General Housekeeping and Pollution Prevention For Municipal Operations

St. Louis County Stormwater Management Plan

2020

Notes on our Virtual Town Hall Platform

- Participants are in listen-and-view mode

- There are several ways to engage
  - Type your question using Q/A icon at the bottom of your screen at any time (even before the Q/A portion has begun)

  - Everyone can read all questions posed and you can “Upvote” questions you want answered

Agenda

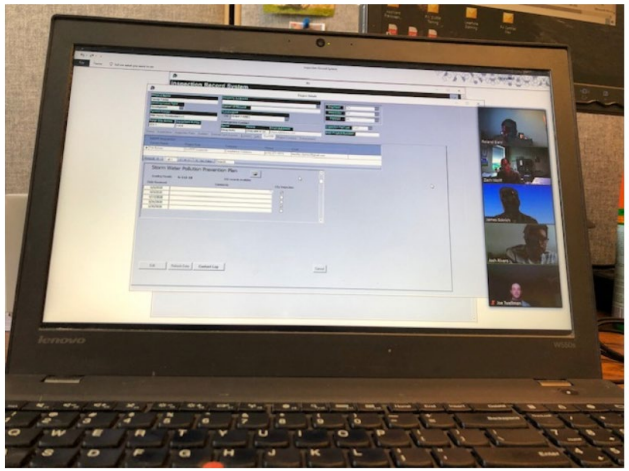
- Technology overview for today
- News
- Stormwater pollutants and municipal operations review
- “Take-aways” from recent audits
- Questions and comments

News

- MSD and covid19
- MSD Stormwater WEF Award
- Stormwater Survey Completed
- Next stormwater Permit 2022-2026

News

- Covid19 impact
  - First virtual MCM6 training, chat in questions
  - We will email you handout packet material
  - Recorded, share with your staff
  - Follow MDNR guidance if you can’t meet your BMPs



Very Good News!

- 2020 Water Environment Federation MS4 Award Winner!
  - We received one of the top three awards from the WEF National Municipal Stormwater and Green Infrastructure Awards Program - Best Phase II Organization in Innovation
  - Also received a Gold Level in Project Management categorization.
  - KEEP UP THE GOOD WORK. THIS AWARD IS FOR ALL OF US!

News

- Public Survey – how we doing

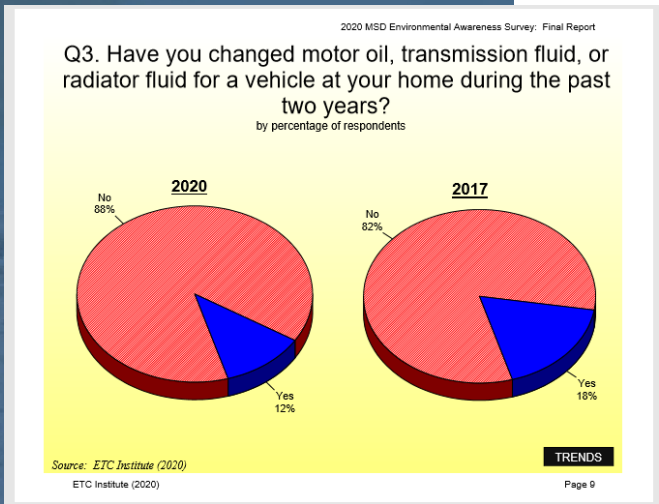
2020
Metropolitan St. Louis Sewer District
Environmental Awareness Survey

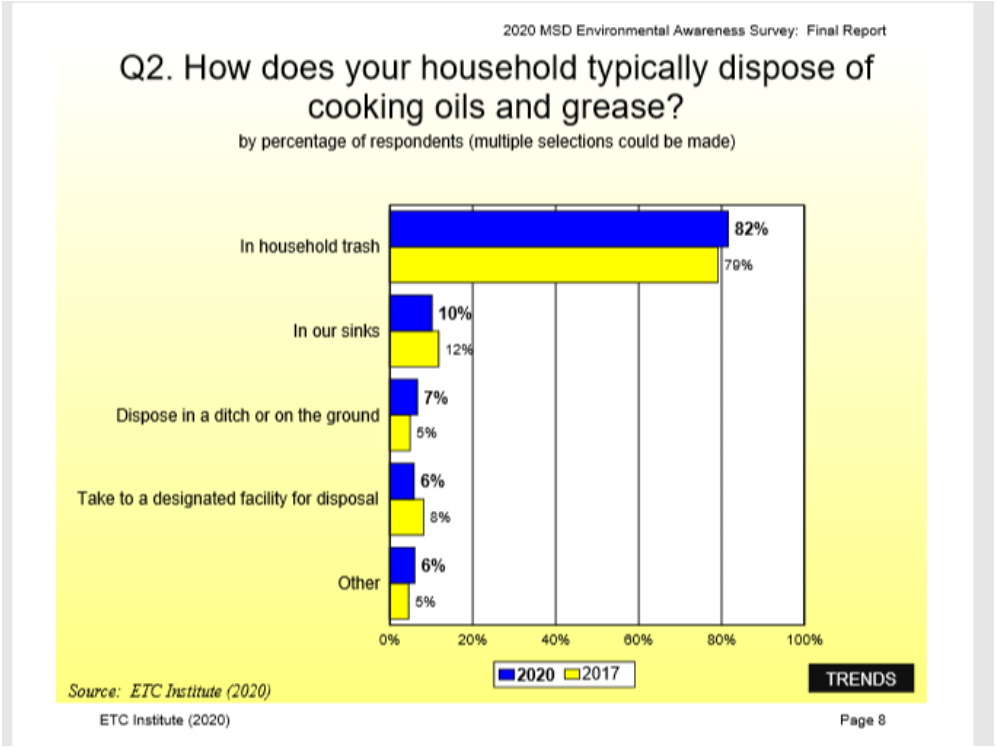
Final Report

Conducted for
Metropolitan St. Louis Sewer District

by
ETC Institute
725 W. Frontier Circle
Olathe, KS 66061
Contact: Chris Tacham at (913) 829-1215

