



Ground Water Year Book भू जल वार्षिक पुस्तिका National Capital Territory, Delhi राष्ट्रीय राजधानी क्षेत्र, दिल्ली 2022-2023



GOVERNMENT OF INDIA CENTRAL GROUND WATER BOARD STATE UNIT OFFICE, DELHI

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September-2023 सितंबर-2023

DEPARTMENT OF WR, RD & GR,	,
	GOVERNMENT OF INDIA
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NEW DELHI	

Foreword

Ground Water Year Book is based on the information generated through field studies. The data has been analyzed by officers of Central Ground Water Board, State Unit Office, Delhi and presented in the report. The maps have been generated using ARC GIS, Surfer software and Map info.

Depiction of ground water condition in Delhi provides information on availability of ground water in terms of quantity and quality, development prospects and management options. I am happy to note that the scientific information in this report is presented in a simplified form. I sincerely hope this report will be of immense help not only to planners, administrators, researchers and policy makers in formulating development and management strategy but also to the common man in need of such information to make himself aware of the ground situation in NCT Delhi.

The untiring efforts made by Ms. Kriti Mishra, Scientist B, Sh. V. Praveen Kumar, AHG & Sh. S. Ashok Kumar, STA-HG for bringing out this report are highly appreciated.

8.k.B-

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EXECUTIVE SUMMARY

GROUND WATER YEAR BOOK 2022-23: NCT DELHI

National Capital Territory (NCT) of Delhi occupies an area of 1483 sq. km. and lies between 28° 24' 15" to 28° 53' 00" N latitudes and 76° 50' 24" to 77° 20' 30" E longitudes. The population of NCT Delhi, as per the census 2011 is 167.87 lakhs with a density of 11320 persons / Sq.km area.

The normal rainfall of NCT Delhi is 611.8 mm. The rainfall increases from west to east. About 80% of the annual rainfall is received during the monsoon months July, August and September. The rest of the annual rainfall is received in the form of winter rain. Long- term rainfall data 1984 to 2022 shows that the rainfall in Delhi is highly variable and which in turn affects the natural recharge to ground water from year to year. The probability of rainfall exceeding normal rainfall of 611.8 mm is up to 62%.

The ground water availability in NCT Delhi is controlled by the hydrogeological characteristics of its varied geological formations namely Delhi Quartzite, Older & Younger Alluvium. Central Ground Water Board (CGWB) is monitoring groundwater levels and quality through its monitoring stations spread over both Alluvial as well as quartzitic area of NCT of Delhi. Total 134 hydrograph monitoring stations data have been analyzed for this report, out of which 24 are dug wells and 110 are Piezometers.

District wise distribution of hydrograph network stations is highly uneven and varies from one monitoring station per 1.4 Sq.km in New Delhi district to one monitoring station per 30 sq. km in North East district. Considering this unevenness in distribution of monitoring stations, Central Ground Water Board is striving to increase the number of stations for better monitoring of the ground water regime in the diverse Hydrogeological terrain.

An analysis for numbers of monitoring wells in the different categories of the water levels for all four monitoring periods of year 2022-23 reveals that water level depth up to 5 mbgl varies considerably over two monitoring periods (May & other months) which shows that dynamic changes in ground water levels are conspicuously deciphered in shallow water zones. For depth range of 5 to 10 mbgl and 10 to 20 mbgl and more at few locations ground water levels in August, November & January compared to May period is not prominent. This may be interpreted as stressed water level conditions suppressing dynamic fluctuation in water levels. Whereas number of monitoring stations showing water level below 40mbgl remain almost same in all four-monitoring periods indicate stressed water conditions in deep aquifers of NCT, Delhi.

The depth to water level recorded in NCT Delhi during 2022-23, in general varies from less than 2 mbgl in areas of Yamuna Flood plain and parts of Northwest & West district to more than 65 mbgl, mainly in areas underlain by Delhi Quartzite in Central, New Delhi and South districts. The water level during **May-2022** ranges from 1.25 to 66.01 mbgl and around 16% of area have shallow water levels up to 5 m bgl while deep water levels of 20 to 65 mbgl are observed in around 17% of area. In rest of NCT Delhi, 67% of areas water level ranges from 5 to 20 m bgl. In **August-2022** water level ranges from 0.43 to 66.51 mbgl and around 18% of NCT Delhi areas have shallow water level up to 5 m bgl while deep water levels of 20 to 66 m bgl observed in around 18% of NCT Delhi. In rest of NCT Delhi, 64% areas have water level in range of 5 to 20 mbgl. In **November-2022** water level ranges from 0.62 to 66.75 mbgl and around 19% of NCT Delhi areas have shallow water shallow water levels up to 5 m bgl while deep water levels in around 19% of NCT Delhi areas have shallow water levels up to 5 m bgl water levels up to 5 m bgl while deep water levels in range of 5 to 20 mbgl. In **November-2022** water level ranges from 0.62 to 66.75 mbgl and around 19% of NCT Delhi areas have shallow water levels up to 5 m bgl while deep water levels in range of 5 to 20 mbgl. In **January-2023** water level range from 0.96 to

66.6 mbgl and around 18% of NCT Delhi areas have shallow water level up to 5 m bgl while deep water levels of 20 to 68 mbgl observed in around 17% of NCT Delhi. In rest of NCT Delhi, 65% of areas have water level in range of 5 to 20 m bgl.

Analysis of seasonal water level fluctuation comparing **May 2022** period show rise in range of >0 to 2m in 61% monitoring stations during **August 2022**, 66% in **November 2021** and 52% in **January 2022**. Very few monitoring stations, 5% wells shows rise more than 2m whereas nearly 25% to 36% monitoring stations show decline in range of 0 to 2 m and 2%-3% in range of 2 to 4m, which reflect overstress conditions.

The fluctuation of water level between **May-2021 and May-2022** of NCT Delhi shows rise up to 4m in 78% of wells and 5% of wells show rise more than 4m while other 15% of monitoring wells show fall in range of 0 to 2 m; rest of 2% monitoring stations shows fall up to 4 m. Similarly, comparing **August-2021** water level with **August-2022** reveals that rise in the range of 0 to 2m in nearly 46% of the wells, while 31 % wells shows fall in range of 0 to 2 m. Wells showing more than 2m rise are about 14% and fall are about 9%. Comparing water level data of **November 2021** with **November 2022**, it is revealed that 33% wells shows rise in range of 0 to 2 m. Wells show for wells show rise more than 2 m. Rest 54 % wells shows fall, mostly in range of 0 to 2 m. Comparing water level data of **January 2022** with **January 2023**, it is revealed that 31% wells shows rise, mostly in range of 0 to 2 m whereas small pockets in South East, New Delhi & South district has rise upto more than 2m is about 08%; whereas rest 52% wells shows fall in range of 0 to 2 m and 9% wells shows more than 2m.

Long-term behavior of water levels was studied by comparing water level data of May-2022 with 10 year mean water level of May (2012 to 2021) reveals change in water level range from -5.99 m to 13.36 m. Nearly 32% of monitoring wells show fall in water level whereas rest 68% wells show in rise of water levels. Comparing water level data of August-2022 with 10 year mean water level of August (2012 to 2021) reveals change in water level range from -11.19 m to 11.55 m. Nearly 56% of monitoring wells show rise in water level whereas rest 44 % monitoring wells show fall in water level of November (2012 to 2021) reveals change in water level whereas rest 44 % monitoring wells show fall in water level. Comparing water level data of November 2022 with 10 year mean water level of November (2012 to 2021) reveals change in water level range from -3.65 m to 11.97 m. Nearly 70% of monitoring wells shows rise in water level data of January-2023 with 10 year mean water level of January (2013 to 2022) reveals change in water level range from -6.1 m to 16.51m. Nearly 70% of monitoring wells show rise whereas rest 30% monitoring wells show fall.

Contents

Forewor	d	
Executiv	e Summary	
1. Intro	duction	1
1.1	Administrative Setup of NCT Delhi	
1.2	Population & Land use	=
1.3	Climate and Rainfall	4
1.3.1	Climate	4
1.3.2	2. Rainfall	5
1.3.3	8. Rainfall Analysis	5
1.3.4	I. Other Climatic Parameters	7
2. Gro	und Water Regime Monitoring	9
2.1.	Monitoring Objective and Method	9
2.:	1.1. Monitoring Stations Status	9
2.1.	2. Distribution of Monitoring Stations	11
3. Hydr	ogeology	12
3.1	Physiography & Drainage	12
3.2	Geomorphology	13
3.3	Geology	15
3.3.	1. Alluvium Deposits	16
3.3.	2. Hard Rock Formation	16
3.3.3	8. Subsurface Aquifer Dispositions	16
3.3.4	I. Fresh –Saline Ground Water Interface	18
3.3.5	b. Basement Topography	21
4. Grou	nd Water Behaviors During 2021-2022	22
4.1	Depth to Water Level	22
4.1.1	I. May2022	23
4.1.2	2. August 2022	24
4.1	3. November 2022	25
4.1	I.4. January 2023	26
4.2	Seasonal Water Level Fluctuation:2022-2023	27
4.2.	1. May 2022 toAugust2022	28
4.2.	2. May 2022 to November 2022 (Pre& Post-Monsoon)	29
4.2.	3. May 2022 to January 2023	30
4.3	Annual Water Level Fluctuation:2022-2023	31
4.3.	1. Annual Fluctuation: May 2021&May2022	32
4.3.	2. Annual Fluctuation: August 2021& August 2022	33
4.3.	3. Annual Fluctuation: November 2021& November 2022	34
4.3.	4. Annual Fluctuation: January 2022 & January 2023	35
4.4	Long Term Ground WaterScenario	36
4.4.	1. Decadal Fluctuation: (DM of May 2012-21 &May2022)	37
4.4.	2. Decadal Fluctuation: (DM of August 2012-21 & August 2022)	38
4.4.	3. Decadal Fluctuation: (DM of Nov 2012-21 & Nov2022)	<u>3</u> 9
4.4. ЛЕ	4. Decadal Fluctuation: (DIVI OF January 2013–22 & January 2023)	40
4.5 5 Daar	Aquifer in NCT. Delbi	41 42
J. Deep		42
5.1	Depth to Water Level	42
5.1.3	I. May 2022	42
5.1.2	2. August 2022	42
5.1	3 November 2022	<u>42</u>

5.1.4	January 2023	_42
5.2 Seas	onal Water Level Fluctuation:2022-2023	_42
5.2.1.	May 2022 toAugust2022	_42
5.2.2.	May 2022 to November 2022 (Pre& Post Monsoon)	42
5.2.3.	May 2022 to January 2023	42
5.3 A	Annual Water Level Fluctuation:2022-2023	43
5.3.1.	Annual Fluctuation: May 2021 &May2022	43
5.3.2.	Annual Fluctuation: August 2021 & August 2022	43
5.3.3.	Annual Fluctuation: November 2021 & November 2022	43
5.3.4.	Annual Fluctuation: January 2022 & January 2023	43
5.4 L	ong Term Ground Water Scenario	43
5.4.1.	Decadal Fluctuation: (DM of May 2012-21 & May2022)	43
5.4.2.	Decadal Fluctuation: (DM of August 2012-21 & August 2022)	43
5.4.3.	Decadal Fluctuation: (DM of Nov 2012-21 & Nov 2022)	43
5.4.4.	Decadal Fluctuation: (DIVI of January 2013–22 & January 2023)	<u>4</u> 3
Annexure. T		44
Annexure: I	B List of Villages - NCT of Delhi	45
Annexure: I	I Rainfall Data & Probability Analysis	46
Annexure: II	IA Water Level Monitoring Data :(2022-2023)	47
Annexure: II	IB - Decadal Mean Water Level Data	<u>49</u>
Annexure: IN	/(A)Ground Water Level Depth Range of Monitoring Stations (May)	51
Annexure: IN	/(B)Ground Water Level Depth Range of Monitoring Stations(Aug)	_52
Annexure: I\	/(C) Ground Water Level Depth Range of Monitoring Stations(Nov)	_53
Annexure: IN	/(D)Ground Water Level Depth Range of Monitoring Stations (Jan)	_54
Annexure: V	(A) Decadal Fluctuation of water level NCT Delhi 2012-2021 (May) Vs. 2022 (May)_	55
Annexure: V	(B) Decadal Fluctuation of water level NCT Delhi 2012-2021 (Nov) Vs. 2022 (Nov)	56
Reference		<u> 5</u> 7

PLATES / FIGURES:

- 1. Administrative Map: NCT of Delhi.
- 2. (a) Utilisation of land in Delhi(2021-2022).(b) Land utilization and area under Irrigation (2021-2022).
- 3. Climatological Data NCT of Delhi.
- 4. Isohyetal Map NCT of Delhi.
- 5. (a) Drought frequency Analysis of 33 years(1984-2021).
 (b) Plot of Annual Rainfall, Departure and Cumulative Departure NCT of Delhi.
- 6. Rainfall Probability curve NCT of Delhi.
- 7. National Hydrograph Monitoring station. NCT of Delhi.
- 8. Digital elevation map of NCT of Delhi.
- 9. River and Drainage NCT of Delhi.
- 10. Geomorphological Map of NCT of Delhi.
- 11. Geology: NCT of Delhi.
- **12.** Map showing locations of exploratory wells.
- 13. Dimensional Model Disposition of Aquifers in NCT of Delhi.
- 14. Thickness of fresh water zones (mbgl) May 2015.
- 15. Panel diagram aquifer disposition, fresh-saline Ground Water interface.
- 16. Depth of Bed rocks NCT of Delhi.
- 17. Monitoring Wells Vs. Water level depth range 2022-2023.
- 18. Monitoring Wells Vs. Water level depth range 2022-2023.
- 19. Depth of Water level Map: May 2022.
- 20. Water level Depth zone Area coverage: NCT of Delhi May 2022. (pie chart)
- 21. Depth of water level map: August 2022.
- 22. NCT of Delhi: Water level depth zone: Area Coverage August2022.
- 23. Depth of Water level Map: November 2022.
- 24. Water level depth zone Area coverage: NCT of Delhi November 2022. (Pie chart)
- 25. Depth of water level map: January 2023.
- 26. Water level Depth zone: Area Coverage January 2023. (Pie Chart)
- 27.(a) Fluctuation of water level: May 2022 to Aug2022.
 - (b) Fluctuation of water level: May 2022 to Nov 2022.
 - (c) Fluctuation of water level: May 2022 to Jan 2023.
- 28. Seasonal Fluctuation in Ground water level Map: May 2022 to Aug 2022.
- 29. Seasonal Fluctuation WL May 2022 Aug 2022: Area Coverage. (Pie Chart)
- 30. Seasonal Fluctuation in ground water level Pre-Monsoon May 2022 & Post Monsoon Nov 2022 Map.
- 31. Seasonal Fluctuation in WL May-2022 to Nov-2022: Area coverage. (Pie Chart)
- 32. Seasonal Fluctuation in the ground water level May 2022 & Jan2023.
- 33. Seasonal Fluctuation in WL May 2022- Jan 2023 Area coverage.
- 34.(a) Annual Fluctuation of water level: May 2021 to May 2022.
 - (b) Annual Fluctuation of water level: Aug 2021 to Aug2022.
 - (c) Annual Fluctuation of water level: Nov 2021 to Nov 2022.
 - (d) Annual Fluctuation of water level: Jan 2022 to Jan 2023.
- 35. Annual Fluctuation in ground water level May 2021– May 2022.
- 36. Fluctuation in water level May 2021 May 2022: Area coverage.
- 37. Annual fluctuation in ground water level August 2021 August 2022.
- 38. Fluctuation in water level Aug 21 Aug 22: Area Coverage.
- **39.** Annual Fluctuation in the ground water level November **21** November **22**.
- 40. Fluctuation in water level Nov 20- Nov 21: Area Coverage.
- 41. Annual Fluctuation in ground water level January 2022- January 2023.

42. Fluctuation in water level Jan 2022- Jan 2023: Area coverage.

- 43.(a) Fluctuation of water level DM of May 2012-2021 & May2022.
 - (b) Fluctuation of water level DM of Aug 2012-2021 & Aug2022.
 - (c) Fluctuation of water level DM of Nov 2012-2021&Nov 2022.
 - (d) Fluctuation of water level DM of Jan 2013-2022 & Jan 2023.
- 44. Decadal fluctuation in Ground water level. DM of May 2012-2021 & May 2022.
- 45. WL fluctuation DM of May 2012-2021 & May 2022: Area Coverage.
- 46. DM of August (2012-2021) & August 2022.
- 47. WL fluctuation DM of Aug 2012-2021 & Aug 2022: Area Coverage.
- 48. DM of November (2012-21) & November 2022.
- 49. WL fluctuation DM of Nov 2012-2021 &Nov 2022: Area Coverage.
- 50. DM of January (2013-2022) & January2023.
 - (e) WL fluctuation DM of Jan 2013-2022 & Jan 2023: Area Coverage.
- 51. Water table map: May 2022.

TABLES

- 1. Details of administrative units NCT of Delhi.
- 2.(a) Area, Populations& Details of towns & villages: NCT of Delhi.
- (b) Utilization of land in Delhi (2021-22) Area in hectares.
- 3. Sources of irrigation and irrigated area (2021-22).
- 4.(a) Climate seasons in NCT of Delhi.
 - (b) Climatological Parameters NCT of Delhi.
- 5. Rainfall Data Analysis NCT of Delhi
- 6. Rainfall Probability Analysis.
- 7. Number of stations monitored during 2022-2023.
- 8. Generalized Stratigraphic units of NCT Delhi.
- 9. Thickness of Alluvium overburden over Bedrock.
- 10. Monitoring wells showing seasonal fluctuation in water level.
- 11. Monitoring wells showing annual fluctuation in water level.
- 12. Monitoring wells showing fluctuation in water level comparing Decadal Mean.

1. INTRODUCTION

The State Unit Office of Central Ground Water Board Delhi has jurisdiction over the National Capital Territory (NCT) of Delhi, covering an area of 1483 Sq.km and lies between 28°24'15" & 28°53'00" North Latitudes and 76°50'24" & 77°20'30" East Longitudes, covered under Survey of India Toposheet Nos. 53D and 53H. The NCT of Delhi is surrounded on three sides by two States, i.e., on North, West and South by Haryana and in the East across the river Yamuna by Uttar Pradesh.

1.1 Administrative Setup of NCTDelhi

NCT of Delhi is divided in 11 Revenue District and one non-revenue unit along river Yamuna, named as *Nazul Land*. Each district is headed by District Magistrate and assisted by 1 Additional District Magistrate &3 Sub Divisional Magistrates. The District Administration in Delhi is the *de-facto* enforcement department for all kinds of Government Policies and exercises supervisory powers over numerous other functionaries of the Government of NCT, Delhi. As per District Census Hand Book, 11 districts of NCT of Delhi are further subdivided into 3 Tehsils for each district and there are total 33 Tehsils, with 112 villages, 110 Census Town and 3 Statutory Towns. Administrative map of NCT of Delhi is shown in Fig. 1 and list of districts, tehsils is presented in table 1 and detailed list of urban / rural areas given in annexure I.



S. No.	District Name	Tehsil Name				
		CIVIL LINES				
1	CENTRAL	KOTWALI				
		KAROL BAGH				
		GANDHI NAGAR				
2	EAST	MAYUR VIHAR				
		PREET VIHAR				
		CHANAKYA PURI				
3	NEW DELHI	DELHI CANTONMENT				
		VASANT VIHAR				
		ALIPUR				
4	NORTH	MODEL TOWN				
		NARELA				
		KARAWAL NAGAR				
5	NORTH EAST	SEELAMPUR				
		YAMUNA VIHAR				
		KHANJHAWALA				
6	NORTH WEST	ROHINI				
		SARASWATI VIHAR				
		SEEMAPURI				
7	SHAHDARA	SHAHDARA				
		VIVEK VIHAR				
		HAUZ KHAS				
8	SOUTH	MEHRAULI				
		SAKET				
		DEFENCE COLONY				
9	SOUTH EAST	KALKA JI				
		SARITA VIHAR				
		DWARKA				
10	SOUTH WEST	KAPASHERA				
		NAJAFGARH				
		PATEL NAGAR				
11	WEST	PUNJAB BAGH				
		RAJOURI GARDEN				
Non-	Revenue Unit Area	NAZUL LAND				

Table 1: Details of Administrative Units - NCT of Delhi

1.2 Population & Land Use

As per Census of India Report 2011total population of NCT of Delhi is 167,87,944 persons. Out of total 1483 sqkm areas, only 25 % constitutes rural areas spread in 112 villages [Annexures I(A)&I(B)], which is sparsely populated having population density of 1135 persons / sqkm, whereas rest 75 % is urban areas spread in 110 Census Towns and 3 Statutory Towns and it is densely populated with population density of 14,698 persons / Sqkm. Details of villages and towns and its area & populations and land use pattern is given in table 2a & 2b respectively.

Population of Delhi has increased at a rate of 2.1% per annum during the decade 2001- 2011. Considering the same growth rate for the present decade, it is estimated that the population of Delhi in 2023 will be about 192lakhs and it would be about 225 lakhs in 2026, 245 lakhs by 2031. In order to evaluate the changes in ground water regime due to ever growing demand for ground water and the increasing numbers of abstraction structures in the city, CGWB has been continuously monitoring the water level variation from its own monitoring network stations spread over the entire area of NCT Delhi.

