

Street Flood-Depth and Manhole/Sewer-Watch Sensor Siting Plan

Official review draft listing 40 practical monitoring candidates: 20 street flood-depth sensors and 20 manhole/sewer-watch surcharge sensors. Visible labels use field-facing sensor codes, not internal diagnostic names.

STREET DEPTH SENSORS	MANHOLE / SEWER-WATCH
20	20
MINIMUM SPACING	WARD ANCHORS
525 m	9 & 21

Ward 9 / Ward 21 coverage. Ward 9 is covered by SFD-01 (Saraswati Enclave reference at GMDA Bus Stand/Sec-10 entry side road) and SFD-02 (Behrampur Road / Axis Bank ATM area). Ward 21 is covered by SFD-03 (Ardee City Gate No. 3) and SFD-04 (Gulab Park Road near H. No. 336, Sushant Lok). Ward 21 exact surcharge candidates are present in the source diagnostics, but the 500 m-spaced shortlist uses the street anchors as the primary Ward 21 instruments to avoid duplicate nearby hardware.

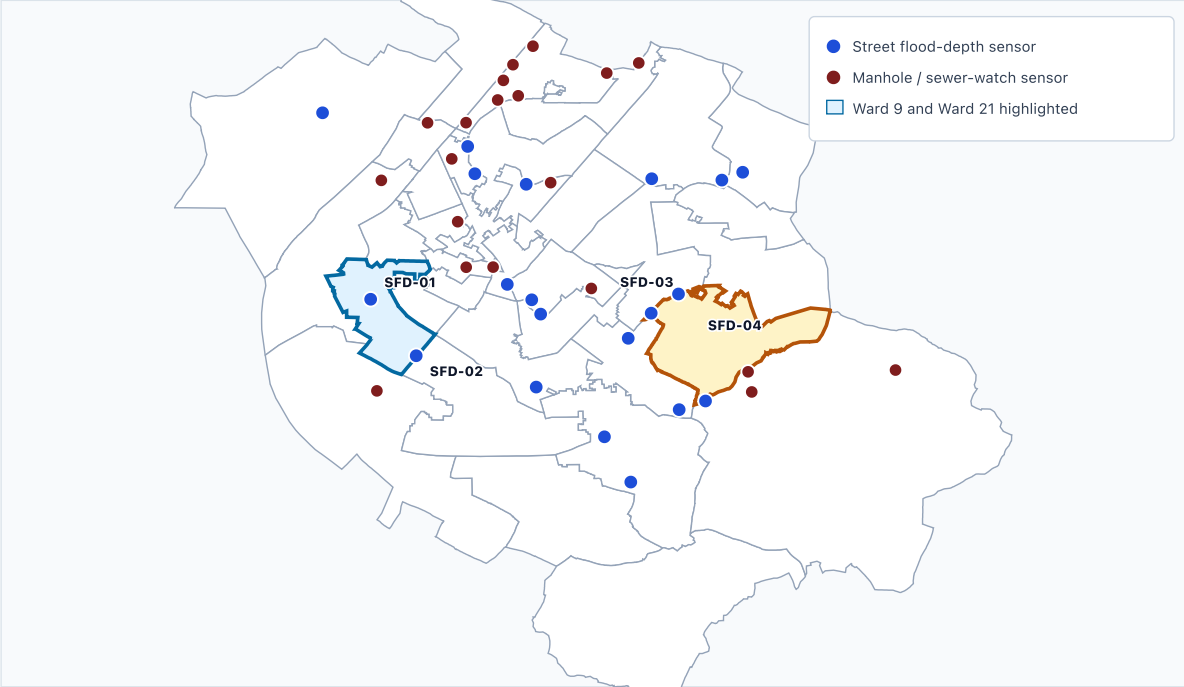
Field verification required. Candidate coordinates are DSS/GIS screening locations for review. Final hardware sites require MCG field verification, utility clearance, traffic safety review, telecom/power confirmation and confined-space protocol where manholes are involved.

