
Recommendations for addressing the TRC Calls to Action and Increasing Indigenous Representation in Engineering in Ontario

Prepared for the Professional Engineers of Ontario

Draft - June 13, 2024





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1 Introduction

1.1 Purpose of the Project and Report

The Professional Engineers of Ontario (PEO) retained Indigenous and Community Engagement (ICE) Inc. to be the Indigenous Initiatives Consultant to support PEO in identifying challenges and opportunities related to the representation of Indigenous Peoples as Engineers in Ontario; as well we to co-create policy approaches to answer the Truth and Reconciliation Commission (TRC) Calls to Action as they relate to PEO's Code of Ethics and Anti-racism and Equity Code.

Diversity and inclusion are not just ethical imperatives but essential components for fostering innovation and driving sustainability. A significant gap persists in the representation of Indigenous peoples as engineers in Ontario, and this work looked to identify some reasons for this, including areas directly related to PEO's mandate as well as areas PEO can exert influence to make changes.

This report provides an overview of the secondary research undertaken as well as the approaches to engagement to identify:

- Themes / insights learned; and
- Recommendations for next steps.

This has allowed ICE to gathered perspectives that are outlined within to:

- Guide PEO in answering the TRC Calls to Action; and
- Contribute to a vision statement for PEO's Indigenous Initiatives.

By identifying the barriers, examining best practices, and offering actionable recommendations, this report aims to catalyze meaningful change within the PEO and the wider engineering community in Ontario. Through collaborative efforts and inclusive initiatives, Indigenous voices and perspectives helped to identify opportunities to improve Ontario's engineering landscape for Indigenous peoples, enriching both the profession and Indigenous communities alike. We approached this task assuming that the focus is on Indigenous Peoples from what we now know as Canada, but PEO should also consider representation of those who identify as Indigenous from other countries.

This report is prepared on the premise that PEO supports the protection of Rights and interests of Indigenous peoples and reconciliation efforts and recognizes that Indigenous peoples as part of their Diversity, Equity, and Inclusion (DEI) initiatives; however, there is a difference in that Indigenous communities can be rights baring / rightsholders.

We note that the focus is on Indigenous Peoples, but many of the areas identified could support other equity seeking groups, as well as the general population.

1.2 Overview of Methodology

This project included several steps for both primary and secondary research. The following is a high-level overview of the methodology, and additional information for each deliverable is provided in the Appendices.

Ethical considerations were considered throughout the research process. Informed consent was obtained from all participants, and their anonymity and confidentiality were respected. Participants were assured of their right to withdraw from the study at any time without repercussions. Indigenous



protocols and cultural sensitivities were honored in interactions with Indigenous individuals. The interviewers remained mindful of power dynamics and strived for equitable engagement with all participants.

The main team from ICE who undertook this work include a civil engineer, someone who completed a Canadian Engineering Accreditation Board (CEAB) program focused on geotechnical and is working towards licensure, three women and two men ranging in age from mid 20s to 50s, and three people who are First Nation.

1.2.1 Secondary Research

Documents were reviewed helped to contextualize findings within existing literature and initiatives undertaken by other professional organizations around reconciliation and representation of Indigenous Peoples within their professions. This information was used to inform the primary research, but also to support recommendations that PEO consider.

1.2.2 Primary Research

The first step was to meet with PEO staff and with past members of the PEO Anti-racism and Equity Working Group (AREWG) to gather their understanding of past work.

Following this, we prepared a project engagement plan for PEO's review and approval. This included laying out the plan for interviews and focus groups with Indigenous engineers. Following the interviews it was determined that the addition of a survey of Indigenous engineers would be beneficial to gather more insights for the project. Following closing of the survey, we undertook a focus group session with several Indigenous engineers. The following provides some more detail around these efforts:

- For interviews, ICE identified several Indigenous firms in Ontario offering Engineering services, as well as reaching out to Indigenous Engineers that they have worked with in the past. Those who identified an interest were then interviewed virtually. Semi-structured interview guides were utilized to ensure consistency while allowing for flexibility to explore emerging themes. Interviews offered qualitative, personal insights into the experiences and challenges faced by Indigenous engineers.
- Surveys were distributed electronically through email lists, social media channels, and partner organizations' networks. Surveys provided quantitative and qualitative data on the current state of representation and perceptions within the engineering community, while.
- The focus group invitees were identified based on those who participated in interviews, and those who indicated reached out to ICE based on the survey to identify that they would be interested. The focus group included a short presentation of key findings and themes to date, as well as some initial ideas for recommendations to PEO, and open discussion.