Table 2a: Area, Population & Det	ails of Towns and Villages: NCT	of Delhi
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Area & Population										
	Total Area: 1483sqkm Tot	al Population 167,87,941persons								
\succ	Urban Area: 1136.5sqkm(75 %) Urban F	opulation: 163,68,899 (98%)								
>	RuralArea: 369.35sqkm(25%) RuralPo	pulation: 4,19,042 (2%)								
	Details of Towns - U	rban Area								
\succ	Statutory Towns :3									
	 New Delhi Municipal Council: Area 42 	2.74 sqkm;Population:2,57,803								
	 DelhiCantonmentBoard : Area 42 	2.97 sqkm;Population: 1,10,351								
	 Delhi Municipal Corporation: Trifurcat 	edinto								
	 North Delhi Municipal Corpo 	ration (NDMC)								
	 South Delhi Municipal Corporation(SDMC) 									
	 East Delhi Municipal Corpora 	tion (EDMC)								
\succ	Census Towns: 110 - (List – Details Annexur	el)								
	DMC & Census Town Area	: 1028 sqkm: Population 160,00,745								
	Details of Villages - F	Rural Area								
\succ	Villages: 112 (List – Details Annexurel)Villag	e Area: 363.35 sqkm: Population 4,19,042								
	Source: De	hi Statistical Handbook-2022: <u>www.delhigovt.nic.in</u>								

Land utilization data for year 2021-22 reveals that out of 1474.8 sqkm areas accounted for Land Records in NCT of Delhi, more than 57 % area is not available for cultivation whereas only 192.25 sqkm is available for cultivation and nearly 435 Sq. km is gross cropped / agriculture areas. Nearly 6% of total area is under forest, covering mostly notified ridge areas and other forest pockets under DDA & government forest land. Break up of land utilization is presented in Table 2b and depicted graphically in Fig.2a Fig 2b.

Table: 2b Utilisation of Land in Delhi (2021-22) Area in Hectares

	Z Area III Hecta	les
Area according to Land use Records (Exclude Fo	147488	
Area not Available for Cultivation	92700	
(a) Land Put to Non-Agriculture Use -	76218	
(b) Barren and Uncultivated Land	16482	
Other Uncultivated Land		11124
(a) Permanent Pasture & Other Grazing Land	61	
(b) Land Use Under Miscellaneous Uses	1170	
(c) Cultivable Waste Land	9893	
Fallow Land		19225
Net Area Sown		29000
Area Sown more than once	18850	
Total Cropped Area	47850	
Area Under Forest		9453
(a) Forest Under DDA	1281	
(b) Notified Ridge Forest	7784	
(c) Other Forest Area	388	

Table: 3 Sources of Irrigation and Irrigated Area 2021-22

Sc	ource	Area Irrigated (in Hectare)			
Ca	Canals		2235		
Т	anks				
	TWs	21477	22465		
wells	Others	988	22465		
Net Are	ea Irrigated		24700		
Area	Irrigated		10050		
N	Лore		10000		
Tha	n Once				

Source: Joint Director of Agriculture, Govt of NCT,

Delhi

Main source for irrigation in NCT of Delhi is groundwater whereas surface water is also available from Trans Yamuna Canal Network. Details about sources of irrigation and areas under irrigation is presented in Table 3.

Source: Joint Director of Agriculture, Govt of NCT of Delhi







1.3 Climate and Rainfall 1.3.1 Climate

The climate of NCT Delhi is mainly influenced by its inland position and the prevalence of air of the continental type during the major part of the year. Extreme dryness with the intensely hot summer and cold winter are the characteristics of the climate. Only during the three-monsoon months July, August, and September does air of oceanic origin penetrate to this state and causes increased humidity, cloudiness and precipitation. The year can broadly be divided into three seasons (Table 4). Data on long-term average climatologic parameters covering monthly maximum / minimum temperature, relative humidity, evaporation and rainfall for NCT of Delhi is given in Table 5 and presented graphically in Fig 3.

Season	Begin	End
Cold/Winter	End of November	Middle of March
Summer	Middle/End of March	End of June
Rainy season	Early July	September

Table 4: Climate Seasons in NCT of Delhi

Month	Max Temp (°C)	Mini Temp (°C)	Relative Humidity (%)	Rainfall (mm) Normal	Rainfall (mm) 2022	Rainy Days	Eto (mm/d)
January	19.2	7	97	14.5	71.82	5	7.1
February	27.7	10.3	95	13.2	17.57	1	10.1
March	33.1	16.8	73	9.9	0	0	17.7
April	37.5	18.7	48	5.5	0.12	0	30.0
May	37.5	23.3	60	9.2	54.64	3	40.0
June	38.3	25.9	65	38.8	22.05	3	33.3
July	36.5	26.4	78	191.6	184.78	11	23.3
August	35.2	26.3	78	197.4	57.76	5	13.3
September	33.2	25.5	88	105.3	160.64	6	14.7
October	33.1	20.5	81	19.3	99.2	2	14.9
November	27.8	11.9	87	2.8	0	0	10.2
December	22.4	8.2	92	4.3	0	0	7.8
Total	-	-	-	611.8	668.58	36	222.4
Average	31 79	18.4	78 5				

Table: 5 Climatological Parameters – NCT of Delhi



1.3.2. Rainfall

The normal rainfall in NCT Delhi is 611.8 mm. The rainfall in NCT Delhi increases from the southwest to the northwest (Fig. 4). About 81% of the annual rainfall is received during the monsoon months July, August and September. The rest of the annual rainfall is received as winter rains and as thunderstorm rain in the pre and post monsoon months. The variation of rainfall from year to year is large.

1.3.3. Rainfall Analysis

Rainfall analysis of 34 years annual rainfall of data and probability analysis data is plotted in figure 5 & 6 and its finding, about probability of occurrence of quantum of rainfall with various probability is presented in Table 6. (Data analyzed for probability graph Annexure II).





Table 6: Rainfall Probability						
Brobability %	Annual Bainfall in					
Probability 76	mm					
10%	922					
20%	840					
30%	778					
40%	718					
50%	664					
60%	618					
70%	562					
80%	520					
90%	476					

A perusal of rainfall data from 1984 to 2021 shows that NCT Delhi received deficient rainfall during last 21 years corresponding to mild to severe drought conditions (Annexure-II). Severe drought with departure of 50 % was experienced in the year 1989. Normal drought, departure 25 to 50 % was experienced during year 1986, 1987, 2002 and recently during 2014. Whereas, Mild drought, departure up to 25 %, was experienced during the year1984,1991,1992,1997,1999,2001,2004to2007,2009,2010,2012and2015to2022.

The probability analysis shows that probability of rainfall exceeding normal rainfall of 611 mm is up to 48 % whereas there are 90% chance that rainfall would limit to 476 mm. Overall, the rainfall in Delhi is highly variable and which in turn affects the natural recharge to ground water from year to year. The effect of climate change is visible since 2019 onwards. The rainfall events are intense & more frequent during monsoon months with less no. of rainy days.

1.3.4. Other Climatic Parameters

> Temperature:

The cold season starts after second week of November when both day and night temperature drop rapidly with the advance of the season. January is the coldest month during which mean daily maximum and minimum temperature varies between 21.3°C to 7.3°C. In the winter months when western disturbances pass over North India, minimum temperatures may sometimes go down to the freezing point of water. From about the middle of March, temperature begins to rise rapidly. May and June are the hottest months. While day temperature is higher in May the nights are warmer in June. From April the hot wind known locally as '*loo'* blows and the weather is unpleasant. In May and June maximum temperature may sometimes reach 46 or 47°C. With the advance of the monsoon

into the area towards the end of June or the beginning of July day temperatures drop appreciably while the night temperatures remain high. In October the day temperatures are as in the monsoon months, but the nights are cooler.

➤ Humidity:

The air over Delhi is dry during the greater part of the year. Humidity is high in the monsoon months. April and May are the driest months with relative humidity of about 30% in the morning and less than 20% in the afternoons.

> Cloudiness:

During the monsoon especially in July and August skies are heavily clouded and often overcast. In the rest of the year skies are clear or lightly clouded. But in the months January, February and early March skies become cloudy by western disturbances.

➤ Winds:

Winds are generally light during the post monsoon and winter months. They strengthen during the summer and monsoon months. Except during the monsoon months, winds are predominantly from a westerly or northwesterly direction and tend to be more northerly in the afternoon. Easterly and southeasterly winds are more common in the monsoon months.

2. GROUND WATER REGIMEMONITORING

Central Ground Water Board is monitoring the ground water regime through the length and breadth of the country since the year 1969 through a network of (National Hydrograph Station) NHS. As on January 2023 a total of 123 NHS which included 102 Piezometers and 21Dug wells were monitored in NCT Delhi. Monitoring of ground water levels is an effort to obtain information on variation in ground water regime in time and space. Systematic and regular monitoring of groundwater levels brings out various information about the changes taking place in the groundwater regime due to change in climate, demography, usage and agriculture pattern and infrastructure development.

2.1. Monitoring Objective and Method

Main objective is to record the response of ground water regime to the natural and artificial conditions of stresses with reference to geology, climate, physiography, land-use pattern and other hydrologic characteristics. The database generated, in forms of reports and maps, are of immense help for regional groundwater flow modeling which serves as a groundwater management tool to provide the necessary advance information to the stakeholders to prepare contingency plans in case of unfavorable groundwater recharge situation. The data also has immense utility in deciding the legal issues arising out of conflicting interests of groundwater users and also form the basis for ground water development and management programme.

2.1.1. Monitoring Stations Status

Central Ground Water Board, as part of its national programme, has established network of observation wells in the NCT of Delhi for monitoring ground water regime. Number of wells monitored during 2022-23 in NCT of Delhi varies from 125 in May 2022 to 123 in January 2023 details of which with district wise breakup and types of wells (dug wells / piezometers etc) is given in Table 7. The distribution of monitoring wells in NCT of Delhi is shown in Fig 7. (Annexure III(A).)

	May-22			Aug-22		Nov-22		Jan-23				
	Dw	Pz	Total	Dw	Pz	Total	Dw	Pz	Total	Dw	Pz	Total
Central	4	2	6	4	3	7	4	3	7	4	3	7
East	0	7	7	0	7	7	0	7	7	0	7	7
New Delhi	5	13	18	5	13	18	5	12	17	5	10	15
North	2	22	24	2	22	24	2	22	24	2	23	25
North East	0	4	4	0	4	4	0	4	4	0	4	4
North West	3	14	17	3	14	17	3	13	16	2	14	16
Shahdara	0	2	2	0	2	2	0	2	2	0	2	2
South	3	5	8	3	5	8	3	5	8	3	5	8
South East	0	12	12	0	12	12	0	14	14	0	12	12
South West	4	11	15	4	11	15	3	11	14	2	12	14
West	3	7	10	3	7	10	3	7	10	3	8	11
Nazul Land*	0	2	2	0	2	2	0	2	2	0	2	2
Total	24	101	125	24	102	126	23	102	125	21	102	123

DW: Dug well & Pz: Piezometer; * Non-Revenue Land Area – Yamuna Flood Plain Area

It is observed that at present district wise distribution of monitoring network stations is highly uneven. Some of these active monitoring stations have become defunct during same AAP largely due to corrosion of well assembly and at some places, destroyed / filled up due to other unavoidable urban development activities. During last two decade, at places, continuous decline in ground water

level is observed. Such condition necessitates more attention and close monitoring at micro level. It is fact that establishing of new Piezometers or identifying new working dug wells in metropolitan city of Delhi is very difficult due to non-availability of space, although Central Ground Water Board is striving to increase the number of monitoring stations in NCT Delhi to have close observation in the diverse hydrogeological domain. To ensure optimum network density of monitoring station for scientific analysis of the dynamics of ground water regime, in exceedingly developing areas of NCT Delhi is most inevitable. CGWB has taken up groundwater exploration programme to drill and construct new piezometers to replace existing defunct piezometers in NCT Delhi from the Annual Action Plan of year 2017-18 onwards. Map showing locations of existing monitoring stations of CGWB is presented in Fig.7.





2.1.2. Distribution of Monitoring Stations

Central Ground Water Board has carried out extensive hydrogeological mapping and groundwater exploration in NCT of Delhi and its surrounding States. The information generated from these studies has helped to figure out the subsurface disposition and inter-relationship of the aquifers spatially and depth wise. This information has enabled to decide grouping of interrelated aquifers into one aquifer system for the purpose of monitoring.

In alluvial areas of NCT of Delhi, number of sand zones constituting individual local aquifers is grouped into major one main aquifer system and piezometers have been installed accordingly. Three distinct potential aquifer groups within the depth of 450 m below ground level, identified and grouped on basis of various hydrogeological mapping and ground water exploration, are as follows:

- 1. Aquifer Group I Down to 65 m below ground level(Un-confined)
- 2. Aquifer Group II- Between 65 to 200 m below ground level (Confined/Semi-Confined)
- 3. Aquifer Group III- Between 200 to >300 m below ground Level(Confined)

Separate piezometers are installed, tapping the two aquifer groups, the first one in the phreatic zone deep enough to accommodate long term fluctuation (i.e. up to 65 m deep) and the other one tapping the middle parts of the aquifer groups II, lying between 65 to 200 m. The Aquifer group III is not being monitored at present.

Similarly, hard rock area of NCT Delhi is being monitored through piezometric nests, which are installed in a single borehole tapping the weathered and fractured aquifers combined. Generally, the depth of the well goes up to 80 mbgl, but in some cases, it goes up to 140 mbgl.

Besides piezometers, many numbers of dug wells, tapping phreatic aquifer zone are included in monitoring network. Over the period, numbers of dug wells are becoming defunct due to lack of their use and maintenance. Still, there are 21 dug wells integrated with monitoring network of NCT Delhi (Fig. 7).

3. HYDROGEOLOGY

Occurrence and movement of groundwater in subsurface aquifer system depends upon topography, geology, climate, water yielding and water bearing properties of subsoils / rocks in the zones of aeration and saturation. The upper surface of the zone of saturation is the Water Table which is measured during water level monitoring. In case of wells penetrating confined aquifers, the water level represents the pressure or Piezometric Head at that point. For effective water level monitoring, it is essential to have a complete understanding of aquifer disposition and geometry in the area before establishing monitoring network.

3.1 Physiography & Drainage

NCT of Delhi represents a mature topography with vast, gently undulatory plains dominated by Yamuna River, low linear ridges and isolated hillocks. Physiography of Delhi is dominated by the Yamuna River, the Aravalli range, and the plains in between formed by alluvium deposits of recent age. The SSW- NNE trending Aravalli Ranges are designated as *Delhi Ridge*, occupy the South-Central part of Delhi and extend up to western bank of Yamuna River near Okhla in the south and Wazirabad in the north-east. Ecologically, the Aravalli Ridge acts as a barrier between the Thar Desert and the plains and slows down the movement of dust and wind from the desert. In NCT Delhi, the ridge area is covered with forests, acts as city's lungs and help maintain its environment. This green belt, a natural forest, has a moderate influence on temperature, besides bestowing other known benefits to the people.



The area towards east of ridge has a gentle slope of 3.5 m/km towards Yamuna. The area towards west of ridge representing Older Alluvial Plain is mostly covered by sand dunes and has a westerly slope. Yamuna River flows across Delhi in a southsoutheasterly direction with vast flood plain, marked by a bluff of 3 to 4 m on either bank. Digital Elevation Model Map of Delhi is presented in Fig. 8. Surface elevation varies from 332 m above mean sea level at the ridge to 62 m above mean sea level at river Yamuna. The low-lying Yamuna flood plains, with an elevation as low as 198 m amsl, provide fertile alluvial soil suitable for agriculture but are prone to recurrent floods.

The Yamuna river flowing in a southernly direction in the eastern part of the NCT of Delhi is the only perennial river in the area besides the number of micro watersheds originating from the quartzite ridge. The drainage on the East of the ridge enters river Yamuna, whereas on the West, it enters natural depressions located in Najafgarh Tehsil of South-West district. The NCT of Delhi can be

divided into seven sub basins, ultimately discharging into the Yamuna (Fig. 9), namely (I) The Najafgarh Drain is about 39 Km long, flows North-Easterly and joins Yamuna River at Wazirabad in North Delhi. (ii) Supplementary drain, (iii) Barapullah drain (iv) Wild life sanctuary area, (v) Drainage of Shahadra area, (vi) Bawana drain basin, (vii) Other drains directly out falling into river Yamuna on right bank. Swamp areas are common along the flood plains of Yamuna.



3.2 Geomorphology

The ground water availability in NCT of Delhi indirectly relates with its distinct landform units, which in turn represent underlying intrinsic geological features. Map showing these landforms of NCT of Delhi are presented in Fig. 10. All these landforms of NCT, Delhi can be grouped into three broad geomorphic units: namely Rocky surface, Older Alluvial Plain and Flood Plain of Yamuna River.

Rocky Surface: The rocky surface represents structurally controlled relict linear ridges and isolated hillocks comprising of rocks of Delhi Supergroup. This distinct landform comprising of isolated hills is most prominent in the South- and South-Central parts, extends from Mahipalpur to Wazirabad in the north. Towards south of Mahipalpur the ridge gets bifurcated, one arm extends towards Mandi and further south while the other arm takes a turn towards southeast and extends upto Tughlakabad-Greater Kailash-Nehru Place and Okhla. It attains a maximum elevation of 362 m amsl which gradually diminishes towards north where rocks are exposed on the western bank of Yamuna near Wazirabad.

Older Alluvial Plain: The gently undulating terrain on either side of the rocky surface is described as Older Alluvial Plain. This surface is separated from the Yamuna Flood Plain by a bluff. Depending upon

the morphological expressions / features, this unit is further divided into different subunits: namely, (i) Najafgarh Older Alluvial Plain, (ii) Delhi Older Alluvial Plain and (iii) Maidan Garhi Plain. Najafgarh Older Alluvial Plain occupying western and southwestern part of the region is partly covered by sand dunes and sandy sheets. The gently sloping surface including the covered pediment along the eastern flank of the ridge represents the Delhi Older Alluvial Plain. Maidan Garhi Plain is a relatively higher plain surface and forms part of Chhatarpur Basin. A narrow zone of badland has formed mostly along the western margins of structural ridges due to intense development of gullies and rills.

Flood Plain of river Yamuna: The low-lying flat surface representing the Flood Plain of river Yamuna occupying northern, northeastern and eastern parts of the NCT is an important geomorphic unit. North of Narela, the width of flood plain varies from 15 to 17 km. The wider Older Yamuna flood plain indicates lateral migration of river Yamuna over large areas. This belt has good potential for ground water development. It forms the erosional terrace. The Yamuna Active Flood Plain represents the wide belt bounded on both the sides by Eastern and Western bunds and is naturally prone to annual / periodic floods being in the flood way and flood fringe zone of river Yamuna. It forms depositional terrace and is characterized by abandoned channels, cut-off meanders, meander scrolls, point bars and channel bars. Presence of number of cut- off meanders in the Yamuna Flood Plain suggests oscillatory shifting of river. The lakes near Bhalsawa, Kondli and Khichdipur are remnants of large meanders.



3.3 Geology

The rock formations exposed in the National Capital Territory of Delhi are mainly quartzite interbedded with thin bands of micaceous schist. These Proterozoic age rocks occur along the ridge, extending from Harchandpur (Haryana) in the South to Wazirabad (Delhi) in the North. Quaternary sediments consisting alluvium deposit directly overlie the Proterozoic rocks. Systematic geological and geomorphologic studies carried out by the Geologists of Geological Survey of India has revealed three Stratigraphic horizons and underlying three distinct lithostratigraphic units of NCT Delhi. The highest of these is the erosional surface forming the top of denudational hills. The second surface is Older Alluvial plain and the third is depositional Younger Alluvial plain (Yamuna). All three lithostratigraphic units corresponding them have undergone changes due to widespread and uncontrolled urban activity over the period. The geological map of Delhi after Kachroo and Bagchi (1999), showing these main units is shown in Fig. 11 and generalized stratigraphy of NCT of Delhi is presented in Table 8.

Alluvium	Newer Alluvium	Unconsolidated, inter-bedded lenses of sand, silt gravel an clay confined to narrow flood plains of Yamuna river and Aeolian deposit of South Delhi.			
	Older Alluvium	Unconsolidated thickness varies upto 300m. Inter-bedded, inter-fingering deposits of sand, clay and kankar, poor to moderately sorted.			
Delhi Super Group	Alwar Quartzite	Well stratified, thick bedded, brown to buff colour, hard and compact, intruded locally by pegmatite and quartz veins inter-bedded with mica schist.			

Table: 8 Generalized Stratigraphic Units of NCT D	Delhi (compiled after GSI Study)
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3.3.1. Alluvium Deposits

In NCT Delhi region, exposures of the oldest lithostratigraphic unit, the Delhi Quartzite ridge acts as main recharge zone to subsurface aquifer system. The Quaternary deposits in the form of aeolian and alluvial deposits constitute the major repository of ground water in the area. In the East of the ridge, the thickness of unconsolidated sediments gradually increases away from the ridge, with the maximum reported thickness being 170 m. In the Southwestern, Western and Northern parts of the area, the thickness of sediments is more than 300 m except at Dhansa where the bedrock has been encountered at 297 m below land surface. In Chhattarpur basin, the maximum thickness of sediments is 116 m. The aeolian deposits of South Delhi are mainly comprised of loam, silty loam and sandy loam. The bedrock is overlain by these deposits. Older alluvial deposits consist mostly of interbedded, lenticular and inter fingering deposits of clay, silt, and sand along with kankar. These deposits are overlain by the newer alluvium, which occurs mostly in the flood plains of river Yamuna.

