

**LION INFRADEVELOPERS LLP**

**Regd Office:** PLOT NO.10, 3rd FLOOR, LOCAL SHOPPING COMPLEX, B-1, VASANT KUNJ NEW  
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To

Date:-03.05.2019

The Executive Engineer,

HSVP, Division No.- 6

Gurugram

**Subject:- Approval of the Service Plan Estimate of the Affordable Residential Plotted Colony (Under Deen Dayal Jan Awas Yojna) on the land measuring 12.41875 Acres (License No. 23 of 2019 Dated: 20.02.2019) in Sector- 35, Sohna, Distt: Gurugram belonging to Vallabham Buildcon Pvt. Ltd. And Vibhor Home Developers Pvt. Ltd. In Collaboration with M/S Lion Infradevelopers LLP.**

Dear Sir,

With reference to the above mentioned subject, we hereby submitting Six sets of the service plan estimate for your consideration please.

Kindly do the needful and oblige.

Thanking you,

Yours truly,

For **Lion Infradevelopers LLP**



Authorized Signatory

Cc:- Director, Town & Country Planning, Haryana, Chandigarh

EE-VI

Rajesh  
03-05-2019  
O/o Xer-VI,  
HSVP, CGM

**OFFICE OF THE ADDITIONAL CHIEF ENGINEER, HSVP, GURUGRAM**

To

The Chief Engineer-I,  
HSVP, Panchkula.

Memo No. 93023

Dated: 23-05-2019

**Sub:** Approval of the Service Plan Estimate of the Affordable Residential Plotted Colony (Under DeenDayal Jan AwasYojna) on the land measuring 12.41875 acres (License No.23 of 2019 dated 20.02.2019) in Sector-35, Sohna, Distt. Gurugram belonging to Vallabham Buildcon Pvt. Ltd. and Vibhor Home Developers Pvt. Ltd. in Collaboration with M/s Lion Infradevelopers LLP.

The Superintending Engineer, HSVP, Circle-II, Gurugram vide letter No.3846 dated 22.05.2019 submitted that the Service Plan Estimate of the Affordable Residential Plotted Colony (Under Deen Dayal Jan AwasYojna) on the land measuring 12.41875 acres (License No.23 of 2019 dated 20.02.2019) in Sector-35, Sohna, Distt. Gurugram belonging to Vallabham Buildcon Pvt. Ltd. and Vibhor Home Developers Pvt. Ltd. in Collaboration with M/s Lion Infradevelopers LLP has been checked and submitted to this office by Executive Engineer, HSVP Division No. VI, Gurugram for taking necessary action.

The service plan estimate is further submitted to your office duly checked for bank guarantee purposes and taking necessary action. It is subject to the following comments:-

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1. **DENSITY / AREA / POPULATION:-**The scheme has been designed considering 13.5 persons per plot. Total population of the colony works out to 3038 persons i.e. 245 Persons Per Acre with above consideration. This may be checked and confirmed by DGTCP office that over all density as taken is corrected and overall density of sector is maintained according to the final development plan of Sohna town. The category wise area shown on the plans and proposed density of population thereof has been treated to be correct for the purpose of estimation/services.

**Note:**

- i) Ground Water shall not be used for the purpose of construction of building in terms of orders of the Hon'ble High Court dated 16.07.2012 in CWP's No. 20032 of 2008, 13594 of 2009 and 807 of 2012.
- ii) The directions given by 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 Ors. and instructions issued by Hon'ble NGT during hearing held on 28.04.2015 in OA No. 21 of 2014 and OA No. 95 of 2014 in the matter of Vardhman Kaushik V/s Union of India &ors by the firm.
- iii) NGT orders in application No.45 of 2015 & M.A No.126 of 15 titled as Haryali Welfare Association v/s State of Haryana Gurugram.
- iv) Implementation of instructions issued by Hon'ble NGT during hearing held on 28.04.2015 in OA No. 21 of 2014 and OA No. 95 of 2014 in the matter of Vardhman Kaushik V/s Union of India &ors, conveyed by the Chief Engineer, HSVP, Panchkula vide No. CE/EE-W/CHD(G)/4971-89 dated 30.04.2015 shall be complied with in the construction of work.

2. The internal services of Affordable Residential Plotted Colony (Under DeenDayal Jan AwasYojna) are proposed to be connected with the proposed master services to be provided on dividing road of Sec-33 & 35, Sohna through 12 Mtr. wide Service Road of Gurugram - Sohna Road dividing Sector 33/35, Sohna. The external services are yet to be provided by HSVP, the firm may be ask to make their own interim arrangement till the HSVP services are made available.

i) **WATER SUPPLY:-**100 mm dia water supply line has been proposed to be connected with the proposed water supply line to be laid on 12 mtr. wide service road from main HSVP Water Supply Line to be laid on master dividing road of Sec-33 & 35, Sohna. Location of C.W.T. & Pump House etc. shown in plan should be checked by DGTCP office.

a) *The use of ground water /fresh water for construction proposes is prohibited. The tested sewage effluent is available at HSVP STP's on payment or colonizer can make their own arrangement and further make fit as per IS 456 for construction purpose before use.*

b) *The permission / provision of tube-well doesn't entitle to drill tubewells. The permission is to neglect the requirement and provision of funds is made in the estimate but the tubewells shall be subject to all restriction imposed by DC, Gurugram/central Ground Water Department.*

ii) **SEWERAGE:-**For the disposal of sewerage, firm has provided 1 No. sewage treatment plant of total capacity 550 KLD in their colony. Treated water has been proposed to be utilized for flushing and as well to irrigate the landscape area. Overflow pipe line of 200 mm i/d from the STP has been proposed to be disposed off in the sewerage line to be laid on 12 Mtr. wide service road from main sewerage line to be laid on master dividing road of Sec-33 & 35, Sohna. Technology of STP to be ensured either MBBR or equivalent capable of treating the Sewerage to BOD level safe for recycling purpose. Consent to establish the STP be obtained.

iii) **STORM WATER DRAINAGE:-**Internal storm water drainage system has been proposed to be connected with proposed SWD line to be laid on 12 mtr. wide service road from main SWD Line to be laid on master dividing road of Sec-33 & 35, Sohna by 450 mm i/d RCC NP-2 Pipe Line. However, firm has proposed rain water harvesting pits also. Only overflow of the Storm Water will be disposed off. Rain Water Harvesting pits be provided so as to recharge non – contained rain water.

iv) **ROADS:-**The approach to the colony is from existing Gurugram- Sohna Road.

Over all, it shall be ensured to maintain the levels of project for W/s, Sewerage & SWD such as to compliant with services of HSVP. Any amendments received time to time will be binding upon the colonizer.

3. **STREET LIGHTING :-**The provision for street lighting @ Rs.1,07,499/- per acre (appx) has been included in this estimate.

4. **HORT:-**The necessary provision for development of parks and roads side plantation has been in the estimate.

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5. **AIR TRAFFIC RULES/ REGULATIONS:-**

The colony consist the construction of multi-storied building, RCC water tank has been proposed on the top of the building. The total height of the building and top of the water tank above ground level has not been defined indicated on the plans. The violation of Air Traffic Rules/ Regulations and height of the building may be examined by your office.

6. The layout plan for setting up of Affordable Residential Plotted Colony (Under DeenDayal Jan AwasYojna) measuring 12.41875 acres appended with service plan estimate duly approved by DGTCP, HR, Chandigarh have been considered to be correct for the purpose of estimation / services only.

7. **FIRE FIGHTING:-** The provision made in the estimate has been checked for estimation purpose. However, it may be made clear to the colonizer that the appropriate provision for firefighting arrangement as required in the NBC/ISI should also be provided by the colonizer and fire safety certificate should also be obtained by the colonizer from the competent authority before undertaking any construction. The colonizer will be sole responsible for fire safety arrangement.

8. **MAINTENANCE** :-Provision for maintenance charges of various service has been included by the colonizers. The provision for Mtc. and resurfacing of roads after Ist 5 years and 10 years of Mtc. has also been included in the estimate of licensed colony of the colonizer.

9. **EXTERNAL DEVELOPMENT CHARGES:-**The colonizer will have to pay the proportionate cost to the external development charges for setting up of commercial colony for the service like water supply, sewerage, storm water drainage, roads, bridges, community building, street lighting, horticulture etc. on gross acreage basis as and when determine by HSVP. These charges will be modifiable as and when supply by the authority / state govt. and will be binding upon colonizer.

10. The title and name of the license may be examined by DGTCP office.

11. All technical notes and comments incorporated on this estimate in two sheets will also apply. A copy of same is appended as Annexure - 'A'

12. The colonizer will have to ensure that sewer / storm water laid by them will be connected with the proposed 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 mtc. thereof for all the time to come.

13. 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.

14. For disposal of sewage of the colony, the colonizer has proposed provision sewage treatment plant in their colony. It may be made clear to the colonizer that he will be solely responsible for disposal of sewage of their colony as per requirement of HSPCB / Environment Deptt. till such time the HSVP services are made available as per proposal of the Town. All the link connection with the HSVP services shall be made by the colonizer at his own cost. It may be clarified to the colonizer that recycled water is proposed flushing line, storage tank, metering

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system, pumping system and plumbing. 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 cistern of flushing tanks and any scouring arrangement. Even ablution taps should be avoided.

- i) Two separate 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) Potable 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 localied from the ground surface in order of descending quality. Potable water shall be above recycle water which should be above sewer. Minimum clear vertical separation between a potable water line and a recycled water line shall be one foot, if not possible then readily identifiable sleeve should be used.

To avoid any accidental use of recycled water for potable purposes all:

- a) Recycle water pipes, fittings, appurtenances, valves, taps, meters, hydrants will be of Red Color or painted red.
- b) Sign and symbols signifying and clearly indicating "Recycle Water" "Not fit for Drinking" must invariable be stamped / fixed on outlets, Hydrants Valves both surface and subsurface, Covers and at all conspicuous places of recycle distribution system.
- c) Detectable marker tapes of red color bearing works "Recycle Water" should be fixed at suitable interval on pipes.
- d) Octagonal covers, red in color or painted Red and words "Recycle Water-Non fit for Drinking" embossed on them should be used for recycled water.
- e) All connections from recycle system should be distinguishable from connections of potable supply.
- f) No cross connection to be made or allowed between recycle water system and potable water system.
- g) The underground and overhead tanks should have "Recycle Water-Not fit for Drinking" and other warning sign embossed / marked on them. All tanks of recycle system shall be Square in shape.
- h) No connection of any kind, except for inlet to cisterns, shall be made from recycled water pipe.
- i) Potable 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.
- j) 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 foot and if not possible then readily identifiable sleeve should be used.

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- k) Irrespective of immediate availability or non-availability of reclaimed / recycled water, every owner of a house / apartment / flat, commercial Societies, Commercial Complexes and Institutional Building in this colony / licensed area will follow the dual plumbing system so as to receive water separately from potable supply, boosting and utilizing in shape.
- l) All plumbing pipes fittings, valves will be of red color or painted red. In case of embedded pipes, marker tapes or red color at suitable intervals shall be fixed. The underground and overhead tanks should have "Recycle Water-Not fit for Drinking" and other warning signs embossed / marked on them. All tanks of recycle system shall be square in shape.
- m) If scour outlet is required, the same shall be provided at a place away from easy access and shall preferably be locked.
- n) Recycle water pipes and potable water pipes will be fixed in separate chases and a minimum horizontal distance of 6" will be maintained between them. In case of cross over, suitably colored / taped sleeve shall be used.
- o) It is the responsibility of colonizer / developer to supply adequate quantity of recycle water for flushing. In cases of deficit in recycle water of proper quality or if it is temporarily unavailable or when recycle water is not available, potable water will be used for meeting recycle water demand also.
15. 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. In case pumping is required the same will be provided & maintained by colonizer for all the time to come.
16. It may be made clear to the colonizer that the rain water harvesting system shall be provided by them 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 entered into the system shall also be made by the firm/colonizer.
17. The service estimate as received has been checked in this office with the consideration that layout plans appended in the services estimate has been checked / approved by DGTCP.
18. The estimate include the provision of street light of the colony. However, it may be made clear to the colonizer that the supervision charges and O & M charges shall be paid by them directly to the HVPNL.
19. The colonizer will be solely responsible for the construction of various structures such as RCC under Ground Tank etc. according to the standard specifications good quality and its workmanship. The structural stability responsibility will entirely rest upon the colonizer.
20. In case some additional structures are required to be constructed as decided by HSVP 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 HSVP water supply line.
21. Since the construction of master road is yet to take place, the developer will get the road level / formation level of his services fixed from the concerned Executive Engineer, before execution.

