



CSA B805 / ICC 805 Joint  
Technical Committee  
**Minutes of Meeting No. 11, February 8, 2022**  
Issued: February 16th, 2022  
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## **CSA B805/ ICC 805 Joint Technical Committee**

### **Draft Minutes of the 11<sup>th</sup> Meeting**

Part#1 - February 8, 2022 (1:00-4:00pm)

Part#2 – February 10, 2022 (2:00-4:00pm)

Virtual via Webex

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## Attendance List – February 8<sup>th</sup> Meeting

### Members

Name	Affiliation	Present	Absent
Penh Tov	Net Zero Water (by Interpump)	✓	
Philip Parisi	MG Engineering D.P.C	✓	
Nicholas Ashbolt	Southern Cross University		✓
Chris Despins	Region of Peel	✓	
Pieter DeVries	UV Dynamics Inc.	✓	
Justin DeWitt	Illinois Department of Public Health	✓	
Russell Jackson	RainHarvest Systems LLC		✓
Judy MacDonald	Health Canada	✓	
Dean Morin	Alberta Municipal Affairs Safety Services		✓
Ken Nentwig	Canarm Governor, BC Jurisdiction	✓	
Robert O'Donnell	Aquanomix, LLC		✓
Doug Pushard	HarvestH2O		✓
Joe Rogers	Government of Nova Scotia	✓	
Troy Vassos	Integrated Sustainability Consultants Ltd.	✓	
Mike Warren	Watertronics, Inc.	✓	
<b>group total:</b>		<b>10</b>	

#### Proxies

None to report.

#### Alternates

### Associate Members

Name	Affiliation	Present	Absent
Linda Maley	Atlantis Water Management	✓	
Robert Rubin	North Carolina State University (NCSU)		✓
G. Edward Van Giesen	Watts Water Technologies		✓



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Name	Affiliation	Present	Absent
Amit Lathia	CSA Group		✓

**CSA/ ICC Staff**

Name	Affiliation	Present	Absent
Karl Aittainemi	International Code of Council (ICC)	✓	
Jessie Sorensen	International Code of Council (ICC)	✓	
Monica Khalil	CSA Group	✓	

## Attendance List – February 10<sup>th</sup> Meeting

**Members**

Name	Affiliation	Present	Absent
Penh Tov	Net Zero Water (by Interpump)	✓	
Philip Parisi	MG Engineering D.P.C	✓	
Nicholas Ashbolt	Southern Cross University		✓
Chris Despins	Region of Peel	✓	
Pieter DeVries	UV Dynamics Inc.	✓	
Justin DeWitt	Illinois Department of Public Health		✓
Russell Jackson	RainHarvest Systems LLC		✓
Judy MacDonald	Health Canada	✓	
Dean Morin	Alberta Municipal Affairs Safety Services		✓
Ken Nentwig	Canarm Governor, BC Jurisdiction	✓	
Robert O'Donnell	Aquanomix, LLC		✓
Doug Pushard	HarvestH2O		✓
Joe Rogers	Government of Nova Scotia		✓
Troy Vassos	Integrated Sustainability Consultants Ltd.	✓	
Mike Warren	Watertronics, Inc.	✓	
<b>group total:</b>		<b>8</b>	



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Name	Affiliation	Present	Absent
<b>Proxies</b>	None to report.		
<b>Alternates</b>			

**Associate Members**

Name	Affiliation	Present	Absent
Linda Maley	Atlantis Water Management	✓	
Robert Rubin	North Carolina State University (NCSU)		✓
G. Edward Van Giesen	Watts Water Technologies		✓
Amit Lathia	CSA Group		✓

**CSA/ ICC Staff**

Name	Affiliation	Present	Absent
Karl Aittainemi	International Code of Council (ICC)	✓	
Jessie Sorensen	International Code of Council (ICC)	✓	
Monica Khalil	CSA Group	✓	

## Administration

### M.62.1 Opening Remarks

#### M.62.1.1 Welcome

P. Tov and P. Parisi, Chairs of the Joint Technical Committee (JTC), called the meeting to order at 1:05pm for the meeting held on February 8<sup>th</sup>, 2022. The second meeting held on February 10<sup>th</sup>, 2022 was called to order at 2:10pm.

#### M.62.1.2 Code of Conduct / Conflict of Interest / Anti-trust Guidelines

Attendees were advised of the relevance and availability of CSA Group Code of Conduct, Anti-trust, and Patent policies with respect to their duties as members and the availability of these reference documents on the [CSA B805 TC Community space](#).

#### M.62.1.3 Attendance

Attendance was taken by way of roll call of all attending participants. M. Khalil reported on alternates and proxies appointed for the meeting (see attendance lists for both meetings held on February 8<sup>th</sup> and 10<sup>th</sup>).

#### M.62.1.4 Quorum – February 8<sup>th</sup> meeting

At the time of this meeting the CSA B805/ICC 805 JTC had 15 voting members; At the meeting 10 voting members were present with no alternates. Quorum requirements of greater than 50% of the voting membership was confirmed.

Members	eligible	present
Members present	15	10
Member – alternates attending	0	0
<b>total:</b>	<b>15</b>	<b>10</b>

#### M.62.1.5 Vote Tabulation- February 8<sup>th</sup> meeting

For the purpose of voting, no proxies or alternates were assigned resulting in a maximum of 10 votes able to be cast at this meeting.

The minimum number of affirmative votes required for approval is the greater of more than 50% of the voting membership OR 2/3 of the total eligible votes to be cast.

condition	eligible	minimum
>50% of voting membership	15	9
66.6% of votes to be cast (includes: attending + assigned proxies)	10	7

#### M.62.1.1 Quorum – February 10<sup>th</sup> meeting

At the time of this meeting the CSA B805/ICC 805 JTC had 15 voting members; At the meeting 8 voting members were present with no alternates. Quorum requirements of greater than 50% of the voting membership was confirmed.

