

**HARYANA SHAHARI VIKAS PRADHIKARAN**  
**OFFICE OF THE SUPERINTENDING ENGINEER, HSVP, CIRCLE - I,**  
**HSVP COMPLEX, SECTOR-14, GURUGRAM.**

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0124-4267236

To

The Chief Engineer-I,  
HSVP, Panchkula.

Memo No. 102660

Dated: 11/05/2023

Sub:

**Approval of Service Plan Estimate for setting up of Affordable Plotted Colony (DDJAY-2016) over an area measuring 15.70 Acres (License No. 108 of 2022 dated 05.08.2022 & No. 33 of 2023 dated 16.02.2023) in Village Hayatpur, Sector-93, Gurugram being developed by Ora Land and Housing Pvt. Ltd.**

The Executive Engineer, HSVP Division No. V, Gurugram has submitted that the firm M/s Ora Land and Housing Pvt. Ltd. vide letter dated 08.05.2023 submitted the service plan estimate for Affordable Plotted Colony (DDJAY-2016) over an area measuring 15.70 Acres (License No. 108 of 2022 dated 05.08.2022 & No. 33 of 2023 dated 16.02.2023) in Village Hayatpur, Sector-93, Gurugram. The service estimate as received has been checked and corrected wherever necessary and submitted for execution and as well as for Bank Guarantee purpose, subject to the following comments:-

1. **EXTERNAL DEVELOPMENT CHARGES:** - The colonizer will have to pay the proportionate cost of the external development charges for Affordable Residential Plotted Colony for the service like water supply, sewerage, storm water drainage, roads, bridges, community building, street lighting, Horticulture and maintenance thereof etc. on gross acreage basis as and when determined by HSVP. These charges will be modifiable as and when approved by the Authority/ State Govt. and will be binding upon the colonizer.
2. **DENSITY AREA POPULATION:** - The scheme has designed considering 18 persons per for main plots. The total population of the residential plotted colony works out to 5526 persons and the water demand is considering @172.50 LPCD. This may be checked and confirmed by this office that overall density as taken is corrected and overall density of sector should be maintained according to the Final Development Plan of Gurugram Town. The category wise area as shown on the plans and proposed density of population thereof has been treated to be correct for estimation/ services.
3. All technical notes and comments incorporated in this estimate will also apply. A copy of these are also appended as Annexure-A.
4. The title and name of the license may be examined by this office.
5. **STREET LIGHTING:** - The wiring system of street lighting will be under ground and the specifications of the street lighting fixture etc. will be as per relevant standard of HVPNL, CFL lamps shall be provided to meet with the requirement of HVPNL and as well Environment.
6. The layout plan for setting up of affordable plotted colony in an area of 15.70 acres supplied by DTCP, HR., Chandigarh have been considered to be correct for the purpose of estimation/services only.
7. The External Master services for the new area is being planned and yet to be provided, however, the internal services of the affordable plotted colony is proposed to be connected with the master services yet to be planned/ laid by HSVP sector dividing road Gurugram. The detail of services proposed to be connected are as under:-

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- i) **Road:** - The roads of the colony have been planned 9 mtr. wide with the specification of 250mm thick GSB, 300mm thick WMM, 50mm thick DBM & 30mm thick BC, Providing & fixing of kerbs.
- ii) **Water Supply:** - The source of water supply in this area is through HSVP water supply mains. 100mm dia water supply line has been taken in already above said approved estimate which to be connected with the proposed water supply line of HSVP laid/to be laid on master road between Sector-92/93, Gurugram through 12mtr wide service road.
- iii) **Sewerage:** - For disposal of sewage firm has proposed sewage treatment plant of 890KLD in their premises. Treated water has been proposed to be utilize to irrigation the landscape area by recycling. Overflow from the STP shall be disposed off into proposed master sewer line laid/to be laid on master road between Sector-92/93, Gurugram through 12mtr wide service road.
- iv) **SWD:** - For disposal of storm water, firm has proposed 400mm I/d RCC pipe for Internal storm water drainage scheme and also made provision of Rain Water Harvesting pits as per requirement in their premises and 400mm I/d RCC pipe line for overflow has been proposed which is to be connected with HSVP master storm water drain line laid/to be laid on master road between Sector-92/93, Gurugram through 12mtr wide service road.

8. It may kindly be clarified to the colonizer that recycled water is proposed to be utilize for irrigation purpose only. No tap or out let of any kind will be provided for irrigation line except in the lawn/ park with suitable arrangement so as to prevent the public to use the recycled water. Caution board shall be installed by providing warning sign/ recycled water not fit for drinking/ human consumption. No cross connection between recycled water system and potable water system shall be made.
9. It may be made clear to the colonizer that he will be fully responsible to make the arrangement of disposal of sewerage and storm water drainage till such time these are made available by HSVP & all link connected with the external system will be done by the colonizer/ firm at his own cost. The colonizer will have to ensure that the sewer and storm water drainage to be laid by them will be connected by pumping with the master services laid/ to be laid by HSVP/ State Govt. in this area as per their scheme.
10. The correctness of the levels of the colony will be sole responsibility of the colonizer for integrating the internal sewer/ storm water drainage of the colony by pumping with the master services.
11. It may be made clear to the colonizer that roof top rain harvesting system shall be provided by them as per Central Ground Water Authority norms/ Haryana Govt. Notification and the same will be kept operational/ maintained all the time. Arrangement for segregation of first rain not to be enter into the system shall also be made by the firm/ colonizer.
12. The service estimate has been checked in this office with the consideration that layout plans appended in the services estimate has been checked approved by competent authority.
13. The estimate do not includes the provision of electrification of the colony. However, it may be clear to colonizer that the supervision charges and O&M charges shall be paid by them directly to the HVPNL.
14. The colonizer will be sole responsible for the construction of various structures such as RCC underground tank etc. according to the standard specifications good quality and its workmanship. The structural stability responsibility will entirely rest upon the colonizer.
15. In case some additional structures are required to be constructed and decided by HSVP at a later stage, the same will be binding upon the colonizer.

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16. It may be made clear to the colonizer that he will not make the connection with the master services i.e. water supply, sewerage, storm water drainage, without prior approval of the competent authority.
17. The estimate doesn't includes the services to be provided by the firm in the affordable residential plotted Area.
18. Colonizer will have to obtain the permission for crossing the services in Revenue rasta from concerned department at his own level.
19. It may also be made clear to the colonizer that he shall also comply with the orders passed by National Green Tribunal:-
- The direction given National Green Tribunal dated 26.11.2014, 04.12.2014 and 19.01.2015 in original Application No. 21 of 2014 in the matter of Vardhman Kaushik V/s Union of India and Others shall be implemented by colonizer.
  - Implementation of instruction issued by Hon'ble NGT during hearing held on OA No. 21 of 2014 and OA No. 95 of 2014 in the matter of Vardhman Kaushik V/s Union of India and Others shall be complied with by colonizer.
  - NGT orders in Application No. 45 of 2015 & M.A No. 126 of 15 titled as Haryana Welfare Association V/s State of Haryana Gurugram.
20. The estimated cost of various services to be provided by the colonizer for the development of internal services has been checked and corrected for purpose of Bank Guarantee and works out as under:-

Sr. No.	Description	Amount (Rs. in Lakh)
1.	Water supply	257.66
2.	Sewerage	280.94
3.	Storm Water Drainage	129.07
4.	Roads and Footpath	313.91
5.	Street lighting	36.15
6.	Horticulture	12.66
7.	Mtc. Charges & resurfacing of roads	374.44
	<b>Total</b>	<b>1404.83</b>

Dev. Cost per acre =  $\frac{1404.83}{15.70}$  = Rs. 89.48Lakh per gross acre

**Say Rs.89.48Lakh per acre**

Three copies of the estimate along with plans and proposal as received are submitted herewith duly corrected and signed for further necessary action.

**DA/- Estimate in Triplicate  
with Technical Note**

  
**Superintending Engineer,  
HSVP, Circle-I, Gurugram.**

**Endst. No.**

**Dated:**

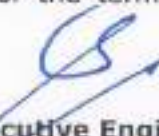

A copy of the above is forwarded to the Executive Engineer, HSVP, Division No. V, Gurugram w.r.t. his office memo No. 100929 dated 10.05.2023 for information.

  
**Superintending Engineer,  
HSVP, Circle-I, Gurugram.**

**Approval of Service plan estimate for setting up of Affordable Plotted colony (DDJAY-2016) over an area measuring 15.70 acres (Lic No. 108 of 2022 dated 05.08.2022 & No. 33 of 2023 dated 16.02.2023) in Village Hayatpur Sector-93 Gurugram being developed by Ora Land and Housing Pvt. Ltd.**

**TECHNICAL NOTE AND COMMENTS**

1. All detailed working drawings would have to be prepared by the colonizer and got approved from Chief Engineer, HSVP, Panchkula being developed by Ora Land and Housing Pvt. Ltd.
2. The correctness of the levels will be the sole responsibility of the colonizer for the integrating the internal proposals with the master proposals of Town will be got confirmed before execution.
3. The material to be used shall be same specification as are being adopted by HSVP further shall also confirm to such directions, as issued by the Chief Engineer, HSVP from time to time.
4. The work shall be carried out according to Haryana PWD specification or such specification as are being followed by HSVP, further it shall also confirm to such other directions as are issued by the 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 these are made available by State Govt./HSVP. All link connection with the state Govt./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 made in the estimate
6. Working drawings of all the structures, such as pump chamber boosting chamber, RCC OHSR underground tanks quarters, manholes, ventilating shafts for sewerage and masonry ventilating chamber for storm water drainage, temporary disposal/arrangement etc. will be got approved from Chief Engineer, HSVP before execution.
7. Portability of water will be checked and confirmed and the tube-wells will be put into operation after getting chemical analysis of water tested and approved from Chief Engineer, HSVP.
8. Only CI/DI pipes will used in water supply system.
9. A minimum 100mm i/d, 200mm i/d & 400mm i/d pipes will be used for water supply, sewerage and storm water drainage respectively.
10. Standards X-sections for SW pipes sewer, RCC pipes sewer etc. will be followed as are being adopted in Haryana Public Health of HSVP.
11. 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 specification.
12. The specification for various roads will be followed as per IRC/MOT specification.
13. The wiring system of street lighting and specification of street lighting fixtures will be as per relevant standards and those fixed by HSVP.
14. This shall confirm to such other conditions as are incorporated in the approved estimate and letter of approval.
15. The colonizer will be fully responsible for maintaining of the terminal head required.

  
**Executive Engineer,  
HSVP, Division No. V  
Gurugram**  


**OFFICE OF THE EXECUTIVE ENGINEER, HSVP, DIVISION NO. V,  
GURUGRAM**

To,

The Superintending Engineer,  
HSVP, Circle-I,  
Gurugram

Memo No. 100929

Dated: 10/05/2023

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The firm Ora Land and Housing Pvt. Ltd. vide letter dated 08.05.2023 submitted the Service plan estimate for Affordable Plotted Colony (DDJAY-2016) area measuring 15.70 acres (Lic No. 108 of 2022 dated 05.08.2022 & No. 33 of 2023 dated 16.02.2023) in Village Hayatpur Sector-93 Gurugram. The service estimate as received vide letter under reference has been checked and corrected wherever necessary and submitted for execution and as well as for Bank Guarantee purpose, subject to the following comments:-

1. EXTERNAL DEVELOPMENT CHARGES:-

The colonizer will have to pay the proportionate cost of the external development charges for Affordable Residential Plotted Colony for the service like water supply, sewerage, storm water drainage, roads, bridges, community building, street lighting, Horticulture and maintenance thereof etc. on gross acreage basis as and when determined by HSVP. These charges will be modifiable as and when approved by the Authority/ State Govt. and will be binding upon the colonizer.

DENSITY AREA POPULATION:-

The scheme has designed considering 18 persons per each for main plots. The total population of the residential plotted colony works out to 5526 persons and the water demand is considering @172.50 LPCD. This may be checked and confirmed by this office that overall density as taken is corrected and overall density of sector should be maintained according to the Final Development Plan of Gurugram Town. The category wise area as shown on the plans and proposed density of population thereof has been treated to be correct for estimation/ services.

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9. It may be made clear to the colonizer that he will be fully responsible to make the arrangement of disposal of sewerage and storm water drainage till such time these are made available by HSVP & all link connected with the external system will be done by the colonizer/ firm at his own cost. The colonizer will have to ensure that the sewer and storm water drainage to be laid by them will be connected by gravity with the master services laid/ to be laid by HSVP/ State Govt. in this area as per their scheme.
10. The correctness of the levels of the colony will be sole responsibility of the colonizer for integrating the internal sewer/ storm water drainage of the colony by gravity with the master services.
11. It may be made clear to the colonizer that roof top rain harvesting system shall be provided by them as per Central Ground Water Authority norms/ Haryana Govt. Notification and the same will be kept operational/ maintained all the time. Arrangement for segregation of first rain not to be enter into the system shall also be made by the firm/ colonizer.
12. The service estimate has been checked in this office with the consideration that layout plans appended in the services estimate has been checked approved by competent authority.
13. The estimate do not includes the provision of electrification of the colony. However, it may be clear to colonizer that the supervision charges and O&M charges shall be paid by them directly to the HVPNL.
14. The colonizer will be sole responsible for the construction of various structures such as RCC underground tank etc. according to the standard specifications good quality and its workmanship. The structural stability responsibility will entirely rest upon the colonizer.
15. In case some additional structures are required to be constructed and decided by HSVP at a later stage, the same will be binding upon the colonizer.
16. It may be made clear to the colonizer that he will not make the connection with the master services i.e. water supply, sewerage, storm water drainage, without prior approval of the competent authority.
17. The estimate doesn't includes the services to be provided by the firm in the Group Housing Area.