3.3.2. Hard Rock Formation

Quartzite is one of the most physically durable and chemically resistant rocks found in NCT of Delhi. The suits of quartzite and associated mica schist /phyllite bands of Delhi system have undergone multiple folding and different phases of metamorphism. When the mountain ranges are worn down by weathering and erosion, less-resistant and less-durable rocks are destroyed, but the quartzite remains. Therefore Delhi Quartzite is so often the rock found as linear ridges ranges and covering their flanks as a litter of scree. One of the research study on weathering of Proterozoic quartzite in the semi-arid conditions around Delhi suggested that Quartzite being a resistant rock, dissolution of small amount of pyrites presence, by moving water produced a sulphate-bearing acidic solution and ferrous iron which reacted with alumino-silicate minerals and quartz respectively and has made the Delhi Quartzite porous and subsequent friable. The coupled weathering mechanism, from the core outward and also proceeded initially from fractures towards the inside, produced weathering rinds and subsequent physical erosion of loose sand, produced during rind development in the outermost zones, has given rise to features like tors, spheroids, gullies, cavities and small-scale caves on these quartzites. Thus, the terrain has acquired ruggedness in semi-arid conditions.

In one of the studies of GSI, it is reported three generations of folding in the rocks of Delhi. The fold axes of first-generation folds follow the trend of main ridge i.e. NNE-SSW, the second-generation folds trending NE-SW are observed at Tughlaqabad - Mehrauli area, and third generation fold trending NW-SE is observed at Anand Parbat. The rocks are highly jointed and two sets of conjugate vertical to sub-vertical joints have been reported. Another study of GSIhas inferred several faults trending NNE-SSW, NE-SW and WNW-ESE.

3.3.3. Subsurface Aquifer Dispositions

Central Ground Water Board had been engaged in Ground Water Exploration in National Capital Territory of Delhi since its inception in 1972 and till date more than 327 boreholes are drilled out of which 151 are Exploratory Well (EW), 176 are Observation Well (OW) / Piezometers (Pz) / Slim holes. Locations of exploratory boreholes are shown in Fig. 12. All these boreholes were electrically logged to identify granular zones with fresh ground water and other lithological characteristics of subsurface litho units. All these studies have revealed that there is distinct variations in sub surface lithology characteristics and thickness of individual subunits of the main aquifer zone, within the Younger and Older alluvium deposits of NCT Delhi (refer Fig. 11) which make the aquifer geometry of Delhi complicated and complex. Younger Alluvium confined to the flood plains of Yamuna River and also along the courses of major streams, comprises of clay/silt mixed with small mica flakes, and medium to coarse-grained sand and gravel whereas Older Alluvium comprises interbedded and lenticular deposits of clay, silt and sand ranging from very fine to very coarse with occasional kankar. In general, the Younger alluvium, the disposition of different sediments particularly the pervious layer constituting the unconfined aquifer is well delineated in the Yamuna flood plain area while in the

older alluvium, the disposition of different lithological units is not well defined, and they are heterogeneous in nature, making it difficult to identify the deep aquifer zones which are regionally extensive, both vertically and laterally. In the Yamuna flood plain, Younger Alluvium thickness is about 40m thick and underlain with silty clay with kankar whereas the thickness of the Older Alluvium, mainly west of Delhi Ridge is highly variable and is dependent mainly on the configuration of the basement; at Shahbad Mohammadpur near IGI airport the thickness of the older alluvium is 560 meters overlying the bed rock. Whereas in areas underlain by hard rock units, mainly South, South East, Parts of New Delhi and Central district of NCT of Delhi, the aquifers are defined by the presence of fractured zones at different depths. These fractured zones at places are locally well defined but not regionally extensive.



The subsurface configuration of aquifers, in entire NCT of Delhi has been deciphered on basis of available lithological and geophysical logs of exploratory wells drilled by Central Ground Water Board under the Ground Water Exploration Programme. To mark the aquifer geometry, on the basis of

these litholog data, the different sediments i.e. clay, silt, kankar and different grades of sand, and their admixture has been categorized as pervious (silt + kankar + sand) and impervious (mostly clay with some silt + kankar). In the areas underlain by hard rock formation, upper most wreathed regolith and quartzite with fractured zones at different depths and associated mica schist band constitutes unique hard rock aquifer system.

In recent study taken by CGWB under NAQUIM Project, the detailed aquifer geometry on regional scale has been established in the NCT, Delhi. All available information about subsurface aquifer configuration, deciphered on basis lithological and geophysical logs of exploratory wells drilled by Central Ground Water Board under the Ground Water Exploration Programme along with interpreted records of various geophysical studies etc., are integrated to prepare the aquifer map. From the geological sections and fence diagrams prepared, principal aquifers in the area have been delineated by grouping the fine, medium, coarse sand and sand with gravels as sand. Top soil and silty clay or silt at the surface have been grouped together. Weathered and fractured quartzite and the massive quartzite/ bedrock have been grouped together as weathered/ fractured quartzite (Fig.13).



3.3.4. Fresh – Saline Ground Water Interface

Various hydrogeological and groundwater exploration studies in NCT of Delhi by CGWB has revealed that the thickness of fresh water in major part of the State varies from 20 to 40 m It is also observed that no fresh water is available in a few pockets in Narela and Alipur tehsils of North District, Saraswati Vihar tehsil of Northwest district, Punjabi Bagh and Patel Nagar tehsils of West District, Najafgarh tehsil of Southwest district and Kalkaji tehsil of Southeast District. (Fig. 14).

In one of the recent studies undertaken under NAQUIM projects by WAPCOS, the granular zones (the aquifers) with varied resistivity were picked up from the combined interpretations of electrical resistivity (64 inches Normal) and gamma radioactivity logs of the boreholes drilled in the area. It shows that resistivity values greater than 10 ohm m to 50 ohm m represents predominately sand with fresh ground water. Resistivity less than 10 ohm m indicates predominately clay and kankar with saline water. Further lowering of resistivity values to 1 ohm m indicates further deterioration of water quality with depth. Resistivity of the order of 50 to 500 ohm m in hard rock (quartzite) area is represented by weathered/ fractured/ jointed quartzite which forms potential aquifer with potable water. In general, it is clear that fresh water sediments are followed by the saline water sediments in

all over NCT of Delhi. The thickness of fresh water sediments is limited in major parts of NCT, Delhi. The depth to fresh-saline water interface varies from 10 m bgl to 80 m bgl. Ground water quality below fresh saline water interface is saline all through up to the bedrock. At a few locations like Dhansa, Qutabgarh and Bankner, saline ground water is present at a very shallow depth. Panel diagram showing fresh-saline ground water interface in subsurface aquifer system of NCT of Delhi, is presented in Fig. 15.





Perusal of Fig. 15 shows that in the South West district of NCT Delhi, bedrock is encountered at many places i.e. in Dhansa, Samalkha, Kabul lines, Jhuljhuli where fresh/saline water interface also varies greatly in entire area. All along the Najafgarh Drain and two depressions i.e., Gummanhera and Pindwalan Kalan, fresh water layer is somewhat deeper i.e. up to 35 m bgl but rest of the area is

having thin layer of fresh water i.e. up to the depth 25 to 28 m bgl only. In the western parts of the district, the thickness of fresh water zone is limited. At a few locations like Dhansa, the saline ground water is present at a very shallow depth and as we move towards areas in the eastern part of the district, where hard rock is present, the thickness of fresh water aquifers is more, and fresh-saline water interface occurs at deeper depth i.e. generally around 80 to 90 m bgl. At Rajokri, the depth of fresh-saline water interface has been observed to be 150 m bgl.

In West district, the depth of fresh-saline interface varies from 25 to 50 m bgl. The depth of fresh water zone varies from 10 to 45mbgl. The thickness of fresh water aquifers is more at places like Dichaon Kalan and Kakrola and fresh-saline interface is at deeper depths. While in the areas around Janakpuri, Mundka, the saline water is present at shallow depths.

In South district, depth of fresh-saline water interface varies from 75 to 100 mbgl. The thickness of fresh water zone varies from 30 to 85 m. At locations like Gadaipur, Bhatti and Munirka, fresh water aquifers are followed by hard rock (Delhi quartzite). In Southeast district, at places around Madanpur Khadar, the thickness of fresh water zones is limited. Here, fresh water aquifers are followed by saline water zone and bedrock is encountered at depth of around of 300 m.

In North West district, the depth of fresh-saline water interface varies greatly. The thickness of fresh water aquifers is limited in this district. At locations like Auchandi, Qutabgarh&Bankner, the saline water is present at shallower depths. In areas along Yamuna Flood Plain, fresh-saline water interface is at deeper depth i.e., around 40 to 70 m bgl, whereas in rest of the area it is 22 to 40 m. No bedrock has been observed up to the depth of 250 mbgl.

In Northeast district, thickness of fresh water aquifers is more in areas around Yamuna Flood Plain. The depth of fresh-saline water interface in Yamuna Flood Plain ranges between 32 and 50 mbgl whereas in rest of the area, it ranges from 25 to 38 m bgl.

In New Delhi and Central Districts, fresh water sediments are followed by saline water and then by quartzites (Delhi Ridge). In East & Shahdara districts, thickness of fresh water aquifers is more at locations like Kalyanpuri, Kondli and Shakurpur up to 60 mbgl.

3.1.1. Basement Topography

The Pre-Cambrian basement rocks are exposed in form of series of isolated hillocks with different dimension, usually termed as Ridge, trending almost in NNE- SSW direction in NCT of Delhi. Main exposures are Northern Ridge near Delhi University (0.87 Sq. Km), Central Ridge near Dhaula Kuan (8.69 Sq. Km), South Central Ridge near Vasant Kunj (6.26 Sq. Km) and Southern Ridge near Asola (62 Sq. Km). The strike of these rocks varies from north-east and south-west to north north-east and south south-west with steep dips towards east and south-east except for some local variation due to folding.



Central Ground Water Board carried out a regular programme to drill exploratory wells in NCT Delhi

and its surrounding States. So far, in NCT of Delhi alone, nearly 327 wells have been drilled in various parts of Delhi, which covers diverse terrain i.e. Yamuna flood plain, older alluvium area, Chattarpur Enclosed Basin and Delhi Quartzite terrain, for their aquifer evaluation and quality determination of ground water. Moreover, as a short-term basis electrical resistivity survey was also carried out along Najafgarh Drain and along Rajpath (India gate) as well as in different parts of south district. All these has helped to configure extension of basement rock topography, below variable thickness of alluvium, from the land surfaces of exposed ridge in all the stretches in&

around NCT of Delhi. Earlier, during 2000, bed rock configuration map prepared on the basis of subsurface geological data generated from exploratory drilling and supplementary geophysical data input, indicated that the contour of the bed rock up to 200 m almost follows the Ridge alignment indicating the slope of the bed rock to be uniform. As such, taking into consideration of geological and tectonic processes undergone by basement rocks during the Pre-Cambrian and subsequent periods, the basement topography of NCT, Delhi is presumed to be highly uneven with the presence of sub-surface ridges and valleys. A simplified basement topography map, an abridged information derived by all available explorations & survey reports, mainly by using exploratory data of NCT Delhi, reproduced from old report of CGWB is shown in Fig. 16. Taking into account of thickness of alluvium overburden, the area of NCT Delhi has been classified into three zones Viz, A, B, C, which is shown in the Table 9.

Zone	overburden in mbgl	Area of NCT Delhi
Zone A	< 30	Lal Quila, Delhi Gate, Feroz Shah Kotla, Ramlila Ground, Ajmeri Gate, Sadar Bazar, Dhir-pur, Timarpur, Majnu Ka Tilla,
		Gandhi Nagar (Rail Bridge), Nehru Park, Sabji Mandi,
		Chandani Chowk- Sadar Bazar, GreaterKailash-
		Kalkaji, North of Connaught Place & Moti Bagh.
Zone B	30 to 100	Usmanpur, Loni border, Metro rail Depot, Mayur Vihar Phase-
		II (Block BD), Geeta colony, Khajuri Khas, Shakarpur Khas,
		Gadaipur, Jaunapur, Ayanagar, Hauz Khas, Vayusena Bad.
		Jamia Univ. (Okhala), Arvindo Marg, Gulabi Bagh, Trilokpuri,
		Mayur Vihar-Ph-II,Ghazipur, Kondli (Loni Bdr).
Zone C	> 100	Madanpur Khadar, Jagatpur, Jaitpur, West of Najafgarh Nala,
		Kirbi Place, Palam Village, Shastri Nagar, CBD Shahdara,
		Ananda Vihar, Dilshad Garden, Bawana, Nangloi, Tikri Kalan.

Table:9 Thickness of Alluvium overburden over Bed rock

4. GROUND WATER BEHAVIOUR DURING 2022-23

The monitoring of ground water levels has been carried out four times in a year simultaneously throughout the NCT of Delhi during following periods.

- a) May 20th to 30th (water level of pre-monsoon period)
- b) August 20th to 30th (peak monsoon water level)
- c) November 1st to 10th (water levels of post-monsoon period)
- d) January 1st to 10th (the recession stage of water level)

The data is analyzed for each set of measurement, and report prepared which include following maps to understand the groundwater regime in NCT of Delhi.

- a) Depth to water level water level with reference to ground level.
- b) Seasonal fluctuation water level fluctuation in comparison to pre-monsoon.
- c) Annual fluctuation water level fluctuation in comparison to same month in the previous year.
- d) Decadal fluctuation water level fluctuation in the month of measurement with reference to the decadal average for the same month.
- e) Ground Water Flow Net water level with reference to mean sea level.

4.1 Depth to Water Level

The analysis of number of monitoring wells in the different categories of the water levels for all four monitoring periods of year 2022-23 (January, May, August & November) reveals that zone (shallow aquifer) having depth to water level up to 5 meters bgl varies considerably over two monitoring periods which shows that upper zone (shallow aquifer) is actively responding to stresses on ground water system. The changes in water levels in the depth range of 5mbgl to 10mbgl and 10mbgl to 20mbgl and>20 mbgl, during 3 monitoring period as compared to May is not prominent. This may be interpreted as stressed water level conditions suppressing dynamic changes in water levels. Whereas number of monitoring stations showing water level below 40 m remain almost same in all four-monitoring period, indicating very high stressed water conditions in deep aquifers (Hard Rock Aquifer) of NCT Delhi Annexures IV(A,B,C,D).





Monitoring Wells Vs Water Level Depth Range (Pie Chart) Fig:18

4.1.1. May 2022

The Depth to water level recorded in NCT Delhi during **May-2022** ranges from 1.25 mbglat Ranikhera to 66.01 mbgl at Gadaipur. A map showing May 2022 ground water levels in NCT of Delhi is given in Fig. 19 and areas under various depth zones is presented in Fig. 20. Around 16% of NCT Delhi have shallow water level up to 5 m bgl which falls in parts of North West, North, West, South East and South West. Deep water levels of 20mbgl to 66 mbgl is observed in around 17% of NCT Delhi, which falls mainly in South & New Delhi districts &small pockets of South West, North East and West districts. In rest of NCT Delhi i.e. 67% of areas have water level ranging between 5mbgl to 20 mbgl.





4.1.2. August 2022

The Depth to water level recorded in NCT Delhi during **August-2022** ranges from 0.43 mbgl at Rani Khera to 66.51 mbgl at Gadaipur. A map showing August 2022 ground water levels in NCT of Delhi is given in Fig. 21 and areas under various depth zones is presented in Fig. 22. Around 18% of NCT Delhi areas have shallow water level up to 5 m bgl which falls in parts of North, North West, Central, South East and South West districts. Deep water levels of 20 to 66mbgl observed in around 18% of NCT Delhi, which falls in South West, North, North East & East districts. In rest of NCT Delhi, 64 % areas have water level in range of 5 to 20 mbgl.





4.1.3 November 2022

The Depth to water level recorded in NCT Delhi during **November-2022** ranges from 0.62mbgl at Rani Khera to 66.75 mbgl at Gadaipur. A map showing November 2022 ground water levels in NCT of Delhi is given in Fig. 23 and areas under various depth zones presented in Fig. 24. Around 19% of NCT Delhi, which falls in parts of North, North West, Northeast, South East, Central, West and Southwest districts have shallow water level up to 5 m bgl. Deep water levels of 20 to 66mbgl observed in around 17% of NCT Delhi, which falls in South, North East, Shahdara, West, New Delhi & South West districts. In rest of NCT Delhi, 64 % areas have water level in range of 5 to 20 mbgl.







4.1.4. January 2023

The Depth to water level recorded in NCT Delhi during **January-2023** ranges from 0.96mbgl at Rohini Sector-23to 66.6 mbgl at Gadaipur. A map showing January 2023 ground water levels in NCT of Delhi is given in Fig.25 and areas under various depth zones presented in Fig. 26. Around 18% of NCT Delhi, which falls in parts of North, North West and some small pockets of South East Central & Southwest districts have shallow water level up to 5 m bgl. Deep water levels of 20 to 67 mbgl observed in around 17% of NCT Delhi, which falls in South, South East, New Delhi, West, North, East & South West districts. In rest of NCT Delhi, 65 % areas have water level in range of 5 to 20 m bgl.



Fig. 25



4.2. Seasonal Water Level Fluctuation:2022-23

The seasonal water level fluctuation, i.e. the changes in depth of water levels of August 22, November 22 and January 23 with respect to May 22 water level reveals the effect of subsequent utilization of groundwater for various needs like Industrial, Irrigation, Domestic etc., on overall groundwater regime of the area. Number of wells showing change in groundwater levels in the region over different periods is presented in Fig. 27 (a,b& c) and Table10.





Table: 10 Monitoring Wells Showing Seasonal Fluctuation in Water Level						
Water Level	May 22 -	Aug 22	May 22-Nov 22		May 22 - Jan23	
Fluctuation Range	Rise	Fall	Rise	Fall	Rise	Fall
0 to 2 m	73	36	76	29	61	42
> 2 to 4 m	3	4	4	2	7	2
>4 m	2	1	4	0	4	1
Total	78	41	84	31	72	45

4.2.1. May 2022 to Aug 2022

A perusal of Fig. 27(a) and Table 10 reveals that comparing water levels of May 22 to August22, total 78(66%) of monitoring wells of the NCT Delhi show a rise in water level whereas rest 34% shows declining water level. The extent of rise and fall in water levels is shown in map presented in Fig. 30 and in pie chart (Fig. 31).



Fig. 31



4.2.2. May 2022 to November 2022

A perusal of Fig. 27(b) and Table 10 reveals that comparing water levels of May 22 to November 22, total 84 (73%) of monitoring wells of the NCT Delhi show a rise in water level whereas rest 27 % shows fall in water level. The extent of rise and fall in water levels is shown in map presented in Fig. 32 and in pie chart (Fig. 33).



Fig. 33



4.2.3. May 2022 to Jan 2023

A perusal of Fig. 27c and Table 10 reveals that comparing water levels of May 22 to January 23, total 72 (61%) of monitoring wells of the NCT Delhi show a rise in water level whereas rest 39% shows declining water level. The extent of rise and decline in water levels is shown in map presented in Fig. 28 and in pie chart (Fig.29).



Fig. 29



4.2 Annual Water Level Fluctuation: 2021-2022

Annual Fluctuation in the water levels of the ground water monitoring wells during 2022-23 for different monitoring periods were compared with same period of 2021-22 and wells showing change in groundwater levels over different periods is presented in Fig. 34 (a,b,c & d) and Table 11.



Table: 11 Monitor	able: 11 Monitoring wells showing Annual Fluctuation in Ground Water Level							
WATER LEVEL	MAY 21-	MAY 22	AUG 21- AUG 22		NOV 21-NOV 22		JAN 22-JAN 23	
FLUCTUATION	Rise	Fall	Rise	Fall	Rise	Fall	Rise	Fall
0 to 2 m	48	15	45	30	36	59	35	58
>2 to 4 m	28	0	13	6	5	5	6	8
>4 m	5	2	1	3	1	3	3	2
Total	81	17	59	39	42	67	44	68
TOTAL	98	3	98		109		112	

4.2.1. Annual Fluctuation: May 2021 & May 2022

The fluctuation of water level between May-2021 and May-2022 of NCT Delhi shows that some part of New Delhi district and South district show a considerable rise of >4 m and rise >2-4m in water level whereas most of the state show water level rise between 0 m to 2m. Northeastern part of the state shows mostly fall in water level between 0 m to 2m.Nearly 90% of area of NCT Delhi shows rise in water level while 10 % of area shows fall in water level (Fig. 35)(Fig. 36).Out of all monitoring stations 17% shows fall in water level whereas 83% show rise in water level(Figure: 34(a)).





Fig.36

4.2.2. Annual Fluctuation: August 2021 & August 2022

The variation of water level between August-2021 and August-2022 reveals that 60% of area in NCT Delhi shows rise rest 40% of area shows fall(Fig. 37 & chart Fig. 38).Out of all monitoring stations 60% of wells shows rise in water level whereas 40% of wells shows fall in water level (Fig. 34(b)).







4.2.3. Annual Fluctuation: November 2021 & November 2022

Comparing water level data of November 2021 to November 2022, it is revealed that 39% of monitoring stations show rise in water level. Rest 61% of monitoring stations shows fall in water level. (Fig. 34(c)). Nearly 41% of NCT Delhi areas show rise while 59% of area shows fall (Fig. 39 & Fig. 40).