September 2020

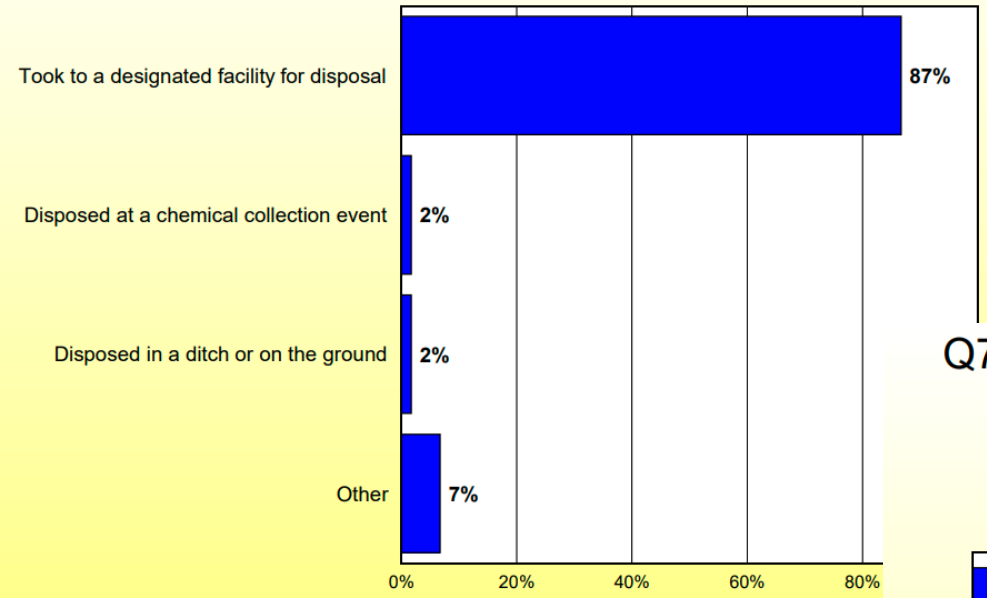




News

Q3a. How did you dispose of the used oil or other fluids?

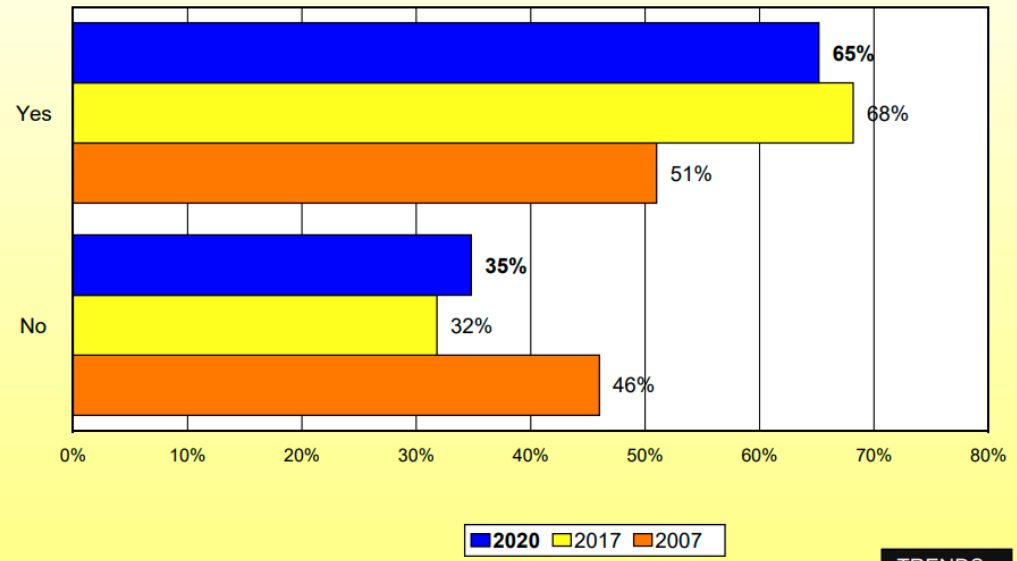
by percentage of respondents who changed fluid in their vehicle(s) during the past two years
(multiple selections could be made)



Source: ETC Institute (2020)

Q7. Do you use de-icer or salt in the winter time to remove snow and ice from your home driveway or sidewalk?

by percentage of respondents (excluding "don't know")



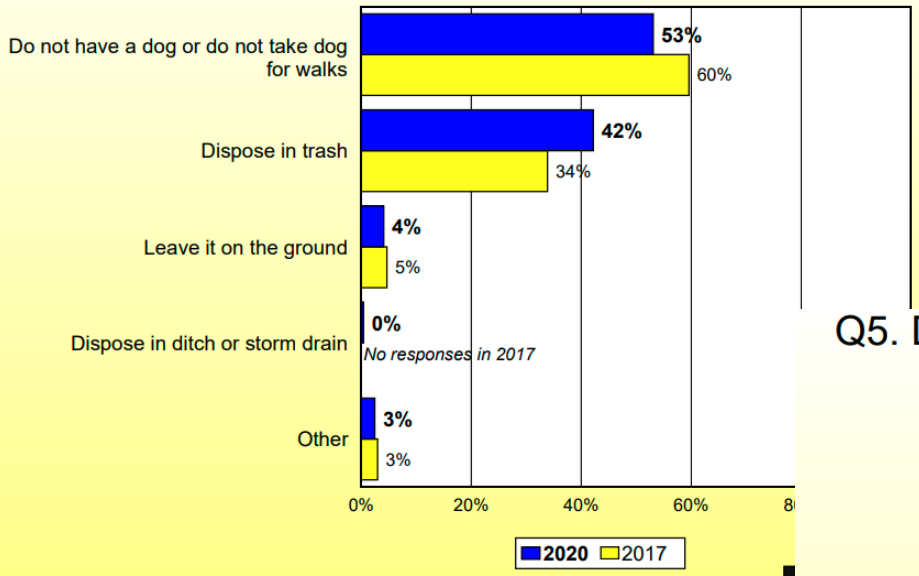
Source: ETC Institute (2020)

TRENDS

News

Q9. How does your household typically dispose of your dog's waste collected during your walk?