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**Approval of Service plan estimate for setting up of Affordable Plotted colony (DDJAY-2016) over an area measuring 15.70 acres (Lic No. 108 of 2022 dated 05.08.2022 & No. 33 of 2023 dated 16.02.2023) in Village Hayatpur Sector-93 Gurugram being developed by Ora Land and Housing Pvt. Ltd.**

**TECHNICAL NOTE AND COMMENTS**

1. All detailed working drawings would have to be prepared by the colonizer and got approved from Chief Engineer, HSVP, Panchkula being developed by Ora Land and Housing Pvt. Ltd.
2. The correctness of the levels will be the sole responsibility of the colonizer for the integrating the internal proposals with the master proposals of Town will be got confirmed before execution.
3. The material to be used shall be same specification as are being adopted by HSVP further shall also confirm to such directions, as issued by the Chief Engineer, HSVP from time to time.
4. The work shall be carried out according to Haryana PWD specification or such specification as are being followed by HSVP, further it shall also confirm to such other directions as are issued by the 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 these are made available by State Govt./HSVP. All link connection with the state Govt./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 made in the estimate
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8. Only CI/DI pipes will used in water supply system.
9. A minimum 100mm i/d, 200mm i/d & 400mm i/d pipes will be used for water supply, sewerage and storm water drainage respectively.
10. Standards X-sections for SW pipes sewer, RCC pipes sewer etc. will be followed as are being adopted in Haryana Public Health of HSVP.
11. 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 specification.
12. The specification for various roads will be followed as per IRC/MOT specification.
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14. This shall confirm to such other conditions as are incorporated in the approved estimate and letter of approval.
15. The colonizer will be fully responsible for maintaining of the terminal head required.

  
**Executive Engineer,  
HSVP, Division No. V  
Gurugram**

**SERVICE ESTIMATE, DESIGN REPORT AND  
CALCULATION OF  
INTERNAL DEVELOPMENT WORKS**

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**FOR**

**PROPOSED "AFFORDABLE RESIDENTIAL PLOTTED COLONY"  
(DDJAY) AREA MEASURING 15.70 ACRES (ADDITIONAL AREA  
4.30625 ACRES LICENSE NO. 33 OF 2023 DATED 16.02.2023 AND  
AREA 11.39375 ACRES LICENSE NO. 108 OF 2022 DATED  
05.08.2022) IN THE REVENUE ESTATE OF VILLAGE -HAYATPUR AND  
WAZIRPUR,SECTOR -93, GURGAONBEING DEVELOPED BY M/S  
ORA LAND AND HOUSINGPVT. LTD.**



**SERVICE ESTIMATE, DESIGN REPORT AND CALCULATIONS OF INTERNAL DEVELOPMENT WORKS FOR PROPOSED "AFFORDABLE RESIDENTIAL PLOTTED COLONY"(DDJAY ) AREA MEASURING 15.70 ACRES (ADDITIONAL AREA 4.30625 ACRES LICENSE NO. 33 OF 2023 DATED 16.02.2023 AND AREA 11.39375 ACRES LICENSE NO. 108 OF 2022 DATED 05.08.2022) IN THE REVENUE ESTATE OF VILLAGE -HAYATPUR AND WAZIRPUR, SECTOR -93, GURGAON BEING DEVELOPED BY M/S ORA LAND AND HOUSING PVT. LTD.**

Gurugram town of Haryana State situated on N.H.-8 road at a distance of 35 Km from Delhi. Being in the national capital region, the town has fast developing tendency and potential. Further, it has also started sharing the growing residential, commercial and Industrial load of Delhi. In order to review the growing pressure of population in National Capital of Delhi, It has been decided by the Haryana Government to develop various infrastructure facilities in Gurugram Urban Complex. The layout plan of affordable Residential plotted under DDJAY for the area 11.39375 acres was approved for license no. 108 of 2022 dated 05.08.2022. The estimate for the same was submitted for the approval DG, TCP Haryana Chandigarh vide C.E. Infra-II, GMDA, Gurgaon no.-1/5045/2022, however the approval is still awaited so far. This layout plan for an area measuring 15.70 Acres (Drg. No. 90105 dated 16.02.2023) has been issued in respect of Affordable Residential Plotted Colony under DDJAY by DTCP Chandigarh. This report is for a part of service estimate for proposed "Affordable Residential Plotted Colony" (DDJAY ) Area Measuring 15.70 acres (additional area 4.30625 acres license no. 33 of 2023 dated 16.02.2023 and area 11.39375 acres license no. 108 of 2022 dated 05.08.2022) in the Revenue Estate of village -Hayatpur and Wazirpur, Sector -93, Gurgaon being developed by m/s ORALand and Housing pvt. Ltd., has been prepared with the following provisions which are as under :-

#### **1. WATER SUPPLY**

The source of water supply in this area is by HSVP Mains. It has been proposed to construct underground tanks of capacity as per attached details and to location for domestic purpose and for fire protection. The underground tank will be fed from the HSVP based supply, which will feed O.H. tanks on the roof of the Building and has been designed as per the Hazen Williams formula. Presently there is proposed / under execution HSVP W/S in this area. However the provision of tube wells has been taken due to non-availability of water but after getting the approval from the competent authority through tube wells / tankers / any other approved source till HSVP W/S will be made available. The proposed tube well shall be 510mm bore drilled with reverse rotary rig and installed with 80mm i/d housing pipe and 50mm i/d slotted tube as strainer, hence the provision of 1 Nos. Tube Wells has been taken in this estimate.

#### **DESIGN**

The scheme has been designed for population of 5526 persons and considering @ 18.00 persons / units for Affordable Residential Plotted Colony and other provision etc. The combined quantum of water supply (domestic + flushing) per head / day has been taken as 172.50 Liters per head per day as per design calculation.

**PUMPING EQUIPMENTS**

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 time electricity failure. Generator will be provided separately or added to the capacity of main generator.

**2. SEWERAGE**

The scheme is designed for sewer connecting to the STP and bypass connection to HSVPSewerage scheme. The sewer lines have designed for three times average D.W.F in relation to water supply demand. It has assumed that about 80% of the domestic and flushing water supply shall find its way into the proposed sewer. Sewer lines shall be running by gravity and discharge to STP proposed. Treated water will be used for Irrigation & Flushing purpose (through recycling) under the pipe line system.

**3. STORM WATER DRAINAGE**

It has been proposed to lay R.C.C Np3/DWC pipes with required number of manholes for disposal of storm water, which will be connected to the HSVP drain. The intensity of rain fall has been taken as 6.00mm per hour. A minimum size of 400mm i/d R.C.C Np3/DWC pipe for storm water drain will be provided and designed as per Manning's formula. Necessary provision of rainwater harvesting arrangement has also been taken in this estimate.

**4. ROADS**

Road, Parking and Pavement have been provided to above areas and estimate is prepared as revised specifications adopted by HSVP.

**5. STREET LIGHTING AND ELECTRIFICATION :-**

Provision for external lighting, electrification and ESS of proposed area has been made.

**6. HORTICULTURE :-**

Estimate and details of plantation, landscaping, signage etc. have been included.

**7. FIRE FIGHTING :-**

Provision of Fire Fighting system has been made.

**8. SPECIFICATIONS**

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

**9. RATES**

The estimate has been based on the present market rates.

**10. COST**

The total cost of the scheme including cost of all services works out to Rs.1387.49 Lacs including 3% contingencies and 49% departmental charges + Price escalation and cost per acre comes out to Rs.88.38Lacs.

ORA LAND AND HOUSING PVT. LTD.

  
Authorized Signatory  
(Authorized Signatory)

**1. DESIGN CALCULATION :-**

Total Area of plot	=15.70Acres.
Permissible Commercial Area	= 0.628Acres or 2541.42 Sqm
Proposed Commercial Area	= 0.618 Acres or 2500.09 Sqm
Proposed Community	= 1.57Acres
Milkand vegetable Booth	= 1 Nos.
Proposed Plots	= 307 Plots

**I) Water Requirement :-**

• Total Plots	= 307 Plots
• Total Population @ 18.00 Persons/Plot @172.50 LPCD	= 5526 Persons = 53,235.00LPD
• Commercial area @ 3 Sqm / person = 834 Persons @ 45 LPCD	= 0.618Acres OR (2500.09qm. ) = 37530.00LPD
• Community Building (Area 1.57Acre )	= 39250.00 LPD
• ESS Guards and Mtc. Staff	= 10000.00 LPD
• Milk and Vegetable Booth	= 5000.00 LPD
<b>Total</b>	<b>= 10,45,015.00LPD Or 1046 KLD</b> <b>Say 1050 KLD</b>

**II. FIRE DEMAND**

(i) Population	= 5526 Persons
(p) $\frac{1}{2} \times 100/1000 = (5.526) \frac{1}{2} \times 100$ (Considering 1/3 of total population) Add. @ 15% extra for margin factor	= 235.07/3 = 78.36 KLD
<b>Total</b>	= 11.75 KLD
<b>Say</b>	= 90.11 KLD = 95.00 KLD

**III. Garden Irrigation Requirement (For Total Area) = 30.00 KLD****IV. Total Water Requirement for UGT**

(Excluding Fire Demand)

Hence Domestic Water Requirement (67%)	= 1050 x 67% = 704.00 KLD
Hence Flushing Water Requirement (33%)	= 1050 x 33% = 346.00 KLD
Day Requirement considering @ 60%	= 425 K.L. for Domestic
	= 210 K.L. for Flushing

But it is proposed to construct an UGT i.e. <sup>520</sup>425 K.L. in two compartment for domestic use and 22 K.L. for non potable water in two compartment (at STP) and <sup>100</sup>100 K.L. for fire fighting purposes for UGT in two compartment as shown location in the plan. <sub>95</sub>

Total Capacity of UGT = <sup>520+100</sup> <del>425+95</del>	= <sup>620</sup> 520.00 KLD
Total Storage Requirement for Flushing and irrigation at STP(210+30) = 240 KLD	
( Flushing 210 K.L. + Irrigation 30 KLD X 60% = 18 KLD )	
	<b>144 KLD</b>

<b>V. Tube Well</b>	<b>For UGT</b>
a) Yield	= 15 K.L. / Hr.
b) Working Hour per day	= 16 Hr. / Per Day
c) Total water demand	= 704 M3/Day
d) Number of tube well required (Water Demand / Discharge / Hr. working Per day)	= 2.98 Nos
e) Add 5% extra	= 0.14
	<b>Total</b> = 3.02Nos
	<b>Say</b> = 3 Nos

Water to the proposed development is to be supplied by HSVP. Therefor 33 % T.W.'s i.e. considering 1 Nos. T.W. to install for proposed requirement of water for augmentation / standby purposes and provision has also been taken in the estimates due to non availability of water but after getting the approval from the competent authority.

<b>VI) Pumping Machinery for Tube wells</b>	
a) Gross Working Head	= 80 Mtr
b) Average fall in S.L	= 2 Mtr
c) Depression Head	= 6 Mtr
d) Friction loss in main	= 10 Mtr
Total	= 98 Mtr
e) Discharge	= 15000 LPH (Or 4.17 LPS Say 4.50 LPS)
f) Horse Power	= 9.80 H.P.
HP = $(4.50 \times 98) / (75 \times 0.60)$	= 10.00 H.P.
	<b>Say</b> = 10.00 H.P.

It is proposed to provide 1 No. pumping set of 4.50 LPS discharge at 98 Mtr head (1W)

<b>VII) Boosting Machinery for domestic water For UGT</b>	
<b>Total Water Requirement</b>	<b>= 704.00 KLD</b>
Pumping per hour @ 8 hr. pumping / day	= 704 / 8 KL / hr.
	= 88.00 KL / hr.
	= 1466.66lpm = 24.44lps
	<b>Say 2 No. 12.50 lps each</b>
Gross working head	<b>For UGT</b>
- Suction lift	= 5.00 mts.
- Frictional loss in mains & specials	= 10.00 mts.
- Clear Head required	= 30.00 mts.
Total	= 45.00 mts.
Say	= 45.00 mts.
Pump HP	= $(12.50 \times 45) / (75 \times 0.60)$
	= 12.00 H.P.
	<b>Say</b> = 15.00 HP

It is proposed to provide 3Nos. of pumping set of 12.50 lps discharge at 45mts Head each (2W + 1S) for UGT.

#### **VIII) Boosting Machinery for flushing water at STP**

<b>Total Water Requirement</b>	<b>= 346 K.L.D</b>
Pumping per hour @ 8 hr. pumping / day	= 346 /8 KL / hr.
	= 43.25 KL / hr.
	= 720.83lpm = 12.01lps,
	Say 2 No.6.50lps each
<b>Gross working head</b>	
- Suction lift	= 5.00 mts.
- Frictional loss in mains & specials	= 10.00 mts.
- Clear Head required	= 30.00 mts.
<b>Total</b>	= 45.00 mts.
Say	= 45.00 mts.
Pump HP	= (6.50 x 45) / (75 x 0.60)
	= 6.50 HP
	Say = 7.50 HP

It is proposed to provide 3 Nos of pumping set of 6.50lps discharge at 45 mts Head each (2W + 1S)

<b>IX) Boosting Machinery for Irrigation water</b>	
<b>Total Water Requirement</b>	<b>= 30 KLD</b>
Pumping per hour @ 5 hr. pumping / day	= 30 /5 KL / hr.
	= 6.00 KL / hr.
	= 100.00lpm = 1.67lps
	Say =2.00 LPS
<b>Gross working head</b>	
- Suction lift	= 5.00 mts.
- Frictional loss in mains & specials	= 5.00 mts.
- Clear Head required	= 25.00 mts.
<b>Total</b>	= 35.00 mts.
Say	= 35.00 mts.
Pump HP	= (2.00 x 35) / (75 x 0.60)
	= 1.55 HP
	Say =2.00 HP

It is proposed to provide 2 No. of pumping set of 2.00 lps discharge at 35 mts Head each (1W + 1S)

**X) DG Set for plumbing**

**DG Set Requirement**

Submersible Pump (1 x 10)  
 Domestic Pump (2 x 15.00)  
 Street Light and other etc.  
**Total pump load**

**For UGT**

= 10.00HP  
 = 30.00 HP  
 = 10.00HP  
 = 50.00 HP  
 = 50.00 x 0.746 x 1.50  
 = 55.95 K.W  
 = **1 No. 60 KVA**

**Total DG capacity**

Hence it is proposed to provide 1 No. D.G. Set of 60 KVA capacity at U.G.T.

