

City of Chicago Department of Water Management



Pollution Prevention Plan

NPDES Permit No. IL0045012

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CSO Pollution Prevention Plan

Introduction

Combined sewer outfalls (CSOs) from the City of Chicago's (City) combined sewer system (CSS) are currently permitted under the National Pollution Discharge Elimination System (NPDES) Permit No. IL0045012. This permit was reissued with an effective date of April 1, 2024 and will expire on February 28, 2029.

Under the Special Conditions section of Permit No. IL0045012, the City is required to comply with the Nine Minimum Controls (NMC) contained in the National CSO Control Policy published in the Federal Register on April 19, 1994. The seventh control requires the City to have pollution prevention programs which focus on source control activities.

In addition, the Permit specifically requires the City to submit Pollution Prevention Plan (PPP) documentation to the Illinois Environmental Protection Agency (IEPA) by January 1, 2025. This document serves as an updated version of the 2003 and 2007 practices. It is a compilation of pollution prevention methods that are relevant to the prevention of pollution entering the sewer system. This plan is not intended to be a comprehensive summary for other areas such as air emissions, green business, green procurement, or other green initiatives which have indirect value to mitigation of CSO events.

Overview

The purpose of the pollution prevention control is to reduce to the greatest extent possible the amount of contaminants that enter the combined sewer system. The general hierarchy for pollution prevention includes the following elements:

- Prevention or reduction of pollution at the source whenever feasible;
- Re-use, in an environmentally safe manner, of waste that cannot be prevented whenever feasible;
- Treatment, in an environmentally safe manner, of pollution that cannot be prevented or reused whenever feasible;
- Disposal or release of pollution into the environment only as a last resort and in an environmentally safe manner.¹

The City of Chicago's CSO Pollution Prevention Plan is designed to reduce the amount of contaminants that enter receiving waters via the City's existing sewer overflows. The key objectives of the PPP that align with the National CSO Policy hierarchy include:

- Public education regarding proper disposal practices;
- Interdepartmental and non-governmental collaboration to support and promote pollution prevention programs; and
- Reduction of CSOs through the effective capture, conveyance, and treatment of stormwater.

Street Cleaning

The City has several practices and programs in place intended to control the entry of potential pollutants into its combined sewer system.

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These programs provide a high level of pollution prevention by keeping potential pollutants from entering the combined sewer system thereby reducing the materials that might be discharged to receiving streams during an overflow event.

Street Sweepers

The City of Chicago Department of Streets and Sanitation (DSS) is responsible for cleaning streets within the City. DSS deploys mechanical street sweepers in each of the 50 wards of Chicago, which operate every working day during the sweeping season which occurs between April and November. Over 200,000 miles of streets and over 2,000 alleys are swept each year. Collected debris from the street sweeping efforts is disposed of per standardized waste disposal procedures. Street sweeping requests should be made to the city's request line at 311. For effective curb-to-curb street cleaning, temporary parking restrictions are posted a day prior to commencing scheduled work. Some arterial streets have permanently posted signs that specify a once-per-week period when parking is prohibited for street sweeping. Maps, schedules, and more information for each ward can be found on the City of Chicago website.²

Neighborhood Enhancement Programs

Neighborhood enhancement programs provide cleaning of lots, parkways, and curb lanes throughout the City.

Sheriff's Work Alternative Program (SWAP)

SWAP provides labor to municipalities, government agencies, and not-for-profit organizations. Supervised by sheriff's deputies, SWAP crews perform a variety of public works projects such as cleaning parks, viaducts and streets, seven days a week.³ All work is completed by hand laborers working daily cleaning routes adjacent to the City's seven other major state expressways.

Loop Operations

Loop operations provide cleaning for the central business district. This includes hand cleaning and sweeping the sidewalks and curb lanes, mobile units that clean areas and empty baskets, power washing, graffiti removal, snow and ice removal, graffiti and mechanical sweeping of all main streets. This operation is functional 7 days a week, 24 hours a day.

Clean & Green Volunteer Clean-up Program

The Clean & Green Program, upon request, loans brooms, rakes, and trash bags to community-based organizations (CBOs), block clubs, and other community agencies to sweep up accumulated litter and trash. Clean & Green asks residents to lend a hand toward making the city more attractive every spring and fall. Anyone, even young children, can make this positive contribution by volunteering to help during the Clean & Green Citywide Clean-up. These clean-up projects can be completed by civic organizations, community improvement agencies, schools, or any concerned citizens.⁴

Greater Auburn-Gresham Development Corporation – Special Service Area (SSA) #32

The Greater Auburn-Gresham Development Corporation (GAGDC) works to foster and promote revitalization of the low-to-moderate income communities using comprehensive community development strategies. Since 2001, the GAGDC has worked in all, or parts of, Ashburn, Auburn Gresham, Englewood, Greater Grand Crossing, Washington Heights, West Englewood, and West Chatham.