1.3 Limitations

Despite efforts to ensure diverse representation, the sample may not fully capture the experiences and perspectives of all Indigenous engineers in Ontario. Many participants in primary research are in northern Ontario, many focus on civil/environmental/structural/geotechnical, with limited participation from other types of engineers. We did have some diversity in gender and age. The reliance on self-reported data in surveys and interviews may introduce response biases. Additionally, logistical constraints such as time and resources may have impacted the scope and depth of the research. Dynamic nature of the issue may render some findings subject to change over time. These limitations are



acknowledged, and efforts were made to mitigate their impact on the validity and reliability of our findings.

Secondary research limitations are noted in each of the appended reports.

1.4 Report Layout

This report includes all the documents prepared as part of this project as Appendices, and pulls the key findings and recommendations as follows:

1. Section 1 – Introduction
2. Section 2 – Secondary Research Overview
3. Section 3 – Primary Research Overview
4. Section 4 – Proposed Recommendations and Next Steps

2 Secondary Research Overview

This section provides an overview of the secondary research findings from review of:

1. Engineering Research Findings on Indigenous Participation in Engineering including PEO's Anti-Racism and Anti-Discrimination document and Anti-Racism and Equity Code.
2. Other select Professional STEM related organizations are doing in this space including review of statistical information available to identify gaps.
3. Guiding documents to support reconciliation efforts including UNDRIP, TRC Calls to Action, and MMIWG (all defined below).

We have appended modified versions of the documents which were provided to PEO in draft in the fall of 2023. These have been modified a few to moved information between reports to sit in areas that align better, and to revisit past findings based on the completion of primary and secondary research.

2.1 Engineering Organizations

The draft report was provided to PEO in September 2023 outlining some key findings from the review. The following provides highlights from that report which is fully provided in **Appendix A**. We reviewed select available information from:

- PEO
- Engineers Canada
- The Ontario Society of Professional Engineers
- American Society for Engineering Education

The following summarizes both barriers/challenges and opportunities that PEO and other engineering organizations face, identifying trends were noted in the research. We have considered each of these as part of the lifecycle of being an Engineer and this list highlights the key areas of focus around lack of capacity and lack of support:

- Entry into an Engineering Program
- Graduating with an Engineering Degree
- Obtaining a Professional Engineer (P.Eng.) Designation
- Staying a Practitioner/P.Eng.



Table 1 indicates areas of the lifecycle phase where different recommendations should be considered.

Table 1: Lifecycle Phase and Recommendations to Consider for Supporting Them

Recommendations	Lifecycle Phase	Entry into an Engineering Program	Graduating with an Engineering degree	Obtaining a PEng	Staying a practitioner/ PEng
Development and maintenance of interest in engineering		X	X	X	
Mentorship		X	X	X	X
Indigenous specific recruitment		X		X	X
Inclusion of Indigenous Knowledge			X		X
Indigenous specific financial supports		X	X	X	
Cultural awareness and diversity training			X	X	X
Indigenous representation in teaching positions		X	X		
Indigenous representation in leadership & management		X			X
Cultural supports		X	X	X	X

2.2 Other Professional STEM Organizations

The draft report was provided to PEO in September 2023 outlining some of the key findings from the review. The following subsections provide highlights from that report which is fully provided in **Appendix B**. We reviewed select available information from:

- Ontario Professional Planners Institute
- Canadian Institute of Planners
- Ontario Association of Landscape Architects
- Canadian Society of Landscape Architects
- Ontario Association of Architects
- Royal Architecture Institutes of Canada
- Ontario Archaeological Society

As noted in this report, there are several common elements to reconciliation efforts in these STEM Professional Organizations which are highlighted in **Table 2**. In addition, we identified 3 areas of lessons learned including:

- a) Self-identification and Indigenous identity fraud,
- b) Decolonializing mindset and practices and
- c) Creating a safe space for Indigenous peoples



In addition, preliminary analysis was also done around the Anti-Racism and Anti-Discrimination: A Bridge to PEO’s More Successful Future report that was received and accepted by the PEO council in June 2021 under the following themes:

- 1) Awareness building and reducing systemic barriers.
- 2) The need for an organized and coordinated approach to the development of mentorship and development pathways.
- 3) Need to Develop Specific Strategic Priorities with KPIs and Accountability
- 4) The need for mandated diversity
- 5) Need to evaluate all policies and procedures to assess if they contribute or create barriers to Indigenous and other under-represented individuals.
- 6) Race Based Data Collection

Table 2: Common Elements of Reconciliation Efforts in STEM Professional Organizations

