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

FOR

**PROPOSED "AFFORDABLE RESIDENTIAL PLOTTED COLONY" (UNDER DEEN DAYAL JAN AWAS YOJNA ) AREA MEASURING 6.30 ACRES (LICENSE NO. 18 OF 2022 DATED 11.03.2022) IN THE REVENUE ESTATE OF VILLAGE – SIKHOPUR AND NAURANGPUR IN SECTOR – 78, GURUGRAM BEING DEVELOPED BY M/S CONMIN INFRA DEVELOPERS LLP**

**SERVICE ESTIMATE, DESIGN REPORT AND CALCULATIONS OF INTERNAL DEVELOPMENT WORKS FOR PROPOSED "AFFORDABLE RESIDENTIAL PLOTTED COLONY" (UNDER DEEN DAYAL JAN AWAS YOJNA ) AREA MEASURING 6.3012 ACRES (LICENSE No. 18 of 2022 Dated 11.03.2022) IN THE REVENUE ESTATE OF VILLAGE – SIKHOPUR AND NAURANGPUR IN SECTOR – 78, GURUGRAM BEING DEVELOPED BY M/S CONMIN INFRA DEVELOPERS LLP.**

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 ) measuring 6.30 acres (License No. 18 of 2022 dated 11.03.2022) In the Revenue Estate of Village Sikhpur and Naurangpur in Sector –78, Gurugram being developed by M/s Conmin 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 tanks will be fed from the HSVP based supply, which will feed O.H. tanks on the roof of the Building and has been designed as per the Hazen Williams formula. Presently there is proposed / under execution HSVP W/S in this area. However the provision of tube wells has been taken due to non availability of water but after getting the approval from the competent authority through tube wells / tankers / any other approved source till HSVP W/Swill 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 2124 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.

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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 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 FIGHING :-**

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**

624.15

The total cost of the scheme including cost of all services works out to Rs. ~~430.64~~ Lacs (~~Rupees Four Crores Thirty Lacs Sixty Four Thousand only~~) including 3% contingencies and 49% departmental charges + Price escalation and cost per acre comes out to Rs. ~~68.35 Lacs.~~ 99.07 Lakh.

(Authorized Signatory)

For Conmin Infradevelopers LLP

Authorised Signatory

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## 1. DESIGN CALCULATION :-

| | |
|---|---|
| Total Area of plot | = 6.30 Acres |
| Permissible Area Under Plots | = 3.84378 Acres |
| Proposed Area Under Plots | = 3.36615 Acres |
| Permissible Commercial Area @ 4% | = 0.25205 Acres OR (1020.00 Sqm.) |
| Proposed Commercial Area | = 0.22411 Acres OR (906.94 Sqm.) |
| Proposed Community | = 0.6491Acres |
| Area Of Milk and Vegetable booth | = 27.50 Sqm |
| Proposed Plots | = 118 Plots |

### I) Water Requirement :-

| | |
|---|---|
| • Total Plots | = 118 Plots |
| Total Population @ 18.00 Persons/Plot | = 2124 Persons |
| @172.50 LPCD | = 366390.00 LPD |
| • Commercial area | = 906.945 Sqm |
| @ 3 Sqm / person = 303 Persons @ 45 LPCD | = 13635.00 LPD |
| • Community Center (Area 0.6491 Acre ) | = ~~14228.00~~ 16228 LPD |
| • Milk and Vegetable booth | = 4000.00 LPD |
| • ESS and other unforeseen provision | = 5000.00 LPD |
| **Total** | = ~~4,03,253.00~~ 405253 **LPD Or** ~~404~~ 406 **KLD** |
| | **Say 410 KLD** |

### II. FIRE DEMAND

| | |
|---|---|
| (i) Population | = 2124 Persons |
| (p) ½ x 100/1000 = (2.124) ½ x 100 | |
| (Considering 1/3 of total population) | = 145.73/3 = 48.57 KLD |
| Add. @ 15 % Extra for margin factor | = 7.28 KLD |
| **Total** | **= 55.85 KLD Say = 60 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%) | = 410 x 67% = 275.00 KLD |
| Hence Flushing Water Requirement (33%) | = 410 x 33% = 135.00 KLD |
| Day Requirement considering @ 60% (275 X 60%) | = 170 K.L. for Domestic |
| | = ~~90 K.L. for Flushing~~ |

for Dom. WS

For Flushing (FWS + Irrigation) = 135+20 = 155 X 60% = 93 KL Say 100 KL

100

But it is proposed to construct an UGT i.e. 170 K.L. in two compartment for domestic use and ~~90~~ 100 K.L. for non potable water in two compartment (at STP) and 60 K.L. for fire fighting purposes for UGT in two compartment as shown location in the plan.

| | |
|---|---|
| Total Capacity of UGT = 170 + 60 | = 230.00 KLD |
| Total Requirement for Flushing and irrigation at STP ~~(90+20)~~ | = ~~110.00~~ 100 KLD |

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**V. Tube Well** **For UGT**

| | | |
|---|---|---|
| a) | Yield | = 15 K.L. / Hr. |
| b) | Working Hour per day | = 16 Hr. / Per Day |
| c) | Total water demand | = 275 M3/Day |
| d) | Number of tube well required (Water Demand / Discharge / Hr. working Per day) | = 1.15 Nos |
| e) | Add 5% extra | = 0.11 |
| | Total | = 1.26 Nos |
| | Say | = 1 Nos |

Water to the proposed development is to be supplied by HSVP. 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 HP = (4.50 x 98) / ( 75 x 0.60) | = 9.80 H.P. |
| | 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** | **= 275.00 KLD** |
| Pumping per hour @ 8 hr. pumping / day | = 275 /8 KL / hr. |
| | = 34.375 KL / hr. |
| | = 572.91 lpm = 9.54 lps |
| | Say 2 No. 6.00 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 | = (6.00x45)/(75x0.60) |
| | = 6.00 H.P. |
| Say | = 7.50 HP |

It is proposed to provide 3 Nos. of pumping set of 6.00 lps discharge at 45mts Head each (2W + 1S) for UGT.

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

| | | |
|---|---|---|
| **Total Water Requirement** | | **= 135 K.L.D** |
| Pumping per hour @ 8 hr. pumping / day | | = 135 /8 KL / hr. |
| | | = 16.875 KL / hr. |
| | | = 281.25 lpm = 4.69 lps, |
| | | Say 2 No. 3.50 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 | | = (3.50 x 45) / (75 x 0.60) |
| | | = 3.50 HP |
| | Say | = 5.00 HP |

It is proposed to provide 3 Nos of pumping set of 3.50 lps discharge at 45 mts Head each (2W + 1S)

**IX) Boosting Machinery for Irrigation water**

| | | |
|---|---|---|
| **Total Water Requirement** | | **= 20 KLD** |
| Pumping per hour @ 5 hr. pumping / day | | = 20 /5 KL / hr. |
| | | = 4.00 KL / hr. |
| | | = 66.666 lpm = 1.1 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 x 35) / (75 x 0.60) |
| | | = 1.55 HP |
| | Say | =2.00 HP |

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

**X) DG Set for plumbing**

| **DG Set Requirement** | | **For UGT** |
|---|---|---|
| Submersible Pump | (1 x 10) | = 10.00 HP |
| Domestic Pump | (2 x 7.50) | = 15.00 HP |
| Flushing Pump at STP | (2 x 5) | = 10.00 HP |
| Street Light and other etc. | | = 15.00 HP |
| **Total pump load** | | **= 50.00 HP** |
| | | = 50.00 x 0.746 x 1.50 |
| | | = 55.95 K.W |
| **Total DG capacity** | | **= 1 No. 63 KVA** |

Hence it is proposed to provide 1 No. D.G. Set of 63 KVA capacity.

