

EXTERNAL DEVELOPMENT WORKS DESIGN AND COST ESTIMATES

FOR

PROPOSED SCO'S IN COMMERCIAL
SITE MEASURING ^{2.825}~~2.717~~ ACRES IN
SECTOR 37C, GURGAON

For Imperia Wishfield Pvt. Ltd.

A. Duse
Authorized Signatory

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



DEVELOPED BY
IMPERIA WISHFIELD PVT. LTD.

2.825

PROPOSED SCO'S IN COMMERCIAL SITE MEASURING ~~2.717~~ ACRES IN SECTOR 37C,
GURGAON

REPORT

ESTIMATE FOR PROVIDING WATER SUPPLY, SEWERAGE, STORM WATER DRAINAGE, ROADS, STREET LIGHTING AND HORTICULTURE IN RESPECT OF PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.717 ACRES IN SECTOR 37C, GURGAON

Gurgaon Manesar Urban Complex of Haryana State situated on N.H.- 8 Highway at a distance of 50 Kms from Delhi. Being the National Capital Region, the town has fast developing tendency and potential. Further, it has also started sharing the growing residential load of Delhi. In order to relieve the growing pressure of population in National Capital of Delhi, it has been decided by the Haryana Govt. to establish various residential, and other infrastructure sectors in Gurgaon Manesar Urban Complex Being Developed by Imperia Wishfield Pvt. Ltd. has been developing PROPOSED SCO'S IN COMMERCIAL SITE MEASURING ~~2.717~~ ACRES IN SECTOR 37C, GURGAON

WATER SUPPLY

At present the source of water supply in this area is borewells. As the underground water is potable, provision for 2 number of borewells has been made on temporary basis in this estimate. It has been proposed to construct the under ground tanks of capacity as per attached details, and at location for domestic purpose and for fire protection. The underground tanks will be fed from the borewells and HUDA supply, which will feed overhead tanks on the roof of the buildings. The water supply system has been designed as per Hazen Williams formula.

DESIGN

The scheme has been designed for population of approx. ²⁸⁰⁰~~2780~~ persons. The rate of water supply per head / day has been taken as 45 liters for Staff and 15 litres for Visitors as per HUDA norms in addition to above necessary provision of water for and parks etc. have been taken into account for calculating the maximum quantity of water requirement.

PUMPING REQUIREMENTS

It has been proposed to install pumping set as described with standby of equal capacity. The provision for standby generating set has also been provided in case of any electricity failure.

PUMPING CHAMBER AND PUMPING EQUIPMENTS

It has been proposed to quip each tubewell with an electrically driven set ejecto type or submersible pump capable of driven 18000 liters per hour. The provision for standby generating set has also been provided in case of any electricity failure. Generator will be provided separately or added to the capacity of main generator.

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**PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.825 ACRES IN SECTOR 37C,
UNDERGROUND STORATE TANK**

Underground storage tank provision has been made in two compartments, which cater for the domestic as well as for fire fighting requirement. The water for fire water compartment shall overflow to the domestic compartment so that the water in the fire compartment also remain full & fresh and will not contaminate.

BOOSTING STATION

The boosting station is being planned near underground storage tank catering to above requirement.

DISTRIBUTION SYSTEM

The distribution system for this development has been designed to supply @ 45 liter per head per day @ 3 times the average rate of flow on Hazen William formula. Necessary provision for laying CI/DI pipes conforming to relevant IS standard along with valves and special has been made in the project. The minimum terminal head at any point will be more than 40 Mtrs. so that it can be serve the G+4 floors construction envisaged in the plan. Minimum pipe dia. for distribution is kept as 100 mm dia.

RISING MAIN

Raising main from HUDA water main or sector road to water work have also been proposed as provision has been made in this estimate.

SEWERAGE SCHEME

This scheme has been designed for sewer connecting to STP & over flow of STP connected to HUDA sewer main. The sewerage system has been marked on respective plans.

The sewer lines have 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. Sewer lines shall be laid to a gradient maintaining minimum 2.46 ft/sec self cleaning velocity. Necessary provision for laying S.W./R.C.C. pipe sewer line, construction of required number of manholes etc. has been made in the estimate.

Necessary design statement for entire sewerage system has been prepared and attached with estimate. Manning's formula has been used for the design of sewerage system.

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**PROPOSED SCO'S IN COMMERCIAL SITE MEASURING ~~2.77~~ 2.77 ACRES IN SECTOR 37C,
STORM WATER DRAINAGE**

Since the Master Scheme has been proposed with pipe drain, we proposed to lay pipe drains with required number of catch basins for disposal of storm water. The intensity of rain fall has been taken as 40mm per hour. A minimum size of 400 mm dia NP3 pipe storm water pipe will be provided and designed as per Manning's formula.

FIRE

As per N.B.C. (National Building Code), fire tanks & required capacity pumps have been provided the plan as shown on the plan. Similarly irrigation pumps of required capacity provided as shown on the plan.

SPECIFICATIONS

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

ROADS

The roads in the colony have been planned as minimum 6 M wide. The following specification have been adopted which are reproduced below:

The specification of roads:

1. GSB-²⁰~~100~~ mm in one layer.
2. WBM-²⁰~~150~~ mm in Three layer.
3. DBM-50 mm thick.
4. MSS-~~20~~ mm thick.

²⁵ mm B.C

The above construction shall be done on well compacted sub grade as per specifications. Complete work will be carried out as per MORTH specification, IRC guide lines or HUDA specification, which ever applicable.

STREETLIGHTING

Provision of lighting on surrounding area has been made.

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**PROPOSED SCO'S IN COMMERCIAL SITE MEASURING ~~2.71~~ ACRES IN SECTOR 37C,
HORTICULTURE**

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

RATES

The estimate has been prepared based on the present market rates.

COST

425.65

The total cost of the scheme, including cost of all services works out to Rs. ~~382.87~~ Lacs Including 3% contingencies and 49% departmental charges, price escalation & other unforeseen charges.
Cost per acres comes to Rs. ~~135.67~~ lacs

150.67

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PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.717 ACRES IN SECTOR 37C,
GURGAON

TOTAL WATER REQUIREMENT

(I) DAILY WATER REQUIREMENT

**A SCO'S
GROUND FLOOR (SHOPS)**

a) A TYPE (10 Nos Area 144sqm each)	=	1440 Sqm
b) B TYPE (10 Nos Area 120 sqm each)	=	1200 Sqm
c) C TYPE (10 Nos Area 80.7 sqm each)	=	807 Sqm
d) D TYPE (6 Nos Area 91.8 sqm each)	=	550.8 Sqm

Total	=	3997.8000 Sqm
Total Ground Coverage Area	=	3997.8000 Sqm

1 OFFICE'S

1.1 A TYPE Permissible FAR (1st to 4th Floor)- 10 nos.	=	4731.4 Sqm
1.2 B TYPE Permissible FAR (1st to 4th Floor)- 10 nos.	=	3912.8 Sqm
1.3 C TYPE Permissible FAR (1st to 4th Floor)- 10 nos.	=	2651.5 Sqm
1.4 D TYPE Permissible FAR (1st to 4th Floor)- 6 nos.	=	1809.72 Sqm
1.5 Total	=	13105.4 Sqm

