

FINAL
O.S.P.E. LAND DRAINAGE COMMITTEE
MINUTES OF MEETING
Thursday, October 22nd, 2015
O.M.A.F.R.A. Main Floor Conference Room
1 Stone Road West, Guelph, Ontario

1.0 General Business

1.1 Members Present: Tony Peralta, Chairman; Gerard Rood, Secretary; Jeff Dickson, Vice Chair; Tim Oliver; John Kuntze; Michael Gerrits

Liaison Members Present: Davin Heinbuck, Conservation Ontario & A.B.C.A. (Ausable Bayfield Conservation Authority); Sid Vander Veen, O.M.A.F.R.A. (Ontario Ministry of Agriculture, Food and Rural Affairs); Pat Shaver, Open Learning & Educational Support (University of Guelph)

Absent Members: Art Groenveld, M.T.O. (Ministry of Transportation Ontario); Jeremy Downe, O.M.N.R.F. (Ontario Ministry of Natural Resources & Forestry); Glen Watson & Lee Weissling, O.S.P.E. (Ontario Society of Professional Engineers); Tom Hoggarth, D.F.O. (Department of Fisheries and Oceans Canada)

1.2 Chairman Tony Peralta called the meeting to order at 9:03 a.m.

1.3 Minutes of last meeting – moved by John Kuntze to accept; 2nd by Tim Oliver; carried.

1.4 Business arising from last meeting was discussed. Tony noted that the write up for Herb Todgham was not done. He plans a moment of silence for Herb Todgham and Bill Kelly at conference tomorrow.

Tim – got receipt for donation to Herb Todgham.

Jeff – go online and check for obituary on Herb Todgham for meeting tonight. Herb instrumental in starting committee back in 1969.

Tim – on our website, recognize past engineers.

Sid – has VHS tape from John Johnston with mock trial with Herb Todgham and John Kuntze transferred to DVD.

Jeff – do memorial? At Practitioners meeting tonight when most people will recognize Herb Todgham.

Tony – Tom Hoggarth not coming. Davin still expected.

1.5 Correspondence was discussed by Tony – Johnston Engineering had materials to turn over.

John – not much new information – no minutes for L.D.C.

He emailed a list of documents to L.D.C. members:

1982 – 1995 Decisions available

1966 – Referee

1978 – 2006 Conference proceedings

1984 & 1988 missing from records

Tony – this is good stuff to have.

Is there a central repository?

Could O.M.A.F.R.A. scan and keep somewhere?

Check which items would be supplementary to information already available.

Jeff – has 3 boxes of materials from Andy McBride.

His own box has 2001 to 2006.

Sid – may be able to archive.

Have conference proceedings from 1969 to present.

Jeff – he has committee minutes.

Sid – reminded everyone that this is a non-O.M.A.F.R.A. related committee.

He is a liaison member only.

Jeff – suggested that we check if Pat Shaver could do it.

Sid – they have a high speed scanner that he could use.

Tony – need depository.

Sid – a L.D.C. member should save.

He suggested that we scan and give to Secretary of Committee and a copy to each member.

Mike – can put info on company hard drive for future access.

Jeff – can go through his information and then arrange for scanning.

Sid – conference proceedings cannot all be accessed electronically.

He has a list of the proceedings.

You can review list and look for what you want.

Jeff – check with Pat when proceedings first on CD.

Since 2004?

Just do info back from there.

They have hard copies.

Need to get a quote for scanning work.

Suggested we check with Pat Shaver and see what she can do.

Sid – Tribunal decisions go back to 1997 on the CanLII web site (<https://www.canlii.org/en/on/onafraat/>).

There is information back to 1989 for the Drainage Referee on CanLII.

Jeff – need to establish what to do with: committee records.
Conference proceedings.
Referee/tribunal decisions.

Sid – Referee decisions are all on CanLII.
Older ones are copyright.

Suggests that Committee do nothing with Referee/Tribunal data.

Suggested having each of us do some proceedings and bring together.

He will do scanning of conference proceedings – take Johnston documents apart and distribute among Committee members.

Everyone brings back their scans with PDF on thumb drives.

John – will recycle Referee and Tribunal decisions from Johnston Engineering. **Action by John.**

Jeff – will check for L.D.C. minutes and bring in January. **Action by Jeff.**

John – have 1978 – 2006 proceedings.

Jeff – suggests that each member takes 6 or 7 books for scanning.

John – about 20 booklets to split up for scanning.

Jeff – do 1978 to 2004 first.

Tony – L.D.C. minutes.

John – he has records.
He will save. **Action by John.**

Jeff – also has copies and will save.
Will go through his boxes and bring to January meeting. **Action by Jeff.**

Sid – might need to consider how to save data.
2006 proceedings are 15 GB alone.
Ask Pat to buy thumb drives for storage.

