

TOILETS ARE NOT TRASHCANS!

PREVENTING INAPPROPRIATE FLUSHING

City of Kirkland, Department of Public Works
City of Vancouver, Department of Public Works



Overview

A Nationwide Problem

Nationwide Players Addressing Issue

The Non-Woven Market

Costco Summit

Legislative Efforts

Documenting the Problem

Documenting the Costs

Media / Outreach



Nationwide Problem



Courtesy Portland (ME) Water District



Courtesy Orange County (CA) Sanitary Sewer District



Nationwide Problem

Clogs pipes and pumps

Maintenance Costs

Disposal Costs

Engineering Costs

Proliferation of convenience products

Confusion of flushable vs. non-dispersible



Who are the Players

- **WEF, WEF CSC, & WEF HOD**
- **INDA**
- **Maine Wastewater & Portland Water District**
- **Orange County Sanitation District**
- **New England WEA**
- **NACWA**
- **APWA**
- **Kirkland & Vancouver, Washington**
- **California Water Associations**
- **Canadian Water & Wastewater Association**
- **WERF**



What is Nonwoven Fabric?

Sheet or web structures bonded together by entangling fiber or filaments (and by perforating films) mechanically, thermally, or chemically. They are flat, porous sheets that are made directly from separate fibers or from molten plastic or plastic film.

They are not made by weaving or knitting and do not require converting the fibers to yarn.

“Spunlaced”

“Meltblown”

“Hydroentangled”

“Air Laid”





Global Spunlaced Technology Markets and Trends 2011-2016

Purchase!

Rapid global growth of spunlaced/hydroentanglement technology and end-uses

Outlook for Worldwide Spunlaced Nonwoven Production

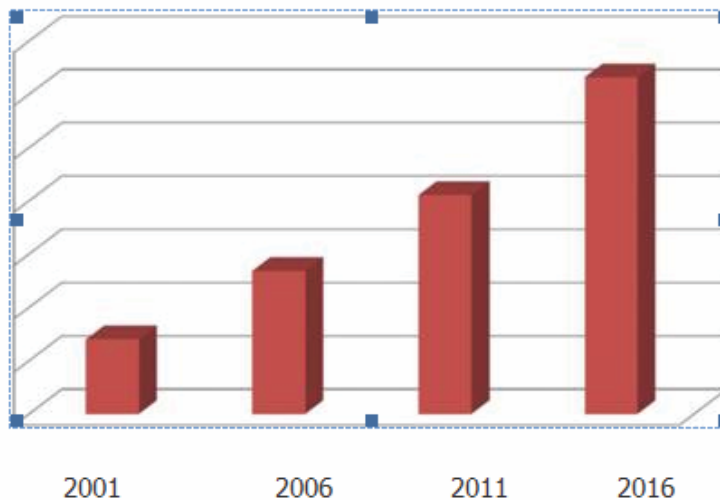


Cost

INDA Members: \$1,995

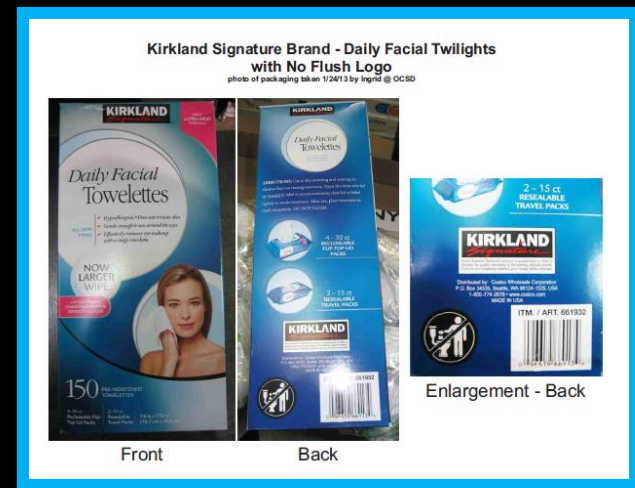
Non-Members: \$2,795

Follow us on:



The Costco Meeting

- Goals and Outcomes
- Actions and Interactions
- “Improvements” to Packaging
- Plea for Replication/Champions



COSTCO's New Packaging

- **IMPORTANT FLUSHABILITY INFORMATION:**
Kirkland Signature™ Moist Flushable Wipes comply with all industry guidelines and are proven to pass through a home's well-maintained toilet, pump and drain line without clogging. The wipe is very different than other wipes and made of a special dispersible material that breaks apart into smaller pieces due to mechanical action of flushing process.
- Are Kirkland Signature™ Moist Flushable Wipes really flushable?

Yes, Kirkland Signature™ Moist Flushable Wipes comply with industry guidelines and are proven to pass through a home's well-maintained toilet, pump and drain line without clogging. The wipe is very different than other wipes and made of a special material that breaks apart into smaller pieces due to mechanical action of flushing process.



