

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

M se1hudaggn@gmail.com

☎ 0124-4267236

To

The Chief Engineer-I,
HSVP, Panchkula.

Memo No. 9047

Dated: 17/01/2022

Sub: Approval of service plan estimate for Affordable Plotted Colony under DDJAY project, area measuring 5.04375 acres (License No. 120 of 2021 dated 24.12.2021) in the revenue Estate of Village Palra, Sector-70A, Gurugram being developed by M/s Pyramid Infratech Pvt. Ltd.

The Executive Engineer, HSVP, Division No. V, Gurugram has submitted that the firm M/s Pyramid Infratech Pvt. Ltd. vide letter dated 06.01.2022 submitted the Service plan estimate for Affordable plotted Colony area 5.04375 acres (License No. 120 of 2021 dated 24.12.2021) in Sector-70A, 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 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 ^{18.7} 13.5 persons per ~~plots~~ plots. The total population of the residential plotted colony works out to 1530 persons. 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 in two sheets 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 5.04375 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 details of services proposed to be connected are as under:-

SFI

fe

SE

- i) **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-70A/70, Gurugram.
 - ii) **Sewerage:** - For disposal of sewage firm has proposed sewage treatment plant of 260KLD 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-70A/70, Gurugram.
 - iii) **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-70A/70, Gurugram.
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 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.

SFI

fe

SE

17. The estimate doesn't includes the services to be provided by the firm in the Group Housing 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:-
 - i. 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.
 - ii. 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.
 - iii. NGT orders in Application No. 45 of 2015 & M.A No. 126 of 15 titled as Haryana Welfare Association V/s State of Haryana Gurgaon.
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:-

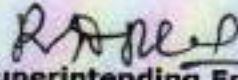
Sr. No.	Description	Total Cost (Rs. in Lakh)
1.	Water supply	Rs. 99.32
2.	Sewerage	Rs. 63.54
3.	Storm Water Drainage	Rs. 37.86
4.	Roads and Footpath	Rs. 58.64
5.	Street lighting	Rs. 9.29
6.	Horticulture	Rs. 3.98
7.	Mtc. Charges & resurfacing of roads	Rs. 104.48
	Total	Rs. 377.11

Dev. Cost per acre $\frac{377.11}{5.04375} = \text{Rs. } 74.77 \text{ Lakh per gross acre}$

Say Rs.74.80Lakh 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
alongwith Technical Note**


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

Dated: 

Endst No.


A copy of the above is forwarded to the Executive Engineer, HSVP, Division No. V, Gurugram w.r.t. his office memo No. 4123 dated 07.01.2022 for information.


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

Approval of service plan estimate for Affordable Plotted Colony under DDJAY project, area measuring 5.04375 acres (License No. 120 of 2021 dated 24.12.2021) in the revenue Estate of Village Palra, Sector-70A, Gurugram being developed by M/s Pyramid Infratech 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 M/s Pyramid Infratech 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 be 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**

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

FOR

PROPOSED “AFFORDABLE RESIDENTIAL PLOTTED COLONY” (UNDER DEEN DAYAL JAN AWAS YOJNA - 2016) AREA MEASURING 5.04375 ACRES (LICENSE NO. 120 OF 2021 DATED 24.12.2021) IN THE REVENUE ESTATE OF VILLAGE PALRA, IN SECTOR – 70-A, GURUGRAM BELONGING TO M/S HOMES SURPRISE BUILDERS LLP BEING DEVELOPED BY M/S PYRAMID INFRATECH PVT.LTD.

SERVICE ESTIMATE, DESIGN REPORT AND CALCULATIONS OF INTERNAL DEVELOPMENT WORKS FOR PROPOSED “AFFORDABLE RESIDENTIAL PLOTTED COLONY” (UNDER DEEN DAYAL JAN AWAS YOJNA - 2016) AREA MEASURING 5.04375 ACRES (LICENSE NO. 120 OF 2021 DATED 24.12.2021) IN THE REVENUE ESTATE OF VILLAGE PALRA, IN SECTOR – 70-A, GURUGRAM BELONGING TO M/S HOMES SURPRISE BUILDERS LLP BEING DEVELOPED BY M/S PYRAMID INFRATECH PVT.LTD.

Gurugram town of Haryana State situated on N.H. -248 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. This report is for a part of service estimate for proposed “Affordable Residential Plotted Colony” (Under Deen Dayal Jan Awas Yojna - 2016) Area measuring 5.04375 Acres (License no. 120 of 2021 dated 24.12.2021) in the Revenue Estate of Village Palra, In Sector – 70-A, Gurugram belonging to M/s Homes Surprise Builders LLP. being developed by M/s Pyramid Infratech 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/GMDA 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 tanks will be fed from the HSVP/GMDA 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/GMDA 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/GMDA 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 1530 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 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 pipes with required number of manholes for disposal of storm water, which will be connected to the HSVP/GMDA drain. The intensity of rain fall has been taken as 6.00mm per hour. A minimum size of 400mm i/d R.C.C 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 PH 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. 377.11 Lacs (Rupees Three Crores Seventy Seven Lacs Eleven Thousand only) including 3% contingencies and 49% departmental charges + Price escalation and cost per acre comes out to Rs. 74.77 Lacs.

(Authorized Signatory)

1. DESIGN CALCULATION :-

Total Area of plot	= 5.04375 Acres
Permissible Area Under Plots	= 2.90284 Acres
Proposed Area Under Plots	= 2.90225 Acres
Permissible Commercial Area	= 0.19035 Acres OR (770.318 Sqm.)
Proposed Commercial Area	= 0.18914 Acres OR (765.435 Sqm.)
Proposed Community Area for Milk and Veg. Booth	= 0.5045 Acres OR (2041.59 Sqm.)
Proposed Plots	= 27.50 Sqm
	= 85 Plots

I) Water Requirement :-

• Total Plots	= 85 Plots
• Total Population @ 18.00 Persons/Plot @172.50 LPCD	= 1530 Persons = 263925.00 LPD
• Commercial area @ 3 Sqm / person = 256 Persons @ 45 LPCD	= 765.435 Sqm = 11520.00 LPD
• Community Center (Area 0.5045 Acre)	= 12163.00 LPD
• Milk and Veg. booth	= 2000.00 LPD
• ESS and other unforeseen provision	= 5000.00 LPD
Total	= 2,94,608.00 LPD Or 295 KLD Say 300 KLD

II. FIRE DEMAND

(i) Population	= 1530 Persons
(p) $\frac{1}{2} \times 100/1000 = (1.53) \frac{1}{2} \times 100$	= 123.69 KLD
Say	= 130 KLD

III. Garden Irrigation Requirement (For Total Area) = 20.00 KLD**IV. Total Water Requirement for UGT**

(Excluding Fire Demand)	
Hence Domestic Water Requirement (67%)	= 300 x 67% = 201.00 KLD
Hence Flushing Water Requirement (33%)	= 300 x 33% = 99.00 KLD
Day Requirement considering @ 60%	= 130 K.L. for Domestic = 65 K.L. for Flushing

But it is proposed to construct an UGT i.e. 130 K.L. in two compartment for domestic use and 65 K.L. for non potable water in two compartment (at STP) and 130 K.L. for fire fighting purposes for UGT in two compartment as shown location in the plan.

Total Capacity of UGT = 130 + 130	= 260.00 KLD
Total Requirement for Flushing and irrigation at STP (65+20)	= 85.00 KLD

V. Tube Well	For UGT
a) Yield	= 15 K.L. / Hr.
b) Working Hour per day	= 16 Hr. / Per Day
c) Total water demand	= 201 M3/Day
d) Number of tube well required (Water Demand / Discharge / Hr. working Per day)	= 0.84 Nos
e) Add 5% extra	= 0.04
Total	= 0.88 Nos
Say	= 1 Nos

Water to the proposed development is to be supplied by HSVP/GMDA. However consider 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.

VI) 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 1 No. pumping set of 4.50 LPS discharge at 98 Mtr head (1W)

VII) Boosting Machinery for domestic water For UGT	
Total Water Requirement	= 201.00 KLD
Pumping per hour @ 8 hr. pumping / day	= 201 / 8 KL / hr. = 25.125 KL / hr. = 418.75 lpm = 6.98 lps
	Say 1 No. 7.00 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	= $(7.00 \times 45) / (75 \times 0.60)$ = 7.00 H.P.
Say	= 10.00 HP

It is proposed to provide 2 Nos. of pumping set of 7.00 lps discharge at 45mts Head each (1W + 1S) for UGT.

