



# **Storm Water Pollution Prevention Plan**

for the

## **Sanitary District of Decatur**

501 Dipper Lane  
Decatur, Illinois 62522

**NPDES Permit IL0028321**  
**Special Condition 19**  
September 2022

## 1. Site Description

This Storm Water Pollution Prevention Plan (SWPPP) was developed to meet the requirements of the NPDES program requiring permit coverage for storm water discharges from municipal wastewater treatment facilities with design flows of 1.0MGD or more. The Sanitary District of Decatur (SDD, District) treatment plant occupies a site in the southwestern portion of Decatur (see Figure 1). Storm water from the site flows via surface drainage and underground pipes to one of five storm water pumping stations, and the pumping stations discharge collected storm water to either Stevens Creek or the Sangamon River.

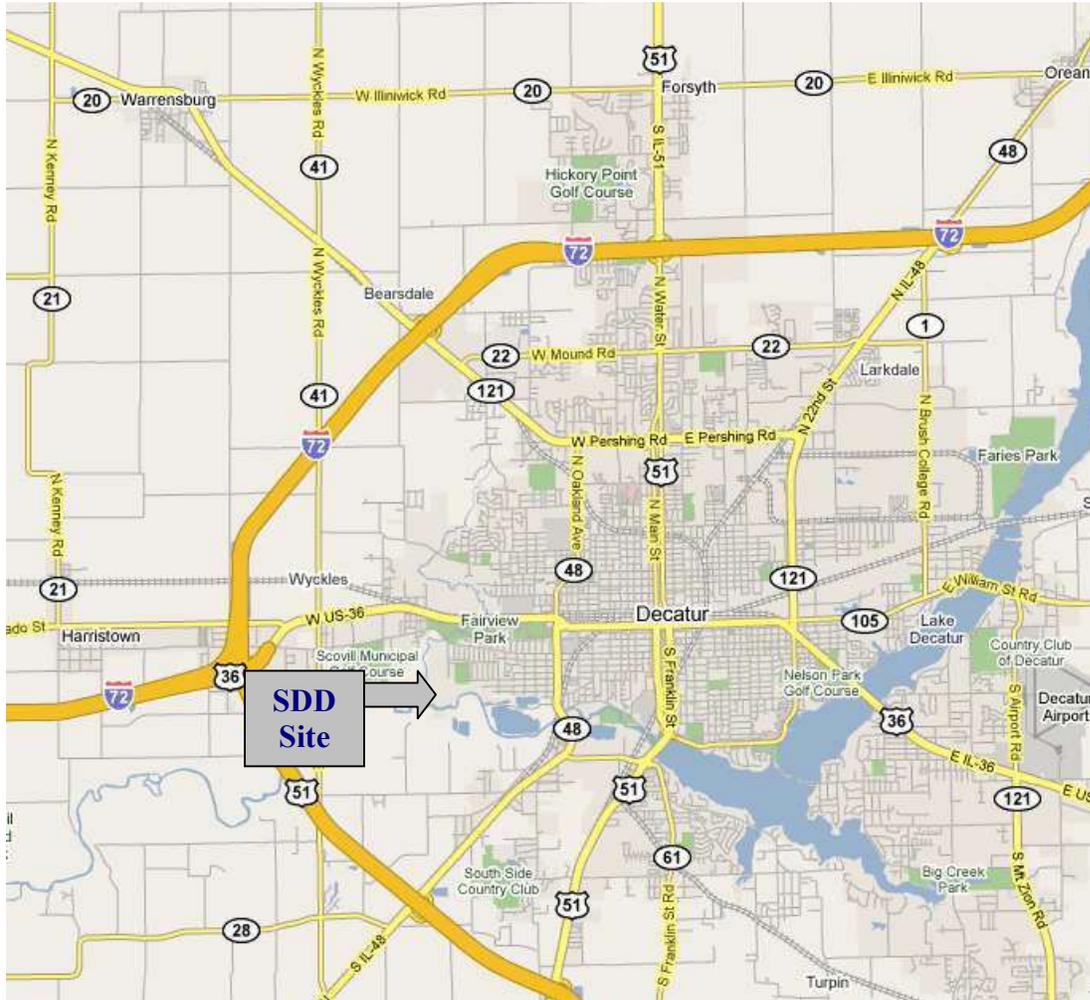


Figure 1. Location map

Designed to treat an average flow of 41 million gallons per day, the SDD facility includes screening, grit removal, primary settling, two stage activated sludge treatment, chloramination-dechloramination, and anaerobic sludge digestion. Treated effluent is discharged to the Sangamon River. District maintenance and administration facilities are also located at the site. Digested sludge is transferred to the Wyckles Road solids facility for storage prior to land application.

“No Exposure” certifications have been completed for the Wyckles Road site and four combined sewer overflow treatment facilities.

The treatment units and facility equipment are designed to contain wastewater and sludge so that storm water is not affected by wastewater treatment operations. However, a few areas exist where “industrial equipment” as described in federal regulations is exposed to storm water. A potential also exists for

releases of wastewater, sludge, and chemicals used in the treatment process to occur in the event of a pipe, tank, or pump failure. This plan describes actions taken to prevent both normal operations and accidental releases from impacting storm water discharged to receiving waters.

## 2. Topographic Map

A topographic map of the SDD site is shown in Figure 2. Wells numbered 00258, 00259, 00857, 00858, and 00860 are shown on the plant site or within one-quarter mile of the plant boundary. These wells were installed by SDD for site dewatering and are not used as water supply wells.

