M
Say = 40.0 M

BHP of Morter = 115 x 40/ 60x75x0.60
= 1.70 HP
Say = 1.5 HP for Each Pump

It is proposed to provide 3 nos. of pumping set of 115 liters pe minutes at a total load of 40.0 M
1set (2working + 1 standby)

Capacity of the STP = 0.80x280
= 224 KL
Add 20% marginal factor = 44.8 KL

Propose capacity of STP (Add 5% marginal factor) = 268.8 KL

Proposed **= 470.0 KL**

Fire Fighting Pumping System

S.NO	Parameters	Location	Pumps set		
			Main	Diesel	Jockey
1	Discharge in LPM	Pump Room	2850 LPM	2850 LPM	180 LPM
2	Head in Meters	Pump Room	190-145-100	190-145-100	190-145-100
3	HP		200.0 HP	200.0 HP	12.5 HP
4	Quantity in Nos		2	2	2

Rating of generator set = 42.0 HP
Pumps 2 Nos + 2 (12.5 HP + 7.5 HP+1.5 HP)

Capacity of generator set = 42 X 0.746 X 1.50 KVA
= 46.998 KVA
Add 10 % extra = 4.69 KVA
Total = 51.71 KVA
Say = 50.0 KVA

ESTIMATE FOR DEVELOPMENT OF INTERNAL SERVICES

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FINAL ABSTRACT OF COST

Sl.No.	Head No.	Particular	Amount in Lacs
1	SUB WORK No. I	WATER SUPPLY	212.38
2	SUB WORK No. II	SEWERAGE SCHEME	127.55
3	SUB WORK No.III	STORM WATER DRAINAGE	47.15
4	SUB WORK No. IV	ROADS & FOOTPATH	146.19
5	SUB WORK No. V	STREET LIGHTING	15.35
6	SUB WORK No. VI	HORTICULTURE	11.14
7	SUB WORK No. VII	MAINTENANCE CHARGE & RE -SURFACING OF ROADS	108.16
	Total		667.92
	Say (Lacs)		668.00
	Cost per Acre		668.0 Lacs / 4.0 Acre
	Net Cost Per Acre		167.0 Lacs

Sub Work No. I **Water Supply & Fire Fighting**

Abstract of Cost for Water Supply & Fire Fighting Works

Sl.No.	Head No.	Particular	Amount in Lacs
1	SUB HEAD No. 01	PUMPING MACHINERY + HEAD WORK	109.50
2	SUB HEAD No.02	RISING MAIN	4.38
3	SUB HEAD No.03	DISTRIBUTION SYSTEM	10.07
4	SUB HEAD No.04	FIRE RISING MAIN	14.44
		Total	138.38
		Add 3 % contingencies & PE charges.	4.15
		Total	142.54
		Add 49 % Departmental charges, Price escalation,unforseen,Admin. Charges.	69.84
		Total	212.38
		C/O. to final abstract of cost (say in Lacs)	**212.38**