GAGDC receives support from many sources and contributors including the State of Illinois, Cook County, Local Initiatives Support Corporation of Chicago (LISC/Chicago), the United Way of Metropolitan Chicago (UWMC), the MacArthur Foundation, the City of Chicago's Department of Planning & Development (DPD), and local private and financial institutions. GAGDC also partner with institutions like University of Chicago, Illinois State University, and University of Illinois at Chicago on several funded and collaborative projects.⁵

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Special Service Areas (SSA) protect and promote neighborhood shopping districts and provide additional services above and beyond what is normally provided through local government agencies (i.e. street cleaning, garbage removal, business development). Each SSA is entrusted to a Sole Service Provider that has reporting and management responsibilities for all programs and funds. The GAGDC is the Sole Service Provider for SSA#32 which is managed by C Johnson and Associates, a women and minority owned urban consulting firm that specializes in SSA creation and management.⁶

Public Education

The City operates extensive public education programs at a broad range of levels beginning in the Mayor's Office and extending downward through various City departments. Among these, the City's Department of Water Management (DWM) and Department of Environment (DOE) maintain ongoing public education programs that specifically address issues related to pollution prevention. These programs utilize educational aids such as social media, public presentations, and printed brochures. As part of its Phase II NPDES Storm Water Permit Application, the City has committed to continuing these efforts with particular attention on pollution prevention efforts aimed at protecting water quality.

The City develops educational materials that describe the hazards and impacts of pollution and illegal dumping and promote the City's existing hotline for reporting illegal dumping or discharges. Educational material is developed in conjunction with other City departments, public information, and education best management practices (BMPs).

Public Education

DWM provides Alders with newsletters on stormwater management tips, as well as information about stormwater-related initiatives aimed at citizen engagement such as residential stormwater runoff controls, water conservation, and Overflow Action Days. Stormwater management tips and information can be found on various posts on social media. DWM's website includes a webpage dedicated to CSOs, including a brief description of the City's sewer system and outfalls.⁷ The site also includes a link to the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) website that lists CSO events. It also allows the public to sign up for CSO email notifications and ask any questions regarding CSOs.⁸

Distributed Paper Material

The City of Chicago currently partners with its sister agencies and a variety of non-governmental organizations on discussions regarding outfall permitting, stormwater management, water quality and environmental education programs. To further the City's overall program of Public Education related to CSO pollution prevention, the City will expand partnerships with various departments to help distribute City pamphlets, papers, and flyers at community meetings throughout the city. The educational materials are developed with specific objectives in mind:

- To inform the public of the potential impacts of CSOs on the quality of area streams and rivers;
- To inform the public of City efforts to promote best management practices intended to reduce the impacts of CSOs on water quality; and
- To educate the public about best management practices for stormwater management that can be implemented by individuals or groups in the community.

Printed material will also be uploaded and available in a digital format on the DWM website.

Chicago Access Network Television (CAN TV)

As part of its overall program of public education related to pollution prevention and water quality management, the City of Chicago will produce and air seasonal stormwater related news, seasonal BMPs, littering and pollution prevention on Chicago Access Network Television (CAN TV). CAN TV is a

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public, educational, and government access (PEG) cable television service in Chicago, Illinois. The organization is funded by cable companies as part of their cable franchise agreements with the City.

"Project Signage" and Portable Display

The City will develop signage that can be temporarily displayed at City sewer project construction sites as part of the overall Public Education efforts related to stormwater and water quality management. The signs will inform the public of the efforts the City is making towards improving its stormwater management facilities and the benefits that such efforts can have on water quality. Additional contact information (web-site address, phone numbers for additional information) will be provided on the signage. The signs will be developed with specific objectives in mind:

- To inform the public of the benefits of City stormwater projects; and
- To provide the public with additional resources for gaining information about pollution prevention.

The City plans to enhance the Public Education program related to CSO pollution prevention and water quality management by developing a portable display that can be readily transported and set up at City offices, schools, libraries, and community events.

Stakeholder Meetings - City Sewer Projects

As part of its overall program of Public Participation related to pollution prevention and water quality management the City will conduct stakeholder meetings with residents and businesses located in the vicinity of key City sewer projects. Meetings will be scheduled in advance of the start of construction and will be structured to:

- Provide residents and businesses with information regarding the purpose and benefits of the proposed project;
- Inform residents and businesses of potential impacts of construction on the neighborhood; and
- Provide residents the appropriate contact information for questions or concerns associated with the project.
- Involve discussions on stormwater management issues and best practices. Supply answers to residents' questions.
- Participate in Residential Fairs directed at specific communities or organizations in a neighborhood.

Public Involvement and Participation

Downspout Disconnection

The City of Chicago was the first major metropolitan area in the country to successfully implement an inlet control system to relieve basement flooding. The system works by installing restrictors to slow the flow of stormwater into the sewer system. Stormwater is detained on city streets for brief periods before flowing back into the sewer system. This measure helps relieve the burden on the sewer system and reduce the frequency of basement flooding and combined sewer overflows into waterways.⁹

Chicago Conservation Corps

The City of Chicago works with the Chicago's Conservation Corps (C3) is to recruit, train and support a network of volunteers who work together to improve the quality of life in city neighborhoods through environmental service projects that protect water, clean the air, restore land, and save energy. Volunteers undergo Environmental Leadership training program and certification to become C3 Leaders who organize and execute environmental projects in their communities.

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C3 also helps teachers from Chicago Conservation Clubs at their schools to make them "greener" places to learn and work. C3 staff provides teachers with stipends, training, staff support, and step-by-step guides to implementing environmental service projects. Conservation Club members start out by surveying their schools, investigating opportunities to increase energy and water conservation and improve efforts to reduce, re-use and recycle waste. The Clubs then follow up on their findings, implementing three projects over the course of the school year.

C3 Explorer Projects are one-time environmental volunteer opportunities for Chicagoans who want to improve the quality of life in their neighborhoods but lack the time to commit to C3's Environmental Leadership Training Program. Many of these projects are run in conjunction with C3's Partner Organizations.

