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Next-Generation Solution for Water Disposal: Deep Soil Percolation

Urban regions are increasingly struggling with frequent street flooding, largely due to rapid urbanization and the inability of conventional drainage systems to manage sudden heavy rainfall. To address this challenge, we propose an Innovative Water Disposal System based on Deep Ground Percolation. This method is designed to efficiently channel excess stormwater away from streets during intense rain events.

The system operates through float-type water level sensors installed along roadways that continuously monitor surface water accumulation. Once the water level exceeds a predefined threshold, the sensors activate automated inlet mechanisms. These inlets allow stormwater to enter a network of vertical percolation pipes, directing it into an underground storage reservoir.

Since the process is automated, it requires minimal human supervision and maintenance, ensuring a real-time flood response that keeps roadways safer during extreme rainfall. Additionally, as the water infiltrates into the subsurface layers, it reduces surface runoff while contributing to groundwater recharge. The collected water can also be treated and reused for non-potable purposes, enhancing urban water sustainability.

Overall, this approach is scalable, eco-friendly, and climate-resilient, offering a smarter alternative to traditional drainage systems for managing urban flooding.

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