DG Set for S.T.P. ( for flushing & Irrigation + Surplus Treated Water )

Requirement = 2 X 7.50 HP + 5.00 HP = 20.00 HP ( 20 X 0.746 X 1.50 ) = 22.38 KVA

Say = 30.00 KVA

**FLOW TO SEWAGE TREATMENT PLANT**

**Total Water Requirement = (704 for domestic & 346 KLD for flushing)**

i) 80% of total Domestic Water Demand = 80% of 704 KLD = 563.20 KLD

ii) 80% of total Flushing Water Demand = 80% of 346 KLD = 276.80 KLD

**Total = 840.00 KLD**

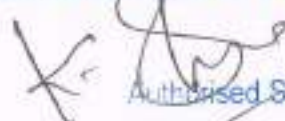
Considering 5% marginal factor = 42.00 KLD

**G. Total = 882.00 KLD**

**Say 890.00 KLD**

**Proposed STP Capacity = 890 KLD Or 0.89MLD**

ORA LAND AND HOUSING PVT. LTD.



Authorized Signatory

(Authorized Signatory)

## FINAL ABSTRACT OF COST

SR. NO.	SUB WORK	DESCRIPTION	AMOUNT (Rs. In Lacs)
			257.66
1	SUB WORK NO. I	WATER SUPPLY SCHEME	<del>240.32</del>
2	SUB WORK NO. II	SEWERAGE SCHEME	280.94
3	SUB WORK NO. III	STORM WATER DRAINAGE	129.07
4	SUB WORK NO. IV	ROAD AND FOOTPATH	313.91
5	SUB WORK NO. V	STREET LIGHTING	36.15
6	SUB WORK NO. VI	HORTICULTURE (PLANTATION & ROAD SIDE TREES)	12.66
7	SUB WORK NO. VII	MTC. OF SERVICES & RESURFACING OF ROADS (After 1st 5 years of 1st Phase & Next 5 years in 2nd Phase)	374.44
			1404.83
		TOTAL	<del>1387.49</del>

Cost Per Acre = Rs. <sup>1404.83</sup>~~1387.49~~ Lacs / 15.70 = <sup>89.48</sup>~~88.38~~ Lacs Per Acre

ORA LAND AND HOUSING PVT. LTD.

AUTHORISED SIGNATORY

Executive Engineer  
HSVP Division No. V,  
Gurugram

Superintending Engineer,  
HSVP Circle, Gurugram

## SUB WORK NO. 1 (Abstract of cost)

## WATER SUPPLY SCHEME

SR. NO.	SUB WORK	DESCRIPTION	AMOUNT (Rs. In Lacs)
			47.96
1	Sub Head No. 01	Head Works	<del>42.96</del>
			25.10
2	Sub Head No. 02	Pumping Machinery	<del>19.10</del>
3	Sub Head No. 03	Water Supply Distribution & Rising main pipe	77.70
4	Sub Head No. 04	Irrigation	2.20
5	Sub Head No. 05	Extrnal Fire Hydrant	14.63
			167.89
		TOTAL	156.59
		Add 3% contingency & P.H. Services	5.034.70
		Total	172.93
		Add 49% Department charges + Price Escalation	84.73
		G. Total	257.66
		Say in Lacs	240.32

(C.O. to Final Abstract Of Cost)



**SUB WORK NO. I**  
**Sub Head No. 01**

**WATER SUPPLY**  
**Head Works**

Sr. NO.	Description	Amount in Rs.
1	Construction of U.G. tanks Including pipes, valve & Specials. 520 KLD @ Rs. 4500/- per K.L.D	2340000.00
	S.T.P. Storage capacity for flushing and irrigation 228 KLD @ Rs. 4500/- per K.L.D	1026000.00
2	Provision for construction of Boosting Station 1 Nos @ Rs. 250000/- each	250000.00
		10,00000.00
3	Boring and installing tube well reverse rotary rig complete with pipes and strainer to a depth of about 120 Mtr complete in all respect. 1 Nos @ Rs. 500000/- each	<del>500000.00</del>
4	Provision for construction of tube well chamber size 1.50m x 1.50m complete in all respect. 1 Nos @ Rs. 80000/- each	80000.00
5	Provision for carriage of material and unforeseen items L.S.	50000.00
6	Provision of specials for tube well & rising main to UGT L.S.	50000.00
		4796000.00
	<b>Total</b>	<del>4296000.00</del>
	<b>Say in Lacs</b>	<del>42.96</del>

(C.O. to Abstract of cost of Sub Work No. I)

47.96

**SUB WORK NO. 1**  
Sub Head No. 02

**WATER SUPPLY**  
Pumping Machinery

Sr. NO.	Description	Amount in Rs.
1	Providing and installing Hydro pneumatic pumping set of following capacities for domestic water Supply with specials <i>2,50,000</i>	<i>7,50,000/-</i>
	12.50 lps at 45 mts head - 3 No. (2W+1SB) - @ Rs. <del>1,00,000/-</del> each Set (15.00HP)	<del>300000.00</del>
2	Providing and installing Hydro Pneumatic pumping set of following capacities for Flushing water supply & irrigation etc.	<i>300000.00</i>
i	6.50 lps at 45 mts head - 3 No. (2W+1SB) @ Rs. 80,000/- 1 Set (7.50HP each)	<del>240000.00</del>
ii	2.00 lps at 35 mts head - 2 No. (1W+1SB) @ Rs. 40,000/- 1 Set (2HP each)	80000.00
3	Providing and installing Submersible pump for tube wells with specials	<i>1,50,000</i>
	4.50 lps at 98 mts head - 1 Nos (1W) @ Rs. <del>80,000/-</del> 1 Set (10HP each)	<del>80000.00</del>
4	Provision for ESS (Electric Panel Foundation) L.S.	150000.00
5	Provision for D.G. Set for stand by arrangement for all machinery = 1 No. 60+30 = 90 KVA @ Rs. <del>8,00,000/-</del> each <i>100000/- per kVA</i>	<del>800000.00</del> <i>900000.00</i>
6	Provision for making foundations & erection of pumping machinery L.S.	50000.00
7	Provision for pipes, valve & specials inside boosting chamber L.S.	80000.00
8	Provision for electric services connection including electric fittings for boosting chambers and pump chamber etc.	80000.00
9	Provision for carriage of materials and other unforeseen items L.S.	50000.00
	<b>Total</b>	<i>2540000</i> <del>1910000.00</del>
	<b>Say in Lacs</b>	<i>25.40</i> <del>19.10</del>

(C.O. to Abstract of cost of Sub Work No. 1)

**SUB WORK NO. 1****WATER SUPPLY****Sub Head No. 03****Water Supply Distribution & Rising Main Pipe**

Sr.	Description	Amount in Rs.
<b>1</b>	Providing, laying, jointing & testing pipe lines including cost of excavation etc. complete in all respects	
i)	100mm dia D.I./HDPE Pipe 3499 Mtr @ Rs. 1460/- Per Mtr	<b>5108540.00</b>
ii)	150mm i/d D.I. /HDPE Pipes -747 Mtr @ Rs. 2040/- Per Mtr	<b>1523880.00</b>
iii)	200mm i/d D.I. /HDPE Pipes -154 Mtr @ Rs. 2450/- Per Mtr	<b>314160.00</b>
iv)	250mm i/d D.I. /HDPE Pipes -15 Mtr @ Rs. 3000/- Per Mtr	<b>45000.00</b>
<b>2</b>	Providing and fixing sluice valve including cost of surface box and masonry chamber etc. complete in all respect	
a)	100mm i/d 10 No. @ Rs. 11000/- each	<b>110000.00</b>
b)	150mm i/d 6 No. @ Rs. 13000/- each	<b>78000.00</b>
c)	200mm i/d 3 No. @ Rs. 15000/- each	<b>45000.00</b>
d)	250mm i/d 2 No. @ Rs. 20000/- each	<b>40000.00</b>
<b>3</b>	Providing and fixing indicating plates for sluice valve 21 No.@ Rs. 2000/-	<b>42000.00</b>
<b>4</b>	Provision for carriage of materials and other unforeseen items	<b>50000.00</b>
<b>5</b>	Provision for making connection with HUDA Pipe & T.W's etc.	<b>300000.00</b>
<b>6</b>	Provision for cutting the road and making good the same	<b>50000.00</b>
	<b>Total</b>	<b>7706580.00</b>
	<b>Say in Lacs</b>	<b>77.70</b>

(C.O. to Abstract of cost of Sub Work No. I)

SUB WORK NO. 01

WATER SUPPLY

SUB HEAD NO. 04

IRRIGATION

Sr. NO.	Description	Amount in Rs.
1	Providing, Laying, jointing and testing UPVC pipe lines suitable for 6 kg pressure including cost of fittings, valves, connection etc. complete in all respect	
a)	25mm dia - 160 M @ Rs. 500/- Per Mtr	80000.00
2	Providing and fixing 25mm dia, Irrigation hydrant valve complete in all respect 20 Nos @ Rs. 3000/- each	60000.00
3	Provision for carriage of materials and other unforeseen items L.S.	20000.00
4	Provision for indicating plate with safety box etc. complet in all respect 20 Nos @ Rs. 2000/- each	40000.00
5	Provision for road cutting and making it condition as original L.S.	20000.00
	<b>Total</b>	<b>220000.00</b>
	<b>Say in Lacs</b>	<b>2.20</b>

(C.O. to Abstract of cost of Sub Work No. I)

SUB WORK NO. 01  
SUB HEAD NO. 05

WATER SUPPLY  
EXTERNAL FIRE HYDRANTS

Sr. NO.	Description	Amount in Rs.
1	Providing, Laying, jointing and testing D.I./HDPE Pipes for fire rising main including cost of fittings, valves, connection etc. complete in all respect	
a)	100mm dia - 336 M @ Rs. 1460/- Per Mtr	490560.00
2	Providing and fixing fire Hydrant with accessories 56 No. @ Rs. 15000/- each	840000.00
3	Providing and fixing indicating plate -56 No. @ Rs. 2000/- each	112000.00
4	Provision for carriage of material L.S.	20000.00
	<b>Total</b>	<b>1462560.00</b>
	<b>Say In Lacs</b>	<b>14.63</b>

(C.O. to Abstract of cost of Sub Work No. I)

## SUB WORK NO. II

## SEWERAGE SCHEME

Sr.	Description	Amount in Rs.
1	Providing, jointing, cutting and testing stoneware pipe grade A and lowering into trenches including cost of excavation, bed concrete, cost of manholes etc. complete	
	a) SW/DWC Pipe 200mm i/d avg. depths 0 - 2.00M 1664 M @ Rs. 1700/- per	2828800.00
	b) SW/DWC Pipe 250mm i/d avg depth 2.00 M 50 M @ Rs. 2000/- per Mtr	100000.00
	c) SW/DWC Pipe 300mm i/d avg depth 2.50 M 92 M @ Rs. 2400/- per Mtr	220800.00
	d) SW/DWC Pipe 400mm i/d avg depth 3.00 M 23 M @ Rs. 2900/- per Mtr	66700.00
2	Providing, laying, jointing & testing pipe lines including cost of excavation etc. complete in all respect - 150mm dia Heavy Class DI pipes (overflow for STP)	
	a) 150MM i/d D.I./HDPE Pipe - 230 M @ Rs. 2040/- Per Mtr	469200.00
3	Provision of lighting and watching etc.	30000.00
4	Provision for cartage of material	50000.00
5	Provision for making connection with HSVP/ Govt. Line	300000.00
6	Provision for construction of Sewerage Treatment Plant (STP) including the cost of tertiary treatment level with recycling storage tank and machinery with all arrangement etc. complete in all respect. 890 KLD @ 16000/- KLD or (0.89 MLD) Capacity	14240000.00
		<b>18305500.00</b>
	Add 3% contingency & P.H. Services	549165
	<b>Total</b>	<b>18854665</b>
	Add 49% Department charges + Price Escalation	<b>9238786</b>
	<b>G. Total</b>	<b>28093451</b>
	<b>Say in Lacs</b>	<b>280.94</b>

(C.O. to Final Abstract of Cost )