2 Total population

2.1 Shops Ground Floor @ 3 sqm per person	=	1333 Person
2.2 Shopkeepers @ 10 % of total population	=	133 Person
2.3 Visitor's @ 90 % of total population	=	1199 Person

3 OFFICE'S

3.1 First to Fourth Floors @ 10 Sqm per person	=	1311 Person
3.2 Office Staff + Shopkeeper's	=	1444 Person
3.2.1 @ 45 Lpcd	=	64971 Litre
3.3 Visitor's	=	1199 Person
3.3.1 @ 15 Lpcd	=	17990 Litre
3.4 Total Average Water	=	82961 Litre/Day

4 Maintenance Staff 25 Nos. @ 45 lpcd	=	1125 Litre
5 Back Wash @10% of Avg. Water Demand	=	8409 Litre/Day

6 Floating population @10% of office staff	=	131 Person
6.1 @15 lpcd	=	1966 Litre

7 Total Water Demand A+B	=	94461 Litre
8 OR	=	94.46 KLD
9 SAY	=	95.00 KLD

B Horticulture & Road side plantation

a) Area under Green area 1971 sqmt. @ 5 Liters/sqmt.	=	9855 Liters/day
b) Area under road & paved area of 2881.66 Sqmtr @ 25 KL/Acre	=	17805.61 Liters/day
5 KL/Acre		3560
Total	=	27661 Liters/day

Or Say

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The demand of Horticulture & Road work will met from recirculated water after treatment at S.T.P.

Domestic water demand

65% of $(3.2.1 + 4.5)$ + 35% of $(3.2.1 + 6.1) + 100 - 1. \text{ of } 5$

Domestic water demand (KLD)

Or Say

58355
 58.36 55.41 Liters/day
 59 55.41 KLD

Flushing water demand

35% of $((3.2.1 + 4.5) + 65\% \text{ of } (3.2.1 + 6.1))$

Flushing water demand (KLD)

Or Say

$= 36.05$ 39.05 Liters/day
 $= 36.10$ 39.05 KLD
 $= 37.0$ 39.10 KLD

Sewage Treatment Plant Capacity

Average Sewerage Contribution Considering 80% of AV = ~~79473.2968 Liter / Day~~

domestic water demand & 90% of AV/Flushing demand

$(58.36 \times 80) + (36.10 \times 90) = 46.69 + 32.49 = 79.18 \text{ KL}$

Sewage Treatment Plant Capacity (KLD)

Or Say

$= 79.47 \text{ KLD}$
 $= 80.00 \text{ KLD}$

Sewage scheme

Peak discharge @3 times of sewage discharge plus sub =

soil infiltration @ 10% of total water demand

247040
 247920 Liters
 54414
 $= 55093 \text{ GPD}$
 $= 0.102 \text{ Cusces}$
 0.101

Hence 250 mm dia pipe having design capacity 1.659 cuses is sufficient to carry the above discharge

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(II) BOREWELLS

Approx. discharge of borewells @ 18 KL/hour and working 16 hours/day


(a) Total domestic water demand = KLD	=	59.41
(b) Number of borewells $\frac{59.41}{(18 \times 16)}$	=	0.20
Add 10% extra	=	0.02
Total	=	0.22
Say	=	1.00

So, it is proposed to provide **Two Nos.** of tube well (One working & One standby). Moreover, the water demand for horticulture purposes is to met from recirculated water after treatment at STP and ultimate water supply is to provided by HUDA.

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(II) Pumping Machinery for Borewell

Gross working Head	=	18.0 Meters
Average Fall in S.L.	=	5.0 Meters
Depression Head	=	5.0 Meters
Friction loss in main + Positive head	=	10.0 Meters
Total	=	38.0 Meters
Or Say	=	<u>40.0 Meters</u>

$$\text{Pump HP} = \frac{18000 \times 40 \times 100}{60 \times 60 \times 75 \times 70}$$

$$= 3.81 \text{ H.P.}$$

Or Say

$$5.00 \text{ H.P.}$$

It is proposed 2 Nos Tube Wells of 5H.P. each 40M head (1w+1s)

(III) Under Ground Water Tanks

a) Total Domestic Water Demand	=	58355
Storage (One day) <u>260-1</u>	=	55413 Liters/day
Or Say	=	35.02 55.41 KLD
	=	40.00 56.00 KLD

Fire Tank provided as per N.B.C. norms

$$100 \times \frac{2800}{1000} \times \frac{1}{3} = 55.77 \text{ KL} \quad \text{---} \quad 140 \quad \text{---} \quad 100.00 \text{ KLD}$$

It is proposed to construct an underground tank of 155 KLD having 28 KLD for treated water, Domestic water, 28 KLD as raw water & 100KLD for Fire

- a) For Under Ground Tank
Total water demand (Domestic)
Pumping 6 hour pumping
Or Say

$$= 5836 \text{ 55.41 KLD}$$

$$= 162.11 \text{ 153.92 LPM}$$

$$= 170 \text{ 160.00 LPM}$$

- Gross Working Head
- Suction lift
- Delivery head
- Frictional loss in Mains & Specials+ Positive head
- Clear head required - G+4
Total
Or Say

$$= 3.00 \text{ Meters}$$

$$= 5.00 \text{ Meters}$$

$$= 7.00 \text{ Meters}$$

$$= 18.00 \text{ Meters}$$

$$= 33.00 \text{ Meters}$$

$$= \underline{35.00 \text{ Meters}}$$

$$\text{Pump HP} = \frac{170 \times 35 \times 100}{60 \times 75 \times 70}$$

$$= 1.89 \text{ 1.78 H.P.}$$

$$2.00 \text{ 1.50 H.P.}$$

It is proposed to provide 2 nos. of motors of 2.0 HP (1W+1S) sets of 160 LPM discharge at 35 M head for domestic supply & generator set of same capacity in case of electric failure) for domestic purpose.

- b) Flushing water demand
OR
SAY

$$= 36105$$

$$= 39047.99 \text{ Liters/day}$$

$$= 36.10 \text{ 39.05 KLD}$$

$$= 39.1 \text{ KLD}$$

- Pumping for 6 Hours/Day
SAY

$$= 100.30$$

$$= 100 \text{ 108.61 LPM}$$

$$= 100 \text{ 110 LPM}$$

$$\text{Pump HP} = \frac{100 \times 75 \times 35 \times 100}{60 \times 75 \times 70}$$

$$= 1.03 \text{ 1.22 HP}$$

$$= 1.5 \text{ HP}$$

It is proposed to provide 2 nos. of motors of 1.5 HP (1W+1S) sets of 140 LPM discharge at 35 M head for flushing supply & generator set of same capacity in case of electric failure) for domestic purpose.