Members	eligible	present
Members present	15	8
Member – alternates attending	0	0
<b>total:</b>	<b>15</b>	<b>8</b>

**M.62.1.2 Vote Tabulation- February 10<sup>th</sup> meeting**

For the purpose of voting, no proxies or alternates were assigned resulting in a maximum of 8 votes able to be cast at this meeting.

The minimum number of affirmative votes required for approval is the greater of more than 50% of the voting membership OR 2/3 of the total eligible votes to be cast.

condition	eligible	minimum
>50% of voting membership	15	9
66.6% of votes to be cast (includes: attending + assigned proxies)	8	6

**M.62.2 Adoption of Draft Agenda**

**Motion No. 1 – Draft Agenda:**

To adopt the draft agenda for the current meeting.

**Results:**

Motioned by: J. Rogers      Seconded by: T. Vassos

Outcome: Successful, motion was carried unanimously.

**M.62.3 Technical Committee Membership**

**M.62.3.1 Review of Committee Membership**

An up to date membership list of the Technical Committee is enclosed [Appendix A]. Changes to the Technical Committee membership is provided below.

**Departing Members**

Update on members who are unable to participate in this revision cycle.

- Dave Cantrell - Regulatory and General Interest Matrix Category [RG].
- Nancy Springer - Regulatory and General Interest Matrix Category [RG].
- Thomas Duncan Ellison – User Interest Matrix Category [UI]

**Incoming Members**

- none

**Call for New Voting Members:**



M. Khalil put a call for associate members on the JTC in the Regulatory/General Interest category and User Interest Category, who are interested in becoming voting members. Requests for voting status to be submitted to M. Khalil by email.

**Request for Voting Status List**

Empty (Vacant).

**M.62.3.2 An up to date membership list of the Matrix**

To reflect the new vacancies in the Regulatory/General Interest Matrix Category (RG) and User Interest Matrix Category (UI). A motion was presented to accept the change (from 6 to 4) in the minimum number of members in both these matrix categories.

**Motion No. 2 – Update the Technical Committee Matrix:**

To accept the change in the minimum number of members in matrix categories RG and UI from 6 to 4.

**Results:**

Motioned by: J. MacDonald                      Seconded by: J. DeWitt

Outcome: Successful, motion carried unanimously.

The Technical Committee was balanced, therefore, the CSA B805/ ICC 805 Joint Technical Committee could make formal, binding decisions and cast votes. The following table illustrates the Technical Committee matrix and membership.

**CSA B805/ ICC 805 Joint Technical Committee Matrix & Membership**

Regulatory Authority /General Interest (RG)		Producer Interest (PI)		User Interest (UI)	
Min:	4	Max:	6	Min:	6
		Max:	6	Min:	4
				Max:	6
1.	Justin DeWitt	1.	Penh Tov (Co-Chair)	1.	Philip Parisi (Co- Chair)
2.	Judy MacDonald	2.	Robert O'Donnell	2.	Nicholas Ashbolt
3.	Dean Morin	3.	Russell Jackson	3.	Troy Vassos
4.	Joe Rogers	4.	Mike Warren	4.	Chris Despins
5.	Vacant	5.	Pieter DeVries	5.	Doug Pushard
6.	Vacant	6.	Ken Nentwig	6.	Vacant

## Technical Agenda

### M.62.4 Review of Outstanding Action Items

- None to report.

### M.62.5 Standards in Progress

#### M.62.5.1 CSA B805/ ICC 805 *Rainwater Harvesting Systems*

M. Khalil advised that the standard is coming up due on April 12<sup>th</sup>, 2023. One proposal was submitted for consideration and balloted to the committee. The ballot comments disposition report for the proposal was presented to the committee, and the comments were discussed. The results of the discussion are captured in item M.62.6.1

M. Khalil also presented and advised the committee on the new edition timeline and schedule [Appendix B]

Current Edition Publication:	April 12 <sup>th</sup> , 2018
Due for Renewal:	April 12 <sup>th</sup> , 2023
Deadline for Proposal Submission:	October 14, 2021
Projects and Proposals:	1 active proposal

### M.62.6 Project Ballots

#### M.62.6.1 Ballot 8199 – Project RH-21-01 – Proposed amendments to 2018 Edition.

M. Khalil advised that the ballot was successful for the proposal draft of Project RH-21-01.

#### Ballot outcome

affirmative	negative	no reply*
9	3	3

The Ballot Comment Disposition Report was presented and the comments discussed. The results of the discussion are captured in the Final Draft Ballot Comment Disposition Report [Appendix C].

Note: The discussions on the ballot report ran longer than the duration of the meeting held on February 8<sup>th</sup>, 2022, hence the committee decided to reconvene on February 10<sup>th</sup>, 2022 (2:00-4:00pm) to continue with the discussions and conclude the rest of the agenda items. Quorum was achieved for both meetings.

#### **Motion No. 3 – Accept and approve the resolution for comments #1 and #2:**

Approve the resolution for comments #1 and #2 as presented in the Final Ballot Resolution Report.

#### **Results:**

Outcome: Successful, motion carried unanimously.





**Motion No. 4 – Accept and approve the resolution for comments #3 and #4:**

Approve the resolution for comments #3 and #4 as presented in the Final Ballot Resolution Report.

**Results:**

Outcome: Successful, motion carried unanimously.

**Motion No. 5 – Accept and approve the resolution for comment #5:**

Approve the resolution for comment #5 as presented in the Final Ballot Resolution Report.

**Results:**

Outcome: Successful, motion carried unanimously.

**Motion No. 6 – Accept and approve the resolution for comment #6:**

Approve the resolution for comment #6 as presented in the Final Ballot Resolution Report.

**Results:**

Outcome: Successful, motion carried unanimously.

**Motion No. 7 – Accept and approve the resolution for comments #7,8,9 and 10:**

Approve the resolution for comments #7,8,9 and 10 as presented in the Final Ballot Resolution Report.

**Results:**

Outcome: Successful, motion carried unanimously.

**Motion No. 8 – Accept and approve the resolution for comments #14 and #15:**

Approve the resolution for comment #14 and #15 as presented in the Final Ballot Resolution Report.