L.D.C. 50th Anniversary in 2018.

Tony – continued with correspondence.
Russell Campbell contacted him and Sid.

Retired system controls engineer helping a farmer friend.
Worried about downstream quality of water.
Any analysis on effects?

Jeff – suggested to have him hire a consultant.

Tony – Russell was looking for any sources of info.

Mike – saturation problems with detention.

John – extended flows result when detained.

Gerard – prolonged flows are bringing drains and streams back to more original conditions.

Tony – extra level of water.

Gerard – not doing S.W.M. (Storm Water Management) under drainage reports.
Creates more severe problems and risks downstream with higher levels and peak flows.

Tim – M.O.E.C.C. had water quality provisions and storage bays requirements.

Sid – spoke to Russ Campbell 3 times.
Told him because existing drain – Sec. 65 applies.

Tony – discharge does not have direct access to municipal drain.

Sid – marsh was considered sufficient outlet before and should be now.
The concern is a legal matter – Sec 65.
Outlet Liability is based on rate and volume of flow.

Jeff – had Industrial Development.
Then engineer discharged pond to grass run before entry to stream.
Municipality talked to owner about acquiring low run.

Sid – did M.O.E.C.C. workshop last October 31st.
Discussed sufficient outlet, no one was controlling it, designers need to understand downstream impacts.

John – Kitchener requires legal outlet for development, can do through mutual agreement, the new problem is Storm Water Management systems not being maintained.

Sid – Frank Jonkman now manages Storm Water Management for his municipality.
There will no longer be public access to the 4th floor of the O.M.A.F.R.A. building so future Committee meetings will likely have to be in the first floor conference room.

2.0 Liaison Reports

2.1 Ministry of Natural Resources Report

Tony- no contact with Jeremy Downes.

2.2 Ministry of Transportation Ontario Report

No word from Art Groenveld.

2.3 Conservation Ontario Report

Davin – 3 items, 2 reviews – Wetland Discussion paper now available.
Can provide link for Conservation Ontario response.
Conservation Authority Act review, also available from Conservation Ontario.
Headwater workshop November 16 – Rideau Valley Conservation Authority.
www.rvca.ca/headwater/

Jeff – asked if any feedback on recent decision from Tribunal.

Davin – no feedback from Conservation Authorities, he saw the decision.

Jeff – dissenting opinion interesting, decision has a lot of info, Conservation Authority attitude was a key concern, Ausable Bayfield Conservation Authority gets kudos for working with stakeholders.

Davin – can discuss at Practitioners meeting. They are well versed in the Drainage Act and not all Conservation Authorities are.

Sid – workshop done with Conservation Authorities in that area. Conservation Authorities can ask for Environmental Impact Study but not always practical or balanced.

Davin – Ausable Bayfield Conservation Authority was dinged on Ausable River project through the Referee.

Sid – may need to sort out and balance responsibilities, try to remove conflict thru sharing, need to work it out.

John K – as a drainage engineer he solves people problems as much as drainage problems.

Sid – need to sort it out, and may require legislative regiment, possibly take through DART. Conservation Authority Act was established in 1946; in 1949 the Drainage Act gave the Conservation Authority a voice.

Sid - Mike Devos and St. Clair Conservation Authority had an issue regarding crossing standard, what is the required size?

John – St. Clair was requiring a 1:250 year standard.

Davin - sees different policies among the C.A.'s

Mike – Lakehead Conservation Authority requires a 1:100 year capacity.

Davin – in the case of A.B.C.A., if it is done as a Municipal drain, the Engineer's design is typically accepted.

Sid – should we deal with this at D.A.R.T. (Drainage Act Regulations Team)?

Gerard – there is a concern with Conservation Authorities requiring larger structures and potential for more severe downstream impacts.

Tony – bridge design requirements are not being consistent.

Sid – agrees that we need consistency, should work with the Drainage industry. He has heard more about it, may need to take to D.A.R.T.

Davin – they have a Regulations officer; used 1:25 year for agricultural access to wind turbines. For home access the regulatory flood is usually a 1:100 year, a 1:250 year storm or Hurricane Hazel.

Tim – their area is so flat that flooding is shallow over large areas.

Sid – 10 year to 250 year is a massive change without consulting; this needs more conversation.

Davin – in the case of culvert replacements, “like for like” is a minimum, and for new culverts to a dwelling/livestock, typically the “Regulatory Flood Standard” applies to ensure “Safe Access”.

Sid – need a standard on design capacity; the 1986 Guidelines were established in consultation with Ministry of Natural Resources and Conservation Authorities – jointly developed.

2.4 Department of Fisheries and Oceans Report

Tom Hoggarth did not provide a report.

2.5 Ministry of Agriculture and Food – Sid Vander Veen

Will do more discussion tonight.