VIII) Boosting Machinery for flushing water at STP

Total Water Requirement	= 99 K.L.D
Pumping per hour @ 8 hr. pumping / day	= 99 / 8 KL / hr. = 12.375 KL / hr. = 206.25 lpm = 3.44 lps, Say 1 No. 5.00 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.
Pump HP	= $(5.00 \times 45) / (75 \times 0.60)$ = 5.00 HP Say = 5.00 HP

It is proposed to provide 2 Nos of pumping set of 5.00 lps discharge at 45 mts Head each (1W + 1S)

IX) Boosting Machinery for Irrigation water

Total Water Requirement	= 20 KLD
Pumping per hour @ 5 hr. pumping / day	= 20 / 5 KL / hr. = 5.00 KL / hr. = 83.33 lpm = 1.39 lps Say = 2.00 LPS
Gross working head	
- Suction lift	= 5.00 mts.
- Frictional loss in mains & specials	= 5.00 mts.
- Clear Head required	= 25.00 mts.
Total	= 35.00 mts.
Say	= 35.00 mts.
Pump HP	= $(2.00 \times 35) / (75 \times 0.60)$ = 1.60 HP Say = 2.00 HP

It is proposed to provide 2 No. of pumping set of 3.00 lps discharge at 35 mts Head each (1W + 1S)

X) DG Set for plumbing**DG Set Requirement**

Submersible Pump (1 x 10)

Domestic Pump (1 x 10)

Flushing Pump at STP (1 x 5)

Street Light and other etc.

Total pump load**For UGT**

= 10.00 HP

= 10.00 HP

= 5.00 HP

= 15.00 HP**= 40.00 HP**

= 40.00 x 0.746 x 1.50

= 44.76 K.W

= 1 No. 50 KVA**Total DG capacity**

Hence it is proposed to provide 1 No. D.G. Set of 50 KVA capacity.

FLOW TO SEWAGE TREATMENT PLANT**Total Water Requirement = (201 for domestic & 99 KLD for flushing)**

i) 80% of total Domestic Water Demand = 80% of 201 KLD = 160.80 KLD

ii) 80% of total Flushing Water Demand = 80% of 99 KLD = 79.20 KLD**Total = 240.00 KLD**

Considering 5% marginal factor

= 12.00 KLD**G. Total = 252.00 KLD****Say 260 KLD****Proposed STP Capacity = 260 KLD Or 0.26 MLD**

(Authorized Signatory)

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. 260 KLD @ Rs. 3500/- per K.L.D	910000.00
2	Provision for construction of Boosting Station 1 Nos @ Rs. 250000/- each	250000.00
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. 700000/- each	700000.00
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
	Total	2040000.00
	Say in Lacs	20.40

(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 7.00 lps at 45 mts head - 2 No. (1W+1SB) - @ Rs. 1,20,000/- each Set (10.00HP)	240000.00
2	Providing and installing Hydro Pneumatic pumping set of following capacities for Flushing water supply & irrigation etc. i 5.00 lps at 45 mts head - 2 No. (1W+1SB) @ Rs. 80,000/- 1 Set (5HP each) ii 3.00 lps at 35 mts head - 2 No. (1W+1SB) @ Rs. 30,000/- 1 Set (2HP each)	160000.00 60000.00
3	Providing and installing Submersible pump for tube wells with specials 4.50 lps at 98 mts head - 1 Nos (1W) @ Rs. 1,20,000/- 1 Set (10HP each)	120000.00
4	Provision for ESS (Electric Panel Foundation) L.S.	50000.00
5	Provision for D.G. Set for stand by arrangement for all machinery = 1 No. 50 KVA @ Rs. 7,00,000/- each	700000.00
6	Provision for making foundations & erection of pumping machinery	50000.00
7	Provision for pipes, valve & specials inside boosting chamber	100000.00
8	Provision for electric services connection including electric fittings for boosting chambers and pump chamber etc.	100000.00
9	Provision for carriage of materials and other unforeseen items L.S.	30000.00
	Total	1610000.00
	Say in Lacs	16.10

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

SUB WORK NO. 1
Sub Head No. 03

WATER SUPPLY
Water Supply Distribution & Rising Main Pipe

Sr.	Description	Amount in Rs.
1	Providing, laying, jointing & testing pipe lines including cost of excavation etc. complete in all respects	
i)	100mm dia D.I. Pipe 1079 Mtr @ Rs. 1000/- Per Mtr	1079000.00
ii)	150mm i/d D.I. Pipes -610 Mtr @ Rs. 1200/- Per Mtr	732000.00
iii)	200mm i/d D.I. Pipes 25 Mtr @ Rs. 1500/- per mtr	37500.00
2	Providing and fixing sluice valve including cost of surface box and masonry chamber etc. complete in all respect	
a)	100mm i/d 15 No. @ Rs. 7500/- each	112500.00
b)	150mm i/d 10 No. @ Rs. 10000/- each	100000.00
c)	200mm i/d 2 No. @ Rs. 15000/- each	30000.00
3	Providing and fixing indicating plates for sluice valve 27 No. @ Rs. 1000/-	27000.00
4	Provision for carriage of materials and other unforeseen items	30000.00
5	Provision for making connection with HUDA Pipe & T.W's etc.	50000.00
6	Provision for cutting the road and making good the same	50000.00
	Total	2248000.00
	Say in Lacs	22.48

(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.	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 - 184 M @ Rs. 800/- Per Mtr	147200.00
2	Providing and fixing fire Hydrant with accessories 23 No. @ Rs. 6000/- each	138000.00
3	Providing and fixing indicating plate -23 No. @ Rs. 1000/- each	23000.00
4	Provision for carriage of material L.S.	20000.00
	Total	328200.00
	Say In Lacs	3.29

(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. 500/- Per Mtr	100000.00
2	Providing and fixing 25mm dia, Irrigation hydrant valve complete in all respect 25 Nos @ Rs. 3000/- each	75000.00
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 25 Nos @ Rs. 1000/- each	25000.00
5	Provision for road cutting and making it condition as original L.S.	25000.00
	Total	245000.00
	Say in Lacs	2.45

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

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 Pipe 200mm i/d avg. depths 0 - 2.00M 422 M @ Rs. 1000/- per Mtr	422000.00
	b) SW Pipe 250mm i/d avg depth 2.00 M 295 M @ Rs. 1200/- per Mtr	354000.00
	c) SW Pipe 300mm i/d avg depth 2.75 M 10M @ Rs. 1400/- per Mtr	14000.00
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. Pipe - 150 M @ Rs. 1200/- Per Mtr	180000.00
3	Provision of lighting and watching etc.	50000.00
4	Provision for cartage of material	20000.00
5	Provision for making connection with HSVP	100000.00
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. 260 KLD or (0.26 MLD) Capacity L.S.	3000000.00
		4140000.00
	Add 3% contingency & P.H. Services	124200
	Total	4264200
	Add 49% Department charges + Price Escalation	2089458
	G. Total	6353658
	Say in Lacs	63.54

(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 pipe class Np3 with cement joint, a) RCC Np3 pipe 400mm i/d = 822 M @ Rs. 1200/- Per Mtr	986400.00
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. 5 Nos RWH @ Rs.2,00,000/- each	1000000.00
3	Provision for road gulley & pipe with connection	300000.00
4	Provision for lighting and watching	30000.00
5	Provision for timbering and shoring	20000.00
6	Provision for cartage of material	30000.00
7	Provision for making connection with HSVP storm water drain	100000.00
	Total	2466400.00
	Add 3% contingency & P.H. Services	73992.00
	Total	2540392.00
	Add 49% Department charges + Price Escalation	1244792.08
	G. Total	3785184.08
	Say in Lacs	37.86

(C.O. to Final Abstract of Cost)