**Results:**

Outcome: Successful, motion carried unanimously.

**Motion No. 9 – Accept and approve the resolution for comments #16 and #17:**

Approve the resolution for comments #16 and #17 as presented in the Final Ballot Resolution Report.

**Results:**

Outcome: Successful, motion carried unanimously.

**Motion No. 10 – Accept and approve the resolution for comments #21 and #22:**

Approve the resolution for comments #21 and #22 as presented in the Final Ballot Resolution Report.

**Results:**

Outcome: Successful, motion carried unanimously.

**Motion No. 11 – Accept and approve the resolution for comment #23:**

Approve the resolution for comment #23 as presented in the Final Ballot Resolution Report.

**Results:**

Outcome: Successful, motion carried unanimously.

**Motion No. 12 – Accept and approve the resolution for comment #24:**

Approve the resolution for comment #24 as presented in the Final Ballot Resolution Report.

**Results:**

Outcome: Successful, motion carried unanimously.

**Motion No. 13 – Accept and approve the resolution for comments #25 and #26:**

Approve the resolution for comments #25 and #26 as presented in the Final Ballot Resolution Report.

**Results:**

Outcome: Successful, motion carried unanimously.

**Motion No. 14 – Accept and approve the resolution for comment #28:**

Approve the resolution for comments #28 as presented in the Final Ballot Resolution Report.

**Results:**

Outcome: Successful, motion carried unanimously.

**M.62.7 New Business**

- New project was initiated to review and consider the commonalities between the rainwater harvesting systems and the management standard for stormwater systems. Members were invited to participate in the task group for the project [ see Appendix D].
- New action item to review additional literature on Table 7.1- *Collection surfaces per water end use tier for the prescriptive approach* and its current applications in the industry. J. MacDonald volunteered to review such literature and report on findings to the committee.

## Conclusion

### M.62.8 Next Meeting

The following are the tentative dates for the upcoming TC meetings. These dates are to be confirmed.

#### TC meeting#2:

Tentative Date: May 26, 2022

Time: 1:00pm to 3:00pm EST

Location: Virtual

#### TC meeting#3:

Tentative Date: September 13, 2022

Time: 1:00pm to 4:00pm EST

Location: Virtual

### M.62.9 Adjournment

#### M.62.9.1 February 8<sup>th</sup> Meeting Adjournment

Meeting No. 11- Part#1 held on February 8<sup>th</sup>, 2022 for the CSA B805/ ICC B805 Joint Technical Committee was adjourned at 4:10 pm

#### **Motion No. 15 – Adjournment:**

To adjourn the meeting at 4:10 pm.

#### **Results:**

Motioned by: P. Parisi      Seconded by: J. MacDonald

Outcome: Successful, motion carried unanimously.

#### M.62.9.2 February 10<sup>th</sup> Meeting Adjournment

Meeting No. 11- Part#2 held on February 10<sup>th</sup>, 2022 for the CSA B805/ ICC B805 Joint Technical Committee was adjourned at 4:05 pm

#### **Motion No. 16 – Adjournment:**

To adjourn the meeting at 4:05 pm.

#### **Results:**

Motioned by: K. Nentwig      Seconded by: M. Warren

Outcome: Successful, motion carried unanimously.



CSA B805/ ICC 805 Joint Technical Committee  
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## **Appendix A**

### **Current Technical Committee Membership**

**important notice**

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**Committee Members**

<b>member and affiliation</b>	<b>email address</b>	<b>position</b>	<b>matrix</b>
Mr. Philip Parisi, MG Engineering D.P.C.	<a href="mailto:philip.parisi@mgedpc.net">philip.parisi@mgedpc.net</a>	Vice Chair	User Interest
Ms. Penh Tov, Net Zero Water (by Interpump)	<a href="mailto:penh@netzerowater.ca">penh@netzerowater.ca</a>	Vice Chair	Producer Interest
Prof. Nicholas Ashbolt, Southern Cross University	<a href="mailto:nick.ashbolt@mac.com">nick.ashbolt@mac.com</a>	Member	User Interest
Mr. Chris Despins, Region of Peel	<a href="mailto:christopher.despins@peelregion.ca">christopher.despins@peelregion.ca</a>	Member	User Interest
Mr. Pieter deVries, UVDynamics Inc.	<a href="mailto:p.devries@uvdynamics.com">p.devries@uvdynamics.com</a>	Member	Producer Interest
Mr. Justin DeWitt, Illinois Department of Public Health	<a href="mailto:justin.dewitt@illinois.gov">justin.dewitt@illinois.gov</a>	Member	Regulatory Authority/General I
Mr. Russell Jackson, RainHarvest Systems, LLC	<a href="mailto:russ@rainharvest.com">russ@rainharvest.com</a>	Member	Producer Interest
Ms. Judy MacDonald, Health Canada	<a href="mailto:judy.macdonald@tpsgc-pwgsc.gc.ca">judy.macdonald@tpsgc-pwgsc.gc.ca</a>	Member	Regulatory Authority/General I
Mr. Dean Morin, Alberta Municipal Affairs Safety Services	<a href="mailto:dean.morin@gov.ab.ca">dean.morin@gov.ab.ca</a>	Member	Regulatory Authority/General I
Mr. Ken Nentwig, CANARM Governor, BC Jurisdiction	<a href="mailto:ken.nentwig@gmail.com">ken.nentwig@gmail.com</a>	Member	Producer Interest
Mr. Robert O'Donnell, Aquanomix, LLC	<a href="mailto:rodonnell@aquanomix.com">rodonnell@aquanomix.com</a>	Member	Producer Interest
Mr. Doug Pushard, HarvestH2o.com	<a href="mailto:doug@harvesth2o.com">doug@harvesth2o.com</a>	Member	User Interest

member and affiliation	email address	position	matrix
Mr. Joe Rogers, Government of Nova Scotia Department of Municipal Affairs and Housing	joe.rogers@novascotia.ca	Member	Regulatory Authority/General I
Dr. Troy Vassos, Integrated Sustainability Consultants Ltd.	tvassos@aquadoc.ca	Member	User Interest
Mr. Mike Warren, Watertronics, Inc.	mike.warren@watertronics.com	Member	Producer Interest
Mr. Jeffrey Hugo, National Fire Sprinkler Association	hugo@nfsa.org	Associate	
Ms. Linda Maley, Atlantis Water Management	linda@atlantiscorp.com.au	Associate	
Prof. Robert Rubin, North Carolina State University (NCSU)	rubin@ncsu.edu	Associate	
Jessie Sorensen, International Code Council (ICC)	jsorensen@iccsafe.org	Other	
Mr. G. Edward Van Giesen, Watts Water Technologies	edward.vangiesen@wattswater.com	Associate	
Mr. Amit Lathia, CSA Group	amit.lathia@csagroup.org	Other	