**FLOW TO SEWAGE TREATMENT PLANT**

**Total Water Requirement = (275 for domestic & 135 KLD for flushing)**

| | | |
|---|---|---|
| i) | 80% of total Domestic Water Demand = 80% of 275 KLD | = 220.00 KLD |
| ii) | 80% of total Flushing Water Demand =80% of 135 KLD | = 108.00 KLD |
| | **Total** | **= 328.00 KLD** |
| | Considering 5% marginal factor | = 16.40 KLD |
| | **G. Total** | **= 344.40 KLD** |
| | | **Say 350 KLD** |

**Proposed STP Capacity = 350 KLD Or 0.35 MLD**

For Conmin Infradevelopers LLP

Authorised Signatory

(Authorized Signatory)

## FINAL ABSTRACT OF COST

| SR. NO. | SUB WORK | DESCRIPTION | AMOUNT (Rs. In Lacs) |
|---|---|---|---|
| | | | 130.87 |
| 1 | SUB WORK NO.I | WATER SUPPLY SCHEME | ~~103.30~~ |
| | | | 111.99 |
| 2 | SUB WORK NO. II | SEWERAGE SCHEME | ~~84.84~~ |
| | | | 58.13 |
| 3 | SUB WORK NO. III | STORM WATER DRAINAGE | ~~44.30~~ |
| | | | 133.34 |
| 4 | SUB WORK NO. IV | ROAD AND FOOTPATH | ~~71.64~~ |
| | | | 24.17 |
| 5 | SUB WORK NO. V | STREET LIGHTING | ~~14.51~~ |
| | | | 6.10 |
| 6 | SUB WORK NO. VI | HORTICULTURE (PLANTATION &ROAD SIDE TREES) | ~~7.07~~ |
| | | | 159.53 |
| 7 | SUB WORK NO. VII | MTC. OF SERVICES & RESURFACING OF ROADS (After 1st 5 years of 1st Phase & Next 5 years in 2nd Phase) | ~~104.98~~ |
| | | | 624.13 |
| | | TOTAL | ~~430.64~~ |
| | | | Say Rs 624.15 Lakh |
| TOTAL : ~~(Rupees Four Crore Thirty Lacs Sixty Four Thousand only)~~ | | | |

Cost Per Acre = Rs.~~430.64~~ 624.15 Lacs / 6.30 = ~~68.36~~ 99.07 Lacs Per Acre

AUTHORISED SIGNATORY
For Conmin Infradevelopers LLP
Authorised Signatory

Executive Engineer
HSVP Division No.V,
Gurugram

Superintending Engineer,
HSVP Circle, Gurugram

Director
Town & Country Planning
Haryana, Chandigarh

Checked subject to comments in forwarding letter No. 68060 Dt. 28/04/2022 and notes attached with the estimate

Superintending Engineer (HQ)
for Chief Engineer 1 HSVP
Panchkula
27.4.2022
SDE/UI3/ 28/4/2022

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**SUB WORK NO. 1 (Abstract of cost)** **WATER SUPPLY SCHEME**

| SR. NO. | SUB WORK | DESCRIPTION | AMOUNT (Rs. In Lacs) |
|---|---|---|---|
| | | | 27.35 |
| 1 | Sub Head No. 01 | Head Works | ~~19.35~~ |
| | | | 21.70 |
| 2 | Sub Head No. 02 | Pumping Machinery | ~~18.40~~ |
| | | | 27.46 |
| 3 | Sub Head No. 03 | Water Supply Distribution & Rising main pipe | ~~23.54~~ |
| | | | 6.28 |
| 4 | Sub Head No. 04 | External Fire Hydrants | ~~3.57~~ |
| | | | 2.48 |
| 6 | Sub Head No. 05 | Irrigation | ~~2.45~~ |
| | | | |
| | | TOTAL | ~~67.31~~ 85.27 |
| | | Add 3% contingency & P.H. Services | ~~2.02~~ 2.56 |
| | | Total | ~~69.33~~ 87.83 |
| | | Add 49% Department charges + Price Escalation | ~~33.97~~ 43.04 |
| | | G. Total | ~~103.30~~ 130.87 |
| | | Say in Lacs 130.87 Lakh, | ~~103.30~~ |

(C.O. to Final Abstract Of Cost)

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**SUB WORK NO. I** **WATER SUPPLY**
**Sub Head No. 01** **Head Works**

| Sr. NO. | Description | Amount in Rs. |
|---|---|---|
| | | |
| 1 | Construction of U.G. tanks and Fire TanK Including pipes, valve & Specials. 230 KLD @ Rs. ~~3500~~/- per K.L.D 4500/- | ~~805000.00~~ 1035000/- |
| | 3,00,000/- | |
| 2 | Provision for construction of Boosting Station 1 Nos @ Rs. ~~250000~~/- each | ~~250000.00~~ 3,00,000/- |
| | | |
| 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 10,00,000/- | ~~700000.00~~ 10,00,000/- |
| | | |
| 4 | Provision for construction of tube well chamber size 1.50m x 1.50m complete in all respect. 1 Nos @ Rs. ~~80000~~/- each 1,00,000/- | ~~80000.00~~ 1,00,000/- |
| | | |
| 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 |
| 7. | Provision for facilities for maintenance staff | 2,00,000/- |
| | Total 2735000/- | ~~1935000.00~~ |
| | Say in Lacs Rs 27.35 Lakh | ~~19.35~~ |

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

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**SUB WORK NO. 1** **WATER SUPPLY**
**Sub Head No. 02** **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 1,50,000/- | 4,50,000/- |
| | 6.00 lps at 45 mts head - 3 No. (2W+1SB) - @ Rs. 1,00,000/- each Set (7.50HP) | 300000.00 |
| | | |
| 2 | Providing and installing Hydro Pneumatic pumping set of following capacities for Flushing water supply & irrigation etc. 1,00,000/- | 3,00,000/- |
| i | 3.50 lps at 45 mts head - 3 No. (2W+1SB) @ Rs. 70,000/- 1 Set (5HP each) | 210000.00 |
| ii | 2.00 lps at 35 mts head - 2 No. (1W+1SB) @ Rs. 30,000/- 1 Set (2HP each) 60,000/- | 1,20,000/- 60000.00 |
| 3 | Providing and installing Submersible pump for tube wells with specials 2,00,000/- | 2,00,000/- |
| | 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 1,00,000/- |
| 5 | Provision for D.G. Set for stand by arrangement for all machinery = 1 No. 63 KVA @ Rs. 7,00,000/- each | 700000.00 |
| 6 | Provision for making foundations & erection of pumping machinery L.S | 50000.00 |
| 7 | Provision for pipes, valve & specials inside boosting chamber L.S | 1,00,000/- 150000.00 |
| 8 | Provision for electric services connection including electric fittings for boosting chambers and pump chamber etc. L.S | 150000.00 1,00,000/- |
| 9 | Provision for carriage of materials and other unforeseen items L.S. | 50000.00 |
| | Total 21,70,000/- | 1840000.00 |
| | Say in Lacs Rs 21.70 Lakh. | 18.40 |