## SUB WORK NO. III

## STORM WATER DRAINAGE SCHEME

Sr.	Description	Amount in Rs.
1	Providing, lowering, laying, jointing RCC/DWC pipe with cement joint, manholes, specials into trenches including manholes, chambers etc. excavation, backfilling and disposal of surplus earth complete in all respect	
	a) RCC Np3/DWC pipe 400mm i/d = 1704 M @ Rs. 2500/- Per Mtr	4260000.00
	b) RCC Np3/DWC pipe 450mm i/d = 175 M @ Rs. 2800/- Per Mtr	490000.00
2	Provision for Rain Water Harvesting arrangement including the cost of screening chamber and pit with all type of pipes and other material etc. complete in all respect as per standard drawing and bore upto requirement of site etc. 11 Nos RWH @ Rs.2,50,000/- each	2750000.00
3	Provision for road gulley & pipe with connection	500000.00
4	Provision for lighting and watching	30000.00
5	Provision for timbering and shoring	30000.00
6	Provision for cartage of material	50000.00
7	Provision for making connection with HSVP storm water drain	300000.00
	<b>Total</b>	<b>8410000.00</b>
	Add 3% contingency & P.H. Services	252300.00
	<b>Total</b>	<b>8662300.00</b>
	Add 49% Department charges + Price Escalation	4244527.00
	<b>G. Total</b>	<b>12906827.00</b>
	<b>Say in Lacs</b>	<b>129.07</b>

(C.O. to Final Abstract of Cost )

## Sub Work No. IV

## ROAD AND FOOTPATH

S. No.	Description	Unit	Qty	Rate (In Rs.)	Amount (In Rs.)
1	Provision for leveling & earth filling as per site conditions	Per Acre	15.7	100000	1570000
2	i) Providing and laying 100mm thick PCC under pavement, cement concrete of specified grade 1:4:8 and 150mm thick RMC grade M-40 ii) Providing and laying Bituminous road (250mm GSB, 300mm WMM, 50mm DBM, 30mm BC).	Sqm	11820	1200	14184000
3	Provision for kerbs & channels of C.C. 1:2:4	Metre	4210	600	2526000
4	Provision for arrangement of guide map and indicating board etc.	LS			100000
5	Provision for footpath with 100mm thick PCC under pavement cement concrete of specified grade 1:4:8 and 150mm thick RMC Grade M-40 or Bituminous road with 250mm GSB, 300mm WMM, 50mm thick DBM & 40mm thick BC etc. as per requirement of site for surface car parking and approach to Tower / Block etc. complete in all respect	Sqm	2530	800	2024000
5	Provision for carriage of material	LS			50000
	<b>Sub Total</b>				<b>20454000</b>
	Add 3% contingencies & PH Services				613620
	<b>Sub Total</b>				<b>21067620</b>
	Add 49% Departmental Charges + Price Escalation				10323134
	<b>Total</b>				<b>31390754</b>
	<b>Say Rs. In Lacs</b>				<b>313.91</b>

(C.O. to Final Abstract of cost )



## Sub Work No. V

## STREET LIGHTING

S. No.	Description	Unit	Qty	Rate (In Rs.)	Amount (In Rs.)
1	Provision for Street Lighting at surrounding area as per standard specifications of HVPN etc. complete	Acre	15.7	150000	2355000
	Add 3% contingencies & PH Services				70650
	<b>Total</b>				<b>2425650</b>
	Add 49% Departmental Charges + Price Escalation				1188569
	<b>Total</b>				<b>3614219</b>
	<b>Say Rs. In Lacs</b>				<b>36.15</b>

(C.O. to Final Abstract of cost )

## Sub Work No. VI

## HORTICULTURE

S. No.	Description	Unit	Qty	Rate (In Rs.)	Amount (In Rs.)
1	Development of Lawn Areas				
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 with all fitting and valve etc. complete				
b.	Rough dressing of turfed area				
c	Grassing with "Cynadon dactylon" i/c watering and maintenance of lawns for 30 days till the grass forms a thick lawn, free from weeds and fit for moving in row 7.5 cm part in eighter direction				
d	organized green 4767.02 Sqm Or 1.178 Acres (As per detail given in green park area calculation)	Acre	1.18	150000	176700
2	Providing and planting trees along boundary @ 12 m interval (Length appx 4210M) = $4210/12 = 351$ Nos Say No. of trees = 360 Nos Cost details : Excavation = Rs. 100 Manure = Rs. 100 Tree Gaurd = Rs. 1500 Tree Plant = Rs. 100 Total Rs. = Rs. 1800				
		Each	360	1800	648000
	<b>Total</b>				<b>824700</b>
	Add 3% contingencies & PH Services				24741
	<b>Total</b>				<b>849441</b>
	Add 49% Departmental Charges + Price Escalation				416226
	<b>Total</b>				<b>1265667</b>
	<b>Say Rs. In Lacs</b>				<b>12.66</b>

(C.O. to Final abstract of cost)

## Sub Work No. VII

## Mtc. Of services &amp; Resurfacing of Road

S. No.	Description	Unit	Qty	Rate (In Rs.)	Amount (In Rs.)
1	Mtc. Of water supply, sewer, storm water drain, roads, street light, hort. Etc. for period of 10 years including operation charges full establishment etc. complete in all respects	Acre	15.7	500000	7850000
2	Provision for resurfacing of roads after 5 years of 1st phase with provision of 50mm thick BM including leveling coarse and 30mm BC as per crust design whichever is safer	Sqm	11820	600	7092000
3	2nd phase after next five years of 1st phase (50mm DBM & 30mm BC or as per crust design whichever is safer	Sqm	11820	800	9456000
	<b>Sub Total</b>				<b>24398000</b>
	Add 3% contingencies & PH Services				731940
	<b>Sub Total</b>				<b>25129940</b>
	Add 49% Departmental Charges				12313671
	<b>Total</b>				<b>37443611</b>
	<b>Say Rs. In Lacs</b>				<b>374.44</b>

(C.O. to Final abstract of cost)

**SUMMARY OF DESIGN REQUIREMENT**

S. No.	Description	Qty	Unit
1	Total Population	5526	Persons
2	Total Water Requirement (Domestic)	704	KLD
3	Total Water Requirement (Flushing)	346	KLD
4	Total Water Requirement (Horticulture)	30	KLD
5	U. G Tank (Domestic - 425 KLD + Fire 95 KLD =520 kLD )	1	No.
6	No. of Domestic WS pumps UGT	2 +1	Set
7	No. of Flushing pumps	2+1	No.
8	No. of submersible pumps	1	No.
9	Generating sets (60+30=90 KVA)	1	60+30 =90 KVA
10	STP (890 KLD)	1	No.

**TOTAL MATERIAL STATEMENT FOR WATER SUPPLY i.e. DOMESTIC, FLUSHING & RISING MAIN ETC.**

S. No.	Description	Size of pipe upto valve in 80mm	Size of pipe upto valve in 100mm	Size of pipe upto valve in 150mm	Size of pipe upto valve in 200mm	Size of pipe upto valve in 250mm
1	Domestic	-	1296 M	525 M	111 M	15 M
2	Flushing	-	1676 M	222 M	43 M	M
3	Rising Main	-	527 M	0	0	
	<b>Total</b>	-	<b>3499 M</b>	<b>747 M</b>	<b>154 M</b>	<b>15 M</b>

**MATERIAL STATEMENT (DOMESTIC WATER SUPPLY)**

S. No.	Line Designation		Size of Pipe Provided	Length of Pipe (Mtr)	Length in Mtr			
	From	To			250MM	200MM	150MM	100MM
1	UGT	A	250	15	15			
2	A	B	200	42		42		
3	B	C	150	48			48	
4	C	D	150	77			77	
5	D	E	150	65			65	
6	E	F	150	72			72	
7	F	G	150	80			80	
8	G	H	100	52				52
9	H	I	100	40				40
10	I	J	100	46				46
11	A	A1	150	25			25	
12	A1	A2	100	45				45
13	A2	A3	100	135				135
14	A1	A5	100	42				42
15	A2	A4	100	88				88
16	B	B1	200	69		69		
17	B1	B2	150	98			98	
18	B2	B3	150	60			60	
19	B3	B4	100	115				115
20	B4	B5	100	39				39
21	B1	B8	100	52				52
22	B8	B9	100	140				140
23	B8	B10	100	96				96
24	B2	B11	100	30				30
25	B3	B6	100	38				38
26	B6	B7	100	20				20
27	B6	B4	100	153				153
28	C	C1	100	40				40
29	G	G1	100	110				110
30	I	I1	100	15				15
	<b>Total</b>			<b>1947</b>	<b>15</b>	<b>111</b>	<b>525</b>	<b>1296</b>

250mm i/d Pipe Length	15 mtr
200mm i/d Pipe Length	111 mtr
150mm i/d Pipe Length	525 mtr
100mm i/d Pipe Length	1296 mtr
<b>Total</b>	<b>1947 mtr</b>

**MATERIAL STATEMENT (FLUSHING WATER SUPPLY)**

S. No.	Line Designation		Size of Pipe Provided	Length of Pipe (Mtr)	Length in Mtr			
	From	To			200MM	150MM	100MM	
1	STP	a	200	18	18			
2	a	b	200	25	25			
3	b	c	150	69		69		
4	c	d	150	48		48		
5	d	e	100	72			72	
6	e	f	100	65			65	
7	f	g	100	76			76	
8	g	h	100	78			78	
9	h	i	100	55			55	
10	i	j	100	42			42	
11	j	j1	100	42			42	
12	a	a1	100	27			27	
13	a1	a2	100	137			137	
14	a1	a3	100	93			93	
15	b	b1	150	105		105		
16	b1	b2	100	65			65	
17	b2	b3	100	105			105	
18	b3	b4	100	45			45	
19	b1	b7	100	32			32	
20	b2	b5	100	38			38	
21	b5	b6	100	15			15	
22	b5	b3	100	143			143	
23	c	c1	100	67			67	
24	c1	c2	100	45			45	
25	c2	c3	100	138			138	
26	c1	c5	100	47			47	
27	c2	c4	100	92			92	
28	d	d1	100	35			35	
29	h	h1	100	105			105	
30	j	j2	100	17			17	
	<b>Total</b>			<b>1941</b>	<b>43</b>	<b>222</b>	<b>1676</b>	

200mm i/d Pipe Length

43 mtr

150mm i/d Pipe Length

222 mtr

100mm i/d Pipe Length

1676 mtr

Total

1941 mtr

25

**MATERIAL STATEMENT FOR BOREWELL RISING MAINS AND HUDA MAIN**

S. No.	Name of Line		Size of Pipe Provided	Length of Pipe (Mtr)	Length in Mtr	
	From	To			100mm	150mm
1	T.W.	UGT	100	47	47	-
2	HSVP Line	UGT	100	480	480	-
	<b>Total</b>			<b>527</b>	<b>527</b>	<b>0</b>



**MATERIAL STATEMENT FOR SEWERAGE SCHEME**

S. No.	Line No.		Length (In Mtr)	Pipe Dia	Length in Mtr			
	From	To			200mm i/d	250mm i/d	300mm i/d	400mm i/d
					0 to 2.00 Mtr	0 to 2.50 Mtr	0 to 2.75 Mtr	0 to 3.00 Mtr
1	A'	A	42	200	42			
2	A1	A	15	200	15			
3	A	B	94	200	94			
4	B1	B	90	200	90			
5	B	C	152	200	152			
6	C	D	134	200	134			
7	D1	D	35	250		35		
8	D	E	50	200	50			
9	E3	E2	140	200	140			
10	E4	E2	90	200	90			
11	E2	E1	45	200	45			
12	E5	E1	45	200	45			
13	E1	E	68	200	68			
14	E	F	65	300			65	
15	F1	F	135	200	135			
16	F	G	27	300			27	
17	G2	G1	130	200	130			
18	G3	G1	90	200	90			
19	G1	G	26	200	26			
20	G	S.T.P.	23	400				23
21	H	I	145	200	145			
22	I2	I1	108	200	108			
23	I3	I1	15	200	15			
24	I1	I	35	200	35			
25	I	STP	30	200	30			
26	STP - HUDA / Sewer By Pumping 150mm i/d D.I. Pipe = 230 Mtr					-	-	
	<b>Total</b>		<b>1829</b>		<b>1679</b>	<b>35</b>	<b>92</b>	<b>23</b>

200mm i/d Pipe Length                      1679 Mtr  
 250mm i/d Pipe Length                      35 Mtr  
 300mm i/d Pipe Length                      92 Mtr  
 400mm i/d Pipe Length                      23 Mtr  
 150mm i/d D.I./HDPE Pipe (By Pumping) =230Mtr

## MATERIAL STATEMENT OF STORM WATER DRAINAGE SCHEME

27

Sr. No.	Line Reference		400mm i/d RCC Np3 Pipe	450mm i/d RCC Np3 Pipe
			Length in Mtr	Length in Mtr
	From	To		
1	A	B	42	
2	B1	B	15	
3	B	C	95	
4	C1	C	90	
5	C	D'	150	
6	D'	D	140	
7	D1	D	35	
8	D	E	45	
9	E3	E2	135	
10	E4	E2	85	
11	E2	E1	42	
12	E5	E1	42	
13	E1	E	65	
14	E	F	65	
15	F2	F1	135	
16	F3	F1	95	
17	F1	F	50	
18	F	G	80	
19	G1	G	45	
20	G	H	38	
21	H1	H	75	
22	H	I	90	
23	I1	I	140	
24	I	HSVP SWD LINE		85
	<b>Total Length</b>		<b>1794</b>	<b>85</b>