Selection Logic

Sensor type	Primary signal	Evidence used	Placement guidance
Street flood-depth sensor	Depth, persistence and road/access exposure at the street low point	Top-200 action rank, MCG reported waterlogging where available, critical-road overlap, population/property exposure and nearby drainage context	Install at the safest kerb/pole/wall face near the accessible low point; avoid carriageway placement.
Manhole/sewer-watch surcharge sensor	Exact modelled return-to-surface volume, early onset and persistence	Exact surcharge-node diagnostics, nearby landmark and ward context	Install only after the physical chamber/manhole is confirmed and safety-cleared.

Proposed 500 m-Spaced Flood Monitoring Network

MCG ward boundaries with selected street flood-depth and manhole/sewer-watch sensors



Spacing rule: all proposed sensors are at least 525 m apart in this shortlist. Coordinates remain screening locations pending field siting.

20 Candidate Street Flood-Depth Sensors

Spacing rule. No proposed sensor in this report is within 500 m of another proposed sensor. Install on the nearest safe kerb, pole or wall face at the accessible street low point.

Sensor	Ward	Lat / Lon	Nearby landmark	Flood signal	Why this location
SFD-01 MCG reported waterlogging point validated against DSS flood statistics	9	28.446052 76.991622	Saraswati Enclave reference: Side road (Main Entry From Basai Road) of GMDA Bus Stand, Sec-10 Ward 9 / Saraswati Enclave anchor	High 63.3; depth 0.36 m	Top-200 #100, high risk; modelled depth 0.36 m; critical road/access overlap (Gurgaon Rewari Narnaul Singhana Road); near Saraswati Enclave reference; mapped drain at/next to site; very high property exposure.
SFD-02 Model-derived street low point from the full-city flood simulation	9	28.429804 77.004724	Behrampur Road, near Tata Motors and opposite Axis Bank ATM Ward 9 coverage anchor	Very High 68.1; depth 0.41 m; persist. 567 min; vel. 0.002 m/s	Top-200 #49, very high risk; modelled depth 0.41 m; persistence 567 min; critical road/access overlap; higher population exposure; very high property exposure.
SFD-03 Model-derived street low point from the full-city flood simulation	21	28.442062 77.072378	Ardee City Gate No. 3 Ward 21 coverage anchor	Very High 73.2; depth 0.51 m; persist. 665 min; vel. 0.007 m/s	Top-200 #16, very high risk; modelled depth 0.51 m; persistence 665 min; critical road/access overlap (Sector Road); mapped drain within 23 m; very high property exposure.
SFD-04 Surcharge-linked surface flooding point from model diagnostics	21	28.447577 77.080247	Gulab Park Road near H. No. 336, Sushant Lok Ward 21 coverage anchor	Very High 68.7; depth 0.46 m; persist. 274 min; vel. 0.015 m/s	Top-200 #45, very high risk; modelled depth 0.46 m; persistence 274 min; critical road/access overlap; near Subhash Chowk Gurugram reference; mapped drain at/next to site; very high property exposure.
SFD-05 Surcharge-linked surface flooding point from model diagnostics	15	28.393424 77.066524	Maidawas Village	Critical 86.0; depth 0.76 m; persist. 245 min; vel. 7.004 m/s	Top-200 #1, critical risk; modelled depth 0.76 m; persistence 245 min; critical road/access overlap (Samrat Mihir Bhoj Gurjar road towards vikas marg); mapped drain at/next to site; very high property exposure.
SFD-06 Model-derived street low point from the full-city flood simulation	1	28.482643 77.098708	Sikenderpur near Harijan Basti Sikanderpur Metro Station Gurugram reference cluster	Very High 77.4; depth 0.69 m; persist. 658 min; vel. 0.048 m/s	Top-200 #2, very high risk; modelled depth 0.69 m; persistence 658 min; critical road/access overlap (Mehrauli Gurgaon Road); near Sikanderpur Metro Station Gurugram reference; mapped drain within 33 m; higher population exposure; very high property exposure.
SFD-07 Model-derived street low point from the full-city flood simulation	15	28.406450 77.058921	Rosewood City C Block	Very High 76.9; depth 0.84 m; persist. 719 min; vel. 2.925 m/s	Top-200 #3, very high risk; modelled depth 0.84 m; persistence 719 min; critical road/access overlap; mapped drain within 3 m; very high property exposure.
SFD-08 Model-derived street low point from the full-city flood simulation	14	28.414298 77.080454	Sushant Lok Phase 3	Very High 76.9; depth 2.98 m; persist. 718 min; vel. 28.135 m/s	Top-200 #4, very high risk; modelled depth 2.98 m; persistence 718 min; critical road/access overlap (Golf Course Extension Road); mapped drain within 11 m.
SFD-09 Surcharge-linked surface flooding point from model diagnostics	11	28.420800 77.039298	South City A1 Block Malibu Town Gurugram reference cluster	Very High 76.4; depth 0.35 m; persist. 298 min; vel. 0.089 m/s	Top-200 #5, very high risk; modelled depth 0.35 m; persistence 298 min; critical road/access overlap (Sohna Road); near Malibu Town Gurugram reference; mapped drain at/next to site; very high property exposure.
SFD-10 Model-derived street low point from the full-city flood simulation	35	28.490057 77.019551	Sheetla Mandir Road New Rajendra Park (Rajendra Park/North proxy) reference cluster	Very High 75.8; depth 0.94 m; persist. 719 min; vel. 27.290 m/s	Top-200 #7, very high risk; modelled depth 0.94 m; persistence 719 min; critical road/access overlap (Carterpuri Road); near New Rajendra Park (Rajendra Park/North proxy) reference; mapped drain within 4 m; very high property exposure.
SFD-11 Surcharge-linked surface flooding point from model diagnostics	6	28.499754 76.977790	Toyota Showroom wali gali, Rajendra Park	Very High 74.0; depth 0.46 m; persist. 337 min; vel. 0.085 m/s	Top-200 #10, very high risk; modelled depth 0.46 m; persistence 337 min; critical road/access overlap; mapped drain at/next to site; very high property exposure.