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## **Appendix B**

### **Timeline and Schedule for 2023 Edition of CSA B805/ ICC 805**

# Overall Process for Developing a New Edition





# Technical Content Development

October, 2021	21	Proposal Submission Deadline
	28	
November 2021	7	Proposal Ballot - Open
	14	
	21	
	28	Proposal Ballot - Closed
December 2021	7	Proposal Ballot Comment Disposition
	14	
	21	
	28	
January 2022	7	
	14	
	21	
	28	
February 2022	7	<b>TC Meeting # 1- Febraury 8th</b>
	14	Proposal Ballot Comment Disposition CONFIRMED
	21	Content Development Complete
	28	

# Public Review & Editing

March 2022	7	Public & Quality Review (PR) - Issued- ANSI AND SCC
	14	
	21	
	28	
April 2022	7	
	14	
	21	
	28	
May 2022	7	Public Comment Disposition
	<b>14</b>	<b>Tentative TC Meeting # 2</b>
	21	Editing (PAE) - Submitted
	28	
June 2022	7	
	14	
	21	
	28	
July 2022	7	Editing (PAE) - Returned
	14	

# Ballot Draft and Disposition Comments

July 2022	21	Standard Draft Ballot - Open
	28	
August 2022	7	Standard Draft Ballot - Closed
	14	
	21	Standard Draft Ballot Comment Disposition
	28	
September 2022	7	Standard Draft Ballot Comment Disposition
	14	
	21	<b>Tentative TC Meeting # 3</b>
	28	Standard Draft Ballot Comment Disposition CONFIRMED
October 2022	7	
	14	
	21	

# SCC and ANSI Approvals

October	28	Second Level Review & ANSI Approval
	7	
November 2022	14	
	21	
	28	
	7	
December 2022	14	
	21	ANSI and SCC approved
	28	
	7	Final Production & Publication
January 2023	14	
	21	
	28	
	7	
February 2023	14	
	21	
	28	
March 2023	7	Standard Published



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## **Appendix C**

### **Project RH-21-01 ballot – Final Ballot Comment Disposition Report**



### CSA B805/ICC 805

Rainwater harvesting systems – Proposed Amendments RH-20-01

CSA Ballot Closed: November 29, 2021

CSA TC Vote Breakdown (required affirmative votes to pass: 9): **Successful**

Affirmative:	9
Negative:	3
No Reply:	5

no.	member	vote	standard reference	comment(s), rationale, & proposed changes	ruling	Resolution
1	Judy MacDonald	Negative with Comment	3.1 Definitions, Ultraviolet Transmittance	<p>I disagree with the addition of "the clarity or turbidity of" to the definition for UV transmittance. UVT is a measure of the organics, colloidal solids and other material in the water which absorb or scatter the UV light. This is different from water clarity or turbidity. UVT is an important criterion to ensure adequate and effective UV disinfection. The definition should not be confounded with water clarity or turbidity which are different measures for the reasons given in the rationale for the proposed change. Also, it is important that stakeholders not think they can submit water clarity or turbidity data in the absence of UVT data. I would suggest simply saying is a "measure of water quality" instead of the proposed change.</p> <p><i>Ultraviolet transmittance (UVT) — the measure of the fraction of incident germicidal ultraviolet light remaining after passing</i></p>	P	<p>Note to be deleted.</p> <p>Definition to be revised as follows:  <i>Ultraviolet transmittance (UVT) — the measure of the fraction of incident germicidal ultraviolet light remaining after passing through 1 cm (0.39 in) of sample water expressed as a percentage of the transmission through pure water.</i></p> <p><del><i>Note: This value is a measurement of the clarity or turbidity of water. For example, water from a metal roof after a 350-micron filter might have a UVT of 90%. As water quality changes, the UVT% of said water also changes.</i></del></p>

				<p>through 1 cm (0.39 in) of sample water expressed as a percentage of the transmission through pure water.                  Note: This value is a measurement of the <del>clarity or turbidity of</del> water <u>quality</u>. For example, water from a metal roof after a 350-micron filter might have a UVT of 90%. As water quality changes, the UVT% of said water also changes.</p>		
2	Pieter DeVries	Affirmative with Comment	3.1	<p>The parameters clarity and turbidity have no relationship to the UVT of the water source. UVT degradation in water is mostly due to organic content of the water. Organics often have a color component but can also be visually clear. Turbidity, unless it is extremely high has no effect on a UVT measurement. UVT measurements are a useful to indicate an increase in the organic content of the stored water. Increases in organic content are due to the tannin's produced by decaying vegetative matter in the storage tank over time. The presence of organics has a direct negative influence on the performance of UV disinfection systems.</p>	P	See resolution for comment #1
<p>Motion (#3) was made and seconded to accept the revisions as noted in the resolution column for comments #1 and #2. The motion was carried unanimously.</p>						
3	Chris Despins	Affirmative with Comment	3.1 Definitions	<p>Proposed amendment on page 2 of 32:</p> <p>I don't see why the new term "Debris excluder" is needed. I think inlet pre-filter already covers this definition. Recommend not including the addition of this term.</p> <p><u><a href="#">Debris excluder - a device or method for removal of debris carried from the collection surface by filtering the rainwater through a screen. The debris excluder is normally the first filter or screen in the rainwater system.</a></u></p>	P	<p>1. Proposed definition for Debris excluder to be deleted.</p> <p><del>Debris excluder—a device or method for removal of debris carried from the collection surface by filtering the rainwater through a screen. The debris excluder is normally the first filter or screen in the rainwater system.</del></p> <p>2. Definition for first-flush diverter to be modified as follows:</p> <p><i>First-flush diverter — a device or method for removal of sediment and suspended contaminants <del>and debris</del> from the collection</i></p>