4.2.4. Annual Fluctuation: January 2022 & January 2023

Comparing water level data of January 2022 to January 2023, it is revealed that 39% monitoring stations shows rise whereas rest 61% of monitoring stations show fall (Fig. 34(d)).Nearly 46% of areas show rise and around 54% of area shows fall (Fig. 41) & (Fig. 42).



Fig. 42



4.3 Long Term Ground Water Scenario

Long-term behavior of water levels was studied by analyzing water level change of decadal mean water levels data of 2012-21 for May, August & November and 2013-22 decade for January month with corresponding water level data of 2022-23. Statistical analysis of numbers of monitoring wells and range of water levels showing decadal change is presented as charts in Fig. 43 (a, b, c & d) and in Table 12. The decadal water level mean data and fluctuation data is given in Annexure III(B) and Annexure V(A), V(B) respectively.



Tal	able:12 monitoring wells showing change in water levels comparing with decadal mean								
	Water Level Fluctuation	DM of May 21&may	y 2012- y 22	DM of A & A	ug 2012-21 Nug 22	DM of Nov 20 2)13-22& Nov 3	DM of Jan 202 23	L3-22& Jan
	Range	Rise	Fall	Rise	Fall	Rise	Fall	Rise	Fall
	0 to 2 m	21	12	18	16	28	13	23	13
	> 2 to 4 m	11	4	13	6	8	3	15	3
	>4 m	12	5	7	6	11	3	14	6
		44	21	38	28	47	19	52	22
	Total	65			66	6	6	74	

Maps showing change in water level scenario over May, August, November and January for year 2022-23 with decadal mean of May, August & November for 2012-21 and January 2013-22 respectively are presented in figure 44, 46, 48 and 50 and pie diagrams showing areas under different ranges of water level change are presented in Fig. 45, 47, 49 and 51 respectively for month corresponding May, August, November and January of 2022-23.

4.3.1. Decadal Fluctuation: (DM of May 2012-21 & May 2022)

Comparing water level data of May-2022 with 10 year mean water level of May (2012 to 2021), the change in water level ranges from -5.99 m to 13.36 m. Nearly 32 % of monitoring wells show fall in water level of May 2022 when comparing decadal mean of May water level of 2012-21, whereas rest 68 % wells show rise in water levels (Fig. 43a). The rise mainly confined to western parts of South-West, West, North West and some parts New Delhi, Central, South, Central and South East (Fig. 44). Chart showing extent of areas having change in rise and fall, computed from map grid, is presented in Fig. 44&45.







4.3.2. Decadal Fluctuation: (DM of August 2012-21& August 2022)

Comparing water level data of August-2022 with 10 year mean water level of August (2012 to 2021), the change in water ranges from –11.19 m to 11.55 m. Nearly 56 % of monitoring wells show rise in water level of August 2022, comparing decadal mean of August water level of 2012-21, whereas rest 44% monitoring wells show fall in water level(fig. 43b).Chart showing extent of areas having change in rise and fall, computed from map grid is presented in Fig. 47.



Fig. 47



4.3.3. Decadal Fluctuation: DM of Nov 2012-21 & Nov 2022

Comparing water level data of November-2022 with 10 year mean water level of November (2012 to 2021), the change in water level ranges from -6.35 m to 11.97 m. Nearly 70% of monitoring wells show in rise of water level of November 2022, comparing decadal mean of November water level of 2012-21, whereas rest 30 % monitoring wells show fall of water level (Fig. 43c). Chart showing extent of areas having change in rise and fall, computed from map grid is presented in Fig. 49.





4.3.4. Decadal Fluctuation: DM of January 2013–22 & January 2023

Comparing water level data of January-2023 with 10 year mean water level of January (2013 to 2022), the change in water level ranges from -6.12m to 16.51 m. Nearly 70% of monitoring wells show rise whereas rest 30% monitoring wells shows fall (Fig. 43d). Chart showing extent of areas having change in rise and fall, computed from map grid, is presented in Fig. 51.



Fig. 51

Fig. 50



4.4 Water Table Scenario

Water table contour map of May 2022 is presented in Fig. 52. The perusal of the map shows that the water table elevation ranges from 175.74m amsl at Mayapuri in Rajouri Garden Tehsil to 261m amsl at Balbir Nagar in Saket tehsil in South part of NCT Delhi. Aravalli Ridge areas is main recharge zones for NCT Delhi. In these areas water table ranges from 210 to 240 m amsl. Closely spaced contours on the eastern side of the ridge indicate steep gradient and high rate of flow of ground water, while widely spaced contours on the western side of the ridge indicate gentle gradient. Two trough of lowest water table observed indicate high development of groundwater; one is around Pushp Vihar in Hauz Khas tehsil and another is in Chanakyapuri tehsil. In remain part of NCT Delhi, water table contour follows general topography of the areas. Yamuna river flood zone shows water table in range of 185 to 200 m amsl. Major parts of Yamuna flood zone in NCT of Delhi, on either bank, water table configuration indicate influent nature on right bank, however left bank area, bordering Uttar Pradesh it shows influent nature.





5.0 Water Levels in Deeper Aquifers in NCT, Delhi

5.1 Depth to Water Level

In NCT of Delhi, five no. of monitoring wells are used to monitor deep aquifer systems for all four monitoring periods of year 2022-23 (May, August, November & January,) (Annexure-IIIA). The monitoring wells are namely 1) Bakoli Deep Pz 2) Lodhi Garden Deep 3) Tiggipur Deep 4) Shikarpur Deep 5) CVD Depot Cant (deep).

5.1.1 May 2022

The depth to water level of deeper aquifers in NCT Delhi during May-2022 was 8.79 mbgl at Bakoli Deep Pz, 8.41 mbgl at Tiggipur deep, 4.67mbgl at Lodhi Garden Deep, 25.94m bgl at CVD Depot Cantt. Deep and 7.43mbgl at Shikarpur Deep.

5.1.2 August 2022

The depth to water level of deeper aquifers in NCT Delhi during August-2022 was 10.17m bgl at Bakoli Deep Pz, 9.05mbgl at Tiggipur deep, 4.70mbgl at Lodhi Garden Deep, 26.44m bgl at CVD Depot Cantt. Deep and 7.36m bgl at Shikarpur Deep.

5.1.3 November 2022

The depth to water level of deeper aquifers in NCT Delhi during November-2022 was 9.05mbgl at Bakoli Deep Pz, 8.62m bgl at Tiggipur deep, 3.91m bgl at Lodhi Garden Deep, 6.33mbgl at Shikarpur Deep and 26.30m bgl at CVD Depot Cant (Deep).

5.1.4 January 2023

The depth to water level of deeper aquifers in NCT Delhi during January-2023 was 9.26m bgl at Bakoli Deep Pz, 7.49mbgl at Tiggipur deep, 3.82m bgl at Lodhi Garden Deep, 6.23m bgl at Shikarpur Deep and 26.54m bgl at CVD Depot Cant (Deep).

5.2 Seasonal Water Level Fluctuation: 2022-23

The seasonal water level fluctuation, i.e. the changes in depth of water levels of August 22, November 22 and January 23 with respect to May 22 water level reveals the effect of subsequent utilization of groundwater for various needs like Industrial, Irrigation, Domestic etc., on overall groundwater regime of the area.

5.2.1 May 2022 to August 2022

The water level fluctuation between May-2022 and August-2022 shows fall of 1.38 m at Bakoli Deep Pz, 0.03m at Lodhi Garden Deep, 0.64m at Tiggipur Deep, 0.50m at CVD Depot Cantt. Deep and rise of 0.07 m at Shikarpur Deep. The analysis for these monitoring stations for all the four monitoring periods reveals that water level varies considerably.

5.2.2 May 2022 to November 2022

The water level fluctuation between May-2022 and Nov-2022 shows fall of 0.26 m at Bakoli Deep Pz, rise of 0.76m at Lodhi Garden Deep, fall of 0.21m at Tiggipur Deep, fall of 0.36m at CVD Depot Cantt. Deep and rise of 1.10 m at Shikarpur Deep. The analysis for these monitoring stations for all the four monitoring periods reveals that water level varies considerably.

5.2.3 May 2022 to January 2023

The water level fluctuation between May-2022 and Jan-2023 shows fall of 0.47 m at Bakoli Deep Pz, rise of 0.85 m at Lodhi Garden Deep, rise of 0.92m at Tiggipur Deep,1.20m at Shikarpur Deep and fall of 0.60m at CVD Depot Cantt. Deep.. The analysis for these monitoring stations for all the four monitoring periods reveals that water level varies considerably.

5.3Annual Water Level Fluctuation: 2021-22

Annual Fluctuation in the water levels of the ground water monitoring wells during 2021-22 for different monitoring periods were compared with same period of 2020-21 and wells showing change in groundwater levels over different periods.

5.3.1 Annual Fluctuation: May 2021 & May 2022

The water level fluctuation between May-2021 and May-2022 shows rise of 3.59 m at Bakoli Deep Pz, 1.46m at Lodhi Garden Deep, 1.29m at Shikarpur Deep and 1.45m at Tiggipur Deep. The analysis for these monitoring stations for all the four monitoring periods reveals that water level varies considerably.

5.3.2 Annual Fluctuation: August 2021 & August 2022

The water level fluctuation between August-2021 and August-2021 shows rise of 0.62 m at Bakoli Deep Pz, 0.33m at Lodhi Garden Deep, 0.74m at Shikarpur Deep and 0.13m at Tiggipur Deep. The analysis for these monitoring stations for all the four monitoring periods reveals that water level varies considerably.

5.3.3 Annual Fluctuation: November 2021 & November 2022

The water level fluctuation between November-2021 and November-2022 shows fall of 0.64 m at Bakoli Deep Pz, 0.14m at Lodhi Garden Deep, rise of 0.37m at Shikarpur Deep, fall of 1.32m at CVD Depot Deep andfall of 0.86m at Tiggipur Deep. The analysis for these monitoring stations for all the four monitoring periods reveals that water level varies considerably.

5.3.4 Annual Fluctuation: January 2022 & January 2023

The water level fluctuation between January-2022 and January-2023 shows fall of 0.83 m at Bakoli Deep Pz, 1.74m at CVD Depot Cantt. Deep, rise of 0.27m at Lodhi Garden Deep, 1.15m at Shikarpur Deep and rise of 0.40m at Tiggipur Deep. The analysis for these monitoring stations for all the four monitoring periods reveals that water level varies considerably.

5.4 Long Term Ground Water Scenario

Long-term behavior of water levels was studied by analyzing water level change of decadal mean water levels data of 2011-20 for May, August & November and 2012-21 decade for January month with corresponding water level data of 2021-22 (Annexure-IIIB).

5.4.1 Decadal Fluctuation: (DM of May-2012-21 & May 2022)

Comparing water level data of May-2022 with 10 year mean water level of May (2012 to 2021) shows rise of 3.63m at Lodhi Garden Deep, 3.17m at Shikarpur Deep and rise of 2.24m at Bakoli Deep, 0.89m at Tiggipur Deep, fall of 2.38m at CVD Depot Cantt. Deep.

5.4.2 Decadal Fluctuation: (DM of Aug-2012-21 & Aug-2022)

Comparing water level data of August-2022 with 10 year mean water level of August (2012 to 2021) shows rise of 3.04m at Lodhi Garden Deep, 3.53m at Shikarpur Deep, 2.18m at Bakoli Deep and 0.52m at Tiggipur Deep and Fall of 3.13m at CVD Depot Deep Cantt.

5.4.3 Decadal Fluctuation: (DM of Nov-2012-21 & Nov- 2022)

Comparing water level data of November-2022 with 10 year mean water level of November (2012 to 2021) shows rise of 3.72m at Lodhi Garden Deep, 3.82m at Shikarpur Deep, 1.75m at Bakoli Deep, 0.24m at Tiggipur Deep and fall of 3.85m at CVD Depot Cant..

5.4.4 Decadal Fluctuation: (DM of January-2013-22 & January- 2023)

Comparing water level data of January-2023 with 10 year mean water level of January (2013 to 2022) shows rise of 3.53m at Lodhi Garden Deep, 3.63m at Shikarpur Deep, rise of 1.32m at Bakoli Deep, rise of 1.26m at Tiggipur Deep and fall of 2.52m at CVD Depot Cant..

ANNEXURE IA: LIST OF CENSUS TOWNS - NCT OF DELHI

District	Tehsil	Town Name Name
CENTRAL	Civil Lines	Burari (CT)
CENTRAL	Civil Lines	JharodaMajraBurari (CT)
CENTRAL	Civil Lines	Kamal PurMajraBurari (CT)
CENTRAL	Civil Lines	Mukund Pur (CT)
EAST	Gandhi Nagar	ShakarPurBaramad (CT)
EAST	Mayur Vihar	ChillaSarodaBangar (CT)
EAST	Mayur Vihar	ChillaSaroda Khadar (CT)
EAST	Mayur Vihar	Dallo Pura (CT)
EAST	Mayur Vihar	Gharoli (CT)
EAST	Mayur Vihar	GharondaNeemkaBangar alias Patpar Ganj (CT)
EAST	Mayur Vihar	Kondli (CT)
NEW DELHI	Delhi Cantonment	Moradabad Pahari (CT)
NEW DELHI	VasanatVihar	Ghitorni (CT)
NEW DELHI	VasanatVihar	Kusum Pur (CT)
NEW DELHI	VasanatVihar	Malik PurKohi alias Rang Puri (CT)
NEW DELHI	VasanatVihar	Rajokri (CT)
NEW DELHI	VasanatVihar	Sambhalka (CT)
NORTH	Alipur	Ali Pur (CT)
NORTH	Alipur	Bakhtawar Pur (CT)
NORTH	Alipur	Bankauli (CT)
NORTH	Alipur	Ibrahim Pur (CT)
NORTH	Alipur	Khera Kalan (CT)
NORTH	Alipur	LibasPur (CT)
NORTH	Alipur	MukhmelPur (CT)
NORTH	Alipur	Qadi Pur (CT)
NORTH	Alipur	Sahibabad DaulatPur (CT)
NORTH	Alipur	SirasPur (CT)
NORTH	Model Town	Bhalswa Jahangir Pur (CT)
NORTH	Narela	Bankaner (CT)
NORTH	Narela	Barwala (CT)
NORTH	Narela	Bawana (CT)
NORTH	Narela	BhorGarh (CT)
NORTH	Narela	Darya Pur Kalan (CT)
NORTH	Narela	Khera Khurd (CT)
NORTH	Narela	PehladPurBangar (CT)
NORTH	Narela	POOTH KHURD
NORTH	Narela	Tikri Khurd (CT)
NORTH EAST	Karwal Nagar	Baqiabad (CT)
NORTH EAST	Karwal Nagar	JiwanPur alias Johri Pur (CT)
NORTH EAST	Karwal Nagar	Karawal Nagar (CT)
NORTH EAST	Karwal Nagar	Sadat PurGujran (CT)
NORTH EAST	SeelamPur	DayalPur (CT)
NORTH EAST	SeelamPur	Khajoori Khas (CT)
NORTH EAST	SeelamPur	Khan PurDhani (CT)
NORTH EAST	SeelamPur	Mir Pur Turk (CT)
NORTH EAST	SeelamPur	TukhmirPur (CT)
NORTH EAST	Yamuna Vihar	GokalPur (CT)
NORTH EAST	Yamuna Vihar	Mustafabad (CT)
NORTH EAST	Yamuna Vihar	Ziauddin Pur (CT)
NORTH WEST	Kanjhawala	Gheora (CT)
NORTH WEST	Kanjhawala	Kanjhawala (CT)
NORTH WEST	Kanjhawala	Karala (CT)
NORTH WEST	Kanjhawala	Lad Pur (CT)
NORTH WEST	Kanjhawala	Mohammad PurMajri (CT)
NORTH WEST	Kanjhawala	Qutab Garh (CT)
	D = h i = i	D D (CT)

District	Tehsil	Town Name Name
SHAHDARA	Seema Puri	Mandoli (CT)
SHAHDARA	Shahdara	Babar Pur (CT)
SHAHDARA	Shahdara	Jaffrabad (CT)
SOUTH	Mehrauli	Aya Nagat (CT)
SOUTH	Mehrauli	Chandan Hola (CT)
SOUTH	Mehrauli	Dera Mandi (CT)
SOUTH	Mehrauli	Eateb Pur Beri (CT)
SOUTH	Mehrauli	lonaPur (CT)
SOUTH	Mehrauli	Sultan Pur (CT)
SOUTH	Calet	
	Saket	Asola (CT)
SOUTH	Saket	Bhati (CI)
SOUTH	Saket	ChhatarPur (CI)
SOUTH	Saket	Deoli (CT)
SOUTH	Saket	Maidan Garhi (CT)
SOUTH	Saket	Neb Sarai (CT)
SOUTH	Saket	Raj Pur Khurd (CT)
SOUTH	Saket	SaidulAzaib (CT)
SOUTH	Saket	Tigri (CT)
SOUTH EAST	Defence Colonv	Saidabad (CT)
SOUTH EAST	, Kalkaii	PulPehlad (CT)
SOUTH FAST	Sarita Vihar	Aali (CT)
SOUTH EAST	Sarita Vihar	laitour (CT)
SOUTH FAST	Sarita Vibar	KotlaMahigiran (CT)
SOUTHEAST	Sarita Villar	Nith - Due (CT)
SOUTH EAST	Sarita Vihar	
SOUTHEAST	Sarita Vinar	Molar Band (CT)
SOUTH EAST	Sarita Vihar	Taj Pul (CT)
SOUTH WEST	Dwarka	NangliSakrawati (CT)
SOUTH WEST	Kapeshera	Chhawla (CT)
SOUTH WEST	Kapeshera	DindarPur (CT)
SOUTH WEST	Kapeshera	Kapas Hera (CT)
SOUTH WEST	Najafgarh	Jaffar Pur Kalan (CT)
SOUTH WEST	Najafgarh	Jharoda Kalan (CT)
SOUTH WEST	Najafgarh	Kair (CT)
SOUTH WEST	Najafgarh	Khera (CT)
SOUTH WEST	Naiafgarh	Mitraon (CT)
SOUTH WEST	Najafgarh	Roshan Pura alias
CONTRACT		
SOUTH WEST	Najatgarn	Ujwa (CI)
WEST	Patel Nagar	Hastsal (CT)
WEST	Patel Nagar	Raja Pur Khurd (CT)
WEST	Punjabi Bagh	Bakkar Wala (CT)
WEST	Punjabi Bagh	Bapraula (CT)
WEST	Punjabi Bagh	Mundaka (CT)
WEST	Punjabi Bagh	NangloiJat (CT)
WEST	Punjabi Bagh	Nilothi (CT)
WEST	Punjabi Bagh	Quammruddin Nagar (CT)
WEST	Puniabi Bagh	ShafiPurRanhola (CT)
WEST	Punjahi Bagh	Tikri Kalan (CT)
WEST	Punjabi Pagh	
NORTH WEST	Rohini	Kirari Suleman Nagar
NORTH WEST	Rohini	Mubarak PurDabas
NORTHANECT	Dohini	(UI) Nithari (CT)
NORTH WEST	RONINI	ivicnari (CT)
NORTH WEST	Kohini	Pooth Kalan (CT)
NORTH WEST	Llohini	Rani Khora (CT)
	ROHIHI	Kalli Kilela (CI)

ANNEXURE IB: LIST OF VILLAGES – NCT OF DELHI

District	Tehsil	Village Name
CENTRAL	Civil Lines	BadarPurMajraBurari
CENTRAL	Civil Lines	Jagat Purilaqa Delhi
CENTRAL	Civil Lines	Jagat Purilaqa Shahdara
		(un-inhabited)
CENTRAL	Civil Lines	Salem PurMajraBurari
EAST	Mayur Vihar	ShamasPur
NORTH	Alipur	Akbar PurMajra
NORTH	Alipur	Bodh PurBijaPur
NORTH	Alipur	Fateh PurJat
NORTH	Alipur	GarhiKhasru
NORTH	Alipur	Hamid Pur
NORTH	Alipur	Hiranki
NORTH	Alipur	Jhangola
NORTH	Alipur	Kham Pur
NORTH	Alipur	Mohd. Pur Ramzan Pur
NORTH	Alipur	Nangli Poona
NORTH	Alipur	Palla
NORTH	Alipur	QullakPur
NORTH	Alipur	Singhola
NORTH	Alipur	Singhu
NORTH	Alipur	SungerPur Delhi
NORTH	Alipur	SungerPur Shahdara (un-
Nonth	Април	inhabited)
NORTH	Alipur	Taj Pur Kalan
	Alipur	Tehri DaulatPur (Un-
NORTH	Апри	inhabited)
NORTH	Alipur	TigiPur
NORTH	Alipur	ZindPur
NORTH	Model Town	ShanjarPur(un-inhabited)
NORTH	Narela	BazidPurThakran
NORTH	Narela	Ghoga
NORTH	Narela	Hareoli
NORTH	Narela	Holambi Kalan
NORTH	Narela	Holambi Khurd
NORTH	Narela	Iradat Nagar alias Naya Bans
NORTH	Narela	KankarKhera
NORTH	Narela	Katewara
NORTH	Narela	Kureni
NORTH	Narela	Lam Pur
NORTH	Narela	MamoorPur
NORTH	Narela	MungeshPur
NORTH	Narela	Ochandi
NORTH	Narela	Pansali
		Raja Pur Kalan (Un-
NORTH	Narela	inhabited)
NORTH	Narela	Sanoth
NORTH	Narela	Shah PurGarhi
NORTH	Narela	Sultan PurDabas
NORTH EAST	Karwal Nagar	BadarPur Khadar
NORTH EAST	Karwal Nagar	Bihari Pur
NORTH EAST	Karwal Nagar	Pur Delhi
NORTH FAST	Karwal Nagar	Pur Shabdara
NORTH FAST	Karwal Nagar	Saba Pur Delhi
NORTH FAST	Karwal Nagar	Saba Pur Shahdara
NORTH EAST	Karwal Nagar	Sadat PurMusalmanan
	a i a	(un-inhabited)
NORTH EAST	SeelamPur	GarhiMendu
NORTH EAST	SeelamPur	Sher Pur
NORTH	Kanihawala	BudhanPur

