

Proposed

**3 Year Blue Box Recycler Training
Strategy and Implementation Plan**

Prepared for:
Stewardship Ontario

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Executive Summary

There is a demonstrated need for comprehensive recycling training in Ontario. Training of key staff on core competencies was identified as one of eight main Best Practices in the comprehensive Blue Box Program Enhancement and Best Practices Assessment Report recently completed by KPMG under Stewardship Ontario's Effectiveness & Efficiency Fund. There is a lack of standardization in blue box programs across the province, and there is evidence in several Ontario recycling programs of opportunities to improve efficiencies and reduce per tonne costs. In addition, there has been no comprehensive recycling training in Ontario in over ten years.

The training needs assessment survey sent out to municipal recycling staff and others as part of this project was completed by 97 individuals; this represents a very solid response rate.

Based on the research conducted as part of this project, a Recycling Training Certification Program is being recommended that will address recyclers' professional development needs as well as ultimately provide the skills and knowledge required to increase diversion and reduce per tonne costs in Ontario's blue box programs.

Those responsible for decision-making regarding recycling programs, as well as those responsible for managing the day-to-day operations of municipal blue box programs will be the primary training audience. Secondary audiences will include procurement personnel, contractors, consultants etc., as well as new recruits, interested in recycling as a potential career track.

Within 3 years, blue box funding is recommended to be tied to training (i.e. each municipal recycling program might be required to have someone trained on staff) to further incentivize participation in training.

The recommended certified trainings will include a 5 day Core Training, covering all aspects of municipal blue box recycling, as a pre-requisite to a further 4 specialized trainings (average 2 days each) in Contract Management, Promotion and Education, Markets & Marketing and Data Management. Certification will be based on the successful completion of examinations and will include "maintenance" requirements to support continuous learning.

A limited-time grandfathering mechanism will allow experienced recycling professionals to become certified by writing and passing the Core exam without taking the course.

A blended learning approach, i.e. a blend of e-learning and face-to-face delivery (still widely preferred by the survey respondents) will be delivered through the existing Recyclers' Knowledge Network. The face-to-face component will likely consist of regional workshops to help to overcome the barriers to participating in training which were identified as most significant (distance and time).

It is recommended that Stewardship Ontario be the lead body on recycling training for 3 years or until partnerships, certification and other options are established. This may require a part-time project manager within Stewardship Ontario, as well as a full-time contract training coordinator position through the Continuous Improvement Fund for two to three years.

While Stewardship Ontario is the recommended lead, SWANA, with its existing certification infrastructure, is a credible and suitable certification body for the training. The Ontario college system also represents a possible long-term option for the certification training program that offers a broader waste management education and a source of new recruits or entrants to industry not provided by SWANA. According to the e-survey, AMRC is the industry association most looked to in support of recyclers' everyday needs, and as such, is a suitable marketing and administrative body.

The estimated net costs of recycling training range from a low of \$1.31m to a high of \$1.75 m over 3 years, with almost half of that expenditure in the first of the 3 years. Offering training at a low cost to the primary target audience (i.e. a nominal fee/person/day + fee to certify/write exam) will help to minimize cost as a significant barrier to training and at the same time, provide some cost recovery.

An ambitious delivery schedule is anticipated, with 8 deliveries of the Core Training and 7 Specialized Training deliveries over a 3 year period.

This training program will be considered successful if at the end of three years there are:

- 200 certified in core training;
- 140 certified in specialized training;
- 70% of municipal recycling programs have at least one staff certified.

Beyond the first 3 years, it is expected that the core training will continue to be offered and new specializations will continue to be developed as required.

Some of the immediate next steps required to implement the Recycling Training Certification Program include ensuring that the training budget is earmarked within the Continuous Improvement Fund, contracting with a full-time training coordinator, beginning to build the infrastructure (partners, broad industry support of the certification program) and consulting with municipal representatives to ensure that the plan developed accurately reflects their input and needs. Additional next steps are outlined in the Next Steps/Issues to Resolve section of the report.

The report which follows provides more detail of various aspects of the strategy in a brief, key point format.

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Why Training?

The *Blue Box Program Enhancement and Best Practices Assessment Project Report* prepared for Waste Diversion Ontario's Municipal Industry Programs Committee (MIPC) identified training of key recycling program staff in core competencies as one of 8 fundamental best practices.

Training can provide the skills needed to develop, manage, evaluate, document and promote a successful Blue Box recycling program which increases material recovery in a cost effective manner. It is also an ideal mechanism to disseminate key learnings regarding continuous improvement across the province to maximize performance of all "blue box" recycling programs.

While there have been a lot of issue-oriented information sessions, there has not been comprehensive recycling training offered in Ontario for over a decade.

Training is easier to implement, more effective in long-term capacity building, and simpler to monitor and evaluate if guided by a comprehensive, proactive strategy.

Reaction to the concept of a proposed comprehensive training strategy for municipal recycling staff was very positive by both members of the target audience and stakeholders in the industry.

Methodology

In response to Stewardship Ontario's request to prepare a three year Blue Box recycler training strategy and implementation plan, the following tasks were undertaken:

- Existing recycling training programs in North America and Europe were researched and evaluated (see Appendix A Tasks 1 for a complete list of people contacted);
- Potential training partners were contacted (see Appendix A Task 1);
- A recycling training needs assessment e-survey was developed and sent out to ~900 relevant contacts in the recycling industry (combined mailing lists from Ontario Recycler Workshops, Waste Diversion Ontario and Association of Municipalities of Ontario);
 - 157 responses received (43% small, 22% medium and 35% large municipalities)
 - 97 surveys were fully completed
 - See e-survey results Appendix B
- Eighteen stakeholders were contacted to round out the survey and fill in gaps (see Appendix A Task 2);
- The above research was summarized in a discussion paper (see Appendix C) as the basis for a working meeting on November 26th, 2007 with both the steering committee and the project team (extended project team of 14), the purpose of which was to advance the strategy recommendations;
- And a report to Stewardship Ontario was drafted and finalized as the first step of a long-term investment in recycling sustainability in the province.

Certification Training

The cornerstone of this strategy is the development of a Recycling Certification Training Program for Ontario. A certification training program can both strengthen municipal recycling programs (increase diversion and reduce waste) and fulfill participants' needs involving recognition of their accomplishments by a credible body.

Interestingly, almost 70% of e-survey respondents indicated they would be interested in pursuing an accredited certificate recycling training program. Respondents cited increased recognition and integrity of the profession, an indication of a strong provincial commitment to waste diversion, standardization of good practices, improved participation rates, qualification for a raise or promotion, and increased confidence on the job as their rationale for supporting certification.

All trainings will be based on core competencies and will include evaluation or testing. The intent of the testing is to have participants demonstrate they have achieved the required competencies, and if required, additional support will be provided to participants' to help them accomplish this goal. Certification will have annual maintenance requirements to support continuous learning (eligible maintenance credits might include ORWs, specialized trainings, etc.).

To further support certification training, it is recommended that MIPC consider a 3 to 5 year goal linking training to blue box funding (with a potential requirement that at least one recycling staff in each municipality be certified). Those with many years experience will be encouraged to take the training, but the program will also acknowledge in-depth experience by offering a time limited opportunity (18 months is being recommended) to grandfather those interested in certification (with a passing grade on the exam). This training certification model may represent a template for other segments of the waste industry in the future that may wish to follow suit (e.g. Household Hazardous Waste).

Target Audiences

The main target audiences for the certification training are those responsible for decision-making regarding recycling programs, as well as those responsible for managing the day-to-day operations of municipal blue box programs. In small municipalities in particular, the joint attendance of both the decision-makers and the operational personnel should be strongly encouraged to ensure that those closest to the program receive the core training, as well as those who will ultimately authorize improvements to the program (and who might otherwise perceive recycling and recycling training as low priority). The target audiences include both those already in the field and new hires or entrants to the field. Secondary audiences include contractors, procurement personnel, consultants, etc. as appropriate.

Training will generally address program design, management and evaluation subject areas rather than specific operational topics. For example, the training may cover why a tight bale is important rather than the specifics of how to make a tight bale.

Training will accommodate the needs of Ontario municipalities of all sizes with blue box and depot-based recycling programs (of which there are roughly 150 small, 20 medium and 30 large according to the most current WDO survey information). Although the core competencies were assessed as universal (for all program sizes), at the specialized certificate level, competencies may differ slightly as a result of program size, and these needs may be met through curriculum adaptation (for example, breakout groups according to program size).

Priority Needs

The needs assessment calls and e-survey identified a need for two levels of training:

- Core or foundation training – 30 hours recommended
 - Overview of all aspects of recycling, providing a big picture understanding of the system
 - (see Appendix D for draft Table of Contents); and
- Specialized trainings – average 13 hours each recommended
Including Promotion & Education (P&E), Contract Management, Markets & Marketing, & Data Management

The extended project team decided it was important that municipal training programs of all sizes be instructed in the same base principles and fundamentals, hence the core training and the stipulation that training candidates must first achieve (or grandfather) the core competencies before embarking on specialized trainings.