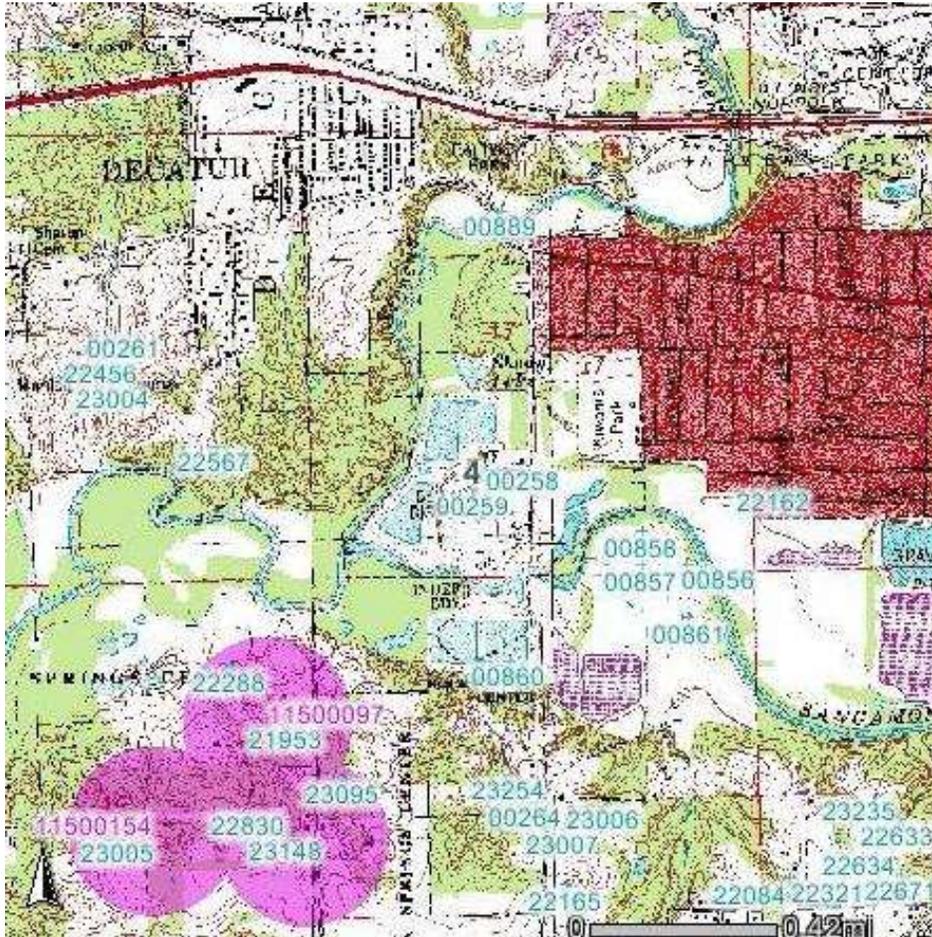


Figure 2. Topographic map

## 3. Site Map

A site map showing storm water piping, inlets, discharge points, paved areas, buildings, and drainage basins is attached (See Addendum A). Due to the size and complexity of the facility, areas used for material storage, loading, and handling are not shown on the map but are described in the narrative below.

The treatment plant site is surrounded by a flood protection levee and nearly all storm water from the site is tributary to one of six stormwater pumpstations. The exception is the Lower Eastside area (SW-4) of the plant is at an elevation that drains by gravity; limited amounts of stormwater from this vegetated area flows through surface ditches to Sangamon River. For reference, the drainage basins and associated pump stations are shown in the following table.

<b>Drainage Basin</b>	<b>Storm Water Pump Station</b>
Laydown & City Park	Northeast Laydown & City Park (Structure 198) SW-1
Upper Eastside	Eastside 201 area (Structure 215) SW-2
Middle Eastside	Eastside 210 area (Structure 216) SW-3
Lower Eastside	Lower eastside grounds drain to Sangamon River SW-4
Southside	South (Structure 263) SW-5
Westside & Inner Plant	West (Structure 261) SW-6
Northside	North (Structure 218) SW-7

#### 4. Narrative Description of Significant Materials and Chemicals

The following materials are present at the SDD treatment plant site and could, if improperly managed, contaminate storm water discharged from the plant site:

a. Wastewater; sludge

Under normal operating conditions, wastewater is contained in underground pipes or below-grade channels and tanks and will not be a source of storm water contamination. Various types of malfunctions could potentially result in overflows to the ground surface. Past incidents include an overflow from the West headworks influent channel following a power failure, and a break in sludge piping leading to pooling of sludge on the plant grounds. During these and similar occurrences, contamination of storm water discharges can be avoided by shutting down the impacted storm water pumping station or stations until the wastewater or sludge can be collected and returned to a process tank.

b. Septage