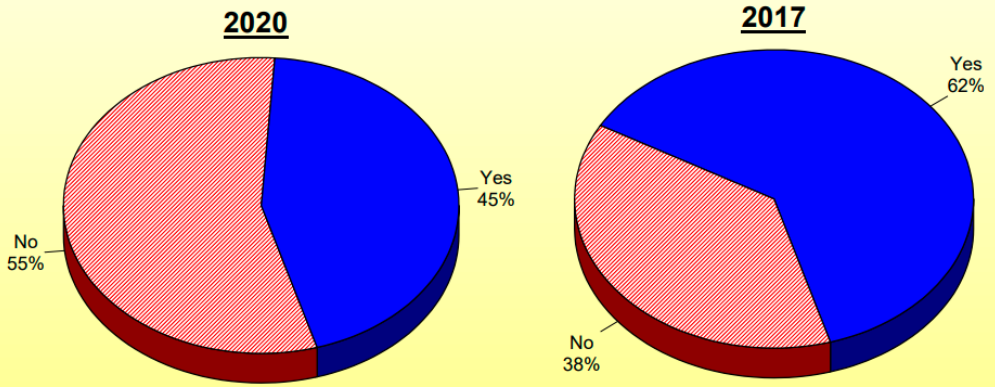
by percentage of respondents (multiple selections could be made)



Source: ETC Institute (2020)

Q5. Does your household use pesticides, herbicides, and fertilizers?

by percentage of respondents



Source: ETC Institute (2020)

News

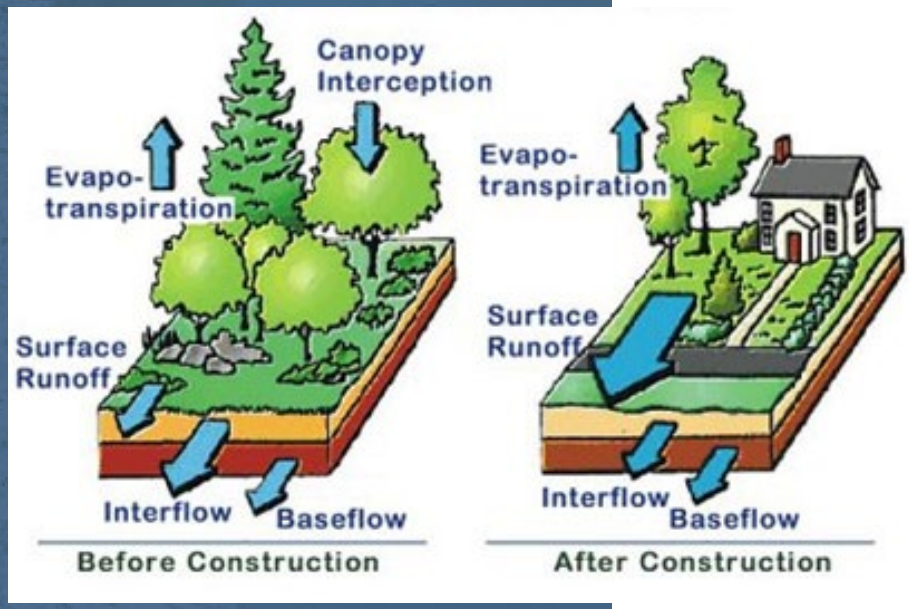
- 2022-2026 Permit Renewal
- December, 2020, planning committee virtual MDNR and SWMP meetings
- January, 2021, 30-day SWMP public notice
- January-February, 2021, co-permittee applications
- February 2021, draft SWMP public hearing
- March, final SWMP completed
- April 3, 2021, final SWMP and applications due to MDNR
- September 30, 3021, Current permit expires
- Expect 4th term permit issuance from MDNR

Stormwater Pollutants and Impact on Water Quality

- Sediment
- Bacteria
- Chloride
- Nutrients
- Trash
- Fat, Oil, Grease (FOG)
- Metals and Organics

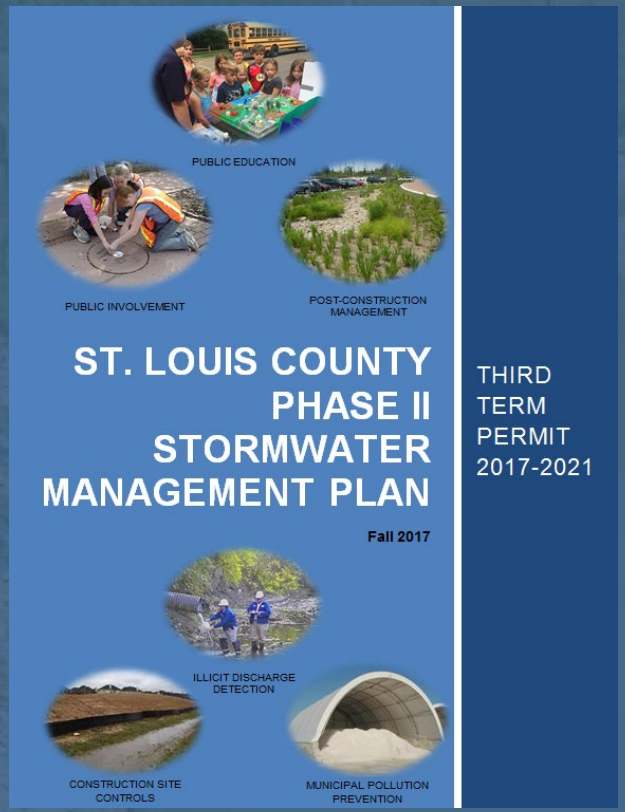
Stormwater Pollutants and Impact on Water Quality