Has CD's for mock trial in front of the Drainage Referee, it's about 1 hour long.
Herb Todgham was the engineer, Referee was Bill Turvill: LeBoeuf vs municipality – a 1983 production.

Provincial legislation has been passed: an Act to restore the Great Lakes and St. Lawrence Basin. The “Great Lakes Act” is broad and general. They expect that regulations afterwards could have significant impact in the future such as requirements to restore ecological conditions through Ministry of Environment and Climate Change; they expect programs for water quality, climate change, and hydrology. It could be 5-10 years before impacts but Committee should start to consider

It is Bill 66 – 3rd reading is done and it becomes law when Royal Assent is received.

Tony – Jenn Thomas replacing Tom Hoggarth for training course today.

Davin - Conservation Authorities got \$10,000 from D.F.O. to classify drains; Ausable Bayfield Conservation Authority trying to do 40 drains with their funding, working with the Drainage Superintendent for access to site and to show him conditions. They do about 3 sites per day, do 3 passes minimum to 5 passes depending on drain condition; typically survey in July, August and September.

2.6 Sub-Committee Report: D.A.R.T. Update (John Kuntze)

Not much activity – some teleconferences, no real movement on new drainage reports. M.N.R.F. working on wetlands and definitions.

October 1st, 2015 meeting with M.N.R.F. was treated as a public meeting, they wanted comments from D.A.R.T. members.

Bill Bilton – councillor with Dawn-Euphemia has had conflicts with Conservation Authority. Peter Jeffery – sees the Conservation Authority not being responsive.

Government funding: roles and responsibilities should be done locally in watershed. Current service is poor. Many Conservation Authorities have a poor image, they come off as enforcers rather than managers.

2006 regulations need work. The word “development” is a concern, he told them his comment was not on behalf of the L.D.C.

Main concern is Drainage Act conflict; mentioned Mike Gerrits Tribunal decision (Darmar Tamlin Drain).

Drainage Engineers recognize that they have to deal with law, need to clear conflicts. If Conservation Authority is doing management they need to consider agricultural resources too.

Need flexibility on requirements. Conservation Authority boards need to be balanced on areas not population. Funding for environmental studies needed – share costs – not all on proponent. Hopes M.N.R.F. looks at its “junior unmentored staff”.

D.A.R.T. Committee needs to continue going.

2.10 Office of Open Learning – Pat Shaver

Tony presented a token of appreciation for all her help. Pat enjoys working with us.

Pat provided report:

Training this afternoon

- Lunch setup today at 11:45
- Lunch at 12:00
- Sessions start at 12:30
- Pork medallions, salad and dessert
- Also break snacks

Got call this morning whether O.M.A.F.R. A. would be here – told them that Sid would be. Hand held mics available for speakers.

Have 35 participants.

Supper: Borealis Restaurant – down Gordon Street, about 1.5kms south.

Meal paid thru Conference.

Tony presents at 7pm Practitioners meeting, need to take projector and laptop to room after.

Have 112 Conference registrants.

- Morning break
- Lunch at 12:30
- No afternoon break (could do break between 2 sessions)
- 9 exhibitors – 6 extra participants (O.S.P.E. can't make it but no refund)
- 11 speakers scheduled
- 4 students registered: 2 Waterloo, 2 McMasters
- New exhibitors: I.E.C. and Devron (\$275 fee, have 9 exhibitor tables)

Ross Irwin Scholarship contribution made, 1st recipient this fall (Nov 5th).

Can invite scholarship recipient to Conference next year.

Evaluation forms will ask about Wednesday and Thursday sessions versus Thursday and Friday. Tony to mention at gatherings.

Conference planning meeting is better on the second Friday in June for John and Pat, date is June 10th, 2016; Sid will book boardroom on 1st floor at 9 a.m. in OMAFRA building.

Tim provided receipt to Pat for Todgham memorial donation.

Pat has copyright issues with scanning, also accessibility problems with scans.

Jeff – just scanning for archive, not for web posting.

Pat will see what she has and may have electronic docs to make into PDF, older print copies can be scanned. **Action by Pat.**

2.7 Sub-Committee Reports – D.A.W.G. (Tim Oliver)

Nothing new since June, had hoped Tom Hoggarth would be here.

John Kuntze – D.F.O. pulling out on existing drain projects when submitting.

Last meeting was April 16.

2.8 Sub-Committee Reports – D.S.A.O. Procurement Committee Update (Jeff Dickson)

No meetings pulled off.

3.0 New Business

Tony and Tim up for replacement at Practitioners meeting tonight. Tony willing to stand but Tim may withdraw.

Jeff – likes diversity in experience and mix of firms represented and geographic representation.

Sid – Spriet Associates could have Mike Devos or John Spriet Jr. Sid can run election.