Culprits

Open Article



For a fresher clean

Our moist flushable wipes are better than dry toilet paper alone.

- ✓ Ultra-soft cloths are larger and thicker than the national brand
- ✓ Gently soothes with aloe and vitamin E
- ✓ Flip-top lid keeps wipes moist
- ✓ 10 packs of 60 wipes

Quality. Performance. Value.



perfect for the entire family!

Exclusively from Costco Wholesale
www.kirkland.com | 1-877-849-2730



By T. Foster Jones

LAS VEGAS is all about offering more (more), the bigger, the only, the most and the best. With dining and entertainment, it assumes (plus) these goals across the board.

Dining

Las Vegas has transformed itself into a top culinary destination, offering the most comprehensive collection of celebrity chefs and world-class, award-winning restaurants, and more master chefs than any other city in the world. Ben Aggins declared the destination one of the nation's top five restaurant cities. "Las Vegas" dining experiences rival New York City," says Denis O'Connell, director of communications for the Las Vegas Convention and Visitors Authority.

Las Vegas hotels revealed some of the top chefs in the world to open and re-locate restaurants (and their properties): Monte Bitch, Todd English, Bobby Flay, David Lebovitz, Sotelo Manchón, Michael Mina, Charlie Palmer, Wolfgang Puck, Gordon Ramsay, Michael Richard, Paul Bocuse and Guy Savoy, to name just a few.

Even the concept of the Las Vegas hotel has been reinvented. The Residency Hotel at Caesars Palace, for instance, features more than 100 hotel rooms prepared daily by well-known chefs.

Entertainment

The Las Vegas entertainment scene still has plenty of its classic glitz and glamour, but it has evolved to include sleek, neo-Broadway cabaret productions, world-renowned concert headlins and unique Vegas productions.

Event centers and arenas feature myriad

The Strip of Las Vegas is home to award-winning dining and Broadway-caliber entertainment.

entertainment acts. Among the performers taking up residence for the next few months or years are Faith Hill and Tim McGraw, Shania Twain, Carlos Santana, Garth Brooks, Colton Dixon, Darius Rucker, Sheryl Crow and Brad Pitt and more.

Concert shows include *Rock of Ages* and the award-winning musical *Judy* from the city of Michael Jackson has joined forces with Cirque du Soleil to create shows based on the music of Michael Jackson. Other Cirque du Soleil shows start the gauntlet from Zarkana, Motus and VY, to Fantasia, K2, The Beatles LOVE, and OCEANAVIS; *Avatar*.

The Strip turns into a pedestrian-only zone for New Year's celebrations, and only Las Vegas can contain the elements enough for you to celebrate the Winter in Venice event at The Venetian Palazzo with a skating rink, hot chocolate and more.

In downtown Las Vegas, the Smith Center for the Performing Arts opened its doors in 2012, offering performances by resident jazz pianists such as the Las Vegas Philharmonia and the Nevada Ballet, as well as live jazz, touring orchestras. Not far from the Smith Center is the Flamingo Great Escape, housing several blocks of original Las Vegas Strip casinos, all under an LED canopy (the world's largest, naturally) that offers stunning nighttime visual entertainment. Fun excursions include the new Mob Museum and the Neon Museum Las Vegas.

Outside the city, visitors will be awed by Hoover Dam, and the Mike O'Callaghan-Pat Tillman Memorial Bridge—the longest (and owned) suspension bridge in North America. Other activities include horseback riding, golf hiking, hiking, zip-lining, waterfalls, two-car driving and doing DMV, Charleston and Winston from Las Vegas, mountain, you, real estate that do, as well as neighboring states (and vice).

Whatever your taste in food and entertainment, Las Vegas is there. **TR**

The Costco Connection

Costco (www.costco.com) offers terrific value in every Las Vegas package. To learn more click "Shop at Costco.com" or call 1-877-849-2730. For more dining and entertainment information, visit www.lasvegas.com.

Costco TRAVEL

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NEVADA

LAS VEGAS: The Venetian Tower of the Venetian. Bay's Choice Package with Suites

FOR PRICES, CHECK PRICES AT COSTCO.COM

ELEGANT SUITES

COSTCO MEMBER BENEFITS
 Only for Costco Wholesaler Members

TWO-NIGHT PACKAGE

- Breakfast buffet
- Complimentary 1000 Club at The Venetian Room with Casino
- Member lounge access

OTHER GLITZING HOTELS

- Bellagio Las Vegas
- Caesars Palace Las Vegas
- Crown Valley Resort Mount A View
- Flamingo Las Vegas & Casino
- Flamingo Encore & Casino
- The Palazzo/Resort Hotel Casino
- Four Seasons
- Grand Millennium Resort & Casino
- New York-New York Hotel & Casino