- Increase in impervious area contributes to stormwater pollution



Stormwater Pollutants and Impact on Water Quality

- Impaired streams for bacteria and chloride
- Decreased fish diversity
- TMDLs
- MSD samples 34 streams monthly to evaluate our work to reduce pollution

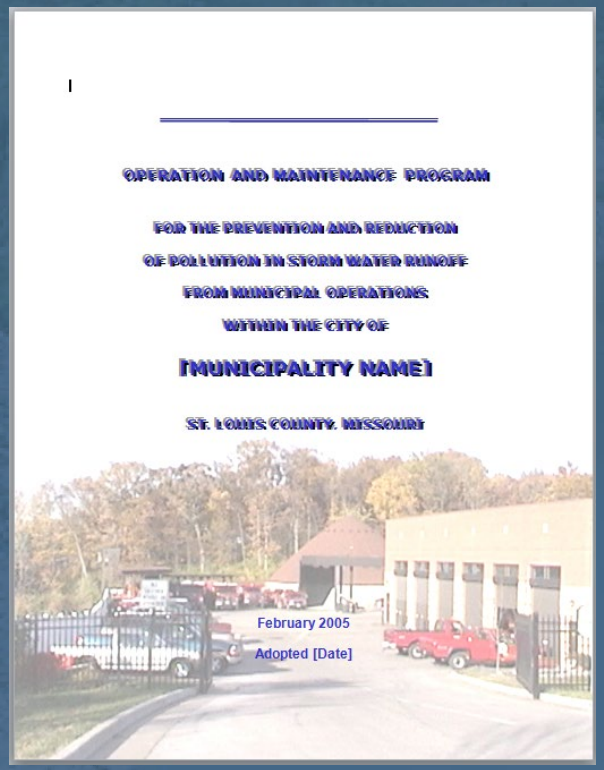


Storm Water Management Plan (SWMP)

- Reduce the contamination of stormwater runoff and prohibit illicit discharges
- 61 co-permittees
- 5 year plan
- Six Minimum Control Measures

Storm Water Management Plan (SWMP)

1. Public education and outreach on stormwater impacts
2. Public involvement & participation
3. Illicit discharge detection and elimination
4. Construction site storm water runoff control
5. Post-construction stormwater management in new development and redevelopment
6. Pollution prevention & good housekeeping for municipal operations – why you here today!



Operation and Maintenance Program Overview

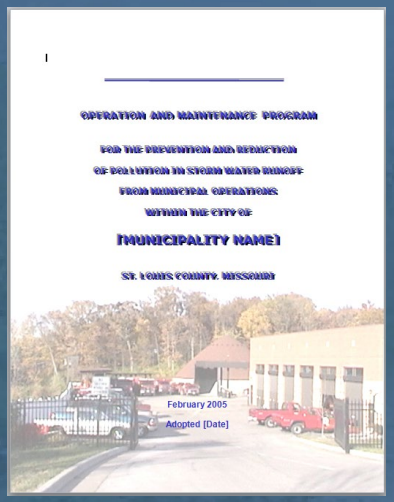
- Development of the Model Program
- Co-permittee Requirement
- Training component
- Goal is to prevent or reduce pollutants from municipal operations
- Update program document as needed

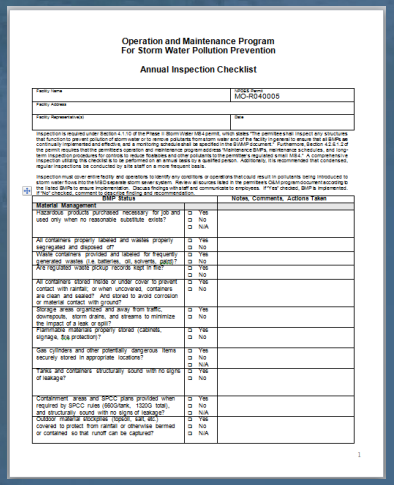
Nine Major Categories of Municipal Operations

1. General Housekeeping, Operation and Maintenance Practices
2. Vehicle/Equipment Repair and Maintenance Operations
3. Vehicle/Equipment Washing
4. Facility Repair, Remodeling and Construction
5. Cleaning and Maintenance of Roadways, Highways, Bridges, and Parking Facilities

Nine Major Categories of Municipal Operations

6. Maintenance of Parks, Green Spaces, Trails and Landscaping
7. Cleaning and Maintenance of Drainage Channels, Storm Sewers and Inlet Structures
8. Operation and Maintenance of Recycling Facilities
9. Water Quality Impact Assessment of Flood Management Projects





project clear stormwater

BE PREPARED FOR AN AUDIT

- Operation and Maintenance program manual
- BMP Inspections
- Training

Contracted Municipal Operations

- BMPs applies to contracted municipal operations
- Include BMPs in scope of work within contract and purchasing agreements
- MDNR looks for contractors to be trained on BMPs

1. General Housekeeping, Operation and Maintenance Practices

FACILITIES

- Ensure grease traps and oil/water separators in kitchens and food service areas are maintained.
- Ensure wastewater is discharged only to the sanitary sewer, and storm water to the storm sewer. Label storm drain inlets to ensure they are used only for storm water drainage.
- Minimize the use of pesticides through an Integrated Pest Management (IPM) Program.
- Minimize the use of herbicides through an Integrated Pest Management Program for weed control.

1. General Housekeeping, Operation and Maintenance Practices

MATERIAL MANAGEMENT

- Develop a policy to purchase recycled products or products with high post-consumer waste content whenever practical.
- Collect and recycle, to the maximum extent practicable, wastes generated by municipal operations.
- Develop policy to purchase environmentally preferred products whenever practical.
- Provide for the proper disposal of all wastes generated or collected in the course of municipal operations, in accordance with all applicable local, state and federal laws.
- Inspect facilities for litter on a regular basis, and clean up as needed.
- Keep trash container lids closed to keep rain out. Do not dispose of liquid waste in the trash container

1. General Housekeeping, Operation and Maintenance Practices

MATERIAL MANAGEMENT (Continued)

- Ensure that the collection frequency of trash containers is appropriate to avoid overflows.
- Outdoor material stockpiles at both permanent locations and at job sites should be covered to protect from rainfall and prevent contamination of storm water runoff.
- Material stockpiles which can not feasibly be covered should be surrounded by a berm or otherwise contained so that storm water runoff can be captured.
- Petroleum products, fuels, chemicals, hazardous and toxic materials, and all wastes should be properly labeled to ensure appropriate handling and disposal.