**Total Length 400mm i/d RCC Np3/DWC pipe = 1794 Mtr**

**Total Length 450mm i/d RCC Np3/DWC pipe = 85 Mtr**

**Total Rain Water Harvesting (RWH) = 16 Nos**

## Material Statement of Road Works

Sr. No.	Road No.	Road Width	Length	Width	Area	Unit
1	1	9.00	42.00	5.50	231.00	Sqm
2	2	9.00	105.00	5.50	577.50	Sqm
3	3	9.00	115.00	5.50	632.50	Sqm
4	4	9.00	145.00	5.50	797.50	Sqm
5	5	9.00	140.00	5.50	770.00	Sqm
6	6	12.00	135.00	5.50	742.50	Sqm
7	7	12.00	220.00	5.50	1210.00	Sqm
8	8	12.00	37.00	5.50	203.50	Sqm
9	9	12.00	245.00	5.50	1347.50	Sqm
10	10	12.00	96.00	5.50	528.00	Sqm
11	11	12.00	90.00	5.50	495.00	Sqm
12	12	12.00	107.00	5.50	588.50	Sqm
13	13	12.00	52.00	5.50	286.00	Sqm
14	14	12.00	140.00	5.50	770.00	Sqm
15	15	12.00	175.00	5.50	962.50	Sqm
16	16	24.00	46.00	2 x 7.00	644.00	Sqm
17	17	24.00	33.00	3 x 7.00	462.00	Sqm
	<b>G. Total</b>		<b>1923.00</b>		<b>11248.00</b>	Sqm
Add 5% extra for curves					562.40	Sqm
<b>Total</b>					<b>11810.40</b>	<b>Sqm</b>
				<b>Say</b>	<b>11820</b>	<b>Sqm</b>

## ii) Kerbs &amp; Channels

i) 9.00 Mtr wide road (2 x 1844)	3688 Mtr
ii) 24.00 Mtr wide service Road (2 X 2 x 79)	316 Mtr
<b>Total</b>	<b>4004 Mtr</b>
Add 5% for curves	200 Mtr
<b>G. Total</b>	<b>4204 Mtr</b>

Say 4210 Sqm

## ii) Footpath :-

(i) 9M wide road = 1x 1844M x 1.20M	2212.80 Sqm.
(ii) 12M wide service road = 2 x 79 M x 1.20 M	189.60 Sqm.
<b>Total</b>	<b>2402.40 Sqm.</b>
Add 5% for curves	120.12 Sqm.
<b>Total</b>	<b>2522.52 Sqm.</b>

Say 2530 Sqm

**MATERIAL STATEMENT (FIRE HYDRANT)**

i) Length of Water Supply (Domestic) = 1947 Mtr

ii) Length of 100mm i/d F.H. =  $56 \times 6 = 336$  Mtr

iii) Nos of F.H. = 56 Nos

Note : Fire Hydrant considering @ 35 Mtr /each in Domestic Water Supply line  
=  $1947 / 35 = 56$  Nos

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**SUBHEAD : IRRIGATION WATER SUPPLY SCHEME - DESIGN CALCULATION (HORTICULTURE)**

**HYDRAULIC STATEMENT OF IRRIGATION WATER SUPPLY**

S. No.	Line Reference	Population	Peak Flow in LPH	Velocity (m/s)	Size of the pipe required (in mm)	Size of the Pipe Recommend (mm)	Hydraulic Radius	Total Friction Loss in m/m	Length (M)	Loss of Head in Line (M)	Formation Level	Available head (M)
1	From Flushing Water Supply line	-	-	-	25.00	25	-	-	160	-	-	-

Note >> 20 Nos connections are to be done from flushing water supply line i.e. 20 Nos x 8 Mtr/each = 160 Mtr for 25mm I/d

HYDRAULIC STATEMENT OF WATER SUPPLY (DOMESTIC)

SUBHEAD : DOMESTIC WATER SUPPLY SCHEME - DESIGN CALCULATION

S. No.	Line Reference	Type of Colony	Residential Plots		Population @ 18.00 Person per plot	Water Requirement @ 172.50 LPCD	Other Water Requirement i.e. Comm./ Community building / other services in LPO	Total Water Requirement in LPO	Water Requirement @ 67% of total water requirement	Peak Flow in LPH	Velocity (m/s)	Size of the pipe in (mm)	Total Friction Loss in M/M	Length in (M)	Loss of Head in Line (M)	Formation level at Lower End	Available Head at Lower end (M)	Terminal Head (M)	Remarks	
			Self	Total																
	From	To	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	UGT A	Plotted Area	0	367	367	5526	95235	91780	1049015	700160	262538	0.69	250	0.003	15	0.05	222.60	267.61	45.02	Formation Level at Water Works i.e. UGT = 222.65 M Sooting Head = 45.00 M Hydraulic Head = 267.65 M
2	A	B	8	234	342	4356	75310	91780	843190	564987	211850	0.76	700	0.006	42	0.21	222.37	267.40	44.83	
3	B	C	8	83	93	1674	288765	44250	331015	212120	838169	0.62	150	0.005	48	0.24	222.65	267.16	44.51	
4	C	D	8	67	75	1350	232875	44250	277125	185678	69527	0.42	150	0.003	77	0.23	222.60	266.93	44.33	
5	D	E	8	64	67	1206	208035	44250	252285	169031	63386	0.38	150	0.002	65	0.13	222.65	266.80	44.15	
6	E	F	8	56	64	1152	198720	36250	237970	159440	59780	0.38	150	0.002	72	0.14	222.70	266.66	43.96	
7	F	G	11	35	56	1008	173880	36250	213130	142797	53448	0.34	150	0.002	80	0.16	222.75	266.50	43.75	
8	G	H	8	20	26	468	80730	0	80730	54089	20283	0.30	100	0.003	52	0.16	222.77	266.35	43.58	
9	H	I	5	15	20	360	62100	0	62100	41607	15602	0.31	100	0.002	40	0.08	222.80	266.27	43.47	
10	I	J	12	0	12	216	37260	0	37260	24964	9361	0.16	100	0.001	46	0.05	222.85	266.23	43.38	
11	A	A1	4	61	65	1170	201825	0	201825	152223	50708	0.34	150	0.002	25	0.05	222.60	267.56	44.96	
12	A1	A2	5	43	48	864	149040	0	149040	95637	37446	0.47	100	0.005	45	0.22	222.65	267.34	44.69	
13	A2	A3	18	0	18	324	51890	0	51890	37446	14042	0.31	100	0.002	135	0.27	222.70	267.07	44.37	
14	A3	A4	13	0	13	234	40565	0	40565	27045	10142	0.30	100	0.001	42	0.04	222.65	267.52	44.87	
15	A4	A5	25	0	25	450	77625	0	77625	52009	19503	0.31	100	0.002	88	0.18	222.70	267.98	44.69	
16	B	B1	10	151	141	2538	437805	47530	485335	325174	121939	0.49	200	0.002	69	0.14	222.52	267.27	44.75	
17	B1	B2	21	67	88	1584	273240	47530	320770	214914	80353	0.62	150	0.005	38	0.49	222.60	266.78	44.18	
18	B2	B3	0	63	63	1134	195615	47530	243145	162907	60990	0.38	150	0.002	40	0.12	222.95	266.64	44.12	
19	B3	B4	20	0	20	360	62100	47530	104630	70302	26728	0.49	100	0.003	115	0.35	222.50	266.32	43.82	
20	B4	B5	0	0	0	0	0	43530	43530	28495	10566	0.30	100	0.001	39	0.04	222.45	266.28	43.83	
21	B5	B6	2	41	43	774	133515	0	133515	89455	33545	0.47	100	0.005	52	0.26	222.55	267.01	44.46	
22	B6	B7	13	0	13	234	40565	0	40565	27045	10142	0.30	100	0.001	140	0.14	222.70	266.87	44.17	
23	B7	B8	28	0	28	504	86940	0	86940	58350	21843	0.31	100	0.002	96	0.19	222.65	266.82	44.17	
24	B8	B9	4	0	4	72	12420	0	12420	8321	3120	0.16	100	0.001	30	0.02	222.65	266.75	44.10	
25	B9	B10	5	38	43	774	133515	0	133515	89455	33545	0.47	100	0.005	38	0.19	222.60	266.47	43.87	
26	B10	B11	3	0	3	54	9315	0	9315	6241	2340	0.16	100	0.001	20	0.02	222.65	266.43	43.89	
27	B11	B12	35	0	35	630	108675	0	108675	72812	27104	0.39	100	0.003	153	0.46	222.50	266.02	43.52	
28	C	C1	10	0	10	180	31050	0	31050	20804	7803	0.16	100	0.001	40	0.04	222.70	267.12	44.42	
29	G	G1	9	0	9	162	27943	35250	63193	45021	16883	0.31	100	0.002	110	0.22	222.80	266.28	43.48	
30	I	I1	3	0	3	54	9315	0	9315	6241	2340	0.16	100	0.001	25	0.02	222.80	266.28	43.46	

DESIGN STATEMENT OF SEWERAGE SCHEME

SUBHEAD : SEWERAGE SCHEME - DESIGN CALCULATION

S. No.	Line Reference	Type of Colony	Residential Plots			Population @ 18.00 Person per plot	Water Requirement at @ 172.50 LPCD	Offier Requirement i.e. comm., building / other services	Total water requirement LPCD	Sew. Quantity after evaporatio @ 20% (in LPCD)	Sewerage Discharge Peak Flow (m3/sec)	Size of pipe in (mm)	Gradient in (m)	Velocity (m/sec)	Carrying capacity of pipe (m3/sec)	Length In Mtr	Fall Extra Fall in line due to slope (m)	Ground Level		Formation Level		Invert Level		Depth			
			Self	Branch	Total													Start	End	Start	End	Start	End	Start	End	Start	End
1	2	4	5	6	7	6	9	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
1	A	Plotted Resl.	12	0	12	216	37260	37260	29808	0.0010	300	225	0.76	0.012	47	0.18	222.55	222.55	222.80	221.65	221.47	1.20	1.53	1.27			
2	A1	A	3	0	3	54	9315	9315	7452	0.0003	300	225	0.76	0.012	15	0.07	222.55	222.55	222.80	221.80	221.73	1.00	1.07	1.04			
3	A	B	11	15	26	468	80730	80730	64584	0.0022	300	225	0.76	0.012	94	0.42	222.55	222.45	222.80	221.47	221.05	1.33	1.70	1.52			
4	B1	B	9	0	9	162	27945	67135	52756	0.0019	300	225	0.76	0.012	90	0.49	222.55	222.45	222.80	221.80	221.40	1.00	1.35	1.18			
5	B	C	29	35	64	1152	198720	237970	190376	0.0066	300	225	0.76	0.012	152	0.68	222.45	222.46	222.65	221.05	220.57	1.70	2.18	1.99			
6	C	D	11	64	75	1350	232875	277125	221760	0.0077	300	225	0.76	0.012	134	0.65	222.46	222.45	222.65	220.37	219.72	2.28	2.68	2.58			
7	D1	D	10	0	10	180	31050	31050	24840	0.0009	250	305	0.76	0.019	35	0.16	222.55	222.45	222.70	221.70	221.54	1.00	1.11	1.06			
8	D	E	7	85	92	1656	285660	339910	263918	0.0091	300	225	0.76	0.012	50	0.16	222.45	222.40	222.65	219.74	219.55	2.91	3.02	2.96			
9	E3	E2	18	0	18	324	55890	55890	44712	0.0015	300	225	0.76	0.012	140	0.42	222.45	222.40	222.70	221.70	221.08	1.00	1.57	1.29			
10	E4	E2	25	0	25	450	77625	77625	62100	0.0021	300	225	0.76	0.012	90	0.45	222.46	222.40	222.70	221.65	221.30	1.00	1.35	1.18			
11	E7	E1	5	43	48	864	148040	149540	119232	0.0041	300	225	0.76	0.012	45	0.28	222.40	222.35	222.65	221.08	220.88	1.57	1.72	1.65			
12	E5	E1	15	0	15	270	46365	46365	37292	0.0011	300	225	0.76	0.012	45	0.29	222.30	222.35	222.65	221.65	221.45	1.00	1.15	1.08			
13	E1	E	15	61	74	1332	229770	279770	188816	0.0064	300	225	0.76	0.012	68	0.35	222.35	222.40	222.60	220.88	220.58	1.72	1.99	1.85			
14	E	F	10	166	176	3168	546480	590790	472984	0.0164	300	305	0.76	0.017	65	0.17	222.40	222.40	222.57	219.55	219.55	3.02	3.14	3.08			
15	F1	F	25	0	25	450	77625	77625	62100	0.0021	300	225	0.76	0.012	135	0.68	222.30	222.40	222.65	221.65	221.05	1.00	1.47	1.24			
16	F	G	0	203	203	3618	624825	668355	534684	0.0185	300	385	0.76	0.017	27	0.07	222.40	222.42	222.52	219.38	219.31	3.14	3.24	3.19			
17	G2	G1	13	0	13	234	40365	40365	32292	0.0011	300	225	0.76	0.012	130	0.58	222.42	222.45	222.70	221.70	221.12	1.00	1.48	1.24			
18	G3	G1	28	0	28	504	86940	86940	69552	0.0024	300	225	0.76	0.012	90	0.40	222.40	222.45	222.65	221.65	221.25	1.00	1.35	1.18			
19	G1	G	2	41	43	774	133515	133515	106812	0.0037	300	225	0.76	0.012	26	0.13	222.45	222.42	222.60	221.12	221.00	1.48	1.55	1.52			
20	G	S.T.P.	0	244	244	4392	757620	801870	641486	0.0222	400	570	0.76	0.049	25	0.04	222.42	222.45	222.55	219.25	219.22	3.29	3.48	3.34			
21	H	I	20	0	20	360	62100	104630	83704	0.0029	300	225	0.76	0.012	145	0.64	222.30	222.40	222.45	221.45	220.81	1.00	1.74	1.37			
22	I2	I1	35	0	35	630	108675	108675	86940	0.0030	300	225	0.76	0.012	108	0.48	222.45	222.40	222.55	221.65	221.07	1.00	1.53	1.27			
23	I3	I1	3	0	3	54	9315	9315	7452	0.0003	300	225	0.76	0.012	15	0.07	222.40	222.40	222.65	221.65	221.58	1.00	1.02	1.01			
24	I1	I	5	38	43	774	133515	133515	106812	0.0037	300	225	0.76	0.012	35	0.16	222.40	222.40	222.55	221.07	220.91	1.53	1.64	1.59			
25	I	STP	0	63	63	1134	195615	243143	194516	0.0067	300	225	0.76	0.012	30	0.13	222.40	222.45	222.55	220.81	220.68	1.74	1.82	1.69			
26	STP	Main Sewer Use													230	0.85	222.45	222.00	222.60	220.10	219.30			7.50	1.00	2.75	

