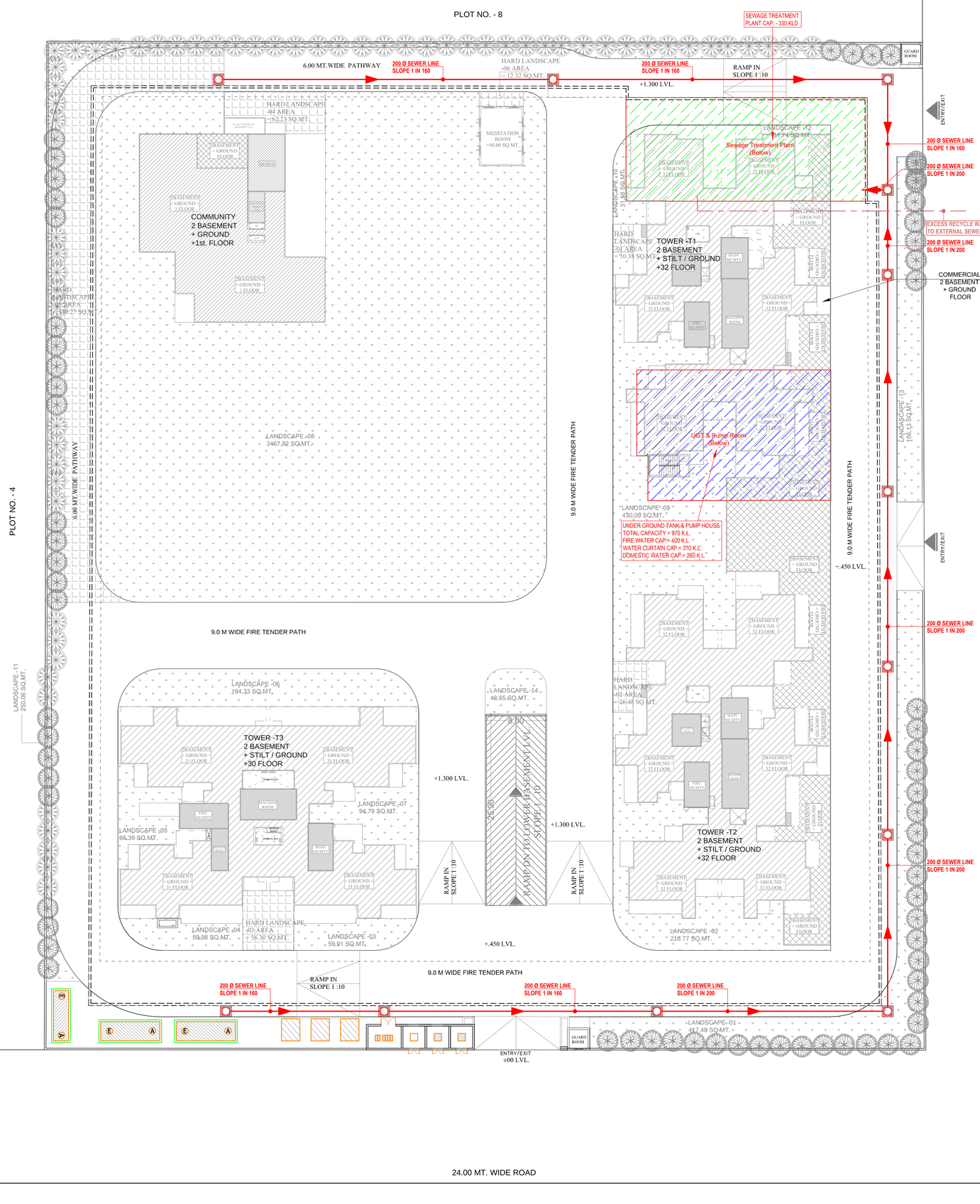
NORTH



LEGEND :

S. No.	SYMBOL	DESCRIPTION
1.	M.H.	MANHOLE
2.		SEWER LINE
3.		BASEMENT RETAINING WALL
4.		RAIN WATER HARVESTING

rev. no.	date	revision
..	..	..

project
"DIVYANSH GREEN HEIGHTS"
AT PLOT No. - 09, CHOROSIA ESTATE
OF SECTOR PI-I & II, GREATER NOIDA

title
LAYOUT PLAN

subtitle
EXTERNAL SEWERAGE SYSTEM

drawing released for
- [x] SUBMISSION
- [ ] APPROVAL
- [ ] ADVANCE COPY
- [ ] CONSTRUCTION

drg. no. DGH / 25B01 / ES - 02	drawn by Prem Saini
scale 1 : 300	designed by Badri Vishal
date 31.03.2025	checked by Anand Havelia

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NORTH

PLOT NO. - 8

PLOT NO. - 4

PLOT NO. - HO-01

24.00 MT. WIDE ROAD

9.0 M WIDE FIRE TENDER PATH

6.00 MT.WIDE PATHWAY

300 Ø STORM WATER LINE SLOPE 1 IN 450

400 Ø STORM WATER LINE SLOPE 1 IN 450 TO EXTERNAL DRAIN LINE AS PER SITE

RWH # 01

RWH # 02

RWH # 03

RWH # 04

TERRACE RAIN WATER PIPE

RAMP IN SLOPE 1 :10

RAMP DN TO LOWER BASEMENT SLOPE 1 :10

+1.300 LVL.

+.450 LVL.

±00 LVL.