1. General Housekeeping, Operation and Maintenance Practices

MATERIAL MANAGEMENT (Continued)

- Prevent spills of hazardous materials by selecting storage areas that avoid traffic to minimize accidental contact, and select areas that are away from storm drain inlets and streams to minimize the impact of a spill.
- Contain and clean up all spills immediately. Ensure employees are familiar with spill response procedures and the location of spill kits
- Keep material safety data sheets (MSDS) for chemicals onsite for information on reportable spill quantities and proper handling
- Maintain and post a list of emergency contact numbers for spill reporting and spill clean-up contractor response, including: Missouri Department of Natural Resources (MDNR) – 573-634-2436, National Response Center – 800-424-8802, and for releases to the sewer, MSD – 314-768-6260.
- Prepare for appropriately handling the clean up of the spilled material and disposal of waste. Do not hose down spills to the storm sewer system. Clean up spills with dry methods, using absorbent to pickup fluids

2. Vehicle/Equipment Repair and Maintenance Operations

OPERATIONS

- Institute a preventive maintenance program to minimize fluid leaks and equipment failures. Inspect vehicles and equipment frequently for leaks, collecting leaks with pans or absorbent, and repairing leaks.
- All routine vehicle maintenance and repairs at (municipality) facilities are performed indoors. On occasion and when necessary, outside maintenance work will be performed in a paved area with provisions made to contain and clean up all drips and spills.
- Flammable liquids are kept in a vented fire-rated cabinet.
- All supply material and waste containers are marked clearly and properly to identify the contents.

2. Vehicle/Equipment Repair and Maintenance Operations

OPERATIONS (continued)

- Tops of containers have absorbent mats and are free of standing liquid, and stored containers are kept closed.
- Waste oils, filters, antifreeze, and other wastes are collected in designated, labeled containers and recycled to the maximum extent practicable.
- Records of waste pick-ups are logged and maintained in file.
- Used oil filters should be gravity drained for 24 hrs with the anti-drain back valve or filter dome punctured to facilitate the draining process.

2. Vehicle/Equipment Repair and Maintenance Operations

OPERATIONS (continued)

- Batteries, waste oil, etc. having spill/leak potential are stored indoors and are in secondary containment, when possible.
- All floors are clean of oil and grease.
- Immediately clean up all spills of chemicals or vehicle fluids using dry methods (absorbents), minimizing the use of water whenever possible.
- Vehicle operators should be instructed to remain with the vehicle during fueling, and not to top-off the fuel tank to avoid overflows and spills.

2. Vehicle/Equipment Repair and Maintenance Operations

SPILL PREVENTION

- Spill control plans should be in place with procedures for proper spill response to minimize environmental impacts.

- Procedures for loading, unloading and transfer operations should be developed to prevent overfilling and spills.
- In areas where spills could occur, such as fueling and loading areas, keep spill kits with absorbent materials nearby and display signage indicating the location of those spill kits. Storm drain plugs or covers are recommended to prevent the flow of spilled material from entering the storm drain.

2. Vehicle/Equipment Repair and Maintenance Operations

SPILL PREVENTION (continued)

- For fueling areas, post signs that state “no topping off”
- Regularly inspect all tanks and containers to ensure physical integrity.
- Maintain equipment to ensure the proper operation of automatic shutoff devices on pumps and, overfill protection and spill buckets on tanks.
- Emergency phone numbers are clearly posted in the shop and near material storage areas.

2. Vehicle/Equipment Repair and Maintenance Operations

FACILITY

- All floors in work areas are sloped to floor drains that are connected to an MSD- approved sediment /oil trap prior to discharge into the sanitary sewer system.
- Storm drains/inlets can be labeled to help protect from improper usage.
- All above ground storage tanks have secondary containment in accordance with SPCC requirements and are covered with a roof.
- Fueling areas are recommended to be designed with a roof to prevent contact with storm water. The area should be graded and sloped to direct storm water runoff away from the site and to prevent runoff from flowing over the fueling area.

3. Vehicle/Equipment Washing

- Wash bay facilities are designed to collect wash water, pretreat with a sediment/oil trap (interceptor), and discharge to the sanitary sewer system.
- Wash bays are covered and wash area curbed or otherwise drained to prevent storm water runoff from discharging to the sanitary system.
- Mobile wash services must collect wash water for recycling or proper disposal into a sanitary sewer.
- Job-site mud removal is performed without detergent in a contained, permeable (gravel) area with wash water infiltrating into soil or gravel.

4. Facility Repair, Remodeling and Construction

CONSTRUCTION/REMODELING

- Properly store materials as far away from storm inlets and streams as practical, and cover stored materials to avoid storm water impacts.
- Recycle or properly dispose of wastes
- Never clean out or wash out paint or concrete mixers in the street or near a gutter, storm drain or stream.
- Keep work sites clean, pickup trash that can be wind blown daily.

Facility Repair, Remodeling and Construction

Concrete Washout Water BMPs

- Direct concrete wash water to a dirt area where it can soak into the ground onsite, or use container to collect the wash water
- Allow water to settle the solids, then separate for disposal
- Discharge wash water without solids to a sanitary sewer

Small site BMPs for concrete washout water

Large site BMPs for concrete washout water

5. Cleaning and Maintenance of Roadways, Highways, Bridges, and Parking Facilities

MAINTENANCE

- Schedule maintenance activities during times of dry weather if possible.
- Capture scrapings/rust/dirt/sandblasting grit/over spray/drips, etc., from preparation and painting of bridges/structures/traffic control devices.