150mm (td. 0.1)/HDPE Pipe (By pumping from STP)

DESIGN CALCULATION OF STORM WATER DRAINAGE SCHEME  
 INTENSITY OF RAIN FALL = 0.0326 MTRS / HR  
 IMPERMEABILITY FACTOR = 0.6

S. No.	Name of Node	Area (Sqft)	Area (Sqft)	Branch Area	Total Area	Rain fall in mm / hr	Discharge @ 17.36 LPS/ Incher	Length in Mts	Pipe dia in mm	Steps in Mts	Velocity in m/sec	Cap. of drain in LPS	F.F. + Extra Fall	Ground Level		Formation Level		Invert Level		Depth of M.F.S		Remarks	
														Start	End	Start	End	Start	End	Start	End		
1	A	2470	0.26	0	0.26	6.00	2.60	41	400	370	0.76	98.57	0.07	222.55	222.55	222.85	221.28	21	22	23	24	25	26
2	B1	300	0.07	0	0.07	6.00	0.52	15	400	370	0.76	98.57	0.09	222.55	222.55	222.80	221.77	1.00	1.03	1.00	1.03	1.00	1.02
3	B	1500	0.17	0.48	0.65	6.00	6.26	95	400	370	0.76	98.57	0.17	222.55	222.45	222.80	221.75	221.78	221.71	1.32	1.64	1.58	RWH-1
4	C1	5200	2.27	0	2.27	6.00	15.87	90	400	370	0.76	98.57	0.18	222.55	222.45	222.80	221.75	221.80	221.64	1.00	1.11	1.06	RWH-2 RWH-3 RWH-4 RWH-5
5	C	9850	0.68	3.17	4.15	6.00	20.56	120	400	370	0.76	98.57	0.26	222.45	222.46	222.75	222.65	221.31	220.85	1.64	1.80	1.72	RWH-6
6	D1	2500	0.72	4.15	4.87	6.00	3.42	160	400	370	0.76	98.57	0.25	222.46	222.45	222.65	222.65	220.85	220.85	1.80	2.05	1.92	RWH-7
7	D	1575	0.19	0	0.19	6.00	2.78	35	400	370	0.76	98.57	0.06	222.45	222.45	222.70	222.65	221.70	221.64	1.00	1.01	1.01	RWH-8
8	E	1125	0.18	5.36	5.54	6.00	3.09	45	400	370	0.76	98.57	0.08	222.45	222.40	222.65	222.57	220.60	220.52	2.05	2.05	2.05	RWH-9
9	E3	5500	1.36	0	1.36	6.00	9.55	135	400	370	0.76	98.57	0.24	222.40	222.40	222.70	222.65	221.70	221.46	1.00	1.09	1.10	RWH-10
10	E4	1825	0.25	0	0.25	6.00	0.63	85	400	370	0.76	98.57	0.15	222.46	222.40	222.70	222.65	221.70	220.55	1.00	1.20	1.20	RWH-11
11	E2	1250	0.31	2.51	2.62	6.00	18.40	42	400	370	0.76	98.57	0.07	222.40	222.35	222.65	222.60	221.46	221.39	1.39	1.23	1.23	RWH-12
12	E5	1600	0.44	0	0.44	6.00	3.12	42	400	370	0.76	98.57	0.07	222.30	222.35	222.65	222.60	221.45	221.48	1.00	1.02	1.02	RWH-13
13	E1	2275	0.36	3.06	3.02	6.00	2.95	65	400	370	0.76	98.57	0.11	222.35	222.40	222.60	222.57	221.39	221.36	1.21	1.29	1.25	RWH-14
14	F	1400	0.19	3.16	3.75	6.00	66.57	55	400	370	0.76	98.57	0.11	222.40	222.40	222.57	222.52	220.52	220.41	2.65	3.13	2.08	RWH-15
15	F2	3375	0.83	0	0.83	6.00	3.90	135	400	370	0.76	98.57	0.16	221.62	222.41	222.70	222.55	221.70	221.46	1.00	1.09	1.05	RWH-16
16	F3	3325	0.82	0	0.82	6.00	5.72	95	400	370	0.76	98.57	0.17	222.40	222.42	222.65	222.55	221.65	221.48	1.00	1.07	1.04	RWH-17
17	F1	825	0.10	1.65	1.85	6.00	15.01	50	400	370	0.76	98.57	0.09	222.42	222.48	222.58	222.52	221.46	221.43	1.69	1.15	1.12	RWH-18
18	F	3200	0.70	11.6	12.30	6.00	87.15	80	400	370	0.76	98.57	0.14	222.40	222.40	222.52	222.60	220.41	220.27	2.11	2.33	2.22	RWH-19
19	G1	1750	0.43	0	0.43	6.00	2.99	45	400	370	0.76	98.57	0.08	222.30	222.40	222.65	222.60	221.65	221.57	1.00	1.03	1.00	RWH-20
20	G	850	0.10	12.82	13.02	6.00	91.49	18	400	370	0.76	98.57	0.07	222.40	222.40	222.65	222.55	220.37	220.35	2.38	2.35	2.24	RWH-21
21	H1	1800	0.46	0	0.44	6.00	3.12	75	400	370	0.76	98.57	0.13	222.40	222.40	222.65	222.58	221.65	221.51	1.00	1.03	1.00	RWH-22
22	H	1800	0.46	3.46	3.92	6.00	97.73	90	400	370	0.76	98.57	0.13	222.40	222.40	222.55	222.50	220.15	220.02	2.40	2.48	2.44	RWH-23
23	I1	4400	1.09	0	1.09	6.00	1.78	100	400	370	0.76	98.57	0.25	222.40	222.40	222.60	222.50	221.60	221.35	1.00	1.15	1.08	RWH-24
24	I	2800	0.60	14.39	15.68	6.00	140.24	85	400	370	0.76	98.57	0.13	222.40	222.00	222.50	222.30	220.02	219.89	2.48	2.43	2.43	RWH-25



## Directorate of Town & Country Planning, Haryana

Nagar Yojana Bhavan, Plot no. 3, Sector-18 A, Madhya Marg, Chandigarh  
Web site [tcpharyana.gov.in](http://tcpharyana.gov.in) - e-mail: [tcpharyana7@gmail.com](mailto:tcpharyana7@gmail.com)

FORM LC -V  
(See Rule 12)

License No. 33 of 2023

This License has been granted under the Haryana Development and Regulation of Urban Areas Act 1975 & the Rules 1976 made there under to Ora Land & Housing Pvt. Ltd., J-10/9, DLF Phase II, Mehrauli, Gurugram Road, Gurugram-122023 to set up Affordable Residential Plotted Colony (DDJAY-2016) over an additional area measuring 4.30623 acres (in addition to license no. 108 of 2022) in the revenue estate of village Hayatpur & Wazirpur, Sector- 93, District Gurugram.

1. The particulars of the land, wherein the aforesaid affordable residential plotted colony is to be set up, are given in the schedule of land annexed hereto and duly signed by the Director, Town & Country Planning, Haryana.

2. The Licence is granted subject to the following conditions:-

- I. To pay the Infrastructure Development Charges amounting to Rs. 1,03,32,497/- in two equal instalments. First instalment will be due within 60 days of grant of license and second instalment within six months of grant of license failing which 18% PA interest will be liable for the delayed period.
- II. That the affordable residential plotted colony will be laid out in confirmation to the approved layout/building plan and development works will be executed in accordance to the designs and specifications shown in the approved plans.
- III. That the licensee shall abide by the Deen Dayal Jan Awas Yojna policy dated 08.02.2016, subsequent amendments from time to time and other direction given by the Director time to time to execute the project.
- IV. That the conditions of the agreements already executed are duly fulfilled and the provisions of Haryana Development and Regulation of Urban Areas Act, 1975 and the Rules 1976 made there under are duly complied with.

  
Director (General)  
Town & Country Planning  
Haryana, Chandigarh

That the licensee shall maintain and upkeep of all roads, open spaces, public park and public health services for a period of five years from the date of issue of the completion certificate unless earlier relieved of this responsibility and thereupon to transfer all such roads, open spaces, public parks and public health services free of cost to the Govt. or the local authority, as the case may be, in accordance with the provisions of Section 3(3)(a)(iii) of the Haryana Development and Regulation of Urban Areas Act, 1975.

- VI. That the licensee shall integrate the services with Haryana Shahari Vikas Pradhikaran services as and when made available.
- VII. That the licensee shall transfer 10% area of the licensed colony free of cost to the Government for provision of community facilities. This will give flexibility to the Director to work out the requirement of community infrastructure at sector level and accordingly make provisions. The said area has been earmarked on the enclosed layout plan.

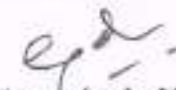
- VIII. That the licensee shall transfer the part of licensed land falling under sector road/green belt free of cost to the Govt. or the local authority, as the case may be, in accordance with the provisions of Section 3(3) (a) (ii) of the Haryana Development and Regulation of Urban Areas Act, 1975.
- IX. That the licensee understands that the development/construction cost of 30 m/24 m/18 m major internal roads is not included in the EDC rates and they shall pay the proportionate cost for acquisition of land, if any, alongwith the construction cost of 30 m/24 m/18 m wide major internal roads as and when finalized and demanded by the Department.
- X. That the licensee shall obtain NOC/Clearance as per provisions of notification dated 14.09.2006 issued by Ministry of Environment & Forest, Govt. of India, if applicable before execution of development works at site.
- XI. That the licensee shall make arrangements for water supply, sewerage, drainage etc to the satisfaction of DITCP till these services are made available from External Infrastructure to be laid by Haryana Shehri Vikas Pardhikaran or any other execution agency.
- XII. That the licensee shall pay the differential amount if there will be any change in the said rates from the original calculation required to be deposited as and when demanded by the Department as the EDC have been charged on the basis of EDC Indexation Mechanism Policy dated 11.02.2016.
- XIII. That the licensee shall obtain clearance from competent authority, if required under Punjab Land Preservation Land Act, 1900 and any other clearance required under any other law.
- XIV. That the rain water harvesting system shall be provided as per Central Ground Water Authority Norms/Haryana Govt. notification as applicable.
- XV. That the provision of solar water heating system shall be as per guidelines of Haryana Renewable Energy Development Agency and shall be made operational where applicable before applying for an Occupation Certificate.
- XVI. That the licensee shall use only LED fitting for internal lighting as well as campus lighting.
- XVII. That the licensee shall convey the 'Ultimate Power Load Requirement' of the project to the concerned power utility, with a copy to the Director, within two months period from the date of grant of license to enable provision of site in licensed land for Transformers/Switching Stations/Electric Sub Stations as per the norms prescribed by the power utility in the zoning plan of the project.
- XVIII. That it will be made clear at the time of booking of plots/commercial space that specified rates include or do not include EDC. In case of not inclusion of EDC in the booking rates, then it may be specified that same are to be charged separately as per rate fixed by the Govt. You shall also provide detail of calculation of EDC per Sqm/per Sft to the allottees while raising such demand from the plot owners.
- XIX. That the licensee shall keep pace of development at-least in accordance with sale agreement executed with the buyers of the plots as and when scheme is launched.

- XX. That the licensee shall arrange power connection from UHBVNL/DHBVNL for electrification of the colony and shall install the electricity distribution infrastructure as per the peak load requirement of the colony for which licensee shall get the electrical (distribution) service plan/estimates approved from the agency responsible for installation of external electric services i.e. UHBVNL/DHBVNL and complete the same before obtaining completion certificate for the colony.
- XXI. That the licensee shall complete the project within seven years (5+2 years) from date of grant of license.
- XXII. That the licensee will pay the labour cess as per policy instructions issued by Haryana Government.
- XXIII. That the licensee shall submit compliance of Rule 24, 26, 27 & 28 of Rules 1976 & Section 5 of Haryana Development and Regulation of Urban Areas Act, 1975, and shall inform account number and full particulars of the scheduled bank wherein licensee have to deposit thirty percentum of the amount received from the plot holders for meeting the cost of Internal Development Works in the colony.
- XXIV. That the licensee shall permit the Director or any other officer authorized by him to inspect the execution of the layout and the development in the works in the colony and to carry out all directions issued by him for ensuring due compliance of the execution of the layout and development works in accordance with the license granted.
- XXV. That the licensee shall follow the provisions of the Real Estate (Regulations and Development) Act, 2016 and Rules framed there under shall be followed by the applicant in letter and spirit.
- XXVI. To execute the development works as per Environmental Clearance and comply with the provisions of Environment Protection Act, 1986, Air (Prevention and Control of Pollution of Act, 1981) and Water (Prevention and Control of Pollution of 1974). In case of any violation of the provisions of said statutes, you shall be liable for penal action by Haryana State Pollution Control Board or any other Authority Administering the said Acts.
- XXVII. That licensee shall obey all the directions/restrictions imposed by the Department from time to time in public interest.
- XXVIII. That no clubbing of residential plots for approval of integrated zoning plan of two adjoining plots under same ownership shall be permitted.
- XXIX. That the owner/developer shall integrate the bank account in which 70 percent allottee receipts are credited under Section-4(1)(i)(D) of the Real Estate Regulation and Development Act, 2016 with the online application/payment gateway of the Department, in such manner, so as to ensure that 10% of the total receipt from each payment made by an allottee is automatically deducted and gets credited to the EDC head in the State treasury.
- XXX. That such 10% of the total receipt from each payment made by the allottee, which is received by the Department shall get automatically credited, on the date of receipt in the Government treasury against EDC dues.
- XXXI. That such 10% deduction shall continue to operate till the total EDC dues get recovered from the owner/developer.