Learning Format

A blended learning approach to training is recommended. There is a trend in technology-based learning towards blended learning as offering the best of all worlds, with the potential to not only enhance the learning experience but to also decrease time spent out of the office and associated expenses (a barrier identified in the e-survey).

Over 90% of e-survey respondents indicated they would be open to learning in a technology-based format (given adequate support and resources). WRAP's Virtual Learning Environment in the U.K is worth monitoring as a good example of blended learning in recycling training.

WRAP's approach, and the approach recommended here, to blended learning has 3 main elements.

The first aspect is pre-course e-learning (in this case, a self-study web course on Collection Terminology and Options) which the participant will be required to complete in order to participate in the remainder of the training.

This will be followed by interactive face-to-face study in which the learning is applied in exercises and discussions to develop a practical understanding. The face-to-face workshop

also promotes networking and a team spirit amongst participants. This was an important aspect of the OMMRI and CSR training conducted in Ontario in the late '80's and '90's and the value of the camaraderie and sense of common purpose should not be underestimated. Of note, the working meeting team recommended ideally breaking the face-to-face study into shorter time segments, for example, two training segments of two days away from the office is more manageable than four days away at once. For simplicity in this report, we have treated the core training as one segment of 4 days, but ideally it would be presented as two segments of two days each. The financial implications of this decision are not significant in the larger scheme.

Finally, a follow up online discussion forum and other activities give the opportunity to explore ideas arising from the course with other participants and trainers to further develop participants' knowledge. In some cases, post-course evaluation (in the form of work-based reports) extends and consolidates learning by applying participants' understanding to projects related to their day to day work (requires follow up to evaluate reports submitted).

E-learning (as outlined above) is a logical expansion of Stewardship Ontario's Recyclers' Knowledge Network. Over 67% of e-survey respondents know what the Knowledge Network is, about 55% of respondents have used it, and 65% of those using it have found it useful. Those that didn't find it useful often cited not having had occasion to go back after first accessing it – this would provide them a good reason to do so.

A blended learning system should be as flexible as possible to meet participants' needs, for example, offering a choice of an additional day of face-to-face training or a webcast, or offering a hard copy of self-study notes on an individual basis if e-study represents a barrier.

The face-to-face component of the training should ideally be delivered regionally to minimize the distance travelled by participants (as this was identified by e-survey respondents as their strongest barrier to participation in training). Regional workshops will also allow for some tailoring of the curriculum to the locale, e.g. Northern Ontario.

Potential Partners

Proposed Partners & Roles:

Lead Body

To provide direction and continuity, it is recommended that Stewardship Ontario take on the role of the lead body, for at least 3 years or until the basic infrastructure of the certification and training program is in place. This would enable Stewardship Ontario to maintain overall direction for the design and establishment of the certification program (partners and roles, the technical review and peer review committees as outlined below, the development of competencies and evaluation), the resulting content and format for each of the trainings, and the choice of instructors for delivery of trainings. This would likely require a part-time management position within Stewardship Ontario, and a full-time training coordinator contracted through the Continuous Improvement Fund for a period of at least 2 years, potentially dropping to half-time in the third year. The part-time (1-2 days/week) training

manager would be responsible for the direction and political implementation of the program – negotiations, RFP and contract writing, representing Stewardship Ontario’s interests at high level meetings, establishment of the technical and peer review committees, etc. The full-time coordinator would be an experienced training specialist, responsible for the day-to-day functions such as scheduling and facilitating meetings, overseeing the development of competencies and training materials, managing the contributions of partners, the Train-the-Trainer program, etc.

Long term, once the training program is well established by Stewardship Ontario, colleges represent a broad waste management education mandate and a source of new recruits or entrants to the industry, and therefore a possible long-term home for the training.

Note re the technical and peer review committees:

The technical review committee (mentioned above) is a high-level committee consisting of 7 or 8 individuals that meet several times per year to review standard operating procedures around evaluation and the granting, maintaining, appealing, etc. of certifications. The technical review committee ensures credibility, integrity, relevance and transparency of the certification process, and might include (among others) representatives of Stewardship Ontario, AMRC, SWANA, MOE, the recycling industry, municipalities of various sizes, perhaps a college representative, etc.

The peer review committee might consist of 5-8 individuals that work closely in the field, are subject matter experts, etc. They typically review the competencies (developed by the contractor), the training materials, exams, etc., and can be expected to contribute as much as one week per year of individual review and meeting time. The peer review committee could be a subset of the technical review committee and/or may be different for each proposed training. Technical and peer review committees are typically reimbursed for expenses (but not time) incurred as a result of their participation in the committee.

Certification Body

SWANA (the Solid Waste Association of North America), with its existing certification infrastructure, is a credible, third party certifying body. SWANA also represents a possible natural extension for recycling training beyond Ontario in the future, as the organization is well established in North America. The focus of SWANA’s main training activities in the past have been more on landfill operations, which in combination with their generic, North American emphasis, led to a mixed endorsement of SWANA as the appropriate certification body by the extended project team. Although several other organizations were discussed as potential partners, none were identified as suitable certification bodies, with the possible exception of WDO, which, in the longer term, may represent an appropriate co-certifier along with SWANA as it brings a broader, organizational credibility to training.

Marketing & Administrative Body

The vast majority of e-survey respondents indicated that AMRC was the industry association most looked to in doing their everyday recycling/waste diversion job. Not only are their contacts extensive, but AMRC are perceived by their peers as “do’ers” in the field, providing

issue-oriented support to their members. For these reasons, AMRC was endorsed by the extended project team as having a potential marketing and administrative role in the training (i.e. scheduling courses, booking venues, issuing certificates, acting as central contact for information on training, etc.). AMRC should certainly have input to the development of the training, and have a potential role in developing/delivering materials as a subcontractor.

Note re development and delivery:

While development and delivery agents will be required to design and deliver the trainings, they do not necessarily represent partners. Material and curriculum development will most likely be contracted out and overseen by the peer review committee (likely led by the project training coordinator

A peer-to-peer delivery model is recommended in which a small elite team of individuals from the recycling industry is chosen to be trained to deliver the trainings (the team would likely be from the primary target audience or retired recycling professionals if the required time commitment presents challenges).

Overview of 3 Year Training Certification Plan

The chart on the following page (Overview of 3 Year Training Certification Plan) outlines a proposed training delivery schedule over a 3 year period, including accomplishments by the end of Year 3. The 3 Year Plan by Task chart following that outlines the 3 year plan by task (i.e. development, delivery and other).

Overview of 3 Year Training Certification Plan

	Year One	Year Two	Year Three	Accomplishments at End of Year Three
Core (25 people /training)	2 core deliveries	4 core deliveries	2 core deliveries	200 existing municipal staff certified (includes 50 with experience who have been grandfathered by end Year 2) 50 new entrants to the field trained
Specialized (20 people/training)	Pilot Contract Mgmt	1 Contract Mgmt Pilot P&E <i>At 18 months, sunset grandfathering</i> <i>At 24 months, link to funding decision made</i>	1 Contract Mgmt 1 P&E Pilot Marketing Pilot Data Management	140 trained in specializations (80% of which might choose to be certified)

- Notes:**
- Exams (directly linked to learning objectives) are written directly following training, therefore must be ready for first delivery of each course
 - Assumes 100% successful certification rate (i.e. all who take exam will pass exam) for core course
 - Courses delivered regionally (Central, North, East and Southwest) September through June
 - If demand warrants, more courses may need to be added

3 Year Plan by Task

Year One	Year Two	Year Three
<p>Development Establish technical and peer review committees Define core competencies (for core and contract management trainings) Conduct peer review of core competencies Subcontract and oversee development of curriculum and materials (Core training and Contract Management)</p>	<p>Development Define core competencies (for P&E and Markets) Subcontract and oversee development of curriculum and materials (P&E training)</p>	<p>Development Define core competencies (for Data Management) Subcontract and oversee development of curriculum and materials (Markets & Marketing)</p>
<p>Delivery Identify training team Develop Train-the-Trainer program Deliver Train-the-Trainer Schedule 3 trainings Deliver Core Training (x 2) Deliver Contract Management</p>	<p>Delivery Schedule 6 trainings Deliver Core Training (x 4) Deliver Contract Management Deliver P&E</p>	<p>Delivery Schedule 6 trainings Deliver Core Training (x 2) Deliver Contract Management Deliver P&E Deliver Markets Deliver Data Management</p>
<p>Other Tasks Hire contract training coordinator Negotiate roles and responsibilities with partners once training's conceptualized Determine exam and certification requirements Determine grandfathering requirements Ensure certification is ready to go Market core and contract management trainings Evaluate - measure % of programs (staff) aware of the certification program</p>	<p>Other Tasks Continue to market trainings Evaluate progress to date and begin to draft next 3 years (including plan for long-term home for training) Identify/plan for future course content</p>	<p>Other Tasks Continue to market Finalize plan for next 3 years</p>