				<p>Some of the modifications to the inlet pre-filter look good, but I'm not sure what "...or method (if used)" means. Other additions to the inlet pre-filter definition look good other than the text I have highlighted.</p> <p><i>Inlet pre-filter</i> — a device installed on the rainwater conveyance pipe prior to the <u>first-flush diverter device or method (if used), and prior to the primary storage vessel on a rainwater system (see Debris filter).</u></p> <p><i>Note: An inlet pre-filter is intended to mitigate the introduction of, e.g., vermin, leaves, sticks, needles, tree fruit, bark, moss, or any other unwanted debris or roof contaminant that could enter the system.</i></p> <p>Proposed amendment on page 4 of 32: I don't see the need of identifying where the outlets go. Recommend not including this proposed amendment.</p> <p><i>Rainwater outlet</i> — the point of entrance at the storage tank into the distribution system, <del>to a pump inlet, to the overflow piping, or to other system components (e.g. slow-release orifice for storm water management).</del></p>	<p><i>surface by diverting initial rainfall from entry into the storage tank. <u>The first-flush diverter may be preceded by an inlet pre-filter to remove debris</u></i></p> <p>3. Definition for inlet pre-filter to be modified as follows:</p> <p><i>Inlet pre-filter</i> — a device installed on the rainwater conveyance pipe prior to the <u>first-flush diverter device or method (if used), and prior to the primary storage vessel on a rainwater system (see Debris filter).</u></p> <p><i>Note: An inlet pre-filter is intended to mitigate the introduction of, e.g., vermin, leaves, sticks, needles, tree fruit, bark, moss, or any other unwanted debris or roof contaminant that could enter the system</i></p> <p>4. Change “Debris excluder” in clauses 7.2.7 and 7.2.9 to “Inlet pre-filter”</p> <p>5. Delete definition for Rainwater outlet <i>Rainwater outlet</i> — the point of entrance at the storage tank into the distribution system.</p> <p>6. Revise Clause 7.3.9.3 as follows: <b>7.3.9.3 Rainwater outlets</b> <i>Rainwater</i> <u>Outlets</u> and pump suction ..</p> <p>7. Delete definition for Rainwater inlet <i>Rainwater inlet</i> — the point of discharge from the conveyance piping into the storage tank.</p> <p>8. Revise Clause 7.3.9.2 as follows: <b>7.3.9.2 Rainwater Inlets</b> <i>Rainwater</i> <u>Inlets</u> shall be constructed</p>
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4	Mike Warren	Negative with Comment	3.1 Definitions	<p>Definitions - "Rainwater Outlet" - this needs to be re-written. the definition starts with the word "entrance" when trying to define an outlet.</p> <p>Definitions - "UVT - correct wording for describing what UVT is ..... the value is a measurement of <u>"how well UV light moves through the given water sample"</u> It does not measure the turbidity or clarity of water. Technically turbidity and clarity can/may have an effect on UVT but not always.</p>	P	See resolution for comments #1 and #3.
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Motion (#4) was made and seconded to accept the revisions as noted in the resolution column for comments #3 and #4. The motion was carried unanimously.

5	Penh Tov	Affirmative with Comment	3.1	<p>Rainfall Abstraction</p> <ul style="list-style-type: none"> <li>* reject addition of "and wetting of"</li> <li>* Okay with addition of "pre-storage filtration and"</li> <li>* Reject deletion of "first flush diverters usually collect the first 2mm (0.08in) of rainfall and prevent it from reaching the tank."</li> </ul> <p><i>Rainfall abstraction — a measure of the amount of rainfall that is lost from absorption into <del>and wetting of</del> roof surfaces, or the amount of water that is lost due to the operation of pre-storage filtration and first-flush diverters</i></p> <p><i>Note: First-flush diverters usually collect the first 2 mm (0.08 in) of rainfall and prevent it from reaching the tank. Rainfall abstraction is usually expressed in mm or inches.</i></p>	P	<p>1. Definition for rainfall abstraction to be revised as follows:</p> <p><i>Rainfall abstraction — a measure of the amount of rainfall that is lost from absorption into <del>and wetting of</del> roof surfaces, or the amount of water that is lost due to the operation of pre-storage filtration and first-flush diverters</i></p> <p><i>Note: First-flush diverters usually collect the first 2 mm (0.08 in) of rainfall and prevent it from reaching the tank. Rainfall abstraction is usually expressed in mm or inches.</i></p> <p>2. Amend definitions of C<sub>abs</sub> in Clause C.2.2. to remove "<del>and wetting of</del>"</p>
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Motion (#5) was made and seconded to accept the revisions as noted in the resolution column for comment #5. The motion was carried unanimously.