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

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**SUB WORK NO. 1** **WATER SUPPLY**
**Sub Head No. 03** **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 1345 1250/- | 1681250/- |
| i) | 100mm dia D.I. Pipe ~~1542~~ Mtr @ Rs. ~~1000~~/- Per Mtr 1575/- | ~~1542000.00~~ |
| ii) | 150mm i/d D.I. Pipes -212 Mtr @ Rs. ~~1200~~/- Per Mtr | ~~254400.00~~ 333900/- |
| iii) | 200mm i/d D.I. Pipes 30 Mtr @ Rs. ~~1500~~/- per mtr 2300/- | ~~45000.00~~ 69000/- |
| | | |
| 2 | Providing and fixing sluice valve including cost of surface box and masonry chamber etc. complete in all respect | |
| | a) 100mm i/d 20 No. @ Rs. ~~7500~~/- each 12000/- | ~~150000.00~~ 2,40,000/- |
| | b) 150mm i/d 10 No. @ Rs. ~~10000~~/- each 15000/- | ~~100000.00~~ 150,000/- |
| | c) 200mm i/d 2 No. @ Rs. ~~15000~~/- each 20,000/- | ~~30000.00~~ 40,000/- |
| | | |
| 3 | Providing and fixing indicating plates for sluice valve 32 No. @ Rs. 1000/- | 32000.00 |
| | | |
| 4 | Provision for carriage of materials and other unforeseen items L.S | 50000.00 |
| | | |
| 5 | Provision for making connection with HUDA Pipe & T.W's etc. L.S | 100000.00 |
| | | |
| 6 | Provision for cutting the road and making good the same L.S | 50000.00 |
| | | 2746150/- |
| | **Total** | ~~2353400.00~~ |
| | **Say in Lacs** | ~~23.54~~ 27.46 Lakh |

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

**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 | 2,30,000/- |
| a) | 100mm dia - 184 M @ Rs. 1250/- Per Mtr | ~~147200.00~~ |
| | | |
| 2 | Providing and fixing fire Hydrant with accessories 23 No. @ Rs. 15000/- each | ~~161000~~.00 345000/- |
| | | |
| 3 | Providing and fixing indicating plate -23 No. @ Rs. 1000/- each | 23000.00 |
| | | 30,000/- |
| 4 | Provision for carriage of material L.S. | ~~25000~~.00 |
| | **Total** 628000/- | **~~356200.00~~** |
| | **Say In Lacs** Rs 6.28 Lakh | **~~3.57~~** |

**(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~~ 300/- Per Mtr | ~~100000.00~~ 60,000/- |
| | | |
| 2 | Providing and fixing 25mm dia, Irrigation hydrant valve complete in all respect 25 Nos @ Rs. ~~3000~~ 3500/- each | ~~75000.00~~ 87500/- |
| 3 | Provision for carriage of materials and other unforeseen items L.S. | ~~20000.00~~ 30,000/- |
| | | |
| 4 | Provision for indicating plate with safety box etc. complet in all respect 25 Nos @ Rs. 1000/- each | ~~25000.00~~ 25000/- |
| (5) | Provision for air valves & scour valves complete in all respects | 10,000/- |
| (6) ~~5~~ | Provision for road cutting and making it condition as original L.S. | ~~25000.00~~ 35000/- |
| | **Total** | ~~**245000.00**~~ 247500/- |
| | **Say in Lacs** Rs 2.48 Lakh | ~~**2.45**~~ |

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

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**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 557 M @ Rs. ~~1000/-~~ 1250/- per Mtr | ~~557000.00~~ 696250/- |
| | b) SW Pipe 250mm i/d avg depth 2.00 M 45 M @ Rs. ~~1200/-~~ 1500/- per Mtr | ~~54000.00~~ 67500/- |
| | c) SW Pipe 300mm i/d avg depth 2.75 M 75M @ Rs. ~~1400/-~~ 2250/- per Mtr | ~~105000.00~~ 168750/- |
| | d) SW Pipe 400mm i/d avg depth 3.50 M 35M @ Rs. ~~1600/-~~ 2400/- per Mtr | ~~56000.00~~ 84000/- |
| 2 | Providing, laying, jointing & testing pipe lines including cost of excavation etc. complete in all respect - 150mm dia Heavy Class DI pipes (overfow for STP) | |
| | a) 150MM i/d D.I. Pipe - 210 M @ Rs. ~~1500/-~~ 1575/- Per Mtr | ~~315000.00~~ 330750/- |
| | | |
| 3 | (a) Provision of lighting and watching etc. L.S | 50000.00 |
| | (b) Provision for Timbering & Shoring etc L.S | 50,000/- |
| 4 | Provision for cartage of material L.S | ~~20000.00~~ 50,000/- |
| | | 2,00,000/- |
| 5 | Provision for making connection with HSVP L.S | ~~150000.00~~ |
| | | |
| 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. 350 KLD or (0.35 MLD) Capacity L.S. @ Rs 16000/- KLD | ~~4221000.00~~ 56,00,000/- |
| | 7297250/- | ~~5528000.00~~ |
| | Add 3% contingency & P.H. Services 218918/- | ~~165840~~ |
| | **Total** 7516168/- | ~~5693840~~ |
| | Add 49% Department charges + Price Escalation 3682922/- | ~~2789982~~ |
| | **G. Total** 11199090/- | ~~8483822~~ |
| | **Say in Lacs** 111.99 Lakh | ~~84.84~~ |

**(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, | 1637500/- |
| | a) RCC Np3 pipe 400mm i/d = 655 M @ Rs. ~~1200~~ 2500/- Per Mtr | ~~786000~~.00 |
| | ~~b) RCC Np3 pipe 450mm i/d = 00 M @ Rs. 1400/- Per Mtr~~ | 0.00 |
| 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. 6 Nos RWH @ Rs.2,50,000/- each | 1500000.00 |
| | | |
| 3 | Provision for road gulley & pipe with connection L.S | 350000.00 |
| | | |
| 4 | Provision for lighting and watching L.S | 50000.00 |
| | | 50,000/- |
| 5 | Provision for timbering and shoring L.S | ~~20000~~.00 |
| | | 50,000/- |
| 6 | Provision for cartage of material L.S | ~~30000~~.00 |
| | | |
| 7 | Provision for making connection with HSVP storm water drain L.S | 150000.00 |
| | | |
| | **Total** 3787500/- | **~~2886000~~.00** |
| | Add 3% contingency & P.H. Services 113625/- | ~~86580~~.00 |
| | **Total** 3901125/- | **~~2972580~~.00** |
| | Add 49% Department charges + Price Escalation 1911551/- | **~~1456564~~.20** |
| | **G. Total** 5812676/- | **~~4429144~~.20** |
| | **Say in Lacs** Rs 58.13 Lakh | **~~44~~.30** |