3.1 Tony – status of design and construction guidelines?

Sid – will address tonight – O.M.A.F.R.A. doing final review. Need graphics and peer review. 200 page document, 120 pages on Drainage Act. L.D.C. may review, M.N.R.F. and D.F.O. will review their sections. It will be on E.B.R. (Environmental Bill of Rights) website eventually for comments.

3.2 Set January Meeting:

LICO is January 20 and 21, our meeting is Tuesday January 19th – meet for lunch at restaurant and then hold meeting. Tony to book room through LICO chairman. **Action by Tony.**

3.3 2016 Drainage Engineer’s Course and Conference

Will be held October 27th and 28th, 2016 if no changes on the days are established from Conference feedback through the questionnaire and conference evaluation form.

4.0 Next Meeting

4.1 The next meeting of the L.D.C. will be at 1:00 p.m. Tuesday January 19th, 2016 at the Best Western Lamplighter Inn on Wellington Road in London.

5.0 Adjournment

5.1 The meeting was adjourned at approximately 11:55 a.m. Moved by Jeff Dickson and seconded by John Kuntze. Carried

Tony Peralta, Chairman

Gerard Rood, Secretary

Att.

THE ONTARIO MINISTRY OF AGRICULTURE AND FOOD
Report Presented at the
DRAINAGE PRACTITIONERS MEETING

Sid Vander Veen, P. Eng., Drainage Coordinator
Environmental Management Branch, October 22, 2015

KEY MINISTRY CONTACTS

- The Honourable Jeff Leal is the Minister. He is from the Peterborough area.
- Jim Richardson, Director of Environmental Management Branch retired at the end of May. His replacement, George McCaw, grew up on a farm in Middlesex County and has held many senior positions across the ministry and most recently has provided strong leadership to the Food Safety and Traceability Programs Branch.
- Len Senyshyn continues as Manager of the Approvals, Certification and Licensing Unit and is responsible for the Ministry's drainage programs.
- Your specific drainage contacts are:
 - Valerie Anderson retired at the end of June. Her responsibility for administrative support for the Tile Loan Program and the *Drainage Act* grants has been assigned to Becky Curran who reached at 519-826-4049 or by email at becky.curran@ontario.ca.
 - Andy Kester is the Drainage Analyst/Inspector and is responsible for the review and processing of tile loans and of grants under the *Drainage Act*. He is also responsible for inspections and contractor training under the *Agricultural Tile Drainage Installation Act*. Andy can be reached 519-826-3551 or by email at andy.kester@ontario.ca
 - Sid Vander Veen is the Drainage Coordinator and is responsible for policy, issues management, training for the *Drainage Act* and *Tile Drainage Act*. Sid can be reached by phone at 519-826-3552 or by email at sid.vanderveen@ontario.ca
- Jacqui Laporte and Peter Doris are Environmental Specialists who assist with drainage issues
- Rob Waters continues to serve as the Drainage Referee. There are two new Acting Referees: Edward (Ted) Oldfield and Andrew Wright each appointed for 3 years as of May 13, 2015.

NORTHERN ONTARIO HERITAGE FUND CORPORATION (NOHFC)

- New program announced by NOHFC in January 2014
- Provided funding for regional land clearing and tile drainage projects
 - <http://nohfc.ca/en/programs/strategic-economic-infrastructure-program>
- Applicants must be a not-for-profit, agricultural or community organization that develops applications and administers funding on behalf of a consortium of producers.
- NOHFC funds 50% of land clearing and/or tile drainage contractor costs to a maximum of \$500 per acre and 100 per cent of the project administration fees (maximum of 10%)
- For tile drainage projects:
 - Work must be completed by a contractor licensed for tile drainage installation.
 - Materials are eligible only if installed by a licensed contractor.
 - A copy of a plan identifying the property and the tile installation must be provided.
 - Applicants are strongly encouraged to consult with OMAFRA staff on viability of projects that are proposed.
 - An OMAFRA technical review is a mandatory part of the due diligence process.
- One of OMAFRA's requirements was that the tile drainage system had to demonstrate that it had a legal outlet for the tile drainage system
 - For some projects, this has resulted in an increase in interest in Drainage Act work.