6	Mike Warren	Negative with Comment	5.1.12.2	<p>5.1.12.2 Construction Documents - We would not want the standard to promote the use of example documents or example drawings for construction documents.</p> <p><i>The following <u>completed or pertinent examples</u> of documents <u>with an application</u></i></p>	P	<p>Revise as follows:</p> <p><i>The following <u>completed</u> documents <u>with an application for permit</u> shall be provided as required to the authority having jurisdiction <del>with an application for permit:</del></i></p>
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				<i>for permit shall be provided as required to the authority having jurisdiction <del>with an application for permit:</del></i>		
Motion (#6) was made and seconded to accept the revisions as noted in the resolution column for comment #6. The motion was carried unanimously.						
7	Joe Rogers	Affirmative with Comment	6.7.5.1	<p>I would strikeout the OR in front of damage to the system.</p> <p><i>Alerts shall be provided for critical control points identified by the WSP to indicate when the rainwater harvesting system is operating outside design parameters but not causing a hazard to <u>life</u>, health, <del>and</del> safety, <del>or</del> damage to the system or <u>to related or adjacent structures</u></i></p>	P	<p>Clause to be revised as follows:</p> <p><i>Alerts shall be provided for critical control points identified by the WSP to indicate when the rainwater harvesting system is operating outside design parameters but not causing a hazard to <u>life</u>, health, <del>or</del> safety, or damage to the system.</i></p>
8	Chris Despins	Affirmative with Comment	6.7.5.1 Alerts	<p>Proposed amendment on page 11 of 32:</p> <p>I'm not sure why alarms should be extended to adjacent structures. That seems outside the scope of this standard. Recommend not including this proposed amendment.</p> <p><i>Alerts shall be provided for critical control points identified by the WSP to indicate when the rainwater harvesting system is operating outside design parameters but not causing a hazard to <u>life</u>, health, <del>and</del> safety, <del>or</del> damage to the system or <del>to related or adjacent structures</del></i></p>	P	<p>Clause to be revised as follows:</p> <p><i>Alerts shall be provided for critical control points identified by the WSP to indicate when the rainwater harvesting system is operating outside design parameters but not causing a hazard to <u>life</u>, health, <del>or</del> safety, or damage to the system.</i></p>
9	Mike Warren	Negative with Comment	6.7.5.1 Alerts	<p>6.7.5.1 Alerts - I do not accept the wording "or to related or adjacent structures" Leave this wording out as there is no sensor or device or method of measurement for a piece of machinery to make a decision on whether or not damage to structures may occur. It is too far out of scope for the standard.</p> <p><i>Alerts shall be provided for critical control points identified by the WSP to indicate when the rainwater harvesting system is operating outside design parameters but not causing a</i></p>	P	<p>Clause to be revised as follows:</p> <p><i>Alerts shall be provided for critical control points identified by the WSP to indicate when the rainwater harvesting system is operating outside design parameters but not causing a hazard to <u>life</u>, health, <del>or</del> safety, or damage to the system.</i></p>

				<i>hazard to <u>life</u>, <u>health</u>, <del>or</del> <u>safety</u>, <del>or</del> <u>damage to the system or <del>to related or adjacent structures</del></u></i>		
10	Mike Warren	Negative with Comment	6.7.5.2 Alarms	<p>6.7.5.2 Alarms - I do not accept the wording "or to related or adjacent structures" Leave this wording out as there is no sensor or device or method of measurement for a piece of machinery to make a decision on whether or not damage to structures may occur. It is too far out of scope for the standard.</p> <p><i>Alarms shall be provided for critical control points identified by the WSP to indicate when the rainwater harvesting system is operating outside the design parameters and potentially causing a hazard to <u>life</u>, <u>health</u>, <del>and</del> <u>safety</u>, or damage to the system or <del>to related or adjacent structures</del>.</i></p>	P	<p>Clause to be revised as follows:</p> <p><i>Alarms shall be provided for critical control points identified by the WSP to indicate when the rainwater harvesting system is operating outside the design parameters and potentially causing a hazard to <u>life</u>, <u>health</u> <del>and</del> <u>safety</u> or damage to the system.</i></p>
Motion (#7) was made and seconded to accept the revisions as noted in the resolution column for comments #7,8, 9 and 10. The motion was carried unanimously.						
11	Ken Nentwig	Affirmative with Comment	Table 7.1	The proposal actually asks for more clarification for the roof materials - some terms are general, some are lumped with potentially different materials or applications, some seem incomplete. How discussion on this type of proposed amendment takes place is unclear, and applies to several more areas (separate comments).	WD	Proposal withdrawn by proponent, and discussion on this to be deferred. A project to be considered to research this further, prior to making any amendments.
12	Chris Despins	Affirmative with Comment	Table 7.1	<p>Questions raised on Page 13 of 32:</p> <p>This is outside of my area of expertise, I have no opinion on whether any amendments are required based on the questions posed on this page.</p>	WD	Proposal withdrawn by proponent, and discussion on this to be deferred. A project to be considered to research this further, prior to making any amendments.
13	Penh Tov	Affirmative with Comment	Table 7.1	Committee may want to clarify the differences between material.	WD	Proposal withdrawn by proponent, and discussion on this to be deferred. A project to be considered to research this further, prior to making any amendments.

Proposal was withdrawn by Proponent; and TC decided to defer the discussion on this topic. Hence no motion was required.

14	Penh Tov	Affirmative with Comment	7.1.2	<p>Reject “that is” insertion Okay with the rest.</p> <p><i>b) <del>that is</del> subject to pedestrian access, <u>or is from a vegetated roof</u>, or intercepted by ground level surfaces (e.g., <del>vegetative roofs</del>, pedestrian surfaces, porous pavement, landscape runoff, paved parking, and street, freeway and shoulder areas on roadways), shall be considered stormwater runoff.</i></p>	P	<p>Revise as follows: <b>7.1.2 Roof runoff versus stormwater runoff</b> Rainwater that is <del>intercepted by roof material and</del> a) <u>intercepted by roof material and</u> not subject to pedestrian access, except for maintenance purposes, shall be considered roof runoff; and b) <del>that is</del> subject to pedestrian access, <u>or is from a vegetated roof</u>, or intercepted by ground level surfaces (e.g., <del>vegetative roofs</del>, pedestrian surfaces, porous pavement, landscape runoff, paved parking, and street, freeway and shoulder areas on roadways), shall be considered stormwater runoff.</p>
15	Justin DeWitt	Affirmative with Comment	7.1.2	<p>Redundant addition highlighted in yellow</p> <p><i>Rainwater that is <del>intercepted by roof material and</del> a) <u>intercepted by roof material and</u> not subject to pedestrian access, except for maintenance purposes, shall be considered roof runoff; and b) <u>that is</u> subject to pedestrian access, <u>or is from a vegetated roof</u>, or intercepted by ground level surfaces (e.g., <del>vegetative roofs</del>, pedestrian surfaces, porous pavement, landscape runoff, paved parking, and street, freeway and shoulder areas on roadways), shall be considered stormwater runoff.</i></p>	P	See resolution for comment #14.
Motion (#8) was made and seconded to accept the revisions as noted in the resolution column for comments #14 and #15. The motion was carried unanimously.						
16	Ken Nentwig	Affirmative with Comment	7.1.5	Further discussion and clarification on the 'except evaporative cooling' phrase, as outlined.	P	Topic to be deferred. Further discussions required to clarify the intent of the clause.
17	Penh Tov	Affirmative with Comment	7.1.5	Reject deletion of “equipment and appliances mounted.....rainwater harvesting system” and insertion of roof runoff shall be collected. Reason: there could be other equipment on the roof which is allowed so long as contaminates	P	Clause 7.1.5 to remain as is. Further discussions are required to clarify the language and the intent of the clause. Suggest a project be taken out to incorporate in the next edition of the standard.

