

Otter Lake Landfill

A World-Class Waste Management Facility



Presentation Purpose

- * Ensure you have all information
- * Seek support to stop consideration of closure of FEP/WSF at Otter Lake
- * Accordingly, remove issue from consultation process

On HRM Website

Front End Processor (FEP)

The FEP facility is where garbage arrives and bags are opened and inspected. It consists of a system of conveyors, bag breaker, sorting platforms and mechanical screening operations.

The FEP allows for identification and removal of material that should not be going to landfill.

Clean recyclable paper, metals and containers are removed during the sorting process. However, the majority is disposed due to contamination.

Scrap metal (ie appliances) is separated for recycling.

On HRM Website

Waste Stabilization Facility (WSF)

Screened material from the FEP is transferred to the WSF where it moves by agitator in channels to be decomposed in 18 to 21 days.

The material left at the end of this process is a dryer like fluff which then goes to the landfill. This process lessens the amount of leachate produced by material in the cell, and as there is no food residue it doesn't attract vectors (ie birds).

On HRM Website

Diversion from Landfill

The processing/stabilizing of waste comes at a cost, however it is done for the protections of the local community and the environment.

Recycling and composting programs maximize recovery of resources and positively impacts our environment.

Mixed waste in landfills generates about 38% of Canada's total methane (a greenhouse gas) emissions. Diverting organics from landfill can have a significant impact on climate change.

On HRM Website

Citizens' Developed Solid Waste Resource Management Strategy

Fundamental Community Commitment

- **Keep organics & other banned materials out of the landfill**
- **Development of the Otter Lake Front End Processing (FEP) and Waste Stabilization Facility (WSF) to eliminate organics from landfill**

Where Has The Commitment Gone?

- * Only 2-3 years ago, discussion on wilderness park at end of 25 year agreement – now discussion is keeping facility open into 2nd half of this Century
- * Recommendation is to walk away from commitment and ask community to embrace extension of Otter Lake facility
- * Community engagement on Otter Lake should concentrate on surrounding, most affected communities

Stantec Report and Staff Recommendations

- * Stantec process flawed
 - * TOR should have been developed jointly with CMC
 - * CMC requested involvement, was rebuffed

Review of HRM's Waste Resource Strategy Update Report

***Scott Kyle, P.Eng., LEED AP
Dillon Consulting Ltd.***

June 18, 2013



To get started...

- **Dillon Consulting Limited**

- Founded in 1946, 650 employees, 17 offices
- NS roots; HJ Porter & Associates
- Extensive waste management experience in HRM, Nova Scotia and Canada

- **Scott Kyle, P.Eng., LEED AP**

- Civil engineer, Partner with Dillon
- 25 years with a focus on the waste management sector – public & private
- Involvement at Otter Lake since the original identification of the site in the mid 90s

To get started...

- **Dillon's Engagement**

- Conducted on behalf of MIRROR NS
- Review Stantec's *Waste Resource Strategy Update* report (Jan 2013)
- Initial review of SNC Lavalin's Peer Review of the Stantec report (Apr 2013)

Today's Presentation

- Highlights of Dillon's review of the Stantec document
- Including references to initial SNC Lavalin Peer Review findings where applicable
- Nine "Issues of Concern"
 - Common issues of concern between the two documents are noted with an asterisk *
 - Plus two new items specific to the Peer Review
- Have not discussed comments with Stantec or SNC Lavalin report authors

Review of the Jan 2013 Stantec Report

- **Focus on:**

- Section 3 (Otter Lake Waste Processing and Disposal Facility)
- Section 4 (Landfill Design)
- Section 5 (Opportunity to Create a Regional Waste Resource Campus)