XXVII. The implementation of such mechanism shall, however, have no bearing on EDC instalment schedule conveyed to the owner/developer. The owner/developer shall continue to supplement such automatic EDC deductions with payments from its own funds to ensure that by the EDC instalments that are due for payment get paid as per the prescribed schedule.

3. The licence is valid up to 15/02/2025.

Dated: 16/02/2023.  
Place: Chandigarh.

  
(T.L. Satyaprakash, IAS)  
Director General,  
Town & Country Planning  
Haryana, Chandigarh

Endst. No. LC-4621-B-JR (S3)-2023/ 4624

Dated: 16-02-2023

A copy along with a copy of schedule of land is forwarded to the following for information and necessary action: -

1. Ora Land & Housing Pvt. Ltd - J-10/9, DLF Phase II, Mehrauli, Gurugram Road, Gurugram-122022 and LC-IV, Bilateral agreement.
2. Chairman, Pollution Control Board, Haryana, Sector-6, Panchkula.
3. Chief Administrator, HSVP, Panchkula.
4. Chief Administrator, Housing Board, Panchkula alongwith copy of agreement.
5. Managing Director, HVPN, Planning Directorate, Shakti Bhawan, Sector-6, Panchkula.
6. Joint Director, Environment Haryana - Cum-Secretary, SEAC, Paryavaran Bhawan, Sector -2, Panchkula.
7. Director Urban Estates, Haryana, Panchkula.
8. Administrator, HSVP, Gurugram.
9. Chief Engineer, HSVP, Gurugram.
10. Superintending Engineer, HSVP, Gurugram along with a copy of agreement.
11. Land Acquisition Officer, Gurugram.
12. Senior Town Planner, Gurugram.
13. Senior Town Planner (Enforcement), Haryana, Chandigarh.
14. District Town Planner, Gurugram along with a copy of agreement & Layout Plan.
15. Chief Accounts Officer (Monitoring) O/o DGTCP, Haryana.
16. PM (IT) for updation on the website.

  
(S.K. SEHWAT)  
District Town Planner (HQ)  
For Director General, Town & Country Planning,  
Haryana, Chandigarh

## Directorate of Town & Country Planning, Haryana

Nagar Yojana Bhavan, Plot no. 3, Sector-18 A, Madhya Marg, Chandigarh  
 Web site [tcpharyana.gov.in](http://tcpharyana.gov.in) - e-mail: [tcpharyana2@email.com](mailto:tcpharyana2@email.com)

FORM LC -V  
 (See Rule 12)

License No. 108 of 2022

This License has been granted under the Haryana Development and Regulation of Urban Areas Act 1975 & the Rules 1976 made there under to Ora Land & Housing Pvt. Ltd. J-10/9, OLF-Phase-II, Mehrauli-Gurugram Road, Gurugram-122021 to set up an Affordable Plotted Colony under DDJAY over an area measuring 11.39375 acres in Sector-93, District Gurugram.

1. The particulars of the land, wherein the aforesaid affordable residential plotted colony is to be set up, are given in the schedule of land annexed hereto and duly signed by the Director, Town & Country Planning, Haryana.
2. The Licence is granted subject to the following conditions:-
  - a) That the affordable residential plotted colony will be laid out in confirmation to the approved layout/building plan and development works will be executed in accordance to the designs and specifications shown in the approved plans.
  - b) That the licensee shall abide by the Deen Dayal Jan Awas Yojna policy dated 08.02.2016, subsequent amendments from time to time and other direction given by the Director time to time to execute the project.
  - c) That the licensee shall deposit an amount of Rs. 2,39,78,070/- (@Rs. 500 per sqm for the residential component and @Rs. 1000 per sqm for commercial component) against Infrastructural Development Charges in two equal instalments. First within 60 days from issuance of license and second within six months be paid online at [www.tcpharyana.gov.in](http://www.tcpharyana.gov.in). In failure of which, an interest @ 18% per annum for delay period shall charged.
  - d) That the conditions of the agreements already executed are duly fulfilled and the provisions of Haryana Development and Regulation of Urban Areas Act, 1975 and the Rules 1976 made there under are duly complied with.
  - e) That the licensee shall maintain and upkeep of all roads, open spaces, public park and public health services for a period of five years from the date of issue of the completion certificate unless earlier relieved of this responsibility and thereupon to transfer all such roads, open spaces, public parks and public health services free of cost to the Govt. or the local authority, as the case may be, in accordance with the provisions of Section 1(3)(a)(iii) of the Haryana Development and Regulation of Urban Areas Act, 1975.
  - f) That the licensee shall integrate the services with Haryana Shahari Vikas Pradhikaran services as and when made available.
  - g) That the licensee shall transfer 10% area of the licenced colony free of cost to the Government for provision of community facilities. This will give flexibility to the Director to work out the requirement of community infrastructure at

Director  
 Town & Country Planning  
 Haryana

sector level and accordingly make provisions. The said area has been earmarked on the enclosed layout plan.

- f) That the licensee shall transfer the part of licenced land falling under sector road/green belt free of cost to the Govt. or the local authority, as the case may be, in accordance with the provisions of Section 3(3) (a) (iii) of the Haryana Development and Regulation of Urban Areas Act, 1975.
- h) That the licensee understands that the development/construction cost of 30 m/24 m/18 m major internal roads is not included in the EDC rates and they shall pay the proportionate cost for acquisition of land, if any, alongwith the construction cost of 30 m/24 m/18 m wide major internal roads as and when finalized and demanded by the Department.
- j) That the licensee shall obtain NOC/Clearance as per provisions of notification dated 14.09.2006 issued by Ministry of Environment & Forest, Govt. of India, if applicable before execution of development works at site.
- k) That the licensee shall make arrangements for water supply, sewerage, drainage etc to the satisfaction of DTCP till these services are made available from External Infrastructure to be laid by Haryana Shehri Vikas Pardhikaran or any other execution agency.
- l) That the licensee shall pay the differential amount if there will be any change in the said rates from the original calculation required to be deposited as and when demanded by the Department as the EDC have been charged on the basis of EDC Indexation Mechanism Policy dated 11.02.2016.
- m) That the licensee shall obtain clearance from competent authority, if required under Punjab Land Preservation Land Act, 1900 and any other clearance required under any other law.
- n) That the rain water harvesting system shall be provided as per Central Ground Water Authority Norms/Haryana Govt. notification as applicable.
- o) That the provision of solar water heating system shall be as per guidelines of Haryana Renewable Energy Development Agency and shall be made operational where applicable before applying for an Occupation Certificate.
- p) That the licensee shall use only LED fitting for internal lighting as well as campus lighting.
- q) That the licensee shall convey the 'Ultimate Power Load Requirement' of the project to the concerned power utility, with a copy to the Director, within two months period from the date of grant of license to enable provision of site in licenced land for Transformers/Switching Stations/Electric Sub Stations as per the norms prescribed by the power utility in the zoning plan of the project.
- r) That it will be made clear at the time of booking of plots/commercial space that specified rates include or do not include EDC. In case of not inclusion of EDC in the booking rates, then it may be specified that same are to be charged separately as per rate fixed by the Govt. You shall also provide detail of calculation of EDC per Sqm/per Sft to the allottees while raising such demand from the plot owners.

- s) That the licensee shall keep pace of development at-least in accordance with sale agreement executed with the buyers of the plots as and when scheme is launched.
  - t) That the licensee shall arrange power connection from UHBVNL/DHBVNL for electrification of the colony and shall install the electricity distribution infrastructure as per the peak load requirement of the colony for which licensee shall get the electrical (distribution) service plan/estimates approved from the agency responsible for installation of external electric services i.e. UHBVNL/DHBVNL and complete the same before obtaining completion certificate for the colony.
  - u) That the licensee shall complete the project within seven years (5+2 years) from date of grant of license.
  - v) That the licensee will pay the labour cess as per policy instructions issued by Haryana Government.
- 
- w) That the licensee shall submit compliance of Rule 24, 26, 27 & 28 of Rules 1976 & Section 5 of Haryana Development and Regulation of Urban Areas Act, 1975, and shall inform account number and full particulars of the scheduled bank wherein licensee have to deposit thirty percentum of the amount received from the plot holders for meeting the cost of Internal Development Works in the colony.
  - x) That the licensee shall permit the Director or any other officer authorized by him to inspect the execution of the layout and the development in the works in the colony and to carry out all directions issued by him for ensuring due compliance of the execution of the layout and development works in accordance with the license granted.
  - y) That the licensee shall follow the provisions of the Real Estate (Regulations and Development) Act, 2016 and Rules framed there under shall be followed by the applicant in letter and spirit.
  - z) That you shall execute the development works as per Environmental Clearance and comply with the provisions of Environment Protection Act, 1986, Air (Prevention and Control of Pollution of Act, 1981) and Water (Prevention and Control of Pollution of 1974). In case of any violation of the provisions of said statutes, you shall be liable for penal action by Haryana State Pollution Control Board or any other Authority Administering the said Acts.
  - aa) That you shall obey all the directions/restrictions imposed by the Department from time to time in public interest.
  - bb) That no clubbing of residential plots for approval of integrated zoning plan of two adjoining plots under same ownership shall be permitted.
  - cc) That the 50% saleable area, earmarked in the approved layout plan and freezed as per clause 5(i) of DDJAY policy shall be allowed to sell only after completion of all Internal Development Works in the colony.
  - dd) That the owner/developer shall integrate the bank account in which 70 percent allottee receipts are credited under Section-4(2)(i)(D) of the Real Estate Regulation and Development Act, 2016 with the online application/payment

gateway of the Department, in such manner, so as to ensure that 10% of the total receipt from each payment made by an allottee is automatically deducted and gets credited to the EDC head in the State treasury.

- ee) That such 10% of the total receipt from each payment made by the allottee, which is received by the Department shall get automatically credited, on the date of receipt in the Government treasury against EDC dues.
- ff) That such 10% deduction shall continue to operate till the total EDC dues get recovered from the owner/developer.
- gg) The implementation of such mechanism shall, however, have no bearing on EDC instalment schedule conveyed to the owner/developer. The owner/developer shall continue to supplement such automatic EDC deductions with payments from its own funds to ensure that by the EDC instalments that are due for payment get paid as per the prescribed schedule.
- hh) That the calculation of fee and charges has been done by considering the 2% commercial component with FAR of 1.5. In case, you want to avail additional FAR of 1.75 for commercial component, you shall deposit the additional amount of fee and charges.
- ii) That you shall provide unrestricted access to the land owner of Gair Mumkin Rasta through the licensed land.
- jj) That you shall not encroach the revenue rasta passing through the site and shall not obstruct free movement/passage.

3. The licence is valid up to 04.08.2027

Dated: 05.08.2022  
Place: Chandigarh

  
 (K. Makrand Pandurang, IAS)  
 Director,  
 Town & Country Planning  
 Haryana, Chandigarh

Endst. No. LC-4621-JE (DS)-2022/

Dated:

A copy along with a copy of schedule of land is forwarded to the following for information and necessary action: -

1. Ora Land & Housing Pvt. Ltd. J-10/9, DLF Phase-II, Mehrauli-Gurgaon Road, Gurugram-122022 and LC-IV, Bilateral agreement.
2. Chairman, Pollution Control Board, Haryana, Sector-6, Panchkula.
3. Chief Administrator, HSVP, Panchkula.
4. Chief Administrator, Housing Board Panchkula alongwith copy of agreement.
5. Managing Director, HVPN, Planning Directorate, Shakti Bhawan, Sector-6, Panchkula.
6. Joint Director, Environment Haryana - Cum-Secretary, SEAC, Paryavaran Bhawan, Sector -2, Panchkula.
7. Director Urban Estates, Haryana, Panchkula.
8. Administrator, HSVP, Gurugram.



9. Chief Engineer, HSVP, Gurugram.
10. Superintending Engineer, HSVP, Gurugram along with a copy of agreement.
11. Land Acquisition Officer, Gurugram.
12. Senior Town Planner, Gurugram.
13. Senior Town Planner (Enforcement), Haryana, Chandigarh.
14. District Town Planner, Gurugram along with a copy of agreement & Layout Plan.
15. Chief Accounts Officer (Monitoring) O/o DTCP, Haryana.
16. Accounts Officer, O/o Director, Town & Country Planning, Haryana, Chandigarh along with a copy of agreement.

  
(S.K. Sehrawat)  
District Town Planner (HQ)  
For Director, Town & Country Planning,  
Haryana, Chandigarh

64

03/08

To be read with License no. 108 Dated.....of 2022

Detail of land owned by Ora land & Housing Pvt. Ltd.