A location is provided at the West headworks for receiving septage and grease trap contents from waste haulers. Trucks bringing materials to the plant park on a paved area adjacent to the influent channel and discharge directly into the influent channel. Facilities for cleaning the area are readily available and used on a regular basis to keep the area clean. In the event of a spill both the Northeast and Southeast drainage basins could be impacted, depending on the volume released. Contamination of storm water discharges would be avoided by shutting down the impacted storm water pumping station or stations until the wastewater can be returned to a process tank.

c. Screenings; grit

Two separate screening and grit removal facilities exist, one each for the West headworks and East headworks. All screens, grit handling facilities (except for the grit settling tanks), and stored materials are indoors. Screenings and grit are collected in dumpsters and picked up by a commercial waste hauler.

d. Ferrous chloride

Ferrous chloride is utilized for hydrogen sulfide control in the anaerobic digesters by means of injection into the primary waste stream or into the plant headworks (this secondary location is rarely if ever employed). The solution is delivered in tank trucks and stored in tanks with a containment structure in Building 044. Any material spilled outside the structure during unloading would flow onto the adjacent plant parking lot area which does not utilize any stormwater drains, rather a spill of sufficient size would reach the plant grounds to the north which is managed by shutting down the Structure 218 (SW-7) north stormwater pumpstation until the spilled material was removed.

e. Sodium hypochlorite, sodium bisulfite, ammonia solution

Liquid sodium hypochlorite solution is used for effluent disinfection from April 1 through October 31. The solution is delivered by tank truck and unloaded into storage tanks located under roof in Building 264. A plant operator is present for deliveries of hypochlorite and other bulk chemicals. A spill during unloading would flow to storm water drains located in the yard surrounding the building and tributary to the 263 (SW-5) south stormwater pumpstation drainage area and would be managed by shutting down the

pumping station until the spilled material was removed. Hypochlorite solution is pumped to the adjacent 267 flow metering structure, located west of the 264 Building. The 264 tanks and pumps are under roof and located within a concrete containment structure. A spill within the containment structure would not reach storm water.