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22. The formation level of internal road should match with the sector roads. Similar other services of colonizer like water supply, sewerage and SWD level etc. should be fixed in integration of levels of EDC services of water supply, sewerage, and SWD etc. which shall be ensured by the colonizer.
23. Levels of the external services to be planned / to be provided by HSVP i.e. water supply sewerage will be proportionate to EDC deposited.
24. The firm will provide solar water heating system/ all required provisions as per the guide lines and approval issued by the Haryana Govt./Ministry of Environment, Govt. of India.
25. That the colonizer shall obtain the approval / clearance / NOC as per the provision of the notification No. S.O. 1533 (E) dated 14.09.2006 issued by Ministry of Environment and Forest, Government of India before starting the construction / execution of development works at site.
26. CFL lamp shall be provided by the firm for external lighting in respect of energy conservation.
27. That the owner will not resort manual scavenging by engaging sanitation works for cleaning of septic tanks/ such cleaning as per the decision taken in the meeting of the central monitoring committee (CMC) held under the Chairmanship of Cabinet Secretary on 22.03.2013 (D. O. No. Q. 11021/12/ 2010-PHE-II (Vol. IV dated 7th Feb, 2013 of secretary to the Govt. of India, Ministry of Urban Development and further order by the Principal Secretary to Govt. Haryana, Urban Local Bodies Department, Chandigarh vide letter No. 16/24/2013-2C1 dated nil.
28. The owner shall also be abide to take connection of sewage treated/recycled water supply from HSVP recycled water supply system as and when the system is made available and colonizer is asked by HSVP for connection.
29. **SPECIAL CONDITIONS:-**
- The developer at present has planned his services only for the benefit of his licensed colony. The developers have to dismantle and relocate his already laid services, wherever required to suit the size, capacity and levels of HSVP services in the area / sector.
  - The colonizer will integrate the services with HSVP services as and when made available.
  - It will be ensured by the colonizer to install double button system in flushing cistern in all toilets in various buildings to be constructed in his licensed area.
  - Similarly, the common services if decided to be laid by HSVP along 24mtr wide road / master roads against the development charges charged by HSVP for common benefit of all developers in the sector. The developers have to dismantle and relocate his already laid services, wherever required to suit the size, capacity and levels of HSVP services in the area / sector.
30. **CONSTRUCTION ACTIVITY OF PROJECT:-**
- It is clearly stated that the firm / developer shall not be allowed to carry out the construction with underground water.

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- b) The firm shall also show the source from where the water supply will be taken for construction purpose. The ground water shall not be allowed for use in construction in terms of order of Hon'ble Court dated 16.07.2012 passed in CWP's No. 20032 of 2008, 13594 of 2009 and 807 of 2012.
31. The estimate cost of various services to be provided by the colonizer for the development of internal services has been checked and corrected works for the purposes of bank guarantee as under:-


Sr. No.	Description	Amount (Rs. in lakh)
1.	Water Supply	98.02
2.	Sewerage	89.72
3.	Storm Water Drainage	53.77
4.	Roads & footpath	46.88
5.	Street Lighting	13.35
6.	Horticulture (Plantation & road side trees)	5.59
7.	Maintenance of service including resurfacing of roads after 1 <sup>st</sup> five years and 2 <sup>nd</sup> ten years of maintenance (As per HSVP norms)	56.89
<b>Total</b>		<b>Rs. 364.22 lacs</b>

Net Planned area = 12.41875 acres.

Dev. Cost as per acre = 364.22/12.41875 acres = Rs. 29.33 Lacs per gross acre.

32. It may be made clear to the colonizer that a separate detailed technical scheme including working drawings, designs, levels X-sections / L-sections, specifications and alignments/for connectivity of their intake line outfall/ ultimate disposal lines etc. will have to be prepared by colonizer for the purposes of execution of work and got approved from the concerned Superintending Engineer, HSVP before start of works at site and all works shall be got executed strictly as per approved detailed technical scheme.


DA/- **03 sets of estimate alongwith plan Annexure-A**

  
Additional Chief Engineer,  
HSVP, Gurugram

Endst. No.

Dated:

A copy of above is forwarded to the Superintending Engineer, HSVP, Circle-II, Gurugram w.r.t. his office memo No. 3846 dated 22.05.2019 for information.

  
Additional Chief Engineer,  
HSVP, Gurugram




ANNEXURE-A

**Sub:** Approval of the Service Plan Estimate of the Affordable Residential Plotted Colony (Under Deen Dayal Jan Awas Yojna) on the land measuring 12.41875 acres (License No.23 of 2019 dated 20.02.2019) in Sector-35, Sohna, Distt. Gurugram belonging to Vallabham Buildcon Pvt. Ltd. and Vibhor Home Developers Pvt. Ltd. In Collaboration with M/s Lion Infra developers LLP.

TECHNICAL NOTE AND COMMENTS:-

1. All detailed working drawings would have to be prepared by the colonizer and got approved from Chief Engineer, HSVP so that these are adopted accordingly for integrating the internal services proposals with the major 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 will be got confirmed before execution.
3. The material to be used shall the same specification as are being adopted by HSVP & further shall also confirm to such directions, as issued by the Chief Engineer, HSVP form 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 form 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 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 the 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 the Chief Engineer, HSVP.
8. Only C.I./DI Pipes will used in water supply system, SW pipes in sewerage & RCC Pipe in SWD.
9. Standards X-section for SW pipes sewer, RCC pipes sewer etc. will be followed as are being adopted in Haryana Public Health or HSVP.
10. 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.
11. The specification for various roads will be followed as per IRC/MOT specification.
12. The wiring system of street lighting and specification of street lighting fixtures will be as per relevant standards and those fixed by HSVP.

13. This shall confirm to such other conditions as are incorporated in the approved estimate and the letter of approval.
14. It may be specifically made clear to the colonizer that the sewerage treatment plant shall be constructed with latest technology like SBR, MBBR or equalant technology standard/reputed machinery and other equipments with properly prepared and approved expert design and drawings

  
(Bhoop Singh)  
Superintending Engineer,  
HSVP, Circle-II, Gurugram

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

**FOR**

**PROPOSED "AFFORDABLE PLOTTED COLONY (UNDER DEEN  
DAYAL JAN AWAS YOJNA – 2016) AREA MEASURING  
12.41875 ACRES (LICENSE NO. 23 OF 2019 DATED  
20.02.2019) IN SECTOR – 35, SOHNA, DISTT. - GURUGRAM  
BELONGING TO VALLABHAM BUILDCON PVT. LTD. AND  
VIBHOR HOME DEVELOPERS PVT. LTD. IN COLLABORATION  
WITH M/S LION INFRA DEVELOPERS LLP**

**SERVICE ESTIMATE, DESIGN REPORT AND CALCULATIONS OF INTERNAL DEVELOPMENT WORKS FOR PROPOSED “AFFORDABLE PLOTTED COLONY (UNDER DEEN DAYAL JAN AWAS YOJNA – 2016) AREA MEASURING 12.41875 ACRES (LICENSE NO. 23 OF 2019 DATED 20.02.2019) IN SECTOR – 35, SOHNA, DISTT. - GURUGRAM BELONGING TO VALLABHAM BUILDCON PVT.LTD. AND VIBHOR HOME DEVELOPERS PVT. LTD. IN COLLABORATION WITH M/S LION INFRA DEVELOPERS LLP**

Sohna town of Haryana State situated on N.H. -248-a road at a distance of 54 Km from Delhi. Being in the national capital region, the town has 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 Sohna, Distt. - Gurugram Urban Complex. This report is for a part of service estimate for proposed “AffordablePlottedColony” (under Deen Dayal Jan AwasYojna – 2016) measuring 12.41875 acres (License No. 23 of 2019 dated 20.02.2019) in Sector – 35, Sohna Distt. - Gurugram being belonging to VallabhamBuildconPvt. Ltd. and VibhorHome Developers Pvt. Ltd. in collaboration with M/s Lion Infra Developers Llp 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 tankswill 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 HSVP W/S in this area. However the provision of tube well have 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/Swill made available. The proposed tube wells 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 Two Nos Tube Wells have been taken in this estimate.

**DESIGN**

The scheme has been designed for population of 3038persons considering @ 13.50persons/unitfor AffordablePlotted Colony and other provision etc. The combined quantum of water supply (domestic + flushing) per head / day has been taken as 172.50Liters 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 HSVP sewer 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 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 pipes 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 and electrification 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. Provision for Electric Panel or ESS provision has also been made in this estimate.

**9. SPECIFICATIONS**

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

**10. RATES**

The estimate has been based on the present market rates.

**11. COST**

The total cost of the scheme including cost of all services works out to Rs. 364.22 Lacs (Rupees Three Crores Sixty Four Lacs Twenty Two Thousand only) including 3% contingencies and 49% departmental charges + Price escalation and cost per acre comes out to Rs. 29.33 Lacs.

FOR LION INFRADEVELOPERS LLP



(Authorized Signatory)

AUTHORISED SIGNATORY

**1. DESIGN CALCULATION :-**

Total Area of plot	= 12.41875 Acres or 50256.818 Sqm
Permissible Area under Plots	= 7.57544 Acres or 30656.659 Sqm
Proposed Area under Plots	= 6.56094 Acres or 26551.154 Sqm
Permissible Commercial Area	= 0.49675 Acres or 2010.273 Sqm
Proposed Commercial Area	= 0.48247 Acres or 1952.47 Sqm
Proposed community Centre	= 1.24208 Acres or 5026.520 Sqm
Area of Milk & Vegetable booth	= 0.0068 Acres or 27.50 Sqm
Area under other services	= 0.0355 Acres or 231.50 Sqm
Proposed Plots	= 225 Plots

**2. Water Requirement :-**

i) Total Plots	= 225 Plots
Total Population @ 13.50 Persons/Plot	= 3037.50 Persons
@ 172.50 LPCD	= 523968.75 LPD
ii) Commercial area	= 1952.47 Sqm
@ 3 Sqm/person = 651 Person @ 45LPCD	= 29295.00 LPD
iii) Community Centre (Area 1.24208 Acres)	= 31250.00 LPD
iv) Milk and Vegetable booth L.S.	= 5000.00 LPD
v) All other services L.S.	= 15000.00 LPD
<b>Total</b>	<b>= 604513.75 LPD Or 605.00 KLD</b>
	<b>Say 650.00 KLD</b>

**II. FIRE DEMAND**

(i) Population	= 3038 Persons
(p) $\frac{1}{2} \times 100/1000 = (3.038) \frac{1}{2} \times 100$	= 174.29 KLD
	Say 200 KLD

**III. Garden Irrigation Requirement (For Total Area) = 150.00 KLD****IV. Total Water Requirement for UGT**

(Excluding Fire Demand)

Hence Domestic Water Requirement (67%)	= 650 x 67%	= 436.00 KLD
Hence Flushing Water Requirement (33%)	= 650 x 33%	= 214.00 KLD
Half Day Requirement	= 225K.L. for Domestic	
	= 115 K.L. for Flushing	

But it is proposed to construct an underground tank i.e. 225 K.L. in two compartment for domestic use and 115 K.L. for non potable water in two compartment (at STP) and 200 K.L. for fire fighting purposes for UGT in two compartment as shown location in the plan.