District	Tehsil	Village Name
NORTH WEST	Kanihawala	Chand Pur
NORTH WEST	Kanihawala	Chatesar
NORTH WEST	Kanihawala	GarhiBindhala
NORTH WEST	Kanihawala	lat Khor
NORTH WEST	Kanihawala	Ionti
NORTH WEST	Kanihawala	Nizam Pur Rashid Pur
NORTH WEST	Kanjhawala	Runiah Khor
NORTH WEST	Kanjhawala	Salah RurMaira
NORTH WEST	Rohini	Madan PurDabas
NORTH WEST	Rohini	Rasool Pur
NORTH WEST	Saraswati\/ibar	Saoda
	Mohrauli	GadaiBur
SOUTH	Sakot	Sathori
SOUTH	Saket	Satuell
	SdKel Kanochora	ShahurPul
SOUTH WEST	Kapeshera	Asdiate un Kilawau Badhassa
SOUTH WEST	Kapeshera	Bauriosra Dania Dur Khurd
SOUTH WEST	Kapeshera	Darya Pur Kituru
SOUTH WEST	Kapeshera	DaulatPur
SOUTH WEST	Kapeshera	Deorala
SOUTH WEST	Kapeshera	Goela Khurd
SOUTH WEST	Kapeshera	Goman Hera
SOUTH WEST	Kapeshera	Hasan Pur
SOUTH WEST	Kapeshera	Jain Pur(Un-inhabited)
SOUTH WEST	Kapeshera	Jhatikra
SOUTH WEST	Kapeshera	KanganHeri
SOUTH WEST	Kapeshera	KharkhariJatmal
SOUTH WEST	Kapeshera	KharkhariRond
SOUTH WEST	Kapeshera	Nanak Heri
SOUTH WEST	Kapeshera	Paprawat
SOUTH WEST	Kapeshera	Pindwala Kalan
SOUTH WEST	Kapeshera	Pindwala Khurd
SOUTH WEST	Kapeshera	Qutab Pur
SOUTH WEST	Kapeshera	Raghu Pur
SOUTH WEST	Kapeshera	Raota
SOUTH WEST	Kapeshera	Rewla Kham Pur
SOUTH WEST	Kapeshera	Salah Pur
SOUTH WEST	Kapeshera	Shikar Pur
SOUTH WEST	Kapeshera	Taj Pur Khurd
SOUTH WEST	Najafgarh	BaqarGarh
SOUTH WEST	Najafgarh	Dhansa
SOUTH WEST	Najafgarh	Dichaon Kalan
SOUTH WEST	Najafgarh	Ghalib Pur
SOUTH WEST	Najafgarh	Isa Pur
SOUTH WEST	Najafgarh	Jhuljhuli
SOUTH WEST	Najafgarh	Kharkhari Nahar
SOUTH WEST	Najafgarh	KheraDabar
SOUTH WEST	Najafgarh	Malik Purzer-Najafgarh
SOUTH WEST	Najafgarh	Mundhela Kalan
SOUTH WEST	Najafgarh	Mundhela Khurd
SOUTH WEST	Najafgarh	Qazi Pur
SOUTH WEST	Najafgarh	SamasPur Khalsa
SOUTH WEST	Najafgarh	Sarang Pur
SOUTH WEST	Najafgarh	Sher Pur Deri
	Najafgarh	SurakhPur
JOUTH WEST		-
SOUTH WEST	Najafgarh	Surera
SOUTH WEST WEST	Najafgarh Punjabi Bagh	Surera Jaffar Pur alias HiranKudna

	l, Departu	re and Cun	nulative De	parture
z Occu	Rainfall	Drought -	NCT of Del	
Year	(mm)	Departure	Departure	Drough
1984	579.2	-0.13	-0.13	Mild
1985	771.6	0.16	0.03	
1986	446.4	-0.33	-0.30	Normal
1007	440.4	-0.35	-0.64	Normal
1000	1025.2	0.53	-0.10	
1900	202.6	-0.54	-0.10	Sovoro
1969	303.0 800.6	-0.34	-0.04	Severe
1990	614.7	0.20	-0.44	Mild
1991	641.6	-0.07	-0.51	
1992	961.0	-0.05	-0.35	IVIIIU
1995	794.6	0.30	-0.23	
1994	784.0 927.6	0.18	-0.07	
1995	074.6	0.23	0.18	
1990	574.0 617.4	0.47	0.04	Mild
1009	017.4	-0.07	0.37	IVIIIU
1990	544.2	0.28	0.80	Mild
2000	808.0	-0.18	0.08	
2000	646.2	-0.03	0.85	Mild
2001	/150 5	-0.03	0.80	Normal
2002	925.9	0.31	0.30	Normai
2003	525.5	-0.20	0.55	Mild
2004	603.3	-0.09	0.75	Mild
2005	618 7	-0.07	0.59	Mild
2000	588.0	-0.12	0.33	Mild
2007	852.8	0.12	0.47	
2009	595.6	-0.10	0.65	Mild
2010	951.9	0.43	1.09	
2011	661.8	0.00	1.08	Mild
2012	559.4	-0.16	0.92	Mild
2013	708.9	0.07	0.99	
2014	440.4	-0.34	0.65	Normal
2015	547.5	-0.18	0.48	Mild
2016	656.1	-0.01	0.46	Mild
2017	512.49	-0.23	0.24	
2018	543.97	-0.18	0.05	
2019	499.44	-0.25	-0.19	
2020	485.4	-0.27	-0.46	
2021	972.34	0.46	0.00	
2022	668.58	0.01	0.01	1

Rank	Probability in %	ARF in decresing
1	2.03	1025.2
2	5.00	974.6
2	3.03 8.08	974.0
3	11.09	025.0
	11.00	925.5
5	14.07	001.4
7	20.06	053.5
/	20.00	052.0
8	23.05	027.0
9	26.05	808.0
10	29.04	0.0U.0
11	32.04	784.0
12	35.03	771.6
13	38.02	708.9
14	41.02	661.8
15	44.01	656.1
16	47.01	646.2
1/	50.00	641.6
18	52.99	618.7
19	55.99	617.4
20	58.98	614.7
21	61.98	603.3
22	64.97	595.6
23	67.96	588.0
24	70.96	579.2
25	73.95	559.4
26	76.95	547.5
27	79.94	544.2
28	82.93	533.7
29	85.93	531.5
30	88.92	459.5
31	91.92	446.4
32	94.91	440.4
33	97.90	434.2
34	100.90	303.6

ANNEXURE IIIA: WATER LEVEL MONITORING DATA(2022-23)