Chicago Public School Environmental Clubs

The City is committed to conserving, protecting, and sustaining natural resources by implementing programs that reduce consumption of energy and increase the renewable resources used throughout the district. Collectively, these programs help reduce greenhouse gas emissions and associated climate impact. The Climate Action Plan focuses on five areas: energy and water; facilities; renewable energy; waste management and recycling; and transportation. Local school environmental clubs perform environmental service projects on waste, energy, air quality, and water issues that help the environment in and around their school.

Chicago public school teachers can apply to start an after-school conservation club for 8th-12th grade students. Students in these clubs assess conservation practices in their schools, focusing on land use, waste management, air quality, energy conservation, and water quality issues. Based on the results of their assessments, clubs then implement projects to meet the conservation needs identified.

Greencorps Chicago

Greencorps Chicago is the City of Chicago's green-industry employment program with on-the-job training for individuals with barriers to employment.

Greencorps Chicago promotes environmental stewardship and improves the quality of life in Chicago by establishing, maintaining and restoring natural and public spaces that are safe, healthy, and sustainable through hands-on involvement with program participants.

The outcome is healthier, safer, and more engaged communities and individuals who are prepared for employment through practical field experience and technical training in a variety of environmentally related jobs.

Greencorps Chicago is a public/private partnership between the Chicago Department of Transportation and WRD Environmental.¹⁰

Public Awareness of Rules, Regulations, and Reporting

Pet Waste Ordinance

The city has a mandatory requirement to collect pet waste. City Code Section 7-12-420 addresses the removal of excrement: "No person shall appear with a pet upon public ways or within public places or upon the property of another, absent that person's consent, without some means for the removal of excrement, nor shall any person fail to remove any excrement deposited by such pet. This section shall not apply to a blind person while walking his or her guide dog. Any person found to have been in violation of this section shall be fined not less than \$50.00 nor more than \$500.00 for each offense."

Illegal ('Fly') Dumping

Chicago Department of Public Health (CDPH) works in conjunction with the Chicago Police Department and DSS to enforce the illegal dumping law. Fly dumpers can be fined up to \$1,500 for the first offense.

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Offenders are subject to jail time of up to 6 months and community service of up to 200 hours. In addition, their vehicles are quickly impounded at the owner's expense.

In addition, the MWRDGC operates a Citizen Reporting System where any questions/comments ranging from illegal discharge to spill control to river debris can be reported.

The number is: 1-800-332-DUMP.

Stormwater Ordinance

The Stormwater Manual (Manual) was created for developers, engineers and architects preparing development plans in the City of Chicago. The goals of the Manual are to provide the technical tools and guidelines necessary to comply with the Stormwater Ordinance and Chapter III of the Regulations for Sewer Construction and Stormwater Management.

The Department of Buildings (DOB) develops, organizes, and runs technical seminars at least once per year at various venues for engineers, architects, and the public on stormwater ordinance requirements.

Construction and Demolition Debris Recycling

The Department of Public Health promotes the responsible separation and recycling of construction and demolition (C&D) debris to help contractors and property owners save on costly disposal fees while protecting the environment. Under the Construction and Demolition Site Waste Recycling Ordinance, contractors must:

- Keep record of the amount of C&D debris that is generated on project sites.
- Recycle at least 50% of the recyclable debris that is generated.
- Submit a Recycling Compliance Form to the Department of Public Health at the end of each project, along with an affidavit from the waste hauler or recycler.

Solid Waste Collection

Residential Garbage Collection

Residential garbage and recyclable materials are collected by the Department of Streets and Sanitation (DSS) from Chicago homeowners weekly and bi-weekly, respectively. Nearly one million tons of garbage and recyclables are collected annually, where they then are delivered to waste and recycling processing facilities as described below.

Recycling Efforts

Blue Cart Residential Recycling Program

The Blue Cart program provides bi-weekly recycling services to approximately 625,000 residential units consisting of single-family homes and multi-unit buildings with four or fewer units, as well as city facilities. By participating in the program and recycling regularly, residents can help reduce the need for landfills, lower disposal costs, reduce pollution, and conserve natural resources such as timber, water, and minerals. If a high-density building (5+ units) is not providing a recycling program, residents should contact their landlord or request a Recycling Inspection using the 311 system, as the property manager must contract with a private waste hauler to provide recycling service per the Chicago Recycling Ordinance. Chicago's Blue Cart program is the City's largest effort for residential recycling.

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The Blue Cart program divides the city into six service areas based on geography and number of households. In June 2021, DSS partnered with Lakeshore Recycling Systems (LRS) to service the majority of the city's residential recycling. DSS' Bureau of Sanitation now maintains service in zones 2 and 4, while LRS collects recyclables from the remaining four zones.

The DSS crews empty the Blue Carts along their routes and take the recyclable material to a service yard called a transfer station. Recyclable materials are consolidated into larger vehicles and transported to an LRS material recovery facility (MRF) in Forest View, Northbrook or the Chicago Stockyards to be processed. LRS trucks leave from depots in Maywood and the Chicago Stockyards. The blue carts are serviced, and the material is brought to an LRS material recovery facility (MRF) in Forest View, Northbrook or the Chicago Stockyards to be processed. After recyclables are collected, the material is brought to one of three MRFs.

In February 2023, LRS opened a new state-of-the-art MRF in the Chicago Stockyards. This new facility processes 25 tons per hour. As of March 2023, 90% of Chicago's Blue Cart material is processed at this site.

Residential Recycling Drop-Off Centers

In addition to the Blue Cart curbside collection program, DSS maintains two Residential Recycling Drop-off Centers to recycle the same full range of materials accepted in the Blue Cart program, including paper, plastics, glass and cardboard. They are accessible anytime during daylight hours, 7 days a week to drop off the recyclables collected from homes.