Sensor	Ward	Lat / Lon	Nearby landmark	Flood signal	Why this location
SFD-12 Surcharge-linked surface flooding point from model diagnostics	13	28.445911 77.038003	Near House No.239 Sector-15 Part-I Rajiv Chowk Gurugram reference cluster	Very High 73.5; depth 0.67 m; persist. 618 min; vel. 0.007 m/s	Top-200 #13, very high risk; modelled depth 0.67 m; persistence 618 min; critical road/access overlap; near Rajiv Chowk Gurugram reference; mapped drain at/next to site.
SFD-13 Model-derived street low point from the full-city flood simulation	14	28.434842 77.065782	Sector 46	Very High 73.5; depth 0.55 m; persist. 581 min; vel. 0.011 m/s	Top-200 #14, very high risk; modelled depth 0.55 m; persistence 581 min; critical road/access overlap (Vikas Marg); mapped drain within 2 m; very high property exposure.
SFD-14 Model-derived street low point from the full-city flood simulation	2	28.480754 77.072565	Indian oil service road sector 18 Sarhaul Gurugram reference cluster	Very High 73.4; depth 0.72 m; persist. 617 min; vel. 0.003 m/s	Top-200 #15, very high risk; modelled depth 0.72 m; persistence 617 min; critical road/access overlap; near Sarhaul Gurugram reference; mapped drain within 39 m.
SFD-15 Model-derived street low point from the full-city flood simulation	2	28.480375 77.092739	Sikanderpur entry from Bristol chowk Sikanderpur Metro Station Gurugram reference cluster	Very High 73.1; depth 0.59 m; persist. 658 min; vel. 0.008 m/s	Top-200 #17, very high risk; modelled depth 0.59 m; persistence 658 min; critical road/access overlap (Link to Faridabad Road); near Sikanderpur Metro Station Gurugram reference; higher population exposure; very high property exposure.
SFD-16 Surcharge-linked surface flooding point from model diagnostics	13	28.441771 77.040589	Back side Govt. School, Islampur Rajiv Chowk Gurugram reference cluster	Very High 72.6; depth 0.47 m; persist. 296 min; vel. 0.017 m/s	Top-200 #18, very high risk; modelled depth 0.47 m; persistence 296 min; critical road/access overlap (Chowdhury Baktawar Singh Road); near Rajiv Chowk Gurugram reference; mapped drain at/next to site; very high property exposure.
SFD-17 Surcharge-linked surface flooding point from model diagnostics	35	28.482214 77.021636	Sector 5, Part 6	Very High 72.5; depth 0.31 m; persist. 546 min; vel. 0.004 m/s	Top-200 #19, very high risk; modelled depth 0.31 m; persistence 546 min; critical road/access overlap; mapped drain at/next to site; very high property exposure.
SFD-18 Model-derived street low point from the full-city flood simulation	36	28.479155 77.036422	CRPF camp chowk,	Very High 72.1; depth 0.41 m; persist. 580 min; vel. 0.021 m/s	Top-200 #20, very high risk; modelled depth 0.41 m; persistence 580 min; critical road/access overlap; mapped drain within 44 m; very high property exposure.
SFD-19 Model-derived street low point from the full-city flood simulation	27	28.450337 77.030959	Court road District Court Gurugram reference cluster	Very High 72.0; depth 0.83 m; persist. 679 min; vel. 0.003 m/s	Top-200 #22, very high risk; modelled depth 0.83 m; persistence 679 min; critical road/access overlap (Sohna Road); near District Court Gurugram reference; higher population exposure.
SFD-20 Model-derived street low point from the full-city flood simulation	20	28.416774 77.088039	F and G Block, Sushant Lok 2	Very High 71.9; depth 1.04 m; persist. 682 min; vel. 0.011 m/s	Top-200 #24, very high risk; modelled depth 1.04 m; persistence 682 min; critical road/access overlap (Golf Course Extension Road); mapped drain within 3 m; very high property exposure.