Sub Work No. I **Water Supply & Fire Fighting**

Sub Head No. 01 **Pumping Machinery**

Sl.No.	Description	Unit	Qty.	Rate	Amount in Rs.
1	Providing and installing (Domestic water hydropneuamtic pump) electricity driven pumping Set capable of delivering about 200 LPM of water against a total Head of 150 M complete with motor and other accessories (12.50 HP) .	No.	(2+1) 3	1,50,000	4,50,000
2	Providing and installing (Flushing water hydropneuamtic pump) electricity driven pumping Set capable of delivering about 105 LPM of water against a total Head of 150 M complete with motor and other accessories (7.50 HP)	No.	3	1,20,000	3,60,000
3	Providing and installing Fire pumping set of following capacities				
i)	Main Electric Hydrant & Sprinkler Pump 2850 LPM at 195 M head .	Nos.	2	6,00,000	12,00,000
ii)	Main Electric Jockey Pump 180 LPM at 195 M head.	Nos.	2	2,00,000	4,00,000
iii)	2850 LPM at 195 M head (DIESEL)	Nos.	2	8,00,000	16,00,000
iv)	OHT filling Electric Pump 2850 LPM for tower 2 at 195 M head .	Nos.	2	4,50,000	9,00,000
4	Provision for bossting chamber as per PH requirement of suitable size.	L.S			50,000
5	Provision for chlorination plant complete	Nos.	1	1,00,000	1,00,000
6	Provision for making foundations and erection of Pumping Machinery:	L.S			50,000
7	Provision for pipes, valves and specials inside boosting chamber.	L.S			50,000
8	Provision for electric service connection including electrical Fittings for tube-well and boosting chamber etc.	L.S			50,000
9	Construction of U.G. tanks (340 Domestic + 100 Flushing+ 500 Fire)	KLD	940	5,500	51,70,000
10	Provision for carriage of material and other unforeseen Items etc.	L.S			50,000
11	Boring and installation t.w. reverse Rotary ring complete with pipe and staionary & a depth of about 120 m complete in all respect.	Nos.	1	1,50,000	1,50,000
12	Provision for complete of T.W. chamber size 1.50 m complete in all respect	L.S			1,00,000
13	Providing and installing (Irrigation & Road wash water hydropneuamtic pump) electricity driven pumping Set capable of delivering about 115 LPM of water against a total Head of 40 M complete with motor and other accessories (1.5 HP) .	No.	(2+1) 3	90,000	2,70,000
		Total Cost			**1,09,50,000**
	C/O To Abstract of Cost for Sub work No. I (in Lacs)				**109.50**

Sub-Work No. I — **Water Supply & Fire Fighting**
Sub Head No. 02 — **Rising Main**

Sl.No.	Description	Unit	Qty.	Rate	Amount in Rs.
1	Providing , laying , jointing and testing pipe lines including Cost of excavation etc. complete in all respects.				
a)	100 mm dia. D.I. pipe	Meter	140	1,460	2,04,400
2	Providing and fixing sluice valve including cost of surface box and masonry chamber etc. complete in all respects				
a)	100 mm dia.	Nos.	1	12,000	12,000
3	Providing and fixing indicating plates for sluice valve and air Valves.	Nos.	1	2,000	2,000
4	Providing and fixing air release valve and scour valve .	Nos.	2	10,000	20,000
5	Provision for carriage for materials and other unforeseen items.	L.S		-	50,000
6	Making Water Supply Connection with HUDA line inculding water meter.	L.S		-	1,00,000
7	Provision for cutting of roads and making good to its original Conditions.	L.S		-	50,000
		Total Cost			**4,38,400**
	C/O To Abstract of Cost for Sub work No. I (in Lacs)				**4.38**

Sub Work No. I — **Water Supply & Fire Fighting**

Sub - Head No. 03 — **Distribution System**

(Domestic & Flushing water)

Sl.No.	Description	Unit	Qty.	Rate	Amount in Rs.
1	Providing , Fixing , jointing and testing G.I pipe line running at the basement ceiling level including Fittings, valves, etc. complete in all respect.**(water supply)**				
a)	100 mm dia.	Meter	425	1,460	6,20,500
2	Provision for carriage of materials and other unforeseen items.	L.S			1,00,000
3	Providing and fixing valves including chamber complete in all respects.				
a)	100 mm dia.	Nos.	3	12,000	36,000
4	Provision for providing and fixing air valve and scour valve incl. cost of brick masonry.	L.S			1,00,000
5	Provision for providing and fixing indicating plates for sluice valve and air valve.	L.S			1,00,000
6	Provision for T.W. line upto UGT complete.	L.S			50,000
	Total Cost				**10,06,500**
	C /O To Abstract of Cost for Sub work No. I (in Lacs)				**10.07**

Sub Work No. I **Water Supply & Fire Fighting**
Sub-Head No. 04 **External Fire Hydrant**