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PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.747 ACRES IN SECTOR 37C, GURGAON

(V) Irrigation Pumping

a) Plot Area	=	2.822 Acres
	=	11420.63 Sqmt
Water Demand of Horticulture + Road Area Plantation	=	27700.00 LPD
④ 8-Hours Pumping	=	66.67 57.71 LPM
Say	=	70 60 LPM
Head	=	35 Mtr.
Pump HP = $\frac{70 \times 35 \times 100}{60 \times 75 \times 70}$	=	0.78 0.67 H.P.
Or Say	=	1.50 1.00 H.P.

It is proposed to provide 2 nos. of motors of 1.50 HP sets of 60 LPM discharge at 35 M head (One pump are working and one as standby & generator set of same capacity in case of electric failure.)

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GURGAON

(VI) PUMPS FOR FIRE PROTECTION

S. No.	Parameters	Location	Pump sets		
			Jockey	Main	Diesel
1	Discharge in lpm	Pump Room	180 lpm	1620 lpm	1620 lpm
2	Head in metre		65	65	65
3	HP		5	40	40
4	Quantity in nos.		1	1	2

(VII) GENERATING SETS

S. No	Equipment	QTY	HP	Total HP	
1	Borewell	1	5.00	5.0	
2	Booster Pump (for domestic) + Flushing+ irrigation pump	1 + 1 + 1	2 + 1.5 + 1.5	5.0	
3	Jockey pump - Street lighting	1-5	15	15.0	
4	Total	Total		25 15.0	
				11.19	KW
	Diversity 0.8 & Power factor 0.8	$25 \times 0.746 \times 1.50 = 27.98$		17.48	KVA
	Or Say	say 30	KVA	20.00	KVA

It is proposed to add 30 KVA capacity for above said machinery to the main DG set.

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PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.717 ACRES IN SECTOR 37C, GURGAON

FINAL ABSTRACT OF COST

Sub Work	Description	Amount (Rs.) in Lacs
I	Water Supply Scheme	140.82
II	Sewerage Scheme	179.08
III	Storm Water Drainage	38.07
IV	Road	40.30
V	Street Lighting	43.94
VI	Horticulture	48.75
VII	Maintenance Charges for 10 Years including Resurfacing of Roads after 1st 5 year & 10nd 5 years of mtc	100.47
	Total (in Lacs)	63.67
	Cost per acres (2.822) =	10.83
		4.33
		7.90
		5.14
		83.59
		41.61
		382.87
		135.67

IMPERIA WISHFIELD PVT. LTD.

Say Rs 425.65 Lakh. 425.62

Cost/Acre = 425.65/2.825 = Rs 150.67 Lakh.

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Director
Town & Country Planning
Haryana, Chandigarh

For Imperia Wishfield Pvt. Ltd.

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Executive Engineer
HSVP Division No. VI
Gurugram



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Superintending Engineer,
HSVP, Circle, Gurugram.

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Sub Work No.1		Water Supply	
Sub Head	Description	Amount	
		(Rs.). In lacs	
1	Head Works	39.93	28.77
2	Pumping Machinery	12.60	11.89
3	Rising Main	4.13	8.44
4	Distribution System	15.98	26.01
5	Fire Fighting	13.57	98.60
6	Irrigation	6.15	5.36
Say (In Lacs)		Total	179.08
			91.76
Add 3% contingency charges →			2.75
Add 4% depts charges, force escalation & unforeseen charges.			94.51
			46.31
			140.82

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Sub Work No-1					Water Supply	
Sub Work No-01					Head Works	
SI No	DESCRIPTION	Qty		Rate		AMOUNT (In Lacs.)
1	Boring and installing 200 mm i/d tubewell with reverse rotary rig complete with pipe and strainer to depth of about 80 m in all respect 4 Nos. @ Rs. 300000/- each	2	x	100000/- 300000	Rs.	30.00 -6.00
2	Provision for Rising Main connecting Bore well with water main and by-pass arrangement					
2.1	80 mm dia. G.I. Pipe	250	x	1000	Rs.	2.50
2.2	100 mm dia. G.I. Pipe	10	x	1250	Rs.	0.13
3	Providing Boosting arrangement by pumps (5.0 HP) (capacity 300 lpm at 40 M head, 2 nos. @ Rs. 1,00,000/- each (for Tube Well)	2	x	60000	Rs.	1.20
4	Providing Boosting arrangement by pumps 2.0 HP, capacity 100 LPM at 35 M head, 2 nos. each (Domestic supply) & @ Rs. 15,000/- each (For UGT) complete with panel, foundation etc.	2	x	7500/- 20000	Rs.	1.50 -0.40
4	Providing Boosting arrangement by pumps 1.5 HP, capacity 110 LPM at 35 M head, 2 nos. each (Flushing supply) & @ Rs. 15,000/- each complete with panel, foundation etc.	2	x	50,600/- 15000	Rs.	1.00 -0.30
5	Provision for carriage of materials and other unforeseen items	1	x	50000	Rs.	0.50
6	Construction of U.G. tanks of total cap. (156 KL @ Rs. 4500 KL)	156	x	4500	Rs.	6.30 -7.02
7	Provision for borewell chamber of size 1.5 x 1.5 m For Housing borewell 2 Nos. @ Rs. 50,000/- each	2	x	1,00,000/- 35000	Rs.	2.00 -0.70
TOTAL					Rs.	18.75
Add 3% contingencies					Rs.	0.56
TOTAL					Rs.	19.31
Add 49% Department charges, Price Esciation & other unforeseen Charges.					Rs.	9.46
TOTAL COST					Rs.	28.77

⑧ Const. of boosting chamber 1 Nos L.S.

⑨ Provision for facilities for mte staff (staff quarters) L.S.

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PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.717 ACRES IN SECTOR 37C, GURGAON

Material statement of Borewell Rising Mains

S. No.	Name of line	Length of 80 mm dia. pipe	Length of 100 mm dia pipe
1	Borewell no. 1 to A Point	125	-
2	Borewell no. 2 to A Point	125	0
3	A Point to UGT	0	10
	Total	250	10



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Sub Work No-1					Water Supply	
Sub Work No-02					Pumping Machinery	
SI No	DESCRIPTION	Qty		Rate		AMOUNT (In Lacs.)
1	Providing and installing electricity driven Submersible pumping set capable of delivery about 18 KL / Hr. of water against a total Head of 80 M complete with motor and other accessories, 2 No @ 15,000/- <u>2,00,000/-</u>	2	x	150000 <u>2,00,000</u>	Rs.	3.00 <u>4.00</u>
2	Provision for diesel engine genset each for standby arrangements for T.W., booster pumps, Fire pumps complete with gear head arrangement. - 1 No. 20 KVA <u>20 KVA @ Rs 10,000/-</u>	1	x	200000 <u>L.S</u>	Rs.	2.00 <u>3.00</u>
3	Provision for making foundations and erection of Pumping machinery @ Rs-25000/- <u>L.S</u>	1	x	25000 <u>L.S</u>	Rs.	0.25 <u>1.00</u>
4	Provision for pipes, valves and specials inside boosting chamber - 1 Set (L.S.) Rs-50000/- <u>L.S</u>	1	x	50000 <u>L.S</u>	Rs.	0.50 <u>1.00</u>
5	Provision for electric services connection including electric fitting for tube wells & boosting chamber & cost of transformer etc. Rs-100000/-	1	x	100000 <u>L.S</u>	Rs.	1.00 <u>2.00</u>
6	Provision for carriage of material and unforeseen item. L.S. Rs. 100000/-	1	x	100000 <u>L.S</u>	Rs.	1.00
TOTAL					Rs.	7.75 <u>12.00</u>
Add 3% contingencies					Rs.	0.23
TOTAL					Rs.	7.98
Add 49% Department charges, Price Escalation & other unforeseen Charges					Rs.	3.91
TOTAL COST					Rs.	11.89