Costco TRAVEL

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The Costco Meeting

KIRKLAND Signature

Compare to Kleenex® Cottonelle Fresh®

moist flushable wipes

Enhanced Cleansing & Freshness
Better than dry toilet paper alone

? → **BREAKS APART** after flushing

- Ultra Soft
- Gentle on Skin
- Safe for Sewer & Septic** ← **?**

600
Pre-moistened Wipes

perfect for the entire family! 10 x 60 of Solo Pads: 0.85 in x 0.85 in (17.3 cm x 15.3 cm)

2012

Culprits

Anything that can be drained or flushed



Legislative & Legal Efforts



- States (Maine, CA, NJ) proposed legislation & status
- National Legislation – Earl Blumenauer
- Federal Trade Commission
- Should local municipal governments take on bans, restrictions?



Legislative & Legal Efforts

- All Current Legislation relies on the INDA Flushability Guidance Document (Maine, NJ), or Toilet Paper (CA) as the standard to determine “Flushability”
- Maine is requiring INDA and MWWCA to work together on a consumer education project targeted at Baby Wipes



Proposed Legislation



- 2010 – AB 2256 California
Proposed labeling and third-party verification of dispersibility, and fines for non-compliance

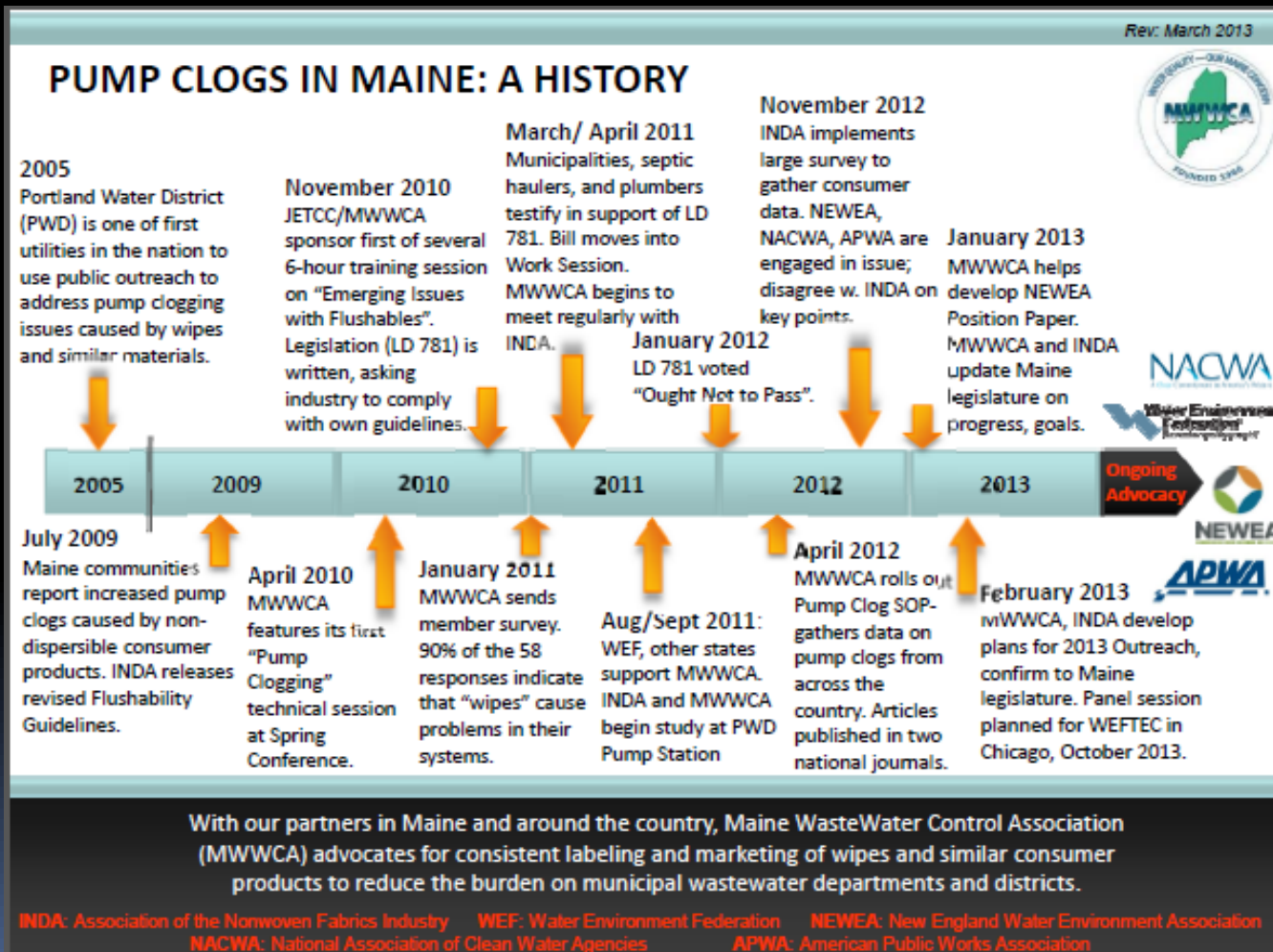
Inactive NOV 2010

- 2011 – LD 781 Maine
Proposed establishing standards for products advertised as flushable

