Trash Compactors and Dumpsters: Eliminating a Major Source of Stormwater Pollution

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The Problem with Dumpster and Compactor Areas

They are hidden and out of the way; down at the bottom of a ramp or inside an enclosure, and often locked.

No one wants to go there; out of sight, out of mind.

These areas are a place where solid wastes accumulate, and are often where we find discharges of liquid wastes.

Where is it Draining To?

Most dumpster/compactor areas seem to have a handy (and often hidden) stormwater drain nearby!
Older Accomplishments

Red Robin - 2006

Red Lobster - 2007

Newer Findings: Summer 2012

• Two independent commercial site inspections documented the presence of leaking compactors generating significant stormwater pollution.
• A prolonged water quality enforcement effort was necessary.
• Subsequent investigations led to better understanding the scope of the problem.

Obtained a List of Compactors in the City

• The following year (2013) we began a focused inspection of all city compactors (78 total).
• Restaurants, grocery stores, apartments, and retail
• Result: Over 20 active leakers were documented to be discharging significant amounts of leachate (25% of targeted list).
Here’s What We Found: Lots of Discharges

More Ugly Discharges

Case Study#1: Club Palisades Apartments

- 750 unit complex - largest in Federal Way.
- 2012 - commercial site inspection: leaky compactor
  - WQ enforcement initiated.
  - System cleaned; compactor repaired; BMPs implemented.
  - Enforcement efforts continued through 2014.
Case Study #1: Club Palisades (Cont.)

The existing compactor was not intended to handle wet waste.

STATIONARY COMPACTOR

Primary Compactor Types

STATIONARY: For dry wastes - paper, cardboard

SELF CONTAINED: For wet wastes - food service, multi-family

Self Contained Units Can Still Leak

The old stationary compactor was replaced with a new self contained compactor.

Club Palisades August 2014

SELF CONTAINED COMPACTOR
Case Study #2: H-Mart

- Large Asian grocery/food court.
- 2012 - Commercial Inspection: 30-yd open top box leaking. Notice of Inspection issued.
- MS4 impacted; system cleaned.
- The drop box was replaced with a new self-contained compactor.
- A written BMP Plan was submitted, which included sorting out wet waste.

More Problems at H-Mart

- But both compactors continued to leak. Numerous causes:
  - Garbage debris stuck between the seal and structure.
  - The front end of compactor needed welding.
  - Turnbuckle not tightened.
  - Long intervals between pick-ups to save money. Result: an excessive amount of liquid in the compactor.
- Enforcement continued to escalate into 2014.

- Drain valve was left open.
- Compost compactor removed for repair. Replaced with a leaking drop box.
- Door sealed.
- Too many other problems to list.
Downstream Problems

Easter Lake

Easter Lake, Summer 2014

H-Mart: Working Toward a Solution

- A total of 5 Notices of Violation issued.
- System cleaning > $2,000
- A total of $1,400 in fines collected.
- Currently working to correct. Stay tuned.
Our IDDE Steps to Compactor Compliance

1. Immediately implement spill response.
2. Remove waste from the on-site stormwater system.
3. Begin implementing effective BMPs.
4. Submit a written corrective action plan regarding how compactor leakage will be eliminated.
5. Continue inspections and documentation.

How Did the 20 Leakers Fare?

- Eight compactors have been replaced with new units in the last 12 months.
- All continue to be closely monitored.
- None have tied into sanitary.

Survey Says:

- Eleven different MS4s responded to our survey question: "What are you doing about compactors/dumpsters?"
- Each are taking a unique avenue toward compliance:
  - We don't have a problem
  - It's unknown
  - We deal with it as a good housekeeping issue
  - We use public education whenever possible
  - It's cleaned up through our QM program
  - We have dealt with some by cover/direct to sewer/dead-end sump
  - It's handled mostly through the local health department
  - Our BMP Manual requires food/liquid dumpsters/compactors to sanitary
  - Corrective action letters have resulted in 100% compliance
A Word About Dumpsters

- SPLIT
- GOUGE

Dumpster Case Study

- OPEN
- HOLE

MACHINED HOLE
Dumpster Diving: A View From the Inside

Coordination with Waste Management

**Contract Requirements**

- Must provide leak-tight container.
- Must notify us when driver observes leakage.
- WM will clean up first documented discharge.

A Word About Totes

- OPEN TOP, NOT WATER TIGHT
- RUSTED THROUGH
Tote Dewatering

- OPEN TOP, NOT WATER TIGHT
- MACHINED HOLE IN BOTTOM

Tote Dewatering

- OPEN TOP, NOT WATER TIGHT
- HOLES DRILLED THROUGH SIDE

Working With Solid Waste and Public Health Folks

- Coordinate with your Solid Waste Management staff. They need to be made aware of Water Quality regulations. Solid waste goes to landfill, liquid waste goes to sanitary.
- Can SW enforce code? (i.e. Public nuisance, container to be water-tight with tight-fitting cover).
- Look at the service provider contract. (Is there a requirement to notify?).
- Where does Public Health fit in with compliance? Solid waste handling standards, threats to human health and the environment.
Some of the Lessons Learned

- Obtain an inventory of your compactor sites, and get familiar with compactor types and technologies appropriate to the waste streams generated.
- Add compactor/dumpster locations to commercial site inspections.
- The timing of inspection is important; discharges are easier detected in summer and harder to find in winter.
- The age of equipment should be tracked. Replace the dinosaurs.
- Operation/maintenance is critical (human error element: wiping seals, tightening down unit, cleaning up after service runs). Will require continual monitoring.

Inevitable Leaks?

- Volume of liquid generated and the frequency of pick-up should be considered.
- Units (including stationary compactors) will often leak when tilted during pick-up, even those plumbed with hub to sanitary.

Our Message About Compactors Not Yet Tied to Sanitary

For permittees that may be unaware of the compactor pollution problem:

Know that it exists

For permittees that have already begun tackling the issue:

Despite your best efforts, know that the problem may not completely go away until sites are plumbed to sanitary
Our Verdict: It's Low Hanging Fruit

Final Things to Consider

• Public education alone will not eliminate discharges.
• Annual commercial inspections will not take care of the problem.
• In many cases, connecting to sanitary seems to be the only foolproof option that will fully eliminate these types of prohibited discharges/illicit connections.
• We are looking into possible revisions to our SWM code for both existing and new installs.
• This issue may demand a regional approach that proposes uniform AKART requirements for all MS4s to implement.

END