**(C.O. to Final Abstract of Cost )**

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**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 | 6.30 | ~~250000~~ 150,000/- | ~~1575300~~ 945000/- |
| | | | | | |
| 2 | i) Providing and laying 100mm thick PCC under pavement, cement concrete of specified grade 1:4:8 and 150mm thick RMC grade M-40 200<br>ii) Providing and laying Bituminous road (~~250~~mm GSB, 300mm WMM, 50mm DBM, ~~40~~25mm BC). | Sqm | 4200/- ~~4050~~ | 1200/- ~~450~~ | 50,40,000/- ~~1822500~~ |
| 3 | Provision for kerbs & channels of C.C. 1.2:4 | Metre | 1460 | 600/- ~~500~~ | 8760000/- ~~730000~~ |
| 4 | Provision for arrangement of guide map and indicating board etc. | LS | | | 1,00,000/- ~~50000~~ |
| 5. | Provision for traffic light control | L.S | | | 1,00,000/- |
| 5 (6) | 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~~ blocke in cement conc. base 60 layer. | Sqm | 1770 ~~880~~ | 750/- ~~500~~ | 1327500/- ~~440000~~ |
| (7) | Provision for cement conc. parking & pavements | L.S. | | | 2,00,000/- 400,000/- |
| (8) 5 | Provision for carriage of material | LS | | | ~~50000~~ |
| | | | | | |
| | **Sub Total** | | 8688 | 500/- | ~~4667800~~ |
| | Add 3% contingencies & PH Services | | 260 | 655/- | ~~140034~~ |
| | **Sub Total** | | 8949 | 155/- | ~~4807834~~ |
| | Add 49% Departmental Charges + Price Escalation | | 438 | 5086/- | ~~2355839~~ |
| | **Total** | | 1333 | 42 41/- | ~~7163673~~ |
| | **Say Rs. In Lacs** | Rs 133.34 Lakh. | | | ~~71.64~~ |

**(C.O. to Final Abstract of cost )**

18

**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 | ~~6.302~~ 6.30 | ~~150000~~ 2,50,000/- | ~~945180~~ 1575000/- |
| | Add 3% contingencies & PH Services | | | | ~~28355~~ 47250/- |
| | **Total** | | | | ~~973535~~ 1622250/- |
| | Add 49% Departmental Charges + Price Escalation | | | | ~~477032~~ 794903/- |
| | **Total** | | | | ~~1450568~~ 2417153/- |
| | **Say Rs. In Lacs** | | | Rs | ~~14.51~~ 24.17 Lakh |

**(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 | | | 150,000/- | 72000/- |
| d | organized green 1925.215 Sqm Or 0.48 Acres (As per detail given in green park area calculation) | Acre | 0.48 | ~~250000~~ | ~~120000~~ |
| 2 | Providing and planting trees along boundary @ 6 m interval (Length appx 1460M) = 1460/6 = 244 Nos<br>Say No. of trees = 250 Nos<br>Cost details : Excavation = Rs. ~~73~~ 60<br>Manure = Rs. ~~550~~ 90<br>Tree Plant = Rs. 650 ~~1350~~ 1000 (Tree guard)<br>Total Rs. = Rs. ~~1350~~ 1300/- | | 250 | 1300/- | 0<br>325000/- |
| | | Each | ~~252~~ | ~~1350~~ | ~~340200~~ |
| | **Total** | | | | ~~460200~~ 397000/- |
| | Add 3% contingencies & PH Services | | | | ~~13806~~ 11910/- |
| | **Total** | | | | ~~474006~~ 408910/- |
| | Add 49% Departmental Charges + Price Escalation | | | | ~~232263~~ 200366/- |
| | **Total** | | | | ~~706269~~ 609276/- |
| | **Say Rs. In Lacs** | | Rs 6.10 Lakh | | ~~7.07~~ |
| | | | | | |

**(C.O. to Final abstract of cost)**

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**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~~ 6.30 acres @ Rs. ~~1.50~~ 7.50 lacs per acre | Acre | ~~6.30~~ 6.30 | ~~250000~~ 750,000/- | ~~1575300~~ 4725000/- |
| 2 | Provision for resurfacing of roads after 5 years of 1st phase with provision of 50mm thick BM including leveling coarse and ~~25mm BC~~ premix carpet as per crust design whichever is safer | Sqm | ~~4050~~ 4200 | ~~700~~ 600/- | ~~2835000~~ 2520,000/- |
| | | | | | |
| 3 | 2nd phase after next five years of 1st phase (50mm DBM & ~~25mm BC~~ premix carpet or as per crust design whichever is safer | Sqm | ~~4050~~ 4200 | ~~600~~ 750/- | ~~2430000~~ 31,50,000/- |
| | **Sub Total** | | | 10395000/- | ~~6840300~~ |
| | Add 3% contingencies & PH Services | | | 311850/- | ~~205209~~ |
| | **Sub Total** | | | 10706850/- | ~~7045509~~ |
| | Add 49% Departmental Charges | | | 5246357/- | ~~3452299~~ |
| | **Total** | | | 15953207/- | ~~10497808~~ |
| | **Say Rs. In Lacs** | | Rs | 159,53 | ~~104.98~~ Lakh |
| | | | | | |

**(C.O. to Final abstract of cost)**

## SUMMARY OF DESIGN REQUIREMENT

| S. No. | Description | Qty | Unit |
|---|---|---|---|
| 1 | Total Population | 2124 | Persons |
| 2 | Total Water Requirement (Domestic) | 275 | KLD |
| 3 | Total Water Requirement (Flushing) | 135 | KLD |
| 4 | Total Water Requirement (Horticulture) | 20 | KLD |
| 5 | U. G Tank (Domestic - 170 KLD) | 1 | No. |
| 6 | U.G.T Fire Tank 60 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 | 1 | No. |
| 10 | Generating sets (63 KVA) | 1 | 63 KVA |
| 11 | STP (350 KLD) | 1 | No. |

**TOTAL MATERIAL STATEMENT FOR WATER SUPPLY i.e. DOMESTIC, FLUSHING & RISING MAIN ETC.** 22-

| 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 | - | 535 M | 117 M | 30 M |
| 2 | Flushing | - | 580 M 230 | 95 M | - |
| 3 | Rising Main | - | ~~430~~ M | - | - |
| | **Total** | - | **~~1545~~ M** 1345 | **212 M** | **30 M** |

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## 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 | 30 | 30 | | |
| 2 | A | B | 150 | 72 | | 72 | |
| 3 | B | C | 150 | 45 | | 45 | |
| 4 | C | D | 100 | 140 | | | 140 |
| 5 | A | A1 | 100 | 50 | | | 50 |
| 6 | A | A2 | 100 | 20 | | | 20 |
| 7 | A | A3 | 100 | 55 | | | 55 |
| 8 | B | B1 | 100 | 160 | | | 160 |
| 9 | C | C1 | 100 | 110 | | | 110 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | TOTAL | | | 682 | 30 | 117 | 535 |

| | |
|---|---|
| 200mm i/d Pipe Length | 30 Mtr |
| 150mm i/d Pipe Length | 117 Mtr |
| 100mm i/d Pipe Length | 535 Mtr |
| Total | 682 Mtr |