Under review MAY 2013



Maine's Legislative History Timeline



Oregon's Actions In DC



The header features a portrait of Earl Blumenauer on the left, the text "EARL BLUMENAUER" in large green letters, and "REPRESENTING OREGON'S 3RD DISTRICT" below it. A banner image shows a city skyline, people on bicycles, a pink rose, and a snow-capped mountain.

HOME ABOUT EARL SERVICES ISSUES & LEGISLATION LATEST NEWS ABOUT THE DISTRICT CONTACT

Blumenauer Introduces the Water Protection and Reinvestment Act

Wednesday, 01 August 2012 16:11

Would Provide Desperately Needed Investment in America's Clean Water Infrastructure

WASHINGTON, DC – Today, Congressman Earl Blumenauer (OR-3), introduced the Water Protection and Reinvestment Act of 2012(HR 6249), a bill that will provide a deficit-neutral, consistent, and protected source of revenue to help states replace, repair, and rehabilitate critical wastewater treatment facilities.

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My Account Recycling Garbage Food & Yard Water Drainage & Sewer Residential Rates Look It Up

Reduce & Reuse
Stop Junk Mail
Stop Phone Books
Plastic Bag Ban
FAQs - Shoppers
FAQs - Retailers
Bag Ban Flyer
Keep Out of Landfill
Donate or Resell

My Services > Recycling > Reduce & Reuse > Plastic Bag Ban

Plastic Bag Ban

Seattle plastic bag ban effective July 1, 2012

- Printable bag ban flyer – English and translated versions
- Point of purchase card (pdf) – For retailers who carry paper bags
- Point of purchase card (pdf) – For retailers who only have acceptable plastic bags
- Read ordinance 123775

Retail business survey results and progress report – January 15, 2013

- Retail survey results summary (pdf) – Survey questions and response data
- Retail store survey and six-month progress report (pdf) – Survey report to City Council

Here's what the law does:

- Prohibits all Seattle retail stores from providing customers with single-use plastic carryout (shopping) bags, including those advertised as compostable, biodegradable, photodegradable or similar.
- Allows retail stores to provide customers with any size recyclable paper or

At a Glance

Plastic

Large Paper

CITY OF ISSAQUAH WASHINGTON

YOUR GOVERNMENT | OUR RESIDENTS | FOR VISITORS | DOING BUSINESS | HOW DO I?

You are here: Home > Your Government > Departments > Sustainability > Plastic Bag Ban

Plastic Bag Ban

The Issaquah City Council recently adopted an ordinance that bans single-use, plastic carryout bags at retail stores.

The plastic bag ban will take effect in 2013 and will follow a phased approach, applying to larger retailers March 1, 2013, and smaller retailers March 1, 2014. View our flyer for more details.

What the ordinance does

- Prohibits retail stores from providing customers with single-use plastic carryout bags.

MONDAY, MAY 13, 2013 HOME SUBSCRIBER SERVICES E-EDITION

The Register-Guard

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NEWS LOCAL NEWS

EUGENE GOVERNMENT

Plastic bag ban begins

PUBLISHED: 12:00 A.M., MAY 1

243 8 0

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Time to start paying, Eugene.

Paying for paper, that is.

Los Angeles Times BUSINESS

LOCAL U.S. WORLD BUSINESS SPORTS ENTERTAINMENT HEALTH LIVING TR

MONEY & CO. TECHNOLOGY HIGHWAY 1 COMPANY TOWN PERSONAL FINANCE JO

TRENDING NOW ABORTION DOCTOR VERDICT | LEILA FOWLER | NEW ORLEANS SHOOTING | OJ

BrightRoll Now that's Smart Video Advertising.

MONEY & CO. TRACKING THE MARKET AND ECONOMIC TRENDS THAT SHAPE YOUR FINANCES

California Senate looks at statewide plastic bag ban

Comments 45 Email Share 360 Tweet 51 Recommend 299 +1 13



Cooperative Projects

- INDA/MWWCA/WEF CSC field studies in Portland, ME
- Consumer Focus Groups and Surveys
- Promise to upgrade Non-flushable Labeling
- Wastewater Industry to review and comment on FGD Edition 3
- Presentation at the 2012 INDA World of Wipes Conference
- Conference Calls – WEF Non-Dispersible WG
- Emerald Planet Video Proposal



INDA has proceeded unilaterally

So...