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

S. No.	Line Reference	Type of Colony	Residential Pura				Population @ 18.00 Person per Plot	Water Requirement @ 172.50 LPCD	Other Water Requirement i.e. Commercial, Community Centre / health/other in LFD	Total Water Requirement in LFD	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
			Self	Search	Total																
1	From To		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
1	STP	Plotted Res.	0	05	05	15.00	2600.25	3000.00	3500.00	9722.1	3645.7	0.43	150	0.003	8	0.01	231.25	276.30	45.05	Formation Level of STP = 231.25 M Boasting Head = 45.00 M Flushing Hydraulic Head at STP = 276.25 M	
2	B	-ds-	10	20	48	866	1490.00	2300.00	17277.5	5999.9	21.074	0.38	150	0.002	26	0.16	201.20	276.15	44.95		
3	B	-ds-	20	2	26	540	931.50	1152.00	10567.0	8454.1	1560.3	0.30	100	0.005	1.58	0.41	231.10	275.76	44.64		
4	C	-ds-	1	0	2	36	62.50	1152.00	1773.0	505.1	21.94	0.16	100	0.001	75	0.00	251.05	275.66	44.61		
5	D	-ds-	0	0	0	0	0	0	0	0	0	0.16	100	0.001	21	0.01	231.30	275.64	44.34		
6	B	-ds-	6	33	57	666	1144.85	7000	12188.5	4022.2	1508.5	0.36	150	0.002	07	0.13	231.15	276.20	45.05		
7	F	-ds-	0	13	13	234	4098.5	2000	4296.5	3180.0	524.0	0.20	100	0.001	21	0.01	231.20	276.18	44.98		
8	F	-ds-	12	0	12	244	4098.5	2000	4296.5	3180.0	524.0	0.20	100	0.001	164	0.16	231.10	276.12	44.92		
9	B	-ds-	0	0	0	0	0	1216.0	1216.0	401.4	150.6	0.36	100	0.001	25	0.03	231.30	276.12	44.82		
10	F	-ds-	18	0	18	324	5689.0	0	5689.0	1844.4	697.0	0.23	100	0.001	164	0.16	231.05	276.04	44.99		

DESIGN CALCULATION OF STORM WATER DRAINAGE SCHEME

INTENSITY OF RAIN FALL = 0.006 MTR./HR

IMPERMEABILITY FACTOR = 0.6

S. No.	Name of Node		Area (Self) IN SQM	Area (Self) In Acre	Branch Area In Acre	Total Area In Acre	Total Area In Hectar	Rain fall mm / hr.	Discharge @ 17.36 LPS/ Hectar 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		Average Depth	Remarks
	From	To														Start	End	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	26
1	A	B	6.0	0.17	0	0.17	0.07	6.00	1.04	30	400	5.70	0.76	98.57	0.05	230.70	230.65	231.00	231.10	229.50	229.45	1.50	1.65	1.58	-
2	B	C	4316	1.07	0.16	1.23	0.50	6.00	8.50	135	400	5.70	0.76	98.57	0.23	230.65	231.34	231.10	231.20	229.45	229.72	1.65	1.98	1.82	RWH-1
3	C1	C	2190	0.54	0	0.54	0.22	6.00	3.64	25	400	5.70	0.76	98.57	0.04	231.10	231.34	231.90	231.20	230.30	230.26	1.00	0.94	0.97	RWH-2
4	C	D	5040	1.25	1.77	3.02	1.22	6.00	21.00	130	400	5.70	0.76	98.57	0.22	231.14	231.60	231.20	231.20	229.22	229.00	1.98	2.20	2.09	RWH-3
5	D2	D1	4650	1.15	0	1.15	0.47	6.00	7.08	105	400	5.70	0.76	98.57	0.34	230.70	231.60	231.00	231.15	230.00	229.66	1.00	1.49	1.25	RWH-4
6	D3	D1	2800	0.69	0	0.69	0.28	6.00	4.68	185	400	5.70	0.76	98.57	0.32	230.90	231.60	231.10	231.15	230.10	229.78	1.00	1.37	1.19	
7	D1	D	548	0.14	1.83	1.97	0.80	6.00	13.71	32	400	5.70	0.76	98.57	0.05	231.00	231.60	231.15	231.20	228.66	229.61	1.69	1.59	1.54	RWH-5
8	D	Govt. S.W.D. line	400	0.10	3.92	4.02	1.63	6.00	28.12	90	400	5.70	0.76	98.57	0.15	231.00	231.60	231.20	231.20	229.00	228.85	2.20	1.35	2.27	

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	30	-
2	B	C	135	-
3	C1	C	25	-
4	C	D	130	-
5	D2	D1	195	-
6	D3	D1	185	-
7	D1	D	32	-
8	D	GOVT. S.W.D LINE	90	-
	Total Length		822	0

i) **Total Length 400mm i/d RCC Np3 pipe = 822 Mtr**

Total Rain Water Harvesting (RWH) = 5 Nos

HYDRAULIC STATEMENT OF WATER SUPPLY (DOMESTIC)

SUBHEAD : DOMESTIC WATER SUPPLY SCHEME - DESIGN CALCULATION

S. Line Reference No.	Line Reference		Type of Colony	Residential Plots							Population @ 28.00 Persons per plot	Water Requirement @ 172.50 LPCD	Other Water Requirement i.e. Carrom, / Community building / MIBs booth/ other services in LPD	Total Water Requirement in LPD	Water Requirement @ 57% of total water requirement	Peak Flow in LPH	Velocity (m/s)	Size of the pipe in (mm)	Total Friction Loss in m/100	Length in (M)	Loss of Head in Line (M)	Formulation Level at Lower End	Available Head at lower end (M)	Terminal Head (M)	Remarks
	From	To		5	6	7	8	9	10	11															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				
1	UGT	A	Plotted Res.	0	85	85	1330	216925	30685	294608	197387	76030	3.40	200	0.002	25	0.05	231.25	276.25	45.00	Formation level at Water Works i.e. UGT = 231.30 M				
2	A	B	-do-	28	30	48	864	149040	23683	172723	115714	43096	0.43	150	0.003	90	0.27	231.20	275.99	44.78	Boasting Head = 45.00 M				
3	B	C	-do-	28	2	30	540	92150	11520	104670	78129	26298	0.29	150	0.003	140	0.14	231.10	275.84	44.74	Hydraulic Head = 276.30 M				
4	C	D	-do-	2	0	2	96	6130	11520	17750	21879	4454	0.16	100	0.003	74	0.07	231.03	275.77	44.72					
5	D	E	-do-	0	0	0	0	0	0	0	0	0	0.16	100	0.003	22	0.02	231.10	275.72	44.62					
6	A	F	-do-	0	11	37	666	114885	7000	121885	81683	30623	1.29	150	0.003	85	0.07	231.15	276.18	45.03					
7	F	F1	-do-	0	13	13	234	40365	2000	42365	28385	10644	0.23	100	0.003	21	0.02	231.20	276.20	44.96					
8	F1	E	-do-	13	0	13	234	40365	2000	42365	28385	10644	0.23	100	0.003	184	0.16	231.10	276.02	44.90					
9	B	B1	-do-	0	0	0	0	0	12165	12163	8149	3455	0.16	100	0.003	25	0.05	231.30	275.95	44.65					
10	F	D	-do-	14	0	14	354	59920	0	59903	37446	14042	0.43	100	0.002	164	0.33	233.03	275.83	44.80					

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	-	-	200	-	-	-

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

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	-	471 M	295 M	25 M
2	Flushing	-	608 M	165 M	-
3	Rising Main	-	20 M	150 M	-
	Total	-	1079 M	610 M	25 M

MATERIAL STATEMENT FOR SEWERAGE SCHEME

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 2.50 Mtr	300mm i/d 0 to 2.75 Mtr	400mm i/d 0 to 3.00 Mtr
1	A	B	190	200	1.50	190	-	-	-
2	B1	B	175	200	1.41	175	-	-	-
3	B	C	70	250	2.18		70	-	-
4	C3	C2	32	200	1.07	32	-	-	-
5	C2	C1	135	250	1.54		135	-	-
6	C4	C1	25	200	1.01	25	-	-	-
7	C1	C	90	250	1.98		90	-	-
8	C	S.T.P.	10	300	2.41	-		10	-
9	STP - HUDA / Sewer By Pumping 150mm i/d D.I. Pipe = 150 Mtr						-	-	-
	Total		727			422	295	10	0

200mm i/d Pipe Length 422 Mtr
 250mm i/d Pipe Length 295 Mtr
 300mm i/d Pipe Length 10 Mtr
 150mm i/d D.I. Pipe (By Pumping) = 150Mtr