Element	Commentary
Official Statement <i>and/or stance on reconciliation</i>	It is a consideration for Professional organizations to take a clear stance on reconciliation with Indigenous Peoples due to moral and ethical responsibility, to confirm their intentions to advance reconciliation and set an example for others. Canada's history is marked by grave injustices against Indigenous communities, and acknowledging and addressing these wrongs is a key step in the reconciliatory journey. An official statement or stance on reconciliation is a commitment to inclusivity, equity, and the principles of truth and reconciliation.
Reconciliation Action Plan <i>and/or elements present in Strategic Plan</i>	Professional organizations should explore the development and adherence to a reconciliation action plan or include commitments that further reconciliation in their organization’s Strategic Plan (or similar) to demonstrate their commitment to reconciliation with Indigenous Peoples and create accountability.
Advisory Council	Committees and/or advisory councils focused on Truth and Reconciliation (or similar) can function as subject matter experts to the organization and provide them with informed strategic advice and keep the organization accountable on delivery of reconciliation goals and objectives. Involving people with lived experiences, Indigenous knowledge and cultural insights can provide a more holistic and informed approach. The focused councils and committees represent dedicated resources and commitment by an organization to advance reconciliation efforts, which bolsters the organization’s credibility and commitment.
Indigenous Representation	Indigenous representation in key committees, councils and leadership positions is important to ensure diversity of people, worldview, mindset, knowledge, and values. It is also important for inspiration and connection with other Indigenous peoples and minorities who may find relatable aspects and role models in Indigenous people in leadership positions; this further promotes inclusivity and understanding.
Policy	Reviewing corporate policies with an Indigenous lens is essential to identify and rectify potential biases, disparities, or unintended consequences that might disproportionately affect Indigenous communities. It is an opportunity to address any systematic barriers and revise for a more inclusive and equitable



Element	Commentary
	<p>approach to policymaking, aligning with the principles of reconciliation and respect for Indigenous rights and perspectives.</p>
<p>Recognition</p>	<p>Recognizing Indigenous contributions to professional engineering acknowledges the valuable expertise and perspectives that enrich the field, fostering innovation, inclusivity, and respect for Indigenous knowledge. The acknowledgement can foster feelings of pride and validation for other Indigenous professionals.</p>
<p>Observance</p>	<p>Acknowledgement of commemoration days for Indigenous peoples is important in demonstrating respect for Indigenous people and acknowledging historical injustices and promoting awareness of reconciliation efforts.</p>
<p>Supporting Initiatives ex. Scholarships to Raise Indigenous Interest and Participation in the Field</p>	<p>Financial barriers often hinder Indigenous individuals from pursuing planning and engineering in higher education. The current underrepresentation of Indigenous people in leadership and membership within professional engineering organizations may be partially addressed by implementing initiatives to generate interest, reduce entry and career maintenance barriers, facilitating the growth of professional Indigenous engineers and students.</p>
<p>Website</p>	<p>Professional organizations can demonstrate their commitment to reconciliation with Indigenous Peoples by maintaining dedicated sections on their websites that offer up-to-date information and resources related to Indigenous matters and the organization's reconciliation efforts. These sections serve as a transparent means of communicating the organization's commitment and progress in advancing reconciliation.</p>
<p>Land Acknowledgement</p>	<p>Land acknowledgments are important for professional organizations as they recognize and respect the Indigenous peoples' traditional territories on which these organizations operate, acknowledging the historical and ongoing presence of Indigenous communities. This gesture demonstrates the organization's commitment to reconciliation and serves as a reminder of the need for meaningful engagement with Indigenous knowledge and perspectives. It is essential that these acknowledgments are genuine and not performative, reflecting a sincere commitment to advancing reconciliation.</p>
<p>Dedicated Resources</p>	<p>Resources, both in terms of time and money, are important for advancing reconciliation with Indigenous people. Sufficient resources demonstrate a tangible commitment to reconciliation and provide resources to support reconciliatory efforts including facilitating meaningful engagement with Indigenous communities, the development of culturally sensitive policies, and the implementation of educational and capacity-building initiatives.</p> <p>Dedicated paid personnel with access to suitable resourcing and who are empowered to steer the organization, develop action plans, launch initiatives and programming, and enforce accountability for any agreed-upon commitments can increase the likelihood of success. The value of their efforts and initiatives may be diminished and face neglect if the means and authority to enforce them are lacking.</p>



Element	Commentary
Acknowledgement of the past	Acknowledgement of the impacts of past and present colonial practices that settlers and the institution have benefited from, and commitment to identify and address and reform these practices.
Awareness and Education	<p>The deliberate absence of exposure to accurate histories of settler colonialism and systemic racism against Indigenous Peoples has resulted in generations of Canadians who are uninformed or unaware. Only recently has reconciliation been at the forefront and the genuine experiences of Indigenous peoples been widely shared. Raising awareness and educating ourselves on the experiences of Indigenous peoples, the role settlers have had in colonization, lasting impacts and what can collectively be worked on to make progress towards meaningful reconciliation are important steps we must actively pursue.</p> <p>Developing thorough Indigenous awareness learning modules that will become a requirement for professional certification will help to ensure that Professional Engineers have a better understanding of the experiences of Indigenous People, how to create culturally safe spaces and meaningful engagement opportunities. Learning is continuous, and it is important to include learning elements where possible (ex. In newsletters, articles, social media posts, in-house resources, additional learning opportunities, talks, presentations and more), and to include genuine Indigenous voices to share their experiences and expertise.</p>

2.3 Review of Key Reconciliation Focused Documents

The draft report was provided to PEO in October 2023 outlining some of the key findings from the review. The following subsections provide highlights from that report which is fully provided in **Appendix C**.