				<p>associated with that equipment does not discharge/drip onto the roof.</p> <p>For clarification from committee needed about what “excluding evaporative cooling” means.</p>		
<p>Motion (#9) was made and seconded to accept the revisions as noted in the resolution column for comments #16 and #17. The motion was carried unanimously.</p>						
18	Ken Nentwig	Affirmative with Comment	Figure A.1	The format and flow of information of the table, and source(s) of the information, could be discussed.	WD	Proposal is withdrawn by proponent.
19	Justin DeWitt	Affirmative with Comment	Figure A.1	What is being proposed here?	WD	Proposal is withdrawn by proponent.
20	Penh Tov	Affirmative with Comment	Figure A.1	<p>Reject suggestion.</p> <p>Source is from Technical Committee. Based on other particle size distribution charts, the direction is small to large (left to right) not large to small.</p>	WD	Proposal is withdrawn by proponent.
<p>Proposal was withdrawn by Proponent; Hence no motion was required.</p>						
21	Chris Despins	Affirmative with Comment	C.2.2.2 Annual rainwater yield	<p>Questions raised on Page 22 of 32:</p> <p>I helped to write this section and can help track down the source(s) for this information. I recommend that further discussion be held on this item prior to amending the standard.</p>	P	<p>1. Revise Clause C.2.2.2 as follows:</p> <p><i>Cabs = rainfall abstraction associated with the absorption <del>and wetting of</del> of rainwater on surfaces, m (ft) Note: <u>Rainfall abstraction can vary based upon the surface(s) on which the rainwater is collected, local precipitation patterns and intensity and other factors.</u> <del>Annual Cabs can be estimated by multiplying the abstraction [in m (ft)] per event by the number of rainfall events per year.</del> Cabs <del>typical</del> values <u>that have been reported in literature and guidance documents</u> are <del>between</del> 24<sup>1</sup> and 72<sup>2</sup> mm (0.96<sup>1</sup> and 2.88<sup>2</sup> in) per year.</i></p> <p><u>Footnotes:</u></p> <p><sup>1</sup> <u>Commonwealth of Australia. 2010. Guidance on the Use of Rainwater Tanks.</u></p>

					<p><sup>2</sup> <a href="#">Despins, C. 2008. Building Capacity for Rainwater Harvesting in Ontario: Rainwater Quality and Performance of RWH Systems. M.Sc. Thesis. University of Guelph.</a></p> <p>2. Revise Clause C.2.2.3 as follows:</p> <p><i>Cabs = rainfall abstraction associated with the absorption <del>and wetting of</del> of rainwater on surfaces, m (ft) Note: Rainfall abstraction can vary based upon the surface(s) on which the rainwater is collected, local precipitation patterns and intensity and other factors. Cabs <del>typical</del> values that have been reported in literature and guidance documents are <del>between</del> 2<sup>1</sup> and 6<sup>2</sup> mm (0.08<sup>1</sup> and 0.24<sup>2</sup> in) per month.</i></p> <p><u>Footnotes:</u></p> <p><sup>1</sup> <a href="#">Commonwealth of Australia. 2010. Guidance on the Use of Rainwater Tanks.</a></p> <p><sup>2</sup> <a href="#">Despins, C. 2008. Building Capacity for Rainwater Harvesting in Ontario: Rainwater Quality and Performance of RWH Systems. M.Sc. Thesis. University of Guelph.</a></p> <p>3. Revise Clause C.2.2.4 as follows:</p> <p><i>Cabs = rainfall abstraction associated with the absorption <del>and wetting of</del> of rainwater on surfaces, m (ft) Note: Rainfall abstraction can vary based upon the surface(s) on which the rainwater is collected, local precipitation patterns and intensity and other factors. Cabs <del>typical</del> values that have been reported in literature and guidance documents are <del>between</del> 0.1<sup>1</sup> and 0.5<sup>2</sup> mm (0.004<sup>1</sup> and 0.02<sup>2</sup> in) per event.</i></p> <p><u>Footnotes:</u></p> <p><sup>1</sup> <a href="#">Commonwealth of Australia. 2010. Guidance on the Use of Rainwater Tanks.</a></p>
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						<sup>2</sup> <a href="#">Despins, C. 2008. Building Capacity for Rainwater Harvesting in Ontario: Rainwater Quality and Performance of RWH Systems. M.Sc. Thesis. University of Guelph.</a>
22	Penh Tov	Affirmative with Comment	C.2.2.2	<p>Response to comment: The note in question is providing a simplified example where intensity and duration is irrelevant as you are looking at the annual rainfall data.</p> <p>Chris Despin to provide source on 24 and 72mm. These may be based on typical Stormwater analysis/observations.</p> <p>Industry standard for referring to rainfall depth is mm and in not m and ft. To do calculation, user need to do their own conversion unless it standard to provide this level of detail in a standard. CSA to advise.</p>	P	<p>See resolution for Comment #21.</p> <p>Units to remain as is.</p>

Motion (#10) was made and seconded to accept the revisions as noted in the resolution column for comments #21 and #22. The motion was carried unanimously.