The drop-off center locations are:
Far North Side (6441 N. Ravenswood)
Near South (1758 S. Clark St.)

The drop-off centers are picked up on a regular schedule. If a drop-off center is full or overflowing, residents can call the Recycling and Materials Management office line at (312) 744-2413 to report the location of the center and the date it was full.

Organic Waste Diversion

Composting keeps food scraps out of landfills, reduces harmful greenhouse gas emissions, and recycles nutrients that enrich soil. The Department of Streets and Sanitation introduced programs in 2023 (Food Scrap Drop Off Program) and 2024 (Backyard Compost Bin Giveaway) to encourage this practice.

Food Scrap Drop Off Program

In October 2023 the Department of Streets and Sanitation launched Chicago's first-ever citywide Food Scrap Drop-Off Program, and all Chicago residents are able to drop off their household food scraps for composting at one of 20 locations across the city, at no charge. In its first full year of operations, 6,000 Chicago households signed up to participate, with nearly 300 tons of food waste diverted from landfills to a local compost facility.

Backyard Compost Bin Giveaway

In October 2024 the Department of Streets and Sanitation launched a Backyard Compost Bin Giveaway program, offering up to 20 bins for residents in each of Chicago's 50 wards. This program provides similar environmental benefits to the Food Scrap Drop-Off Program, with the additional advantage that no transportation is required, and the resident will see a direct benefit of having compost generated for their personal use.

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Recycling Block Captains

Through its Recycling Block Captain program, the Department of Streets and Sanitation invites interested residents to learn about and serve as a community ambassadors for the City's Blue Cart and other types of recycling. As a Recycling Block Captain, residents may ask questions and provide feedback to DSS staff about how the programs are working, and they receive regular communication providing information and seasonal updates on events that they in turn can provide to their neighbors. The DSS team will ensure the Recycling Block Captains have the knowledge they need to be a trusted ambassador and effective advocate for their communities. Residents can become a Recycling Block Captain by signing up online.

Chicago Hazardous Chemicals and Computer Recycling Facility

The City maintains the Household Chemicals & Computer Recycling Facility (HCCRF) to provide residents with a central location to dispose of potentially hazardous household chemicals and computer equipment. The chemicals from a single home might seem insignificant, but with over a million homes in Chicago, the proper disposal of toxic household chemicals plays an important role in the protection of our water supplies and the environment. Hazardous chemicals should not be poured down the drain, on the ground, into storm sewers, or put in the trash. In 2012, the State of Illinois passed a law banning computer equipment from landfills. It is thus important to recycle electronic waste, with the recycling of obsolete electronics keeping toxins like lead, mercury, and polychlorobiphenyls (PCBs) out of our environment. Recycling electronics also recovers precious resources like gold, silver, copper, and palladium which can be reused, reducing our need for additional mining.

Electronics Recycling Drop-off Events

Old electronics are comprised of precious metals and rare earth elements that are in short supply. They also contain toxic chemicals that should not end up in a landfill. The State of Illinois has electronic recycling or 'e-waste' laws that require that old electronics be responsibly recycled.

In addition to the permanent HCCRF that is open year-round, CDPH hosts Residential Electronics Recycling Drop-Off events between April 1 and December 30 every year, where residents can drop off electronics for recycling at one of seven locations on certain days throughout the month from April through December. The City of Chicago also hosts dozens of drop-off electronics recycling events across the city, making it easier than ever to properly dispose of your electronics. Residents are asked to bring their materials to the sites where they will be safely packaged and shipped for recycling or disposal.

Product Ban and Substitution

The City of Chicago has taken measures to reduce the use of products that do not degrade in the environment.

Polystyrene

More than 22 million pounds of plastic debris enter the Great Lakes every year, half of which winds up in Lake Michigan. To reduce pollution at its source, the Illinois House of Representatives passed legislation for the Polystyrene Reduction Act – effective January 1, 2025 – that prohibits the sale and distribution of single-use polystyrene foam.¹¹ In 10 years of cleanup, volunteers have collected 57,000 foam pieces from Illinois beaches and waterways. The ban on foam could lead to decreased plastic pollution in communities and waterbodies.¹²

Checkout Bag Tax

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The Checkout Bag Tax is imposed on the retail sale or use of checkout bags in Chicago to deter consumers from using plastic bags that could end up in waterways. Prior to 1/1/2025, the tax is imposed at \$0.07 per checkout bag sold or used in the City. As of 1/1/2025, the tax is imposed at \$0.10 per checkout bag sold or used in the City.¹³

Control of Product Use

The City of Chicago has procedures in place to control the use of products such as fertilizers, pesticides, de-icing salts.

Fertilizer/Pesticide Control

The City of Chicago has developed a sustainable operations plan for conducting day-to-day operations at City facilities in a sustainable manner. It provides actions for management, employees, and departments to implement as part of their daily operations. This plan intends to remind departments to make environmentally conscious decisions and to integrate sustainability measures as a standard practice into everything we do¹⁴.

The Landscape Management Plan specifically calls for the use of only organic fertilizer and for its use to be kept to a minimum to prevent eutrophication of local waterways.

De-Icing Salt Control

DSS controls excess salt runoff for storage (indoor or covered salt storage locations, impervious pads, runoff containment, level loading areas, and good housekeeping control) and application (pre-wetting, anti-icing, variable application rates, calibration of equipment, proper operational techniques that are reinforced through supervisor oversight, grip of road measurements, and tracking of customer complaints to identify areas of improvement).