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Sub Work No-1					Water Supply	
Sub Work No-03					Rising Main from HUDA	
SI No	DESCRIPTION	Qty		Rate		AMOUNT (In Lacs)
1	Providing, laying, jointing & testing ¹⁰⁰ 80 mm dia. G.I. pipe lines including cost of excavation complete in all respects.	160	@	1250	Rs.	2.00
2	Providing and fixing ¹⁰⁰ 80 mm dia. sluice valves including cost of surface boxes and masonry chambers etc., complete in all respects.	1	@	¹²⁰⁰⁰ 15000	Rs.	^{0.12} 0.15
3	Providing and fixing indicating plates for sluice valves, air valves and fire hydrants.	1	@	¹⁰⁰⁰⁰ 10000	Rs.	^{0.10} 0.100
4	Provision for carriage of material & other foreseen items etc., L.S.	1		^{L.S.} 50000	Rs.	0.50
5	Provision for making connection with HUDA main (L.S.) 1 job complete in all respect	1		^{L.S.} 175000	Rs.	^{1.75} 1.75
6	Provision for cutting road and making good the same (L.S.) 1 job	1		^{L.S.} 100000	Rs.	^{1.00} 1.00
TOTAL					Rs.	^{4.13} 5.60
Add 3% contingencies					Rs.	0.17
TOTAL					Rs.	5.67
Add 49% Department charges, Price Escalation & other unforeseen Charges.					Rs.	2.78
TOTAL COST					Rs.	8.44

Material Statement and design statement of HUDA Rising Mains

S. No.	Name of line			Dia. in mm	Length in m from municipal to U.G.T.
PART - A					
1	Municiple Main To UGT			¹⁰⁰ 80	160
Grand Total					160

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CA/95/18739

2-825

PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.717 ACRES IN SECTOR 37C, GURGAON

Sub Work No-1					Water Supply	
Sub Head No-04					Distribution system	
SI No	DESCRIPTION	Qty		Rate		AMOUNT (In Lacs)
1	Providing, laying, jointing & testing D.I. pipes including cost of excavation complete as per ISI marked.			12.50		
	100 mm I/D	1000	@	1200	Rs.	12.50
	150 mm I/D	20	@	1575	Rs.	0.32
2	Providing, laying, jointing & testing G.I. pipes including complete cost of connection to Sco up to Shaft.					
	25 mm I/D	360	@	580	Rs.	2.09
2a	Providing and Fixing sluice valves including cost of brick masonry chamber complete in all respect.	10		12000/-		1.20
	100 mm I/D	2	@	18500	Rs.	0.37
	150 mm I/D	1	@	15000/-		0.15
3a	Providing and fixing ball valve with all accessories - 25 mm I/D	72	@	750	Rs.	0.54
	Masonry Chambers			10,000/-		0.20
4a	Providing and Fixing indicating plates for sluice valves	11	@	1000	Rs.	0.11
		65	@			0.65
5a	Provision for carriage of material & other foreseen items etc., (L.S). 1 Job including cutting of road and making the same.	1	@	100000	Rs.	1.00
TOTAL					Rs.	16.95
Add 3% contingencies					Rs.	0.51
TOTAL					Rs.	17.46
Add 49% Department charges, Price Escalation & other unforeseen Charges.					Rs.	8.55
TOTAL COST					Rs.	26.01

⑥ Provision for cutting of roads & making good the same.

L.S. 0.50
Total 15.98

For Imperia Wishfield Pvt. Ltd.

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PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.717 ACRES IN SECTOR 37C, GURGAON

S. No.	Description	200 mm	150 mm	100 mm	65 mm	25 mm
(A)	Domestic					
1	UGT- WS1	-	10	-	-	
2	Ring (WS1-WS2-WS3-WS4-WS5-WS6-WS7-WS8-WS9-WS10-WS11-WS1)	-	-	500	-	
3	Reisers 36 Nos. x 5 Meters up to shaft	-	-	-	-	180
4	TOTAL	0	10	500	0	180
(B)	Flushing					
1	STP- FWS1	-	10	-	-	
2	Ring (FWS1-FWS2-FWS3-FWS4-FWS5-FWS6-FWS7-FWS8)-FWS9-FWS10-FWS11-FWS1)	-	-	500	-	
3	Reisers 36 Nos. x 5 Meters up to shaft	-	-	-	-	180
4	TOTAL	0	10	500	0	180
5	GRAND TOTAL	0	20	1000	0	360



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PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.717 ACRES IN SECTOR 37C, GURGAON

DOMESTIC WATER SUPPLY (HYDRAULIC CHART)

S. No	Ref of line	Length in mts	Self				Additional		AV/WD	Domestic Water demand @ 35% of Visitors +65% Staff	Peak Demand @ 3 time of AV/WD	Dia of Pipe	Velocity	Loss of Head in 100 M (mts)	Loss of head in the line (mts)	Level in start			Remarks
			Office Staff + Shopkeepers @ 45 LPCD	Floating / Visitors @ 15 LPCD	Backwash, Staff (LPD)		Office Staff + Shopkeepers @ 45 LPCD	Floating / Visitors @ 15 LPCD								HL	GL	TH	
1	ALUGT	-	-	-	-	-	1444 Persons = 64980 Ltrs	1330 Persons = 19950 Ltrs	25 No. main staff + Backwash = 9730 Ltrs	94.46	166.23	-	-	-	-	245.70	215.70	30.00	Ground level = 215.70 UGT Bed level= 212.70 Mtr
2	UGT-WS1	10	-	-	-	-	1444 Persons = 64980 Ltrs	1330 Persons = 19950 Ltrs	25 No. main staff + Backwash = 9730 Ltrs	94.46	166.23	150	0.75	0.0217	0.0022	245.70	215.70	30.00	Add Building head G+4 = 18 mts Add suction head = 3 mtrs Add Delivery head= 5 mtr Add positive head = 4 mtrs Add friction losses = 3 mtr Head level = 245.70 mts
3	Ring (WS1-WS2-WS3-WS4-WS5-WS6-WS7-WS8-WS9-WS10-WS11-WS1)	500	1444 Persons = 64980 Ltrs	1330 Persons = 19950 Ltrs	25 No. main staff + Backwash = 9730 Ltrs	-	-	-	-	94.46	166.23	100	0.75	0.1525	0.7627	244.94	215.70	29.24	