Objectives & Evaluation Metrics

By the end of Year 3, the Ontario Recycler Training Program will be successful if:

- 200 people have been certified in the core training
 - *Of the 200, 50 municipal staff with experience will be grandfathered by end of Year 2 (when the opportunity to write the exam without attending the training ends)*
- 50 new entrants to the recycling field have received core training
 - *it is assumed at least 80% of these will wish to be certified*
- 140 candidates are trained in one of four specializations
 - *it is assumed that at least 80% of these individuals will wish to be certified*
- Participants rating of the effectiveness of the course consistently scores high in course evaluations
- Optionally, level of awareness before and after training could be measured with a pre-test of participants' awareness, that is compared with the final exam results
- Although difficult to measure, increased efficiencies or decreased costs may be demonstrated through a survey of any blue box recycling programs that:
 - have sent staff to Contract Management Training, and
 - have renewed their contracts (if applicable) since attending training, and
 - deem that a percentage of the increased efficiency or decrease in costs is as a result of the increased knowledge and awareness gained from the training

Timing Considerations

What has been outlined thus far is highly ambitious. It is interesting to note that WRAP, which is a national organization with a staff of 150, with training infrastructure, trainers, etc. already in place, identified the following training objectives in their business plans:

- 2004-2006 – deliver operational training to 200 recycling/composting managers
- 2006-2008 – train 500 municipal recycling officers and managers through introductory, advanced or Master Class courses.

Building commitment for the certification training program is critical, including removing possible barriers to acceptance of the program, and we have therefore suggested the following options for consideration.

First, consider modifying the requirement (at least in the short term) that Core Training precede Specialized Training. In the first year, this requirement represents a limitation to people taking the specialized training (Contract Management). Only two Core deliveries will have been offered by fall of the first year; of those who have taken the Core, few are likely to be able to immediately follow this up in the same fall with Contract Management training (aside from those who may grandfather the Core course). Flexibility in the first year or so will allow people to take Contract Management prior to completing the Core course, yet still require that they ultimately complete the Core training (and perhaps receive both certifications at that time).

Second, acknowledge that buy-in of partners and the recycling community is critical, and that successful establishment of the certification training infrastructure may call for more time to ensure the quality of the certification training, as well as to bring partners and municipalities on board, with the potential impact of adding a “Year Zero” to the timeline presented above. The potential need for more time upfront needn’t preclude development and delivery of training, but may mean that the broader, certification context of the training is introduced after training has begun. So, participants might take the Contract Management course for example, and write the exam, but not be aware until later (when the infrastructure is reasonably well established) that it is part of a broader certification program and that having attended and passed the exam, they are eligible for that certification.

Cost Estimates

The Cost Estimates by Year chart on the following page outlines a range of training cost estimates by year for each task. It also provides net training costs after factoring in cost recovery from training fees.

Detailed Cost Estimates by Year

	Year One		Year Two		Year Three	
	Low End	High End	Low End	High End	Low End	High
Development Costs - Core	\$ 263,000	\$ 375,000				
Development Costs - Specialization	\$ 116,000	\$ 174,000	\$ 116,000	\$ 174,000	\$ 232,000	\$ 348,000
	Contracts	Contracts	P&E	P&E	Markets & Data	Markets & Data
Development Costs - Train-the-Trainer	\$ 19,000	\$ 23,000				
Delivery Costs -Train-the-Trainer	\$ 19,000	\$ 19,000				
Delivery Costs - Core	\$ 41,000	\$ 41,000	\$ 82,000	\$ 82,000	\$ 41,000	\$ 41,000
	(2 core)	(2 core)	(4 core)	(4 core)	(2 core)	(2 core)
Delivery Costs - Specialization	\$ 12,000	\$ 12,000	\$ 23,000	\$ 23,000	\$ 45,000	\$ 45,000
	Contracts	Contracts	Contracts & P&E	Contracts & P&E	Contracts, P&E, Markets, Data	Contracts, P&E, Markets, Data
Other Costs - Certification	\$ 10,000	\$ 12,000	\$ 20,000	\$ 24,000	\$ 20,000	\$ 24,000
Other Costs - Marketing	\$ 3,000	\$ 4,000	\$ 6,000	\$ 8,000	\$ 6,000	\$ 8,000
Other Costs - Logistics	\$ 6,000	\$ 8,000	\$ 12,000	\$ 16,000	\$ 12,000	\$ 16,000
Other Costs - Coordinator	\$ 80,000	\$ 90,000	\$ 80,000	\$ 90,000	\$ 40,000	\$ 45,000
10% Contingency	\$ 57,000	\$ 76,000	\$ 34,000	\$ 42,000	\$ 40,000	\$ 53,000
TOTAL COSTS	\$ 626,000	\$ 834,000	\$ 373,000	\$ 459,000	\$ 436,000	\$ 580,000

Note: Detailed costing provided in Appendix E - Cost Estimate Assumptions

Next Steps/Issues to Resolve

The following tasks represent the next steps that need to be taken to advance the Recycling Training Certification Program:

- Contract training coordinator as soon as possible
- Ensure training budget is earmarked within the Continuous Improvement Fund
- Consult with municipal representatives to ensure the plan accurately reflects their input and needs
- Establish technical and peer review committees
- Confirm partners – AMRC & SWANA
 - may be postponed until the competencies for the core training are defined at which point Stewardship Ontario will have more momentum with which to negotiate
- At a minimum, monitor the Ontario Waste Management Association's current exploration of operational or MRF certification training, which is equally important to the industry but not the focus of this undertaking.
- The need for P&E professional development is significant and the topic broad enough that different support mechanisms will be appropriate. Barb McConnell (through Stewardship Ontario) is researching other P&E support mechanisms such as monthly webcast sessions, and there is a need to ensure that these efforts are complementary to the activities identified in this strategy (e.g. P&E monthly webcast sessions, if developed, could qualify towards training certification maintenance).
- Research potential development (including e-learning) and delivery agents
- Confirm Recyclers' Knowledge Network is capable of hosting training site and plan for system changes
- Determine linkages between certification and funding (potentially hold consultation sessions with municipal representatives regarding implications and how best to link)
- Make contact with WRAP to see what more can be learned from their experience

Appendices

- A. List of individuals/organizations contacted for Tasks 1 and 2
- B. E-survey results summary
- C. Discussion paper prepared for working group meeting November 26th
- D. Core training – Draft Table of Contents
- E. Cost estimate assumptions
- F. Existing recycling training materials – Assessment of Relevance (including copies of course outlines etc.)

Appendix A

Individuals and Organizations Contacted – Task 1 & 2

Task 1 – Situation Analysis		
Name & Organization	Phone	Email
CANADA		
Federation of Canadian Municipalities Elizabeth Allingham Carmen Bohn	613-907-6334 613-907-6327	eallingham@fcm.ca cbohn@fcm.ca
Canadian Environmental Certification Approvals Board Becky Jo Lawson	403-476-1966	www.cecab.org/waste info@cecab.org
Ian Adare President Project Management Institute		www.pmi-ctt.org
Adi Billimoria, Canadian Management Centre		Adi_Billimoria@optima.net
Eowynn Bosomworth, National Educational Consulting Inc.	250-370-0041	eowynnbosomworth@procurementlearning.com
ONTARIO		
Georgian College Diane Corrigan – Environmental Sustainability Coordinator Prof – Ruth Yole	705-728-1968 x 5252	ryole@georgianc.on.ca
John Fraser, Program Director, Engineering, Architecture & Science The G. Raymond Chang School of Continuing Education Ryerson University	416.979.5000x6672	J3fraser@ryerson.ca
Jo-Anne Procter, Associate Dean, Mohawk College	Brantford Campus 519-758-6048	
Atul Nanda President ReMM Recyclable Materials Marketing	905-560-8083x 10	atul@remm.ca
Jon Ogryzlo, Centre for Environmental Training, Niagara College	905-641-2252 ext 4474	jogryzlo@niagaracollege.ca
John Lackie, SWANA	705 835-3560	j.lackie@sympatico.ca
Marla Marnoch VP Professional Services, VuBiz	905.815.1204 ext 51	