Sl.No.	Description	Unit	Qty.	Rate	Amount in Rs.
1	Providing , Laying , jointing and testing M.S. pipes lines for fire rising main including cost of fittings, valves, connection etc. complete in all respect .				
a)	150 mm dia.	Meter	465	2,040	9,48,600
b)	100 mm dia.	Meter	15	1,460	21,900
c)	80 mm dia.	Meter	65	1,000	65,000
2	Providing & fixing Fire brigade Inlet and draw out connection complete in all respect.				
a)	150 mm dia.	Nos.	2	15,000	30,000
3	Providing & fixing sluice valve complete in all respect.				
a)	150 mm dia.	Nos.	10	15,000	1,50,000
4	Providing & fixing Fire Hydrant complete in all respect.	Nos.	10	15,000	1,50,000
5	Providing for carriage of material as other unforseen items.	L.S			50,000
6	Providing and fixing indicating plates for sluice valve and air Valves.	Nos.	14	2,000	28,000
	Total Cost				**14,43,500**
	C/O To Abstract of Cost for Sub work No. I (in Lacs)				**14.44**

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SUBJECT :MATERIAL STATEMENT OF DOMESTIC WATER SUPPLY SYSTEM

Sl. No.	Name of the Node	Length in Meter	Proposed Dia. of Pipe	100 mm dia.	80 mm dia.	65 mm dia.	50 mm dia.	40mm dia.	32 mm dia.	25 mm dia.	20 mm dia.
		m	mm	m	m		m	m	m	m	m
	1	2	3	4	5	6	7	8	9	10	11
1	PLANTROOM -PH-1 SHAFT	50	100	50	-	-	-	-	-	-	-
2	PLANTROOM -PH-2 SHAFT	60	100	60	-	-	-	-	-	-	-
3	PLANTROOM -EWS SHAFT	70	100	70	-	-	-	-	-	-	-
	Total			180							
	Say(m)			**180**							

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SUBJECT : HYDRAULIC DESIGN CHART FOR DOMESTIC WATER SUPPLY SYSTEM

Sl. No.	Name of the Node	Length in Meter	Average Daily water Demand			Peak water demand = 3x Avg. Daily Water		Design of Pipe			Residual head	
			Self	Previous		Total Water Demand	Total Water Demand	Size of pipe (dia)	Head Loss in	Velocity	Start	End
		m	LPD	LPD	LPD	LPD	m^3/hr	mm	m	m/sec	m	m
1	2	3	4	5	6	7	8	9	10	11	12	13
1	PLANTROOM -PH-1 SHAFT	50	40000		40000	120000	5.00	50	1.17	0.71	145	143.83
2	PLANTROOM -PH-2 SHAFT	60	50000		50000	150000	6.25	65	0.59	0.52	145	144.41
3	PLANTROOM -EWS SHAFT	70	15000		15000	45000	1.88	40	0.79	0.41	145	144.21

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SUBJECT :MATERIAL STATEMENT OF FLUSHING WATER SUPPLY SYSTEM

Sl. No.	Name of the Node	Length in Meter	Proposed Dia. of provided	100 mm dia.	80 mm dia.	65 mm dia.	50 mm dia.	40mm dia.	32 mm dia.	25 mm dia.	20 mm dia.
		m	mm	m	m		m	m	m	m	m
1	2	3	4	5	6	7	8	9	10	11	
1	PH-1 SHAFT-FWS1	60	100	60	-	-	-	0	-	-	-
2	PH-2 SHAFT-FWS1	30	100	30	-	-	-	0	-	-	-
3	FWS1-FWS2	10	100	10	-	-	-	0	-	-	-
4	FWS2-STP	70	100	70	-	-	-	0	-	-	-
5	EWS SHAFT-STP	75	100	75	-	-	-	0	-	-	-
	Total			245							
	Say(m)			**245**							

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SUBJECT : HYDRAULIC DESIGN CHART FOR FLUSHING WATER SUPPLY SYSTEM

Sl. No.	Name of the Node	Length in Meter	Average Daily water Demand			Peak water demand = 3x Avg. Daily Water demand		Design of Pipe			Residual head	
			Self	Previous	Total	Total Water Demand	Total Water Demand	Size of pipe (dia)	Head Loss in	Velocity	Start	End
		m	LPD	LPD	LPD	LPD	m^3/hr	mm	m	m/sec	m	m
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1	PH-1 SHAFT-FWS1	60	15000		15000	45000	1.88	50	0.23	0.27	145.00	144.77
2	PH-2 SHAFT-FWS1	30	17000		17000	51000	2.13	50	0.14	0.30	145.00	144.86
3	FWS1-FWS2	10	32000		32000	96000	4.00	65	0.04	0.34	145.00	144.96
4	FWS2-STP	70	32000		32000	96000	4.00	80	0.11	0.22	145.00	144.89
5	EWS SHAFT-STP	75	5000		5000	15000	0.63	40	0.11	0.14	145.00	144.89