5. Cleaning and Maintenance of Roadways, Highways, Bridges, and Parking Facilities

CLEANING

- Remove as much mud, grit, salt and debris as possible (by scraping, brooming, etc.) prior to roadway flushing on bridges.
- Evaluate the need for street sweeping to remove grit and trash at facility parking lots and roadways within jurisdiction. Implement street sweeping, when feasible, focusing on heavy traffic patterns, seasonal variations (spring/fall), and problem areas.
- Do not hose down parking lots in a manner that discharges wash water to the storm drain untreated.

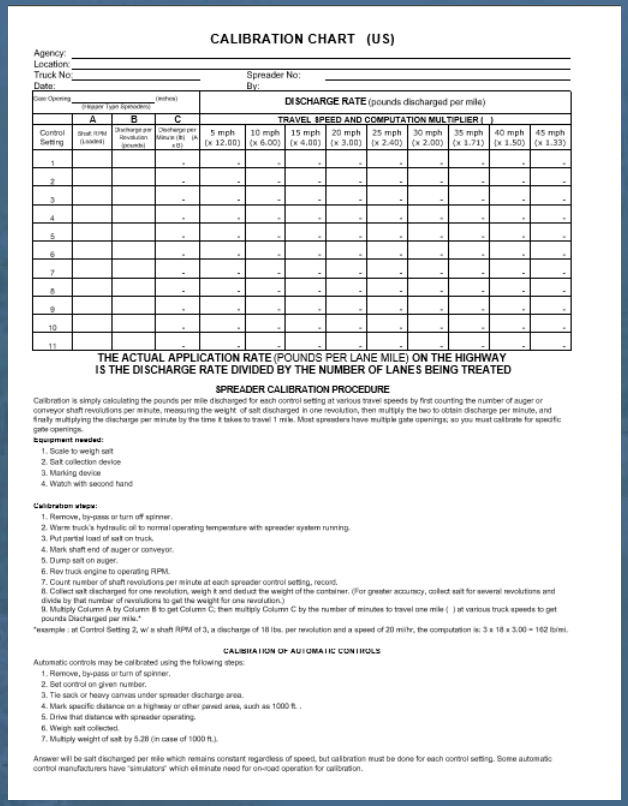
5. Cleaning and Maintenance of Roadways, Highways, Bridges, and Parking Facilities

Winter Deicing

- Road salt can lead to water quality problems
- Toxic to Aquatic Life
- Harmful to Plants

Winter Deicing BMPs

- Educate and train employees
- Inspect storage facilities to ensure salt is dry
- Maintain equipment in good condition
- Inspect the storage facility and grounds for signs of runoff



CALIBRATION CHART (US)

Agency:
Location:
Truck No: Spreader No:
Date: By:

Gate Opening _____ (Inches)
(Hopper Type Spreaders)

Control Setting	A (Shaft RPM) (Loaded)	B (Discharge per Revolution (pounds))	C (Discharge per Minute (lb) (A x B))	DISCHARGE RATE (pounds discharged per mile) TRAVEL SPEED AND COMPUTATION MULTIPLIER ( ) 5 mph (x 12.00)	10 mph (x 6.00)	15 mph (x 4.00)	20 mph (x 3.00)	25 mph (x 2.40)	30 mph (x 2.00)	35 mph (x 1.71)	40 mph (x 1.50)	45 mph (x 1.33)
1			-	-	-	-	-	-	-	-	-	-
2			-	-	-	-	-	-	-	-	-	-
3			-	-	-	-	-	-	-	-	-	-
4			-	-	-	-	-	-	-	-	-	-
5			-	-	-	-	-	-	-	-	-	-
6			-	-	-	-	-	-	-	-	-	-
7			-	-	-	-	-	-	-	-	-	-
8			-	-	-	-	-	-	-	-	-	-
9			-	-	-	-	-	-	-	-	-	-
10			-	-	-	-	-	-	-	-	-	-
11			-	-	-	-	-	-	-	-	-	-

THE ACTUAL APPLICATION RATE (POUNDS PER LANE MILE) ON THE HIGHWAY IS THE DISCHARGE RATE DIVIDED BY THE NUMBER OF LANES BEING TREATED

SPREADER CALIBRATION PROCEDURE

Calibration is simply calculating the pounds per mile discharged for each control setting at various travel speeds by first counting the number of auger or conveyor shaft revolutions per minute, measuring the weight of salt discharged in one revolution, then multiply the two to obtain discharge per minute, and finally multiplying the discharge per minute by the time it takes to travel 1 mile. Most spreaders have multiple gate openings, so you must calibrate for specific gate openings.

Equipment needed:

1. Scale to weigh salt
2. Salt collection device
3. Marking device
4. Watch with second hand

Calibration steps:

1. Remove, by-pass or turn off spinner.
2. Warm truck's hydraulic oil to normal operating temperature with spreader system running.
3. Put partial load of salt on truck.
4. Mark shaft end of auger or conveyor.
5. Dump salt on auger.
6. Rev truck engine to operating RPM.
7. Count number of shaft revolutions per minute at each spreader control setting, record.
8. Collect salt discharged for one revolution, weigh it and deduct the weight of the container. (For greater accuracy, collect salt for several revolutions and divide by that number of revolutions to get the weight for one revolution.)
9. Multiply Column A by Column B to get Column C; then multiply Column C by the number of minutes to travel one mile ( ) at various truck speeds to get pounds Discharged per mile.*

*example : at Control Setting 2, w/ a shaft RPM of 3, a discharge of 18 lbs. per revolution and a speed of 20 mi/hr, the computation is: 3 x 18 x 3.00 = 162 lb/mi.