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## 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 | 20 | 20 | |
| 2 | a | b | 150 | 75 | 75 | |
| 3 | b | c | 100 | 45 | | 45 |
| 4 | c | d | 100 | 140 | | 140 |
| 5 | a | a1 | 100 | 50 | | 50 |
| 6 | a | a2 | 100 | 20 | | 20 |
| 7 | a | a3 | 100 | 55 | | 55 |
| 8 | b | b1 | 100 | 160 | | 160 |
| 9 | c | c1 | 100 | 110 | | 110 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | **Total** | | | **675** | **95** | **580** |

**150mm i/d Pipe Length** **95 Mtr**
**100mm i/d Pipe Length** **580 Mtr**

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## 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 | 100 | 210 | 210 | 0 |
| | **Total** | | | **230** | **230** | **0** |

## MATERIAL STATEMENT FOR SEWERAGE SCHEME

| S. No. | Line No. | | Length (In Mtr) | Pipe Dia | Av. Depth | Length in Mtr | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 200mm i/d | 250mm i/d | 300mm i/d | 400mm i/d |
| | From | To | | | | 0 to 2.00 Mtr | 0 to 2.50 Mtr | 0 to 2.75 Mtr | 0 to 3.00 Mtr |
| 1 | A | B | 142 | 200 | 1.74 | 142 | - | - | - |
| 2 | B1 | B | 110 | 200 | 1.39 | 110 | - | - | - |
| 3 | B | C | 45 | 250 | 2.03 | 0 | 45 | - | - |
| 4 | C1 | C | 155 | 200 | 1.35 | 155 | - | - | - |
| 5 | C | D | 75 | 300 | 2.13 | 0 | - | 75 | - |
| 6 | D3 | D | 20 | 200 | 1.32 | 20 | - | - | - |
| 7 | D2 | D | 50 | 200 | 1.41 | 50 | - | - | - |
| 8 | D1 | D | 80 | 200 | 1.43 | 80 | - | - | - |
| 9 | D | STP | 35 | 400 | 2.30 | 0 | - | - | 35 |
| 10 | STP - HUDA / Sewer By Pumping 150mm i/d D.I. Pipe = 210 Mtr | | | | | | - | - | - |
| | **Total** | | **712** | | | **557** | **45** | **75** | **35** |

**200mm i/d Pipe Length 557 Mtr**
**250mm i/d Pipe Length 45 Mtr**
**300mm i/d Pipe Length 75 Mtr**
**400mm i/d Pipe Length 35 Mtr**
**150mm i/d D.I. Pipe (By Pumping) = 210Mtr**

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## MATERIAL STATEMENT OF STORM WATER DRAINAGE SCHEME

| Sr. No. | Line Reference | | 400mm i/d RCC Np3 Pipe Length in Mtr | 450mm i/d RCC Np3 Pipe Length in Mtr |
|---|---|---|---|---|
| | From | To | | |
| 1 | A | B | 120 | - |
| 2 | B1 | B | 95 | - |
| 3 | B | C | 40 | - |
| 4 | C1 | C | 140 | - |
| 5 | C | D | 75 | - |
| 6 | D1 | D | 35 | - |
| 7 | D | Govt. SWD | 150 | - |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | **Total Length** | | **655** | **0** |

i) **Total Length 400mm i/d RCC Np3 pipe = 655 Mtr**

**Total Rain Water Harvesting (RWH) = 6 Nos**

## Material Statement of Road Works

| Sr. No. | Road No. | Road Width | Length | Width | Area | |
|---|---|---|---|---|---|---|
| 1 | 1 | 9.00 | 46.00 | 5.50 | 253.00 | Sqm |
| 2 | 2 | 9.00 | 82.00 | 5.50 | 451.00 | Sqm |
| 3 | 3 | 9.00 | 190.00 | 5.50 | 1045.00 | Sqm |
| 4 | 4 | 9.00 | 155.00 | 5.50 | 852.50 | Sqm |
| 5 | 5 | 9.00 | 110.00 | 5.50 | 605.00 | |
| 6 | 6 | 9.00 | 92.00 | 5.50 | 506.00 | |
| 7 | 7 | 24.00 | 20.00 | 2x 7.00 | ~~140.00~~ 280.00 | |
| | | | | | 3992.50 | |
| | **G. Total** | | | | ~~3852.50~~ | Sqm |
| Add 5% extra for curves | | | | | ~~192.63~~ 199.69 | Sqm |
| **Total** | | | | | ~~4045.13~~ 4192.19 | **Sqm** |
| | | | | **Say** | ~~**4050**~~ **4200** | **Sqm** |

**i) Kerbs & Channels**

| | | |
|---|---|---|
| i) | 9.00 Mtr wide road (2 x 675) | 1350 Mtr |
| ii) | 24.00 Mtr wide Road (2 x 20) (PART) | 40 Mtr |
| | **Total** | **1390 Mtr** |
| | Add 5% for curves | 70 Mtr |
| | **G. Total** | **1460 Mtr** |

**II) Footpath :-**

(i) 9M wide road = 675 M x 1.20M x2 = ~~810.00 Sqm~~ 1620 Sqm.

(ii) 24.00 M wide road (Part) =20M x $\frac{9}{2}$ x 1.20M = ~~24.00 Sqm~~ 60 Sqm

Total = ~~834.00 Sqm~~ 1680 Sqm

Add 5% for curves = ~~41.70 Sqm~~ 84 Sqm

Total = ~~875.70 Sqm~~ 1764 Sqm

~~**Say 880 Sqm**~~

Say 1770 Sqm.

## MATERIAL STATEMENT (FIRE HYDRANT)

**i) Length of Water Supply (Domestic) = 682 Mtr**
ii) Length of 100mm i/d F.H. = 23 X 8 = 184 Mtr
iii) Nos of F.H. = 23 Nos

Note : Fire Hydrant considering @ 30Mtr /each in Domestic Water Supply line
= 682 / 30 = 23 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 | - | - | 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**