- Wastewater Industry needs to develop it's own standard for dispersability for "Flushable Labeled" Wipes and placement and size of DNF Labeling for Non-flushable Wipes
- We need to pursue regulatory (legislation) and legal avenues
- We need to document
- We need to push for wipes that are flushed due to contamination, to be made of a flushable substrate



What's happening now

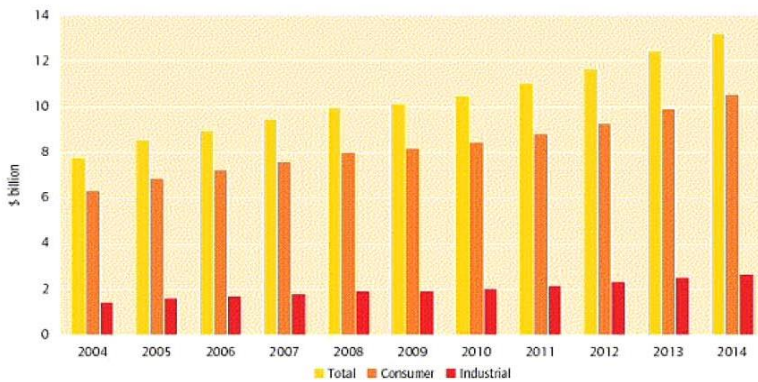
- NEWEA has developed a Position Paper
- MWWCA/INDA Consumer Education Project moving forward slowly
- Literature Search of INDA Dispersability Claims
- We are testing products and looking at False Advertising Claims - FTC
- WERF Targeted Collaborative Research Project (TCR) – Dispersability and DNF Labeling Standard
- Independent 3rd Party testing of flushable products – but to our standards not INDA's



Wipes Use Trends

Consumer Wipes: Prevalence of Use

FIGURE E.2 Sales of consumer and industrial wipes, 2004-14 (\$ billion)



Source: Pira International Ltd

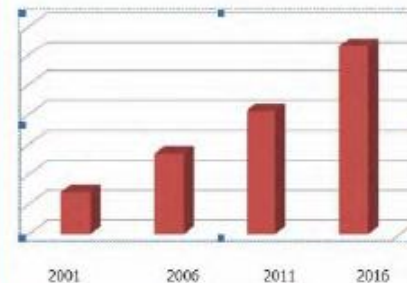


Global Spunlaced Technology Markets and Trends 2011-2016

Purchase!

Rapid global growth of spunlaced/hydroentanglement technology and end-uses

Outlook for Worldwide Spunlaced Nonwoven Production



Cost

INDA Members: \$1,995
Non-Members: \$2,795

Follow us on:



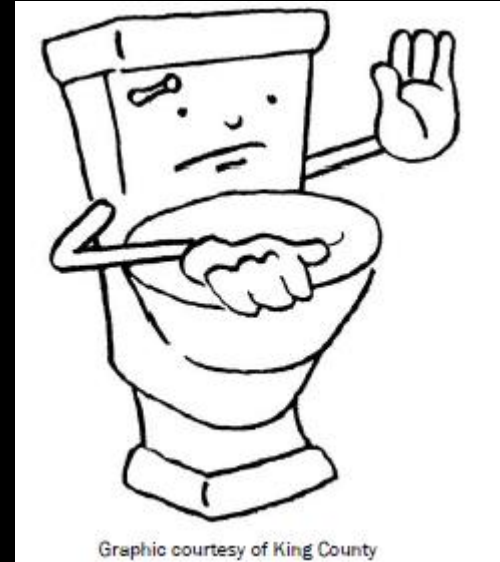
What Can YOU Do?

- **Network & Collect and Document Data**
 - Preventative and corrective maintenance tasks in sewers/pump stations/treatment plants
 - Labor hours/costs
 - Equipment repair/replacement costs
 - Fuel Costs
 - Debris Hauling fees
 - Blockages, SSO events and fines
 - Document your “deragging” costs and share with others
 - Testing new “Incident Report” from SCAP



Next Steps: Other options and ideas? Put Non-Dispersibles in the Trash, Not the Sewer

- **Sanitary and/or Combined Sewers are not an effective or proper way to move non-dispersibles to the landfill.**
 - Sustainability – long term
 - Water Conservation
 - Energy Conservation
 - Extended Producer Responsibility
 - Lower our labor needs
 - Help update INDA Voluntary Guidelines Rev. 3



TOILETS ARE NOT TRASHCANS!