CALIBRATION OF AUTOMATIC CONTROLS

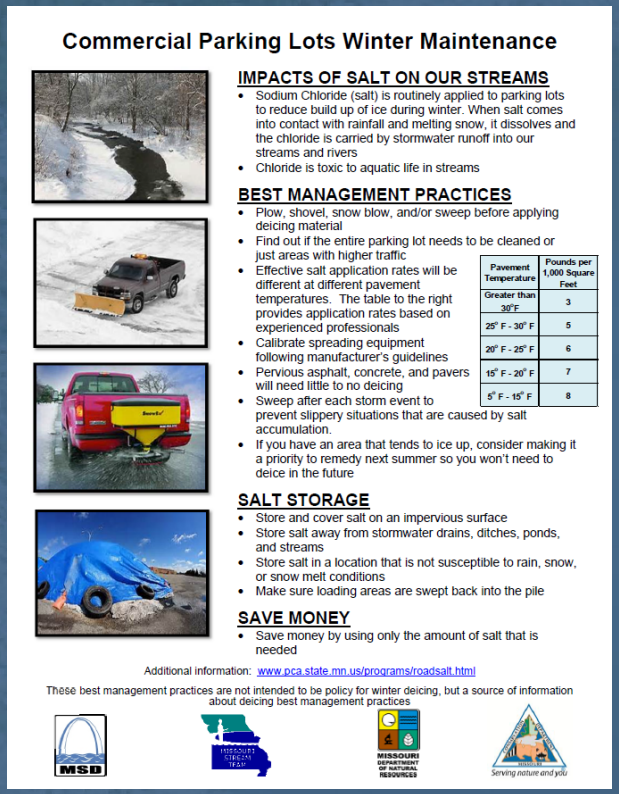
Automatic controls may be calibrated using the following steps:

1. Remove, by-pass or turn of spinner.
2. Set control on given number.
3. Tie sack or heavy canvas under spreader discharge area.
4. Mark specific distance on a highway or other paved area, such as 1000 ft. .
5. Drive that distance with spreader operating.
6. Weigh salt collected.
7. Multiply weight of salt by 5.28 (in case of 1000 ft.).

Answer will be salt discharged per mile which remains constant regardless of speed, but calibration must be done for each control setting. Some automatic control manufacturers have "simulators" which eliminate need for on-road operation for calibration.

Winter Deicing BMPs

- Calibrate application equipment
- Pre-wetting
- Consider alternative
- deicing materials



Commercial Parking Lots Winter Maintenance

IMPACTS OF SALT ON OUR STREAMS

- Sodium Chloride (salt) is routinely applied to parking lots to reduce build up of ice during winter. When salt comes into contact with rainfall and melting snow, it dissolves and the chloride is carried by stormwater runoff into our streams and rivers
- Chloride is toxic to aquatic life in streams

BEST MANAGEMENT PRACTICES

- Plow, shovel, snow blow, and/or sweep before applying deicing material
- Find out if the entire parking lot needs to be cleaned or just areas with higher traffic
- Effective salt application rates will be different at different pavement temperatures. The table to the right provides application rates based on experienced professionals
- Calibrate spreading equipment following manufacturer's guidelines
- Pervious asphalt, concrete, and pavers will need little to no deicing
- Sweep after each storm event to prevent slippery situations that are caused by salt accumulation.
- If you have an area that tends to ice up, consider making it a priority to remedy next summer so you won't need to deice in the future

Pavement Temperature	Pounds per 1,000 Square Feet
Greater than 30°F	3
25° F - 30° F	5
20° F - 25° F	6
15° F - 20° F	7
5° F - 15° F	8

SALT STORAGE

- Store and cover salt on an impervious surface
- Store salt away from stormwater drains, ditches, ponds, and streams
- Store salt in a location that is not susceptible to rain, snow, or snow melt conditions
- Make sure loading areas are swept back into the pile

SAVE MONEY

- Save money by using only the amount of salt that is needed

Additional information: www.pca.state.mn.us/programs/roadsalt.html

These best management practices are not intended to be policy for winter deicing, but a source of information about deicing best management practices

MSD project clear stormwater

Winter Deicing BMPs

- Commercial parking lots – potential illicit discharges
- Commercial parking lot salt flyer (we will email it to you)
- For your use and handout to local businesses
- A good handout for code enforcement staff

Part 1 of 2
Process Description

ST. LOUIS COUNTY PHASE II STORM WATER PROGRAM
ROAD SALT USAGE REPORT: January 1, 2018 to December 31, 2018

Co-Permittee: ____________________

1. Mapped miles of roadway system: ____________________
2. Total lane miles in system: ____________________
3. Are all lanes treated equally, on the same schedule? If not, explain.
4. Describe salt application and plowing, equipment used, including plow size, spreading capacity, spreader controls used (speed sensing equipment), alternative materials (e.g. brine, calcium chloride), etc:
5. Describe method of calibrating spreaders to desired application rate:
6. Describe how you determine your salt application rate (selected goal) for storm events (please provide copies of any tables, charts, reference materials used, etc):
7. Describe the weather forecasting, weather conditions, and pavement conditions information sources you rely upon and how they are used for setting/revising salt application decisions:
8. Do you pre-salt roads? If yes, do you use brine or rock salt? __________ What criteria do you use for initiating this activity and what application rate is used?
9. How do you calculate your actual salt application rate? ____________________
10. How do you calculate total salt usage? ____________________
11. If you contract out your salt application services, who is the contractor?