## HYDRAULIC STATEMENT OF WATER SUPPLY (DOMESTIC)

### SUBHEAD : DOMESTIC WATER SUPPLY SCHEME - DESIGN CALCULATION

| S. No. | Line Reference | | Type of Colony | Residential Plots | | | Population @ 18.00 Person per plot | Water Requirement @ 172.50 LPCD | Other Water Requirement i.e. Comm. / Community building / Milk booth/ other services | Total Water Requirement in LPD | Water Requirement @ 67% of total water requirement | Peak Flow in LPH | Velocity (m/s) | Size of the pipe in (mm) | Total Friction Loss in M/M | Length in (M) | Loss of Head in Line (M) | Formation Level at Lower End | Available Head at Lower end (M) | Terminal Head (M) | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | From | To | | Self | Branch | Total | | | In LPD | | | | | | | | | | | | |
| 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 Resi. | 0 | 118 | 118 | 2124 | 366390 | 36863 | 403253 | 270180 | 101317 | 0.40 | 200 | 0.002 | 30 | 0.06 | 237.60 | 282.64 | 45.04 | Formation Level at Water Works i.e. UGT = 237.70 M |
| 2 | A | B | --do-- | 8 | 98 | 106 | 1908 | 329130 | 24228 | 353358 | 236750 | 88779 | 0.62 | 150 | 0.005 | 72 | 0.36 | 237.70 | 282.28 | 44.58 | Boosting Head = 45.00 M |
| 3 | B | C | --do-- | 0 | 56 | 56 | 1008 | 173880 | 10000 | 183880 | 123200 | 46199 | 0.38 | 150 | 0.002 | 45 | 0.09 | 237.80 | 282.19 | 44.39 | Hydraulic Head = 282.70 M |
| 4 | C | D | --do-- | 25 | 0 | 25 | 450 | 77625 | 5000 | 82625 | 55359 | 20759 | 0.39 | 100 | 0.003 | 140 | 0.42 | 237.95 | 281.77 | 43.82 | |
| 5 | A | A1 | --do-- | 9 | 0 | 9 | 162 | 27945 | 0 | 27945 | 18723 | 7021 | 0.16 | 100 | 0.001 | 50 | 0.05 | 237.40 | 282.59 | 45.19 | |
| 6 | A | A2 | --do-- | 3 | 0 | 3 | 54 | 9315 | 4000 | 13315 | 8921 | 3345 | 0.16 | 100 | 0.001 | 20 | 0.02 | 237.65 | 282.62 | 44.97 | |
| 7 | A | A3 | --do-- | 0 | 0 | 0 | 0 | 0 | 8635 | 8635 | 5785 | 2169 | 0.16 | 100 | 0.001 | 55 | 0.06 | 237.50 | 282.58 | 45.08 | |
| 8 | B | B1 | --do-- | 42 | 0 | 42 | 756 | 130410 | 14228 | 144638 | 96907 | 36340 | 0.54 | 100 | 0.006 | 160 | 0.96 | 237.90 | 281.32 | 43.42 | |
| 9 | C | C1 | --do-- | 31 | 0 | 31 | 558 | 96255 | 5000 | 101255 | 67841 | 25440 | 0.39 | 100 | 0.003 | 110 | 0.33 | 237.90 | 281.86 | 43.96 | |
| | | | | | | | | | | | | | | | | | | | | | |
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**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 Plots | | | Population @ 18.00 Person per flat | Water Requirement @ 172.50 LPCD | Other Water Requirement i.e. Commercial, Community Centre / booth/other in LPD | Total Water Requirement in LPD | 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 Resi. | 0 | 118 | 118 | 2124 | 366390 | 36863 | 403253 | 133073 | 49902 | 0.43 | 150 | 0.003 | 20 | 0.06 | 237.60 | 282.64 | 45.04 | Formation Level at STP = 237.70 M<br>Boosting Head = 45.00 M<br>Flushing Hydraulic Head at STP = 282.70 M |
| 2 | a | b | --do-- | 8 | 98 | 106 | 1908 | 329130 | 24228 | 353358 | 116608 | 43728 | 0.38 | 150 | 0.002 | 75 | 0.15 | 237.70 | 282.49 | 44.79 | |
| 3 | b | c | --do-- | 0 | 56 | 56 | 1008 | 173880 | 10000 | 183880 | 60680 | 22755 | 0.39 | 100 | 0.003 | 45 | 0.14 | 237.80 | 282.35 | 44.55 | |
| 4 | c | d | --do-- | 25 | 0 | 25 | 450 | 77625 | 5000 | 82625 | 27266 | 10225 | 0.27 | 100 | 0.002 | 140 | 0.28 | 237.95 | 282.07 | 44.12 | |
| 5 | a | a1 | --do-- | 9 | 0 | 9 | 162 | 27945 | 0 | 27945 | 9222 | 3458 | 0.16 | 100 | 0.001 | 50 | 0.05 | 237.40 | 282.59 | 45.19 | |
| 6 | a | a2 | --do-- | 3 | 0 | 3 | 54 | 9315 | 4000 | 13315 | 4394 | 1648 | 0.16 | 100 | 0.001 | 20 | 0.02 | 237.65 | 282.62 | 44.97 | |
| 7 | a | a3 | --do-- | 0 | 0 | 0 | 0 | 0 | 8635 | 8635 | 2850 | 1069 | 0.16 | 100 | 0.001 | 55 | 0.06 | 237.50 | 282.58 | 45.08 | |
| 8 | b | b1 | --do-- | 42 | 0 | 42 | 756 | 130410 | 14228 | 144638 | 47731 | 17899 | 0.31 | 100 | 0.002 | 160 | 0.32 | 237.90 | 282.17 | 44.27 | |
| 9 | c | c1 | --do-- | 31 | 0 | 31 | 558 | 96255 | 5000 | 101255 | 33414 | 12530 | 0.27 | 100 | 0.002 | 110 | 0.22 | 237.90 | 282.13 | 44.23 | |
| | | | | | | | | | | | | | | | | | | | | | |
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## DESIGN STATEMENT OF SEWERAGE SCHEME