FLUSHING WATER CAPACITY (HYDRAULIC CHART)

S. No	Ref of line	Length in mts	Self				Additional		AV/WD	Flushing Water demand @ 65% of Visitors +35% Staff	Peak Demand @ 3 time of AV/WD	Dia of Pipe	Velocity	Loss of Head in 100 M (mts)	Loss of head in the line (mts)	Level in start			Remarks
			Office Staff + Shopkeepers @ 45 LPCD	Floating / Visitors @ 15 LPCD	Backwash, Staff (LPD)		Office Staff + Shopkeepers @ 45 LPCD	Floating / Visitors @ 15 LPCD								HL	GL	TH	
1	AL STP	-	-	-	-	-	1444 Persons = 64980 Ltrs	1330 Persons = 19950 Ltrs	25 No. main staff + Backwash = 9730 Ltrs	94.46	117.3	-	-	-	-	245.7	215.70	30.00	Ground level = 215.70 STP Bed level= (-) 208.70 Mtr Add Building head G+2 = 10+2x4 = 18 mts Add suction head = 7 mtrs Add Delivery head= 5mtr Add positive head = 4 mtrs Add friction losses = 3 mtr Head level = 245.70 mts
2	STP-FWS1	10	-	-	-	-	1444 Persons = 64980 Ltrs	1330 Persons = 19950 Ltrs	25 No. main staff + Backwash = 9730 Ltrs	94.46	117.3	150	0.75	0.0115	0.0012	245.70	215.70	30.00	
3	Ring (FWS1-FWS2-FWS3-FWS4-FWS5-FWS6-FWS7-FWS8-FWS9-FWS10-FWS11-FWS1)	500	1444 Persons = 64980 Ltrs	1330 Persons = 19950 Ltrs	25 No. main staff + Backwash = 9730 Ltrs	-	-	-	-	94.46	117.30	100	0.75	0.0812	0.4058	245.29	215.70	29.59	



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PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.717 ACRES IN SECTOR 37C, GURGAON

Sub Work No-1				Water Supply	
Sub Work No-05				Fire fighting	
SI No	DESCRIPTION	Qty	Rate		AMOUNT (In Lacs.)
1	Providing, laying jointing & testing M.S. pipe lines for rising main including cost of fitting, valves, connection etc., complete in all respects.				
	150 mm dia pipe	515	@ 1575/- 2500.00	Rs.	8.11 12.88
	100 mm dia pipe	195	@ 1250/- 1700.00	Rs.	2.44 3.32
	80 mm dia pipe	20	@ 1000/- 1450.00	Rs.	0.29 0.12
2	Providing & fixing valve including cost of surface boxes and masonry chambers etc. complete in all respects				
	- 150 mm dia.	④	@ 15000.00		0.60
	- 100 mm dia.	②	@ 10000.00		0.10
③	Provision for fire Hydrants with accessories	①	@ 15000/-		0.20
3	Providing Fire Diesel pumps of 40 HP, capacity 1620 LPM at 65 M head, 1 Nos. each & @ Rs. 15,00,000/- each complete with panel, foundation etc.	2	@ 1500000.00		30.00
4	Providing Fire Main pumps of 40 HP, capacity 1620 LPM at 65 M head, 1 Nos. each & @ Rs. 12,00,000/- each complete with panel, foundation etc.	1	@ 1200000.00		12.00
5	Providing Fire Jockey pumps of 5 HP, capacity 180 LPM at 85 M head, 1 Nos. each & @ Rs. 1,00,000/- each complete with panel, foundation etc.	1	@ 500000.00		5.00
⑦	Providing for carriage of material (L.S.) 1 jobs	1	@ 50000.00	Rs.	0.50
⑧	Providing and fixing Indicating plate	2	@ 1000.00	Rs.	0.02
TOTAL				Rs.	64.25
Add 3% contingencies				Rs.	1.93
TOTAL				Rs.	66.18
Add 49% Department charges, Price Escalation & other unforeseen				Rs.	32.43
TOTAL COST				Rs.	98.60

For Imperia Wishfield Pvt. Ltd.

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PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.747 ACRES IN SECTOR 37C, GURGAON

Material Statement						
S. No.	Location	200 mm dia pipe	150 mm dia pipe	100 mm dia pipe	80 mm dia pipe	Fire Hydrant
1	Tanker inlet connection 1 nos	-	-	15	-	-
2	Fire Brigade 4 way 1 nos.	-	15	-	-	-
3	Fire wet riser Ringmain	-	500			
4	Fire Wet riser pipe(to SCO's)			180		
Total		0	515	195	0	0
Fire Hydrant System						
1	Valves 200mm dia				0 No.	
2	Valves 150mm dia				1 Nos.	
3	Valves 100mm dia				1 No.	
4	Fire Brigade Connections				1 No.	

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PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.717 ACRES IN SECTOR 37C, GURGAON

Sub Work No-1					Water Supply	
Sub Work No-06					Irrigation	
SI No	DESCRIPTION	Qty		Rate		AMOUNT (In Lacs)
1	Providing, laying, jointing and testing uPVC pipe line conforming to I.S 4985 including cost of excavation etc., complete in all respects.					
	25 mm dia for Garden Pipe	40	@	250/-	Rs.	0.10
	75 mm O/D for Ring Main	500	@	800/-	Rs.	0.08
	110 mm O/D from STP to Ring Main	10	@	1000/-	Rs.	0.07
2	Providing and fixing Irrigation hydrant valve complete in all respect <i>including cost of ball valves,</i>	20	@	3500/-	Rs.	0.70
3	Provision for carriage of material & other foreseen items etc., (L.S.) 1 jobs	1	@	25000	Rs.	0.25
4	Providing & fixing ball valve 20 mm	20	@	250	Rs.	0.05
5	Providing and fixing Irrigation pump 1.0 HP, 60 LPM @ 35 Mtr. Head complete with foundation & control panel etc.	1	@	50,000/-	Rs.	1.00
TOTAL					Rs.	3.50
Add 3% contingencies					Rs.	0.10
TOTAL					Rs.	3.60
Add 49% Department charges, Price Escalation & other unforeseen Charges.					Rs.	1.76
TOTAL COST					Rs.	5.36

For Imperia Wishfield Pvt. Ltd.

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PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.747 ACRES IN SECTOR 37C, GURGAON

Material statement of Irrigation System						
S. No.	Line Name	110 mm OD	75 mm OD	50 mm OD	25 mm dia	Irrigation Hydrants
1	STP-GH1	10				
	GARDEN HYDRANT RING MAIN		500			
	GARDEN HYDRANT 20X2 MTR				40	20
	Total	10	500	0	40	20

For Imperia Wishfield Pvt. Ltd.