- **Now on to the 9 items...**

Review of the Jan 2013 Stantec Report

*1. Incorrect definition of the intended role of the FEP/WSF **

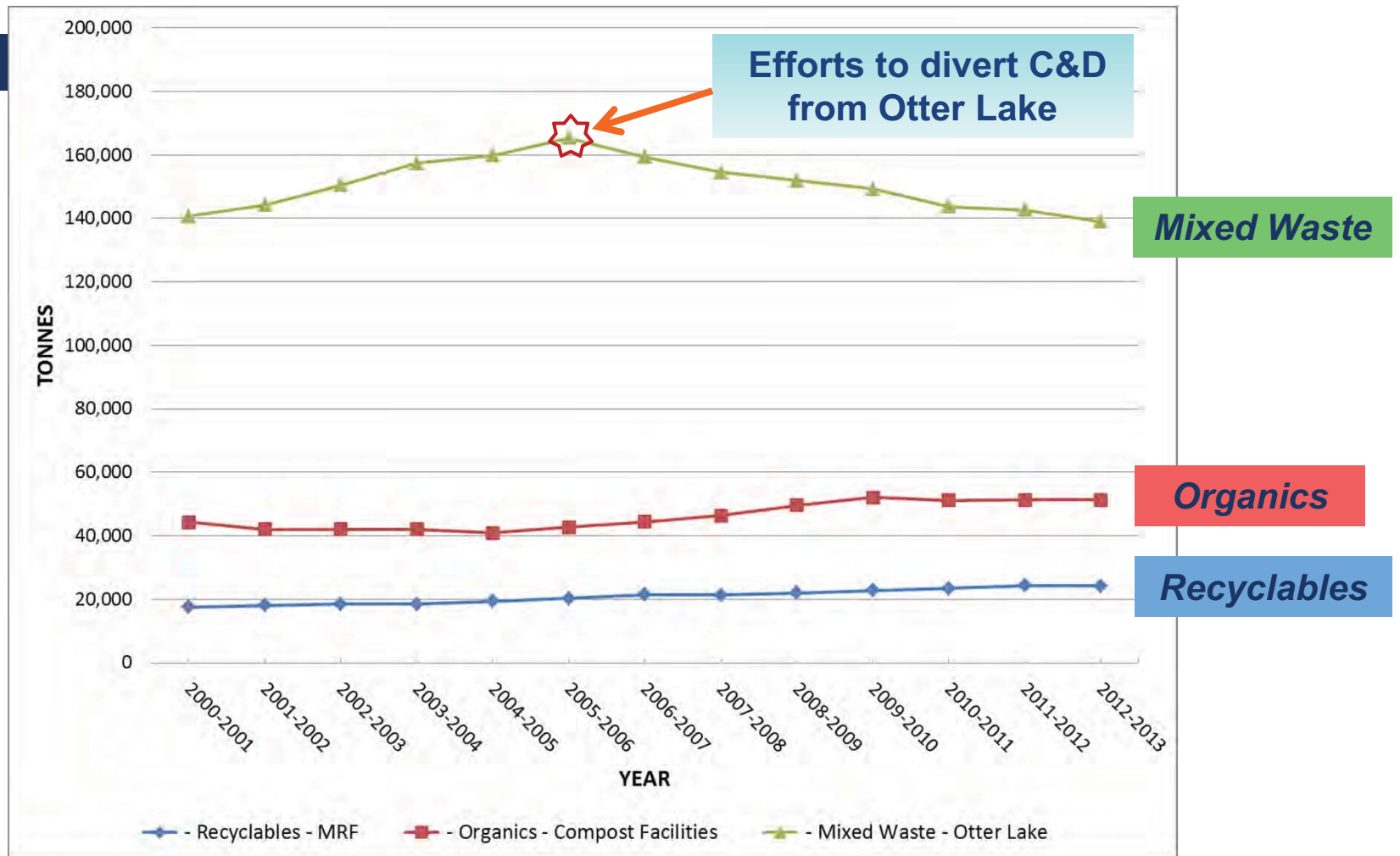
- **Reliance on a superseded 1995 definition**
 - to provide “a return on investment”, marketable recyclables and compost
- **May 1996 - Revised Annual Cost Profile Assumptions**
 - “Unlike the previous version, this facility will not generate revenue and related expenses through additional diversion. Its system role is limited to sorting inert material that can go directly to the RDF and stabilizing the remaining compostable material in the WSF.”
- **Consistent with 1997 HRM/MIRROR NS contract, 1999 CMC Agreement & HRM’s NSE Approval to Operate**
 - Only processed waste to be delivered to the RDF