	List of N	HS /Monitoring Station	ons monitore	d during 2022-23, NCT of Delhi (Water lev	el in mbgl)				
District Name	Tehsil Name	Longitude	Latitude	Site_Name	May-22	Aug-22	Nov-22	Jan-23	Pz/DW
South East	KALKAJI	77.2511	28.5539	Aastha Kunj DWLR	5.33	5.27	5.29	NA	Pz
North	ALIPUR	77.1244	28.7981	AlipurGarhiPz	8.94	8.95	8.64	8.62	Pz
South East	KALKAJI	77.2667	28.4958	Asola Pz	49.48	48.59	44.7	44.65	Pz
North	NARELA	76.9972	28.8194	AuchandiPz	2.3	1.58	1.69	2.37	Pz
North	ALIPUR	77.1517	28.8153	Bakoli	8.54	9.34	8.8	8.96	Pz
South	SAKET	77,2078	28,4200	Balbir Nagar DW	23.08	14.81	16	20.86	Dw
East	PREET VIHAR	77.2875	28.6408	Bank Enclave Pz	3.75	3.6	3.08	3.35	Pz
North	NARELA	77.0736	28 8514	BanknerPz	18 55	20.33	19.84	19.86	Pz
West	PUNIABI BAGH	77.0167	28.6500	BanrolaDw	2 57	3.5	3.43	3 63	Dw
North	NARELA	77.0625	28.7583	BarwalaPz	4.86	4 94	5.45	5.05	P ₇
North	NARELA	77.0300	28.7869	Bawana IF Store	8.21	9.08	7.6	8 15	12 D7
North	NADELA	77.0536	20.7002	Powono WTP	10.05	10.76	10.40	11.76	D ₂
North	MODEL TOWN	77.1628	20.0233	Dawaiia w Ir Dholoomo Loho Da	2.72	2.44	2.25	2 21	FZ Da
North	MODEL IOWN	77.1028	26.7304	Blialaswa Lake PZ	49.64	49.04	2.55	2.31	PZ
South N. D. H.	SAKEI	77.2083	28.4278	Bhatti PZ	48.04	48.24	39.17	43.02	PZ
New Delhi	CHANAKYAPURI	//.1986	28.6319	Birla Mandir Dw	5.19	5.89	6.29	6.49	Dw
Central	CIVIL LINES	77.2075	28.7689	Burari Augur Pz	NA	6.6	4.62	4.8	Pz
Central	CIVIL LINES	77.1972	28.7331	Burari DJB Ex.Engg Office Pz	3.35	3.24	3.46	3.56	Pz
Shahdara	SHAHDARA	77.3031	28.6611	CBD Shahdara	14.55	14.32	13.97	14.42	Pz
Central	KOTWALI	77.2358	28.6556	Chandini Chowk DW	6.48	5.82	5.72	4.17	Dw
South West	KAPESHERA	77.0094	28.5464	ChhawlaPz	9.2	7.37	7.52	8.16	Pz
East	MAYUR VIHAR	77.3014	28.5872	Chilla Regulator	10.3	10.27	9.64	9.54	Pz
East	MAYUR VIHAR	77.2986	28.6003	Chilla SarodaPz	9.6	9.62	8.99	8.54	Pz
North	MODEL TOWN	77.1922	28.7244	Coronation Pillar Pz DJB RWTP	3.34	3.1	3.11	3.24	Pz
South West	NAJAFGARH	76.9086	28.5342	Daryapur Khurd Dw	2.3	1.78	1.48	Abandoned	Dw
South West	NAJAFGARH	76.9086	28.5342	Daryapur Khurd PZ	NA	NA	NA	2.13	Pz
South West	KAPESHERA	76.9653	28.5431	DaulatpurPz	10.8	10.69	10.62	10.76	Pz
South East	KALKAJI	77.2414	28.5325	DJB Overhead Tank GK-II Pz	NA	NA	10.08	10.41	Pz
South West	DWARKA	77.0261	28.5856	Dwarka S-16 (TP)	17.86	16.85	14.15	15.15	Pz
South West	DWARKA	77.0508	28.5672	Dwarka Sec-23 DDA Park	15.3	14.39	13.14	14.25	Pz
South West	DWARKA	77.0569	28.5944	Dwarka Sec-5 DDA Park	15.29	14.77	14.15	13.98	Pz
South	MEHRAULI	77.1561	28.4769	GadaipurPz	66.01	66.51	66.75	66.6	Pz
East	PREET VIHAR	77.3181	28.6281	Gazi Pur Crossing	25.87	26.08	26.24	26.14	Pz
South East	KALKAJI	77.2417	28.5408	GK 2	4.12	4.23	Aban	doned	Pz
South East	KALKAJI	77.2381	28.5417	GK 2 Metro Gate No.1	NA	NA	6.49	6.56	Pz
South East	KALKAJI	77.2397	28.5422	GK 2 Metro Gate No.2	NA	NA	6.09	6.29	Pz
South East	KALKAJI KALKAJI	77.2397 77.2389	28.5422 28.5422	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw	NA NA	NA NA	6.09	6.29 6.83	Pz Pz
South East South East	KALKAJI KALKAJI KARAWAL NAGAR	77.2397 77.2389 77 2744	28.5422 28.5422 28.7042	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW	NA NA 25.11	NA NA 28.04	6.09 6.7 28.16	6.29 6.83 26.22	Pz Pz Pz
South East South East North East East	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR	77.2397 77.2389 77.2744 77.2917	28.5422 28.5422 28.7042 28.6422	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Guiarat Vihar Pz	NA NA 25.11	NA NA 28.04	6.09 6.7 28.16 6.27	6.29 6.83 26.22 6.44	Pz Pz Pz Pz
South East South East North East East South East	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI	77.2397 77.2389 77.2744 77.2917 77.2417	28.5422 28.5422 28.7042 28.6422 28.5403	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Guundwara GK-II Pz	NA NA 25.11 6.33 4 08	NA NA 28.04 6.23 3.43	6.09 6.7 28.16 6.27 3.32	6.29 6.83 26.22 6.44 NA	Pz Pz Pz Pz Pz
South East South East North East East South East North	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUP	77.2397 77.2389 77.2744 77.2917 77.2417 77.1469	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaidergurPz	NA NA 25.11 6.33 4.08	NA NA 28.04 6.23 3.43 22.56	6.09 6.7 28.16 6.27 3.32	6.29 6.83 26.22 6.44 NA	Pz Pz Pz Pz Pz Pz
South East South East East South East North	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NAPELA	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Haraeli DW	NA NA 25.11 6.33 4.08 12.8	NA NA 28.04 6.23 3.43 22.56 2.57	6.09 6.7 28.16 6.27 3.32 11.92 2.08	6.29 6.83 26.22 6.44 NA 11.83 2.96	Pz Pz Pz Pz Pz Pz DW
South East South East East South East North North South	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAIIZ KHAS	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083 77.2022	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Harz Khar Pz	NA NA 25.11 6.33 4.08 12.8 3.73 24.7	NA NA 28.04 6.23 3.43 22.56 2.57 24.5	6.09 6.7 28.16 6.27 3.32 11.92 2.08	6.29 6.83 26.22 6.44 NA 11.83 2.96	Pz Pz Pz Pz Pz Pz DW
South East South East East South East North North South	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS DINNAPL PACU	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083 77.2022 76.0042	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453 28.5453	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Uimp Kedro DW	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21	NA NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95	6.29 6.83 26.22 6.44 NA 11.83 2.96 23.2	Pz Pz Pz Pz Pz Pz DW Pz
South East South East East South East North North South West	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH	77.2397 77.2389 77.2744 77.2917 77.2417 77.1469 77.0083 77.2022 76.9942 77.1989	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453 28.6822 28.9011	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.08	NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.22	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.19	6.29 6.83 26.22 6.44 NA 11.83 2.96 23.2 1.95 7.64	Pz Pz Pz Pz Pz DW Pz Dw
South East South East East South East North North South West North	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR	77.2397 77.2389 77.2744 77.2917 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453 28.6822 28.8011 28.5020	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.72	NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.5	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18	6.29 6.83 26.22 6.44 NA 11.83 2.96 23.2 1.95 7.64	Pz Pz Pz Pz Pz DW Pz Dw Pz Dw
South East South East East South East North North South West North New Delhi Centrel	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CHUNTS	77.2397 77.2389 77.2744 77.2917 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2508	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW IERET (Kennik Christ) DW	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 2.21	NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 0.22	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57	6.29 6.83 26.22 6.44 NA 11.83 2.96 23.2 1.95 7.64 4.4	Pz Pz Pz Pz Pz Pz DW Pz Dw Pz Dw
South East South East East South East North North South West North New Delhi Central	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES	77.2397 77.2389 77.2744 77.2917 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2808 77.2808 77.2306	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 25.1	NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 2.23	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1	6.29 6.83 26.22 6.44 NA 2.96 23.2 1.95 7.64 4.4 3.45	Pz Pz Pz Pz Pz Pz DW Pz Dw Pz Dw Dw Dw
South East South East East South East North North South West North New Delhi Central New Delhi	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES VASANT VIHAR	77.2397 77.2389 77.2744 77.2917 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2506	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW J N U Pz (Upstrema)	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4	NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.341	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08	6.29 6.83 26.22 6.44 NA 2.96 23.2 1.95 7.64 4.4 3.45 13.51	Pz Pz Pz Pz Pz DW Pz Dw Pz Dw Dw Pz Dw
South East South East East South East North North South West North New Delhi Central New Delhi Central	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES	77.2397 77.2389 77.2744 77.2917 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2306 77.1569 77.2225	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358 28.7320	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW J N U Pz (Upstream) JagatpurPz 2 Triani California	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51	NA NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 (.24)	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76	6.29 6.83 26.22 6.44 NA 2.96 2.3.2 1.95 7.64 4.4 3.45 13.51 1.62	Pz Pz Pz Pz Pz DW Pz Dw Pz Dw Dw Pz Pz Pz
South East South East East South East North North South West North New Delhi Central New Delhi Central South East	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES KALKAJI	77.2397 77.2389 77.2744 77.2917 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2508 77.2508 77.2506 77.1569 77.2225 77.225	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358 28.7400 28.5328	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW J N U Pz (Upstream) JagatpurPz 2 Jahapana Park	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 10	NA NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 10.34	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76 9.43	6.29 6.83 26.22 6.44 NA 2.96 23.2 1.95 7.64 4.4 3.45 13.51 1.62 9.34	Pz Pz Pz Pz Pz DW Pz Dw Pz Dw Dw Pz Pz Pz Pz
South East South East East South East North North North South West North New Delhi Central New Delhi Central South East South East	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES KALKAJI SARITA VIHAR	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2306 77.1569 77.2225 77.2364 77.3406	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358 28.7400 28.5328 28.7400	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW J N U Pz (Upstream) JagatpurPz 2 Jahapana Park Jaitpur Khadar RD3500 Pz	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 10 9.32	NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 10.34 8.6	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76 9.43 8	6.29 6.83 26.22 6.44 NA 11.83 2.96 23.2 1.95 7.64 4.4 3.45 13.51 1.62 9.34 8.34	Pz Pz Pz Pz Pz Pz DW Pz Dw Pz Dw Pz Pz Pz Pz Pz
South East South East East South East North North North South West North New Delhi Central New Delhi Central South East South East South	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES KALKAJI SARITA VIHAR MEHRAULI	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2306 77.1569 77.2225 77.2364 77.3406 77.1822	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358 28.7400 28.5328 28.7400 28.5328 28.5089 28.5061	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW J N U Pz (Upstream) JagatpurPz 2 Jahapana Park Jaitpur Khadar RD3500 Pz Jamali Kamali DW	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 10 9.32 15.42	NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 10.34 8.6 13.21	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76 9.43 8 13.65	6.29 6.83 26.22 6.44 NA 2.96 23.2 1.95 7.64 4.4 3.45 13.51 1.62 9.34 8.34 13.36	Pz Pz Pz Pz Pz DW Pz Dw Pz Dw Pz Pz Pz Pz Pz Pz Dw
South East South East East South East North South East North North South West North New Delhi Central New Delhi Central South East South East South West	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES KALKAJI SARITA VIHAR MEHRAULI PATEL NAGAR	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2508 77.2306 77.1569 77.2225 77.2364 77.3406 77.1822 77.3406	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358 28.7400 28.5328 28.7400 28.5328 28.5089 28.5061 28.6300	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW J N U Pz (Upstream) JagatpurPz 2 Jahapana Park Jaitpur Khadar RD3500 Pz Jamali Kamali DW Janakpuri Pz	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 10 9.32 15.42 6.99	NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 10.34 8.6 13.21 6.61	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76 9.43 8 13.65 6.38	6.29 6.83 26.22 6.44 NA 2.96 23.2 1.95 7.64 4.4 3.45 13.51 1.62 9.34 8.34 13.36 6.31	Pz Pz Pz Pz DW Pz Pz Dyz Pz
South East South East East South East North South East North North South West North New Delhi Central New Delhi Central South East South East South West South	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES KALKAJI SARITA VIHAR MEHRAULI PATEL NAGAR MEHRAULI	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2306 77.1569 77.2225 77.2364 77.3406 77.1822 77.3406 77.1822 77.0914 77.1500	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358 28.7400 28.5328 28.7400 28.5328 28.5089 28.5061 28.6300 28.4681	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW J N U Pz (Upstream) JagatpurPz 2 Jahapana Park Jaitpur Khadar RD3500 Pz Jamali Kamali DW Janakpuri Pz Jaunapur DJB TW	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 10 9.32 15.42 6.99 41.37	NA NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 10.34 8.6 13.21 6.61 40.96	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76 9.43 8 13.65 6.38 40.07	6.29 6.83 26.22 6.44 NA 2.96 23.2 1.95 7.64 4.4 3.45 13.51 1.62 9.34 8.34 13.36 6.31 4.062	Pz Pz Pz Pz DW Pz
South East South East East South East South East North North South West North New Delhi Central New Delhi Central South East South East South West South West North Newst South Newst South Newst South North News	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES KALKAJI SARITA VIHAR MEHRAULI PATEL NAGAR MEHRAULI KANJHAWALA	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2506 77.1569 77.2225 77.2364 77.3406 77.1822 77.0914 77.1500 76.9667	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358 28.7400 28.5328 28.7400 28.5328 28.5089 28.5061 28.6300 28.4681 28.7528	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW J N U Pz (Upstream) JagatpurPz 2 Jahapana Park Jaitpur Khadar RD3500 Pz Jamali Kamali DW Janakpuri Pz Jaunapur DJB TW Jaunti DW	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 10 9.32 15.42 6.99 41.37 11.66	NA NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 10.34 8.6 13.21 6.61 40.96 11.31	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76 9.43 8 13.65 6.38 40.07 11.07	6.29 6.83 26.22 6.44 NA 2.96 23.2 1.95 7.64 4.4 3.45 13.51 1.62 9.34 8.34 13.36 6.31 40.62 11.06	Pz Pz Pz Pz Dw Dz Dw Pz Pz Dw Pz Dw Pz Dw Pz Dw Pz Dw Pz Dw
South East South East East South East South East North North South West North New Delhi Central New Delhi Central South East South East South West South Nest South Nest South Nest South North Nest South Sou	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES KALKAJI SARITA VIHAR MEHRAULI PATEL NAGAR MEHRAULI KANJHAWALA MEHRAULI	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2508 77.2508 77.2508 77.2306 77.1569 77.2225 77.2364 77.3406 77.1822 77.0914 77.1500 76.9667 77.1894	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358 28.7400 28.5358 28.7400 28.5328 28.5061 28.5000 28.5061 28.6300 28.4681 28.7528 28.4089	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW J N U Pz (Upstream) JagatpurPz 2 Jahapana Park Jaitpur Khadar RD3500 Pz Jamali Kamali DW Janakpuri Pz Jaunapur DJB TW Jaunti DW Jheel Khoh	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 10 9.32 15.42 6.99 41.37 11.66 53.34	NA NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 2.66 2.23 13.41 1.39 10.34 8.6 13.21 6.61 40.96 11.31 52.68	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76 9.43 8 13.65 6.38 40.07 11.07 51.69	6.29 6.83 26.22 6.44 NA 2.96 23.2 1.95 7.64 4.4 3.45 13.51 1.62 9.34 8.34 13.36 6.31 40.62 11.06 55.49	Pz Pz Pz Pz DW Pz DW Pz DW Pz DW Pz Dw Dw Pz Dw Pz Dw Pz Pz Dw Pz Pz Dw Pz Dw Pz Dw Pz Dw Pz Dw Dw Dw Dw Dw
South East South East East South East North North South West North New Delhi Central New Delhi Central South East South East South West South North New Suth North New Delhi Central South East South	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES KALKAJI SARITA VIHAR MEHRAULI PATEL NAGAR MEHRAULI KANJHAWALA MEHRAULI NAJAFGARH	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2508 77.2306 77.1509 77.2225 77.2364 77.3406 77.1822 77.3406 77.1822 77.0914 77.1500 76.9667 77.1894 76.9047	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.7400 28.5358 28.7400 28.5328 28.5089 28.5061 28.6300 28.4681 28.7528 28.4089 28.5361	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW J N U Pz (Upstream) JagatpurPz 2 Jahapana Park Jaitpur Khadar RD3500 Pz Jamali Kamali DW Janakpuri Pz Jaunapur DJB TW Jaunti DW Jheel Khoh JhuljhuliDw	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 10 9.32 15.42 6.99 41.37 11.66 53.34 1.27	NA NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 10.34 8.6 13.21 6.61 40.96 11.31 52.68 0.97	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76 9.43 8 13.65 6.38 40.07 11.07 51.69 2.58	6.29 6.83 26.22 6.44 NA 2.96 23.2 1.95 7.64 4.4 3.45 13.51 1.62 9.34 8.34 13.36 6.31 40.62 11.06 55.49 1.82	Pz Pz Pz Pz DW Pz DW Pz DW Pz Dw Pz Dw Pz Dw Pz Pz Dw Pz Pz Pz Pz Pz Pz Dw Pz Dw
South East South East East South East North North South West North New Delhi Central South East South East South East South West South North West South South East South South East South North West South North West South North New Delhi	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES KALKAJI SARITA VIHAR MEHRAULI PATEL NAGAR MEHRAULI KANJHAWALA MEHRAULI NAJAFGARH DELHI CANTONMENT	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2508 77.2306 77.1569 77.2225 77.2364 77.3406 77.1822 77.3406 77.1822 77.0914 77.1500 76.9667 77.1894 76.9047 77.1275	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358 28.7400 28.5328 28.5089 28.5061 28.6300 28.4681 28.6300 28.4681 28.7528 28.4089 28.5361 28.5361 28.5322	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW J N U Pz (Upstream) JagatpurPz 2 Jahapana Park Jahapana Park Jaipur Khadar RD3500 Pz Jamali Kamali DW Janakpuri Pz Jaunapur DJB TW Jaunti DW Jheel Khoh JhuljhuliDw Kabul Line Pz	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 10 9.32 15.42 6.99 41.37 11.66 53.34 1.27 31.79	NA NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 10.34 8.6 13.21 6.61 40.96 11.31 52.68 0.97 32.37	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.766 9.43 8 13.65 6.38 40.07 11.07 51.69 2.58 31.68	6.29 6.83 26.22 6.44 NA 2.96 23.2 1.95 7.64 4.4 3.45 13.51 1.62 9.34 8.34 13.36 6.31 40.62 11.06 55.49 1.82 31.18	Pz Pz Pz Pz DW Pz Pz Pz Pz Pz Pz Pz Pz Dw Pz Dw Dw Dw Dw Dw Pz Pz Dw Dw Pz Pz Dw Pz Pz Pz Pz Pz Pz Pz Pz
South East South East East South East North North South West North New Delhi Central South East South East South East South West South West South New Delhi New Delhi New Delhi Central South East South New South North Newst South	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES KALKAJI SARITA VIHAR MEHRAULI PATEL NAGAR MEHRAULI KANJHAWALA	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2508 77.2506 77.1569 77.2255 77.2364 77.3406 77.1822 77.3406 77.1822 77.0914 77.1500 76.9667 77.1894 76.9047 77.1275 77.0000	28.5422 28.5422 28.7042 28.6422 28.5403 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358 28.7400 28.5328 28.7400 28.5328 28.5061 28.6300 28.4681 28.7528 28.4089 28.5361 28.5321	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Harcoli DW Hauz Khas Pz Hiran Kudna DW Hirank Village Pz Humayu Tomb DW JSBT (Kasmiri Gate) DW J N U Pz (Upstream) JagatpurPz 2 Jahapana Park Jaunakuri Pz Jaunapur DJB TW Jaunti DW Jheel Khoh JhuljhuliDw Kabul Line Pz KanjhawalaPz	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 10 9.32 15.42 6.99 41.37 11.66 53.34 1.27 31.79 1.46	NA NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 10.34 8.6 13.21 6.61 40.96 11.31 52.68 0.97 32.37 0.83	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76 9.43 8 13.65 6.38 40.07 11.07 51.69 2.58 31.68 Aban	6.29 6.83 26.22 6.44 NA 11.83 2.96 23.2 1.95 7.64 4.4 3.45 13.51 1.62 9.34 8.34 13.36 6.31 40.62 11.06 55.49 1.82 31.18 doned	Pz Pz Pz Pz DW Pz Pz Dw Pz Pz Dw Pz Dw Pz Dw Pz Dw Pz Dw Dw Dw Pz Pz
South East South East East South East North North South West North New Delhi Central New Delhi Central South East South East South East South West South North West North West New Delhi	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES KALKAJI SARITA VIHAR MEHRAULI PATEL NAGAR MEHRAULI KANJHAWALA MEHRAULI NAJAFGARH DELHI CANTONMENT KANJHAWALA	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2508 77.2508 77.2306 77.1569 77.2306 77.1569 77.2325 77.2364 77.3406 77.1821 77.3406 77.1821 77.1800 76.9667 77.1894 76.9047 77.1275 77.0000 77.0864	28.5422 28.5422 28.7042 28.6422 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358 28.7400 28.5328 28.7400 28.5328 28.5061 28.600 28.4681 28.7528 28.4089 28.5361 28.5321 28.5321 28.5321 28.5322 28.7250 28.6525	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Harcoli DW Harcoli DW Hauz Khas Pz Hiran Kudna DW Hirank Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW J N U Pz (Upstream) Jakapana Park Jahapana Park Jaunali Kamali DW Jaunali Kamali DW Jauengur DJB TW Jaunati DW Jheel Khoh JhuljhuliDw Kabul Line Pz KanjhawalaPz Keshopur DJB WTP	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 0 9.32 15.42 6.99 41.37 11.66 53.34 1.27 31.79 1.46	NA NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 10.34 8.6 13.21 6.61 40.96 11.31 52.68 0.97 32.37 0.83 8.68	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76 9.43 8 13.65 6.38 40.07 11.07 51.69 2.58 31.68 Aban 7.94	6.29 6.83 26.22 6.44 NA 11.83 2.96 23.2 1.95 7.64 4.4 3.45 13.51 1.62 9.34 8.34 13.36 6.31 40.62 11.06 55.49 1.82 31.18 doned	Pz Pz Pz Pz DW Dw Dw Pz Pz Dw Dw Pz Pz Pz Pz Pz Pz Pz Pz Pz
South East South East North East East South East North North South West North New Delhi Central New Delhi Central South East South East South East South East South East South West South North West New Delhi North West North West	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES KALKAJI SARITA VIHAR MEHRAULI PATEL NAGAR MEHRAULI KANJHAWALA MEHRAULI KANJHAWALA MEHRAULI KANJHAWALA	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2506 77.1569 77.2506 77.1569 77.2225 77.2364 77.3406 77.1822 77.0340 77.1822 77.1894 77.1500 76.9667 77.1894 76.9047 77.1275 77.0000 77.0864 77.1811	28.5422 28.5422 28.7042 28.6422 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358 28.7400 28.5328 28.7400 28.5328 28.5061 28.6300 28.4681 28.7528 28.4681 28.7528 28.4681 28.7528 28.4681 28.5321 28.5361 28.5325 28.7250 28.525 28.7183	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW J N U Pz (Upstream) JagatpurPz 2 Jahapana Park Jaitpur Khadar RD3500 Pz Jamali Kamali DW Janati DW Janati DW Jael Khoh JhuljhuliDw Kabul Line Pz KanjhawalaPz Keshopur DJB WTP Kewal Park Pz	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 0 9.32 15.42 6.99 41.37 11.66 53.34 1.27 31.79 1.46 8.97 3.44	NA NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 10.34 8.6 13.21 6.61 40.96 11.31 52.68 0.97 32.37 0.83 8.68 3.42	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76 9.43 8 13.65 6.38 40.07 11.07 51.69 2.58 31.68 Aban 7.94 3.41	6.29 6.83 26.22 6.44 NA 11.83 2.96 23.2 1.95 7.64 4.4 3.45 13.51 1.62 9.34 8.34 13.36 6.31 40.62 11.06 55.49 1.82 31.18 Constant	Pz Pz Pz Pz DW Dw Dw Dw Dw Dw Dw Pz Pz Pz Pz Pz Pz Pz Pz
South East South East North East East South East North North South West North New Delhi Central South East South East South East South East South West North North West North South	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES KALKAJI SARITA VIHAR MEHRAULI PATEL NAGAR MEHRAULI NAJAFGARH DELHI CANTONMENT KANJHAWALA PATEL NAGAR	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2508 77.2506 77.1808 77.2506 77.1569 77.2225 77.2364 77.3406 77.1822 77.0914 77.1914 77.1914 76.9667 77.1894 76.9047 77.1275 77.0000 77.0864 77.1811 77.2344	28.5422 28.5422 28.7042 28.6422 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358 28.7400 28.5328 28.7400 28.5328 28.5061 28.6300 28.6300 28.4681 28.7528 28.4681 28.7528 28.4681 28.7528 28.4681 28.53261 28.53561 28.53561 28.55661 28.55661 28.55661 28.55661 28.55661 28.55661 28.55661 28.55661 28.55661 28.556661 2	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Harcoli DW Hauz Khas Pz Hiran Kudna DW Hirank Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW J N U Pz (Upstream) JagatpurPz 2 Jahapana Park Jainali Kamali DW Janali Kamali DW Jaunabur DJB TW Jaunabur DJB TW Jauna Pz Kabul Line Pz KanjhawalaPz Keshopur DJB WTP Kewal Park Pz	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 0 9.32 15.42 6.99 41.37 11.66 53.34 1.27 31.79 1.46 8.97 3.44 2.26	NA NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 10.34 8.6 13.21 6.61 1.31 52.68 0.97 32.37 0.83 8.68 3.42 1.73	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76 9.43 8 13.65 6.38 40.07 11.07 51.69 2.58 31.68 Abar 7.94 3.41 1.95	6.29 6.83 26.22 6.44 NA 11.83 2.96 23.2 1.95 7.64 4.4 3.45 13.51 1.62 9.34 8.34 13.36 6.31 40.62 11.06 55.49 1.82 31.18 doned 8.1 3.53 2.08	Pz Pz Pz Pz Dw Pz Pz Dw Pz Dw
South East South East East South East North North South West North New Delhi Central South East South East South West South West South North New Delhi North West South North West South North West South North Vest North Central New Delhi North Vest West North Central New Delhi North Central New South North Central New St South North Central North	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES KALKAJI SARITA VIHAR MEHRAULI PATEL NAGAR MEHRAULI NAJAFGARH DELHI CANTONMENT KANJHAWALA PATEL NAGAR MODEL TOWN CIVIL LINES ALIPUR	77.2397 77.2389 77.2744 77.2917 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2508 77.2306 77.1569 77.2306 77.1569 77.2225 77.2364 77.3406 77.1822 77.0914 77.1500 76.9667 77.1894 76.9047 77.1275 77.0000 77.0864 77.1811 77.2344 77.1181	28.5422 28.5422 28.7042 28.6422 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358 28.7400 28.5328 28.7400 28.5328 28.5089 28.5061 28.6300 28.4681 28.7528 28.4089 28.5361 28.7528 28.7528 28.7528 28.7528 28.7528 28.7528 28.7528 28.7528 28.7528 28.7528 28.7529 28.7520 28.6544 28.7694	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW J N U Pz (Upstream) JagatpurPz 2 Jahapana Park Jaitpur Khadar RD3500 Pz Jamali Kamali DW Janati Kamali DW Janati DW Jaunati DW Jaunati DW Jaunati DW Jaheel Khoh JhuljhuliDw Kabul Line Pz KanjhawalaPz Keshopur DJB WTP Kewal Park Pz Khela Ghat Bhela road Khera Kalan Pz	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 10 9.32 15.42 6.99 41.37 11.66 53.34 1.27 31.79 1.46 8.97 3.44 2.26 11.67	NA NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 10.34 8.6 13.21 6.61 40.96 11.31 52.68 0.97 32.37 0.83 8.68 3.42 1.73 12.73	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76 9.43 8 13.65 6.38 40.07 11.07 2.58 31.68 Aban 7.94 3.41 1.95	6.29 6.83 26.22 6.44 NA 2.96 2.3.2 1.95 7.64 4.4 3.45 1.3.51 1.62 9.34 8.34 1.3.61 1.62 9.34 8.34 1.3.61 1.62 9.34 1.3.61 1.62 1.106 55.49 1.82 3.1.18 doned 8.1 3.53 2.08	Pz Pz Pz Pz Dw Dw Dw Dw Dw Pz Pz Dw Dw Pz Pz Dw Pz Pz Dw Pz Dw Pz Pz
South East South East East South East North North South West North New Delhi Central South East South East South West South West South North West South North West South North West South North West North Central New Delhi North East North East North East	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CHANAKYAPURI CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES KALKAJI SARITA VIHAR MEHRAULI PATEL NAGAR MEHRAULI NAJAFGARH DELHI CANTONMENT KANJHAWALA PATEL NAGAR MEHRAULI NAJAFGARH DELHI CANTONMENT KANJHAWALA PATEL NAGAR	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2508 77.2306 77.1569 77.2255 77.2364 77.3406 77.1822 77.0914 77.1914 77.1500 76.9667 77.1894 76.9047 77.1275 77.0000 77.0864 77.1811 77.2344 77.1181	28.5422 28.5422 28.7042 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358 28.7400 28.5358 28.7400 28.5328 28.5089 28.5061 28.6300 28.4681 28.7528 28.4089 28.5361 28.532 28.7408 28.5361 28.7528 28.4089 28.5361 28.7528 28.7250 28.7520 28.7250 28.7529 28.7250 28.7654 28.7694 28.6106	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW J N U Pz (Upstream) JagatpurPz 2 Jahapana Park Jaitpur Khadar RD3500 Pz Jamali Kamali DW Janati Kamali DW Janati Kamali DW Jaunai DW Jaunai DW Jaunel Khoh JhuljhuliDw Kabul Line Pz KanjhawalaPz Keshopur DJB WTP Kewal Park Pz Khela Ghat Bhela road Khera Kalan Pz Kondli DJB WTP	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 10 9.32 15.42 6.99 41.37 11.66 53.34 1.27 31.79 1.46 8.97 3.44 2.26 11.67	NA NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 10.34 8.6 13.21 6.61 40.96 11.31 52.68 0.97 32.37 0.83 8.68 3.42 1.73 26.75	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76 9.43 13.65 6.38 40.07 11.07 51.69 2.58 31.68 Aban 7.94 3.41 1.95 11.11	6.29 6.83 26.22 6.44 NA 2.96 2.3.2 1.95 7.64 4.4 3.45 1.3.51 1.62 9.34 8.34 1.3.61 1.62 9.34 8.34 1.3.61 1.62 9.34 8.34 1.3.61 1.62 9.34 8.34 1.3.61 1.62 9.34 8.34 1.3.63 1.82 3.1.18 doned 8.1 3.53 2.08 10.89 2.6.14	Pz Pz Pz Pz Dw Dw Dw Dw Dw Dw Dw Dw Pz Pz Pz Dw Dw Pz Pz Pz Pz Pz Pz Pz Pz
South East South East East South East North North South West North New Delhi Central South East South West South West South West South North North Vest South North South South South South South North Central Nort	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CHANAKYAPURI CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES KALKAJI SARITA VIHAR MEHRAULI PATEL NAGAR MEHRAULI NAJAFGARH DELHI CANTONMENT KANJHAWALA MEHRAULI NAJAFGARH DELHI CANTONMENT KANJHAWALA PATEL NAGAR MODEL TOWN CIVIL LINES ALIPUR Mayur Vihar NAZUL LAND	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2508 77.2506 77.1569 77.2306 77.1569 77.225 77.2364 77.3406 77.1822 77.0914 77.1822 77.0914 77.1894 76.9047 77.1894 76.9047 77.1275 77.0000 77.0864 77.1811 77.2344 77.1181	28.5422 28.5422 28.7042 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358 28.7400 28.5358 28.7400 28.5328 28.5061 28.6300 28.4681 28.7528 28.4089 28.5361 28.7528 28.4089 28.5361 28.5922 28.7520 28.6525 28.7183 28.6644 28.7694 28.6106 28.6325	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW J N U Pz (Upstream) JagatpurPz 2 Jahapana Park Jaitpur Khadar RD3500 Pz Jamali Kamali DW Janakpuri Pz Jaunajur DJB TW Jaunti DW Jheel Khoh JhuljhuliDw Kabul Line Pz KanjawalaPz Keshopur DJB WTP Kewal Park Pz Khela Ghat Bhela road Khera Kalan Pz Kondli DJB WTP Lalitha Park (Pz)	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 10 9.32 15.42 6.99 41.37 11.66 53.34 1.27 31.79 1.46 8.97 3.44 2.26 11.67 26.87 6.47	NA NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 10.34 8.6 13.21 6.61 40.96 11.31 52.68 0.97 32.37 0.83 3.42 1.73 12.73 26.75 6.05	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76 9.43 8 13.65 6.38 40.07 11.07 51.69 2.58 31.68 Aban 7.94 3.41 1.95 11.11 26.43 5.45	6.29 6.83 26.22 6.44 NA 11.83 2.96 23.2 1.95 7.64 4.4 3.45 13.51 1.62 9.34 8.34 13.36 6.631 40.62 11.06 55.49 3.138 doned 8.1 3.53 2.08 10.89 26.14 5.35	Pz Pz Pz Pz DW Dw Pz Pz Pz Pz Pz Dw Pz
South East South East East South East North North South West North New Delhi Central South East South East South West South West South North North Vest South Sout	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES VASANT VIHAR CIVIL LINES KALKAJI SARITA VIHAR MEHRAULI PATEL NAGAR MEHRAULI NAJAFGARH DELHI CANTONMENT KANJHAWALA MEHRAULI NAJAFGARH DELHI CANTONMENT KANJHAWALA PATEL NAGAR MODEL TOWN CIVIL LINES ALIPUR MAZUL LAND CHANAKYAPURI	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.1469 77.0083 77.2022 76.9942 77.1808 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2508 77.2508 77.2508 77.2508 77.2508 77.2508 77.2508 77.264 77.1801 77.0914 77.1894 76.9047 77.1894 76.9047 77.1894 76.9047 77.1811 77.2517 77.2017 77.2217 77.2217	28.5422 28.5422 28.7042 28.7289 28.8319 28.5453 28.6822 28.8011 28.5950 28.6722 28.8011 28.5950 28.6722 28.5358 28.7400 28.5328 28.5061 28.6300 28.4681 28.7528 28.4089 28.5361 28.5922 28.7520 28.6525 28.7183 28.6644 28.7694 28.6106 28.6325 28.6903	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hiranki Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW JN U Pz (Upstream) JagatpurPz 2 Jahapana Park Jaitpur Khadar RD3500 Pz Jamali Kamali DW Janakpuri Pz Jaunapur DJB TW Jaunti DW Jheel Khoh JhuljhuliDw Kabul Line Pz KanjhawalaPz Keshopur DJB WTP Kewal Park Pz Khora Kalan Pz Kondli DJB WTP Lalitha Park (Pz) Lodhi Garden.(SH)	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 10 9.32 15.42 6.99 41.37 11.66 53.34 1.27 31.79 1.46 8.97 3.44 2.26 11.67 26.87 6.47 4.54	NA NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 10.34 8.6 13.21 6.61 40.96 11.31 52.68 0.97 32.37 0.83 8.68 3.42 1.73 26.75 6.05 4.55	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76 9.43 8 13.65 6.38 40.07 11.07 51.69 2.58 31.68 Aban 7.94 3.41 1.95 11.11 26.43 5.45 3.7	6.29 6.83 26.22 6.44 NA 11.83 2.96 23.2 1.95 7.64 4.4 3.45 13.51 1.62 9.34 8.34 13.36 6.31 40.62 11.06 55.49 1.82 31.18 doned 8.1 3.53 2.08 10.89 26.14 5.35 3.6	Pz Pz Pz Pz Pz DW Pz DW Pz DW Pz DW Pz Dw Pz Dw Pz Pz Dw Pz Dw Pz Dw Pz Pz Pz Dw Pz Pz Dw Pz Pz Pz Dw Pz Pz
South East South East East South East North North South West North North New Delhi Central South East South East South West South West South North West South North West South North West North North East North Central North East North North North North New Delhi North East North Nort	KALKAJI KALKAJI KARAWAL NAGAR PREET VIHAR KALKAJI ALIPUR NARELA HAUZ KHAS PUNJABI BAGH ALIPUR CHANAKYAPURI CIVIL LINES KALKAJI SARITA VIHAR CIVIL LINES KALKAJI SARITA VIHAR MEHRAULI PATEL NAGAR MEHRAULI NAJAFGARH DELHI CANTONMENT KANJHAWALA PATEL NAGAR MEHRAULI NAJAFGARH DELHI CANTONMENT KANJHAWALA PATEL NAGAR MODEL TOWN CIVIL LINES ALIPUR Mayur Vihar NAZUL LAND CHANAKYAPURI	77.2397 77.2389 77.2744 77.2917 77.2417 77.2417 77.2417 77.2022 76.9942 77.1808 77.2022 76.9942 77.1808 77.2508 77.2508 77.2508 77.2508 77.2506 77.1809 77.2506 77.2306 77.2306 77.2306 77.1822 77.3406 77.1822 77.0914 77.1800 76.9667 77.1894 76.9047 77.1894 76.9047 77.1275 77.0000 77.0864 77.1811 77.2317 77.2164 77.2216	28.5422 28.5422 28.7042 28.7042 28.7289 28.5403 28.7289 28.5453 28.6822 28.8011 28.5950 28.6722 28.5358 28.7400 28.5358 28.7400 28.5358 28.7400 28.5358 28.7400 28.5358 28.7400 28.5358 28.7400 28.5358 28.7400 28.5358 28.7400 28.5358 28.7400 28.5358 28.7400 28.5358 28.7400 28.5358 28.7520 28.5525 28.7183 28.6644 28.6325 28.6325 28.5903 28.5917	GK 2 Metro Gate No.2 GK 2 Metro North Side Tw Gokulpuri EW Gujarat Vihar Pz Gurudwara GK-II Pz HaiderpurPz Hareoli DW Hauz Khas Pz Hiran Kudna DW Hirank Village Pz Humayu Tomb DW ISBT (Kasmiri Gate) DW JSBT (Kasmiri Gate) DW JN U Pz (Upstream) JagatpurPz 2 Jahapana Park Jaitpur Khadar RD3500 Pz Jamali Kamali DW Janakpuri Pz Jaunapur DJB TW Jaunapur DJB TW Jaunti DW Jheel Khoh JhuljhuliDw Kabul Line Pz KanjhawalaPz Keshopur DJB WTP Kewal Park Pz Khela Ghat Bhela road Khera Kalan Pz Kondli DJB WTP Lalitha Park (Pz) Lodhi Garden.(SH) Lodhi Garden Dw	NA NA 25.11 6.33 4.08 12.8 3.73 24.7 2.21 7.98 4.78 3.19 12.4 2.51 10 9.32 15.42 6.99 41.37 11.66 53.34 1.27 31.79 1.46 8.97 3.44 2.26 11.67 26.87 6.47 4.54 7.3	NA NA 28.04 6.23 3.43 22.56 2.57 24.5 1.74 8.32 4.66 2.23 13.41 1.39 10.34 8.6 13.21 6.61 40.96 11.31 52.68 0.97 32.37 0.83 8.68 3.42 1.73 26.75 6.05 4.55 7.39	6.09 6.7 28.16 6.27 3.32 11.92 2.08 23.95 1.99 7.18 7.57 3.1 13.08 1.76 9.43 8 13.65 6.38 40.07 11.07 51.69 2.58 31.68 Aban 7.94 3.41 1.95 11.11 26.43 5.45 3.7 7.13	6.29 6.83 26.22 6.44 NA 11.83 2.96 23.2 1.95 7.64 4.4 3.45 13.51 1.62 9.34 4.4 3.45 13.51 1.62 9.34 4.3 4.4 3.45 13.51 1.62 9.34 8.34 13.36 6.31 40.62 11.06 55.49 1.82 31.18 doned 8.1 3.53 2.08 10.89 10.99 10.99 10.99 10.99 10.99	Pz Pz Pz Pz Pz DW Pz DW Pz DW Pz DW Pz Dw Dw Pz Pz Dw Pz Dw Pz Dw Pz Dw Pz Pz Dw Pyz Pz Pz Dw Pz Pz