23	Penh Tov	Affirmative with Comment	C.2.2.5	<p>Reject insertion of “monthly” as it is already defined with in the definition.</p> <p>Revise to “MOWD = output water <u>storage</u> demand <del>storage</del>, L (gal) per month</p> <p>Accept replacement of “monthly room rental” to “monthly occupancy rate (%)”</p>	P	<p>Revise as follows:</p> <p><i>MOWD = <u>monthly</u> output water demand, L (gal) per month</i></p> <p>“<i>monthly room rental</i>” to be changed to “<i>monthly occupancy rate (%)</i>”</p>
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Motion (#11) was made and seconded to accept the revisions as noted in the resolution column for comment #23. The motion was carried unanimously.



24	Penh Tov	Affirmative with Comment	C.2.2.2 to C.2.2.4	Response to comment: Stormwater analysis in industry calculate rainfall yield as m3 (ft3), and demand as volume in L (gal). To do calculation, user need to do their own conversion unless it standard to provide this level of detail in a standard.	P	Units to remain as is.
Motion (#12) was made and seconded to accept the revisions as noted in the resolution column for comment #24. The motion was carried unanimously.						
25	Penh Tov	Affirmative with Comment	C.2.3. 1	<p>Reject formula change. Reason: terminology is specify to stormwater industry.</p> <p>Reject adding conversion to the formula. Users should do their conversions accordingly unless it is standard to provide this level of detail in a standard. CSA to advise.</p> <p>Response to comment on Water volume: calculations is in ft3 because this is typically how is calculated due to precipitation units provided by weather stations and is an industry standard. User can convert to L (gal) accordingly. The formula in C.2.3.1 already define MOWD in m3 (ft3) which does mean the user has to do their own conversion.</p>	P	<p>Revise Clause as follows:</p> <p><b>C.2.3.1 General</b>  <i>The <del>output</del> water storage volume (<u>available rainwater</u>) shall be determined by assessing rainwater collection and output water use on a monthly basis using the following equation:</i></p> $OWD_t - AR_t = OWD_{t-1} + AR_{t-1} + (MRY - MOWD)$ <p>Where:  <del>OWD<sub>t</sub> - AR<sub>t</sub> = volume of rainwater</del> available <u>rainwater</u> in the storage tank <del>to meet output water demand</del> at the end of each month, m3 (ft3)</p> $OWD_t - AR_{t-1} = \text{volume of available excess rainwater carried over from each the previous month, m3 (ft3)}$ <p>Conversion factors as proposed in the amendment are not required.</p>
26	Penh Tov	Affirmative with Comment	C.2.3.4	Reject change. The proposed modifications changes the intent of the section and terms for equation. Conversion not necessary as the units are already defined for the equation. User needs to make their own conversion.	P	<p>Revise “OWD” – output water demand with “AR” – available rainwater.</p> <p>Units to remain as is.</p>
Motion (#13) was made and seconded to accept the revisions as noted in the resolution column for comments #25 and #26. The motion was carried unanimously.						



## CSA Ballot No. 8199

27	Penh Tov	Affirmative with Comment	C.2.4	<p>Reject insertion of “continuous” to the section name.</p> <p>Reason: computational method is already defined as and known to be a continuous process. The term is commonly referred in industry as computation method and not computational method (continuous). Computational assessment method is talking about the method in which it is assessed, ie. computational method.</p>	WD	Proposal is withdrawn.
Proposal was withdrawn by Proponent; Hence no motion was required.						
28	Ken Nentwig	Affirmative with Comment	C.2.2.2 to C.2.2.5	<p>The calculations in these sections, and sub sequesnt sections, do not carry the same information, units, or acronyms throughout. Some are confusing acronyms, and many calculations mix units of measure.</p> <p>This also applies to C.4 Stormwater management (detention) volume, although no specific proposals have been listed in the original submission of proposed amendments or changes.</p>	NP	Units to remain as is.
Motion (#14) was made and seconded to accept the revisions as noted in the resolution column for comment #28. The motion was carried unanimously.						
29	Doug Pushard	Affirmative with Comment	General	<p>Would like to align this standard and the graywater standard in the next round. Both are alternative water sources. Both can be used for irrigation and toilets. I would imagine by the next standard round for graywater it's indoor water use will increase. We will then have two standards for alternative water sources, but very different approaches to water use.</p>	NG	Comments acknowledged. To be considered in the upcoming edition of the standard.
30	Troy Vassos	Negative with Comments	General	<p>Many of the proposed changes are editorial in nature and do not materially change the standard in terms of</p>	NG	Comments acknowledged. TC meetings were held to further discuss the amendments.

				<p>correcting an error or adding materially to clarification. Others are not appropriate (e.g. C.2.2.2 stating a unit conversion is required "mm / 1000 = m; in /12 = ft" ). Many changes are not appropriate at all. To consider the propose amendments would at least require a sub-committee review. Too many changes have been proposed for a ballot process to be time-effective for committee members to address.</p>		
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**Notes:**

1. CSA Rulings are: **P** = persuasive, **NP** = non-persuasive, **NG** = non-germane and **WD** = comment withdrawn
2. Deletions are marked as text ~~strike through~~ and additions as text underline



CSA B805/ ICC 805 Joint Technical Committee  
**Minutes of Meeting No. 11, February 8, 2022**

## **Appendix D**

### **Record of New Projects**



## Record of Open Projects

CSA B805/ ICC 805 Joint Technical Committee

Revised February 8, 2022

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### RH-22-01

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SDO(s)	applicable standards
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CSA / ICC

- CSA B805/ ICC 805 Rainwater Harvesting Systems

task group members	actions
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C. Despins

K. Nentwig

T. Vassos

P. Tov

P. Parisi

L. Maley

- **Feb 2022** – New project to look into the commonalities between rainwater harvesting systems and the storm water standard. M. Khalil posted the members copy for the management of storm water standard on the COI page for the members review.

Note: Names of Task Group members who are not members of the CSA/ ICC Joint Technical Committee are shown in italics.