FINAL ABSTRACT OF COST

SR. NO.	SUB WORK	DESCRIPTION	AMOUNT (Rs. In Lacs)
1	SUB WORK NO. I	WATER SUPPLY SCHEME	99.32
2	SUB WORK NO. II	SEWERAGE SCHEME	63.54
3	SUB WORK NO. III	STORM WATER DRAINAGE	37.86
4	SUB WORK NO. IV	ROAD AND FOOTPATH	58.64
5	SUB WORK NO. V	STREET LIGHTING	9.29
6	SUB WORK NO. VI	HORTICULTURE (PLANTATION & ROAD SIDE TREES)	3.98
7	SUB WORK NO. VII	MTC. OF SERVICES & RESURFACING OF ROADS (After 1st 5 years of 1st Phase & Next 5 years in 2nd Phase)	104.48
		TOTAL	377.11
TOTAL : (Rupees Three Crore Seventy Seven Lacs Eleven Thousand only)			

Cost Per Acre = Rs.377.11 Lacs / 5.04375 = 74.77 Lacs Per Acre

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	20.40
2	Sub Head No. 02	Pumping Machinery	16.10
3	Sub Head No. 03	Water Supply Distribution & Rising main pipe	22.48
4	Sub Head No. 04	External Fire Hydrants	3.29
6	Sub Head No. 05	Irrigation	2.45
		TOTAL	64.72
		Add 3% contingency & P.H. Services	1.94
		Total	66.66
		Add 49% Department charges + Price Escalation	32.66
		G. Total	99.32
		Say in Lacs	99.32

(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	5.04375	150000	756562.5
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	4590	400	1836000
3	Provision for kerbs & channels of C.C. 1.2:4	Metre	1460	474	692040
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 / Blocke etc. complete in all respect	Sqm	1140	400	456000
5	Provision for carriage of material	LS			30000
	Sub Total				3820602.5
	Add 3% contingencies & PH Services				114618
	Sub Total				3935221
	Add 49% Departmental Charges + Price Escalation				1928258
	Total				5863479
	Say Rs. In Lacs				58.64

(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	5.04375	120000	605250
	Add 3% contingencies & PH Services				18158
	Total				623408
	Add 49% Departmental Charges + Price Escalation				305470
	Total				928877
	Say Rs. In Lacs				9.29

(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 either direction				
d	organized green 1645.32 Sqm Or 0.41 Acres (As per detail given in green park area calculation)	Acre	0.41	250000	102500
2	Providing and planting trees along boundary @ 6 m interval (Length appx 1384 M) = $1384/6 = 230$ Nos Say No. of trees = 116 Nos Cost details : Excavation = Rs. 73 Manure = Rs. 550 Tree Plant = Rs. 650 Total Rs. = Rs. 1350				
		Each	116	1350	156600
	Total				259100
	Add 3% contingencies & PH Services				7773
	Total				266873
	Add 49% Departmental Charges + Price Escalation				130768
	Total				397641
	Say Rs. In Lacs				3.98

(C.O. to Final abstract of cost)

Sub Work No. VII

Mtc. Of services & 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	5.04375	100000	504375
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	5730 (4590 + 1140)	600	3438000
3	2nd phase after next five years of 1st phase (50mm DBM & 25mm BC or as per crust design whichever is safer	Sqm	5730	500	2865000
	Sub Total				6807375
	Add 3% contingencies & PH Services				204221
	Sub Total				7011596
	Add 49% Departmental Charges				3435682
	Total				10447278
	Say Rs. In Lacs				104.48

(C.O. to Final abstract of cost)

Material Statement of Road Works

Sr. No.	Road No.	Road Width	Length	Width	Area	
1	1	9.00	234.00	5.50	1287.00	Sqm
2	2	9.00	17.00	5.50	93.50	Sqm
3	3	9.00	35.00	5.50	192.50	Sqm
4	4	9.00	8.00	5.50	44.00	Sqm
5	5	9.00	8.00	5.50	44.00	Sqm
6	6	9.00	8.00	5.50	44.00	Sqm
7	7	9.00	8.00	5.50	44.00	Sqm
8	8	24.00	187.00	2 X 7.00	2618.00	Sqm
	G. Total				4367.00	Sqm
					Add 5% extra for curves	218.35 Sqm
					Total	4585.35 Sqm
					Say	4590 Sqm

i) Kerbs & Channels

i)	9.00 Mtr wide road (2 x 318)	636 Mtr	
ii)	24.0 Mtr wide Road (2 X 2 x 187)	748 Mtr	
	Total	1384 Mtr	
	Add 5% for curves	69 Mtr	
	G. Total	1453 Mtr	Say 1460 Mtr

ii) Footpath :-

(i)	9M wide road = 2 x 318 X 1.0	= 636.00 Sqm
(ii)	24.00 M wide road = 187M x 2 x 1.20M	= 448.80 Sqm
	Total	=1084.80 Sqm
	Add 5% for curves	= 54.24 Sqm
	Total	= 1139.04 Sqm
		Say 1140 Sqm

SUMMARY OF DESIGN REQUIREMENT

S. No.	Description	Qty	Unit
1	Total Population	1530	Persons
2	Total Water Requirement (Domestic)	201	KLD
3	Total Water Requirement (Flushing)	99	KLD
4	Total Water Requirement (Horticulture)	20	KLD
5	U. G Tank (Domestic - 130 KLD)	1	No.
6	U.G.T Fire Tank 130 KLD	1	No.
7	No. of Domestic WS pumps UGT	1+1	Set
8	No. of Flushing pumps	1+1	Set
9	No. of submersible pumps	1	No.
10	Generating sets (50 KVA)	1	50 KVA
11	STP (260 KLD)	1	No.

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	8	8	
2	a	b	150	90	90	
3	b	c	100	138		138
4	c	d	100	75		75
5	d	e	100	21		21
6	a	f	150	67	67	
7	f	f1	100	21		21
8	f1	e	100	164		164
9	b	b1	100	25		25
10	f	d	100	164		164
	Total			773	165	608

150mm i/d Pipe Length

165 Mtr

100mm i/d Pipe Length

608 Mtr

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	25	25		
2	A	B	150	90		90	
3	B	C	150	140		140	
4	C	D	100	74			74
5	D	E	100	22			22
6	A	F	150	65		65	
7	F	F1	100	22			22
8	F1	E	100	164			164
9	B	B1	100	25			25
10	F	D	100	164			164
	TOTAL			791	25	295	471

200mm i/d Pipe Length	25 Mtr
150mm i/d Pipe Length	295 Mtr
100mm i/d Pipe Length	471 Mtr
Total	<u>791 Mtr</u>

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	20	20	-
2	Govt. Line	UGT	150	150	-	150
	Total			170	20	150

MATERIAL STATEMENT (FIRE HYDRANT)

- i) Length of Water Supply (Domestic) = 791 Mtr
- ii) Length of 100mm i/d F.H. = $23 \times 8 = 184$ Mtr
- iii) Nos of F.H. = 23 Nos

Note : Fire Hydrant considering @ 23 Mtr /each in Domestic Water Supply line
= $791 / 35 = 23$ Nos

DESIGN STATEMENT OF SEWERAGE SCHEME

SUBHEAD : SEWERAGE SCHEME - DESIGN CALCULATION

S. No.	Line Reference	Type of Colony	Residential Plots			Population @ 10.00 Person per plot	Water Requirement (l/72.50 LPHD)	Other Requirement (i.e. comm./community building / milk booth and other services)	Total water requirement (LPD)	Sew. Quantity after evaporation @ 20% (in LPD)	Sewage Discharge Peak Flow (ml/sec)	Size of pipe in (mm)	Gradient in (m)	Velocity (m/sec)	Carrying capacity of pipe (m ³ /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	Average	
1	B	4	5	6	7	8	8	10	21	11	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28			
1	A, B	Plotterd Block	20	0	20	300	42106	0	62100	49000	0.0017	300	225	0.76	0.012	100	0.80	230.70	231.00	231.00	231.15	230.00	229.16	1.00	1.00	1.50			
2	B1, B	-do-	13	0	13	204	47268	2000	42360	33002	0.0011	200	225	0.76	0.012	175	0.77	230.00	231.00	231.10	231.15	230.00	229.33	1.00	1.02	1.41			
3	B, C	-do-	6	13	19	702	42106	7000	128266	502476	0.0008	300	408	0.76	0.019	70	0.22	231.00	231.31	231.15	231.28	230.13	229.93	2.02	2.34	1.18			
4	C3, C2	-do-	0	0	0	0	0	11520	11520	9216	0.0009	300	225	0.76	0.012	32	0.14	230.70	230.80	231.00	231.30	230.00	229.88	1.00	1.14	1.07			
5	C2, C1	-do-	28	0	28	504	86948	11520	96468	76768	0.0027	240	305	0.76	0.019	130	0.44	230.80	231.34	231.10	231.20	230.83	229.99	1.37	1.81	1.54			
6	G4, C1	-do-	0	0	0	0	0	12163	8740	0.0003	300	225	0.76	0.012	25	0.11	231.18	231.34	231.30	231.20	230.30	230.19	1.00	1.01	1.01				
7	C1, C	-do-	18	28	46	828	342830	29683	168513	133210	0.0044	240	305	0.76	0.019	90	0.29	231.14	231.31	231.20	231.25	229.39	229.10	1.81	2.15	1.98			
8	C, S.T.P.	-do-	0	85	85	1530	263925	36683	254608	235486	0.0060	300	385	0.76	0.017	10	0.02	231.11	231.30	231.25	231.30	230.88	230.86	2.37	2.44	2.41			
9	S.T.P. Sewer Line	-													150	0.50	231.10	231.18	231.30	231.55	229.30	228.80	2.00	2.55	1.28				