Knowledge Network		
BRITISH COLUMBIA		
Kris Ord, Manager, Community Waste Reduction Section Environmental Protection Division Ministry of Environment, British Columbia	250-953-3866	Kris.Ord@gems7.gov.bc.ca
Ann Campbell, previous RIS trainer in B.C.		Anncampbell@telus.net
Chris Underwood Solid Waste Manager City of Vancouver		
ALBERTA		
Christina Seidel, Recycling Council of Alberta	403-843-6563	cseidel@telusplanet.net
Christine della Costa, province of Alberta	780-427-8242	Christine.dellacosta@gov.ab.ca
MANITOBA		
Manitoba Association of Regional Recyclers		No response
EAST COAST		
Bob Kenney, Nova Scotia	902-424-2388	kenneybm@gov.ns.ca
INTERNATIONAL		
Ireland (insert Maria's contact)		
Waste & Resources Action Programme) WRAP Liz Green Training Programme Manager Local Government Services Team	01295 819660	liz.green@wrap.org.uk
Waste Management Industry Training and Advisory Board (WAMITAB)	01604 231950	www.wamitab.org.uk
Chartered Institution of Wastes Management (CIWM)		Amanda Munns Training Services Manager amanda.munns@ciwm.co.uk No response
Pat Keelan, FAS, Ireland (Irish Training Authority)		pat.keelan@fas.ie
U.S.		
Vivian Swearingen Arizona Manager, Southwest Public Recycling Association	520-622-8082	spravs@qwest.net
Sandi Childs, RW Beck	828-231-1873	

Betsy Dorn, RW Beck	561-337-8929	
North Carolina Division of Pollution Prevention and Environmental Assistance And Carolina Recycling Association, Kerry Krumsiek	919-395-2406 cellular	
South Carolina Department of Health and Environmental Control's Office of Solid Waste Reduction and Recycling Richard Chesley DHEC	803-896-4209	
Professional Recyclers of Pennsylvania, John Frederick, Executive Director		jfrederick@proprecycles.org
Kessler Environmental, Mitch Kessler	813-971-8333	mk@kesconsult.com No response
Wayne Rifer, west coast	503-644-0294	wrifer@concentric.net
Sharon Edgar, Michigan Department of Transportation	517-373-0471	EdgarS@michigan.gov EdgarS@GWIA01.state.mi.us Contact Matt Flechter
Matt Flechter at Michigan Department of Environmental Quality		flechtem@michigan.gov Nothing happening
Illinois Gary Mielke Kane County	630-208-3841	recycle@co.kane.il.us (emailed) – hasn't heard of anything
Janet Keller Department of Environmental Management, Rhode Island	401-222-6800	janet.keller@dem.ri.gov
Rutgers New Jersey Recycling Certification Series, Carol Broccoli	732- 932-9271	broccoli@njaes.rutgers.edu
Task 2 – Needs Assessment		
Rob Sinclair, NRCAN		Robert.sinclair@nrca.gc.ca
Glenda Gies, WDO	416-226-5113	
Milena Ramovic, AMO	416-971-9856	milena@amo.on.ca
Mike Birett, Chair Vivian De Giovanni Executive Director, Association of Municipal Recycling Coordinators	519-823-1990	vivian@amrc.ca
Rob Cook, President, Ontario Waste Management	905-791-9500	rcook@owma.org

Association		
Guy Crittenden, Editor, Solid Waste Magazine	705-444-7839	gcrittenden@solidwastemag.com
Joanne Sainte Goddard, Recycling Council of Ontario	519-943-0038 home 416.657.2797 x3(RCO)	rco@rco.on.ca No response
Rob Zander, Operations Coordinator, Region of York	905-252-4963	
Andy Pollock, Director of Waste Management, Region of Peel	905-791-7800x 4703	andrew.pollock@peelregion.ca
Barb McConnell, McConnell-Weaver	416- 322-3007	
Clayton Sampson, A-Team, WDO	519-539-0869	Csampson@wdo.ca
Geoff Rathbone, Director Policy & Planning, Solid Waste Management Services, City of Toronto	416 392-8301	
Rick Clow, Quinte Waste Solutions	613-394-6266	rick@quinterecycling.org
John Fox, MOE	416 -325- 4420	
John Vidan, Director, Solid Waste Management Policy Branch	416-314 4157	No response
Pam Russell, Director of Transportation and Waste, County of Northumberland	(905) 372-3329 x 2301	russellp@northumberlandcount y.ca
Matt Kavanagh, Program Manager, Solid Waste Services, City of Ottawa	613 580-2424 x 21147	
Liz Parry, Stewardship Ontario	647-777-3369	
Randy Roy, Waste Diversion Supervisor, Sault Ste. Marie	705-541-7000 x 275	

Appendix B - E-survey results summary

Have YOU used the Stewardship Ontario Recyclers' Knowledge Network?		
Answer Options	Response Percent	Response Count
Yes	54.8%	34
No	45.2%	28
If no, why not?		19
<i>answered question</i>		62
<i>skipped question</i>		96

Number	Response Date	If no, why not?
1	11/08/2007 18:14:00	DO NOT NEED THE ITEMS ON IT HAVE REFERRED OTHER MUNICIPALITIES TO IT
2	11/08/2007 18:18:00	For my task at hand I do not yet need the enhanced ability.
3	11/08/2007 19:08:00	Too many internal challenges to consider external input. Time. Not on the top of my mind.
4	11/08/2007 20:18:00	The Manager used the Model Tender tool for the tender development (although we actually went with an RFP). I have not used the knowledge network for any purpose
5	11/08/2007 21:08:00	Time
6	11/08/2007 21:14:00	Lack of time
7	11/11/2007 16:13:00	Not needed too.
8	11/12/2007 16:53:00	have looked but had trouble acesses information

9	11/12/2007 23:07:00	Lack of time.
10	11/13/2007 18:04:00	Only learned of it last winter. I work at a remote location and had trouble getting IT access to it.
11	11/13/2007 21:37:00	haven't had time, i've been meaning to check it out.
12	11/14/2007 18:26:00	Haven't had time. I plan to use the model tender tool when our next collection contract comes due.
13	11/15/2007 00:35:00	Other options used
14	11/15/2007 14:39:00	had trouble accessing it - no info on password
15	11/15/2007 18:56:00	Have not had occasion to.
16	11/15/2007 19:28:00	no password or username - need to register but don't know how
17	11/18/2007 16:59:00	I haven't had a chance to look at it
18	11/19/2007 20:11:00	I have found the questions asked simply do not apply. This question should also have sometimes or seldom as opposed to yes or no.
19	11/23/2007 18:32:00	My position as supervisor doesn't cover ground that that the PKN covers. But my boss (the Manager) and Kingston were involved in the development of the model tender, and did make use of some of the content, but we issued an RFP.

Appendix C - Discussion Paper

Discussion Paper – November 26th Working Meeting

Question 1 – Should some or all of training be certified?

Preliminary Recommendation

Training should be certified to fulfill:

- participant's needs (around credible endorsement of their accomplishments, hopefully advancing their career) and
- Stewardship Ontario's needs (in increasing diversion and reducing costs of recycling programs) – this *may* be strengthened by tying certification to program funding

Introduce certification program gradually with each additional course, so that in 3 years(?) time, the first participants will become fully certified

Ultimate goal should be several pathways within certification – possibilities:

- Recycling 101 – broad overview
- Specialization pathways
 - Small municipality
 - Promotion and education
 - Markets and marketing
 - Contracting
 - Operations (for those overseeing operations and those operating)
 - Collection
 - Processing
- Other?

Considerations:

- Ways to attract people to the program – both new recruits and those already in the system
 - Simply certifying the program will attract people in the system looking to move up the job ladder (promote within municipalities' HR departments)
 - Ensure certification is by a recognized, 3rd party body (and remove cited barriers to participation – time and expense)
 - Provide pathways so people feel the certification has relevance to their situation – whether it's providing them a big picture understanding of their place in the whole system, or providing them the details pertinent to their particular expertise (provide for those already in the system with grandfathering mechanism)
 - Promote program through all available avenues esp. partners
 - Colleges represent a wealth of potential bright, young recruits to waste management industry

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- Link training certification to program funding? i.e. X additional \$ for every staff member certified (penalizes small municipalities with only one staff) or for every Y hours of training (CEU's)
- Legislate mandatory certification?