REPORT ON 2015 COURSES:

In the winter and spring of 2015, the following courses were held:

COURSE NAME	LOCATION	2015 DATES	ATTENDANCE
Primary Drainage Course	Marden	Jan. 12 - 16	27
Advanced Drainage Course	Marden	Feb. 2 – 12	24
Drainage Superintendents Course	Guelph	March 2 – 6	34
Rural Municipal Drainage Course	Morrisburg	March 24	14
Calculating Drainage Assessments	Morrisburg	March 25	16
Rural Municipal Drainage Course	London	April 1	63
Calculating Drainage Assessments	London	April 2	44
Rural Municipal Drainage Course	Fort Frances	April 14	15
Calculating Drainage Assessments	Fort Frances	April 15	10
Rural Municipal Drainage Course	Thunder Bay	April 17	8
Rural Municipal Drainage Course	Sault Ste. Marie	April 29	20
Calculating Drainage Assessments	Sault Ste. Marie	April 30	6

PLANNING FOR 2016 COURSES:

The following courses are scheduled or are being planned:

COURSE NAME	LOCATION	2016 DATES
<i>All registrations administered by Ridgetown College - www.ridgetownc.com/bdt</i>		
Primary Drainage Course	Marden	Jan. 11 – 15
Advanced Drainage Course	Marden	Feb. 1 – 11
Ag. Erosion Control Structures	Marden	Feb. 22 – 26
Drainage Superintendents Course	Guelph	Feb. 29 – Mar. 4
Rural Municipal Drainage Course	Renfrew	March 23
Calculating Drainage Assessments	Renfrew	March 24
Rural Municipal Drainage Course	London	April 6
Calculating Drainage Assessments	London	April 7
Rural Municipal Drainage Course	Niagara	April 13
Calculating Drainage Assessments	Niagara	April 14
Rural Municipal Drainage Course	Sudbury	April 20
Calculating Drainage Assessments	Sudbury	April 21

DESIGN AND CONSTRUCTION GUIDELINES

Project Overview

- OMAFRA project that was initiated in 2012 to completely rewrite the Design and Construction Guidelines; K. Smart Associates has been hired to lead the project.
- Purpose is to update the guide from a technical and legal perspective, but to also provide guidance to new engineers on practicing under the Drainage Act
- Guide will be divided into 3 parts:
 - Meeting the Requirements of the Drainage Act
 - Technical Information for the Design of Drains
 - Regulatory Agencies and Approval requirements

Project Status:

- K. Smart's part of the work is almost complete
- First draft of the writing is complete
- Review team is going through the document a second time; from there it is going to an editor and we also need to develop some figures and add some photographs.

FISHERIES ACT – DRAINS ACTION WORKING GROUP (DAWG):

- Very quiet in 2015; only one meeting held.

DRAINAGE ACT and Section 28 REGULATIONS TEAM (DART)

- DART organized a survey of CA's and municipalities on the use of the "Protocol for Municipalities and Conservation Authorities in Drain Maintenance and Repair Activities".
- Based on these results, a protocol training session was held March 11, 2015
- Also held one session in Peterborough where DART members provided their views on the review of the Conservation Authorities Act and the Wetlands Policy.
- Had 6 other meetings, but most of these were conference calls
- Waiting for the outcome of the Conservation Authorities Act review
- Other issues being considered are:
 - the relationship between environmental appraisals and environmental impact studies
 - cost effective seed mixtures that meet the definition of

CANADIAN LEGAL INFORMATION INSTITUTE (CANLII)

- CanLII has a website where a wide variety of legal decisions from across Canada are posted.
 - Has a very thorough and robust search engine
- All past drainage decisions have been posted.
- Project was initiated and led by Margarita Kalika who was an intern in the drainage unit, and was finished by Lillian Dong, a summer student this year.
- Tribunal decisions are already being posted on this site
- Website is: www.canlii.org

REGULATION 275

- This regulation defines the "Rule of Practice and Procedure to be Followed in all Proceedings Before the Drainage Referee"
- Hasn't been updated in decades and the wording and practices were very outdated
- New Regulation 232/15 was passed September ____ - the new title is "Rule of Practice and Procedure in Proceedings Before the Drainage Referee"