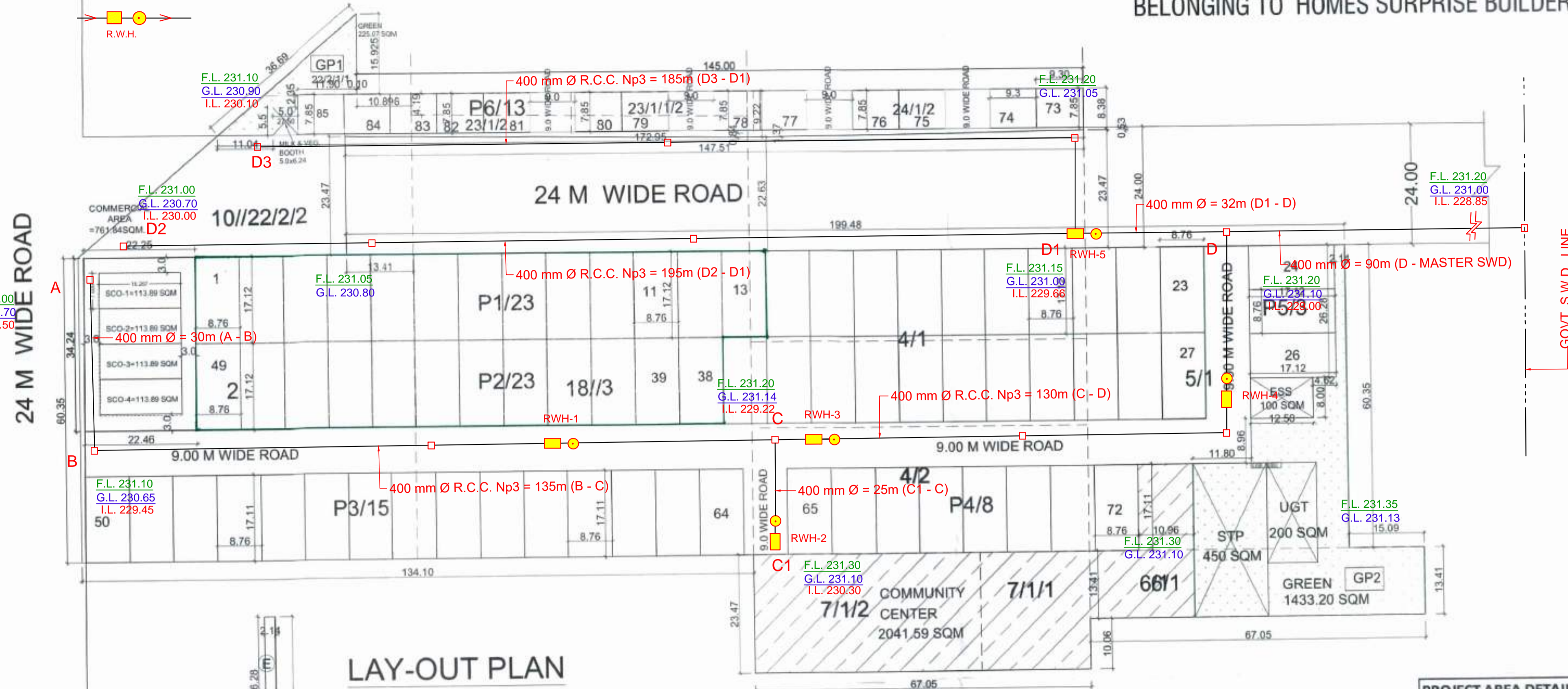
150 mm U/G D.I. Pipe (By pumping from STP)

STORM WATER DRAINAGE SCHEME

LC-4345

PROPOSED LAY-OUT PLAN OF AFFORDABLE PLOTTED COLONY UNDER DEEN DAYAL JAN AWAS YOJNA SCHEME -2016 IN REVENUE ESTATE, VILLAGE PALRA, SECTOR- 70A, DISTT. GURUGRAM (HR) LAND MEASURING 5.04375 ACRES (LC NO.-LC-4345-JE.(VA)-2021/26969 DATED 21-10-2021 BELONGING TO HOMES SURPRISE BUILDERS LLP C/O PYRAMID INFRA TECH PVT. LTD.

- LEGEND**
1. STORM WATER LINE
 2. MASTER SWD LINE
 3. R.W. H.
 4. F.L. = 231.30
G.L. = 231.10
I.L. = 230.30



- To be read with Licence No. 120 of 2021 dated 24/12/2021
- This Layout Plan for an area measuring 5.04375 acres (Drawing no. DTCP. 8106 dated 30-12-21) comprised of licence which is issued in respect of Affordable Residential Plotted Colony (Under Deen Dayal Jan Awas Yojna) being developed by Home Surprise Builders LLP in Sector-70A, Gurugram Manesar Urban Complex is hereby approved subject to the following conditions:-
1. That this Layout Plan shall be read in conjunction with the clauses appearing on the agreement executed under Rule 11 and the bilateral agreement.
 2. That the plotted area of the colony shall not exceed 65% of the net planned area of the colony. The entire area reserved for commercial purposes shall be taken as plotted for calculation of the area under plots.
 3. That the demarcation plans as per site of all the Residential Plots and Commercial site shall be got approved from this Department and construction on these sites shall be governed by the Haryana Building Code, 2017 and the Zoning Plan approved by the Director, Town & Country Planning, Haryana.
 4. That for proper planning and integration of services in the area adjacent to the colony, the colonizer shall abide by the directions of the DTCP for the modification of layout plans of the colony.
 5. That the revenue rasta falling in the colony shall be kept free for circulation/movement as shown in the layout plan.
 6. That the colonizer shall abide by the directions of the DTCP, Haryana and accordingly shall make necessary changes in the layout plan for making any adjustment in the alignment of the peripheral roads, internal road circulation or for proper integration of the planning proposals of the adjoining areas.
 7. That no property/plot shall derive access directly from the carriage way of 30 metres or wider sector road if applicable.
 8. All green belts provided in the layout plan within the licenced areas of the colony shall be developed by the colonizer. All other green belts outside the licenced 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 licence.
 9. At the time of demarcation plan, if required percentage of organized open space is reduced, the same will be provided by the colonizer in the licenced area.
 10. No plot will derive an access from less than 9 metres wide road would mean a minimum clear width of 9 metres between the plots.
 11. Any excess area over and above the permissible 4% under commercial use shall be deemed to be open space.
 12. The portion of the sector/development plan roads (green belts as provided in the Development Plan if applicable, which form part of the licenced area shall be transferred free of cost to the government on the lines of Section 3(i)(ii) of the Act No.8 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 75% of the standard frontage when demarcated.
 14. That you will have no objection to the regularization of the boundaries of the licence through give and take with the land that HSBV is finally able to acquire in the interest of planned development and integration of services. The decision of the competent authority shall be binding in this regard.
 15. That the rain water harvesting system shall be provided as per Central Ground Water Authority norms/Haryana Govt. notification as applicable.
 16. That the colonizer/owner shall use only Light-Emitting Diode lamps (LED) fitting for internal lighting as well as Campus lighting.
 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 Department vide Notification No. 19/14/2016-5 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.22/52/2005-5 Power 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. 19/6/2016-5P dated 31.03.2016 issued by Haryana Government Renewable Energy Department for enforcement of the Energy Conservation Building Codes.