Sub-work No. II **Sewerage scheme**

Sl.No.	Description	Unit	Qty.	Rate	Amount in Rs.
1	Providing , laying , jointing and testing pipe lines including Cost of excavation etc. complete in all respects.				
a)	100 mm dia. D.I. pipe	Meter	220	1550	3,41,000
2	Provision for cartage of material & other unforseen item.	L.S			1,00,000
3	Provision for lighting and watching.	L.S			1,00,000
4	Provision for making Sewer Connection with HSVP on master road.	L.S			1,00,000
5	Provision for STP of capacity 470 KLD. (Cost of Civil/Mechanical) @ 16000/- complete in all respect.	L.S			75,20,000
6	Provision for vent pipe as per P.H required.	L.S			50,000
7	Provision of cutting of roads and making good to its original.	L.S			1,00,000
	Total				**83.11**
	Add 3% contingencies & PH charges				**2.493**
	Total				**85.603**
	Add 49% Dept. Charges, Price Escalation Unforeseen, charge				**41.9**
	Total Cost (Lacs)				**127.55**

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DESIGN CALCULATION FOR SEWERAGE SYSTEM

Sub Work No. II

S.N	SEWER LINE	Length of line	No of DU	Population (5 person/flat, 2 person/Ews unit)		Total Water Requierment @ 172.5 Ltrs / person (DU) and @ 45 Ltrs / person (Club)	Sewage Self Load (85% of Water Requirement)	Sewage Load (Average)			Peak Flow '@ 3x Av. Flow	Infilteration @ 25% Av. Discharge	Sewage Load (Peak)	Dia of Pipe	Slope 1 IN	Fall in Line	Velocity In	Capacity of Pipe	Levels at Start		Levels at End		MAN HOLE DEPTH				REMARK
																			Ground Lvl. at Start	Invert Lvl at Start	Ground lvl at End	Invert Lvl at End					
		Mtr	No.	No. of Parson	Cemmulation Population	LPD	LPD	LPS	LPS	LPS	LPS	LPS	LPS	MM	MM	Mtr	M/SEC	LPS	Mtr	Mtr	Mtr	Mtr	Av/Start	Av/End	SUM	AVE	
	NOTE- Sewerage pipe not required only consider STP overflow pipe length.																										

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MATERIAL STATEMENT FOR SEWERAGE SYSTEM

S.N	Sewer Line	Length	Dia of Pipe	Length of line In mtr.			
	NODE	(mm)	(mm)	150mm	200mm	250mm	300 mm
1	STP OVER FLOW	300.00	150	300			
Total				300			
Say (m)				300			

Sub-Work No. III **Storm Water Drainage scheme**

Sl.No.	Description	Unit	Qty.	Rate	Amount in Rs.
1	Providing and laying R.C.C. pipe drain class NP-3 With cement joint , manholes excavation etc complete in all respect.				
a)	400 mm dia.	Meter	415	2,500	10,37,500
2	Provision for cost of Road gullies with 300 mm pipe connection.	Nos.	7	5,000	35,000
3	Provision for grating on 450mm wide drain channel.	Meter	0	500	-
4	Providing Rain Harvesting arrangements.	Nos	4	3,50,000	14,00,000
5	Provision for Shoring & Timbering	L.S			1,00,000
6	Provision for Lighting, Watching & Temp. Drain Arrangements.	L.S			1,00,000
7	Provision for Carriage of Material & other unforseen items.	L.S			1,00,000
8	Provision for Making Connection to HUDA Line on master road.	L.S			1,00,000
9	Provision of cutting of roads and making good to its original.	L.S			1,00,000
10	Provision for temporary desposed arrangement till HSVP services all provided.	L.S			1,00,000
11	Provision for rain water collection tank	L.S			
	Total				**30.73**
	Add 3% contingencies & PH charges				0.92
	Total				31.65
	Add 49% Dept. Charges, Price Escalation Unforeseen, charge				15.51
	Total Cost (In Lacs)				**47.15**