Total Capacity of UGT	= 225 + 200	= 425.00 KLD
Total Requirement for Flushing and Irrigation at STP	= 115+150	= 265.00 KLD

**VI. Tube Well****For UGT**

a) Yield	= 15 K.L. / Hr.
b) Working Hour per day	= 16 Hr. / Per Day
c) Total water demand	= 436 M3/Day
d) Number of tube well required (Water Demand / Discharge / Hr. working Per day)	= 1.82 Nos
e) Add 5% extra	= 0.09

Total = 1.91 Nos  
Say = 2 Nos

(Water to the proposed development is to be supplied by HSVP. However consider 2.00 Nos T.W.'s 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.

**I) Pumping Machinery for Tube wells**

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 =  $(4.50 \times 98) / (75 \times 0.60)$  Say = 10.00 H.P.

It is proposed to provide 2 No. pumping set of 4.50 LPS discharge at 98 Mtr head (2W)

**II) Boosting Machinery for domestic water For UGT**

Total Water Requirement = 436.00 KLD  
Pumping per hour @ 8 hr. pumping / day = 436 / 8 KL / hr.  
= 54.50 KL / hr.  
= 908.33 lpm = 15.13 lps  
Say 2 No. 8.00 lps each  
Gross working head For UGT  
- 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 =  $(8.00 \times 45) / (75 \times 0.60)$   
= 8.00 H.P.  
Say = 10.00 HP

It is proposed to provide 3 No. of pumping set of 8.00 lps discharge at 45 mts Head each (2W + 1S) for UGT

**III) Boosting Machinery for flushing water at STP**

Total Water Requirement = 214 K.L.D  
Pumping per hour @ 8 hr. pumping / day = 214 / 8 KL / hr.  
= 26.75 KL / hr.  
= 445.83 lpm = 7.43 lps,  
Say 2 No. 4.00 lps each  
Gross working head  
- 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.

$$\begin{aligned} \text{Pump HP} &= (4.00 \times 45) / (75 \times 0.60) \\ &= 4.00 \text{ HP} \\ \text{Say} &= 5.00 \text{ HP} \end{aligned}$$

It is proposed to provide 3 Nos of pumping set of 4.00 lps discharge at 45 mts Head each (2W + 1S)

**IV) Boosting Machinery for Irrigation water**

$$\begin{aligned} \text{Total Water Requirement} &= 150 \text{ KLD} \\ \text{Pumping per hour @ 5 hr. pumping / day} &= 150 / 5 \text{ KL / hr.} \\ &= 30.00 \text{ KL / hr.} \\ &= 500.00 \text{ lpm} = 8.33 \text{ lps} \\ \text{Say} &= 9.00 \text{ LPS} \end{aligned}$$

Gross working head

$$\begin{aligned} - \text{ Suction lift} &= 3.00 \text{ mts.} \\ - \text{ Frictional loss in mains \& specials} &= 3.00 \text{ mts.} \\ - \text{ Clear Head required} &= 15.00 \text{ mts.} \\ \text{Total} &= 21.00 \text{ mts.} \\ \text{Say} &= 21.00 \text{ mts.} \\ \text{Pump HP} &= (9.00 \times 21) / (75 \times 0.60) \\ &= 4.20 \text{ HP} \\ \text{Say} &= 5.00 \text{ HP} \end{aligned}$$

It is proposed to provide 2 No. of pumping set of 9.00 lps discharge at 21 mts Head each (1W + 1S)

**V) DG Set for plumbing**

**DG Set Requirement**

$$\begin{aligned} \text{Submersible Pump (2 x 10)} &= 20 \text{ HP} \\ \text{Domestic Pump (2 x 10)} &= 20 \text{ HP} \\ \text{Flushing Pump (2 x 5)} &= 10 \text{ HP} \\ \text{Street Light and other etc.} &= 15 \text{ HP} \\ \text{Total pump load} &= 65 \text{ HP} \\ &= 65.00 \times 0.746 \times 1.50 \\ &= 72.73 \text{ K.W} \\ \text{Total DG capacity} &= 1 \text{ No. 75 KVA} \end{aligned}$$

Hence it is proposed to provide 1 No. D.G. Set of 75 KVA capacity

**FLOW TO SEWAGE TREATMENT PLANT**

**Total Water Requirement = 436 KLD for domestic & 214 KLD for flushing**

i) 80% of total Domestic Water Demand = 80% of 436 KLD = 348.80 KLD

ii) 80% of total Flushing Water Demand = 80% of 214 KLD = 171.20 KLD

**Total = 520.00 KLD**

Considering 5% marginal factor = 26.00 KLD

**G. Total = 546.00 KLD**

Say 550 KLD

**Proposed STP Capacity = 550 KLD Or 0.55 MLD**

(Authorized Signatory)

FOR LION INFRADEVELOPERS LLP  
  
 AUTHORISED SIGNATORY



## FINAL ABSTRACT OF COST

SR. NO.	SUB WORK	DESCRIPTION	AMOUNT (Rs. In Lacs)
1	SUB WORK NO. I	WATER SUPPLY SCHEME	98.02
2	SUB WORK NO. II	SEWERAGE SCHEME	89.72
3	SUB WORK NO. III	STORM WATER DRAINAGE	53.77
4	SUB WORK NO. IV	ROAD AND FOOTPATH	46.88
5	SUB WORK NO. V	STREET LIGHTING	13.35
6	SUB WORK NO. VI	HORTICULTURE (PLANTATION & ROAD SIDE TREES)	5.59
7	SUB WORK NO. VII	MTC. OF SERVICES & RESURFACING OF ROADS (After 1st 5 years of 1st Phase & Next 5 years in 2nd Phase)	56.89
		TOTAL	364.22
TOTAL : (Rupees Three Crore Sixty Four Lacs Twenty Two Thousand only)			

Cost Per Acre = Rs.364.22 Lacs / 12.41875 = 29..33 Lacs Per Acre

FOR LION INFRADEVELOPERS LLP

AUTHORISED SIGNATORY



AUTHORISED SIGNATORY

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

## WATER SUPPLY SCHEME

SR. NO.	SUB WORK	DESCRIPTION	AMOUNT (Rs. In Lacs)
1	Sub Head No. 01	Head Works	26.95
2	Sub Head No. 02	Pumping Machinery	8.75
3	Sub Head No. 03	Water Supply Distribution & Rising main pipe	22.19
4	Sub Head No. 04	External Fire Hydrants	4.32
6	Sub Head No. 05	Irrigation	1.65
		<b>TOTAL</b>	<b>63.86</b>
		Add 3% contingency & P.H. Services	1.92
		<b>Total</b>	<b>65.78</b>
		Add 49% Department charges + Price Escalation	32.24
		<b>G. Total</b>	<b>98.02</b>
		<b>Say in Lacs</b>	<b>98.02</b>

(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 and Fire Tank Including pipes, valve & Specials. 425 KLD @ Rs. 3000/- per K.L.D	1275000
2	Provision for construction of Boosting Station 1 Nos @ Rs. 200000/- each	200000.00
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. 2 Nos @ Rs. 500000/- each	1000000.00
4	Provision for construction of tube well chamber size 1.50m x 1.50m complete in all respect. 2 Nos @ Rs. 80000/- each	160000.00
5	Provision for carriage of material and unforeseen items L.S.	30000.00
6	Provision of specials for tube well & rising main to UGT L.S.	30000.00
	<b>Total</b>	<b>2695000.00</b>
	<b>Say in Lacs</b>	<b>26.95</b>

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

**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 8.00 lps at 45 mts head - 3 No. (2W+1SB) - @ Rs. 50,000/- each Set (10.00HP)	150000.00
2	Providing and installing Hydro Pneumatic pumping set of following capacities for Flushing water supply 4.00 lps at 45 mts head - 3 No. (2W+1SB) @ Rs. 30,000/- 1 Set (5HP each)	90000.00
3	Providing and installing Submersible pump for tube wells with specials 4.50 lps at 98 mts head - 2 Nos (2W) @ Rs. 80,000/- 1 Set (10HP each)	160000.00
4	Provision for ESS (Electric Panel Foundation) L.S.	25000.00
5	Provision for D.G. Set for stand by arrangement for all machinery = 1 No. 75 KVA @ Rs. 3,00,000/- each	300000.00
6	Provision for making foundations & erection of pumping machinery	30000.00
7	Provision for pipes, valve & specials inside boosting chamber	50000.00
8	Provision for electric services connection including electric fittings for boosting chambers and pump chamber etc.	50000.00
9	Provision for carriage of materials and other unforeseen items L.S.	20000.00
	<b>Total</b>	<b>875000.00</b>
	<b>Say in Lacs</b>	<b>8.75</b>

(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. NO.	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. Pipe 2255 Mtr @ Rs. 500/- Per Mtr	<b>1127500.00</b>
ii)	150mm i/d D.I. Pipes - 787 Mtr @ Rs. 800/- Per Mtr	<b>629600.00</b>
iii)	200mm i/d D.I. Pipes 12 Mtr @ Rs. 1100/- per mtr	<b>13200.00</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 18 No. @ Rs. 7500/- each	<b>135000.00</b>
b)	150mm i/d 9 No. @ Rs. 10000/- each	<b>90000.00</b>
c)	200mm i/d 1 No. @ Rs. 15000/- each	<b>15000.00</b>
<b>3</b>	Providing and fixing indicating plates for sluice valve 28 No. @ Rs. 1000/-	<b>28000.00</b>
<b>4</b>	Provision for carriage of materials and other unforeseen items	<b>30000.00</b>
<b>5</b>	Provision for making connection with HUDA Pipe & T.W's etc.	<b>100000.00</b>
<b>6</b>	Provision for cutting the road and making good the same	<b>50000.00</b>
	<b>Total</b>	<b>2218300.00</b>
	<b>Say in Lacs</b>	<b>22.19</b>

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

SUB WORK NO. 01

WATER SUPPLY

SUB HEAD NO. 04

EXTERNAL FIRE HYDRANTS

Sr. NO.	Description	Amount in Rs.
1	Providing, Laying, jointing and testing Heavy Class M.S. Pipes for fire rising main including cost of fittings, valves, connection etc. complete in all respect	
a)	100mm dia - 296 M @ Rs. 500/- Per Mtr	148000.00
2	Providing and fixing fire Hydrant with accessories 37 No. @ Rs. 6000/- each	222000.00
3	Providing and fixing indicating plate -37 No. @ Rs. 1000/- each	37000.00
4	Provision for carriage of material L.S.	25000.00
	<b>Total</b>	<b>432000</b>
	<b>Say In Lacs</b>	<b>4.32</b>

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

SUB WORK NO. 01

WATER SUPPLY

SUB HEAD NO. 05

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 - 200 M @ Rs. 300/- Per Mtr	60000.00
2	Providing and fixing 25mm dia, Irrigation hydrant valve complete in all respect 25 Nos @ Rs. 2000/- each	50000.00
3	Provision for carriage of materials and other unforeseen items L.S.	10000.00
4	Provision for indicating plate with safety box etc. complet in all respect 25 Nos @ Rs. 1000/- each	25000.00
5	Provision for road cutting and making it condition as original L.S.	20000.00
	<b>Total</b>	<b>165000.00</b>
	Say in Lacs	1.65