Liquid ammonia solution (28 percent urea ammonium nitrate) is utilized as a disinfection aid, ensuring that the chlorination process is producing combined chlorine (Chloramination) and not operating in breakpoint chlorination. The ammonia solution is delivered by tank truck and unloaded into storage tanks located under roof in Building 335. The 335 tanks and pumps are under roof and located within a concrete containment structure. A spill within the containment structure would not reach storm water.

Sodium bisulfate solution is also delivered by tank truck and is stored in tanks located inside Building 334. A spill during unloading would be in the South side drainage basin and would be managed by shutting down the pumping station until the spilled material was removed. The 334 tanks and pumps are under roof and located within a concrete containment structure. A spill within the containment structure would not reach storm water.

The District also maintains an emergency supply of Sodium Bisulfite in portable totes which are filled from the bulk tanks at the start of the disinfection season and if not used, the bisulfite is returned to the bulk tanks and used at the end of the season. These totes are stored in the lower level of 006 Building when filled and are monitored daily to detect any potential for leaks. Additionally, all drains are sealed to prevent the loss of any material outside the building.

f. Polymer totes

Polymer is used at the 114 Building for the dewatering of waste activated sludge using rotating drum thickeners. These polyethylene tote bins contain 325 gallons of polymer. Full totes are kept inside the 114 Building and empty totes are stored on the pavement outside Building 044 until picked up by container recovery company. The empty totes are managed to meet the "no exposure" criteria in federal guidance.

g. Fuel; waste oil

Plant staff are trained in the containment of Fuels/waste oils spills should they occur, and the equipment used utilize containment systems throughout the facility.

Underground storage tanks are provided for gasoline and diesel fuel used in plant vehicles near the fueling station west of Building 117. A spill during bulk delivery of fuel or during vehicle fueling would enter a storm drain in the Inner plant drainage basin and would be managed by shutting down the West storm water pump station until the spilled material was removed.

An above-ground diesel tank is located within a concrete containment structure south of Building 325. The fuel is used in a standby generator for the effluent pumps. A spill during bulk delivery of fuel would enter a storm drain tributary to the SW-5 south stormwater pumpstation.

Diesel fuel for the Building 013 generator and for the bypass structure generator is stored in tanks integrated with the bases of the generators. A release from the 013 Generator tank would be tributary drive lane to the East side of the building, however this unit has double wall containment for the fuel and meets requirements for exterior service.

Diesel fuel for the Building 203 generator and for the bypass structure generator is stored in tanks integrated with the bases of the generators. A release from the Building 203 Generator tank would be tributary to 215 Structure (SW-2) Southeast side storm water pump station and a release from the small bypass structure generator tank would likely be contained in and immediately around the building driveway. This unit also has double wall containment for the fuel and meets requirements for exterior service.

An above-ground kerosene storage tank is used to store fuel for small portable heaters used at various locations as needed. The tank is on the west side of Building 117 and a release would be tributary to a drain in the Inner plant drainage basin and the West Side storm water pump station. The storage tank provides secondary containment.

Waste oil is stored in an above-ground tank west of the 113 Building. A significant spill would likely occur only if the tank ruptured or was overturned. Spilled oil would enter a storm drain tributary to the west storm water pumping station and would be managed by shutting down the pumping station until the spilled material was removed. Secondary containment is provided for the tank.

#### h. Other Materials

A number of other materials and chemicals including lubricants, treatment chemicals, paint, solvents, cleaners, and pesticides, are used in plant operations and maintenance with varying frequency. Numerous laboratory reagents are utilized in the District lab. All these smaller quantity items are stored within buildings and are not exposed to storm water.