PROJECT:- PROPOSED BUILDING PLAN FOR MIX LAND USE COLONY (99.00% RESIDENTIAL COMPONENT + 1.00% COMMERCIAL COMPONENT) UNDER TOD POLICY DATED 09.02.2016 FOR AN AREA MEASURING 4.00 ACRES (LICENCE NO. 141 OF 2024 DATED 11.11.2024 IN SECTOR 88-A, GURUGRAM BEING DEVELOPED BY DEVASYA DEVELOPERS PVT. LTD.

DESIGN CALCULATION FOR STORM WATER DRAINAGE SYSTEM

SL NO	LINE NO.		LENGTH	SELF AREA TO BE DRAINED IN	AREA IN HECTARES			DISCHARGE IN CUM/SEC RAIN INTENSITY =6.25mm	DISCHARGE	Pipe Dia	SLOPE	VELOCITY	DISCHARGE CAPACITY	Check	GROUND LEVEL AT START	GROUND LEVEL AT END	FALL	INVERT LEVEL AT START	INVERT LEVEL AT END	DEPTH AT START	DEPTH AT END	AVERAGE DEPTH	REMARKS
	FROM	TO	MTR	SQM	SELF	BRANCH	TOTAL	M3/HR	IN M3/SEC	400MM	1 IN	M/SEC	IN M3/SEC		MTR	MTR	MTR	MTR.	MTR	MTR.	MTR	MTR.	
1	STMH-01	STMH-02	28.0	700	0.00	0.07	0.07	3.281	0.0009	400	400	0.829	0.10	OK	0.000	0.000	0.070	-1.200	-1.270	1.200	1.270	1.235	
2	STMH-02	STMH-03	28.0	900	0.00	0.09	0.16	7.500	0.0021	400	400	0.829	0.10	OK	0.000	0.000	0.070	-1.270	-1.340	1.270	1.340	1.305	
3	STMH-03	STMH-04	28.0	1900	0.00	0.19	0.35	16.406	0.0046	400	400	0.829	0.10	OK	0.000	0.000	0.070	-1.340	-1.410	1.340	1.410	1.375	
4	STMH-04	RWHP-01	2.0	0	0.00	0.00	0.35	16.406	0.0046	400	400	0.829	0.10	OK	0.000	0.000	0.005	-1.410	-1.415	1.410	1.415	1.413	
5	RWHP-01	STMH-05	14.0	1400	0.00	0.14	0.49	22.969	0.0064	400	400	0.829	0.10	OK	0.000	0.000	0.035	-1.415	-1.450	1.415	1.450	1.433	
6	STMH-05	STMH-06	28.0	1200	0.00	0.12	0.61	28.594	0.0079	400	400	0.829	0.10	OK	0.000	0.000	0.070	-1.450	-1.520	1.450	1.520	1.485	
7	STMH-06	STMH-07	28	760	0.00	0.08	0.69	32.156	0.0089	400	400	0.829	0.10	OK	0.000	0.000	0.070	-1.520	-1.590	1.520	1.590	1.555	
8	STMH-07	STMH-08	18.0	467	0.00	0.05	0.73	34.345	0.0095	400	400	0.829	0.10	OK	0.000	0.000	0.045	-1.590	-1.635	1.590	1.635	1.613	
9	STMH-08	RWHP-02	5	0	0.00	0.00	0.73	34.345	0.0095	400	400	0.829	0.10	OK	0.000	0.000	0.013	-1.635	-1.648	1.635	1.648	1.641	
10	RWHP-02	STMH-09	8	870	0.00	0.09	0.82	38.423	0.0107	400	400	0.829	0.10	OK	0.000	0.000	0.020	-1.648	-1.668	1.648	1.668	1.658	