PREVENTING INAPPROPRIATE FLUSHING

City of Kirkland, Department of Public Works
City of Vancouver, Department of Public Works



Field Study #1 – Bench Top

OCSD



Toilet Paper after 5 minutes

Wipes after 24 hours





Toilet Paper after 40 seconds

Wipes after 16 hours



Field Study #2 – Forensics

Maine

Maine WWCA / Portland (ME)

WEF Collections System Committee

INDA / Kimberly Clark / Proctor & Gamble

STANDARD OPERATING PROCEDURE

FOR EVALUATING MATERIALS IN PUMP CLOGS AND SEWER OBSTRUCTIONS

- Maine Wastewater Control Association



SOP – Evaluation Form

Maine WasteWater Control Association
Data Entry Form

SOP for Evaluating Materials in Pump Clogs and Sewer Obstructions

Municipality: PORTLAND
 Location: THOMPSON'S
 Nature of interference (pump clog, sewer obstruction, other): PUMP CLOG

Date: APRIL 23RD/12 Weather Conditions: HEAVY RAIN
 Operator(s): MIKE PENNY + ED CASH

Rinsing materials in a bucket prior to screening may make it easier to separate and identify individual materials.

Material	# of Piles	% of Total (# Piles / Total # Piles)	Tear (Yes or No)	Description
Paper Towels	1	15%		C-fold towels or serrated edge.
Cleaning or Other Large Wipes (8-12" on longest side)	2	30%		Often have a perforated or serrated edge. Include shop towels, medical wipes, and "Swiffer" type pads here.
Baby Wipes (Medium: 8" on longest side)	3	40%		Include all embossed or imprinted wipes here.
Personal Wipes (Small: 2-8" on longest side)				Include makeup remover pads, hemorrhoid wipes, hand wipes.
Hygiene Products	.5	7.5%	N/A	Include tampons, tampon applicators, and sanitary pads as well as adult diapers.
PLASTICS	.5	7.5%		STARTERS, WRAPPERS
Total # Piles	7			

If you are unable to separate materials, generally describe what you see: _____



Field Study #2 – Forensics

Maine

SOP – Evaluating Materials in Pump Clogs & Sewer Obstructions

42% Paper Products

24% Baby Wipes

17% Feminine Hygiene Products

8% "Flushable" Wipes

10% Other



Courtesy PWD, MWW, WEF CSC

Field Study #2 – Forensics Maine

90% +/- of the products removed from the sewer during the test are non-flushable

The “Flushable Products” do not have a lot of structural strength and tear easily

Paper, specifically paper towels from public restroom dispensers, is a major issue