### SUBHEAD : SEWERAGE SCHEME - DESIGN CALCULATION

| S. No. | Line Reference | | Type of Colony | Residential Plots | | | Population @ 18.00 Person per plot | Water Requirement @ 172.50 LPCD | Other Requirement i.e. comm. / community building / milk booth and other services | Total water requireent LPD | Sew. Quantity after evaporation lossess @ 20% (In LPD) | Sewerage Discharge Peak Flow (m3/sec) | Size of pipe in (mm) | Gradient in (m) | Velocity (m/sec) | Carrying capacity of pipe (m/sec) | Length in Mtr | Fall + Extra Fall in line due to slope (m) | Ground Level | | Formation Level | | Invert Level | | Depth | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | From | To | | Self | Branch | Total | | | | | | | | | | m3 /sec | | | Start | End | Start | End | Start | End | Start | End | Average |
| 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 | 27 | 28 |
| 1 | A | B | Plotted Resi. | 25 | 0 | 25 | 450 | 77625 | 5000 | 82625 | 66100 | 0.0022 | 200 | 225 | 0.76 | 0.012 | 142 | 0.63 | 237.70 | 237.65 | 237.95 | 237.80 | 236.45 | 235.82<br>235.79 | 1.50 | 1.98 | 1.74 |
| 2 | B1 | B | --do-- | 31 | 0 | 31 | 558 | 96255 | 5000 | 101255 | 81004 | 0.0028 | 200 | 225 | 0.76 | 0.012 | 110 | 0.48 | 237.70 | 237.65 | 237.90 | 237.80 | 236.70 | 236.22 | 1.20 | 1.58 | 1.39 |
| 3 | B | C | --do-- | 0 | 56 | 56 | 1008 | 173880 | 10000 | 183880 | 147104 | 0.0051 | 250 | 305 | 0.76 | 0.19 | 45 | 0.14 | 237.65 | 237.25 | 237.80 | 237.70 | 235.79 | 235.65<br>235.62 | 2.01 | 2.05 | 2.03 |
| 4 | C1 | C | --do-- | 42 | 0 | 42 | 756 | 130410 | 14228 | 144638 | 115710 | 0.0040 | 200 | 225 | 0.76 | 0.012 | 155 | 0.68 | 237.65 | 237.25 | 237.90 | 237.70 | 236.70 | 236.02 | 1.20 | 1.68 | 1.44 |
| 5 | C | D | --do-- | 8 | 98 | 106 | 1908 | 329130 | 24228 | 353358 | 282686 | 0.0097 | 300 | 385 | 0.76 | 0.027 | 75 | 0.19 | 237.25 | 237.25 | 237.70 | 237.60 | 235.62 | 235.43<br>235.38 | 2.08 | 2.17 | 2.13 |
| 6 | D3 | D | --do-- | 3 | 0 | 3 | 54 | 9315 | 4000 | 13315 | 10652 | 0.0003 | 200 | 225 | 0.76 | 0.012 | 20 | 0.08 | 237.40 | 237.25 | 237.65 | 237.60 | 236.45 | 236.37 | 1.20 | 1.23 | 1.22 |
| 7 | D2 | D | --do-- | 9 | 0 | 9 | 162 | 27945 | 0 | 27945 | 22356 | 0.0007 | 200 | 225 | 0.76 | 0.012 | 50 | 0.22 | 237.10 | 237.25 | 237.40 | 237.60 | 236.20 | 235.98 | 1.20 | 1.62 | 1.41 |
| 8 | D1 | D | --do-- | 0 | 0 | 0 | 0 | 0 | 8635 | 8635 | 6908 | 0.0002 | 200 | 225 | 0.76 | 0.012 | 80 | 0.35 | 237.20 | 237.25 | 237.50 | 237.60 | 236.30 | 235.95 | 1.20 | 1.85 | 1.53 |
| 9 | D | STP | --do-- | 0 | 118 | 118 | 2124 | 366390 | 36863 | 403253 | 322602 | 0.0112 | 400 | 570 | 0.76 | 0.049 | 35 | 0.06 | 237.25 | 237.60 | 237.60 | 237.70 | 235.38 | 235.32 | 2.22 | 2.38 | 2.30 |
| 10 | S.T.P. | Govt. Sewer Line | - | 150 mm i/d D.I. Pipe ( By pumping from STP ) | | | | | | | | | | - | - | - | 210 | 0.50 | 237.60 | 236.40 | 237.70 | 237.00 | 235.20 | 234.70 | 2.50 | 2.30 | 2.40 |

**DESIGN CALCULATION OF STORM WATER DRAINAGE SCHEME**

INTENCITY OF RAIN FALL = 0.006 MTR /HR

IMPERMEABILITY FACTOR = 0.6

| S. No. | Name of Node | | Area (Self) | Area (Self) | Branch Area | Total Area | Total Area | Rain fall | Discharge @ 17.36 LPS/ Hector | Length | Pipe dia | Slope | Velocity | Cap. Of drain | Fall + Extra Fall | Ground Level | | Formation Level | | Invert Level | | Depth of M.H's | | Average Depth | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | From | To | IN SQM | In Acre | In Acre | In Acre | In Hector | mm / hr. | IN LPS | In Mtr | In mm | In Mtr | IN m/sec | IN LPS | IN Mtr | 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 | 5120 | 1.27 | 0 | 1.27 | 0.51 | 6.00 | 8.85 | 120 | 400 | 570 | 0.76 | 98.57 | 0.21 | 237.70 | 237.65 | 237.95 | 237.80 | 237.95 | 235.74 | 2.00 | 2.06 | 2.03 | RWH-1 |
| 2 | B1 | B | 4610 | 1.14 | 0 | 1.14 | 0.46 | 6.00 | 7.99 | 95 | 400 | 570 | 0.76 | 98.57 | 0.17 | 237.70 | 237.65 | 237.90 | 237.80 | 236.70 | 236.53 | 1.20 | 1.27 | 1.24 | |
| 3 | B | C | 1200 | 0.30 | 2.41 | 2.71 | 1.10 | 6.00 | 19.10 | 40 | 400 | 570 | 0.76 | 98.57 | 0.07 | 237.65 | 237.25 | 237.80 | 237.70 | 235.74 | 235.67 | 2.06 | 2.03 | 2.05 | RWH-2 |
| 4 | C1 | C | 7946 | 1.96 | 0 | 1.96 | 0.79 | 6.00 | 13.71 | 140 | 400 | 570 | 0.76 | 98.57 | 0.25 | 237.65 | 237.25 | 237.90 | 237.70 | 236.70 | 236.45 | 1.20 | 1.25 | 1.23 | RWH-3 RWH-3 |
| 5 | C | D | 3250 | 0.80 | 4.67 | 5.47 | 2.21 | 6.00 | 38.37 | 75 | 400 | 570 | 0.76 | 98.57 | 0.13 | 237.25 | 237.25 | 237.70 | 237.60 | 235.67 | 235.54 | 2.03 | 2.06 | 2.05 | RWH-5 |
| 6 | D1 | D | 2170 | 0.54 | 0 | 0.54 | 0.22 | 6.00 | 3.82 | 35 | 400 | 570 | 0.76 | 98.57 | 0.06 | 237.10 | 237.25 | 237.40 | 237.60 | 236.20 | 236.14 | 1.20 | 1.46 | 1.33 | |
| 7 | D | Govt. SWD | 1200 | 0.30 | 6.01 | 6.31 | 2.55 | 6.00 | 44.27 | 150 | 400 | 570 | 0.76 | 98.57 | 0.26 | 237.25 | 236.40 | 237.60 | 237.00 | 235.54 | 235.28 | 2.06 | 1.72 | 1.89 | RWH-6 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
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LC -V
(See Rule 12)
HARYANA GOVERNMENT
TOWN AND COUNTRY PLANNING DEPARTMENT

Licence No. 18 of 2022

This license is being granted under the Haryana Development and Regulation of Urban Areas Act 1975 & the Rules 1976 made there under to Conmin Infra Developers LLP., House No. H-38, Ground Floor, M2K, White House, Sector-57, Gurugram for setting up of Affordable Plotted Colony under DDJAY over an area measuring 6.30 acres in the revenue estate of village Shikohpur & Naurangpur, Sector-78, Gurugram.

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

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

i. That the Affordable Residential Plotted Colony will be laid out in confirmation to the approved layout/building plan and development works will be executed in accordance to the designs and specifications shown in the approved plans.

ii. That licencee shall abide by the Deen Dayal Jan Awas Yojna policy dated 08.02.2016, subsequent amendments from time to time and other direction given by the Director from time to time to execute the project.

iii. That the conditions of the agreements already executed are duly fulfilled and the provisions of Haryana Development and Regulation of Urban Areas Act, 1975 and the Rules 1976 made there under are duly complied with.

iv. That licencee shall pay State Infrastructure Development Charges amounting to ₹ 1,37,67,894/- @ ₹ 1000/- per sq. mtr for the commercial area, and ₹ 500/- for plotted area in two equal instalments. First Instalments will be due within 60 days of grant of license and second Instalments within six months of grant of license failing which interest @18% per annum will be liable to be paid for the delayed period.