MWRDGC has partnered with the Lower Des Plaines River Watershed Group and the Salt Smart Collaborative to raise awareness of the impact of road salt on the environment. MWRDGC has a dedicated webpage, Go Easy on the Salt, which provides information on environmental impact, proper road salt use, salt alternatives, and best road management practices for roadway managers, municipalities, and private contractors.¹⁵

Control of Illegal Dumping

The City of Chicago has in place both regulatory and public education programs aimed at controlling illegal dumping that could contribute to pollution of area waterways. The City has committed to continued implementation and promotion of these programs as part of its Phase II NPDES Storm Water effort. Specific features of these programs are described below.

Regulatory Control

The City of Chicago Sewer Ordinance currently specifies that "no person shall discharge or cause to be discharged into any portion of the sewer system or waterway any of the following materials: any steam, chemicals, grease, oil, fatty matter, butcher's offal, garbage, dead animals, stone or dust; any waste capable of causing obstructions of any kind or of destroying or corroding masonry; any prohibited wastes as defined by the Department of Water Management (DWM), or any other governmental agency charged with regulation of waste disposal; or any other material which the Commissioner determines is likely to obstruct or stop the flow of wastewater in the public sewer system."

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DWM coordinates and reports issues or potential illicit discharges/illegal dumping from concerned residents via Citywide 311 system. Complaints are investigated and citations are issued if necessary. All violations are to be fixed accordingly per Municipal Code Chapter 11-16- Public sewers and drains.

DWM responds aggressively to any report of an illegal dumping to the city sewer system. As part of its protocol and strategy of Illicit Discharge Detection Elimination (IDDE), the City of Chicago created a standard operating procedure documenting existing procedures for responding to and eliminating illicit discharges to City sewers. The procedure includes a summary of DWM contact information that can be distributed to other City Departments and used as a reference for efficiently directing reports of illicit discharges. The procedure also includes provisions for appropriate communication and interaction with staff of the MWRDGC. This effort will:

- Document DWM procedures for responding to reports of illegal dumping;
- Establish specific contacts within the DWM for receipt and handling of reports of illegal dumping; and
- Define appropriate procedures for coordination with the MWRDGC on issues related to illegal dumping.

DWM routinely updates geospatial data containing the location and attributes of CSO outfalls to reflect up to date information and data regarding field activities and investigations. The City commits to inspecting all outfalls during each permit cycle, with DWM inspecting a portion each year. During these inspections, the condition of the outfalls is documented, photographs are taken, GPS coordinates are recorded, and DWM staff verify that there is no dry weather flow from the CSO outfall. Results from investigations will be used to update the GIS and repair failing outfalls. Any evidence of past illegal discharges will be documented and dealt with accordingly.

Stormwater Ordinance

The Chicago Stormwater Management Ordinance passed City Council in December of 2006, and is fully enforceable as of January 1, 2008.

The 2024 City of Chicago Storm Water Management Regulations and Ordinance Manual can also be found in the following website address:

The ordinance is performance based, designed to:

- Manage stormwater before it gets to the sewers.
- Minimize stormwater flows into the combined sewer system.
- Improve sewer infrastructure performance.
- Increase neighborhood green space.
- Compliment the Landscape Ordinance.

Regulated Developments must be designed to manage the 100-year storm event and provide means to manage and direct overflows to the public right-of-way. Regulated Developments include any land disturbance over 15,000 square feet (approximately 4 city lots and larger) or an at grade impervious areas over 7,500 square feet (approximately 20 space parking lot and larger) or results in any discharges of stormwater into any waters or separate sewer system.

The definition of disturbed area includes 25 percent of the square footage of the sidewalls of a building that are directly connected to the combined sewer system, via side gutters, and any average dry-weather

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flow (based on 1.0 cfs = 43,560 sf). However, detached single family dwellings are excluded from the ordinance.

The ordinance enforces the following controls:

- Rate control: timing of water entering system.
 - Based upon the capacity of existing sewer or
 - Accept standard vortex restrictors from the City.
- Volume control: amount of water entering system.
 - Capture the first 1 inch of a rain event or
 - Achieve 15% reduction in impervious surface from baseline conditions.
- Soil erosion and sediment control
- Operations and maintenance plan

The number, size and locations of sewer connections are also regulated, and applicants may need to provide detention to accommodate the allowable size of a stormwater connection to the City sewer system.

This ordinance is a progressive step towards controlling stormwater originating from new development.

Soil Erosion and Sedimentation Control

All relevant Best Manages Practices from the Illinois Urban Manual (IUM) must be implemented. Furthermore, as all municipal new construction must be Leadership in Energy and Environmental Design (LEED) certified, many of the construction site practices exceed the IUM standards. For both public and private construction, four Departments have inspectors that enforce and regulate construction site activity in the field: Department of Streets and Sanitation, Department of Public Housing, Department of Water Management, and the Department of Buildings.

For Regulated Development submittals, DOB reviews erosion and sediment control plans to verify compliance with the Stormwater Ordinance. Once plans have been confirmed to contain the proper controls, DOB requires the permittee to sign a soil erosion and sediment control affidavit to ensure proper measures are followed during construction.

Bulk Refuse Disposal

Residents in the City of Chicago can arrange with their streets and sanitation ward superintendent for a bulk pick-up if they have any large items or extra load of trash (after cleaning basement or attic, for example).

Interdepartmental Coordination

The city has formed an interdepartmental environmental management team for key infrastructure departments. The team facilitates the sharing of best practices for environmental issues between departments, including pollution prevention.