Review of the Jan 2013 Stantec Report

*2. Inconsistent characterization of the current mixed waste stream **

- **Stantec; significant changes to the waste stream since Otter Lake was commissioned**
 - Less recyclables and compostables in mixed waste stream
 - FEP/WSF no longer necessary
- **2010/11 HRM Staff Reports; in support of Clear Bags**
 - Large quantities of recyclables/organics arriving at the FEP
 - Tipping floor photographs, estimate of 62,000 tonnes/year
- **HRM Tonnage Data**
 - Modest changes in Otter Lake, MRF and Composting Facility tonnages since 2000/01

HRM Facility Tonnage Data



HRM Staff FEP Photos



Review of the Jan 2013 Stantec Report

*3. Failure to acknowledge the “gatekeeper” effect of the FEP **

- **NS Environment – Materials banned from landfills**
- **Load checking and rejection**
 - From 2008-2012, average of 612 warnings and 40 rejections per year
- **An incentive for source separation**
 - Rejected loads have to be taken off site and resorted – expensive and time consuming for collection contractors
 - An encouragement for collectors to educate their clients
- **Without the gatekeeper role...**
 - An increase in recyclables, organics, hazardous materials and other banned items in mixed loads

Review of the Jan 2013 Stantec Report

*4. Failure to acknowledge the reduction in bird and blowing litter concerns as a key community benefit of the FEP/WSF **

- **Lessons from Highway 101 Landfill**
 - Resident seagull population, blowing litter, visible putrescible waste
- **A commitment to process prior to disposal; FEP/WSF**
 - Reduced attractiveness to birds
 - Reduced amounts of blowing litter/debris
 - No visible putrescible organics to attract pests and insects

Review of the Jan 2013 Stantec Report

*5. Selection of unrepresentative landfill sites as a basis for an analysis of RDF operating costs **

- **11 landfill sites from across Canada and the US**
- **Reduced liner standards**
 - Five Ontario sites with “clay only” liners (NS before 1992)
 - Four US sites with single composite liners (vs. NS double composite standard)
- **Five “mega-sites”**
 - Four in the US, one in Ontario
 - Five to over 19 times the waste received at the RDF in 2012
- **Lower capital costs, significant economy of scale advantages**

Review of the Jan 2013 Stantec Report

*6. Failure to recognize the local and provincial commitment implications of reducing the current RDF liner standard **

- **Six landfill sites developed based on the NS liner standard**
 - “Double composite” liner; first specified by NS Environment in 1992
 - Very beneficial when addressing host community concerns regarding potential groundwater impacts
- **Implications to reducing existing standard**
 - Reneging on previous community commitments; in HRM and five other NS communities
 - Otter Lake RDF; fractured bedrock adjacent to Nine Mile River

Review of the Jan 2013 Stantec Report

7. Unrealistic & unsubstantiated estimate of schedule and costs to establish a waste resource campus

- **Campus = Composting, Anaerobic Digester, MRF at one location**
- **Very limited information**
 - No assumptions, details or conceptual layouts to support the site size or cost estimate for a \$10 million, 40 hectare regional campus
- **Very ambitious development schedule**
 - Less than two years to identify, purchase, design, permit, tender and construct a site to host regional waste management infrastructure
- **Lack of appreciation of the issues**
 - Lessons learned in HRM during the 90s
 - Significant technical, regulatory, social and political complexities to establish waste management facilities

Plus Two Additional SNC Lavalin Items

8. *Inaccurate description of WSF process*

- **SNC Lavalin conclusion;**
 - “...accurate to describe the waste leaving the WSF as being drier, rather than being more physically or chemically stabilized”
- **Sorting, shredding, 15-18 days in the WSF = stabilized**
- **Consistent with 1997 HRM/MIRROR NS contract, 1999 CMC Agreement & HRM's NSE Approval to Operate**



Plus Two Additional SNC Lavalin Items

9. *Extensive use of “Soft Data”*

- **Presentation of costs with limited detail or explanation**
 - A concern carried forward from the Stantec document
 - A number of unsubstantiated cost estimates
 - Good example; Table on Page viii of the Executive Summary
- **Use of a 40 year Otter Lake projection period**
 - Otter Lake contract ends in 2023; uncertainty after that
 - *Soft costs x a long period = a big number*
 - \$12,000,000 x 40 years = \$480,000,000 (Section 5.3)
 - The need for a rigorous, defensible financial analysis prior to selecting any potential changes

Plus Two Additional SNC Lavalin Items

9. Extensive use of “Soft Data” (cont.)

- **The “\$170/tonne” value**

- Using the same (apparent) methodology:
 - 2011/12 = **\$90/tonne**; 2010/11 = **\$200/tonne**; 2009/10 = **\$116/tonne**
- Highly variable, linked to reserve fund requirements for RDF liner and cap construction
- Were the other referenced LF costs (\$75) calculated the same way?