Village	Rect. No.	Killa No.	Area (K-M)
Hayatpur	37	14/3	3-12
		3/2	1-4
		4/1	3-12
		4/3	4-0
		5/1	6-7
		7/1	4-0
		7/3	1-8
	34	8/1/1	0-9
		23/2	7-0
	36	24/1	0-11
		6/2	2-4
		7	2-6
		14/1	1-17
		15/1	4-11
37	11/1	7-12	
	12/1	4-8	
	8/2/2	1-15	
	12/2/1	1-9	
	13/1/1	1-2	
36	4	1-14	
	5/1	6-8	
	6/1/2	4-13	
37	20/3	2-0	
	21	4-11	
	22	8-0	
	23/2/1	0-10	
	8/1/2	2-9	
	23/2min	0-10	
Wazirpur	72	24min	1-1
		Total	91K-3M

Or 11.39375 acres  
 Director,  
 Town & Country Planning  
 Hayatpur  
 Jhang District

15/045/2022



45

## GURUGRAM METROPOLITAN DEVELOPMENT AUTHORITY

From

Chief Engineer,  
Infra-II, GMDA, Gurugram

To

Director General,  
Town and Country Planning Department,  
Haryana, Chandigarh.

Subject:

**Approval of service plan estimate for setting up of affordable residential plotted colony (DDJAY-2016) (Licence No.108 of 2022 dated 05.08.2022) over an area measuring 11.39375 acres in Sector-93 at Village Hayatpur and Wazirpur district Gurugram being developed by M/s Ora Land and Housing Pvt Ltd**

Ref:

Please refer to your good office drawing no.8503 dated 08.08.2022 vide which the layout plans of affordable residential plotted colony had been approved. Accordingly, the firm M/s Ora Land and Housing Pvt Ltd submitted the service plan estimate to the Executive Engineer (Proj.), Infra-II, GMDA, Gurugram pertaining to affordable residential plotted colony measuring 11.39375 acres (Licence No. 108 of 2022) in Revenue Estate of village Hayatpur and Wazirpur, Sector-93, Gurugram. The service plan estimate has been scrutinized in this office and comments are as under:

**1. EXTERNAL DEVELOPMENT CHARGES:**

The colonizer will have to pay the proportionate cost of external development charges for setting up of affordable residential plotted colony for the services like water supply, sewerage, storm water drainage, roads, bridges, community building, street lighting and horticulture and Mtc. thereof etc. on gross acreage basis as and when determined by TCP/ GMDA/ Govt. for Gurugram. These charges will be modifiable as and when approved by the authority/ State Govt. and will be binding upon the colonizer.

**2. MAINTENANCE OF SERVICES:**

The Mtc. Charges for various services like water supply, sewerage, storm water drainage, roads, street lighting and Hort.. etc has been included by the firm in the Sub Work No. VII and the total cost works out to be Rs.317.61 Lakh. It may be made clear to the colonizer that they are liable to maintain the estate developed by



### GURUGRAM METROPOLITAN DEVELOPMENT AUTHORITY

them for 10 years or as per TCP/ GMDA norms till such time, the colony is taken over by the local authority/State Govt.

#### 3. DENSITY/ AREA/ POPULATION:

The overall density of the Group Housing Colony works out to 2957 persons with 259.53 PPA. The category wise area as shown on the plans and proposed density of population thereof has been treated to be correct for the purposes of services only. This may be checked and confirmed by your office that overall density of sector should be maintained accordingly to the final development plan.

4. The titled and name of the license may be examined by your office.
5. All technical notes and comments incorporated in this estimate in two sheets will also apply. A copy of these are also appended as Annexure - 'A'.
6. The colonizer will have to ensure that sewer/ storm water laid by them will be connected with the proposed/ existing master services by gravity. If it is not possible to connect the services by gravity, it will be the responsibility of the colonizer to make the pumping arrangement and maintenance thereof for all the times to come.
7. It is made clear to the colonizer that release of water for external source will take about five years for the new licensed area subject to the following:
  - i) Availability of litigation free land in the alignment of services.
  - ii) Permission from forest and environment department area accorded, where ever required.
  - iii) GMDA shall supply the drinking water only to the license granted in the master plan area.
  - iv) GMDA shall provide water supply along master road at the initial stage and various colonizer will have to take connection from this water supply main up to their site at their own expenses, till the land of master road encircling the licensed area is acquired and the area in between licensed area & master road is further acquired by GMDA or licensee.
  - v) Till the water supply and other services area made available by GMDA, the licenses will have to make their own arrangement from GMDA WTPs or ground water source with the permission from Central Ground Board and other concerned authority designated by Govt., for the purpose.



### GURUGRAM METROPOLITAN DEVELOPMENT AUTHORITY

8. It may be clarified to the colonizer that recycled water is proposed to be utilized for flushing purposes. The firm has to make provision of separate flushing line, storage tank, metering system, pumping system, plumbing etc. It may be clarified to developer that no tap or outlet of any kind will be provided from the flushing lines/ plumbing lines for recycled water except for connection to the cistem of flushing tanks and any scouring arrangement. Even ablution taps should be avoided.

i) Two separates distribution systems, independent of each other, will be adopted, one for potable water supply and second for recycled water, Home/ Office/ business establishment will have access to two water pipe lines.

ii) Portable water and recycled water supply lines will be laid on opposite berms of road. Recycled water lines will be above sewer lines. Wherever unavoidable and if all pipes are required to be laid on same side of road, these will be located from the ground surface in order of descending quality. Potable water shall be above recycled water which should be above sewer. Minimum clear vertical separation between a potable water line and a recycled water line shall be one feet. if no possible then readily identifiable sleeve should be used. The recycled pipeline shall be painted with red paint.

#### To avoid any accidental use of recycled water for potable purpose:

- a) All recycle water pipes, fitting, Appurtenances, valves, taps, meters hydrants will be of Red color or painted red.
  - b) Sign and symbol signifying and clearly indicating "Recycle Water" "Not fit for Drinking" must invariably be stamped /fixed on outlet, hydrants Valves both surface and subsurface, Covers and at all conspicuous places of recycle distribution system.
  - c) Detectable marker taps of red color bearing words "Recycle Water" should be fixed at suitable interval on pipes.
  - d) Octagonal covers, red in color or pointed Red and words "Recycle Water Not for Drinking" embossed on them should be used for recycled water.
9. It shall be mandatory for the firm to provide dual/ two button or level flushing system in toilets.



48

**GURUGRAM METROPOLITAN DEVELOPMENT AUTHORITY**

10. It may be made clear to the colonizer that he will not make the connection with the master services without prior approval of the competent authority, in writing.
11. The layout plan for setting up of Group Housing colony having an area 11.39375 acres supplied by your office vide drawing no 8503 dated 08.08.2022, have been considered to be correct for the purposes of estimation/ services only.
12. For disposal of sewage of the colony, the colonizer has proposed initial Sewage Treatment Plant in their colony. It may be made clear to the colonizer that he will be sole responsible for disposal of their colony as per requirements of HSPCB/ Environment Deptt. till such time GMDA services are made available as per proposal of the Town. All the link connection with the GMDA services shall be made by the colonizer at his own cost.
13. That colonizer shall ensure the installation of Solar Power Plants as per provision of Haryana Solar Power Policy 2016 issued by Haryana Govt. Renewable Energy Department vide notification No. 19/4/2016-5 power 14.03.2016, if applicable.
14. The estimate does not include the provision of electrification of the colony. However, it may be made clear to the colonizer that the supervision charges O&M charges shall be paid by them directly to the HVPNL/ DHBVNL Deptt.
15. It may be made clear to the colonizer that there will be no pollution due to disposal of sewerage of their colony. The disposal of effluent should be in accordance to the standard norms, fixed by the Haryana State Pollution Control Board/ Environment Deptt. time to time.
16. The colonizer will be responsible for the construction of various structures such as RCC, UGT and OHSR; water/ sewage treatment plant etc. according to CPHEEO Manual, standard specifications, good quality workmanship and water tightness of all the structures will be responsible of the colonizer.
17. The colonizer shall install Online Analyzer/ Monitoring System to monitor the operational effluent Parameters at Sewerage Treatment Plant and integrated with GMDA Integrated Command & Control Centre (ICCC) for sharing/ sinking the Real time data.
18. The portion of the sector/ development plan roads/ greens belt as provided in the development plan which is part of the licensed area shall be transferred free of cost to the Govt./ GMDA.



### GURUGRAM METROPOLITAN DEVELOPMENT AUTHORITY

19. In case of 24 Mtrs. Wide road if it is decided by the Govt. that master services be extended on 24 Mtr wide internal circulation road, additional amount at rates as decided by the authority will be recoverable over and above the EDC.
20. The correctness of the levels of the colony will be the sole responsibility of the colonizer for integrating the internal sewer/ storm water drainage of the colony by gravity with the master services to be provided by the GMDA as per the proposal.
21. In case some additional structures area required to be constructed, as decided by TCP/ GMDA at a later stage, the same will be binding upon the colonizer. Flow control valves will be installed, preferably of automatic type on water supply connection with GMDA water supply line and the Electro Magnetic flow meter with the provision of synchronization with GMDA Integrated Command & Control Centre (ICCC) for sharing/ sinking the Real time data.
22. The Treated water shall be used for non-potable purposes such as flushing, green areas, parks etc as per the plan in line with Govt. of Haryana Policy for Reuse of Treated Waste Water Policy-2019.
23. That the colonizer/ owner shall use only compact fluorescent lamps fitting for internal lighting as well campus lighting.
24. Level/ extent of the external services to be provided by GMDA will be in accordance with the EDC deposited.
25. **COMMON SERVICES:**

The estimate does not include the common services like water supply, storage tank on top of the building block like the plumbing works etc. and will be part of building works.

Note (1):

In order to implement the directions given by National Green Tribunal in O.A. No.21 of 2014 and No. 95 of 2014 (In the matter of Vardhaman Kaushik V/s Union of Indian and Ors), instructions have been issued vide HSVP's office letter No.2121-37 dated 23.02.2015, 2609-19 dated 05.03.2015, 4412-21 dated 22.04.2015, 4971-89 dated 30.04.30.04.2017, 5442-5457 dated 11.05.2015, 15622-43 dated 10.12.2015, 1-16 dated 01.01.2016 and No. 114152-154/114160-114196 dated 21.01.2016. The same may be incorporated in the estimate and the developer must ensure implementation of these instrumentations at site.



### GURUGRAM METROPOLITAN DEVELOPMENT AUTHORITY

The estimated cost of various services to be provided by the firm for the development of internal services has been checked and corrected for purpose of bank guarantee and execution of works out as under:

Sr. No.	Description	Amount (Rs. in Lakh)
1.	Water Supply	234.55
2.	Sewerage	315.44
3.	Storm Water Drainage	167.37
4.	Roads	291.04
5.	Street Lighting	43.72
6.	Horticulture	6.15
7	Maintenance Of Services For Ten Years Including Resurfacing Of Road After 1 <sup>st</sup> Five Years And 2 <sup>nd</sup> Five Years Of Maintenance (As Per GMDA norms)	317.61
	<b>Total</b>	<b>1375.88 Lakh</b>

Development Cost per acre = Rs. 1375.88 Lakh/ 11.39375 acres = Rs. 120.75 Lakh per gross acre.

Two copies of the estimate along with Four Plans and proposal as received are sent herewith duly corrected and signed for taking further necessary action.

It is requested to get three copies of the service plan estimate from the colonizer for distribution amongst the field stations.

DA/- Estimate in duplicate  
alongwith four plans  
& Annexure-A.

Signed by Rajesh Bansal  
Date: 20-09-2022 21:21:16  
Reason: Approved  
Chief Engineer (Infra-II),  
GMDA, Gurugram

CC to

1. Chief Executive Officer, GMDA.
2. Executive Engineer- W/s (Proj.)/ Sewerage/ Drainage, Infra-II, GMDA
3. Nodal Officer for the purpose.

This communication is computer generated and does not contain any signature in pen. This is signed with the digital signature obtained from a certifying authority under the Information Technology Act, 2000. For any queries, please quote the letter Number and e-mail at the mail address provided above.





## GURUGRAM METROPOLITAN DEVELOPMENT AUTHORITY

### Annexure 'A'

**Subject:** Approval of service plan estimate for setting up of affordable residential plotted colony (DDJAY-2016) (Licence No.108 of 2022 dated 05.08.2022) over an area measuring 11.39375 acres in Sector-93 at Village Hayatpur and Wazirpur district Gurugram being developed by M/s Ora Land and Housing Pvt Ltd

1. All detailed working drawings would have to be prepared by the colonizer for integrating the internal service 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 be of the same specifications as are being adopted by GMDA and further, it shall also conform to such directions, as issued by Chief Engineer, Infra-II, GMDA from time to time.
4. The work shall be carried out according to Haryana PWD specifications or such specifications as are being followed by GMDA. Further, it shall also conform to such other directions as issued by Chief Engineer, Infra-II, GMDA 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/ GMDA. All link connections with the State Government/ GMDA system and services will be done by the colonizer. If necessary extra tube-wells shall so be installed to meet extra demand of water beyond the provision accordingly to EDC deposited after due approval from the competent authority designated by Govt. from installation of tube-well.
6. Structural design & drawing 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 fully responsible for structural audit of all structures from a reputed organization.
7. Potability of water will be checked and confirmed by the builder and the tube-wells will be put into operation after getting chemical analysis of water tested from reputed laboratory whether it is fit for human consumption.
8. Only DI pipes will be used in water supply & flushing system and UPVC/HDPE pipe for irrigation purposes.
9. A minimum 100 mm i/d DI, 200mm i/d UPVC/SW pipe and 400mm id RCC NP-3 pipe will be used for water supply, sewerage and storm water drainage respectively.