Hazardous Waste Collection

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The CDPH Environmental Permitting and Inspections team aims to protect public health and the environment by reducing environmental risks throughout the city. Staff in this program respond to citizen complaints, inspect sites and facilities, and enforce the environmental ordinances in the Chicago Municipal Code. Approximately 8,000 permits are issued each year for operations and activities that have an impact on the environment. For example, permits are issued for work involving above ground and underground storage tanks, recycling facilities, waste handling facilities, construction site rock crushers, sandblasting, grinding, chemical washing, and the installation and operation of any equipment that has the potential to create or control air pollution. MWRDGC keeps an updated list of significant industrial users and monitors their pretreatment programs.

Household Hazardous Waste Collection Centers

Recognizing a need for a permanent household hazardous waste collection and electronics recycling site in Chicago, the City of Chicago opened a city-wide Household Hazardous Waste Collection (HHW). HHW, located at 1150 N. North Branch, is open regularly throughout the year for the disposal of common household items that are neither fit for garbage nor standard recycling, such as batteries, electronics, household chemicals, and even old medicines. The 12,770 square foot structure serves the City as a central drop-off point for electronics and other potentially hazardous waste.

The facility accepts materials for recycling or safe disposal such as antifreeze, used motor oil, old gasoline, oil-based paints, paint thinners, aerosol paints, herbicides, insecticides, pesticides, lawn chemicals, solvents, drain cleaners, cleaning products, pool chemicals, hobby chemicals, mercury, fluorescent lamps and bulbs, computers, and cell phones.

There are currently three permanent HHW collection facilities in the Chicago Metropolitan Region (Chicago, Naperville, and Gurnee). The HCCRF serves thousands of Chicago residents each year, and the Chicago Department of Public Health reported collection of over 125,000 pounds of HHW, nearly 8,000 pounds of pharmaceuticals, and over 350,000 pounds of electronics in 2020. Electronic equipment is one of the fastest growing items of waste in the United States.

Battery Recycling Program

The City of Chicago's household battery recycling program is available at over 200 possible drop-off locations city-wide such as all Chicago Public Libraries and Walgreens locations. Recycling batteries keeps hazardous materials out of the waste stream. This program reclaims the battery components for reuse. All common dry cell batteries can be recycled, including alkaline, rechargeable, and other common types. Wet cell batteries, like car batteries, cannot be recycled through this program.

The City of Chicago has instructions on drop off locations for household waste. The Household Chemicals and Computer Recycling Facility accepts rechargeable, lithium, car, and lead acid batteries (do not accept alkaline).

Used Motor Oil Recycling

Pouring used oil on the ground or into the sewer can cause harmful pollution of the soil, rivers, lakes, and ground water, as well as damage to local water treatment plants. Used oil does not readily dissolve in water and is slow to degrade in the environment. As a solution to this problem, select Amoco, Jiffy Lube, Oil Express, O'Reilly's Auto Parts and Pep Boys locations in the City now accept motor oil for recycling. This environmental initiative by these companies guarantees that people have a safe, legal place to take used motor oil.

The City of Chicago has instructions on drop off locations for household waste. The Household Chemicals and Computer Recycling Facility accepts motor oil.

Water Conservation

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Only 1% of Lake Michigan is naturally replenished each year. This means that some of the water used today has been in the lake for 100 years. The amount of water the City can take from Lake Michigan is governed by Federal Law, an International Agreement with Canada, and US Supreme Court cases. As caretakers of this precious resource, it is the City's duty to care for it responsibly and ensure that it remains a healthy resource for future generations.

Water conservation programs include outdoor water use restrictions, plumbing restrictions through municipal code, installation of water meters on residential properties, replacement of aging water main suspected of contributing to leakage, hydrant controls, education campaigns, code revisions, etc.

Water Conservation in Municipal Code

The City of Chicago conserves water through the regulation of plumbing fixtures and outdoor water use. Chicago Municipal Code Section 18-29-604.4 sets strict limits on the maximum water flow rates and flush volumes for plumbing fixtures and fittings, ensuring efficient water usage. Additionally, the City participates in the U.S. Environmental Protection Agency's WaterSense program under Section 18-29-604.4.1 to promote water-saving technologies and practices.

To further support responsible water management, Chicago regulates outdoor water use by restricting sprinkling to specific timeframes when the sun is not at its peak, minimizing evaporation and ensuring efficient watering practices.

Sprinkling restrictions applied:

- Permitted from 5 am until 8 am, and 7 pm until 10 pm, Mondays through Fridays.
- No restrictions on weekends and holidays

Water Conservation Website

The City of Chicago maintains a Water Conservation informational site to promote water conservation.¹⁶

Chicago Water Main and Lead Service Line Replacement Programs

The City's water main and lead service line replacement programs are replacing the existing lead service lines from the water main to the meter or first shutoff inside the house. This work includes the installation of a water meter for each service replaced. All new water services will be equipped with a new water meter.

Commercial/Industrial Pollution Prevention

Commercial/Industrial Pollution Prevention

Through the federal Emergency Planning and Community Right-to-Know" Act of 1986, the Department of Assets, information services (AIS), in cooperation with the Chicago Fire Department (CFD) provides information on location, amounts, and containment of hazardous substances. The AIS also has information on the type of chemicals Chicago companies produce or use; the maximum and average amounts the company stores; and how and where the material is stored. Certain facilities also must report releases of hazardous substances and specify how much, where, and what kind of chemicals are released.