DRAINAGE PROJECTS IN AREAS WITHOUT MUNICIPAL ORGANIZATION

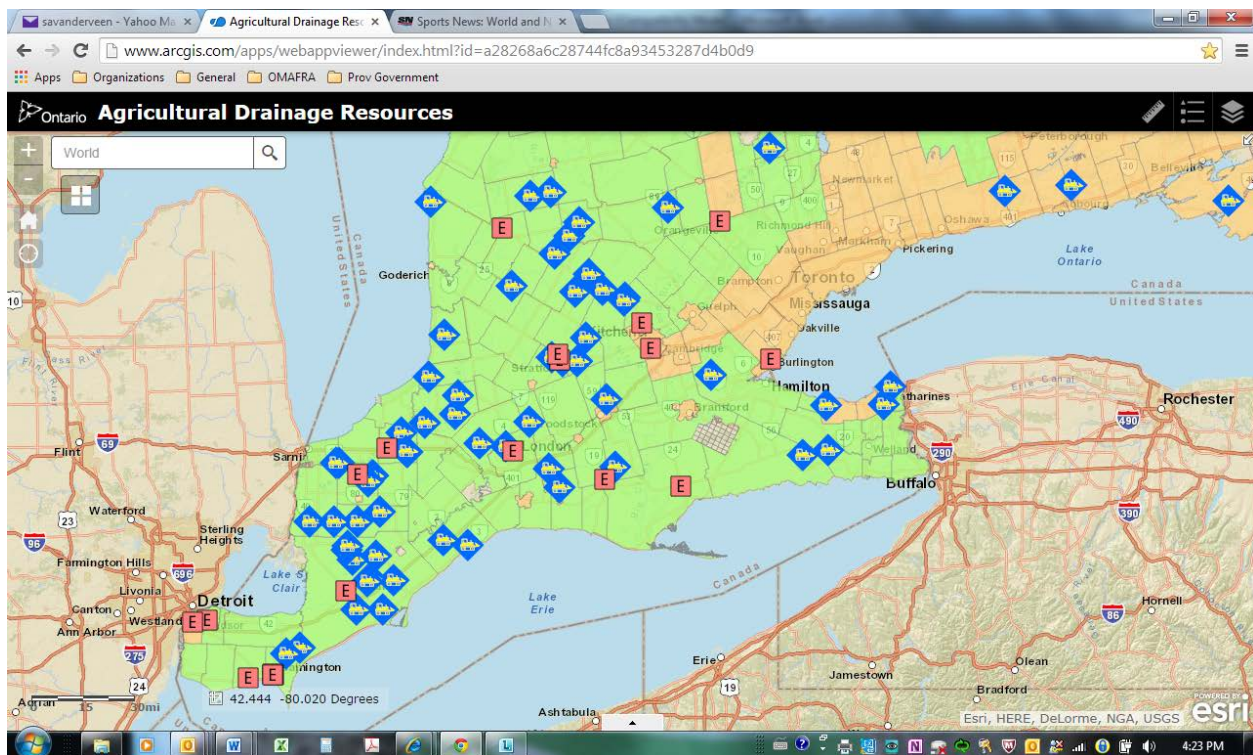
- The Ministry coordinates drainage projects in areas without municipal organization
- Different process because there is no municipal organization and no ability to impose taxes
- Every owner on which the drain is located must sign the application form
- Upon receipt of an application, we decide if it is worthwhile; if so, we assign to an engineer
- New contract with K. Smart Associates Ltd. (Neal Morris)

NEW COMPUTER SYSTEM

- The computer system for processing grants under the Drainage Act, loans under the Tile Drainage Act and licenses under the Agricultural Tile Drainage Act was developed in 1999.
- It is built on old platforms that are no longer supported – need to be updated
- Have spent a considerable amount of time working with business developers to define the requirements of the system
- Two phase project:
 - Replace the system functionality – ability to process grants, loans, licenses
 - Create a limited access portal that will allow municipalities to input grant and loan applications on-line
- We have made significant progress in developing a new licensing program.

ArcGIS Drainage Contact Layer:

Has been added to our website: omafra.gov.on.ca/english/landuse/drain-mun.htm



- This website provides the location and contact information for engineers and licensed tile drainage contractors, as well as municipal drainage superintendents.

AGRICULTURAL INFORMATION ATLAS

- The municipal drain information layer still needs improvement, but we are dependent on the submission of detailed information from municipalities. If you have better information that you would like to submit, please contact Bob Steiss, Senior Geographic Information Specialist with OMAFRA at 519-826-4032 or by email at bob.steiss@ontario.ca

AGRICULTURAL DRAINAGE INFRASTRUCTURE PROGRAM (ADIP)

- Some reminders for engineers:
 - Grant applications must be complete. An application will no longer be accepted if data is missing (e.g. missing watershed area, length of drain, signature of engineer, date of completion certificate, etc.)
 - Section 8 specifies what is supposed to be in a report – if that information is missing, then it doesn't comply with the Act and is therefore not eligible. One thing that we've noted occasionally is missing profiles.
 - The ADIP policies make it clear that grant eligibility is based on the property being assessed at the Farm Property Class Tax rate. The argument that "We think it should be eligible for grant because it's being used for agriculture" no longer carries any weight.
 - No allowance should be given for land taken or right-of-way for Section 78 projects – if you're providing an allowance because no allowance had been given in the past, make that clear in the report.
 - Grant applications for drain construction/improvement projects must be accompanied with a copy of the Court of Revision decision
 - Copies of all engineering reports are supposed to be send to OMAFRA, even if there is no grant being applied for (Drainage Act, S. 41). We know that there have been dozens of crossing projects that have been completed, but we are not getting the reports.
 - It is the engineer's duty to assess the project using the principles of the Drainage Act; the engineer should not be swayed by who is willing to pay those assessments.