11	STMH-09	STMH-10	26	900	0.00	0.09	0.91	42.642	0.0118	400	400	0.829	0.10	OK	0.000	0.000	0.065	-1.668	-1.733	1.668	1.733	1.700	
12	STMH-10	STMH-11	23	640	0.00	0.06	0.97	45.642	0.0127	400	400	0.829	0.10	OK	0.000	0.000	0.058	-1.733	-1.790	1.733	1.790	1.761	
13	STMH-11	STMH-12	29	1080	0.00	0.11	1.08	50.705	0.0141	400	400	0.829	0.10	OK	0.000	0.000	0.073	-1.790	-1.863	1.790	1.863	1.826	
14	STMH-12	RWHP-03	5	0	0.00	0.00	1.08	50.705	0.0141	400	400	0.829	0.10	OK	0.000	0.000	0.013	-1.863	-1.875	1.863	1.875	1.869	
15	RWHP-03	STMH-19	16	680	0.00	0.07	1.15	53.892	0.0150	400	400	0.829	0.10	OK	0.000	0.000	0.040	-1.875	-1.915	1.875	1.915	1.895	
16																							
17	STMH-13	STMH-14	26.0	700	0.00	0.07	0.07	3.281	0.0009	400	400	0.829	0.10	OK	0.000	0.000	0.065	-1.200	-1.265	1.200	1.265	1.233	
18	STMH-14	STMH-15	14.0	800	0.00	0.08	0.15	7.031	0.0020	400	400	0.829	0.10	OK	0.000	0.000	0.035	-1.265	-1.300	1.265	1.300	1.283	
19	STMH-15	STMH-16	11.0	760	0.00	0.08	0.23	10.594	0.0029	400	400	0.829	0.10	OK	0.000	0.000	0.028	-1.300	-1.328	1.300	1.328	1.314	
20	STMH-16	RWHP-04	2.0	0	0.00	0.00	0.23	10.594	0.0029	400	400	0.829	0.10	OK	0.000	0.000	0.005	-1.328	-1.333	1.328	1.333	1.330	
21	RWHP-04	STMH-17	6.0	300	0.00	0.03	0.26	12.000	0.0033	400	400	0.829	0.10	OK	0.000	0.000	0.015	-1.333	-1.348	1.333	1.348	1.340	
22	STMH-17	STMH-18	30.0	670	0.00	0.07	0.32	15.141	0.0042	400	400	0.829	0.10	OK	0.000	0.000	0.075	-1.348	-1.423	1.348	1.423	1.385	
23	STMH-18	STMH-19	30.0	760	0.00	0.08	0.40	18.703	0.0052	400	400	0.829	0.10	OK	0.000	0.000	0.075	-1.423	-1.498	1.423	1.498	1.460	
24	STMH-19	Municipal Drain	10.0	700	0.00	0.07	1.62	75.877	0.0211	400	400	0.829	0.10	OK	0.000	0.000	0.025	-1.498	-1.523	1.498	1.523	1.510	
	Total		415	16187																			

PROJECT:- PROPOSED BUILDING PLAN FOR MIX LAND USE COLONY (99.00% RESIDENTIAL COMPONENT + 1.00% COMMERCIAL COMPONENT) UNDER TOD POLICY DATED 09.02.2016 FOR AN AREA MEASURING 4.00 ACRES (LICENCE NO. 141 OF 2024 DATED 11.11.2024 IN SECTOR 88-A, GURUGRAM BEING DEVELOPED BY DEVASYA DEVELOPERS PVT. LTD.