District Name	Tehsil Name	Longitude	Latitude	Site_Name	May-22	Aug-22	Nov-22	Jan-23	Pz/DW
New Delhi	CHANAKYAPURI	77.1750	28.6042	Mahabir Vansthali	22.34	21.89	22	22.14	Pz
North West	SARASWATI VIHAR	77.0058	28.7556	Majara Dabas	2.26	2.45	2.61	3.07	Pz
Central	CIVIL LINES	77.2278	28.6958	Majnu Ka Tila DW	14.45	7.69	7.57	7.51	Dw
North West	ROHINI	77.0792	28.6903	MangolpurPz	3.88	3.51	3.38	3.15	Pz
West	RAJOURI GARDEN	77.1111	28.6186	MayapuriPz	35.43	35.38	35.44	35.68	Pz
East	MAYUR VIHAR	77.3044	28.6164	Mayur Vihar B Block Ph II	8.48	8.38	8.17	8.1	Pz
South East	KALKAJI	77.2436	28.5342	M-Block Park GK-II Pz	5.71	5.56	NA	NA 7.00	Pz
South West	NAJAFGARH	76.8933	28.6064	Mundela Kalan Pz	10.16	16.75	16.22	7.99	Pz
South West	NAJAFGARH	77.0006	28.0147	Najargarn Town	10.0	10.75	2.21	15.85	PZ
North	NARELA	77 1344	28.3344	Narela DIB WTP	15 55	17 57	16.9	16.7	P7
New Delhi	CHANAKYAPIRI	77 2100	28.6061	Nehru Park Dw	18.46	18.56	18.23	17.58	Dw
North West	KANJHAWALA	76.9667	28,7194	Nizampur EW	5.49	5.1	5.55	5.31	Pz
North West	KANJHAWALA	76.9636	28.7200	Nizampur Mandir Dw	4.97	4.93	4.8	4.75	Dw
South East	KALKAJI	77.2733	28.5642	Okhla DJB WTP Pz	6.8	6.77	6.61	7.07	Pz
North	ALIPUR	77.2036	28.8225	Palla Temple	8.08	8.18	8.62	8.41	Pz
North	ALIPUR	77.1964	28.8581	Palla Zero RD	9.75	10.46	9.2	9.45	Pz
West	PUNJABI BAGH	77.0933	28.6756	Peeragarhi DW	5.84	5.81	5.89	6.13	Dw
West	PUNJABI BAGH	77.0947	28.6781	PeeragarhiPz	3.69	3.24	3.66	3.86	Pz
West	PATEL NAGAR	77.1622	28.6392	PUSA (NRL) Pz	31.07	30.86	30.71	30.14	Pz
New Delhi	DELHI CANTONMENT	77.1594	28.6319	Pusa Institute (WTC)	24.18	27.38	24.12	38.63	Pz
South	HAUZ KHAS	77.2267	28.5278	Pusp Vihar Pz	39.53	39.52	39.04	38.63	Pz
North	NARELA	77.0333	28.8419	QatlupurDw	3.89	1.64	2.62	3	Dw
North	NARELA	77.0333	28.8419	QatlupurPz	NA	NA	NA	1.73	PZ
North West	SARASWATI VIHAR	76.9647	28.8056	Qutubgarh	4.49	4.19	3.84	4.4	Pz
North West	KOHINI KADEGUEDA	77.0250	28.7069	Rani Khera Dw	1.25	0.43	0.62	1.08	Dw
North West	RAPESHEKA	76.9042	28.5181	RaotaDW PitholoPz Soo5 Pohini	2 70	2.02	2.00	1./1	DW Pa
North West	ROHINI	77.1044	28.7130	Rohini Sec 11 Pz	1.80	3.03	4.97	5.01	P2
North West	ROHINI	77.1044	28.7322	Rohini Sector 23	4.07	4.72	4.94	0.96	P7
North	ALIPUR	77.0950	28 7528	Rohini Sector 28	4 88	5.25	476	5.6	Pz
South East	KALKAJI	77.2475	28.5339	S Block Park GK-II Pz	9.05	8.95	9.24	9,24	Pz
New Delhi	CHANAKYAPURI	77.2125	28.5903	Safdarjung tomb	11.57	11.32	10.81	12.7	Dw
North West	SARASWATI VIHAR	77.1219	28.6911	Sainik Vihar(Pz)	3.14	2.49	2.43	2.36	Pz
North West	ROHINI	77.1525	28.7406	SamaypurBadliPz	8.26	8.36	8.49	8.4	Pz
North West	SARASWATI VIHAR	77.1461	28.6950	Sandesh Vihar Pz	4.41	3.98	4.4	4.66	Pz
North West	SARASWATI VIHAR	77.1419	28.6903	Sanjay Van Pz	3.29	2.97	2.66	2.55	Pz
North West	ROHINI	77.0981	28.7028	Sector 1 Rohini Pz	4.885	3.47	3.47	3.25	Pz
South East	KALKAJI	77.2419	28.5375	Sehgal Market-1 GK-II Pz	2.63	2.41	2.73	2.71	Pz
South East	KALKAJI	77.2408	28.5356	Sehgal Market-2 GK-II Pz	12.19	12.13	12.46	12.45	Pz
New Delhi	CHANAKYAPURI	77.1900	28.5967	Shanti Path American Embassy	23.05	22.93	22.45	22.19	Pz
NAZUL LAND	NAZUL LAND	77.2617	28.6756	Shastri Park (Pz)	6.08	6.53	5.21	5.2	Pz
New Delhi	DELHI CANTONMENT	77.1078	28.5783	Shekhwati Line Pz	51.52	51.03	43.04	NA	Pz
South West	CHANAKYADIDI	76.9533	28.5247	Shikarpur Shallow Pz	7.28	7.22	6.12	6.09	Pz
New Delhi	CHANAKYADIDI	77.2122	28.0130	Shram Shakti Bhawan 2	8.00	7.69	7.15 NA	7.5 NA	PZ Pz
North		77.1294	28.0133	SingholaPz	18	19.07	19.02	19.01	Pz
North	ALIPUR	77.1311	28.8533	Singho Killage Pz	19.2	22.24	19.02	20.28	Pz
North East	KARAWAL NAGAR	77.2486	28.7075	Sonia Vihar DJB WTP	11.52	12.87	11.24	11.68	Pz
North West	ROHINI	77.0356	28.7650	Sultanpur Dabas	4.77	5.06	5.17	5.04	Pz
New Delhi	VASANT VIHAR	77.1458	28.4894	Sultanpur IMS Pz	64.37	62.7	64.74	65.36	Pz
New Delhi	CHANAKYAPURI	77.2450	28.5961	Sunder Nursery Pz	5.33	5.41	5.14	5.31	Pz
South West	NAJAFGARH	76.9322	28.6039	Surheda	10.93	10.84	10.8	11.07	Pz
South West	NAJAFGARH	76.9342	28.6011	SurhedaDw	10.7	10.62	NA	NA	Pz
West	RAJOURI GARDEN	76.9342	28.6011	Tagore Garden	14	14.61	14.26	14.15	Pz
North	ALIPUR	77.1972	28.8147	Tiggipur Shallow Pz	7.05	7.32	6.47	6.74	Pz
West	PUNJABI BAGH	28.62806	77.31806	Tikri Kalan Pz	NA	NA	NA	9.05	Pz
South West	NAJAFGARH	77.1975	28.8147	UjwahPz	10.04	9.96	8.87	9.76	Pz
North East	SEELAM PUR	76.9142	28.5767	UshmanpurPz	5.3	4.01	1.69	2.67	Pz
West	PATEL NAGAR	77.0742	28.6322	VikashpuriPz	8.79	7.72	7.67	7.98	Pz
Shahdara	VIVEK VIHAR	77.3131	28.6708	Vivek Vihar (Pz)	20.11	21.29	21.08	20.91	Pz
North East	ramuna Vihar	77.2872	28.6972	ramuna vinar DJB WTP	20.93	22.87	22.54	23.69	PZ
North			20 01 22	Pakali Doop Pr	0 70	10.17	0.05	0.26	D-7
New Delbi	DEL HI CANTONMENT	77 1111	20.0100	Cyd Depot Cant (Deep)	25.04	26.44	9.05	9.20	Pz Pz
New Delhi	CHANAKYAPIRI	77 2164	28 5903	Lodhi Garden (D)	25.94	20.44 4 7	20.5	3 82	Pz
South West	KAPESHERA	76 9533	28,5244	Shikarpur Deep Pz	7.43	7 36	633	6.23	Pz
North	ALIPUR	77.1128	28.6439	Tiggipur Deep Pz	8.41	9.05	8.62	7.49	Pz

List of NHS/ monitoring Stations monitored during 2013-22 and Decadal Mean														
Decadal Mean Water Level in mbgl Site Name DM (2012-21) May DM(2012-21) Aug DM(2012-21) Nov DM(2013-22) J														
Site_Name	DM (2012-21) May	DM(2012-21) Aug	DM(2012-21) Nov	DM(2013-22) Jan										
AuchandiPz	3.31	1.32	2.06	2.44										
Bakoli	10.96	11.99	10.64	10.31										
Balbir Nagar DW	20.43	21.50	17.57	21.05										
BanknerPz	23.76	13.36	21.41	21.11										
BaprolaDw	4.01	2.55	2.66	3.05										
BarwalaPz	6.10	5.62	5.80	5.76										
Bhalaswa Lake Pz	2.21	1.20	1.76	1.69										
Bhatti Pz	50.88	48.67	46.79	48.54										
Birla Mandir DW	NA	9.79	9.54	10.77										
Burari Augur Pz	12.65	4.14	4.74	4.61										
CBD Shahdara	11.66	11.69	11.86	12										
ChhawlaPz	14.50	13.25	12.85	12.76										
Chilla Regulator	9.51	9.26	9.43	9.3										
Chilla SarodaPz	9.94	9.81	9.81	9.7										
Daryapur Khurd Dw	NA	NA	NA	3.95										
DaulatpurPz	15.23	14.46	14.47	14.97										
Dwarka S-16 (TP)	20.58	20.70	20.94	20.79										
GadaipurPz	60.76	60.13	60.40	60.48										
Gazi Pur Crossing	21.47	21.57	21.07	22.19										
HaiderpurPz	11.65	11.37	11.59	11.38										
Hareoli DW	4.39	3.33	2.78	3.27										
Hauz Khas Pz	33.15	33.02	32.67	32.33										
Hiran Kudna DW	3.11	1.58	2.20	2.38										
Humayu Tomb DW	6.65	6.26	6.93	6.85										
ISBT (Kasmiri Gate) DW	2.89	1.42	2.48	2.87										
JagatpurPz 2	2.47	0.98	1.67	1.16										
Jaitpur Khadar RD3500 Pz	6.95	6.47	6.68	7.32										
Jamali Kamali DW	26.60	24.35	24.53	23.58										
Janakpuri Pz	11.28	10.81	10.89	10.94										
Jaunapur DJB TW	54.73	52.51	52.04	52.75										
Jaunti DW	12.82	12.43	12.51	11.85										
Jheel Khoh	NA	NA	NA	55.14										
JhuljhuliDw	2.29	0.97	2.16	2.03										
Kabul Line Pz	29.10	29.16	29.38	29.12										
KanjhawalaPz	1.84	0.89	NA	NA										
Lodhi Garden.(SH)	8.12	7.51	7.43	7.04										
Lodhi Graden Dw	11.10	11.26	10.03	10.83										
Majara Dabas	3.67	2.41	3.01	3.06										
Majnu Ka Tila DW	9.62	7.58	8.26	8.05										
MangolpurPz	3.17	2.25	2.78	2.9										
MayapuriPz	37.06	36.74	36.99	36.66										

ANNEXURE IIIB: DECADAL MEAN WATER LEVEL DATA

Site_Name	DM (2012-21) May	DM(2012-21) Aug	DM(2012-21) Nov	DM(2013-22) Jan
Mayur Vihar B Block Ph II	8.02	7.94	8.26	8.16
Mundela Kalan Pz	NA	NA	NA	12.08
Najafgarh Town	21.15	21.12	20.72	20.66
NangliRajapurPz	3.87	2.94	3.99	3.45
Nehru Park Dw	27.99	22.40	21.43	21.6
Nizampur EW	7.59	6.90	6.79	7.07
Palla Temple	8.01	6.68	7.41	7.35
Palla Zero RD	9.03	9.55	9.27	8.81
PeeragarhiPz	5.64	4.73	4.77	4.71
PUSA (NRL) Pz	25.63	25.66	26.35	25.81
Pusa Institute (WTC)	22.84	22.71	22.19	55.14
QatlupurPz	NA	NA	NA	1.95
Rani Khera DW	2.47	1.32	1.91	2.07
RaotaDw	NA	NA	1.96	2.09
Rohini Sec 11 Pz	6.49	5.91	6.05	5.92
Rohini Sector 28	6.23	5.43	5.68	5.72
Safdarjung tomb	16.24	14.61	15.44	14.23
Shekhwati Line Pz	45.53	43.29	43.48	NA
Shikarpur Shallow Pz	10.61	10.90	10.06	10.04
Shram Shakti Bhawan 2	12.70	11.83	11.86	11.52
SingholaPz	16.91	16.86	17.42	16.73
Sunder Nursery Pz	7.69	7.22	7.12	7.12
Tagore Garden	NA	NA	NA	12.51
Tiggipur Shallow Pz	7.60	7.42	7.14	7.32
UjwahPz	NA	NA	NA	14.48
UshmanpurPz	5.01	3.07	3.66	4.45
VikashpuriPz	14.17	13.71	13.78	13.38
List of Deeper Aqui	fer NHS/ Monitoring we	lls monitored during 20	12-2022 and Decadal	Mean
Bakoli Deep Pz	11.03	12.35	10.80	10.58
Cvd Depot Cant (Deep)	23.56	23.31	22.45	24.02
Lodhi Garden (D)	8.30	7.74	7.63	7.35
Shikarpur Deep Pz	10.60	11.01	10.15	9.86
Tiggipur Deep Pz	9.30	9.57	8.86	8.75