20 Candidate Manhole / Sewer-Watch Surcharge Sensors

Spacing rule. No proposed sensor in this report is within 500 m of another proposed sensor. Install only after the nearest physical manhole/chamber is confirmed and safety-cleared.

Sensor	Ward	Lat / Lon	Nearby landmark	Surcharge signal	Why this location
MSW-01 Exact surcharge candidate #1; field chamber to be confirmed	4	28.518913 77.038350	Sec 23 near Ansal Plaza	volume 14,815 m3; onset 3.7 min; persist. 717 min	return-to-surface volume 14,815 m3; onset 3.7 min after rainfall begins; persistence 717 min.
MSW-02 Exact surcharge candidate #2; field chamber to be confirmed	4	28.511202 77.059596	In front of community centre sector 22 B	volume 1,158 m3; onset 303.2 min; persist. 637 min	return-to-surface volume 1,158 m3; onset 303.2 min after rainfall begins; persistence 637 min.
MSW-03 Exact surcharge candidate #3; field chamber to be confirmed	3	28.514101 77.068805	Near radha krishna mandir h.no-335 sector 21	volume 932 m3; onset 193.5 min; persist. 676 min	return-to-surface volume 932 m3; onset 193.5 min after rainfall begins; persistence 676 min.
MSW-04 Exact surcharge candidate #4; field chamber to be confirmed	4	28.509076 77.029850	Palam Vihar D Block near Mother dairy	volume 1,272 m3; onset 173.3 min; persist. 686 min	return-to-surface volume 1,272 m3; onset 173.3 min after rainfall begins; persistence 686 min.
MSW-05 Exact surcharge candidate #5; field chamber to be confirmed	7	28.480286 76.994725	Dhanwapur Village near Bikaner Chowk	volume 2,334 m3; onset 476.2 min; persist. 342 min	return-to-surface volume 2,334 m3; onset 476.2 min after rainfall begins; persistence 342 min.
MSW-06 Exact surcharge candidate #6; field chamber to be confirmed	29	28.455288 77.019137	Raj Nagar Chowk	volume 793 m3; onset 491.0 min; persist. 463 min	return-to-surface volume 793 m3; onset 491.0 min after rainfall begins; persistence 463 min.
MSW-07 Exact surcharge candidate #7; field chamber to be confirmed	4	28.503434 77.028208	Palam Vihar D Block near Mother dairy	volume 766 m3; onset 501.3 min; persist. 563 min	return-to-surface volume 766 m3; onset 501.3 min after rainfall begins; persistence 563 min.
MSW-08 Exact surcharge candidate #8; field chamber to be confirmed	34	28.496876 77.008017	Gopi Pandit Wali Gali, Rajendra Park	volume 1,054 m3; onset 106.7 min; persist. 681 min	return-to-surface volume 1,054 m3; onset 106.7 min after rainfall begins; persistence 681 min.
MSW-09 Exact surcharge candidate #9; field chamber to be confirmed	29	28.455311 77.026864	Near Beri wala Bagh Shivaji Nagar	volume 774 m3; onset 256.6 min; persist. 642 min	return-to-surface volume 774 m3; onset 256.6 min after rainfall begins; persistence 642 min.
MSW-10 Exact surcharge candidate #10; field chamber to be confirmed	4	28.496908 77.019083	Palam Vihar C 2 Block	volume 3,330 m3; onset 16.2 min; persist. 700 min	return-to-surface volume 3,330 m3; onset 16.2 min after rainfall begins; persistence 700 min.
MSW-11 Exact surcharge candidate #11; field chamber to be confirmed	35	28.486468 77.014977	Durga sweets khedi	volume 500 m3; onset 380.8 min; persist. 658 min	return-to-surface volume 500 m3; onset 380.8 min after rainfall begins; persistence 658 min.
MSW-12 Exact surcharge candidate #12; field chamber to be confirmed	17	28.419702 76.993413	Behrampur Road, near Tata Motors and opposite Axis Bank ATM	volume 2,925 m3; onset 15.2 min; persist. 318 min	return-to-surface volume 2,925 m3; onset 15.2 min after rainfall begins; persistence 318 min.
MSW-13 Exact surcharge candidate #13; field chamber to be confirmed	20	28.425164 77.100296	E Block (Near Creek) Sec-55/56 Road	volume 376 m3; onset 389.0 min; persist. 395 min	return-to-surface volume 376 m3; onset 389.0 min after rainfall begins; persistence 395 min.