MATERIAL STATEMENT FOR STORM WATER DRAINAGE SYSTEM

SL NO	NAME OF LINE		LENGTH	PIPE DIA	500MM
	FROM	TO	MTR	MM	MTR
1	STMH-01	STMH-02	28.0	400	
2	STMH-02	STMH-03	28.0	400	
3	STMH-03	STMH-04	28.0	400	
4	STMH-04	RWHP-01	2.0	400	
5	RWHP-01	STMH-05	14.0	400	
6	STMH-05	STMH-06	28.0	400	
7	STMH-06	STMH-07	28	400	
8	STMH-07	STMH-08	18.0	400	
9	STMH-08	RWHP-02	5	400	
10	RWHP-02	STMH-09	8		
11	STMH-09	STMH-10	26	400	
12	STMH-10	STMH-11	23	400	
13	STMH-11	STMH-12	29	400	
14	STMH-12	RWHP-03	5	400	
15	RWHP-03	STMH-19	16	400	
16				400	
17	STMH-13	STMH-14	26.0	400	
18	STMH-14	STMH-15	14.0	400	
19	**STMH-15**	**STMH-16**	11.0		
20	STMH-16	RWHP-04	2.0	400	
21	RWHP-04	STMH-17	6.0	400	
22	STMH-17	STMH-18	30.0	400	
23	STMH-18	STMH-19	30.0	400	
24	STMH-19	Municipal Drain	10.0	400	
Total			**415**		
Say (m)			**415**		

Sub-Work No. VII **Maintenance Charges & Re-surfacing of Roads**

PROJECT:- PROPOSED BUILDING PLAN FOR MIX LAND USE COLONY (99.00% RESIDENTIAL COMPONENT + 1.00% COMMERCIAL COMPONENT) UNDER TOD POLICY DATED 09.02.2016 FOR AN AREA MEASURING 4.00 ACRES (LICENCE NO. 141 OF 2024 DATED 11.11.2024 IN SECTOR 88-A, GURUGRAM BEING DEVELOPED BY DEVASYA DEVELOPERS PVT. LTD.

Sl.No.	Description	Unit	Qty.	Rate	Amount in Rs.
1	Providing of maintenance charges for water supply , storm water drainage, sewerage, Road, Street lighting, Horticulture etc. complete in all aspect, including Operational and establishment charges as per HUDA norms for 10 years completion.	Acre	4.00	8,00,000	32,00,000
2	Provision for regulating of Road after 1st 5 year 2915 sqm @ Rs 660 sqm.	Sqm	2915	660	19,23,900
3	Provision for regulating of Road after 2nd 5 year of site 2915 sqm @ Rs 825 sqm.	Sqm	2915	660	19,23,900
	Total				**70.48**
	Add 3% contingencies & PH charges				2.11
	Total				72.59
	Add 49% Dept. Charges, Price Escalation Unforeseen, charge				35.57
	C/O. to final abstract of cost (say in Lacs)				**108.16**

Sub-Work No. V Street lighting

PROJECT:- PROPOSED BUILDING PLAN FOR MIX LAND USE COLONY (99.00% RESIDENTIAL COMPONENT + 1.00% COMMERCIAL COMPONENT) UNDER TOD POLICY DATED 09.02.2016 FOR AN AREA MEASURING 4.00 ACRES (LICENCE NO. 141 OF 2024 DATED 11.11.2024 IN SECTOR 88-A, GURUGRAM BEING DEVELOPED BY DEVASYA DEVELOPERS PVT. LTD.

Sl.No.	Description	Unit	Amount in Lacs.
1	Providing street lighting on internal roads as per standard specification in 4.0 acre area @ Rs. 2,50,000/- per acre.	=	10.00
	Total	=	10.00
	Add 3% contingencies & PH charges	=	0.30
	Total	=	10.30
	Add 49% Dept. Charges, Price Escalation Unforeseen, charge		5.05
	Total Cost	=	15.35
	C/O. to final abstract of cost (say in Lacs)		**15.35**

Sub Work No.VI

Sub-Head No. 05 **Horticulture**

PROJECT:- PROPOSED BUILDING PLAN FOR MIX LAND USE COLONY (99.00% RESIDENTIAL COMPONENT + 1.00% COMMERCIAL COMPONENT) UNDER TOD POLICY DATED 09.02.2016 FOR AN AREA MEASURING 4.00 ACRES (LICENCE NO. 141 OF 2024 DATED 11.11.2024 IN SECTOR 88-A, GURUGRAM BEING DEVELOPED BY DEVASYA DEVELOPERS PVT. LTD.