DRAINAGE STATISTICS

Various drainage statistics are provided on the following pages. Here are some observations:

Construction:

- There were 134 projects completed in 2014/15 and the overall cost was \$21.1 million
- There were only 22 engineers who wrote at least one report under the Drainage Act that was submitted for grant.
- The average drainage project cost is \$157,574 which is more than double that of 10 years ago.
- Average engineering costs in 2014/15 was 22.7% which is slightly lower than that in the past decade. The average engineering cost for projects less than \$25,000 in total cost was 32.1%, but decreased to 20.3% for projects greater than \$400,000.
- For the 2013/14 year, there was more pipe installed than channel. This reverted back to the norm in 2014/15 where 53.1% of the length of drains was channel and 46.9% was pipe.

Maintenance

- 2,369 drain maintenance/repair/operation projects were performed which is the highest total
- The total cost of these projects was \$12.9 million.
- The average cost of a maintenance project was \$5,457 which is the highest in the past 10 years. The lowest average maintenance project cost in that time period was \$3,930.

TABLE 1	CONSTRUCTION/IMPROVEMENT PROJECT TYPES				
	FISCAL YEAR 2014/15				
PROJECT TYPE	# OF PROJECTS	TOTAL COST	GRANT AMOUNT	STATISTICAL NOTES	DESCRIPTION OF PROJECT TYPE
Regular	134	21,114,878	3,688,534	Number of projects, total costs and grant amounts are all included in statistics	Project application was received and grant paid in 2013/14
Interim	0	0	0	Number of projects, total costs and grant amounts are all included in statistics	Interim application received and paid in 2013/14; final grant application is expected in a future year.
Final	0	0	0	Total costs and grant amounts included in statistics; number of projects are not.	Interim application received and paid earlier; final grant application was received and paid in 2013/14.
Adjustments	0	0	0	Total costs and grant amounts included in statistics; number of projects are not.	Completed projects (grants paid) but an adjustment of costs was required.
TOTAL					
Preliminary	0	0	0	Not included in statistical information.	Grant application for preliminary report costs, after project terminated.

Note: A "project" is deemed to be an activity under a single engineer's report. This can be a single culvert installation or a project with a main drain and several branches.

TABLE 2		MUNICIPAL DRAIN ENGINEERING STATISTICS IN ONTARIO PROVINCIAL AVERAGES FROM 2004/05 TO 2013/14			
YEAR	TOTAL COST (\$)	ENGINEERING COSTS (\$)	% ENGINEERING	NO. OF ENGINEERS	TOT. GRANT PAID (\$)
2005/06	16,755,182	3,766,685	22.5	30	4,566,457
2006/07	11,639,346	2,942,772	25.3	27	2,642,924
2007/08	12,142,307	3,046,381	25.1	23	2,399,909
2008/09	10,853,223	2,747,529	25.3	23	2,191,583
2009/10	14,767,599	3,563,517	24.1	27	2,953,528
2010/11	11,989,799	2,894,855	24.1	20	2,383,193
2011/12	19,837,820	4,536,820	22.9	26	2,809,306
2012/13	18,492,806	4,432,881	24.0	26	2,700,402
2013/14	18,731,409	4,648,494	24.8	26	3,287,519
2014/15	21,114,878	4,786,490	22.7	22	3,688,534

TABLE 3		GENERAL MUNICIPAL DRAIN STATISTICS IN ONTARIO FROM 2004/05 TO 2013/14			
YEAR	TOTAL NO. OF DRAINS	TOTAL DRAIN COST (\$ million)	AVG. DRAIN COST (\$)	TRIBUNAL HEARINGS	% OF HEARINGS
2005/06	218	16.8	76,859	10	4.6
2006/07	170	11.6	68,467	16	9.4
2007/08	154	12.1	78,846	17	11.0
2008/09	142	10.9	76,431	4	2.8
2009/10	160	14.8	92,298	6	3.8
2010/11	149	12.0	80,468	16	10.7
2011/12	133	19.8	149,156	7	5.3
2012/13	158	18.5	117,043	14	8.9
2013/14	157	18.7	119,308	11	7.0
2014/15	134	21.1	157,574	12	9.0

TABLE 4

TECHNICAL MUNICIPAL DRAIN STATISTICS IN ONTARIO							
FROM 2005/06 TO 2014/15							
YEAR	SERVICED HA	OPEN M	CLOSED M	OPEN %	CLOSED %	TOTAL COST (\$)	UNIT COST \$/HA
2005/06	52,140	206,105	78,728	72.4	27.6	16,755,182	321
2006/07	65,422	111,177	78,276	58.7	41.3	11,639,346	178
2007/08	50,686	128,740	90,623	58.7	41.3	12,142,307	240
2008/09	44,104	132,819	55,243	70.6	29.4	10,853,223	246
2009/10	38,659	104,680	83,527	55.6	44.4	14,767,599	382
2010/11 ¹	34,532	81,909	63,846	56.2	43.8	11,989,799	347
2011/12 ¹	35,276	113,720	70,540	61.7	38.3	19,837,820	562
2012/13 ¹	27,666	80,345	82,590	49.3	50.7	18,492,806	668
2013/14 ¹	26,057	66,988	88,633	43.0	57.0	18,731,409	718
2014/15 ¹	42,025	90,609	79,974	53.1	46.9	21,114,878	502

Notes: 1. Holland Marsh Dyke and Canal Reconstruction project has been excluded from the statistics.