Ground Water Level Depth Range of Monitoring Stations, NCT Delhi														
							V	Vater Level, I	May-202	2			-	
District Name	Tehsil Name		0-2 m	bgl	>2	-5 mbgl	>5-	10 mbgl	>10	-20 mbgl	>20	-40 mbgl	>40	mbgl
		Total no. monitoring wells	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	Chanakyapuri	12	0	0.0	3	25.0	5	41.7	2	16.7	2	16.7	0	0.0
New Delhi	Delhi Cantonment	4	0	0.0	0	0.0	0	0.0	0	0.0	3	75.0	1	25.0
	Vasant Vihar	2	0	0.0	0	0.0	0	0.0	1	50.0	0	0.0	1	50.0
	Alipur	13	0	0.0	1	7.7	8	61.5	4	30.8	0	0.0	0	0.0
North	Narela	8	0	0.0	4	50.0	1	12.5	3	37.5	0	0.0	0	0.0
	Model Town	3	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0	0	0.0
	Saraswati Vihar	5	0	0.0	5	100.0	0	0.0	0	0.0	0	0.0	0	0.0
North West	Khanjhawala	4	1	25.0	1	25.0	1	25.0	1	25.0	0	0.0	0	0.0
	Rohini	8	2	25.0	5	62.5	1	12.5	0	0.0	0	0.0	0	0.0
	Yamuna Vihar	1	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0
North East	Karawal Nagar	2	0	0.0	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0
	Seelampur	1	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
	Civil Lines	5	0	0.0	4	80.0	0	0.0	1	20.0	0	0.0	0	0.0
Central	Kotwali	1	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
	Karol Bagh	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Mehrauli	4	0	0.0	0	0.0	0	0.0	1	25.0	0	0.0	3	75.0
South	Saket	2	0	0.0	0	0.0	0	0.0	0	0.0	2	100.0	0	0.0
	Hauz Khas	2	0	0.0	0	0.0	0	0.0	0	0.0	1	50.0	1	50.0
	Dwarka	3	0	0.0	0	0.0	0	0.0	3	100.0	0	0.0	0	0.0
South West	Najafgarh	7	1	14.3	1	14.3	0	0.0	5	71.4	0	0.0	0	0.0
	Kapashera	5	1	20.0	0	0.0	3	60.0	1	20.0	0	0.0	0	0.0
	Preet Vihar	3	0	0.0	1	33.3	1	33.3	0	0.0	1	33.3	0	0.0
East	Mayur Vihar	4	0	0.0	0	0.0	2	50.0	1	25.0	1	25.0	0	0.0
	Gandhi Nagar	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Patel Nagar	4	0	0.0	0	0.0	3	75.0	0	0.0	1	25.0	0	0.0
West	Punjabi Bagh	4	0	0.0	3	75.0	1	25.0	0	0.0	0	0.0	0	0.0
	Rajouri Garden	2	0	0.0	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0
	Shahdara	1	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0
Shahdara	Vivek Vihar	1	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0
	Seemapuri	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Defence Colony	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0
South East	Kalkaji	10	0	0.0	3	30.0	5	50.0	1	10.0	0	0.0	1	10.0
	Sarita Vihar	1	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
Nazul Land	2	0	0.0	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0	
Total		125	5 4.0		35	28.0	36	28.8	27	21.6	15	12.0	7	5.6

Annexure IV(A): Ground Water Level Depth Range of Monitoring Stations, May-2022, NCT Delhi

Ground Water Level Depth Range of Monitoring Stations, NCT Delhi Water Level Aug-2022														
								Water L	evel, Aug-2	022				
District Name	Tehsil Name	Total no. monitoring	0-2 r	nbgl	>2-	5 mbgl	>5-10) mbgl	>10-3	20 mbgl	>20-4	0 mbgl	>	40 mbgl
		wells	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	Chanakyapuri	12	0	0.0	3	25.0	5	41.7	2	16.7	2	16.7	0	0.0
New Delhi	Delhi Cantonment	4	0	0.0	0	0.0	0	0.0	0	0.0	3	75.0	1	25.0
	Vasant Vihar	2	0	0.0	0	0.0	0	0.0	1	50.0	0	0.0	1	50.0
	Alipur	13	0	0.0	0	0.0	7	53.8	4	30.8	2	15.4	0	0.0
North	Narela	8	2	25.0	2	25.0	1	12.5	2	25.0	1	12.5	0	0.0
	Model Town	3	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0	0	0.0
	Saraswati Vihar	5	0	0.0	5	100.0	0	0.0	0	0.0	0	0.0	0	0.0
North West	Khanjhawala	4	1	25.0	1	25.0	1	25.0	1	25.0	0	0.0	0	0.0
	Rohini	8	2	25.0	4	50.0	2	25.0	0	0.0	0	0.0	0	0.0
	Yamuna Vihar	1	0	0	0	0	0	0	0	0	1	100.0	0	0.0
North East	Karawal Nagar	2	0	0	0	0	0	0	1	50.0	1	50.0	0	0.0
	Seelampur	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0
	civil Lines	6	2	33.3	2	33.3	2	33.3	0	0.0	0	0.0	0	0.0
Central	Kotwali	1	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
	Karol Bagh	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Mehrauli	4	0	0.0	0	0.0	0	0.0	1	25.0	0	0.0	3	75.0
South	Saket	2	0	0.0	0	0.0	0	0.0	1	50.0	0	0.0	1	50.0
	Hauz Khas	2	0	0.0	0	0.0	0	0.0	0	0.0	2	100.0	0	0.0
	Dwarka	3	0	0.0	0	0.0	0	0.0	3	100.0	0	0.0	0	0.0
South West	Najafgarh	7	2	28.6	0	0.0	2	28.6	3	42.9	0	0.0	0	0.0
	Kapashera	5	1	20.0	0	0.0	3	60.0	1	20.0	0	0.0	0	0.0
	Preet Vihar	3	0	0.0	1	33.3	1	33.3	0	0.0	1	33.3	0	0.0
East	Mayur Vihar	4	0	0.0	0	0.0	2	50.0	1	25.0	1	25.0	0	0.0
	Gandhi Nagar	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Patel Nagar	4	0	0.0	0	0.0	3	75.0	0	0.0	1	25.0	0	0.0
West	Punjabi Bagh	4	1	25.0	2	50.0	1	25.0	0	0.0	0	0.0	0	0.0
	Rajouri Garden	2	0	0.0	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0
	Shahdara	1	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0
Shahdara	Vivek Vihar	1	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0
	Seemapuri	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Defence Colony	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0
South East	Kalkaji	10	0	0.0	3	30.0	4	40.0	2	20.0	0	0.0	1	10.0
	Sarita Vihar	1	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
Nazul Land	Nazul Land	2	0	0.0	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
Total		126	11	8.7	28	22.2	38	30.2	25	19.8	17	13.5	7	5.6

Annexure IV(B): Ground Water Level Depth Range of Monitoring Stations, August-2022, NCT Delhi

Annexure IV(C): Ground Water I	evel Depth Range of	Monitoring Stations, Nover	nber -2022, NCT Delhi
	1 0	0 ,	,

Ground Water Level Depth Range of Monitoring Stations, NCT Delhi														
								Water Le	vel. Nov-20	122				
District Name	Tehsil Name		0-2	2 mbgl	>	2-5 mbgl	>5	-10 mbgl	>1	0-20 mbgl	>2	0-40 mbgl	>40) mbgl
		Total no. monitoring wells	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	Chanakyapuri	11	0	0.0	2	18.2	5	45.5	2	18.2	2	18.2	0	0.0
Now Dolhi	Dolhi Contonmont													
New Delli		4	0	0.0	0	0.0	0	0.0	0	0.0	3	75.0	1	25.0
	Vasant Vihar	2	0	0.0	0	0.0	1	50.0	0	0.0	0	0.0	1	50.0
	Alipur	13	0	0.0	1	7.7	8	61.5	4	30.8	0	0.0	0	0.0
North	Narela	8	1	12.5	2	25.0	2	25.0	3	37.5	0	0.0	0	0.0
	Model Town	3	0	0.0	3	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	SaraswatiVihar	5	0	0.0	5	100.0	0	0.0	0	0.0	0	0.0	0	0.0
North West	Khanjhawala	3	0	0.0	1	33.3	2	66.7	0	0.0	0	0.0	0	0.0
	Rohini	8	2	25.0	4	50.0	2	25.0	0	0.0	0	0.0	0	0.0
	Yamuna Vihar	1	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0
North East	Karawal Nagar	2	0	0.0	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0
	Seelampur	1	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	civil Lines	6	2	33.3	2	33.3	2	33.3	0	0.0	0	0.0	0	0.0
Central	Kotwali	1	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
	Karol Bagh	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Mehrauli	4	0	0.0	0	0.0	0	0.0	1	25.0	0	0.0	3	75.0
South	Saket	2	0	0.0	0	0.0	0	0.0	0	0.0	2	100.0	0	0.0
	Hauz Khas	2	0	0.0	0	0.0	0	0.0	0	0.0	2	100.0	0	0.0
	Dwarka	3	0	0.0	0	0.0	0	0.0	3	100.0	0	0.0	0	0.0
South West	Najafgarh	6	1	16.7	1	16.7	2	33.3	2	33.3	0	0.0	0	0.0
	Kapashera	5	1	20.0	0	0.0	3	60.0	1	20.0	0	0.0	0	0.0
	Preet Vihar	3	0	0.0	1	33.3	1	33.3	0	0.0	1	33.3	0	0.0
East	Mayur Vihar	5	0	0.0	0	0.0	3	60.0	1	20.0	1	20.0	0	0.0
	Gandhi Nagar	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Patel Nagar	4	0	0.0	0	0.0	3	75.0	0	0.0	1	25.0	0	0.0
West	Punjabi Bagh	4	1	25.0	2	50.0	1	25.0	0	0.0	0	0.0	0	0.0
	Rajouri Garden	2	0	0.0	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0
	Shahdara	1	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0
Shahdara	Vivek Vihar	1	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0
	Seemapuri	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Defence Colony	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0
South East	Kalkaji	12	0	0.0	2	16.7	7	58.3	2	16.7	0	0.0	1	8.3
	Sarita Vihar	1	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
Nazul Land	Nazul Land	2	0	0.0	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
Total		126	9	7.1	27	21.4	46	36.5	22	17.5	16	12.7	6	4.8
				54										

Ground Water Level Depth Range of Monitoring Stations, NCT Delhi														
						-		Water Le	evel, Jan-2	3				
District Name	Tehsil Name		0-2	mbgl	>2-	5 mbgl	>5-	10 mbgl	>10	-20 mbgl	>20	-40 mbgl	>40	mbgl
		Total no. monitoring wells	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	Chanakyapuri	11	0	0.0	3	27.3	4	36.4	2	18.2	2	18.2	0	0.0
New Delhi	Delhi Cantonment	2	0	0.0	0	0.0	0	0.0	0	0.0	2	100.0	0	0.0
	Vasant Vihar	2	0	0.0	0	0.0	0	0.0	1	50.0	0	0.0	1	50.0
	Alipur	13	0	0.0	0	0.0	9	69.2	3	23.1	1	7.7	0	0.0
North	Narela	9	1	11.1	3	33.3	2	22.2	3	33.3	0	0.0	0	0.0
	Model Town	3	0	0.0	3	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	SaraswatiVihar	5	0	0.0	5	100.0	0	0.0	0	0.0	0	0.0	0	0.0
North West	Khanjhawala	3	0	0.0	1	33.3	1	33.3	1	33.3	0	0.0	0	0.0
	Rohini	8	2	25.0	3	37.5	3	37.5	0	0.0	0	0.0	0	0.0
	Yamuna Vihar	1	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0
North East	Karawal Nagar	2	0	0.0	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0
	Seelampur	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0
	civil Lines	6	1	16.7	4	66.7	1	16.7	0	0.0	0	0.0	0	0.0
Central	Kotwali	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0
	Karol Bagh	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Mehrauli	4	0	0.0	0	0.0	0	0.0	1	25.0	0	0.0	3	75.0
South	Saket	2	0	0.0	0	0.0	0	0.0	0	0.0	1	50.0	1	50.0
	Hauz Khas	2	0	0.0	0	0.0	0	0.0	0	0.0	2	100.0	0	0.0
	Dwarka	3	0	0.0	0	0.0	0	0.0	3	100.0	0	0.0	0	0.0
South West	Najafgarh	6	1	16.7	1	16.7	2	33.3	2	33.3	0	0.0	0	0.0
	Kapashera	5	1	20.0	0	0.0	3	60.0	1	20.0	0	0.0	0	0.0
	Preet Vihar	3	0	0.0	1	33.3	1	33.3	0	0.0	1	33.3	0	0.0
East	Mayur Vihar	4	0	0.0	0	0.0	3	75.0	0	0.0	1	25.0	0	0.0
	Gandhi Nagar	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Patel Nagar	4	0	0.0	0	0.0	3	75.0	0	0.0	1	25.0	0	0.0
West	Punjabi Bagh	5	1	20.0	2	40.0	2	40.0	0	0.0	0	0.0	0	0.0
	Rajouri Garden	2	0	0.0	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0
	Shahdara	1	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0
Shahdara	Vivek Vihar	1	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0
	Seemapuri	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Defence Colony	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0
South East	Kalkaji	10	0	0.0	1	10.0	6	60.0	2	20.0	0	0.0	1	10.0
	Sarita Vihar	1	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
Nazul Land	Nazul Land	2	0	0.0	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
Total		123	7	5.7	30	24.4	43	35.0	22	17.9	15	12.2	6	4.9

Annexure IV(D): Ground Water Level Depth Range of Monitoring Stations, January -2023, NCT Delhi

				Tehsil-wise Decadal Water Level Fluctuation with Mean [Pre-Monsoon (2012 to 20								12 to 2021] and Pre-Monsoon 2022]													
					Range	e in m					Rise					F	all								
			No. of																					sho	vells wing no
S.	Name of District	Name of Tehsil	wells Analysed	Ri	se Max	F	all Max	0	-2 m	2 No	2-4 m %	>4	m %	0	-2 m	2- No	4 m %	No	>4 m	No	Rise %	No	Fall %	cl	ange %
1	CENTRAL		Anaryseu	WIIII	IVIAA	0.04	1 92	NU	76	NO	70	NO	/0	2	67	NO	/0	1	70	0	/8	3	100	0	0
2	CENTRAL		0			0.04	4.03								07					0	0	0	100	0	0
2	CENTRAL	KOTWALL	0																	0		0		0	
4	EAST	GANDHI NAGAR	0																	0		0		0	0
5	EAST	MAYUR VIHAR	3		0.34	0 47	0.79	1	100					2	100					1	33	2	67	0	0
6	EAST	PREET VIHAR	1		0.04	0.47	4 4		100						100			1	100	0	0	1	100	0	0
7	NAZUL LAND	NAZUL LAND	0		0			0	0										100	0	0	0	0	0	0
8	NEW DELHI	CHANAKYAPURI	9	1.87	9.53			1	11	4	44	4	44							9	100	0	0	0	0
9	NEW DELHI	DELHI CANTONMENT	4			1.34	5.99							1	25	2	50	1	25	0	0	4	100	0	0
10	NEW DELHI	VASANT VIHAR	0																	0		0		0	0
11	NORTH	ALIPUR	9	0.55	2.42	0.07	1.15	3	60	2	40			4	100					5	55	4	44	0	0
12	NORTH	MODEL TOWN	1				0.52							1	100					0	0	1	100	0	0
13	NORTH	NARELA	4	0.66	1.88			4	100											4	100	0		0	0
14	NORTH EAST	KARAWAL NAGAR	0																	0		0		0	0
15	NORTH EAST	SEELAMPUR	1				0.29							1	100					0	0	1	100	0	0
16	NORTH EAST	YAMUNA VIHAR	0																	0		0		0	0
17	NORTH WEST	KANJHAWALA	3	0.38	2.1			2	66	1	33									3	100	0		0	0
18	NORTH WEST	ROHINI	3	1.22	1.6		0.71	1	50	1	50			1	100					2	67	1	33	0	0
19	NORTH WEST	SARASWATI VIHAR	1		1.41			1	100											1	100	0		0	0
20	SHAHDARA	SEEMAPURI	0																	0		0		0	0
21	SHAHDARA	SHAHDARA	1				2.9									1	100					1	100	0	0
22	SHAHDARA	VIVEK VIHAR	0																	0		0		0	0
23	SOUTH	HAUZ KHAS	2	6.78	16.33							2	100							2	100	0		0	0
24	SOUTH	MEHRAULI	3	11.18	13.36		5.25					2	100					1	100	2	67	1	33	0	0
25	SOUTH	SAKET	2	0.68	2.24					1	50	1	50							2	100	0		0	0
26	SOUTH EAST	DEFENCE COLONY	1		0.17			1	100											1	100	0		0	0
27	SOUTH EAST	KALKAJI	0																	0		0		0	0
28	SOUTH EAST	SARITA VIHAR	1				2.37									1	100					1	100	0	0
29	SOUTH WEST	DWARKA	1		2.72					1	100									1	100	0		0	0
30	SOUTH WEST	KAPASHERA	4	3.17	5.3					2	50	2	50							4	100	0	0	0	0
31	SOUTH WEST	NAJAFGARH	2	1.02	4.55	ļ		1	50			1	50							2	100	0	0	0	0
32	WEST	PATEL NAGAR	3	4.29	5.38	ļ	5.44					2	100					1	100	2	67	1	33	0	0
33	WEST	PUNJABI BAGH	6	0.9	1.95	ļ		3	50	3	50									6	100	0		0	0
34	WEST	RAJOURI GARDEN	1	ļ	1.63	ļ		1	100											1	100	0	0	0	0
	To	tal	69		1			19		15		14		12		4		5		48		21			1

Annexure V(A): Decadal Water Level Fluctuation with Mean [Pre-monsoon (2012 to 2021) and Pre-monsoon 2022]

	Tehsil-wise Decadal Water Level Fluctuation with Mean [Post monsoon (2012 to 2021] ar														Post m	onsoo	n 2022]								
				Range in m					Rise								Fall							We	əlls
																								sho	wing
			No. of	Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall		no change	
S.			wells										24 11				2 4 11							Change	
No.	Name of District	Name of Tehsil	Analysed	Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	CENTRAL	CIVIL LINES	4	0.12	0.69	0.09	0.62	2	100					2	100					2	50	2	50	0	0
2	CENTRAL	KAROL BAGH	0																	0		0		0	0
3	CENTRAL	KOTWALI	0																	0		0		0	0
4	EAST	GANDHI NAGAR	0																	0		0		0	0
5	EAST	MAYUR VIHAR	3	0.09	0.82		0.21	2	100					1	100					2	67	1	33	0	0
6	EAST	PREET VIHAR	1				5.17											1	100	0		1	100	0	0
7	NAZUL LAND	NAZUR LAND	0																	0		0		0	0
8	NEW DELHI	CHANAKYAPURI	9	1.98	4.73		0.64	1	12.50	5	62.50	2	25.00	1	50		0			8	89	2	22	0	0
9	NEW DELHI	DELHI CANTONMENT	5		0.44	1.93	3.85	1	100					1	25	2	50	1	25	1	20	4	80	0	0
10	NEW DELHI	VASANT VIHAR	0																	0		0		0	0
11	NORTH	ALIPUR	9	0.07	1.84	0.33	1.6	6	100					3	100					6	67	3	33	0	0
12	NORTH	MODEL TOWN	1				0.59							1	100					0	0	1	100	0	0
13	NORTH	NARELA	4	0.37	1.57			4	100											4	100	0	0	0	0
14	NORTH EAST	KARAWAL NAGAR	0																	0		0		0	0
15	NORTH EAST	SEELAMPUR	1		1.97			1	100											1	100	0	0	0	0
16	NORTH EAST	YAMUNA VIHAR	0																	0		0		0	0
17	NORTH WEST	KANJHAWALA	2	1.24	1.44			2	100											2	100	0	0.00	0	0
18	NORTH WEST	ROHINI	3	1.108	1.294	0.6		2	100					1	100					2	67	1	33	0	0
19	NORTH WEST	SARASWATI VIHAR	1		0.4			1	100											1	100	0	0	0	0
20	SHAHDARA	SEEMAPURI	0																	0		0		0	0
21	SHAHDARA	SHAHDARA	1				2.12									1	100			0		1	100	0	0
22	SHAHDARA	VIVEK VIHAR	0																	0		0		0	0
23	SOUTH	HAUZ KHAS	1		8.72							1	100							1	100	0	0	0	0
24	SOUTH	MEHRAULI	3	10.88	11.97		6.35					2	100					1	100	2	67	1	33	0	0
25	SOUTH	SAKET	4	1.566	7.615			1	50			1	50	1	50			1	50	2	50	2	50	0	0
26	SOUTH EAST	DEFENCE COLONY	1		1.68			1	100											1	100	0	0	0	0
27	SOUTH EAST	KALKAJI	0																			0		0	0
28	SOUTH EAST	SARITA VIHAR	1				1.32							1	100					0		1	100	0	0
29	SOUTH WEST	DWARKA	1		6 79							1	100							1	100	0	0	0	0
30	SOUTH WEST	KAPASHERA	5	1.12	5.33		1	1	20	3	60	1	20			1				5	100	ō	Ŭ	0	0
31	SOUTH WEST	NAJAFGARH	2		4.4		0.42			-		1	100	1	100	1		1		1	50	1	100	0	0
32	WEST	PATEL NAGAR	3	4.511	6.114		4.36	1				2	100			1		1	100	2	67	1	33	0	0
33	WEST	PUNJABI BAGH	3	0.209	1.113		0.77	2	100			-		1	100	1				2	67	1	33	0	0
34	WEST	RAJOURI GARDEN	1	0.200	1.55		0	1	100					-		1				1	100	0	0	0	0
	Total		69		1.55			28	100	8		11		14		3		5		47	100	23		L	Ť

Annexure V(B): Decadal Water Level Fluctuation with Mean [Post monsoon (2012 to 2021) and Post monsoon 2022]

REFERENCE

- 1. Delhi Statistical Hand Book 2022, Directorate of Economics & Statistics, Government of NCT, Delhi
- 2. Census of India Report -2011; District Census Handbook, Directorate of Census Operations, Delhi
- 3. GSI Study Report: Kachroo and Baghchi, 1999.
- 4. Jayant K. Tripathi & V. Rajmani: 'Weathering control over geomorphology of Super mature Proterozoic Delhi Quartzites of India' Earth Surface Processes & Landforms Vol 28, Issue 13, Dec 2003.
- 5. GSI Study Reports: Naha et.al 1944 & 1987; Roy 1988; Gangopadhyay and Sen, 1968)
- 6. GSI Study Report: Srivastava et al. (1980)
- 7. NAQUIM Report "Aquifer Mapping and Groundwater Management Plan of Delhi", CGWB, SUO, New Delhi, 2016.
- 8. Freeze R A & Cherry J A, "Groundwater Book"; 1979 Prentice Hall Inc.