Report completed by (please print): ____________________
Title/position: ____________________ Phone Number: ____________________

Part 2 of 2
Storm Event Summary

ST. LOUIS COUNTY PHASE II STORMWATER PROGRAM
ROAD SALT USAGE REPORT
JANUARY 1, 2018 to DECEMBER 31, 2018

CO-PERMITTEE: ____________________

STORM DATES		PRECIPITATION AMOUNT (In Inches)			TEMPERATURE (F)		APPLICATION RATE (lbs. salt / lane mile)		LANE MILES		TOTAL SALT USED	COMMENTS ATTACHED
Start	Stop	Dry Snow	Wet Snow	Frz Rain	Low	High	Goal	Actual	Plowed	Salted	Tons	
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Report completed by (please print):												
Title/Position:					**Phone Number:**							

Winter Deicing Tracking

- Track pounds per lane mile
- Application equipment and method used
- Application rate selected and how/why it was selected
- Use MSD report form – we will email it to you

Winter Deicing Tracking

	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2018	2019
Number of reported storms	332	339	572	238	398	699	605	338	274	426	557
Average application rate (lb/ln-mi)	768	651	609	557	554	593	557	514	489	385	516

MISSOURI LTAP
MISSOURI LOCAL TECHNICAL ASSISTANCE PROGRAM
Located at Missouri University of Science and Technology

SCHOLAR'S LEVEL 1 CORE COURSE

COURSE DESCRIPTION:

APWA

MSD project clear stormwater

Winter Deicing Resources

- MLTAP
  - SNOW & ICE CONTROL, December 11, Olivette
- APWA
  - Rock salt bounce and scatter studies
  - Brine System Case studies
- Salt Institute
- EPA – Stormwater Menu of BMPs
- U.S. Department of Transportation Federal Highway Administration
- Talk to your neighboring municipalities

6. Maintenance of Parks, Green Spaces, Trails and Landscaping

PARK/LANDSCAPE MAINTENANCE

- Remove litter and debris regularly.
- Properly dispose of yard waste, for example, by composting. Do not dump yard waste into creeks.
- Minimize mowing of open space sites, depending on site objectives.
- Mow grass higher and leave grass clippings on the lawn to retain moisture and provide nutrients.
- Apply fertilizer only in cool weather, preferably fall. Avoid application before a rain, and do not apply fertilizer at rates higher than indicated in on label instructions.

6. Maintenance of Parks, Green Spaces, Trails and Landscaping

PESTICIDE/HERBICIDE USE

- When pesticide or herbicide use is required, select pesticides carefully, avoiding highly water soluble and very environmentally stable products to minimize potential for leaching from soils into waterways.
- Consider the vulnerability of the area in which pesticides are applied, avoiding areas with streams, ponds, sinkholes or wells. Sinkholes are an environmentally sensitive area because they allow surface water to reach groundwater quickly with little natural soil filtering.
- Store pesticides in their original containers in a cool, well-ventilated building with a concrete floor. Handle pesticides carefully to avoid spills.
- Dispose of pesticide waste properly, following label instructions.

7. Cleaning and Maintenance of Drainage Channels, Storm Sewers and Inlet Structures

- MSD has the major responsibility for the cleaning and maintenance of improved channels and storm sewers
- Many municipalities are responsible for maintaining the storm sewer systems on their property, and on systems not dedicated to the MSD system.
- Municipalities are responsible for maintaining bridges, storm culverts, ditches and gutters along the streets in their city. MSD does maintain road inlets and culverts on systems dedicated to MSD.
- MSD does not maintain detention and retention basins or yard swales. Maintenance of basins and yard swales is the responsibility of property owners,

7. Cleaning and Maintenance of Drainage Channels, Storm Sewers and Inlet Structures

GENERAL

- Utilize care in cleaning catch basins, storm sewers and drainage channels, to properly collect and dispose of waste
- When possible, focus cleaning efforts before rainy seasons.
- If storm inlets/catch basins, storm sewers and drainage channels are impacted by non-storm water discharges or illegal dumping of waste, contact MSD, Division of Environmental Compliance at 314-436-8710 for investigation and enforcement.

7. Cleaning and Maintenance of Drainage Channels, Storm Sewers and Inlet Structures

CATCH BASINS

- Prioritize catch basins for routine maintenance on a specified frequency based on need. Increase maintenance of inlets that are fully blocked or 75% full of trash or debris when maintained. Reduce maintenance of catch basins that do not result in waste generation.
- Consider installation of catch basin inlets in areas where storm sewers will be known to receive excessive amounts of litter or sediment.

7. Cleaning and Maintenance of Drainage Channels, Storm Sewers and Inlet Structures

STORM SEWERS

- Prioritize storm sewers for routine maintenance on a specified frequency based on flat grades, low flow, or review of work orders. Identify areas for additional maintenance based on work orders generated by customer complaints and/or flooding.
- Utilize care in cleaning storm sewers by flushing, to properly collect waste using debris/sediment traps.
- Seal/repair joints in structures to prevent root intrusion and soil wash-out.
- Minimize or avoid the use of chemical root/vegetation killers, and use the least toxic alternatives when necessary.

8. Operation and Maintenance of Recycling Facilities

- Yard waste composting operations and mulch piles should be located away from storm water drainage systems.
- Compost/mulch is confined by an impervious base with curbing or otherwise stored to prevent leachate and runoff from contaminating storm water, and to prevent storm water drainage running into the pile.
- Do not discharge leachate to storm water. As necessary to manage leachate, design a system to collect and properly treat leachate or incorporate into the early stages of the composting process.

8. Operation and Maintenance of Recycling Facilities

- Materials that will pollute stormwater are collected under a roofed structure or in an enclosed dumpster.
- Every effort is made to ensure the facility is clean and that no unauthorized or contaminated materials are deposited at the facility.
- Materials easily moved by wind must be stored in a manner to prevent the material from becoming airborne and scattered.

9. Water Quality Impact Assessment of Flood Management Projects

- New flood management projects located within the co-permittees jurisdiction must be assessed for impacts on water quality
- Flood management projects in the Plan Area can include retention basins and detention basins
- Projects must be be assessed for water quality impact, according to MSD's "Rules and Regulations and Engineering Design Requirements for Stormwater Drainage Facilities",

2020 Review – Audit Update

- Only 6 more co-permittees to audit, round one
- Round 2 has started
  - Possible select BMPs
- Virtual due to covid19
- Top 5 questions and recommendations
  1. What are your target pollutants
  2. Who are your target audiences
  3. What should someone in your community do if they see an illicit discharge
  4. What is your top land disturbance complaint/problem
  5. What is your post-construction ordinance

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Anyone want to chat?