Baby Wipes are indestructible squares of plastic



Courtesy PWD, MWW, WEF CSC

Field Study #3 – Toilet Flushable Test Parsa NJ

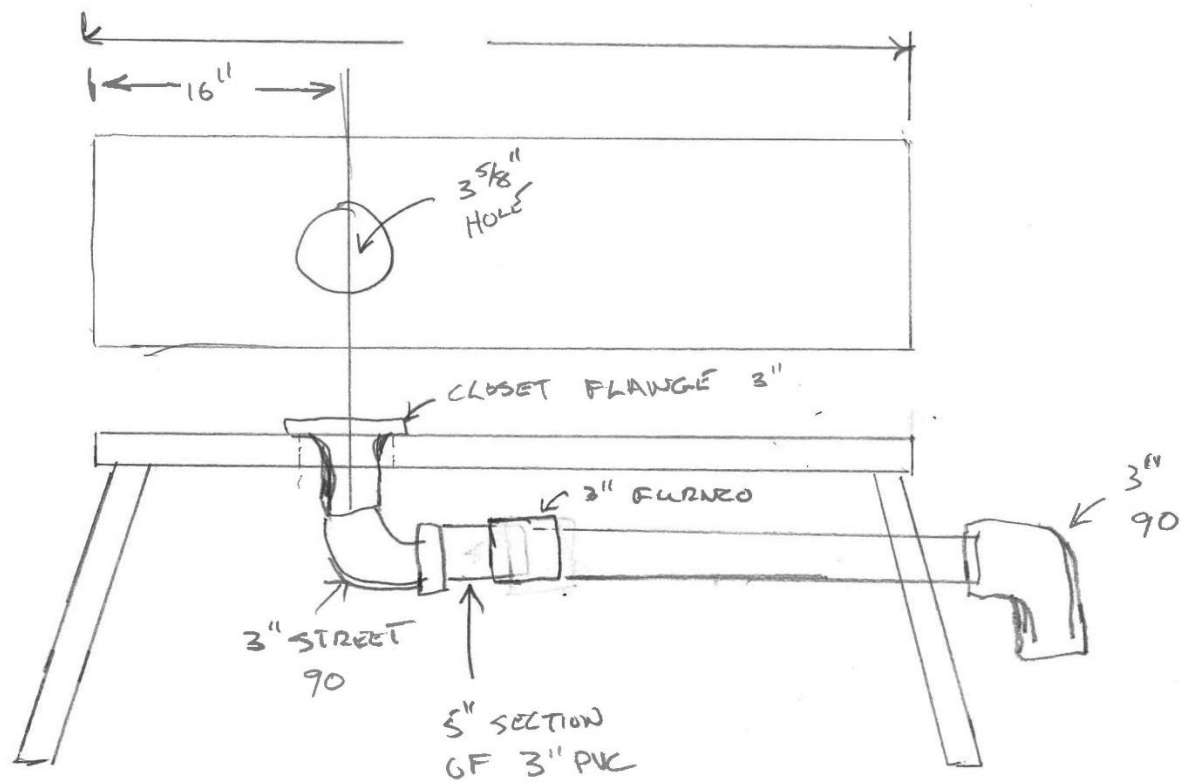


Field Study #3 – Toilet Flushable Test Parsa NJ



Field Study #3 – Toilet Flushable Test

Parsa, NJ



Field Study #4 – Dyed Wipes Sewer Test Vancouver, WA

Three Drop Sites

1. Manhole 800 feet from MP plant
2. Manhole 1000 feet from WS plant
3. Manhole 5000 feet from WS plant



Field Study #4 – Dyed Wipes Sewer Test Vancouver, WA



5 minutes
These wipes went through a pump



Field Study #4 – Dyed Wipes Sewer Test Vancouver, WA



14 minutes in sewer
Red – Kirkland wipes
Orange – Baby wipes



Field Study #4 – Dyed Wipes Sewer Test Vancouver, WA



45 minutes in sewer

Red – Kirkland wipes

Blue – Baby wipes

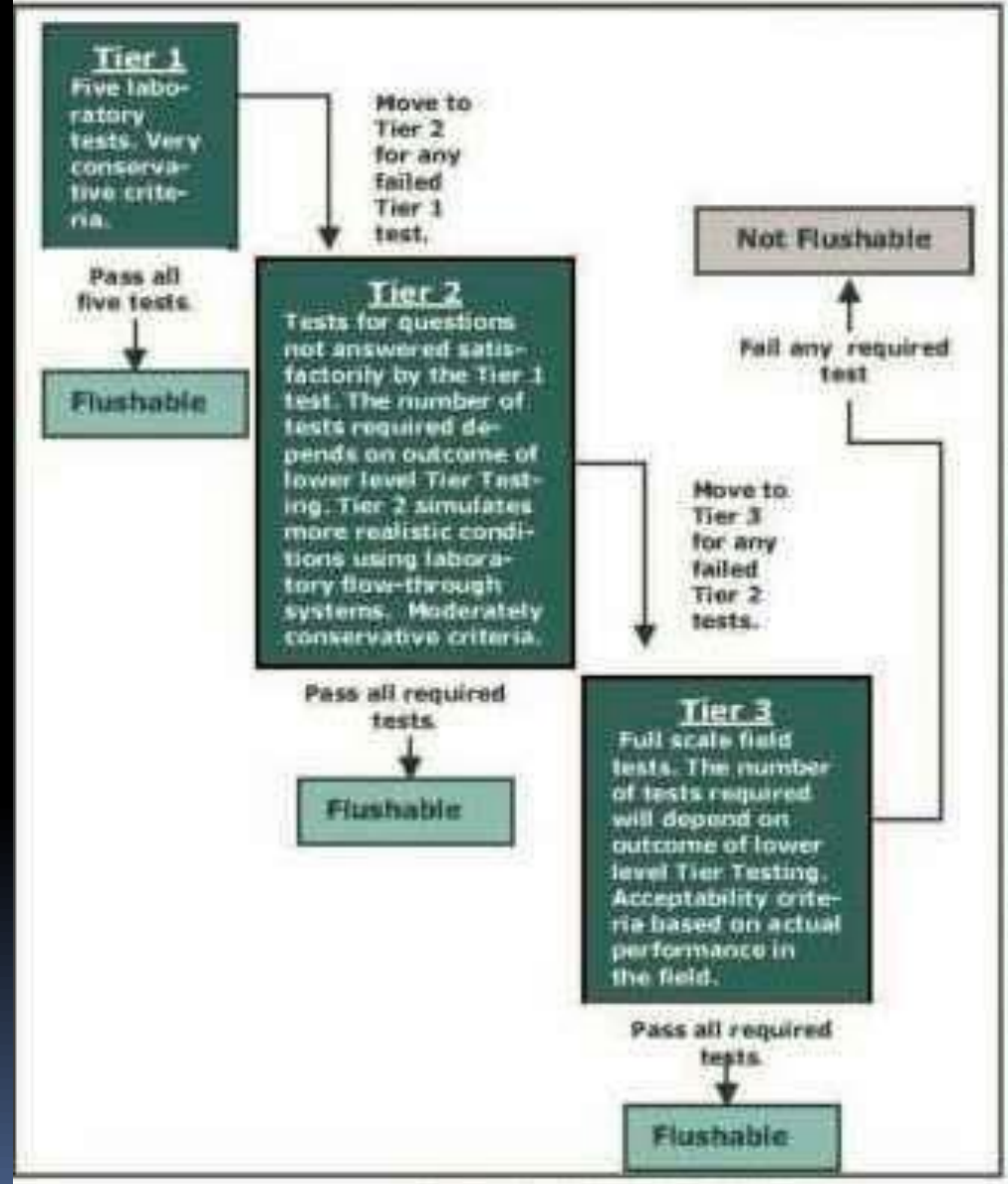


Field Study #4

INDA ES – Flushability Assessment

(2008)