- **The FEP/WSF Mass Balance (as just presented)**

- Not included in Stantec/SNC Lavalin reports; some noted math errors
- Unclear how new tonnage numbers were calculated (or if they are relevant)
- Not an accurate representation of what occurs at the FEP/WSF
- No previous concerns brought forward by HRM staff

In Summary - 9 Items of Concern

1. *Incorrect definition of the intended role of the FEP/WSF**
2. *Inconsistent characterization of the current mixed waste stream**
3. *Failure to acknowledge the “gatekeeper” effect of the FEP**
4. *Failure to acknowledge the reduction in bird and blowing litter concerns as a key community benefit of the FEP/WSF**
5. *Selection of unrepresentative landfill sites as a basis for an analysis of RDF operating costs**

In Summary - 9 Items of Concern

6. *Failure to recognize the local and provincial commitment implications of reducing the current RDF liner standard**
7. *Unrealistic & unsubstantiated estimate of schedule and costs to establish a waste resource campus*
8. *Inaccurate description of WSF process*
9. *Extensive use of “Soft Data”*

Thank you



Misconceptions vs. Truths

Misconception	Truth
Waste Stream has changed	Waste Stream At Otter Lake has not changed
Technology has changed, like cell phones have	Waste technology has changed little, Stantec says so
Landfill costs are 3x higher	Landfill operating costs similar, processing, regulations adds costs
Closing FEP and WSF is “evolving” the waste management system	Would roll system back to 1980’s style landfill
The WSF just “partially dries organics”	You have seen the output for yourself

Why We Are Here

Sackville Landfill Photo



Toronto garbage stinks in Southwold Township, locals complain

Toronto's trash, dumped at the Green Lane landfill, has been greeted by protests from First Nations youth and complaints from residents. The city says it's trying its best.

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DAVE CHIDLEY / FOR THE TORONTO STAR

Protesters from the nearby Oneida First Nation march at the entrance to Toronto's Green Lane landfill site near London.

By: **Katie Daubs** GTA, Published on Fri Jun 07 2013

SOUTHWOLD TOWNSHIP, ONT.—There was a time when Monica Pennings could plan a barbecue free from fear of stench.

EXPLORE THIS STORY

4 PHOTOS

History

- * Halifax County took on waste management in 1994
 - * After failure of Metropolitan Authority process
- * Pure form of public policy development (CSC)
 - * Citizens developed diversion strategy and sited landfill
 - * Tertiary treatment at landfill for added community protection
 - * 25 year agreement
 - * Landfill close to generation, increased environment/community protection
- * Endorsed by County and HRM Councils
- * Public embraced program

Host Community Commitment

- * 3 instruments provide guarantee
 - * Community Monitoring Committee Partnership
 - * Nova Scotia Environment Operating Permit
 - * Contract with Operator
- * Intended to ensure commitment kept
- * Otter Lake operation has proven to be successful
- * Local communities have kept their side of deal, expect HRM to keep their side

Key Objective - Financial

- * Elephant in the Room
 - * Save \$ while increase risk of local property devaluation, odour, birds, nuisance issues
 - * Look at staff report projections - 40 years = \$400 million, designed to get attention
 - * Focus should be on impacts to the local community

Provincial Authority

- * Minister of Environment has authority
- * Required support from Province is not there
- * Community engagement will not change this
- * Risk significant harm to your relationship with the host community and HRM's overall credibility

Closing Comments

- * Confirm commitment to host community for balance of 10 years, consistent with provincial decision
- * Reject recommendations for closure of FEP/WSF and other proposed changes at Otter Lake
- * Remove issue of closure of FEP/WSF from consultation process
- * Interest by the wider community in saving \$ does not justify reneging on an agreement with the local community