All materials are managed, handled, tracked, and stored in compliance with standards set forth by the SDS documentation and District Best Management Practices (BMP).

The Sanitary District is implementing a lubrication supply and containment system which will be located within Building 113. This new equipment will reduce further the likelihood of a spill of plant lubricants.

### **5. Narrative Description of Equipment and Vehicle Management**

Most of the process equipment is either inside buildings (i.e., most pumps, blowers, piping, etc.) or in locations where storm water that contacts the equipment enters process wastewater treatment units (for example clarifier drives and flow control gates). Exceptions are as follows:

#### a. Stored Equipment

Several locations exist for storage of unused plant equipment and supplies. A laydown area near the plant entrance is used to store materials such as pipe, fittings, pallets, and some used equipment. The equipment and materials in this area have been observed to contribute few if any contaminants to storm water. Runoff from this area is tributary to the 198 Structure (SW-1) Northeast stormwater pumpstation and flow could be retained in the event of a potential release.

Unused gratings and railings from various locations are stored near the 021 Structure. Also, unused piping and hose are stored along the north side and south side of the waste sludge holding tanks. No significant potential for storm water contamination exists from this stored equipment.

#### b. Vehicles

The District utilizes several vehicles for plant operations, maintenance, and administration. The total includes approximately 60 vehicles and trailers ranging in size from automobiles, pickup trucks, and vans to semi tractors and trailers used for land application of sludge, equipment hauling, and sewer or pump station maintenance. Smaller vehicles and equipment include lawn mowers, tractors, forklifts, side-by-side utility vehicles, and Electric Vehicles.

Most of the maintenance and repair for over-the-road vehicles is performed off-site at commercial facilities. Any minor maintenance done at the plant is completed in the maintenance shop or vehicle storage building. Maintenance on other vehicles is also performed indoors under roof. Vehicles are kept in good repair. Most stored indoors when not in use. Some vehicles by nature of their use are required to be stored outside. Vehicle storage, maintenance and repair are not a significant source of storm water contamination.

## **6. Waste materials**

### **a. Trash dumpster**

A roll off box for general refuse from the plant is in a fenced area at the west side of the plant, in an area tributary to the West storm water pump station. The potential for contaminated storm water from this area is minimal.

### **b. Vactor/Screening drying area**

The District uses a Vactor truck for sewer cleaning and maintenance, and an area is provided at the north side of the plant for receiving the truck's contents after completion of a job. A three-sided concrete structure is provided to contain large solids (i.e., plastic bottles, bags, sticks) and underdrains collect the water, conveying it to a pump station tributary to the plant influent. From time to time the area is also used to dry preliminary treatment screening material prior to final disposal at the local landfill.

The potential for contaminated storm water from this area is minimal. In September 2021 the District completed upgrades to this facility to improve its functionality which also improves groundwater protection afforded by this unit.

## **7. Existing Storm Water Controls**

Specific controls are described above as they relate to potential contamination sources. In general, good housekeeping is the primary control employed. Materials are stored and used in a manner to prevent storm water contamination. A high level of maintenance minimizes equipment failure that could lead to contaminant releases. Virtually all storm water from the plant site is from vegetated yard areas and from relatively clean pavement, roofs, and roadway areas.

## **8. Facility Size and Impervious Area**

The area within the plant fence is approximately 90 acres. Less than seven percent of this area is impervious surfaces such as roadways and roofs.

## **9. Storm Water Protection Inspections**

Storm water inspections will be conducted in accordance with the requirements of NPDES Permit #IL0028321 Special Condition 19 (SC 19, F. 8. & G.). Records of monitoring are kept on-site at the District Offices and are available upon request. An annual report will be submitted each year of the permit duration to the IEPA within 60 days of the effective date of the permit as required in NPDES Permit #IL0028321 Special Condition 19 (SC 19, K.).

## **10. SWPPP Coordinator and Spill Prevention Team**

The member roster and list of responsibilities for the pollution prevention team can be found in Addendum "B" of this document.