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PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.717 ACRES IN SECTOR 37C, GURGAON

Sub Work No-II					Sewerage Scheme	
SI No	DESCRIPTION	Qty		Rate		AMOUNT (In Lacs)
1	Providing, jointing, cutting and testing S.W pipe class 'A' / S.W.R. PVC and lowering into trenches including cost of excavation, bed concrete, cost of manhole etc., complete in all respects.					
	200 mm I/D Avg. depth upto 0 - 4.00 M (S.W. Pipe)	180	@	1550.00	Rs.	2.79
	250 mm I/D Avg. depth upto 0 - 4.00 M (S.W. Pipe)	506	@	1800.00	Rs.	9.11
2	Provision for lighting and watching L.S.	1	@	20000.00	Rs.	0.20
3	Provision for timbering and shuttering L.S.	1	@	20000.00	Rs.	0.20
4	Provision form STP to HUDA main by pumping <i>include connector with HSRP line</i>		@	50000.00	Rs.	0.50
5	Provision for making STP (KLD) <i>include 80 cm dia of 100 ft length</i>	80	@	15000.00	Rs.	12.00
6	Provision for carriage of material (L.S.)	1	@	20000.00	Rs.	0.20
7	Provision of cutting road & making it good as same in original condition - 1 job	1	@	50000.00	Rs.	0.50
TOTAL					Rs.	26.26
Add 3% contingencies					Rs.	0.79
TOTAL					Rs.	27.04
Add 49% Department charges, price escalation, other for unforeseen charges.					Rs.	13.25
TOTAL COST					Rs.	40.30

For Imperia Wishfield Pvt. Ltd.

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PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.747 ACRES IN SECTOR 37C, GURGAON

Material statement of Sewerage System – As per drawing sheet							
S. No.	Name of Pipe Line	Length of Pipe in M					Remarks
		200 mm	200 mm branch	250 mm	300 mm	450 mm	
1	S1-S3		-	93	-	-	-
2	S2-S3		-	80	-	-	-
3	S3-S8		-	45	-	-	-
4	S7-S8		-	20	-	-	-
5	S8-S9		-	23	-	-	-
6	S4-S9		-	70	-	-	-
7	S9-S10		-	14	-	-	-
8	S5-S6		-	56	-	-	-
9	S6-S10		-	19	-	-	-
10	S10-S12		-	16	-	-	-
11	S11-S12		-	60	-	-	-
12	S12-S13		-	5	-	-	-
13	S13-STP	-	-	5	-	-	-
14	TOTAL	0	180	506	0	0	

For Imperia Wishfield Pvt. Ltd.

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PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.717 ACRES IN SECTOR 37C, GURGAON

Calculations are based on Manning Formula $V = (1.486/m) \times m^{2/3} \times s^{1/2}$ in F.S System

(Sewerage Scheme -Hydraulic Design)

Sl. No.	Name of Line	Length in Meter	Offic Staff + Shopkeepers @ 45 LPCD		Self Floating / Visitors @ 15 LPCD		Backwash, Staff (LPD)	Additional Floating / Visitors @ 15 LPCD		Backwash, Staff (LPD)	Average Daily Water Demand (KLD)	Average Discharge @ 80% of Domestic + 90% of flushing (KLD)	Sub-Soil Infiltration @ 10% of AV/ W/D LPD	Peak Discharge @ 3 Times of AV Discharge including Sub Soil infiltration Cusecs	Size of pipe (dia)	Design of Pipe		Gradient	Drop	Level at Start		Level at End	
			LPD	LPD	LPD	LPD		LPD	LPD							m	ft/sec			Mtr.	Mtr.	G.L.	LL
1	S1-S3	93	481 persons = 20745 Ltrs	50 Visitors = 750 Ltrs	-	-	-	-	-	-	21.465	17.026	2.150	0.023	250	1.659	0.75	1.190	0.49	215.70	214.80	215.70	214.31
2	S2-S3	80	461 persons = 20745 Ltrs	50 Visitors = 750 Ltrs	-	-	-	190 persons = 8550 Ltrs	20 Visitors = 300 Ltrs	-	30.345	24.883	3.035	0.032	250	1.659	0.75	1.190	0.42	215.70	214.80	215.70	214.38
3	S3-S8	45	1112 persons = 50040 Ltrs	120 Visitors = 1800 Ltrs	-	-	-	190 persons = 8550 Ltrs	20 Visitors = 300 Ltrs	-	60.590	49.766	6.069	0.064	250	1.659	0.75	1.190	0.24	215.70	214.31	215.70	214.07
4	S7-S8	20	143 persons = 6435 Ltrs	15 Visitors = 225 Ltrs	-	-	-	-	-	-	6.560	5.461	0.666	0.007	250	1.659	0.75	1.190	0.11	215.70	214.80	215.70	214.69
5	S8-S9	23	1255 persons = 56475 Ltrs	135 Visitors = 2025 Ltrs	-	-	-	86 persons = 3870 Ltrs	10 Visitors = 150 Ltrs	-	62.320	51.266	6.252	0.066	250	1.659	0.75	1.190	0.12	215.70	214.07	215.70	213.95
6	S4-S9	70	350 persons = 15700 Ltrs	40 Visitors = 600 Ltrs	-	-	-	-	-	-	17.300	14.186	1.730	0.018	250	1.659	0.75	1.190	0.37	215.70	214.80	215.70	214.43
7	S9-S10	14	1690 persons = 76050 Ltrs	185 Visitors = 2775 Ltrs	-	-	-	57 persons = 2565 Ltrs	6 Visitors = 90 Ltrs	-	81.480	66.814	8.148	0.096	250	1.659	0.75	1.190	0.07	215.70	213.95	215.70	213.88
8	S5-S6	56	245 persons = 11025 Ltrs	36 Visitors = 540 Ltrs	-	-	-	-	-	-	11.565	9.483	1.157	0.012	250	1.659	0.75	1.190	0.29	215.70	214.80	215.70	214.51
9	S6-S10	19	245 persons = 11025 Ltrs	36 Visitors = 540 Ltrs	-	-	-	-	-	-	11.565	9.483	1.157	0.012	250	1.659	0.75	1.190	0.10	215.70	214.51	215.70	214.41
10	S10-S12	16	1935 persons = 87075 Ltrs	227 Visitors = 3405 Ltrs	-	-	-	-	-	-	90.480	74.164	9.048	0.095	250	1.659	0.75	1.190	0.08	215.70	213.88	215.70	213.79
11	S11-S12	60	285 persons = 12825 Ltrs	30 Visitors = 450 Ltrs	-	-	-	-	-	-	13.275	10.886	1.328	0.014	250	1.659	0.75	1.190	0.32	215.70	214.80	215.70	214.48
12	S12-S13	5	2220 persons = 99900 Ltrs	257 Visitors = 3855 Ltrs	-	-	-	-	-	-	103.755	85.079	10.376	0.109	250	1.659	0.75	1.190	0.03	215.70	213.79	215.70	213.77
13	S13-S1TP	5	-	-	-	-	-	2220 persons = 99900 Ltrs	257 Visitors = 3855 Ltrs	8409	112.164	91.074	11.216	0.118	250	1.659	0.75	1.190	0.03	215.70	213.77	215.70	213.74

Note:- 1 Road Reference Level taken = 215.70
2 Sewerage Line is design as N.B.C. / Municipal norms

For Imperia Wishfield Pvt. Ltd.