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

## SUB WORK NO. II

## SEWERAGE SCHEME

Sr. NO.	Description	Amount in Rs.
<b>1</b>	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 Pipe 200mm i/d avg. depths 0 - 2.00M 710 M @ Rs. 1000/- per Mtr	710000.00
	b) SW Pipe 250mm i/d avg depth 2.00 M 365 M @ Rs. 1200/- per Mtr	438000.00
	c) SW Pipe 300mm i/d avg depth 2.75 M 175 M @ Rs. 1400/- per Mtr	245000.00
	d) SW Pipe 400mm i/d avg depth 3.00 M 15 M @ Rs. 1500/- per Mtr	22500.00
<b>2</b>	Providing, laying, jointing & testing pipe lines including cost of excavation etc. complete in all respect - 200mm dia Heavy Class DI pipes (overflow for STP)	
	a) 200MM i/d D.I. Pipe - 330 M @ Rs. 1000/- Per Mtr	330000.00
<b>3</b>	Provision of lighting and watching etc.	30000.00
<b>4</b>	Provision for cartage of material	20000.00
<b>5</b>	Provision for making connection with HSVP	50000.00
<b>6</b>	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, 550 KLD or (0.55 MLD) Capacity L.S.	4000000.00
		<b>5845500.00</b>
	Add 3% contingency & P.H. Services	175365
	<b>Total</b>	<b>6020865</b>
	Add 49% Department charges + Price Escalation	2950224
	<b>G. Total</b>	<b>8971089</b>
	Say in Lacs	<b>89.72</b>

(C.O. to Final Abstract of Cost )



## SUB WORK NO. III

## STORM WATER DRAINAGE SCHEME

Sr. NO.	Description	Amount in Rs.
1	Providing, lowering, laying, jointing RCC pipe class Np3 with cement joint, a) RCC Np3 pipe 400mm i/d = 995M @ Rs. 1200/- Per Mtr b) RCC Np3 pipe 400mm i/d = 303M @ Rs. 1500/- Per Mtr	1194000.00 454500.00
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. 10 Nos RWH @ Rs. 1,50,000/- each	1500000.00
3	Provision for road gulley & pipe with connection	200000.00
4	Provision for lighting and watching	20000.00
5	Provision for timbering and shoring	20000.00
6	Provision for cartage of material	15000.00
7	Provision for making connection with HSVP storm water drain	100000.00
	<b>Total</b>	<b>3503500.00</b>
	Add 3% contingency & P.H. Services	105105.00
	<b>Total</b>	<b>3608605.00</b>
	Add 49% Department charges + Price Escalation	1768216.45
	<b>G. Total</b>	<b>5376821.45</b>
	Say in Lacs	53.77

(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	12.4188	40000	496750
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, 40mm BC).	Sqm	8216	200	1643200
3	Provision for kerbs & channels of C.C. 1:2:4	Metre	1456	340	495040
4	Provision for arrangement of guide map and indicating board etc.	LS			50000
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	1747	200	349400
5	Provision for carriage of material	LS			20000
	<b>Sub Total</b>				<b>3054390</b>
	Add 3% contingencies & PH Services				91632
	<b>Sub Total</b>				<b>3146022</b>
	Add 49% Departmental Charges + Price Escalation				1541551
	<b>Total</b>				<b>4687572</b>
	Say Rs. In Lacs				<b>46.88</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	12.4188	70000	869313
	Add 3% contingencies & PH Services				26079
	<b>Total</b>				<b>895392</b>
	Add 49% Departmental Charges + Price Escalation				438742
	<b>Total</b>				<b>1334134</b>
	Say Rs. In Lacs				<b>13.35</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 3807.264 Sqm Or 0.94 Acres (As per detail given in green park area calculation)	Acre	0.94	200000	188000
2	Providing and planting trees along boundary @ 6 m interval (Length appx 1456M) = 1456/6 = 243Nos Say No. of trees = 243 Nos Cost details : Excavation = Rs. 73 Manure = Rs. 100 Tree Plant = Rs. 550 Total Rs. = Rs. 723				
		Each	243	723	175689
	<b>Total</b>				<b>363689</b>
	Add 3% contingencies & PH Services				10911
	<b>Total</b>				<b>374600</b>
	Add 49% Departmental Charges + Price Escalation				183554
	<b>Total</b>				<b>558154</b>
	<b>Say Rs. In Lacs</b>				<b>5.59</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 5.0255 acres @ Rs. 1.50 lacs per acre	Acre	12.4188	100000	1241875
2	Provision for resurfacing of roads after 5 years of 1st phase with provision of 50mm thick BM including leveling coarse and 25mm BC as per crust design whichever is safer	Sqm	8216	100	821600
3	2nd phase after next five years of 1st phase (50mm DBM & 25mm BC or as per crust design whichever is safer	Sqm	8216	200	1643200
	<b>Sub Total</b>				<b>3706675</b>
	Add 3% contingencies & PH Services				111200
	<b>Sub Total</b>				<b>3817875</b>
	Add 49% Departmental Charges				1870759
	<b>Total</b>				<b>5688634</b>
	<b>Say Rs. In Lacs</b>				<b>56.89</b>

(C.O. to Final abstract of cost)

## SUMMARY OF DESIGN REQUIREMENT

S. No.	Description	Qty	Unit
1	Total Population	3038	Persons
2	Total Water Requirement (Domestic)	436	KLD
3	Total Water Requirement (Flushing)	214	KLD
4	Total Water Requirement (Horticulture)	150	KLD
5	U. G Tank (Domestic - 225 KLD)	1	No.
6	U.G.T Fire Tank 200 KLD	1	No.
7	No. of Domestic WS pumps UGT	2+1	Set
8	No. of Flushing pumps	2+1	No.
9	No. of submersible pumps	2	No.
10	Generating sets (75 KVA)	1	75 KVA
11	STP (550 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
1	Domestic	-	565M	690M	12M
2	Flushing	-	1170M	97M	-
3	Rising Main	-	520M	-	-
	<b>Total</b>	-	<b>2255M</b>	<b>787M</b>	<b>12M</b>

**MATERIAL STATEMENT (DOMESTIC WATER SUPPLY)**

S. No.	Line Designation		Size of Pipe Provided	Length of Pipe (Mtr)	Length in Mtr		
	From	To			200MM	150MM	100MM
1	UGT	A	200	12	12	-	-
2	A	B	150	40	-	40	-
3	B	C	150	40	-	40	-
4	C	D	150	50	-	50	-
5	D	E	150	28	-	28	-
6	E	F	150	37	-	37	-
7	A	G	150	45	-	45	-
8	G	H	150	90	-	90	-
9	H	I	150	45	-	45	-
10	I	J	150	65	-	65	-
11	J	F	150	40	-	40	-
12	B	B1	100	75	-	-	75
13	C	C1	100	75	-	-	75
14	D	D1	150	120	-	120	-
15	E	E1	100	75	-	-	75
16	F	F1	100	75	-	-	75
17	G	G1	100	80	-	-	80
18	G1	G2	100	130	-	-	130
19	G1	G3	100	30	-	-	30
20	H	H1	100	25	-	-	25
21	A	I	150	90	-	90	-
	<b>Total</b>			<b>1267</b>	<b>12</b>	<b>690</b>	<b>565</b>

200mm i/d Pipe Length

12 Mtr

150mm i/d Pipe Length

690Mtr

100mm i/d Pipe Length

565 Mtr



**MATERIAL STATEMENT (FLUSHING WATER SUPPLY)**

S. No.	Line Designation		Size of Pipe Provided	Length of Pipe (Mtr)	Length in Mtr	
	From	To			150MM	100MM
1	STP	a	150	12	12	-
2	a	b	150	15	15	-
3	b	c	150	40	40	-
4	c	d	100	40	-	40
5	d	e	100	50	-	50
6	e	f	100	28	-	28
7	f	g	100	37	-	37
8	a	h	150	30	30	-
9	h	i	100	90	-	90
10	i	j	100	45	-	45
11	j	k	100	65	-	65
12	k	g	100	40	-	40
13	b	j	100	90	-	90
14	c	c1	100	75	-	75
15	d	d1	100	75	-	75
16	e	e1	100	120	-	120
17	f	f1	100	75	-	75
18	h	h1	100	80	-	80
19	h1	h2	100	130	-	130
20	h1	h3	100	30	-	30
21	i	i1	100	25	-	25
22	g	g1	100	75	-	75
	<b>Total</b>			<b>1267</b>	<b>97</b>	<b>1170</b>

150mm i/d Pipe Length

97 Mtr

100mm i/d Pipe Length

1170 Mtr

## 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	170	170	-
2	Govt. Line	UGT	100	350	350	-
	<b>Total</b>			<b>520</b>	<b>520</b>	<b>0</b>

## MATERIAL STATEMENT FOR SEWERAGE SCHEME

25

S. No.	Line No.		Length (In Mtr)	Pipe Dia	Av. Depth	Length in Mtr			
	From	To				200mm i/d 0 to 2.00 Mtr	250mm i/d 0 to 2.00 Mtr	300mm i/d 0 to 2.75 Mtr	400mm i/d 0 to 3.00 Mtr
1	A	B	115	200	1.70	115	-	-	-
2	B	C	70	250	2.00	-	70	-	-
3	C1	C	65	200	1.64	65	-	-	-
4	C	D	90	300	2.13	-	-	90	-
5	D5	D4	75	200	1.54	75	-	-	-
6	D6	D4	30	200	1.53	30	-	-	-
7	D4	D3	30	200	1.72	30	-	-	-
8	D7	D3	120	250	1.59	-	120	-	-
9	D3	D2	50	250	1.84	-	50	-	-
10	D8	D2	75	200	1.64	75	-	-	-
11	D2	D1	40	250	1.94	-	40	-	-
12	D9	D1	75	200	1.34	75	-	-	-
13	D1	D	40	300	2.03	-	-	40	-
14	D	E	15	300	2.19	-	-	15	-
15	E3	E2	130	200	1.26	130	-	-	-
16	E4	E2	30	200	1.04	30	-	-	-
17	E2	E1	85	250	1.84	-	85	-	-
18	E5	E1	85	200	1.11	85	-	-	-
19	E1	E	30	300	2.11	-	-	30	-
20	E	STP	15	400	2.32	-	-	-	15
13	STP - HUDA / Sewer By Pumping 200mm i/d D.I. Pipe = 330 Mtr					-	-	-	-
<b>Total</b>			<b>1265</b>			<b>710</b>	<b>365</b>	<b>175</b>	<b>15</b>

200mm i/d Pipe Length 710 Mtr

250mm i/d Pipe Length 365 Mtr

300mm i/d Pipe Length 175 Mtr

400mm i/d Pipe Length 15 Mtr

200mm i/d D.I. Pipe (By Pumping) = 330 Mtr

## MATERIAL STATEMENT OF STORM WATER DRAINAGE SCHEME

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/RWH -1	115	-
2	B/RWH -1	C/ RHW -2	70	-
3	C1	C/ RHW -2	60	-
4	C/ RHW -2	D/RWH -3	90	-
5	D5	D4/RWH-4	75	-
6	D6	D4/RWH-4	35	-
7	D4/RWH-4	D3	35	-
8	D7/RWH-5	D3	115	-
9	D3	D2/RWH-6	46	-
10	D8	D2/RWH-6	75	-
11	D2/RWH-6	D1/RWH-7	42	-
12	D9	D1/RWH-7	75	-
13	D1/RWH-7	D/RWH -3	40	-
14	D/RWH -3	E/RWH-8	42	-
15	E1	E/RWH-8	80	-
16	E/RWH-8	F	-	60
17	F	G/RWH-9	-	60
18	G/RWH-9	H/RWH-10	-	98
19	H/RWH-10	Master SWD (HSVP)	-	85
	<b>Total Length</b>		<b>995</b>	<b>303</b>