Background Research

- 70% of e-survey respondents would be interested in pursuing recycling certification
- Those interested cited added credibility, showed a commitment to waste diversion, could standardize good practices, improve recycling program and participation rates, qualify them for a raise or promotion, give them confidence on the job
- Those not interested mainly cited time and expense, and it would depend on the benefits of becoming certified
- The six existing recycling training programs identified all deemed certification beneficial, and highlighted the following rationale for certification:
 - o Mechanism for continued personal (new hires and upgrades) and industry advancement
 - o Can support specialized career tracks, but also provides an integrated, big picture understanding of waste management in a competitive landscape
 - o Legitimizes recycling coordinators as professionals
 - o Establishes and promotes high professional and industry standards
 - o Assists in meeting and exceeding waste reduction goals
- Lessons learned regarding building support for certification:
 - o Build support for certification by linking it to funding
 - WRAP Monitoring and evaluation course delivered last year was linked to communities' funding and was very popular needless to say - trained about 200 people – much less interest this year when not linked to funding of program
 - o In another case, certification enrollment was thought to have increased with a statewide P&E campaign to cut program costs
 - New Jersey – have higher enrollment now/class than several years ago – she thinks it's due in part to campaign "Reinvigorating Recycling" and efforts to cut program costs
 - o Another way to build support for certification is to establish quality certification and then push to legislate certification
 - South Carolina is establishing certification so can then push for legislation requiring people to be certified
 - o Typical that voluntary certification programs are gradually adopted as the standard (i.e. create a need and respect by putting out well

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trained people), resulting in employers seeking certified individuals and salary increases with certification

- Pennsylvania, New Jersey & North Carolina both told of hearsay of employers asking for their certification (or hiring because of it)
 - Pennsylvania & New Jersey told of hearsay of salary increases with certification
- Common elements of certification:
- All follow established standards and competencies
 - What the candidate is expected to know or be able to do
 - To be certified, must complete...ranges from just one course (of 3 days) to an entire program (core and elective modules that earn you credit toward certification - 40 hours or 4 Continuing Education Units)
 - Multiple levels or types of certification available within a program
 - Several programs have a standard certification program and then specialty degrees or disciplines in addition
 - (e.g. Pennsylvania – Certified Recycling Professional is base certification, then have specialty certificates in processing, collection, recycling education, recycling markets, etc., as well as a specialty certificate for processing operator (no admin therefore fewer hours), and Senior CRP with more years experience, specialty certificates, and research paper)
 - Often a time period associated with certification i.e. have to fulfill requirements within X years, or certification only lasts X years
 - All have some process for evaluation (attendance, assignment, exam, etc.) – most commonly exam
 - Some programs allow challenging of the exam (i.e. can sit exam without taking course(s)) and become certified with a passing grade so can grandfather people in
 - All have procedures for maintenance of certification
 - Average 10 hours/year of approved courses/activities (usually for a defined number of years)
 - Most programs give credit for courses from other organizations' (although it may be at a different ratio e.g. 1:1 for internal courses and 1:2 for external courses)

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- Some certification is permanent and does not require maintenance, or allows option to retake exam to recertify rather than maintenance requirements
- All have some mechanism for record keeping/tracking certifications
- Selected comments from needs assessment calls:
 - certification should be big picture – i.e. at national level eventually, and addressing more than just recycling – what about haz waste, organics, etc. (think about future potential) – acknowledged but not the focus of SO training
 - Maria: Europe is really good on competency assessment and having all courses lead to certification - this motivates staff to attend and listen). Europe have this for absolutely everything so that e.g. a truck driver can be certified in Ireland but can apply for a driving job in Italy and all his qualifications are recognized.
 - Be wary of the private/public barrier – choose impartial body rather than a public or private body if you want both sides to come to the table
 - Certification would have to be by recognized body...may not be the same body for each course e.g. contracting course could be certified by purchasing association
 - Might make sense to develop training with input from purchasing association, but their endorsement or certification doesn't seem so relevant in a waste management context
 - 3rd party certification preferred (i.e. certification by a body other than the "driver") – more credibility and integrity; better recognized
 - Certification can come later – first build really strong training (and build it to certifier's specs just in case)
 - Does it make sense to certify for only certain topics – e.g. procurement and contract management, as it might be expected to have the most direct impact on increasing diversion and reducing costs province wide?
 - This may achieve SO's objective, but not participants' objective in certification

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Question 2 - Who needs to be trained and on what

Preliminary Recommendation

First priorities are to develop training for recycling program managers on:

- Promotion and Education (P&E)
- Data collection and analysis, measuring and monitoring to increase efficiencies and datacall)
- Markets & Marketing
- Contract Management (include contractors in this)

Considerations:

- a small municipality pathway might also be included in the first round of priorities (due to unique challenges such as lack of resources, recycling a low priority, etc.) – this may also require a different format?
- second priority topics might include multi-residential, policies and collection and processing (technologies, optimization, etc.)
- another second priority topic would be a basic recycling (Recycling 101) training program for new hires and to provide context and understanding (a big picture perspective) for those already working in the industry, but not necessarily familiar with aspects of recycling beyond their own position – how much overlap is there between Recycling 101 and small pathway concepts?

Background Research

Who

- According to e-survey, municipalities of all sizes require training, and the training topics don't appear to vary significantly by municipality size (other than what you might expect e.g. multi-residential, processing, etc.)
- Small municipalities do appear to be unique in their extreme lack of resources and sometimes relative importance of recycling (i.e. recycling is only one of many job functions one person is expected to perform) and this may justify addressing small municipalities as a separate training audience (WRAP has a certificate pathway particular to small operations at Level 4 – Management of Recycling Operations)
- Training appears to be primarily required at the managerial, administrative level rather than the operational level (i.e. training needed by those with responsibility for overseeing contracts, overseeing or directly marketing materials, communications specialists, etc.)

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- Private sector contractors would be an important audience (along with their municipal counterparts) in procurement and contract management training
- New hires would benefit from basic recycling training although this is a lower priority than other audiences/topics

On What

- Recycling topics (closed question) in order or priority – **bold** indicates a topic also frequently mentioned in open questions (program weaknesses, challenges and specific skill and knowledge gaps)

1. P&E planning and social marketing

2. Policies

3. Measurement and monitoring to increase efficiencies

4. Data collection and analysis

5. Contract management

6. Multi-residential

7. Planning – calculating participation, capture and recovery

8. Procurement

9. Auditing

10. Marketing

11. Datacall

12. Processing optimization

13. Depot site maximization

14. Collection optimization

15. Depot – reducing costs

16. Depot vs. curbside

- The top priority topic areas when filtered by size (closed questions) are as follows (highest priority first)
 - o Small municipalities (34 responses)
 1. P&E planning
 2. Measurement and monitoring to increase efficiencies
 3. Policies
 4. Data collection and analysis
 5. Planning – calculating participation, capture and recovery
 6. Auditing
 7. Contract management
 8. Social marketing
 9. Datacall
 10. Procurement
 11. Depot site maximization

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12. Multi-residential
 13. Depot – reducing costs
 14. Marketing
 15. Collection optimization
 16. Depot vs. curbside
 17. Processing optimization
- Note: Promotion and Education (P&E), Measuring & Monitoring, Contracting and Markets were focus of open questions
- Medium municipalities (14 responses)
 1. P&E planning
 2. Processing optimization (*suspect this ranks so high b/c several contractors and counties/regions are responding*)
 3. Multi-residential
 4. Social marketing
 5. Policies
 6. Collection optimization
 7. Planning – calculating participation, capture and recovery
 8. Datacall
 9. Measurement and monitoring to increase efficiencies
 10. Marketing
 11. Data collection and analysis
 12. Auditing
 13. Contract management
 14. Procurement
 15. Depot site maximization
 16. Depot – reducing costs
 17. Depot vs. curbside
 - Note: P&E, MRF operations, Markets/Marketing and Procurement and Contract Management were focus of open questions
- Large municipalities (25 responses)
 1. P&E planning
 2. Policies
 3. Marketing
 4. Social marketing
 5. Contract management
 6. Multi-residential
 7. Measurement and monitoring to increase efficiencies
 8. Procurement
 9. Data collection and analysis

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10. Processing optimization
11. Auditing
12. Planning – calculating participation, capture and recovery
13. Datacall
14. Depot vs. curbside
15. Collection optimization
16. Depot site maximization
17. Depot – reducing costs

- Note: P&E, Markets & Marketing, processing operations, technologies, and data collection and analysis were focus of closed questions
- In general, the smaller the municipality, the greater urgency around training (i.e. the first ranked topic – out of a possible 4, with 1 as most important was ranked 1.53 for small, 1.57 for medium and 1.80 for large)
- These topics are fairly consistent with the topics mentioned in the needs assessment calls below (although the priority is somewhat different) e.g. contract tendering and management ranked higher in the calls than in the e-survey – in general the needs assessment respondents have a bigger picture perspective than the e-survey respondents (who are typically responding on behalf of one program); ranking also likely depends on whether the contract is due anytime soon
 - Contract tendering and management
 - P&E
 - Marketing
 - Data Management
 - Datacall
- In addition to training topics, there was frequent mention that the training should accomplish networking, and innovation sharing
- the following topics are offered by other recycling training programs, and while low priority at the moment, are possible considerations for future: recycling economics, recycling law, business planning, management and leadership, grant writing and administration, train-the-trainer, public speaking, etc.