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PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.717 ACRES IN SECTOR 37C, GURGAON

Sub Work No-III		Storm water drain				
S. No.	DESCRIPTION	Qty		Rate		AMOUNT (In Lacs)
1	Providing, lowering, laying and jointing R.C.C NP-3 pipes and specials into trenches including manholes, chambers etc., excavation, back filling and disposal of surplus earth complete in all respects.			2500		14.03
1.1	400 mm I/D Avg. depth upto 2.0 M.	561	@	1850	Rs.	10.38
1.2	200 mm I/D Avg. depth upto 2.0 M.	288	@	1350	Rs.	3.89
2	Provision for Road Gullies LS with connection to h LS		@	100000 L.S	Rs.	1.00 2.50
3	Provision for lighting and watching	LS	@	50000 L.S	Rs.	0.50 0.30
4	Provision for timbering and shoring L.S.	LS	@	50000 L.S	Rs.	0.50 0.30
5	Provision for carriage of material & other foreseen items etc., L.S.	LS	@	50000 L.S	Rs.	0.50
6	Provision for Rain water harvesting arrangement 2 Rain Water Harvesting 4 NG	4.00	@	250000	Rs.	10.00
7	Provision for temporary connection with HUDA	1	@	100000	Rs.	1.00
TOTAL					Rs.	34.77 28.63
Add 3% contingencies					Rs.	0.95 0.86
TOTAL					Rs.	32.72 29.49
Add 49% Department charges, price escalation, other for unforeseen					Rs.	16.03 14.45
TOTAL					Rs.	48.75 43.94

Say Rs 43.94 Lakh

For Imperia Wishfield Pvt. Ltd.

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PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.717 ACRES IN SECTOR 37C, GURGAON**STORM WATER DRAIN**

S. No	Name of Drain	200mm dia Crossing pipe	400mm dia RCC pipe
Rain Water Harvesting - 1			
1	D1-D2		83
2	D2-D4		42
3	D3-D4		25
4	D4-RWH1		5
5	OVER FLOW PIPE		5
6	Total	0	160
Rain Water Harvesting - 2			
1	D5-D6		30
2	D7-D8		30
3	D9-D8		56
4	D8-D10		33
5	D10-RWH2		5
6	OVER FLOW PIPE		5
7	Total		159
Rain Water Harvesting - 3			
1	D11-D12		22
2	D13-D12		51
3	D12-D6		29
4	D6-D14		65
5	D14-RWH3		5
6	OVER FLOW PIPE TO EXTERNAL DRAIN		10
7	Total		182
Rain Water Harvesting - 4			
1	SAUCER DRAIN TO HARVESTING PIPE		50
2	OVER FLOW PIPE TO EXTERNAL DRAIN		10
3	Total		60
GRAND TOTAL		288	561

For Imperia Wishfield Pvt. Ltd.

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PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.747ACRES IN SECTOR 37C, GURGAON

Hydraulic Design Chart

Storm Water Drain

Calculations are based on Manning Formula $V = (1.486/n) \times m^{2/3} \times s^{1/2}$ in F.P.S System

Sl. No.	Name of Line	Length in Meter	Catchment Area in sqmt		Total Area (Sqmt)	Discharge in Cusec (1 Acre = 1 Cusec)	Proposed dia of pipe (mm)	Velocity (mt/sec)	Design Capacity of Pipe (Cusecs)	Gradient	Drop (Mtr.)	Level at Start			Level at End		
			Self	Additional								G.L. (Mtr.)	I.L. (Mtr.)	Depth (Mtr.)	G.L. (Mtr.)	I.L. (Mtr.)	Depth (Mtr.)
Rain Water Harvesting - 1																	
1	D1-D2	83	1096	-	1096	0.271	400	0.75	3.3	1.500	0.17	215.70	214.80	0.90	215.70	214.63	1.07
2	D2-D4	42	285	1096	1381	0.341	400	0.75	3.3	1.500	0.08	215.70	214.63	1.07	215.70	214.55	1.15
3	D3-D4	25	600	-	600	0.148	400	0.75	3.3	1.500	0.05	215.70	214.80	0.90	215.70	214.75	0.95
4	D4-RWH1	5	50	1381	1431	0.354	400	0.75	3.3	1.500	0.01	215.70	214.55	1.15	215.70	214.54	1.16
5	OVER FLOW PIPE	5	50	2031	2081	0.514	400	0.75	3.3	1.500	0.01	215.70	214.80	0.90	215.70	214.79	0.91

Rain Water Harvesting - 2

D5-D6	30	850	-	850	0.210	400	0.75	3.3	1.500	0.06	215.70	214.80	0.90	215.70	214.74	0.96
D7-D8	30	635	-	635	0.157	400	0.75	3.3	1.500	0.06	215.70	214.80	0.90	215.70	214.74	0.96
D9-D8	56	1235	-	1235	0.305	400	0.75	3.3	1.500	0.11	215.70	214.80	0.90	215.70	214.69	1.01
D8-D10	33	685	2720	3405	0.841	400	0.75	3.3	1.500	0.07	215.70	214.69	1.01	215.70	214.62	1.08
D10-RWH2	5	50	3405	3455	0.854	400	0.75	3.3	1.500	0.01	215.70	214.62	1.08	215.70	214.61	1.09
OVER FLOW PIPE	5	50	3455	3505	0.866	400	0.75	3.3	1.500	0.01	215.70	214.80	0.90	215.70	214.79	0.91



ANJO TEVATHIA
B. Arch (Hons)
CA/95/18739

2-825

PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.747ACRES IN SECTOR 37C, GURGAON

Hydraulic Design Chart

Storm Water Drain

Calculations are based on Manning Formula $V = (1.486/n) \times m^{2/3} \times s^{1/2}$ in F.P.S System

Rain Water Harvesting - 3

1	D11-D12	22	240	-	240	0.059	400	0.75	3.3	1:500	0.04	215.70	214.80	0.90	215.70	214.76	0.94
2	D13-D12	51	1070	-	1070	0.264	400	0.75	3.3	1:500	0.10	215.70	214.80	0.90	215.70	214.70	1.00
3	D12-D6	28	530	1310	1840	0.455	400	0.75	3.3	1:500	0.06	215.70	214.70	1.00	215.70	214.64	1.06
4	D6-D14	65	1155	-	1155	0.285	400	0.75	3.3	1:500	0.13	215.70	214.64	1.06	215.70	214.51	1.19
5	D14-RWH3	5	50	2995	3045	0.752	400	0.75	3.3	1:500	0.01	215.70	214.51	1.19	215.70	214.50	1.20
6	OVER FLOW PIPE TO EXTERNAL DRAIN	10	50	3045	3095	0.765	400	0.75	3.3	1:500	0.02	215.70	214.80	0.90	215.70	214.78	0.92

Rain Water Harvesting - 4

1	SAUCER DRAIN TO HARVESTING PIPE	50	2691	-	2691	0.665	200	0.75	1.65	1:250	0.20	215.70	215.25	0.45	215.70	215.05	0.65
2	OVER FLOW PIPE TO EXTERNAL DRAIN	10	50	2691	2741	0.677	400	0.75	1.65	1:500	0.02	215.70	215.05	0.65	215.70	215.03	0.67



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For Imperia Wishfield Pvt. Ltd.