Total Length 400mm i/d RCC Np3 pipe = 995 Mtr

Total Length 450mm i/d RCC Np3 pipe = 303 Mtr

Total = 1298 Mtr

Total Rain Water Harvesting (RWH) = 10 Nos

## Material Statement of Road Works

Sr. No.	Road No.	Road Width	Length	Width	Area	
1	1	9.00	120.00	5.50	660.00	Sqm
2	2	9.00	70.00	5.50	385.00	Sqm
3	3	9.00	115.00	5.50	632.50	Sqm
4	4	9.00	70.00	5.50	385.00	Sqm
5	5	9.00	150.00	5.50	825.00	Sqm
6	6	9.00	150.00	5.50	825.00	Sqm
7	7	9.00	60.00	5.50	330.00	Sqm
8	8	9.00	155.00	5.50	852.50	Sqm
9	9	9.00	143.00	5.50	786.50	Sqm
10	10	9.00	70.00	5.50	385.00	Sqm
11	11	9.00	25.00	5.50	137.50	Sqm
12	12	9.00	80.00	5.50	440.00	Sqm
13	13	12.00	44.00	5.50	242.00	Sqm
14	14	24.00	67.00	2x7.00	938.00	Sqm
	<b>G. Total</b>				<b>7824.00</b>	<b>Sqm</b>
Add 5% extra for curves					391.20	Sqm
<b>Total</b>					<b>8215.20</b>	<b>Sqm</b>
				<b>Say</b>	<b>8216</b>	<b>Sqm</b>

## ii) Kerbs &amp; Channels

i)	9.00 Mtr wide road (1 x 1208)	1208 Mtr
ii)	12 Mtr wide Road ( 1 x 44)	44 Mtr
iii)	24 Mtr wide Road (2 x 67)	134 Mtr
	<b>Total</b>	<b>1386 Mtr</b>
	Add 5% for curves	69 Mtr
	<b>G. Total</b>	<b>1455 Mtr</b>

## II) Footpath :-

(i)	9M & 12M wide road = 1252M x 1.20M	= 1502.40 Sqm
(ii)	24M wide road = 67M x 2 x 1.20M	= 760.80 Sqm
	<b>Total</b>	<b>= 1663.20 Sqm</b>
	Add 5% for curves	<b>= 83.16 Sqm</b>
	<b>Total</b>	<b>= 1746.36 Sqm</b>
		<b>Say 1747 Sqm</b>

**MATERIAL STATEMENT (FIRE HYDRANT)**

i) Length of Water Supply (Domestic) = 1267 Mtr

ii) Length of 100mm i/d F.H. = 37 X 8 = 296 Mtr

iii) Nos of F.H. = 37 Nos

Note : Fire Hydrant considering @ 35Mtr /each in Domestic Water Supply line  
=  $1267 / 35 = 37$  Nos

**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	-	-	320	-	-	-

Note :- 25 Nos connections are to be done from flushing water supply line i.e. 25 Nos x 8 Mtr/each = 200 Mtr for 25mm i/d





S. No.	Line Reference		Type of Colony	Residential plots			Population @ 13.30 Person per flat	Water Requirement @ 172.50 LPCD	Other Water Requirement i.e. Commercial, Community Centre / Anganwadi in LPCD	Total Water Requirement in LPCD	Water Requirement @ 33% 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
	From	To		Self	Branch	Total															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	STP	a	Plotted Reel	-	235	225	3038	523569	80545	604514	193490	74808	0.62	150	0.005	12	0.06	213.05	257.99	44.94	Formation Level at STP = 213.05 M Boosting Head = 45.00 M Flushing Hydraulic Head at STP = 258.05 M
2	a	b	-do-	-	125	125	1688	291094	54625	345719	114087	42782	0.38	150	0.002	15	0.03	213.05	257.96	44.91	
3	b	c	-do-	3	99	102	1377	237633	51250	288783	55298	55737	0.38	150	0.002	40	0.08	213.10	257.88	44.78	
4	c	d	-do-	5	76	81	1094	188629	51250	239879	79160	29085	0.47	100	0.005	40	0.20	213.15	257.68	44.53	
5	d	e	-do-	7	48	55	743	128081	51250	179331	59179	21192	0.39	100	0.008	50	0.15	213.20	257.53	44.33	
6	e	f	-do-	5	15	20	270	46575	-	46575	15370	5784	0.23	100	0.001	28	0.03	213.25	257.50	44.25	
7	f	g	-do-	5	-	5	68	11644	-	11644	3847	1441	0.23	100	0.001	37	0.04	213.32	257.46	44.14	
8	g	h	-do-	-	100	100	1350	232875	25920	258795	85402	32026	0.36	150	0.002	30	0.06	213.60	257.93	44.93	
9	h	i	-do-	24	66	70	945	165013	-	165013	53794	20172	0.39	100	0.003	50	0.27	213.15	257.66	44.51	
10	i	j	-do-	5	37	42	567	97808	-	97808	32276	12104	0.39	100	0.003	45	0.16	213.20	257.52	44.32	
11	j	k	-do-	9	28	37	500	86164	-	86164	28434	10563	0.31	100	0.002	65	0.13	213.30	257.39	44.09	
12	k	l	-do-	6	22	28	378	63205	-	63205	21548	8069	0.23	100	0.001	40	0.04	213.32	257.36	44.04	
13	l	m	-do-	23	-	23	311	53551	3375	56926	18789	7046	0.23	100	0.001	90	0.09	213.20	257.87	44.67	
14	m	n	-do-	21	-	21	284	48904	-	48904	16139	6052	0.23	100	0.001	75	0.08	213.15	257.80	44.65	
15	n	o	-do-	18	-	18	243	41918	-	41918	13853	5187	0.23	100	0.001	75	0.08	213.20	257.60	44.40	
16	o	p	-do-	25	-	24	378	65305	51250	116655	38430	14411	0.39	100	0.003	120	0.36	213.40	257.17	43.77	
17	p	q	-do-	10	-	10	135	23288	-	23288	7695	2882	0.16	100	0.001	75	0.06	213.30	257.42	44.12	
18	q	r	-do-	17	13	17	230	39589	25920	65509	21648	8107	0.31	100	0.002	80	0.16	212.90	257.77	44.87	
19	r	s	-do-	5	-	5	68	11644	25920	37564	12366	4648	0.20	100	0.001	130	0.13	212.90	257.64	44.94	
20	s	t	-do-	8	-	8	108	16630	-	16630	5448	2305	0.16	100	0.001	90	0.06	212.95	257.74	44.79	
21	t	u	-do-	4	-	4	54	9315	-	9315	3074	1153	0.16	100	0.001	25	0.03	213.20	257.83	44.43	
22	u	v	-do-	12	-	22	297	51233	-	51233	16907	6340	0.20	100	0.001	75	0.06	213.40	257.38	43.98	

31

HYDRAULIC STATEMENT OF WATER SUPPLY (FLUSHING) RECYCLING OF TREATED SEWAGE WATER  
SUBHEAD : FLUSHING WATER SUPPLY SCHEME - DESIGN CALCULATION

DESIGN STATEMENT OF SEWERAGE SCHEME

S. No.	Line Reference	Type of Colony	Unit / Flat		Population @ 13.50 Person per plot	Water Requirement @ 172.50 LPCD	Other Requirement i.e. Comm. / community building / Anganwadi.	Total water requirement LPD	Sew. Quantity after evaporatio n losses @ 20% (in LPD)	Sewerage Discharge Peak-Flow (m <sup>3</sup> /sec)	Size of Pipe in (mm)	Gradient in (in)	Velocity (m/Sec)	Carrying capacity of pipe (m <sup>3</sup> /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	Average	
1	2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
1	A	Plotted Retl.	28	-	28	378	65205	65205	52184	0.0019	200	225	0.76	0.012	215	0.51	213.20	213.10	213.40	213.30	211.80	211.39	211.36	211.34	1.50	1.91	1.71
2	B	-do-	9	28	37	500	86164	86164	68931	0.0024	250	305	0.76	0.019	70	0.22	213.10	213.10	213.90	213.20	211.36	211.34	211.34	1.94	2.06	2.00	
3	C1	-do-	9	-	9	122	20959	20959	16787	0.0005	200	225	0.76	0.012	65	0.29	213.00	213.00	213.20	213.20	211.70	211.42	211.41	1.50	1.78	1.64	
4	C	-do-	15	48	69	932	160684	160684	131247	0.0045	300	385	0.76	0.027	90	0.23	213.10	213.00	213.20	213.05	211.41	210.88	210.88	2.09	2.37	2.13	
5	D5	-do-	10	-	10	135	23288	23288	18630	0.0006	200	225	0.76	0.012	75	0.33	213.20	213.15	213.30	213.25	211.90	211.57	211.57	1.40	1.68	1.54	
6	D6	-do-	5	-	5	68	11644	11644	9345	0.0030	200	225	0.76	0.012	30	0.13	213.15	213.15	213.82	213.25	211.82	211.69	211.69	1.50	1.58	1.53	
7	D4	-do-	5	15	20	270	46375	46375	37260	0.0013	200	225	0.76	0.012	30	0.19	213.25	213.10	213.25	213.20	211.57	211.43	211.43	1.68	1.76	1.72	
8	D7	-do-	28	-	28	378	65205	65205	51250	0.0032	250	305	0.76	0.019	120	0.89	213.30	213.10	213.40	213.20	211.90	211.51	211.51	1.50	1.69	1.60	
9	D3	-do-	7	48	55	743	128081	128081	104865	0.0049	250	305	0.76	0.019	50	0.16	213.10	213.05	213.20	213.15	211.41	211.25	211.25	1.79	1.90	1.85	
10	D8	-do-	18	-	18	243	41918	41918	33554	0.0011	200	225	0.76	0.012	75	0.35	213.05	213.05	213.20	213.15	211.70	211.37	211.37	1.50	1.78	1.64	
11	D2	-do-	5	73	78	1053	181543	181543	146314	0.0065	250	305	0.76	0.019	40	0.13	213.05	213.00	213.15	213.10	211.25	211.12	211.12	1.90	1.98	1.94	
12	D9	-do-	21	-	21	284	48904	48904	39123	0.0018	200	225	0.76	0.012	75	0.32	213.10	213.00	213.15	213.10	211.95	211.62	211.62	1.20	1.48	1.34	
13	D1	-do-	3	99	102	1377	237533	237533	188783	0.0080	300	385	0.76	0.027	40	0.10	213.00	213.00	213.10	213.05	211.09	210.99	210.99	2.01	2.06	2.04	
14	D	-do-	-	171	171	2309	398216	398216	312773	0.0125	300	385	0.76	0.027	15	0.04	213.00	213.00	213.05	213.05	210.88	210.84	210.84	2.17	2.21	2.19	
15	E3	-do-	5	-	5	68	11644	11644	93051	0.0010	200	225	0.76	0.012	130	0.57	212.90	212.70	212.75	212.90	211.85	211.58	211.58	0.90	1.62	1.26	
16	E4	-do-	8	-	8	108	18630	18630	14904	0.0005	200	225	0.76	0.012	30	0.12	212.75	212.70	212.96	212.90	211.95	211.82	211.82	1.00	1.06	1.04	
17	E1	-do-	17	13	30	405	69863	69863	55723	0.0026	250	305	0.76	0.019	65	0.27	212.70	212.90	212.90	213.00	211.75	210.98	210.98	1.65	2.02	1.84	
18	E1	-do-	24	-	24	324	55890	55890	44712	0.0015	200	225	0.76	0.012	85	0.37	212.95	212.90	213.15	213.00	211.75	211.78	211.78	1.00	1.22	1.11	
19	E1	-do-	-	54	54	729	125751	125751	100342	0.0042	300	385	0.76	0.027	30	0.07	212.90	213.00	213.00	213.05	210.95	210.88	210.88	2.05	2.17	2.11	
20	E	-do-	-	225	225	3038	523063	523063	423611	0.0167	400	570	0.28	0.049	15	0.03	213.00	213.00	213.05	213.05	210.74	210.71	210.71	2.31	2.34	2.33	
21	S/P Master Sewer H&VP	-	-	-	-	-	-	-	604514	80545	200	-	-	-	330	0.30	213.00	212.50	213.05	213.05	212.70	211.23	210.95	1.80	1.75	1.78	