Note: I'll summarize which materials (from existing recycling training programs) appear to have relevance to the priority topics above in the final deliverable.

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Question 3 – What learning format is most suitable?

Preliminary Recommendation

Pilot blended learning in at least one topic area as it has the potential to both enhance learning experience and decrease time spent out of the office and associated expenses

Consider regional (or travelling) workshops at least for smaller municipalities, remote municipalities, etc. (e.g. the small pathway program)

Background Research

- Strong historical preference in industry for face to face delivery, networking, sharing, etc.
- ~90% of respondents open to learning in a technology-based format given adequate support and resources
- Doesn't seem to be a barrier to TBL in general - main barriers to TBL all had to do with lack of interaction (no instructor, no students, difficult to self-motivate without peers) which wouldn't be an issue with blended learning
- Distance, availability of courses, lack of time and cost (in that order) were strongest barriers to participating in training
- A combination of blended learning (cutting down on time requirements) and regionalizing the workshop component can help to address all these challenges
- Trend in technology-based learning (TBL) towards blended learning as best of all worlds
- WRAP's Virtual Learning Environment appears to be good model
 - offers mandatory pre-course e-learning (self-study web courses in Terminology and aspects of Collection) to provide delegates with knowledge about key recycling and collection issues, and ensure a common understanding of terminology
 - o followed by interactive face to face study where participants apply the learning in exercises and discussions and develop practical understanding
 - o followed up by with online discussion forums to explore ideas arising from the course with other delegates and trainers to further develop knowledge and understanding, and with post course work-based reports to extend and consolidate learning

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- by providing opportunity to apply knowledge and understanding to practical projects related to their day-to-day work
- by moving to this format, were able to shorten Collection course by ½ day (and cut associated accommodation costs)
- have piloted one course – was well received...too early to say whether it will be successful/sustainable
- logical expansion of role of Knowledge Network
- from e-survey, 67% of respondents know what the KN is, 56% have used it and 68% of those found it useful (those that didn't find it useful often cited not having used it as reason – i.e. they hadn't had occasion to go back after first accessing it)
- those using it accessed it for:
 - o P&E (56%)
 - o Model tender (43%)
 - o User pay (26%)
 - o Rural depots (21%)
 - o Other (13%) (e.g. webcasts)
 - o 1 vs 2 stream and sustainable financing (9%)
- SO has planned improvements to make the KN more accessible (getting rid of passwords, making it easier to find what you're looking for)
- KN could serve as training hub...where you go for everything recycling training
 - o Online catalogue of recycling training events in province
 - o Registration for training
 - o Self-study modules to be completed as stand alone or as pre-requisite to attend workshop
 - o Resources, podcasts, etc. available to reinforce and sustain learning following the workshop (those who have achieved a certain level in training could have the ability to create their own podcasts, effectively creating a community of practice)
 - o Tracking of participant certification and maintenance
- There will be some issues to resolve around use of blended learning – e.g. about 1/3 of small municipal respondents are uncomfortable with the computer or internet, so might need extra hand holding and for about ¼ of small municipalities tying up the phone line or connection speed is an issue (may need to find alternatives to online for these particular municipalities) – Note: Sault Ste. Marie has technological ability, and has offered their facilities to nearby communities that are without (e.g. to participate in ORW)

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Question 4 – Who should Stewardship Ontario partner with?

Preliminary Recommendation

Joint partnership between 3 parties:

- Stewardship Ontario – “driver”, providing direction and funding;
- AMRC – providing marketing, logistics and input to development;
- SWANA – providing marketing, certification, and input to development.

Background Research

AMRC – Pros

- Well respected and supported in the field
- AMRC by far the most looked to industry organization in terms of helping with everyday job (e-survey)
- “grassroots” perspective
- Good marketing networks and logistics capability
- Keen on training

Note:

- Will first need agreement on specifically what content will be taught (may slow process down)

SWANA - Pros

- Already doing certification of recycling training (although not what we might envision)
- Extensive reach – North American – may be of importance down the road as certification becomes more established
- Keen on training and in midst of updating their materials (some of which have some relevance)
- Potential sustainability or long-term “home” for training
- Have electronic capability within training
- Potentially interested in licensing materials developed
- Identified AMRC as most appropriate additional partner

SWANA – Cons

- US based
- Existing materials of limited value

Note re Delivery:

- Training delivery partner options:
 - o Hire internal delivery capability
 - o Tender out delivery of trainings to most appropriate bidder
 - o Develop team of trainers from within field with expertise in various aspects of recycling and train them to deliver trainings

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Potential Partners in Development & Delivery

- Partnership seen in other programs (or variation thereon) seems a good model:
 - o Includes funding body (usually governmental)
 - o Primary implementation body or "driver" (typically local recycling association or university)
 - o Certifying body (internal or 3rd party – most typically a university)
- Examples:
 - o Recycling association is driver:
 - Pennsylvania
 - Department of Environmental Protection
 - Professional Recyclers of Pennsylvania
 - Penn State-Altoona
 - o University (continuing education) is driver:
 - New Jersey
 - NJ Department of Environmental Protection
 - Rutgers University Continuing Education
 - Association of New Jersey Recyclers
 - o WRAP (Waste & Resources Action Programme) is driver:
 - Department of Environment, Food & Rural Affairs
 - WRAP
 - Chartered Institution of Wastes Management
 - o SWANA is exception – fulfill all above roles internally
- Interest in partnering with Stewardship Ontario shown by organizations
- Many organizations independently on the path (or at least considering) some type of waste management/recycling training/education

Possible criteria for partnership

- Existing training materials
- Recycling industry contacts/networks
- Curriculum development capability
- Training delivery capability
- Credibility in recycling and waste management field
- Credibility in municipal arena
- Experience with certification
- Sustainability (ability to provide a home to training that will endure long term)
- Motivated (help provide some drive and help to sell it...)
- Good fit/culture (easy to work with, shared objectives, passionate about waste diversion, dependable, etc.)
- Organizational infrastructure e.g. registration, logistics, etc.
- Other considerations: e.g. interest in partnering to further the reach of both parties (maybe selling materials produced?)

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SWANA

- SWANA operates through all of North America and has 4 Canadian chapters, including one in Ontario
- Offer certification in many disciplines – most recognized certification in Canada and Ontario is MOLO (Manager of Landfill Operations) Certified Training Program
- Certified Recycling Systems Professional (CRSP) is the most relevant certification – 3 day course (Managing Municipal Solid Waste Recycling Systems)
- John Lackie (Executive Director) recently delivered this to 15 students in Ontario ; there are some other potentially relevant courses or parts of courses within Collection & Transfer discipline
- SWANA is in process of reviewing and updating all training programs (many were designed in 2000) – big training push on now within SWANA
- Courses not modified for the Canadian market (even when delivered here), other than (potentially) by facilitator delivering
- Canada ahead of US in program development (certainly in west where less landfill pressure), therefore content may not be sufficiently advanced for Ontario audience (more overview in nature)
- SWANA invested heavily in electronic capability 5-6 years ago and have 8 self-study web courses, one of which may have some relevance
- Ontario representative keen to collaborate on recycling training
- Indicated interest in development as materials may have market elsewhere (e.g. in US) – maybe arrange that they license materials?
- Identified AMRC as most appropriate additional partner - has been around a long time; they're in the trenches; may not represent top level management, but do represent the do'ers – a practical not political agenda
- Note: SWANA courses currently offered run typically between 1 and 3 days (John felt 2 days was ideal)
- Further questions:
- Standardization of training appears to be a SWANA goal – how much flexibility is there to depart from this?
- How much support or infrastructure is there behind the Ontario chapter (i.e. behind John)?
- SWANA lost much of their membership when municipalities ran out of landfill space – true?