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

vi. That licencee shall construct 18/24/30 m wide internal circulation road forming part of licenced area at your own costs and transfer the same free of cost to the Government.

Director
Town & Country Planning
Haryana, Chandigarh

vii. That area under the sector roads and restricted belt/ green belt, if any, which forms part of licenced area in lieu of which benefit to the extent permissible as per policy towards FAR is being granted, shall be transferred free of cost to the Govt.

viii. That the services with Haryana Shehari Vikas Pradhikaran services shall be integrated as and when made available.

ix. That the licencee shall transfer 10% area of the licensed colony free of cost to the Government for provision of community facilities. This will give flexibility to the Director to work out the requirement of community infrastructure at sector level and accordingly make provisions. The said area has been earmarked on the enclosed layout plan.

x. That the development/construction cost of 24 m/18 m major internal roads is not included in the EDC rates and licencee shall pay the proportionate cost for acquisition of land, if any, alongwith the construction cost of 24 m/18 m wide major internal roads as and when finalized and demanded by the Department.

xi. That NOC/Clearance as per provisions of notification dated 14.09.2006, issued by Ministry of Environment & Forest, Govt. of India shall be obtained, if applicable before execution of development works at site.

xii. That the licencee shall make arrangements for water supply, sewerage, drainage etc to the satisfaction of DTCP till these services are made available from External Infrastructure to be laid by Haryana Shahari Vikas Pradhikaran.

xiii. That clearance from competent authority, if required under Punjab Land Preservation Act, 1900 or under any other law shall be obtained.

xiv. That the rain water harvesting system shall be provided as per Central Ground Water Authority Norms/Haryana Govt. notification as applicable.

xv. That only LED fitting shall be used for internal lighting as well as campus lighting.

xvi. That 'Ultimate Power Load Requirement' of the project shall be conveyed to the concerned power utility, with a copy to the Director, within two months period from the date of grant of license to enable provision of site in licensed land for Transformers/Switching Stations/Electric Sub Stations as per the norms prescribed by the power utility in the zoning plan of the project.

xvii. That it will be made clear at the time of booking of plots/commercial space that specified rates include or do not include EDC. In case of not inclusion of EDC in the booking rates, then it may be specified that same are to be charged separately as per rate fixed by the Govt. You shall also provide detail of calculation of EDC per Sqm/per Sft to the allottees while raising such demand from the plot owners.

xviii. That pace of development shall be kept at-least in accordance with sale agreement executed with the buyers of the plots as and when scheme is launched.

xix. That the licencee shall arrange power connection from UHBVNL/DHBVNL for electrification of the colony and shall install the electricity distribution infrastructure as per the peak load requirement of the colony for which licencee shall get the electrical (distribution) service plan/estimates approved from the agency responsible for installation of external electric services i.e. UHBVNL/DHBVNL and complete the same before obtaining completion certificate for the colony.

xx. That project shall be completed within seven years (5+2 years) from date of grant of license as per clause 1(ii) of the policy notified on 01.04.2016.

xxi. That no clubbing of residential plots for approval of integrated zoning plan of two adjoining plots under same ownership shall be permitted.

xxii. That the labour cess shall be paid as per policy instructions issued by Haryana Government vide Memo No. Misc. 2057-5/25/2008/2TCP dated 25.02.2010.

xxiii. That the licencee shall submit compliance of Rule 24, 26, 27 & 28 of Rules 1976 & Section 5 of Haryana Development and Regulation of Urban Areas Act, 1975, and shall inform account number and full particulars of the scheduled bank wherein licensee have to deposit seventy percentum of the amount received from the plot holders for meeting the cost of Internal Development Works in the colony.

xxiv. That the licencee shall execute the development works as per Environmental Clearance and comply with the provisions of Environment Protection Act, 1986, Air (Prevention and Control of Pollution of Act, 1981) and Water (Prevention and Control of Pollution of 1974). In case of any violation of the provisions of said statutes, you shall be liable for penal action by Haryana State Pollution Control Board or any other Authority Administering the said Acts.

xxv. That the provisions of the Real Estate (Regulations and Development) Act, 2016 and Rules framed there under shall be followed by the licencee in letter and spirit.

3. That the 50% saleable area, earmarked in the approved layout plan and freezed as per clause 5(i) of DDJAY policy shall be allowed to sell only after completion of all Internal Development Works in the colony

4. The licence is valid up to 10/03/2027.

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

Place : Chandigarh
Dated: 11/03/2022.

Endst. No. LC-4507/JE(VA)/2022/ 6972 Dated: 14-03-2022

A copy is forwarded to the following for information and necessary action: -

1. Conmin Infra Developers LLP., House No. H-38, Ground Floor, M2K, White House, Sector-57, Gurugram alongwith a copy of agreement, LC-IV B & Bilateral Agreement and approved layout plan.
2. Chairman, Pollution Control Board, Haryana, Sector-6, Panchkula.
3. Chief Administrator, HSVP, Panchkula.
4. Chief Administrator, Housing Board, Panchkula.
5. Managing Director, HVPN, Planning Directorate, Shakti Bhawan, Sector-6, Panchkula.
6. Joint Director, Environment Haryana – Cum-Secretary, SEAC, Paryavaran Bhawan, Sector -2, Panchkula.
7. Addl. Director Urban Estates, Haryana, Panchkula.
8. Administrator, HSVP, Gurugram.
9. Land Acquisition Officer, Gurugram.
10. Senior Town Planner, Gurugram.
11. District Town Planner, Gurugram along with a copy of agreement & Layout Plan.
12. Chief Accounts Officer (Monitoring) O/o DTCP, Haryana.
13. PM(IT) of this Directorate for updation on Departmental website.

(Amit Madholia)
District Town Planner (HQ)
For: Director, Town & Country Planning,
Haryana, Chandigarh

To be read with License No. 16 dated 11/03/2022

Detail of land owned by Conmin Infradevelopers LLP:-

| Village | Khasra No. | Area (B-B-B) |
|---|---|---|
| Shikohpur | 437/1 | 1-2-10 |
| | 446/2 | 1-6-1 |
| | 447/2 | 1-5-11 |
| | 448 | 1-18-0 |
| | 449/1 | 0-7-0 |
| | 449/2/2 | 1-8-5 |
| | 453/2/1 | 0-7-6 |
| | 454/2/1 | 0-13-10 |
| | 455/2/1 | 0-12-5 |
| | **Total** | **9-0-8** |
| | | **Or 5.6381 acres** |

| Village | Rect.No. | Killa No. | Area (K-M-S) |
|---|---|---|---|
| Naurangpur | 6 | 9/2min | 1-17 |
| | | 10/2min | 0-8 |
| | | 11/1min | 1-18 |
| | | 12/1 | 1-3-0 |
| | | **Total** | **5-6** |
| | | | **Or 0.6625 acre** |
| | | **Grand Total** | **Or 6.300 acres** ✓ |

Director,
Town & Country Planning
Haryana