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2.825
PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.825 ACRES IN SECTOR 37C, GURGAON

SUB WORK NO. - IV

Road Work

SI No	DESCRIPTION	Qty		Rate		AMOUNT (In Lacs)
1	Provision for leveling - earth filling / cutting as per site conditions. (In Acres) Area = 2.822 Acre <u>2.825 Acres</u>	<u>2.825</u>		<u>150,000/-</u>		<u>4.24</u>
2	Tremix Driveway	<u>2600.000</u>	Sq.m	<u>400000</u>	Rs.	<u>2.82</u>
3	Providing & Laying average 125mm, thick M-25 Grade (cement concrete) on the roads with Tremix finishing layer as specified below including all cost of placing, ramming &	<u>325.00</u>	Cum	<u>8100</u>	Rs.	<u>26.33</u>
3-1	R.C.C. Const of roads with 200mm G.S.B, 250mm W.M.M, 50mm D.B.M & 25mm B.C	<u>2465</u>	Sqm	<u>1200/-</u>		<u>29.58</u>
3-2	W.B.M (Layer 1) Const of cement conc	<u>1250</u>	Sqm	<u>1200/-</u>		<u>15.00</u>
3	parade & pavements.	<u>260.00</u>	Cum			
4	Provision for Kerbs & channels of CC 1:2:4	<u>820</u>	@	<u>600</u>	Rs.	<u>4.92</u>
5	Provision for making approach to each block for C.C. pavements L.S.	<u>1</u>	@	<u>50000</u>	Rs.	<u>0.50</u>
6	Provision of guide maps & other unforeseane & indicater boards (L.S.)	<u>1</u>	@	<u>50000</u>	Rs.	<u>0.50</u>
7	Provision for traffic light arrangement - L.S.	<u>1221</u>	@	<u>50000</u>	Rs.	<u>0.50</u>
8	Provision for foot paths for 9 & 24 mtr roads with paving	<u>820</u>	@	<u>750/-</u>	Rs.	<u>4.92</u>
9	Provision of carriage of material and unforeseen items - L.S.	<u>1</u>	@	<u>100000</u>	Rs.	<u>1.00</u>
TOTAL					Rs.	<u>41.49</u>
Add 3% contingencies					Rs.	<u>1.24</u>
TOTAL					Rs.	<u>42.73</u>
Add 49% Department charges, price esclation, other for unforeseen charges.					Rs.	<u>20.94</u>
TOTAL					Rs.	<u>63.67</u>

Say Rs 100.47 Lakh

For Imperia Wishfield Pvt. Ltd.

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CA/95/18739

2.825

PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.717 ACRES IN SECTOR 37C, GURGAON

Road Work					
S. No.	Name of Road	Length of Road (in Mtrs.)	Width Of the Road (Mtrs.)	Metalled Width (Mtrs.)	Area in Sqm.
	A	B	C	C	B x C
1	Road A	158	6 M	6	948.00
2	Road B	215	6 M	6	1290.00
	Total	373			2238.00
	Add 10 % for curves				223.80
	Total				2,461.80
	Total				2,461.80
	Say 2465 Sfm				
	No. of cars = 36 (One car for each sco)	=	36		
	Open Space Cars 20%	=	7		
	No. of scooters = 36 (One Scooters for each sco)	=	36		
	Open Space Scooters 20%	=	7		
	Add for Surface plaza				87.50
	Open space cars = $7 \times 2.5 \times 5 = 87.5m$				
	Open space Scooters = $7 \times 2 \times 2 = 28$				28.00
	Grand Total				2,577.30
	Say				2,600.00
	Total Length of road	373			
	Add 10% curves	37.3			
	Total Length	410			
	Say	410	Mtrs.		
	CC foot paths on both side road				
	CC foot paths on both side = $2m \times \text{length of road}$	=	820		
	$2 \times 410 \times 1.50$				1230 Sfm

→ Area of roads, green, parking, pavements } 7423.26 Sfm
 Hard Scaped & soft scaped area }
 → Less Area of Roads } 2465.00
 Balance } 4958.26 Sfm

For Imperia Wishfield Pvt. Ltd.

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→ Taking 50% area for parking & pavement = $4958.26 \times 50\%$
 etc. 2479.13 Sfm

Say 2480 Sfm

Less area of foot path → (-) 1230 Sfm

→ Balance area for parking & pavement = 1250 Sfm

2.825

PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.717 ACRES IN SECTOR 37C, GURGAON

Sub Work No-V						Street Lighting	
SI No	DESCRIPTION	Qty		Rate		AMOUNT (In Lacs)	
1	Providing street lighting on roads as per standard specifications on HVPN Area = 2.822 Acre 2.825	2.822	@	250000/- 100000	Rs.	2.82	7.06
	TOTAL				Rs.	2.82	7.06
	Add 3% contingencies				Rs.	0.08	0.21
	TOTAL				Rs.	2.91	7.27
	Add 49% Department charges, price escalation, other for unforeseen charges.				Rs.	1.42	3.56
	TOTAL				Rs.	4.33	10.83

For Imperia Wishfield Pvt. Ltd.

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2.825

Plantation & Road side trees

Say Rs 7.90 Lakh.

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B. Arch (Hons)
CA/95/18739

2.825

PROPOSED SCO'S IN COMMERCIAL SITE MEASURING 2.717 ACRES IN SECTOR 37C, GURGAON

SUB WORK NO. VII:				MTC. CHARGES AND RESURFACING OF ROADS.		
SI No	DESCRIPTION	Qty		Rate		AMOUNT (In Lacs)
1	Provision for maintenance charges for water supply, sewerage, storm water, drainage, roads, street light, Hort., etc. complete including operation & establishment charges as per HUDA norms after completion. 2.825 Area = 2.822 Acre	2.825		750000/-		21.19
2	Provision for resurfacing of roads after first five years of maintenance i.e. 20mm thick premix carpet with seal coat with mechanical paver. (Sqm)	2.822	@	500000	Rs.	14.11
3	Provision for resurfacing of roads after 10 years of Mtc. i.e. 20mm thick premix carpet with seal coat with mechanical paver. (Sqm)	2465		600/-		14.79
		2.600	@	250	Rs.	6.50
	TOTAL	2465		750/-		18.49
		2.600	@	250	Rs.	6.50
	Add 3% contingencies				Rs.	27.11 54.47
	TOTAL				Rs.	0.84 1.63
	Add 49% Department charges, price escalation, other for unforeseen charges.				Rs.	27.92 56.10
	TOTAL				Rs.	13.68 27.49
					Rs.	41.61 83.59

Say Rs 83.59 Lacs.

For Imperia Wishfield Pvt. Ltd.

4/2/20
Authorized Signatory



Anoj
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