AMRC

- Impression that AMRC is well-respected and supported in field (certainly from an operational standpoint)
- AMRC mandate is information sharing – have done true training on ad hoc basis, but are interested in moving towards a more formalized, certification approach to training

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- AMRC professional development offerings include Transportation of Dangerous Goods Training (work with trainer and AMRC provides registration, marketing, etc.), issue-oriented workshops based on members feedback about needs (e.g. material quality), Cooperative Contract Design workshop (2006), consultation sessions, etc.
- Have tried to partner with SWANA in past to deliver training (e.g. HHW) but found lots of the info to not be applicable (US based)
- According to Mike, AMRC have the membership, they have the focus, they will pull the content together and they have organizational ability
- AMRC spoke years ago to Seneca, York and Sheridan and there's interest on behalf of all of them in developing recycling training
- AMRC maintains there is a lack of consensus around the Best Practices (it's a list of possible good practices that can't be applied across the board) – need to put money into determining/researching which practices makes sense and THEN train around them

Colleges

- Spoke to 3 Ontario colleges (Niagara, Mohawk and Georgian; AMRC has spoken to Seneca as well in past) and Ryerson
- None currently have waste management/recycling specialization although all have environmental programs and some waste management courses (of which very little is very relevant to SO's needs)
- All excited about prospect of recycling training (wanted to form a Waste Management Institute or Centre of Excellence) and made the case that they were most appropriate (with exception of Ryerson which as a University is no longer focused on training but more pure education)
- College system provides opportunity for advancement - could start with a certificate program in continuing education, but over time grow it into a diploma or even a degree
- A college would provide the training program a home – indicative of a long term initiative and some permanence (it would have continuity and a life of its own if and after SO moves on)
- How long might it take to put something in place with the colleges (in Gary Everett's experience working with Waterloo, it took 5 years to get a program in place)
- Keep in mind that although an academic approach may be appealing to a supervisory audience, it may be intimidating to smaller municipal audiences
- What's required? As-needed training or a recycling education – if it's education, go the college route
- Alliance with a university that was doing state-of-the-art research into recycling issues could bring significant credibility to a partnership (not aware of any colleges or universities active in this area now)

Niagara

- Flagship program is a post-grad one year program in Environmental Management & Assessment; also 2 year diploma Environmental

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- Technician; training municipalities in Sri Lanka on waste management and recycling
- Perhaps (?) most in-depth waste management college, yet have nothing relevant
 - Long term background in waste management and recycling - Jon O’Gryzlo familiar with OMMRI/CSR and previous training
 - He’s on board of Eco Canada – Eco Canada & Royal Roads partner in Cdn Centre for Environmental Education – Jon suggested these post-grad certifications are more appropriate to longer training or education programs (e.g. environmental assessment, ISO, etc.) as process is time consuming and expensive and may not represent additional value added for the audience
 - Campuses in Niagara-on-the-Lake & Welland

Mohawk

- Brantford campus flagship program is packaging design and focus on sustainability
- 5 year revitalization plan underway will double enrollment and facilities
- Mohawk is in process of specializing their campuses – Brantford wants to be a Centre of Excellence for Waste Management – invited Atul Nanda (ReMM) to sit on advisory board for developing waste management program
- Campuses in Brantford, Stoney Creek, and Fennel

Georgian

- Ruth Yole (professor of Solid Waste Management course, Environmental Technology diploma Program) replaced John Lackie at City of Barrie – course covers some aspects of recycling e.g. waste auditing
- Georgian now has full time Environmental Sustainability Coordinator, and President is committed to Environmental Sustainability
- BC Royal Roads is a partner of the college’s and has distance certification program for Waste Management (post-grad certificate program mentioned above)
- Campuses in Orillia, Midland, Orangeville, Barrie

Appendix C - Discussion Paper

Question 5 – Who should pay training fees?

Preliminary Recommendation

Subsidize development and at least partially subsidize delivery costs (assuming this is possible within budget) to ensure maximum participation

Perhaps charge small cost per participant to help establish that they're interested, motivated, etc. (might charge for exam for example)

Consider making additional subsidies available to small (and medium sized?) municipalities on as-needed basis (based on certain criteria – size, distance, etc.)

Background Research

- Cost is greater issue for smaller and medium municipalities (cost ranks 2.9/4 (where 4 is a strong barrier to participation) for small municipalities and 3.07/4 for medium sized municipalities versus 2.7/4 for all municipalities)
- South Carolina has pool of funds available to subsidize registration and travel costs (USDA grant covers municipalities with <10,000 population)
- Not much cost info available from other recycling training programs - all estimates
- Course fees (charged to participant) average \$100-200/day/person (decreasing with multiple day courses) – this reflects delivery but not development
- Several programs subsidize course fees partially or wholly (South Carolina and Pennsylvania partially; WRAP wholly)
 - o SC - \$300 for 3.5 days + \$100/night accommodation (subsidies available)
 - o PA - subsidizes 75% of training cost (attendee pays only about 25%)
 - o Cost to WRAP includes accommodation and varies with each course and who's teaching (internal or not) etc. – maybe 300 pounds/day/person???
- North Carolina, New Jersey and SWANA charge full delivery fees
 - o NC - \$300 for 3 day course
 - o NJ – entire program fee \$1,496 (represents 20% discount from paying individual course fees)
 - o SWANA MOLO (most expensive training course) – fee is \$750 for 3 days (\$850 with the exam)
- Total funding received:

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- PROP (PA) grant \$ from DEP used to be \$600K/year and has dropped to \$400K/year

Appendix D - Core Training Outline

Estimated total time 30 hours (4.6 days) – note that the length of training should depend primarily on the time required to meet objectives

25 face-to-face hours + 5 hours e-learning

This course is intended for non-operational staff (supervisors, managers) responsible for making decisions relating to, and for day-to-day management of their municipal blue box or recycling program. It will provide participants with an overview of all aspects of the recycling system, enabling them to understand and evaluate available options and implement as appropriate (rather than to prescribe which option is best for their circumstance).

Primary audiences will include those in the field looking to update their knowledge and skills or take a refresher, as well as those new to the industry. Secondary audiences might include consultants, contractors etc.

Orientation

- the context of recycling and environmental sustainability; relevant waste management policy and legislation; perhaps tour a MRF

Recycling Program Planning

- the importance of waste composition and characterization and of measuring and monitoring program effectiveness and efficiency

Markets & Marketing

- different approaches to marketing, the importance of meeting market specifications, maximizing revenues, special materials

Processing

- the basics of MRF operation and design

Collection

- the basics of different types of collection operation and design for different sectors (single family, multi-residential)

Policies

- available policies to increase waste diversion, and their potential impacts and implementation

Promotion & Education

- the importance of developing and implementing a communications plan (including internal and external communications) and the basics of community based social marketing

Procurement & Contract Management

- the basics of preparing RFP's/tenders and managing contracts, including negotiation, implementation, enforcement

Data Management & Evaluation

- what data to collect and monitor, how to analyse and use it, as well as the basic requirements of the annual Datacall

Appendix E - Cost Estimate Assumptions

3 Year Recycling Training Strategy Cost Estimates

Note 1: Low and High end ranges provided for development and ongoing costs only (delivery costs are more predictable and therefore aren't presented as a range)

Note 2: Taxes not included

Development

Core (30 hours - 25 face-to-face + 5 online)

Curriculum & materials		
Face to face	\$46,875	\$84,375
Online	\$187,500	\$250,000
Exam	\$12,500	\$18,750
Instructor Guide	\$15,625	\$21,875
Total core development	\$262,500	\$375,000

Specializations (13 hours - 11 face-to-face + 2 online)

Curriculum & materials		
Face to face	\$27,500	\$55,000
Online	\$75,000	\$100,000
Exam	\$6,250	\$9,375
Instructor Guide	\$6,875	\$9,625
Number of specializations developed	4	4
Total specialization development	\$462,500	\$696,000

Train-the-Trainer	\$18,750	\$22,500
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TOTAL DEVELOPMENT	\$743,750	\$1,093,500
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Delivery

Core	\$18,500	\$18,500
Exam	\$2,000	\$2,000
Number of deliveries	8	8
Total core delivery costs	\$164,000	\$164,000

Specialization	\$10,250	\$10,250
Exam	\$1,000	\$1,000
Number of deliveries	7	7
Total specialization delivery costs	\$78,750	\$78,750

Train-the-Trainer	\$18,187	\$18,187
TOTAL DELIVERY	\$260,937	\$260,937
Other Ongoing Costs		
Certification	\$50,000	\$60,000
Marketing	\$15,000	\$20,000
Logistics	\$30,000	\$40,000
Coordinator	\$200,000	\$225,000
Total Other Costs	\$295,000	\$345,000
TOTAL COSTS	\$1,299,687	\$1,699,437
10% miscellaneous contingency	\$129,969	\$169,944
GRAND TOTAL	\$1,429,656	\$1,869,381
Cost Recovery		
Core fee	(\$50,000)	(\$50,000)
Specialization fee	(\$14,000)	(\$14,000)
Exam fees	(\$52,800)	(\$52,800)
Total cost recovery	(\$116,800)	(\$116,800)
Total Net costs	\$1,312,856	\$1,752,581

Appendix F
Existing Recycling Training Materials - Summary of Relevance

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Core Trainings

Assuming the following materials are available (cost unknown), everything needed for the **core course** exists, and would just require updating, and incorporating recent studies and Best Practices, etc. Pennsylvania's e-module on Collections might represent a starting point for e-learning.