The SWPPP Team is responsible for implementing and maintaining all aspects of the Plan. Adjustments to the Team roster will be made only in Addendum B and will not constitute a revision of this SWPPP document.

## **11. Proposed Storm Water Management Controls**

### **a. Preventive Maintenance**

Preventive maintenance of all plant facilities and equipment is well established and documented in a computerized maintenance management system. Equipment is kept in good repair to prevent leaks, and storage tanks and other containers are routinely checked for leaks. Paved areas and plant grounds are

kept clean to prevent storm water contamination.

b. Good Housekeeping

Good housekeeping BMPs are employed at the facility. These include returning of vehicle and equipment wash water to the treatment process, secondary containment for bulk chemicals, indoor storage of materials, indoor fluid changes, timely cleanup of any spills, and proper waste material storage.

c. Spill Response

Storm water runoff from nearly all areas of the plant must be pumped to the receiving stream since a levee surrounds the plant. In most cases, therefore, the response to a release would be to suspend pumping until the released material can be collected and removed.

d. Sediment and erosion protection

The treatment plant site is relatively level and vegetation is maintained so that erosion and sediment loss from the site is minimal. Should construction activities on the site expose vegetated areas, a plan incorporating applicable requirements of the construction site NPDES general permit will be implemented.

e. Employee Training

Training will be provided annually for all plant personnel as an integral part of plantwide safety training. In addition, any significant modification of the spill response plan will be followed by additional employee training.

**12. Facility Inspection Schedule**

NPDES permit conditions require an annual inspection of the facility to verify conditions described in this SWPPP. The annual inspection deadline is September 30 of each year, and the written report is due at Illinois EPA by November 29. In addition, ongoing reviews will be conducted during the year to ensure that plant operations do not result in storm water contamination. Quarterly plant inspections will be performed and the reports from those inspections will be submitted with the annual inspection report to the Illinois EPA. Appropriate inspection documentation will be maintained as required by permit conditions.

**13. Other Program Requirements**

While District utilizes BMPs to ensure good spill prevention practices are followed and spill control planning is a part of this SWPPP. The SDD does not meet the requirements of 40 CFR 125.100 which therefore is not applicable as listed under Special Condition 19, H of the permit. And, the District does not meet the threshold which requires a SPCC plan under Section 311 of the Clean Water Act.

**14. Plan Date and Signature**

This Storm Water Pollution Prevention Plan has been prepared in accordance with good engineering practices. Qualified personnel properly gathered and evaluated information submitted for this plan. The information in this plan, to the best of my knowledge, is accurate and complete.

Signed:  \_\_\_\_\_

Date: September 27, 2022

Title: Director of Operations and Compliance

# Addendum A – Site Map



Figure 3. Site Map

## Addendum B – Spill Prevention Team List

This is the member roster and list of supervisory responsibilities for the pollution prevention team. The team is responsible for implementing the Storm Water Pollution Prevention Plan.

Leader: David Collard Office Phone: (217) 422-6931 ext. 214

Title: Director of Operations and Compliance Cell Phone: (217) 620-1433

Responsibilities: Coordinate all stages of plan development, inspections, and implementation; keep all records and ensure that reports are submitted, conduct inspections and oversee sampling program, oversee good housekeeping activities.

Member: Tim Gorden Office Phone: (217) 422-6931 ext. 221

Title: Operations Supervisor Cell Phone: N/A

Responsibilities: Operate the storm water pumping stations in accordance with the SWPPP; conduct operations staff training, serve as spill response coordinator; assist with inspections.

Member: Matt Nihiser Office Phone: (217) 422-6931 ext. 246

Title: Pretreatment Coordinator Cell Phone: N/A

Responsibilities: Assist with inspections and conduct or direct sampling.

Member: David Boys Office Phone: (217) 422-6931 ext. 237

Title: Safety and Training Coordinator Cell Phone: N/A

Responsibilities: Assist with the training program.

NOTE: All District staff are also de facto members of the Team in that they participate in daily observations, communications, and spill control & remediation as needed.