Schematic of the Testing Scheme



Field Study #4 – Acceptance Criteria

FG532 Tier 3 - Sewer Conveyance &
.1 Municipal
Wastewater Treatment Test

No evidence of clogging in sewer pipe

No pump failure or significant accumulation in pump

>95% product observed in screening material after 24 hrs

>95% product observed in screening material after 24 hrs

>80% of product observed in grit material after 24 hours

Behave similarly to other suspended wastewater solids in
primary
clarifier

No > 5% of product observed in effluent of treatment plant

Product indistinguishable from other aerobically and
anaerobically digested solids

No > 5% of product observed in screening material after 24
hours



Vancouver Experience

Orchards Low Head Andresen

All newer stations – 1990s

Pumps have been replaced before end of useful life

Removed ones 10 – 15 years old
Expected useful life 30 years



Vancouver Experience

\$ 78,000 annually in maintenance (deploy crew to de-rag pumps)

\$ 30,000 annually in additional electricity costs to run pumps that are clogged

**\$ 900,000 new pumps and equipment
From 2008 – 2013**

429 tons rags / debris - 2012



Vancouver Experience

“Neighborhood areas”

Eight stations retrofitted so far

\$160,000 new pumps

Deferred \$50,000 annual maintenance cost









FIVE STAR
GROUT





Vancouver Experience

Assessing Costs in Your Area:

- **25% additional electric costs** – if your pumps clog in 24 hours
- **Account all maintenance hours for unclogging pumps or pipe** – the baseline should be zero
- **Account landfill costs** – assume a % based on your observations
- **Track capital costs for pump and equipment replacement**



SoCal Alliance of POTWs



NON-DISPERSIBLES INCIDENT REPORT

Describing this incident please provide estimates of:

Staff Labor Hours Used Including Travel Time: _____

Contractor Hours Used If Any: _____

Equipment Used: _____

Estimated Total Labor Cost (\$): _____

Estimated Total Equipment Cost (\$): _____

Estimated Cost of Damage if Equipment or Components Needed Replacement: _____

Total Estimated Cost of this Incident (\$): _____

Did the incident cause a sewage spill? Yes No

If yes, provide estimated volume of spill as also provided to CIWQS in CA.: _____ Gallons

Additional comments or information you have that you feel is important to provide that was not provided in the fields above?

Contact Name and Phone Number or Email Address for SCAP follow up? _____

Upon completion, please email or fax form and supporting documentation to John Pastore, Executive Director, SCAP at jpastore@scap1.org or fax # 760-479-4881 www.scap1.org

Message: Keep it Simple



Disposable **WIPES**

Minimize use of disposable wipes.

Discard used wipes in the trash.

Do Flush

- Toilet Paper
- Human Waste
- Pet Waste



Don't Flush

- Disposable Wipes
- Dental Floss
- Paper Towels
- Feminine Products
- Cotton Balls
- Bandages
- Syringes or Needles
- Gum



POLLUTION SOLUTION

Portland Water District
225 Douglas Street | PO Box 3553
Portland, Maine 04102
207.761.8311 | customerservice@pwd.org | www.pwd.org
www.facebook.com/MyPortlandWater
www.twitter.com/MyPortlandWater



Smart Bunnies Know Flush Only Toilet Tissue



OTHER PRODUCTS WILL **PLUG** THE PIPES!

It's a fact. Wipes, diapers, cloths, feminine hygiene products and other "disposable" or "flushable" items may be handy to use, but they should NEVER be flushed in your toilet, no matter what the label says. These products don't break down like toilet tissue. They just plug plumbing, pipes, pumps and treatment facilities, costing thousands of dollars and making a big MESS!

Be smart. Flush only toilet tissue.



Vancouver – KOIN TV

<http://www.koinlocal6.com/mediacenter/local.aspx?videoid=3690918>

Portland Water District (ME)

https://www.youtube.com/watch?v=wQsoQznU_z0

Spokane, WA

<http://www.spokanewastewater.org/WillItFlushVideo.aspx>

King County, WA

<http://www.seattlechannel.org/videos/video.asp?ID=5900&file=1>

London, England Sewer Singers

<http://www.youtube.com/watch?v=ejBMF2Ka6mA>

NACWA Website

http://www.nacwa.org/index.php?option=com_content&view=article&id=1581&Itemid=28



Questions ???