Business Owner Litter Control

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DSS has implemented an aggressive anti-littering program to promote the safe disposal of all trash and debris. The following list is a summary of the general sanitation laws (code) which business owners are responsible for complying with:

- Sidewalks and exterior areas must be kept clean, free of weeds and all litter. Outside areas adjacent to the premises must be kept clean, neat, and monitored daily. (4-4-310)
- Arrange for refuse to be removed by a licensed scavenger service. (7-28-310)
- Check the dumpster area often. Dumpsters must be in good condition properly sealed and not leaking. Garbage must be contained with lids closed and locked. Have sufficient containers to hold all garbage. (7-28-210)
- Use and maintain a clean grease box. Grease must be properly contained with the walls and ground around the container clean at all times. (7-28-302)

The City of Chicago regulates and enforces grease traps. Grease traps are required at every commercial kitchen and multi-dwelling units to reduce fog from entering the system. If found not to be compliant the city will issue citations per Municipal code 18-29-1003.3.1

The Department of Water Management is authorized to require installation of a grease interceptor or other remedial measures for other types of buildings where either:

- Wastewater discharged to the public sewer contains fats, oils or greases of animal, vegetable or mineral petroleum origin at a concentration exceeding 15 mg/L.
- The building sewer has a visually evident accumulation of fat, oil or grease of animal, vegetable, or mineral petroleum origin which either alone or in combination with other wastes is reasonably likely to be capable of obstructing the flow or interfering with the operation or performance of any part of the sewer system.

Space to Grow and Tree Planting Programs

Space to Grow

Space to Grow, Chicago's green schoolyards program, serves as a model for green schoolyard programs around the country as well as internationally. Space to Grow is an innovative public-private partnership that builds green schoolyards at neighborhood public schools in low-income communities of color in Chicago. The program model leverages public investment of capital resources and expertise from Chicago's two water agencies, the public school district, the Chicago Mayor's office, and nonprofit organizations. In collaboration with DWM, Space to Grow works to provide stormwater management education materials and assist with workshops for schools and communities.¹⁷

Tree Planting Programs

Trees play a vital role in stormwater retention by holding large amounts of water in their leaves and bark, allowing for evaporation and gradual release into the ground. They intercept rain, with some water evaporating and some seeping into the soil, while fallen leaves create a spongy layer that retains moisture and supports decomposition, reducing runoff and pollutants. Roots stabilize the soil and absorb water, contributing to groundwater recharge, and harbor organisms that break down organic matter and recycle elements for use in plant growth. This important layer also allows rainwater to percolate into the soil rather than rushing off carrying with it oil, metal particles and other pollutants.

A single tree can store over 100 gallons of water, and in communities, this can lead to a 2-7% reduction in annual runoff, resulting in cost savings on drainage systems. Studies show that combining trees with

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natural landscaping can reduce storm runoff by up to 65%, with some areas retaining 100% of rainfall on-site.

As of 2024, the City of Chicago has approximately 585,000 trees which intercept 149,000,000 gallons of rainwater per year.

Trees can also be used for minor volume control benefits and to reduce urban heat island effects.

Urban heat island effects are reduced because trees provide shade to impervious surfaces, thereby decreasing the temperature of the surfaces and subsequently the temperature of the surrounding air and of any stormwater that passes over the impervious area. Lowering the temperature of stormwater runoff can be beneficial in improving the water quality of receiving streams.

Existing trees located on development sites that are preserved as part of the site plan and proposed trees located on development sites that are planted within 20 feet of on-site impervious areas may count as a deduction of impervious areas on site for volume control calculations. The tree species must be chosen from the approved list provided by the DSS BOF. New trees planted must be planted within 20 feet of ground level impervious surfaces. New trees must be at least 2-inch caliper at 4.5 feet above ground level to be eligible for the reduction. A 50 sq.-ft. reduction in impervious area is permitted for each new tree. Only 50% of the canopy area of an existing tree of at least 4-inch caliper, within 20 feet of ground level imperviousness, may be credited towards a reduction in impervious area.

Tree preservation during Chicago Department of Transportation capital street reconstruction and during Department of Water Management maintenance of sewer and water infrastructure should be prioritized to retain existing mature tree canopy and maximize the storm water management benefits. Trenchless technology is slowly replacing open excavation practices which often necessitate tree removal and should be considered as a first option of construction around healthy mature trees.

Tree planting along streets and in public spaces, should also be encouraged to promote storm water and pollution mitigation throughout the City of Chicago. DSS BOF and CDOT are currently in a 6-year program to plant 75,000 new trees on the City right-of-way. Today these and other city agencies have planted 60,000 new trees and will complete the goal in the next two years.

Reduction of CSO - Capture, Conveyance, and Treatment

Source control and stormwater management efforts described above are significant elements of the City of Chicago's CSO Pollution Prevention Plan. However, the plan also relies on the successful reduction of the frequency and volume of CSOs from the City's sewer system.

Since 1972, Chicago has pioneered the use of deep tunnels to capture, convey, and store combined sewage during storms for later treatment. During this 50-year period, the City has successfully partnered with the MWRDGC and various State and Federal agencies to implement capital improvement projects required to make effective use of the deep tunnel system. As a result, the frequency and magnitude of combined sewer overflows to area waterways have been dramatically reduced and water quality in the receiving streams has significantly improved. One measure of the impact from the deep tunnel system is the number of fish species found in the Chicago River.

MWRDGC Tunnel and Reservoir Plan (TARP), also known as "Deep Tunnel," is a system of deep, large diameter tunnels and vast reservoirs designed to reduce flooding, improve water quality in Chicago area waterways and protect Lake Michigan from pollution caused by sewer overflows. TARP captures and stores combined stormwater and sewage that would otherwise overflow from sewers into waterways in

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rainy weather. This stored water is pumped from TARP to water reclamation plants (WRPs) to be treated before being released to waterways.