Sl.No.	Description	Unit	Qty.	Rate	Amount in Rs.
1	**Develoment of Lawn Area**				
a)	Trenching the ordinary soil up to depth of 60 cm. Including removal and packing of serviceable material and disposing at a lead of 50 m/ and making up the trenched area to proper level by filling with earth mixed with manure including cost of imported earth and manure.				
b)	Rough dressing of trenched area.				
c)	Grassing with "doob grass" including watering and maintenance of lawns free from weeds and fit for moving rows 7.50 cm in either direction including for hedges and grill and barbed wire fencing around park and green belts (as per HUDA Norms) Area 4.0 Acres approx @Rs. 1.5 lac per acre.	Acre	4	150000	600000.0
2	**Planting of trees with tree guards on Roads at 12m intervals**				
	Length of road= 365 M				
	No. of trees@ m c/c = 365x1/12= 30.41 Nos.				
	SAY= 30 Nos.				
	Cost of the tree				
	Excavation Rs. 60-	Nos	30	100	3000
	Manure Rs. 90/-		30	100	3000
	Tree plants Rs. 150/-		30	2500	75000
	Tree guards Rs. 1500/-		30	1500	45000
	Total 1800				
	30 Nos. @Rs. 1800/- each	Nos	30		0
	Total				**7,26,000.00**
	Add 3 % contingencies & PE charges.				21,780.00
	Total				7,47,780.00
	Add 49 % Departmental charges, Price escalation,unforseen,Admin. Charges.				3,66,412.20
	Total				11,14,192.20
	C/O. to final abstract of cost (say in Lacs)				**11.14**

Sub Work No.VI

Sub-Head No. 05 Roads and Footpaths

PROJECT:- PROPOSED BUILDING PLAN FOR MIX LAND USE COLONY (99.00% RESIDENTIAL COMPONENT + 1.00% COMMERCIAL COMPONENT) UNDER TOD POLICY DATED 09.02.2016 FOR AN AREA MEASURING 4.00 ACRES (LICENCE NO. 141 OF 2024 DATED 11.11.2024 IN SECTOR 88-A, GURUGRAM BEING DEVELOPED BY DEVASYA DEVELOPERS PVT. LTD.

Sl.No.	Description	Unit	Qty.	Rate	Amount in Lacs
1	**Site Clearance**				
a)	Clearing and grubbing road land including uprooting rank, vegetation,grass, bushes, shrubs, saplings and trees girth upto 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable materials to be used or auctioned, upto a lead of 1000mm including removal and disposal of top soil not exceeding 150 mm thickness by manual means in areas of light jungle as per drawings and Clause 201 of Morth Specifications.	L.S	7475	25.00	186875.0
2	**Earth Works**				
2.1	Provision for leveling + earth filling as per site condition approximate	Acre	4.00	175000	700000.00
3	**Provision for**				
3.1	200mm GBM	CUM	487.5	3000	1462500
3.2	250 mm WBM (stone aggregate)	CUM	609.375	3200	1950000
3.3	50 mm DBM	SQM	2437.5	500	1218750
3.4	30 mm BC	SQM	2437.5	300	731250
4	**Miscellaneous Items**				
4.1	Construction of cement concrete Kerb and Meter Channels as per specifications	m	700	900	630000.00
4.2	Construction of footpath as per specifications for approach to each block	SQM	525	850	446250.00
4.3	Provision for metaling of commercial	L.S.			500000.00
4.4	Providing and fixing guide map at selected locations	L.S.			250000.00
4.5	Provision for plot indicators	L.S.			400000.00
4.6	Provision for demarcating burgies	L.S.			300000.00
4.7	Provision for traffic arrangement	L.S.			250000.00
4.8	Provision for carriage of material	L.S.			500000.00
	Total				**9525625.00**
	Add 3 % contingencies & PE charges.				285768.75
	Total				9811393.75
	Add 49 % Departmental charges, Price escalation,unforseen,Admin. Charges.				4807582.94
	Grand Total				14618976.69
	C/O. to final abstract of cost (say in Lacs)				**146.19**