Waste & Resources Action Programme (WRAP)

- most rigorous curriculum and approach of programs studied
- most active in terms of deliveries/year , current materials, etc.
- most appropriate blended online component (VLE)
- level of training probably getting close to what we might require here – targeted at managerial (Levels 3 and 4) and operational (Levels 1 and 2)
- UK based therefore requires adaptation
- Very complicated, established system of qualifications/certification throughout UK
- Definitely worth exploring further...difficult to precisely assess relevance but expect this is most relevant of existing recycling training materials
- Relevant materials - see attachments:
 - o WRAP – New Recycling NVQs (outlines how WRAP courses fit into NVQ system)
 - o WRAP Events – overview of all courses
 - o WRAP Recycling Managers Training Programme – Phase 1 – 3 days (covers course structure, level, target audience, course aims, learning outcomes for each subtopic)
 - Waste management policy and legislation
 - Accurate data – an invaluable tool
 - Getting collection right
 - Influencing opinion and behavior through communication
 - Contracts – how they can help you get what you want
 - Monitoring and evaluation – the keys to improving performance
 - o WRAP Recycling Managers Training Programme – Phase 2 – 4 days
 - Optimizing Collections
 - The Role of Contracts
 - Getting More People Involved
 - o Other Potentially Relevant Courses:
 - Monitoring & Evaluation – 2 days
 - Recycle Now Design – 1 day (communication material design) – intended for staff who work WITH internal/external design teams

SWANA

- appears to be fairly loose curriculum, mostly built around PowerPoint slides and lecture with a few discussions and exercises
- updating courses currently
- level is overview in nature
- much of materials are handouts from various states or state agencies
- US based therefore requires some adaptation
- *See if core competencies or anything similar is available* (materials we have just has 2-3 learning objectives per chapter)
- Relevant materials – see manual and catalogue
 - o Managing MSW Recycling Systems – 3 day
 - Maybe 25% or so of this training might be relevant to proposed core course, including historical perspective on recycling, planning and evaluation, recyclables collection, processing alternatives, markets, P&E, recycling system cost, funding, ownership & operation, managing employees and change
 - o Also a Principles of MSW Management and Managing MSW Collections course which may have some relevant aspects

Pennsylvania

- Interesting partnership model (PROP – the recycling association + PA Department of Environmental Protection + Rutgers Continuing Education)
- curriculum lacking in interaction
- requested core competencies and received agenda (don't think core competencies exist)
- most extensive course offering – modules averaging maybe 4 hours each
- some content (topics and level) may be appropriate
- some unique content areas which may be suitable (administrative topics)
- materials reasonably regularly updated
- US based therefore requires adaptation
- have some online component (collection is most relevant one)
 - o two internet-based classes - one an abridged version of Recycling Practice and Theory (Recycling 101) course; the other Collection Techniques and Options (3 hours) explores collection system alternatives, pay-as-you-throw, licensing and contracting, program evaluation, special wastes, and routing techniques
- interested in selling materials - \$30K for entire package – see proposal attached

South Carolina

- 3 ½ day course developed by RW Beck
- similar idea to core course proposed (i.e. overview)

- introductory to intermediate level, although evaluated by first group through as way too difficult exam (keep in mind a lot of them were new to field and share job functions e.g. may also do animal control)
- US based
- curriculum lacking in interaction
- covers history of recycling, legislation, working towards sustainability, role, challenges and issues of recycling coordinators, waste reduction goals, markets, collection, special materials, processing, effective contracting, local policy, paying for programs, tracking and reporting data, P&E
- South Carolina Recycling Professionals Certification Training – see agenda and curriculum attached

RW Beck

- Recycling Contracting Tips & Tools – ½ day workshop and workbook conducted for PA DEP – April 2006
 - o Based on Best Practices Guidance on Contracting
 - o Have Workbook Table of Contents only
- Building Financially Sustainable Recycling Programs – technical report for PA DEP – April 2005
 - o ½ day workshop
 - o Have Technical Report (5 pages) only

North Carolina and New Jersey

- Similar to, but perhaps more basic than SC
- PA program modeled on NJ, but NJ hasn't invested in expanding the program where PA has
- Requested core competencies of New Jersey - “no specific learning objectives – each class was designed to fulfill a need identified by recycling community e.g. poor people management skills, lack of financial planning skills, etc.

Ontario (CSR/OMMRI/RIS)

- Have some (most) of manuals; occasionally have hand written curriculum (loose) but don't have learning objectives...
 - o *Cost Reduction Opportunities in Recycling* (based on Cost Reduction Study) – delivered 1996 – 2 days?
 - Covers data collection (why collect and evaluate, what to collect/monitor, methodologies, evaluation tools, options to optimize efficiency), assessing your program (key productivity indicators for program collection, processing and marketing, key variables affecting net costs in C,P&M – increasing recovery, increasing productivity, decreasing costs), integrated waste management collection,

implementing new systems (selling change), overview of tendering and contracting

- *Waste Diversion Planning Workshop* - 2 day – done with AMRC
 - full curriculum with learning objectives
 - overview of all waste diversion options available to WMMPlanners as components of diversion plan, context/trends, criteria to select appropriate 3Rs options, developing a comprehensive 3Rs plan, critically reviewing info and managing consultant/study team relationship
- *Power of Policy: Implementing Local Policies and Regulations to Support Waste Reduction* - done with BC MOELP
 - manual only (curriculum lost)
 - includes overview of policy options, pros and cons, evaluating feasibility of policy options, implementation, experiences, etc. (user pay, bans, tip fees, mandatory by-laws, C&D permits), procurement and soliciting support for waste reduction policies
- *Evaluation Strategies: Proving and improving 3Rs Programs* - done with BC MOELP & GVRD
 - Manual only
 - broader than just blue box – but useful (with data collection/evaluation)
 - includes approaches to evaluation, key elements of successful evaluation, steps to evaluating, using evaluation results
- *Basic, Advanced, Co-Collection and C&E*
 - SO has C&E
 - Think Mari might have co-collection
 - Maria has Basic (given to Phil to copy)

National Educational Consulting Inc.(NECI)

- Offer the Procurement & Contract Management Program (used by BC government) – sophisticated blended learning program with four progressive knowledge and skill levels
- Level 1 and some aspects of Level 2 appear suitable, although would need recycling overlay
- Also offer specialized seminars on variety of topics
- Will tailor to suit
- Training fees roughly \$500/person/day
- Learning portal www.procurementlearning.gov.bc.ca for program and course information; can request temporary access to view actual courses

Specialized Trainings

Materials that might serve as a starting point for development of the specialized trainings (Contract Management, P&E, Data Management) include:

Procurement & Contract Management:

NECI: Procurement & Contract Management (above)

AMRC: Cooperative Contract Design workshop

WRAP: The Role of Contracts

RW Beck: Recycling Contracting Tips & Tools

P&E:

CSR: C&E Training – 1 day?

WRAP: Getting More People Involved

WRAP: Recycle Now Design – 1 day (concept more than content is of interest)

Data Management:

WRAP: Monitoring & Evaluation – 2 days

CSR: Cost Reduction Opportunities

BC/GVRD: Evaluation Strategies

Existing Recycling Training Programs – Content Listing (long)

- Basic Recycling
- Advanced Recycling
- Communications (Promotion & Education)
- Non Traditional Materials
- Monitoring & Evaluation
- Data Management
- Specifications, Negotiation & Contracting
- Creative Contracting
- Collection Techniques
- Single Stream Processing
- MRF Design & Operation
- Materials Processing and Marketing
- Commodities Marketing
- Recycling Economics
- Recycling Policy
- Recycling Law
- Business Planning for Waste Professionals
- Human Resources Management
- Management & Leadership
- Grant Writing & Administration
- Train-the-Trainer
- Public Speaking
- Buy Recycled

Program Material and Course Outlines

(hard copies to be provided to Stewardship Ontario)

WRAP

- WRAP New Recycling NVQs
- Listing of All WRAP courses
- Recycling Managers Training Programme Phase 1 – Course Outline & Learning Outcomes
- Recycling Managers Training Programme Phase 2- Course Outline & Learning Outcomes
- Monitoring & Evaluation - Course Outline & Learning Outcomes
- Recycle Now Design - Course Outline & Learning Outcomes

SWANA

- Managing MSW Recycling Systems Training Manual
- SWANA Training Course Catalog 2007

Pennsylvania

- Recycling Professional Certification Brochure
- Online Certification Courses
- PROP Certification Proposal
- PROP Certification Package (costing)

South Carolina

- South Carolina Recycling Professionals Certification Training Brochure
- RPCT Agenda
- RPCT Curriculum

RW Beck

- Recycling Contracting Tips & Tools: Table of Contents
- Financially Sustainable Recycling Programs – 5 page technical report

North Carolina

- Carolina Recycling University - Mission & Goals
- CRA Qualified Recycling Professional – Overview & Requirements

New Jersey

- New Jersey Recycling Certification Series 2007-2008 Brochure

National Educational Consulting Inc.

- PCMP Professional Services & Courses
- PCMP Course Descriptions
- NECI Specialized Seminars