D.I. Pipe (By pumping from S/P)

DESIGN CALCULATION OF STORM WATER DRAINAGE SCHEME  
 INTENSITY OF RAIN FALL = 0.036 MTR /HR  
 IMPERMEABILITY FACTOR = 0.6

S. No.	Name of Node		Area (Self) SQM	Area (Self) In Acre	Branch Area In Acre	Total Area In Acre	Total Area In Hector	Rain fall mm / hr.	Discharge @ 17.36 LPS/ Hector IN LPS	Length In Mtr	Pipe dia In mm	Slope In Mtr	Velocity In m/sec	Cap. Of drain IN LPS	Fall + Extra Fall IN Mtr	Ground Level		Formation Level		Invert Level		Depth of M.H.'s Start	End	Average Depth	Remarks
	From	To														Start	End	Start	End	Start	End				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
A	B/RWH-1	B/RWH-2	3500	0.87	0	0.87	0.35	6.00	6.08	115	400	570	0.76	98.57	0.20	213.20	213.10	213.40	213.30	211.40	211.20	2.00	2.10	2.05	
B	C/RWH-1	C/RWH-2	2030	0.50	0.86	1.36	0.55	6.00	9.57	70	400	570	0.76	98.57	0.12	213.10	213.10	213.30	213.20	211.20	211.08	2.10	2.12	2.11	
C	D/RWH-1	D/RWH-2	1850	0.45	0	0.45	0.19	6.00	3.21	60	400	570	0.76	98.57	0.10	213.00	213.10	213.20	213.20	211.40	211.30	3.80	1.90	1.85	
D	E/RWH-1	E/RWH-2	4540	1.12	1.82	2.94	1.19	6.00	20.67	90	400	570	0.76	98.57	0.15	213.10	213.00	213.20	213.05	211.08	210.93	2.12	2.12	2.12	
E	F/RWH-1	F/RWH-2	2240	0.55	0	0.55	0.22	6.00	3.89	75	400	570	0.76	98.57	0.13	213.20	213.15	213.30	213.25	211.50	211.37	1.80	1.88	1.84	
F	G/RWH-1	G/RWH-2	910	0.22	0	0.22	0.09	6.00	1.58	35	400	570	0.76	98.57	0.06	213.15	213.15	213.32	213.25	211.82	211.79	1.50	1.46	1.48	
G	H/RWH-1	H/RWH-2	5050	2.24	0	2.24	0.91	6.00	15.71	115	400	570	0.76	98.57	0.06	213.15	213.30	213.25	213.20	211.37	211.31	1.88	1.89	1.88	
H	I/RWH-1	I/RWH-2	1150	0.28	3.23	3.51	1.42	6.00	24.69	48	400	570	0.76	98.57	0.06	213.10	213.05	213.20	213.15	211.31	211.23	1.89	1.92	1.91	
I	J/RWH-1	J/RWH-2	3430	0.85	0	0.85	0.35	6.00	5.99	75	400	570	0.76	98.57	0.13	213.05	213.05	213.20	213.15	211.70	211.57	1.50	1.58	1.54	
J	K/RWH-1	K/RWH-2	1092	0.27	4.37	4.64	1.88	6.00	32.60	42	400	570	0.76	98.57	0.07	213.05	213.00	213.15	213.10	211.23	211.16	1.91	1.94	1.93	
K	L/RWH-1	L/RWH-2	3350	0.83	0	0.83	0.34	6.00	5.82	75	400	570	0.76	98.57	0.13	213.10	213.00	213.15	213.10	211.65	211.52	1.50	1.58	1.54	
L	M/RWH-1	M/RWH-2	1120	0.28	5.45	5.73	2.32	6.00	40.23	40	400	570	0.76	98.57	0.07	213.00	213.00	213.10	213.05	211.16	210.93	1.94	1.96	1.95	
M	N/RWH-1	N/RWH-2	965	0.24	8.67	8.91	3.61	6.00	62.59	42	400	570	0.76	98.57	0.07	213.00	212.90	213.06	213.00	210.93	210.86	2.13	2.14	2.13	
N	O/RWH-1	O/RWH-2	3420	0.85	0	0.85	0.34	6.00	5.94	80	400	570	0.76	98.57	0.14	212.95	212.90	213.15	213.00	211.65	211.51	1.50	1.49	1.50	
O	P/RWH-1	P/RWH-2	2700	0.67	9.76	10.43	4.22	6.00	73.25	60	450	570	0.76	98.57	0.08	212.90	212.70	213.00	212.90	210.86	210.78	2.14	2.12	2.13	
P	Q/RWH-1	Q/RWH-2	2500	0.62	10.43	11.05	4.47	6.00	77.62	60	450	570	0.76	98.57	0.08	212.70	212.60	212.90	212.85	210.78	210.70	2.12	2.15	2.14	
Q	R/RWH-1	R/RWH-2	3960	0.98	11.03	12.01	4.86	6.00	84.37	98	450	570	0.76	98.57	0.13	212.60	212.50	212.85	212.70	210.70	210.57	2.15	2.15	2.14	
R	S/RWH-1	S/RWH-2	1450	0.36	12.03	12.39	5.01	6.00	87.03	85	450	570	0.76	98.57	0.11	212.50	212.30	212.70	212.50	210.57	210.46	2.13	2.04	2.08	

PROPOSED LAY-OUT PLAN OF AFFORDABLE PLOTTED COLONY UNDER DEEN DAYAL JAN AWAS YOJNA SCHEME - 2016 IN RENEVE ESTATE SOHNA, SECTOR- 35, SOHNA, DISTT. GURUGRAM (HR) LAND MEASURING 12.41875 ACRES, BELONGING TO WALLABHAM BUILDCON PVT. LTD. & VIBHOR HOME DEVELOPERS PVT. LTD. IN COLLABORATION WITH LION INFRA DEVELOPERS LLP

# ROADS

- LEGEND:-  
 1. 9 M WIDE ROAD =   
 2. 12 M WIDE ROAD =   
 3. 24 M WIDE ROAD =   
 4. F.L. = 212.50 =   
 G.L. = 212.30 =

PILOT AREA CALCULATIONS

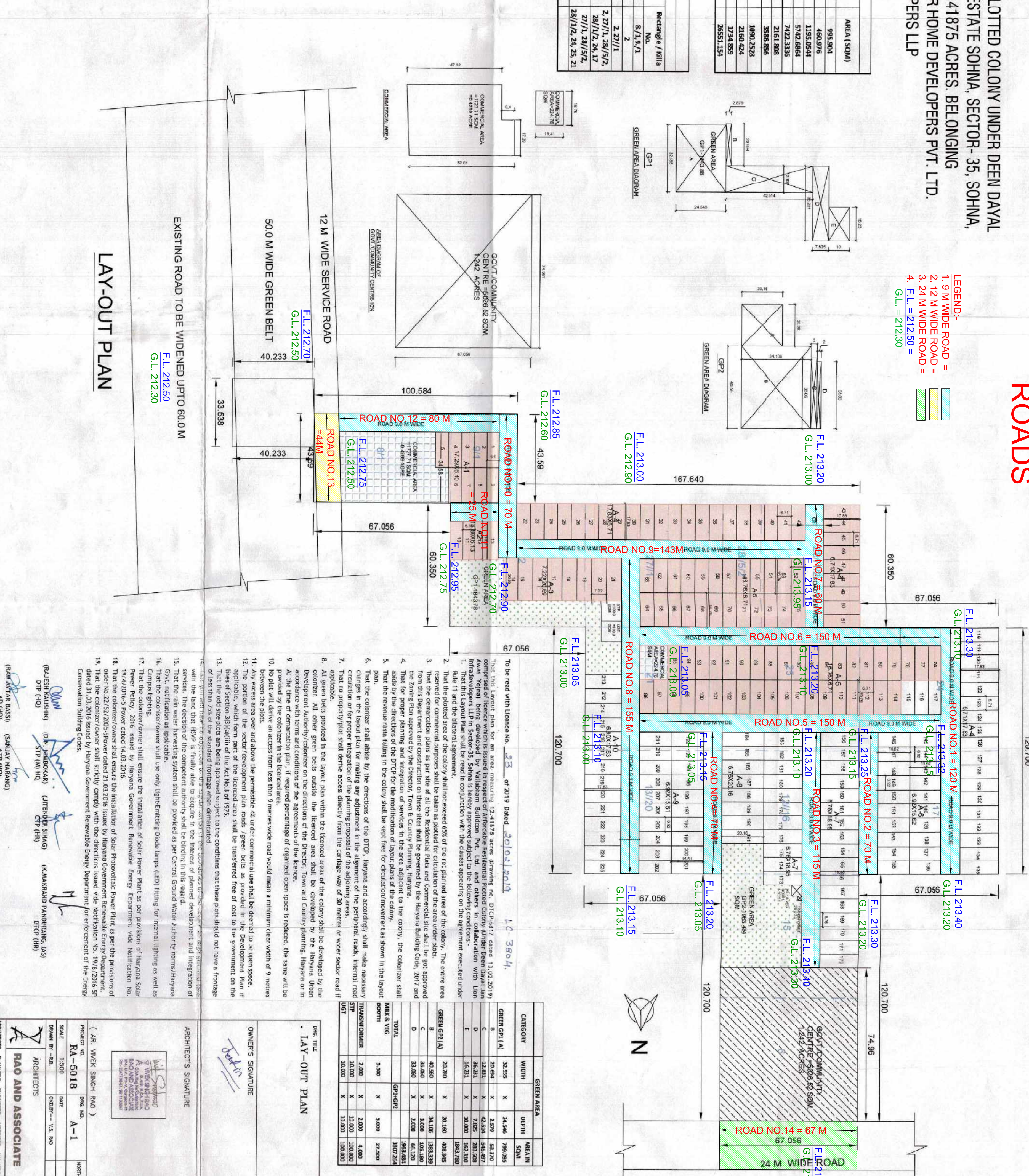
S. NO.	Type of Plot	Plot NOS	WIDTH (IN M)	LENGTH (IN M)	Plot Area (SQM)	TOTAL NO. OF PLOTS	AREA (SQM)
1	A1	1 to 9	6.4	17.29	110.656	9	995.904
2	A2	10 to 13	6.3	18.8	119.244	4	460.976
3	A3	14 to 21	7.22	20.69	149.318	8	1195.054
4	A4	22 to 51, 118 to 135	6.71	17.83	119.693	48	5742.664
5	A5	52 to 117	6.71	16.76	112.4596	66	7422.336
6	A6	136 to 155	6.92	15.92	109.9904	20	2161.808
7	A7	156 to 183	6.76	18.95	128.102	28	3586.856
8	A8	184 to 191	6.76	20.16	136.2816	8	1090.2528
9	A9	192 to 211	6.92	15.61	108.0212	20	2160.424
10	A10	212 to 225	6.95	17.83	123.9185	14	1734.659
11	TOTAL				1211.7944	225	26551.154

50% Area to be Freetzed  
 DETAIL OF 50% FREEZED AREA

S. NO.	Type of Plot	Nos. of Plot	Plot area (SQM)	Total area (SQM)	Plot No.	Rectangle / Killa No.
1	A1	9	110.656	995.904	1 to 9	8/1, 9/1
2	A2	4	115.244	460.976	10 to 13	1
3	A3	8	149.318	1195.054	14 to 21	2, 27/1
4	A4	30	119.693	3590.79	22 to 51	2, 27/1, 28/1, 28/5/1, 28/11/2, 28/17
5	A5	63	112.460	7084.955	52 to 114	28/1/2, 28/2, 25, 21
TOTAL		115		13326.068		