(RAKESH BANSAL) ATP (HQ)
(AMIT MADHOLIA) DTP (HQ)
(HITESH SHARMA) STP (M) HQ
(P.P. SINGH) CTP (HR)
(K. MAHARAJ PANDURANG, IAS) DTCP (HR)
(RAM AJAYAR BASSI) AD (HQ)

LAY-OUT PLAN

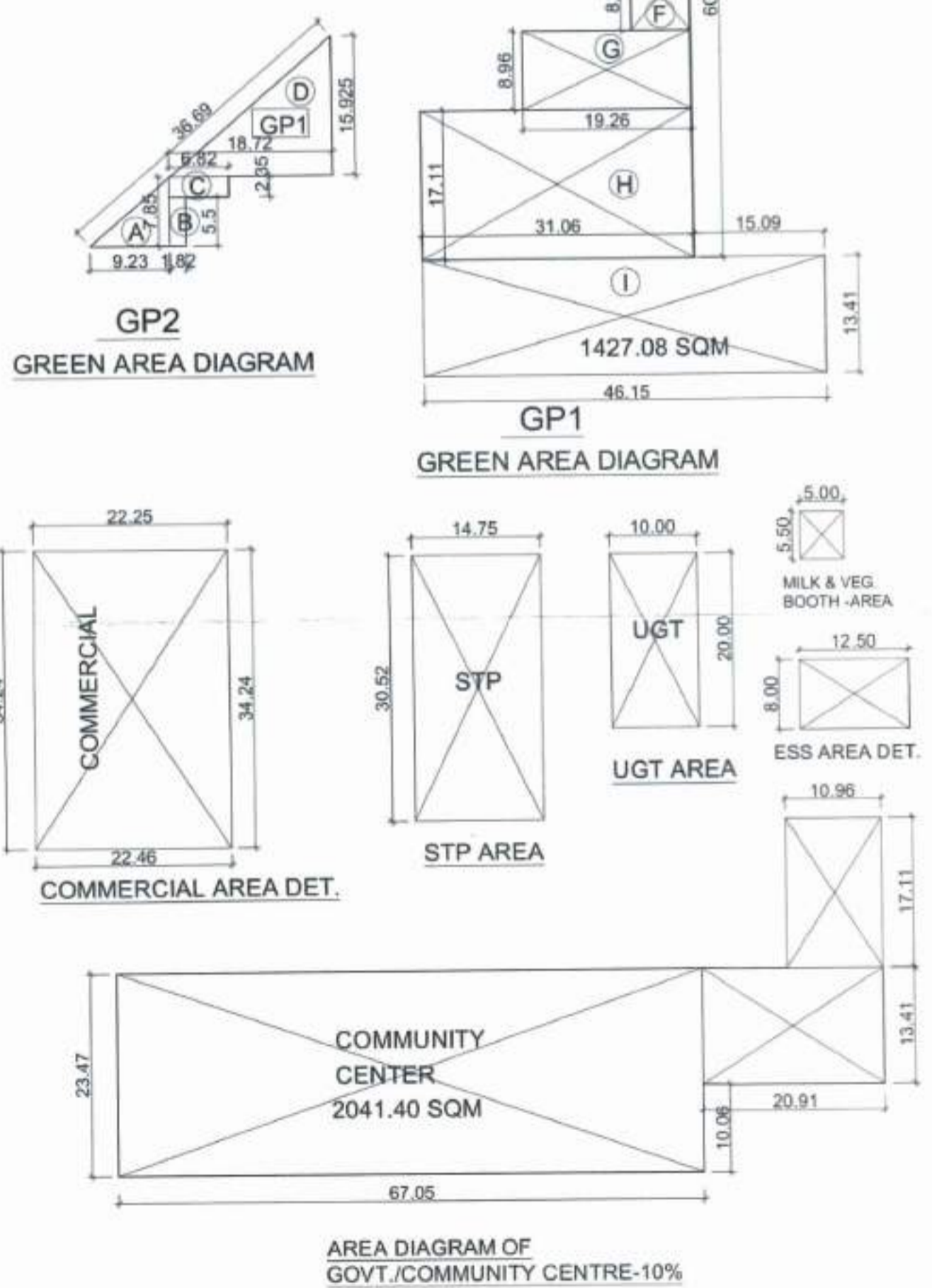
PLOT AREA CALCULATIONS						
Sl. NO.	Type of Plot	WIDTH (IN M)	LENGTH (IN M)	PLOT AREA (SQM)	TOTAL NO. OF PLOTS	AREA (SQM)
1	P1, P2, P5	8.760	17.120	149.971	49	7348.589
2	P3, P4	8.760	17.110	149.884	23	3447.323
3	P6	7.850	9.300	73.005	13	949.065
TOTAL				372.860	85	11744.977
4	GOVERNMENT COMMUNITY			2041.590		
5	GREEN POCKET = (GP1 + GP2)			1644.520		
6	AREA OF S.T.P			450.170		
7	AREA OF U.G.T			200.000		
8	AREA OF MILK & VEG BOOTH			27.500		
9	ESS			100.000		
10	COMMERCIAL			450.170		

DETAIL OF 50% FREEZED AREA						
Sl. NO.	Type of Plot	Nos. of Plot	PLOT AREA (SqM)	Total area (SqM)	TOTAL NO. OF PLOTS	Rectangle / Killa No.
1	P1, P2, P5	33	149.971	4949.050	1 to 13 & 23, 27 & 38 to, 28	2, 18/3, 5/1
2	P6	13	73.005	949.065		
TOTAL				5898.115	85	

DETAIL OF GREEN AREA						
CATEGORY	NOS.	WIDTH	DEPTH	AREA IN SQM		
GREEN GP1(A)	0.5	X	9.23	X	7.85	36.23
B	1	X	1.82	X	5.50	10.01
C	1	X	6.82	X	2.35	16.03
D	0.5	X	18.72	X	15.925	149.06
GP2 (E)	1	X	2.14	X	26.28	56.24
F	1	X	6.76	X	8.00	54.08
G	1	X	19.26	X	8.96	172.57
H	1	X	31.06	X	17.11	531.44
I	1	X	46.15	X	13.41	618.87
TOTAL						1644.52

COMMUNITY CENTRE				
CATEGORY	WIDTH	DEPTH	AREA IN SQM	
A	67.05	X	23.47	1573.66
B	20.91	X	13.41	280.40
C	10.96	X	17.11	187.53
TOTAL				2041.59
COMMERCIAL AREA				
A	22.25+22.46/2	X	34.24	765.435
MILK & VEG BOOTH				
	5.00	X	5.50	27.50
ESS				
	12.50	X	8.00	100.00
UGT				
	10.00	X	20.00	200.00
STP				
	14.75	X	30.52	450.170

PROJECT AREA DETAIL		
Description	Area in Acres	Area in Sqm.
Total Plot Area	5.04375	20411.300
Area under Sector Road & Green Belt	0.285	1153.352
Net Plan Area	4.75875	19257.947
Required Green Area (7.50%)	0.37828	1530.847
Proposed Green Area (8.061%)	0.40657	1645.320
Required 10% Area to be transferred free of cost to the Government for Community Site	0.50438	2041.130
Proposed Area to be transferred free of cost to the Government for Community Site (10%)	0.5045	2041.590
Permissible Area Under Plots (61%)	2.90284	11747.348
Proposed Area Under Plots (60.987%)	2.90225	11744.977
Permissible Commercial Area (4%)	0.19035	770.318
Proposed Commercial Area (3.974%)	0.18914	765.435
Area for STP (2.204%)	0.1112	450.17
Area for UGT (0.979%)	0.0494	200.00
Area for Milk & Vegetable booth (0.134%)	0.0068	27.50
ESS	0.0247	100.00
Total area for other services (3.808%)	0.1922	777.67
Proposed Plots	85	
Permissible Density	240-400 PPA	85 Plots
Total Population (@ 13.5 Persons per Plot)	1147.5	
Proposed Density	241.13	
50% Area to be Freezed of Area under Plotted Development required	1.45113	5872.489
Proposed 50% Area to be Freezed of Area under Plotted Development	1.4575	5898.115
Total saleable area (60.987+3.974=64.961%)	3.0914	12510.412



