



Clean Streets = Cleaner Water Initiative

Phase I Findings and the Path Forward



Led by:

National Municipal Stormwater Alliance (NMSA)

With Support From:

Manufacturing Partners: Elgin Sweeper, Schwarze Industries, Stewart-Amos Sweeper, and TYMCO Sweepers

Industry Partners: 1-800-SWEEPER and the North American Power Sweeping Association

The Sweeping/Stormwater Nexus: Street sweeping technology has been used to clean streets and improve environmental quality in the U.S. for decades. The use of street sweeping technology to address stormwater runoff-driven pollution, however, has been limited due to the absence of unified recognition by state and federal regulatory agencies on the quantifiable treatment capacity of street sweepers. In a recent review of state stormwater permits, it was estimated that ~40% of states have no information provided at all on street sweeping in the context of stormwater treatment. An additional 25% mention street sweeping in their statewide municipal separate storm sewer systems (MS4) permit, but no specifics are provided. The remaining states have a mix of methods and approaches to provide recognition – albeit limited – on the water quality treatment capacity of street sweeping technologies. Many simply require sweeping as a condition of the permit, as part of a maximum extent practicable program. Of these states, only a handful of states have a clear crediting system or guidance (e.g. in stormwater manuals) for stormwater treatment through the use of sweepers. The way these states credit sweepers for stormwater treatment are not consistent with each other, but they do represent a starting point for the sweeper sector to build upon.

Research performed in a variety of settings and locations – Florida, Minnesota, California to just name a few states – illustrates the cost-effective value of sweepers used to address stormwater pollution as an effective source control non-structural practice. What is missing is the link between research efforts that show this value and the regulatory credit offered by state and federal regulatory agencies. This is particularly important where Total Maximum Daily Load (TMDL) requirements are written into MS4 permits. Quantified reduction of specific pollutants from street sweeping would be of value to MS4s that must comply with TMDL requirements.

Background on the CS=CW Initiative: An initiative - the Clean Streets = Cleaner Waters (CS=CW) Initiative - has been established to bridge the gap between research and policy and drive a broader adoption of power sweeper technologies to address stormwater pollution. The aim is to promote street sweeping in the stormwater sector while also providing the context for street sweeping as one aspect among others that should be considered by stormwater and MS4 program managers for effective reductions in stormwater pollution delivery to downstream waters. Additional issues, such as hydrologic integrity, pluvial flooding, and community engagement, still need to be addressed in these programs. Using highly cost-efficient practices, with street sweeping being a good example, can free up dedicated local stormwater funds for other investments in the stormwater program, such as green stormwater infrastructure and asset management efforts.

Status of CS=CW: Phase I of the Clean Streets = Cleaner Waters initiative was intended to assess the current landscape at the intersection of street and power sweeping and stormwater management. The purpose of this phase was to review the existing research base, evaluate how street sweeping is currently treated in MS4 permits and related guidance, and identify whether there is a credible pathway for broader recognition of street sweeping as a stormwater management practice in the United States.

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Figure 1 - CS=CW Steering Committee Roster

The findings of Phase I indicate that such a pathway does exist. The research reviewed for this report shows that modern street sweeping, when paired with appropriate equipment, operations, and maintenance, can remove sediment and associated pollutants before they enter storm drains and receiving waters. At the same time, the regulatory review shows that this technical value is not reflected consistently in permits, manuals, reporting systems, or crediting approaches across the country.

The central conclusion of Phase I is that the primary gap is no longer whether street sweeping can provide a meaningful stormwater benefit. The larger gap is the absence of a clear and consistent framework for how that benefit is described, measured, reported, and credited. Existing research, state

examples, technical guidance, and local program experience provide a strong starting point, but that information remains fragmented across agencies, regions, and programs. As a result, street sweeping is often treated primarily as a maintenance activity rather than a more fully defined water-quality practice.

The state permit review reinforces this conclusion. Many states provide no meaningful language on street sweeping in the stormwater context, many others mention it only generally, and only a limited number provide more specific guidance or crediting mechanisms. Even where street sweeping is recognized, there is substantial variation in how performance is defined, what information is tracked, and how pollutant reduction credit is assigned. This inconsistency makes it difficult for regulators, municipalities, manufacturers, contractors, and researchers to work from a common understanding of what effective street sweeping looks like and how its value should be communicated.

Phase I also shows that future progress does not require starting from scratch. The sector already has a meaningful body of research, useful state and regional examples, an emerging verification pathway through Stormwater Testing and Evaluation for Products and Practices (STEPP), and a strong base of stakeholder interest through the CS=CW Steering Committee. What is needed now is not a new justification for street sweeping, but a more organized structure that can connect these pieces and translate them into practical tools, stronger guidance, and a clearer path toward broader adoption.

Future CS=CW Activities: The next phase of work is anticipated to focus on building that structure. Priorities include organizing and curating the available body of research and program information, developing a framework for an effective street sweeping program, identifying more consistent approaches to quantification and reporting, and supporting phased engagement with regulators and practitioners. Together, these steps would help move the sector from fragmented information and uneven policy treatment toward a more credible, usable, and scalable national framework.

For more information, please go to: <https://ms4nmsa.org/cs-cw/>.

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