PROJECT AREA DETAIL

Description	Area in Acres	Area in Sqm
Total Plot Area	12.41875	50256.818
Area under Sector Road & Green Belt	0.46236	A
Balance Area	11.95599	B
50% Benefit of area falling under sector road & Green Belt	0.23143	B
Net Plan Area	12.18732	49320.256
Required Green Area (750%)	0.93141	3769.261
Proposed Green Area (755%)	0.94080	3807.264
10% Area to be transferred free of cost to the Government for Community Site	1.24188	5025.6818
Proposed Area to be transferred free of cost to the Government for Community Site (10%)	1.24208	5026.520
Permissible Area Under Plots (61%)	7.57544	30656.659
Proposed Area Under Plots (52.833%)	6.56094	26551.154
Permissible Commercial Area (10%)	0.49675	2010.273
Proposed Commercial Area (3.8849%)	0.48247	1952.47
Area for STP (0.2%)	0.0030	100.00
Area for UGT (0.2%)	0.0247	100
Area for Milk & Vegetable booth (0.055%)	0.0068	27.50
Area for Transformer (0.08%)	0.0010	4.00
Total area for other services (0.429%)	0.0355	231.5
Proposed Plots	225	
Permissible Density @ 13.5 Persons per Plot	3037.5	
Proposed Density	249.23	
50% Area to be Freetzed of Area under Plotted Development required	3.28047	13273.577
Proposed 50% Area to be Freetzed of Area under Plotted Development	3.2931	13326.68
Total saleable area (52.833+3.8849+56.7149%)	7.04341	28503.624



1. The layout plan for an area measuring 12.41875 acres (gaining No. DTP-3437 dated 13.02.2019) submitted to the Government of Haryana for the proposed Affordable Residential Plotted Colony under Deen Dayal Jan Awas Yojna Scheme - 2016, Sohna is hereby approved subject to the following conditions:-
2. That the layout plan shall be read in conjunction with the clauses appearing on the agreement executed under Rule 11 and the bilateral agreement.
3. That the plotted area of the colony shall not exceed 65% of the res. planned area of the colony. The entire area reserved for commercial purposes shall be taken as plotted for calculation of the area under plots.
4. That the demarcation plan as per site of all the Residential Plots and Commercial site shall be got approved from the District and construction on these sites shall be governed by the Haryana Building Code, 2017 and all other rules approved by the Director, Town & Country Planning, Haryana.
5. That the layout plan shall be read in conjunction with the clauses appearing on the agreement executed under Rule 11 and the bilateral agreement.
6. That the revenue area falling in the colony shall be kept free for calculation/development as shown in the layout plan.
7. That the colonizer shall abide by the directions of the DTP, Haryana, and accordingly shall make necessary changes in the layout plan for making any adjustment in the alignment of the proposed roads, internal road, changes in the layout plan for making any adjustment in the alignment of the proposed roads, internal road, changes in the layout plan for making any adjustment in the alignment of the proposed roads, internal road.
8. All green belts provided in the layout plan within the licensed area of the colony shall be developed by the colonizer. All other green belts outside the licensed area shall be developed by the Haryana Urban Development Authority/Colonizer on the directions of the Director, Town and Country Planning, Haryana or in accordance with terms and conditions of the agreements of the licensee.
9. As the time of demarcation plan, if required percentage of organized open space is reduced, the same will be made up by the colonizer in the licensed areas.
10. No plot in the colony shall have an access from less than 7 meters wide road which means a minimum clear width of 9 meters between the plots. an access from less than 7 meters wide road would mean a minimum clear width of 9 meters.
11. Any excess area over and above the permissible for commercial use shall be deemed to be open space.
12. The portion of the sector/development plan roads, green belts, etc. shall be developed by the Development Plan if applicable, which form part of the licensed area shall be transferred free of cost to the government on the lines of section 38 (a) of the Act No. 1 of 1975.
13. That the odd size plots are being approved subject to the conditions that these plots should not have a frontage of less than 7.5% of the standard frontage when demarcated.
14. The layout plan shall be read in conjunction with the clauses appearing on the agreement executed under Rule 11 and the bilateral agreement.
15. The decision of the competent authority shall be binding in this regard.
16. That the rain water harvesting system shall be provided as per Central Ground Water Authority norms/Haryana Conservation of Rain Water Act, 2002.
17. That the colonizer/owner shall ensure the installation of Solar Power Plant, as per provisions of Haryana Solar Power Policy, 2016 issued by Haryana Government. Renewable Energy Regulation, 10K Regulation No. 19/2016-3 Power dated 14.03.2016.
18. That the colonizer/owner shall ensure the installation of Solar Photovoltaic Power Plant as per the provisions of order No. 22/2015-2016 dated 21.03.2016 issued by Haryana Government Renewable Energy Department.
19. That the colonizer/owner shall strictly comply with the directions issued vide Notification No. 19/6/2015-SP dated 31.03.2016 issued by Haryana Government Renewable Energy Department for enforcement of the Energy Conservation Building Codes.
20. That the colonizer/owner shall ensure the installation of Solar Power Plant, as per provisions of Haryana Solar Power Policy, 2016 issued by Haryana Government. Renewable Energy Regulation, 10K Regulation No. 19/2016-3 Power dated 14.03.2016.
21. That the colonizer/owner shall ensure the installation of Solar Photovoltaic Power Plant as per the provisions of order No. 22/2015-2016 dated 21.03.2016 issued by Haryana Government Renewable Energy Department.
22. That the colonizer/owner shall strictly comply with the directions issued vide Notification No. 19/6/2015-SP dated 31.03.2016 issued by Haryana Government Renewable Energy Department for enforcement of the Energy Conservation Building Codes.

OWNERS SIGNATURE  
 ARCHITECT'S SIGNATURE  
 LAY-OUT PLAN

CATEGORY	WIDTH	DEPTH	AREA IN SQM
GREEN G.P. (A)	32.55	24.56	799.855
B	20.64	2.57	53.270
C	12.93	42.53	548.677
D	26.23	7.25	220.528
E	16.33	30.00	489.900
F	20.20	20.16	408.345
GREEN G.P. (A)	40.60	34.00	1381.200
B	35.00	3.00	105.000
C	33.00	2.00	66.000
D	33.00	2.00	66.000
TOTAL			3807.264
MILK & VEG	3.90	3.00	27.300
TRANSFORMER	2.00	2.00	4.000
STP	10.00	10.00	100.000
UGT	10.00	10.00	100.000

RAO AND ASSOCIATE ARCHITECTS  
 RAO AND ASSOCIATE ARCHITECTS  
 RAO AND ASSOCIATE ARCHITECTS

# ROADS







# WATER SUPPLY SCHEME (DOMESTIC)

PROPOSED LAY-OUT PLAN OF AFFORDABLE PLOTTED COLONY UNDER DEEN DAYAL JAN AWAS YOJNA SCHEME - 2016 IN RENEVE ESTATE SOHNA, SECTOR- 35, SOHNA, DISTT. GURUGRAM (HR) LAND MEASURING 12.41875 ACRES, BELONGING TO WALLABHAM BUILDCON PVT. LTD. & VIBHOR HOME DEVELOPERS PVT. LTD. IN COLLABORATION WITH LION INFRA DEVELOPERS LLP

**PILOT AREA CALCULATIONS**

S. NO.	Type of Plot	Plot NOS	WIDTH (IN M)	LENGTH (IN M)	Plot AREA (SQM)	TOTAL NO. OF PLOTS	AREA (SQM)
1	A1	1 to 9	6.4	17.29	110.656	9	995.904
2	A2	10 to 13	6.3	18.8	119.244	4	460.976
3	A3	14 to 21	7.22	20.69	149.318	8	1195.054
4	A4	22 to 51, 118 to 135	6.71	17.83	119.693	48	5742.664
5	A5	52 to 117	6.71	16.76	112.4996	66	7422.336
6	A6	136 to 155	6.92	15.92	109.0904	20	2161.808
7	A7	156 to 183	6.76	18.95	128.102	28	3586.856
8	A8	184 to 191	6.76	20.16	136.2816	8	1090.2528
9	A9	192 to 211	6.92	15.61	108.0212	20	2160.424
10	A10	212 to 225	6.95	17.83	123.9185	14	1734.859
11						225	26551.154
					<b>TOTAL</b>		<b>1211.794</b>

**50% Area to be Freetzed**

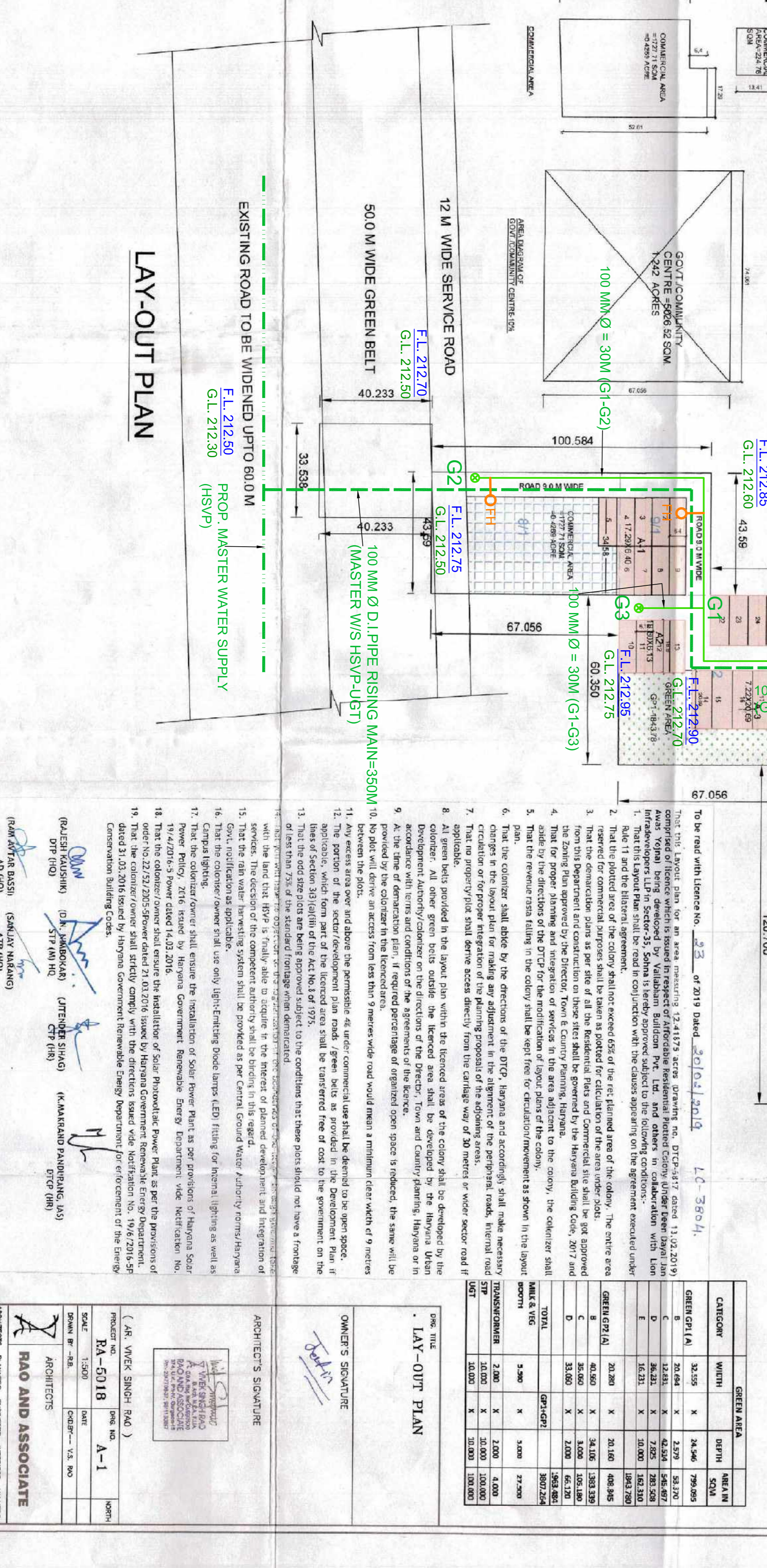
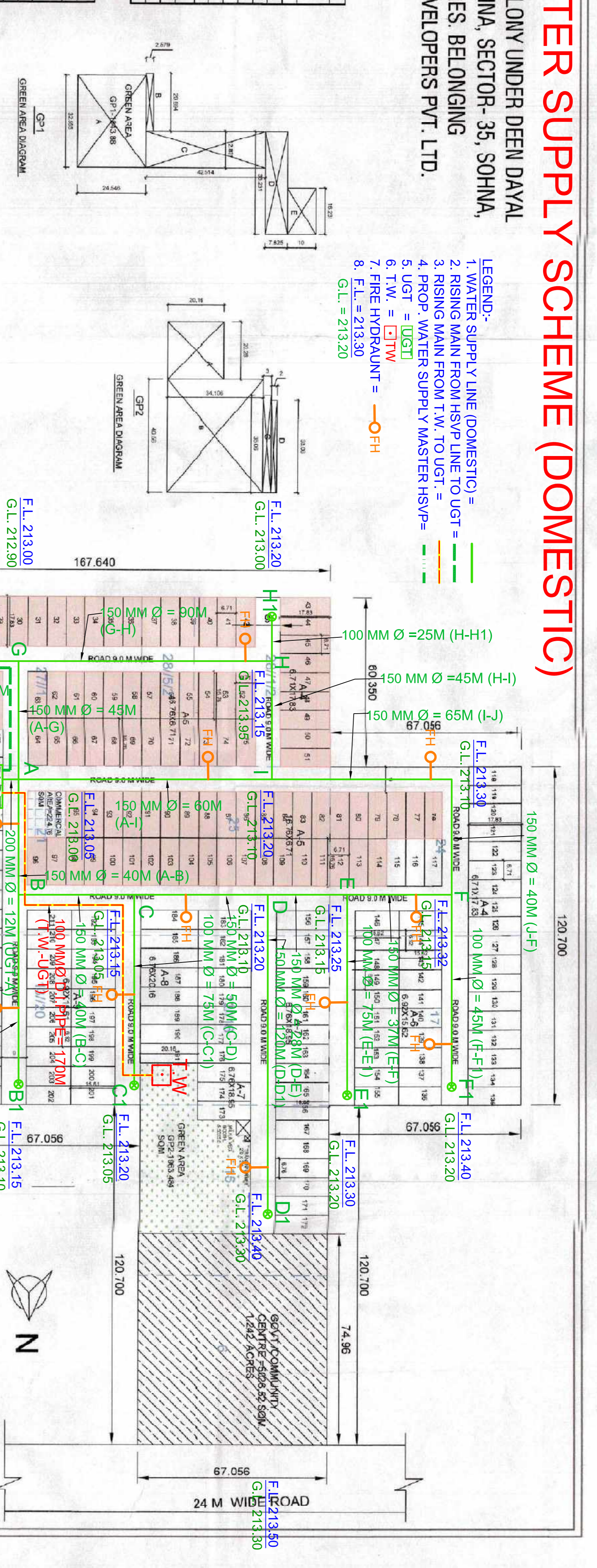
**DETAIL OF 50% FREEZED AREA**