LEGEND:-

- 50% AREA TO BE FREEZED
- 10% OF TOTAL LAND HANDED OVER TO GOVT.
- COMMERCIAL AREA
- 7.50% GREEN AREA

DRG. TITLE
LAY-OUT PLAN

OWNER'S SIGNATURE

ARCHITECT'S SIGNATURE
RAO AND ASSOCIATE

PROJECT NO. RA- A-1 NORTH

SCALE 1:500 DATE -OCT. 2021

DRAWN BY -R.B. CRD BY - V.S. RAO

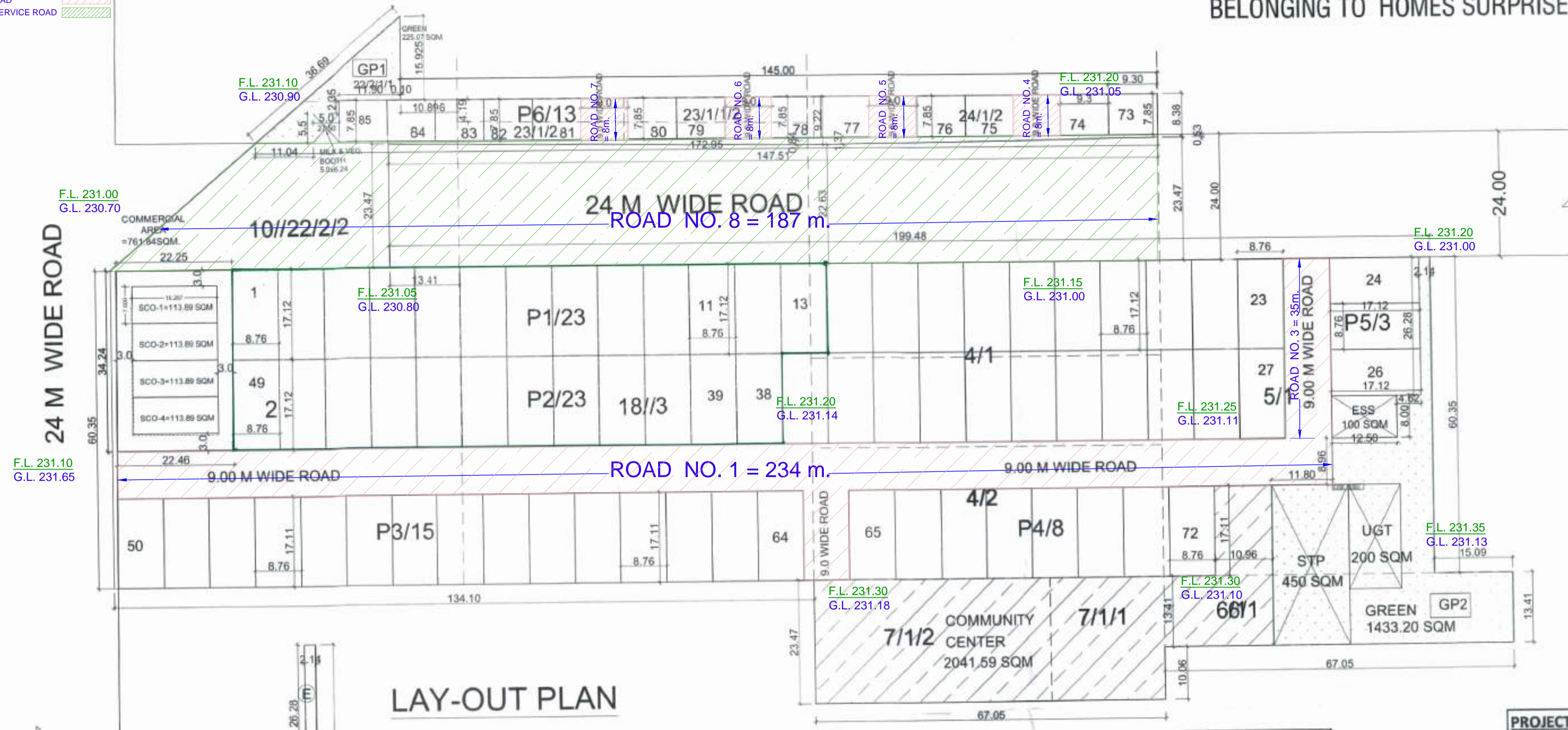
ARCHITECTS PLANNERS ENGINEERS INTERIORS VALUERS
374, DUDH Vihar, Phase-4, Sec-18, Gurgaon Haryana (INDIA)
PH. (0124) 2347706

ROADS

LC-4345

PROPOSED LAY-OUT PLAN OF AFFORDABLE PLOTTED COLONY UNDER DEEN DAYAL JAN AWAS YOJNA SCHEME -2016 IN REVENUE ESTATE, VILLAGE PALRA, SECTOR- 70A, DISTT. GURUGRAM (HR) LAND MEASURING 5.04375 ACRES (LC NO.-LC-4345-JE.(VA)-2021/26969 DATED 21-10-2021 BELONGING TO HOMES SURPRISE BUILDERS LLP C/O PYRAMID INFRATECH PVT. LTD.

- LEGEND:-
- 9.0 M. WIDE ROAD
 - 24.00 M. WIDE SERVICE ROAD
 - F.L. 231.25
G.L. 231.11



LAY-OUT PLAN

PLOT AREA CALCULATIONS						
Sl. NO.	Type of Plot	WIDTH (IN M)	LENGTH (IN M)	PLOT AREA (SQM)	TOTAL NO. OF PLOTS	AREA (SQM)
1	P1, P2, P5	8.760	17.120	149.971	49	7348.589
2	P3, P4	8.760	17.110	149.884	23	3447.323
3	P6	7.850	9.300	73.005	13	949.065
TOTAL				372.860	85	11744.977
4	GOVERNMENT COMMUNITY			2041.590		
5	GREEN POCKET = (GP1 + GP2)			1644.520		
6	AREA OF S.T.P			450.170		
7	AREA OF U.G.T			200.000		
8	AREA OF MILK & VEG BOOTH			27.500		
9	ESS			100.000		
10	COMMERCIAL			450.170		

DETAIL OF 50% FREEZED AREA						
Sl. NO.	Type of Plot	Nos. of Plot	PLOT AREA (SqM)	Total area (SqM)	TOTAL NO. OF PLOTS	Rectangle / Killa No.
1	P1, P2, P5	33	149.971	4949.050	1 to 13 & 23, 27 & 38 to 28	2, 18/3, 5/1
2	P6	13	73.005	949.065		
TOTAL				5898.115	85	10/22/2/2, 23/1/1, 23/1/2, 24/1/2

DETAIL OF GREEN AREA						
CATEGORY	NOS.	WIDTH	DEPTH	AREA IN SQM		
GREEN GP1(A)	0.5	X	9.23	X	7.85	36.23
B	1	X	1.82	X	5.50	10.01
C	1	X	6.82	X	2.35	16.03
D	0.5	X	18.72	X	15.925	149.06
GP2 (E)	1	X	2.14	X	26.28	56.24
F	1	X	6.76	X	8.00	54.08
G	1	X	19.26	X	8.96	172.57
H	1	X	31.06	X	17.11	531.44
I	1	X	46.15	X	13.41	618.87
TOTAL						1644.52