ENTRY/EXIT

GUARD ROOM

SEWAGE TREATMENT PLANT CAP. - 330 KLD

Sewage Treatment Plant (Below)

UGT & Pump Room (Below)

UNDER GROUND TANK & PUMP HOUSE
TOTAL CAPACITY = 970 K.L.
FIRE WATER CAP.= 400 K.L.
WATER CURTAIN CAP. = 310 K.L.
DOMESTIC WATER CAP. = 260 K.L.

COMMUNITY
2 BASEMENT
+ GROUND
+1st. FLOOR

TOWER -T1
2 BASEMENT
+ STILT / GROUND
+32 FLOOR

TOWER -T2
2 BASEMENT
+ STILT / GROUND
+32 FLOOR

TOWER -T3
2 BASEMENT
+ STILT / GROUND
+30 FLOOR

COMMERCIAL
2 BASEMENT
+ GROUND
FLOOR

HARD LANDSCAPE -01 AREA = 10.38 SQ.MT.

HARD LANDSCAPE -02 AREA = 26.48 SQ.MT.

HARD LANDSCAPE -03 AREA = 36.30 SQ.MT.

HARD LANDSCAPE -04 AREA = 130.17 SQ.MT.

HARD LANDSCAPE -05 AREA = 62.23 SQ.MT.

HARD LANDSCAPE -06 AREA = 12.32 SQ.MT.

LANDSCAPE -01 = 216.77 SQ.MT.

LANDSCAPE -02 = 59.91 SQ.MT.

LANDSCAPE -03 = 59.98 SQ.MT.

LANDSCAPE -04 = 66.39 SQ.MT.

LANDSCAPE -05 = 94.79 SQ.MT.

LANDSCAPE -06 = 194.33 SQ.MT.

LANDSCAPE -07 = 48.65 SQ.MT.

LANDSCAPE -08 = 3467.82 SQ.MT.

LANDSCAPE -09 = 430.09 SQ.MT.

LANDSCAPE -10 = 3.48 SQ.MT.

LANDSCAPE -11 = 250.06 SQ.MT.

LANDSCAPE -12 = 11.74 SQ.MT.

LANDSCAPE -13 = 184.03 SQ.MT.

LANDSCAPE -14 = 48.65 SQ.MT.

LANDSCAPE -01 = 317.49 SQ.MT.

8.00

25.00

MEDITATION ROOM = 48.00 SQ.MT.

LEGEND :

S. No.	SYMBOL	DESCRIPTION
1.	C.P.	CATCH PIT
2.		UNDER GROUND PIPE DRAIN
3.		BASEMENT RETAINING WALL
4.		RAIN WATER HARVESTING

rev. no.	date	revision
..	..	..

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PROJECT - DIVYANSH GREEN HEIGHT AT GREATER NOIDA

DESIGN OF DRAIN LINE

Rainfall intensity (I)			=	50	mm/hour
Coefficient of Runoff (C)			=	0.55	
Area of Drainage district			=	1.61	Hectare
No. of Drainage discharge			=	2.00	nos.
Area of Drainage district			=	0.81	Hectare
Total Discharge	=	10*C*I*A	=	222	Cu M / Hour
			or	61.65	Lit/sec

Drain Pipe Design

Final Drain Pipe Dia Selected			=	400	mm
Slope (1 in ...)			=	450	

Drain Design as per Manning Formula

$$V = \frac{3.968 \times 10^{-3} \times D^{2/3} \times S^{1/2}}{n}$$

V = 0.92 m/sec

D	=	Dia (mm)	=	400 mm
S	=	Slope	=	450
n	=	Manning Coeficient	=	0.011
V	=	Velocity (m/sec)		

Actual Pipe Capacity (Q) at 100% flow

$$= \frac{\Pi D^2 \times V}{4}$$

= 0.115950 m^3/sec

Q = 115.95 Lit/sec

Where -

D	=	Dia (mm)	=	400 mm
V	=	Velocity (m/sec)	=	0.92
Q	=	Pipe Capacity (at full flow) m3/sec		

Total Site Discharge	=	61.65	Lit/sec
Actual Pipe Capacity at 100% flow	=	115.95	Lit/sec

Total Site discharge is less the pipe capacity, hence 400 mm Pipe Dia is OK

PROJECT - DIVYANSH GREEN HEIGHT AT GREATER NOIDA

DESIGN OF SEWER LINE

Total Sewage Load (as per water load calculation sheet)	=	332,873	Lit/day
	or	3.85	Lit/sec
By taking Peak Factor @ 3			
Peak Sewage Generated (3 times of Avg. Flow)	=	11.56	Lit/sec

Sewer Pipe Design

Final Sewage Pipe Dia Selected	=	200	mm
Slope (1 in ...)	=	200	

Sewer Design as per Manning Formula

$$V = \frac{3.968 \times 10^{-3} \times D^{2/3} \times S^{1/2}}{n}$$

V = 0.87 m/sec

D	=	Dia (mm)	=	200 mm
S	=	Slope	=	200
n	=	Manning Coeficient	=	0.011
V	=	Velocity (m/sec)		

Actual Pipe Capacity (Q) at 100% flow $= \frac{\Pi D^2 \times V}{4}$

= 0.027391 m^3/sec

Q = 27.39 Lit/sec

Where -

D	=	Dia (mm)	=	200 mm
V	=	Velocity (m/sec)	=	0.87

Q = Pipe Capacity (at full flow) m3/sec

Peak Sewage Generated (site peak discharge)	=	11.56	Lit/sec
Actual Pipe Capacity at 100% flow	=	27.39	Lit/sec

Site peak discharge is less then 50% of pipe capacity, hence 200 mm Pipe Dia is OK