TARP includes four tunnel systems totaling 109 miles of tunnels, 8 to 33 feet in diameter and 150 to 300 feet underground. The four TARP tunnel systems capture and convey combined sewage and stormwater to the Majewski Reservoir, Thornton Composite Reservoir and McCook Reservoir (Stage I). The system will have a combined sewage capacity of 17.5 billion gallons when Stage 2 of McCook Reservoir is completed. That is more than 4,666 gallons for each person in its service area. Construction on the McCook Reservoir Stage 2 is scheduled for completion in 2029.

In 1974, prior to implementation of the TARP, only 10 fish species were found in the Calumet and Chicago River systems. With improvements in wastewater treatment technology, the species count rose to 33 by the early 1980s. In 1984, the first TARP tunnel projects came online, reducing the frequency and volume of combined sewer overflows. Subsequently, the species count rose gradually to 54 by 1990, and had reached 63 by 2000. This steady climb over the years is due in part to additional segments of the TARP tunnels coming online, further improvements in treatment plant performance, and supplemental aeration of the waterways. It is paramount to understand that TARP is incomplete until the reservoirs come online. At that point, the system will have a far greater capacity to manage stormwater and sewage.

In recent years, the City of Chicago has aggressively moved forward with improvements to its local sewer system infrastructure. Since the completion of a comprehensive assessment of the sewer system in the mid 1990's, the City has implemented capital programs aimed at eliminating capacity bottlenecks in the sewer system, maximizing the effectiveness of the TARP system, and controlling the entry of stormwater into the combined sewer system. In particular, the City has implemented a comprehensive program of inlet control known as "Rain Blocker" in many combined sewer areas. The Rain Blocker program relies on restrictors installed in street catch basins to limit the rate of entry of stormwater into the combined sewers to the system's capacity, thereby reducing the risk of sewer surcharging and associated basement flooding. At the same time, the program decreases peak flows from the combined sewer system to the regional interceptors and TARP facilities, thereby reducing the potential for combined sewer overflows. The program was fully implemented in 2002 with restrictors installed in the majority of catch basins outside of the Central Business District. All new construction or lining involving catch basins includes installation of a new restrictor. Maintenance and inspections at catch basins involve examining and cleaning the restrictor. If the restrictor is damaged it will be replaced. Restrictors are replaced as part of the lining program.

The Sewer Rehabilitation program includes proactively lining sewer and catch basins, cleaning out sewer assets, and repairing defective private drain connections. Operations are overseen by DWM.

Completed in 2017 the City is undergoing the first of its kind computer model to simulate the wet weather flows of the City's trunk sewer system. This model will assist in facilities planning, and the allocation of resources. It will also allow the DWM to better resolve the capacities of overflow points, and thus manage stormwater inputs in a more detailed and accurate fashion. The model will be system wide and fully integrated into the efforts of the MWRDGC. It will be updated to reflect new construction and/or additional information regarding the combined sewer system. DWM will be better able to provide cost effective solutions to overflows.

Summary

The City of Chicago has a historic legacy in protecting its valuable water resources. The history and development of Chicago are inextricably linked to the management of the area's water resources and water quality. The CSO Pollution Prevention efforts outlined in this plan demonstrate the City's ongoing commitment to the protection of area waterways. These efforts will be coordinated with other City efforts aimed at improvements in the overall management of stormwater runoff (Phase II NPDES program),

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promotion of the clean-up and redevelopment of idle commercial and industrial parcels (brownfields program), climate change adaptations and mitigation, establishment of additional "green" space within the City (open space and green roof programs), enhancement of existing natural areas (e.g., riparian corridors along major waterways) and overall protection of surface waters and natural wetland areas.

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⁴ City of Chicago. Streets and Sanitation. Supporting Info. Clean & Green. https://www.chicago.gov/city/en/depts/streets/supp_info/clean--green.html

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⁶ Greater Auburn-Gresham Development Corporation. Community. Special Service Area (SSA) #32. <https://www.gagdc.org/Our-community/Special-Service-Area-SSA-32/index.html>

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⁸ MWRD Geohub. Combined Sewer Overflow (CSO) Reporting <https://geohub.mwrdd.org/pages/cso>

⁹ City of Chicago. Departments. Water Management. Supporting Info. Water Conservation. Downspout Disconnection. https://www.chicago.gov/city/en/depts/water/supp_info/conservation/downspout_disconnection.html

¹⁰ Greencorps Chicago <https://greencorpschicago.org/>

¹¹ 103rd General Assembly, State of Illinois. <https://www.ilga.gov/legislation/103/HB/PDF/10300HB2376.pdf>

¹² Microplastics in the Great Lakes: Unsafe for wildlife. <https://www.ewg.org/news-insights/news/2023/12/microplastics-great-lakes-unsafe-wildlife>

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¹⁴ Sustainable Operations Plan https://www.chicago.gov/city/en/depts/2fm/supp_info/Sustainable_Operations_Plan.html

¹⁵ Metropolitan Water Reclamation District of Greater Chicago. Community Action. Go Easy On The Salt. <https://mwrdd.org/community-action/go-easy-salt>

¹⁶ City of Chicago. Departments. Water Management. Supporting Info. Water Conservation. https://www.chicago.gov/city/en/depts/water/supp_info/conservation.html

¹⁷ Space to Grow. <https://www.spacetogrowchicago.org/>