S. NO.	Type of Plot	Nos. of Plot	Plot area (sqm)	Total area (sqm)	Plot No.	Rectangle / Irilla No.	
1	A1	9	110.656	995.904	1 to 9	8/1, 9/1	
2	A2	4	115.244	460.976	10 to 13	1	
3	A3	8	149.318	1195.054	14 to 21	2, 27/1	
4	A4	30	119.693	3590.79	22 to 51	2, 27/1, 28/1, 29/1, 30/1, 31/1, 32/1, 33/1, 34/1, 35/1, 36/1, 37/1, 38/1, 39/1, 40/1, 41/1, 42/1, 43/1, 44/1, 45/1, 46/1, 47/1, 48/1, 49/1, 50/1, 51/1	
5	A5	63	112.499	7084.955	52 to 114	28/1, 29/1, 30/1, 31/1, 32/1, 33/1, 34/1, 35/1, 36/1, 37/1, 38/1, 39/1, 40/1, 41/1, 42/1, 43/1, 44/1, 45/1, 46/1, 47/1, 48/1, 49/1, 50/1, 51/1, 52/1, 53/1, 54/1, 55/1, 56/1, 57/1, 58/1, 59/1, 60/1, 61/1, 62/1, 63/1	
					<b>TOTAL</b>		<b>13326.068</b>

**PROJECT AREA DETAIL**

Description	Area in Acres	Area in Sqm
Total Plot Area	12.41875	50256.818
Area under Sector Road & Green Belt	0.46236	A
Balance Area	11.95599	B
50% Benefit of area falling under sector road & Green Belt	0.23118	9332.026
Net Plan Area	12.18732	49320.256
Required Green Area (750%)	0.91341	3769.261
Proposed Green Area (755%)	0.94080	3807.264
10% Area to be transferred free of cost to the Government for Community Site	1.24188	5025.6818
Proposed Area to be transferred free of cost to the Government for Community Site (10%)	1.24208	5026.520
Permissible Area Under Plots (61%)	7.57544	30656.659
Proposed Area Under Plots (52.833%)	6.56094	26551.154
Permissible Commercial Area (10%)	0.49675	2010.273
Proposed Commercial Area (3.8849%)	0.48247	1952.47
Area for STP (0.2%)	0.0030	100.00
Area for UGT (0.2%)	0.0027	100
Area for Milk & Vegetable booth (0.055%)	0.0008	27.50
Area for Transformer (0.08%)	0.0010	4.00
Total area for other services (0.429%)	0.0055	231.5
Proposed Plots	225	
Permissible Density @ 13.5 Persons per Plot	3037.5	
Proposed Density	249.23	
50% Area to be Freetzed of Area under Plotted Development required	3.28047	13273.577
Proposed 50% Area to be Freetzed of Area under Plotted Development	3.2931	13326.68
Total saleable area (52.833+3.8849+56.7149%)	7.04341	28503.624

- LEGEND:-**
- 1. WATER SUPPLY LINE (DOMESTIC) = ———
  - 2. RISING MAIN FROM HSPV LINE TO UGT = ———
  - 3. RISING MAIN FROM T.W. TO UGT = ———
  - 4. PROP. WATER SUPPLY MASTER HSPV = ———
  - 5. UGT = UGT
  - 6. T.W. = T.W.
  - 7. FIRE HYDRANT = —OH
  - 8. F.L. = 213.30
  - 9. G.L. = 213.20



To be read with Licence No. 23 of 2019 Dated 20/01/2019 L.C-3804

That the Lay-out plan for an area measuring 12.41875 acres (granting no. DTP-3437 dated 13.02.2019) under the Jan Awas Yojna Scheme - 2016 in Reneve Estate Sohna, Sector-35, District Gurugram, Haryana, India, is hereby approved by the Director, Town and Country Planning, Haryana on the condition that the applicant shall comply with the following conditions:

- That this Lay-out plan shall be read in conjunction with the clauses appearing on the agreement executed under Rule 11 and the bilateral agreement.
- That the plotted area of the colony shall not exceed 65% of the res. planned area of the colony. The entire area reserved for commercial purposes shall be taken as plotted for calculation of the area under plots.
- That the demarcation plans as per site of all the Residential Plots and Commercial site shall be got approved from the Department of Survey on these sites shall be governed by the Haryana Building Code, 2017 and the bye-laws approved by the Director, Town & Country Planning, Haryana.
- That for the purpose of the DTP for the purpose of the service in the area adjacent to the colony, the colonizer shall abide by the directions of the DTP for the purpose of the service in the area adjacent to the colony.
- That the revenue areas falling in the colony shall be kept free for calculation/increment as shown in the layout plan.
- That the colonizer shall abide by the directions of the DTP, Haryana, and accordingly shall make necessary changes in the layout plan for making any adjustment in the alignment of the proposed road, internal road, circulation or for proper integration of the Planning proposal of the adjoining areas.
- That no property shall derive access directly from the carriage way of 30 meters or more sector road if applicable.
- All green belts provided in the layout plan within the licensed area of the colony shall be developed by the colonizer. All other green belts outside the licensed area shall be developed by the Haryana Urban Development Authority/Colonizer on the directions of the Director, Town and Country Planning, Haryana or in accordance with terms and conditions of the agreements of the licensee.
- As the time of demarcation plan, if required percentage of organized open space is reduced, the same will be provided by the colonizer in the licensed areas.
- No plot in the colony shall be less than 7 meters wide road would mean a minimum clear width of 9 meters between the plots. an access from less than 7 meters wide road would mean a minimum clear width of 9 meters.
- Any excess area over and above the permissible 4% under commercial use shall be deemed to be open space.
- The portion of the sector/development plan roads, green belts as shown in the layout plan shall be developed from the part of the licensed area shall be transferred free of cost to the Government on the lines of section 31(a)(ii) of the Act No.1 of 1975.
- That the odd size plots are being approved subject to the conditions that these plots should not have a frontage of less than 7% of the standard frontage when demarcated.
- That the layout plan shall be read in conjunction with the clauses appearing on the agreement executed under Rule 11 and the bilateral agreement.
- That the colonizer/owner shall ensure the installation of Solar Power Plant, as per provisions of Haryana Solar Power Policy, 2016 issued by Haryana Government, Renewable Energy, Department, Haryana, India dated 14.03.2016.
- That the colonizer/owner shall ensure the installation of Solar Photovoltaic Power Plant as per the provisions of order No.22/2015-Spwr dated 21.03.2016 issued by Haryana Government, Renewable Energy, Department, Haryana, India dated 21.03.2016 issued by Haryana Government, Renewable Energy, Department for enforcement of the Energy Conservation Building Codes.
- That the colonizer/owner shall use only lights-Fenching Poles lamps (LED) fitting for internal lighting as well as external lighting.
- That the colonizer/owner shall ensure the installation of Solar Power Plant, as per provisions of Haryana Solar Power Policy, 2016 issued by Haryana Government, Renewable Energy, Department, Haryana, India dated 14.03.2016.
- That the colonizer/owner shall ensure the installation of Solar Photovoltaic Power Plant as per the provisions of order No.22/2015-Spwr dated 21.03.2016 issued by Haryana Government, Renewable Energy, Department, Haryana, India dated 21.03.2016 issued by Haryana Government, Renewable Energy, Department for enforcement of the Energy Conservation Building Codes.

**OWNER'S SIGNATURE**

**ARCHITECT'S SIGNATURE**

**LAY-OUT PLAN**

CATEGORY	WIDTH	DEPTH	AREA IN SQM
GREEN GT (A)	32.55	24.46	796.855
B	20.64	2.57	53.270
C	12.93	42.53	548.677
D	26.21	7.25	220.528
E	16.31	30.00	100.330
F	20.28	20.16	408.845
GREEN GT (A)	40.60	34.10	1383.290
B	35.60	3.00	106.800
C	33.60	2.00	67.200
D	33.60	2.00	67.200
E	33.60	2.00	67.200
F	33.60	2.00	67.200
TOTAL			3807.264
MILK & VEG	3.90	3.00	27.000
TRANSFORMER	2.00	2.00	4.000
STP	10.00	10.00	100.000
UGT	10.00	10.00	100.000

**RAO AND ASSOCIATE**

ARCHITECTS

RAO AND ASSOCIATE

ARCHITECTS

RAO AND ASSOCIATE

# WATER SUPPLY SCHEME (DOMESTIC)