Sensor	Ward	Lat / Lon	Nearby landmark	Surcharge signal	Why this location
MSW-14 Exact surcharge candidate #14; field chamber to be confirmed	13	28.449163 77.055172	Sector 40 house no 1114	volume 1,332 m3; onset 244.6 min; persist. 673 min	return-to-surface volume 1,332 m3; onset 244.6 min after rainfall begins; persistence 673 min.
MSW-15 Exact surcharge candidate #15; field chamber to be confirmed	20	28.419371 77.101317	E Block (Near Creek) Sec-55/56 Road	volume 749 m3; onset 217.6 min; persist. 284 min	return-to-surface volume 749 m3; onset 217.6 min after rainfall begins; persistence 284 min.
MSW-16 Exact surcharge candidate #16; field chamber to be confirmed	4	28.504643 77.034111	A block Palam vihar near Macdy	volume 490 m3; onset 495.3 min; persist. 679 min	return-to-surface volume 490 m3; onset 495.3 min after rainfall begins; persistence 679 min.
MSW-17 Exact surcharge candidate #17; field chamber to be confirmed	20	28.425700 77.142740	Teri Gram Faridabad road Village Baliyawas and Mujjafar Ali Farm house New Gwal Pahari	volume 363 m3; onset 531.5 min; persist. 316 min	return-to-surface volume 363 m3; onset 531.5 min after rainfall begins; persistence 316 min.
MSW-18 Exact surcharge candidate #18; field chamber to be confirmed	26	28.479657 77.043438	CRPF camp chowk,	volume 229 m3; onset 560.0 min; persist. 364 min	return-to-surface volume 229 m3; onset 560.0 min after rainfall begins; persistence 364 min.
MSW-19 Exact surcharge candidate #19; field chamber to be confirmed	4	28.513585 77.032614	Palam Vihar D Block near Mother dairy	volume 1,500 m3; onset 44.5 min; persist. 376 min	return-to-surface volume 1,500 m3; onset 44.5 min after rainfall begins; persistence 376 min.
MSW-20 Exact surcharge candidate #20; field chamber to be confirmed	32	28.468411 77.016672	New Colony near Gaba Kothi	volume 377 m3; onset 520.9 min; persist. 294 min	return-to-surface volume 377 m3; onset 520.9 min after rainfall begins; persistence 294 min.

Manhole caveat. Ward 9 does not currently have an exact backflow-node candidate in the synchronized exact-backflow layer. Ward 21 has exact surcharge candidates in the source diagnostics; under the 500 m separation rule, this report uses street flood-depth anchors in Ward 21 rather than duplicating nearby manhole sensors. Field teams may swap to the nearest confirmed Ward 21 chamber if sewer monitoring is prioritized.