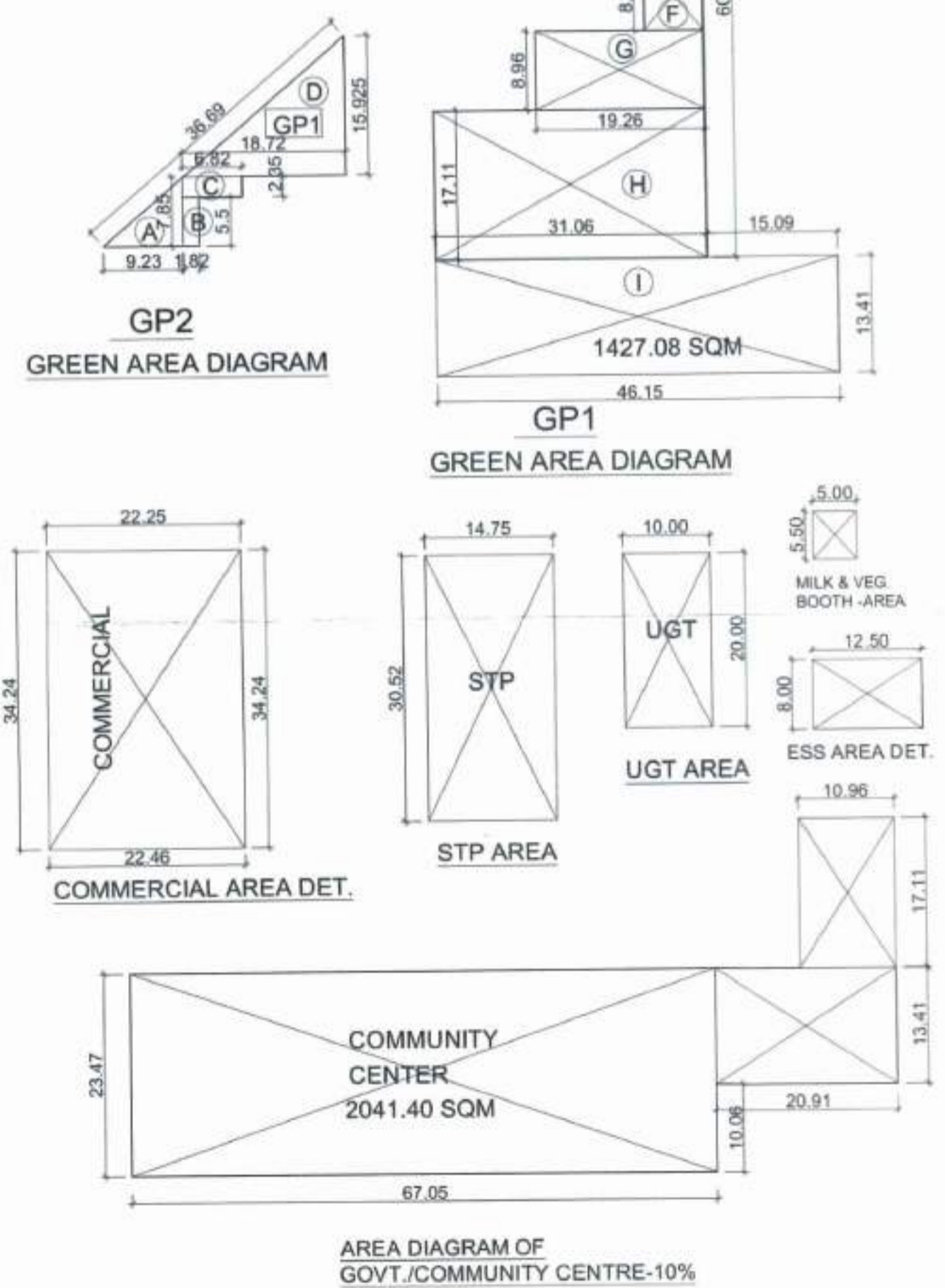
COMMUNITY CENTRE				
CATEGORY	WIDTH	DEPTH	AREA IN SQM	
A	67.05	X	23.47	1573.66
B	20.91	X	13.41	280.40
C	10.96	X	17.11	187.53
TOTAL				2041.59
COMMERCIAL AREA				
A	22.25+22.46/2	X	34.24	765.435
MILK & VEG BOOTH				
	5.00	X	5.50	27.50
ESS				
	12.50	X	8.00	100.00
UGT				
	10.00	X	20.00	200.00
STP				
	14.75	X	30.52	450.170

PROJECT AREA DETAIL		
Description	Area in Acres	Area in Sqm.
Total Plot Area	5.04375	20411.300
Area under Sector Road & Green Belt	0.285	1153.352
Net Plan Area	4.75875	19257.947
Required Green Area (7.50%)	0.37828	1530.847
Proposed Green Area (8.061%)	0.40657	1645.320
Required 10% Area to be transferred free of cost to the Government for Community Site	0.50438	2041.130
Proposed Area to be transferred free of cost to the Government for Community Site (10%)	0.5045	2041.590
Permissible Area Under Plots (61%)	2.90284	11747.348
Proposed Area Under Plots (60.987%)	2.90225	11744.977
Permissible Commercial Area (4%)	0.19035	770.318
Proposed Commercial Area (3.974%)	0.18914	765.435
Area for STP (2.204%)	0.1112	450.17
Area for UGT (0.979%)	0.0494	200.00
Area for Milk & Vegetable booth (0.134%)	0.0068	27.50
ESS	0.0247	100.00
Total area for other services (3.808%)	0.1922	777.67
Proposed Plots	85	
Permissible Density	240-400 PPA	85 Plots
Total Population (@ 13.5 Persons per Plot)	1147.5	
Proposed Density	241.13	
50% Area to be Freezed of Area under Plotted Development required	1.45113	5872.489
Proposed 50% Area to be Freezed of Area under Plotted Development	1.4575	5898.115
Total saleable area (60.987+3.974=64.961%)	3.0914	12510.412

LEGEND:-	
50% AREA TO BE FREEZED	
10% OF TOTAL LAND HANDED OVER TO GOVT.	
COMMERCIAL AREA	
7.50% GREEN AREA	

- To be read with Licence No. 120 of 2021 dated 24/12/2021
- This Layout Plan for an area measuring 5.04375 acres (Drawing no. DTCP. 8106 dated 30-12-21) comprised of licence which is issued in respect of Affordable Residential Plotted Colony (Under Deen Dayal Jan Awas Yojna) being developed by Home Surprise Builders LLP in Sector-70-A, Gurugram Manesar Urban Complex is hereby approved subject to the following conditions:-
- That this Layout 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 net 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 this Department and construction on these sites shall be governed by the Haryana Building Code, 2017 and the Zoning Plan approved by the Director, Town & Country Planning, Haryana.
 - That for proper planning and integration of services in the area adjacent to the colony, the colonizer shall abide by the directions of the DTCP for the modification of layout plans of the colony.
 - That the revenue rasta falling in the colony shall be kept free for circulation/movement as shown in the layout plan.
 - That the colonizer shall abide by the directions of the DTCP, Haryana and accordingly shall make necessary changes in the layout plan for making any adjustment in the alignment of the peripheral roads, internal road circulation or for proper integration of the planning proposals of the adjoining areas.
 - That no property/plot shall derive access directly from the carriage way of 30 metres or wider sector road if applicable.
 - All green belts provided in the layout plan within the licenced areas of the colony shall be developed by the colonizer. All other green belts outside the licenced 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 licence.
 - At the time of demarcation plan, if required percentage of organized open space is reduced, the same will be provided by the colonizer in the licenced area.
 - No plot will derive an access from less than 9 metres wide road would mean a minimum clear width of 9 metres between the plots.
 - 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 provided in the Development Plan if applicable, which form part of the licenced area shall be transferred free of cost to the government on the lines of Section 3(3)(a)(ii) of the Act No.8 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 75% of the standard frontage when demarcated.
 - That you will have no objection to the regularization of the boundaries of the licence through give and take with the land that HSPV is finally able to acquire in the interest of planned development and integration of services. The decision of the competent authority shall be binding in this regard.
 - That the rain water harvesting system shall be provided as per Central Ground Water Authority norms/Haryana Govt. notification as applicable.
 - That the colonizer/owner shall use only Light-Emitting Diode lamps (LED) fitting for internal lighting as well as Campus 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 vide Notification No. 19/4/2016-5 Power dated 14.03.2016.
 - That the colonizer/owner shall ensure the installation of Solar Photovoltaic Power Plant as per the provisions of order No.22/52/2005-5 Power dated 21.03.2016 issued by Haryana Government Renewable Energy Department.
 - That the colonizer/owner shall strictly comply with the directions issued vide Notification No. 19/6/2016-5P dated 31.03.2016 issued by Haryana Government Renewable Energy Department for enforcement of the Energy Conservation Building Codes.

(RAKESH BANSAL) ATP (HR)
(AMIT MADHOLIA) DTP (HQ)
(HITESH SHARMA) STP (M) HQ
(P.P. SINGH) CTP (HR)
(K. MAHARAJ PANDURANG, IAS) DTCP (HR)
(RAM AJAYAR BASSI) AD (HQ)



DRG. TITLE
LAY-OUT PLAN

OWNER'S SIGNATURE

ARCHITECT'S SIGNATURE

(AR. VIVEK SINGH RAO)
PROJECT NO. RA- A-1 NORTH
SCALE 1:500 DATE -OCT. 2021
DRAWN BY -P.B. CRD BY - V.S. RAO

ARCHITECTS
RAO AND ASSOCIATE
ARCHITECTS PLANNERS ENGINEERS INTERIORS VALUERS
374, DUDH VIHAR, PHASE-4, SEC-18 GURGAON HARYANA (INDIA)
PH. (0124) 2347706