TABLE 5

RANGE OF MUNICIPAL DRAIN COSTS IN ONTARIO FROM 2005/06 TO 2014/15								
YEAR	TOTAL NO. DRAINS	NO. OF DRAINS IN THE COST RANGE OF: (Note: Percentage Engineering for Cost Range shown in brackets)						HIGHEST SINGLE COST (\$)
		< \$5,000	\$5,000 - < \$50,000	\$50,000- < \$75,000	\$75,000 - < \$100,000	\$100,000- < \$200,000	> \$200,000	
2005/06	218	4 (25.9%)	123 (28.7%)	29 (23.9%)	17 (25.9%)	32 (22.4%)	13 (21.3%)	877,000
2006/07	172	4 (31.1%)	102 (26.3%)	17 (25.7%)	14 (26.6%)	22 (26.0%)	11 (23.7%)	817,351
2007/08	152	0	93 (31.2%)	21 (27.2%)	6 (25.1%)	20 (23.4%)	14 (22.6%)	825,740
2008/09	142	3 (46.2%)	75 (28.0%)	21 (27.3%)	15 (28.4%)	18 (23.7%)	10 (24.8%)	791,420
2009/10	160	2 (28.3%)	76 (28.7%)	20 (24.0%)	16 (24.2%)	29 (22.0%)	17 (24.4%)	1,031,235
2010/11 ¹	149	2 (99.5%)	83 (32.8%)	20 (25.4%)	16 (23.2%)	13 (23.4%)	15 (21.2%)	668,526
2011/12 ¹	133	1 (58.6%)	48 (33.1%)	16 (23.2%)	11 (23.8%)	31 (27.0%)	26 (20.5%)	1,543,425
2012/13 ¹	158	1 (97.9%)	60 (31.2%)	27 (28.6%)	20 (25.5%)	33 (24.8%)	17 (21.2%)	2,466,972
Updated Cost Ranges		< \$25,000	\$25,000 - < \$50,000	\$50,000 - < \$100,000	\$100,000 - < \$200,000	\$200,000 - < \$400,000	> \$400,000	
2013/14 ¹	157	23 (36.8%)	34 (33.3%)	43 (27.8%)	35 (27.5%)	18 (23.4%)	4 (19.2%)	674,512
2014/15 ¹	134	12 (32.1%)	29 (33.4%)	38 (24/4%)	29 (23.1%)	18 (22.7%)	8 (20.3%)	2,160,372

Notes: 1. Holland Marsh Dyke and Canal Reconstruction project has been excluded from the statistics.

TABLE 6

MUNICIPAL DRAIN MAINTENANCE STATISTICS IN ONTARIO			
FROM 2005/06 TO 2014/15			
YEAR	NO. OF PROJECTS	TOTAL COST	AVERAGE COST
2005/06	1356	\$5,969,743	\$4,402
2006/07	1397	\$5,489,548	\$3,930
2007/08	1602	\$7,033,738	\$4,391
2008/09	1668	\$6,867,771	\$4,117
2009/10	2034	\$8,725,247	\$4,290
2010/11	1704	\$8,784,649	\$5,155
2011/12	1580	\$7,455,566	\$4,719
2012/13	2303	\$11,866,946	\$5,153
2013/14	2290	\$11,494,684	\$5,020
2014/15	2369	\$12,927,171	\$5,457

TABLE 7

ONTARIO DRAIN MAINTENANCE & SUPERINTENDENT ACTIVITY	2012	2013	2014
Total Drain Maintenance Expenditures	\$11,866,946	\$11,494,684	\$12,927,171
Drain Maintenance Grant Paid	\$3,007,797	\$2,943,133	\$3,334,252
Drainage Superintendent Cost	\$4,923,974	\$5,114,558	\$5,213,651
Superintendent Grant Paid	\$2,401,366	\$2,502,626	\$2,611,360
Municipalities Claiming Grant	148	150	150
Number of Maintenance Projects	2,303	2,290	2,369
Average # of Projects per Municipality	15.6	15.3	15.8
Average Cost of Projects	\$5,153	\$5,020	\$5,457
Average Total Cost per Municipality	\$113,452	\$110,728	\$120,939
Average – Maintenance/Superintendent	2.41	2.25	2.48
Average % - Superintendent/Total Cost	29.3%	30.8%	28.7%