2.3.1 United Nations Declaration on the Rights of Indigenous Peoples

The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), adopted by the UN General Assembly in 2007, is a landmark document that outlines the collective rights of Indigenous peoples around the world. Canada did not endorse UNDRIP until 2010 and has subsequently prepared an UNDRIP Action Plan in 2023.

UNDRIP recognizes the inherent rights of Indigenous peoples to self-determination, lands, territories, and resources, as well as their rights to maintain and strengthen their cultures, languages, and traditions. Within the context of increasing Indigenous representation in professions such as engineering, UNDRIP underscores the importance of respecting and upholding Indigenous rights and perspectives. This includes recognizing Indigenous peoples' right to free, prior, and informed consent in matters that affect them, including development projects and natural resource extraction on their traditional lands.

Efforts to increase Indigenous representation in engineering should prioritize meaningful engagement and partnership with Indigenous communities, ensuring that initiatives are culturally appropriate, respectful, and aligned with Indigenous priorities and aspirations. UNDRIP calls for the elimination of discrimination and the promotion of full and effective participation of Indigenous peoples in all aspects of society, including education, employment, and decision-making processes. By integrating the principles and provisions of UNDRIP into efforts to increase Indigenous representation in engineering, organizations can contribute to the advancement of Indigenous rights, reconciliation, and social justice.



Key objectives for PEO to support UNDRIP may include:

- Encouraging better understanding, awareness and respect for the Right of Indigenous People as described in UNDRIP.
- Demonstrating awareness, respect and valuing Indigenous Knowledge in the profession.
- Equipping Planners with the competencies and expertise to act ethically and champion meaningful engagement and consultation when their projects have the potential to affect recognized or reasonably asserted Aboriginal and Treaty Rights.
- That PEO look for ways to lower accessibility barriers for diverse peoples interested or currently in the profession.
- That the PEO make a dedicated effort to address any real or perceived discrimination within the organization and within their field of influence.

2.3.2 Truth and Reconciliation Commission's 94 Calls to Action

The Truth and Reconciliation Commission (TRC) of Canada's 94 Calls to Action, issued in 2015, provides a comprehensive framework for advancing reconciliation and addressing the legacy of residential schools in Canada. Within the context of increasing Indigenous representation in professions such as engineering, several Calls to Action are particularly relevant.

- Calls to Action 62-65, which emphasize the importance of increasing Indigenous representation in education and professional training, including fields like engineering.
- Calls to Action 14-17 underscore the significance of preserving and revitalizing Indigenous languages and cultures, suggesting that efforts to increase Indigenous representation in engineering should incorporate Indigenous knowledge and worldviews.
- Calls to Action 50-52 highlight the necessity of providing professional development opportunities for public servants, including those in engineering, to better understand Indigenous history, rights, and cultures.
- Calls to Action 92-94 stress the importance of partnerships and collaboration between governments, Indigenous peoples, and other stakeholders to advance reconciliation, suggesting that initiatives to increase Indigenous representation in engineering should prioritize community-driven and culturally appropriate approaches.

Aligning efforts with the TRC's Calls to Action can contribute to reconciliation and foster more inclusive and equitable environments for Indigenous engineers and communities, addressing systemic barriers and promoting cultural competency and respectful engagement. In charting a path towards meaningful reconciliation with Indigenous people and addressing systemic barriers within the PEO, it is recommended to prioritize actionable and effective TRC Calls to Action in the following areas:

- Acknowledging Indigenous Rights
- Cultural Competency Training
- Partnerships and Collaboration
- Education and Awareness
- Equity and Inclusion
- Mentorship and Support
- Data Collection



These were selected to support the positive development of relationships with Indigenous communities and people, but also to create long-term benefits for Indigenous communities, dismantle obstacles, and contribute to equitable opportunities in the engineering profession. By focusing on actions that offer long-term benefits for Indigenous communities and foster positive relationships, PEO can contribute to the broader reconciliation process while aligning with its capabilities and resources.

2.3.3 National Inquiry into Missing and Murdered Indigenous Women and Girls Calls to Justice

The Missing and Murdered Indigenous Women (MMIWG) Inquiry report, released in 2019, sheds light on the systemic issues contributing to the disproportionate rates of violence faced by Indigenous women, girls, and Two-Spirit individuals in Canada. While the report primarily focuses on addressing violence against Indigenous women, it also underscores broader issues related to Indigenous rights, socio-economic disparities, and systemic discrimination that impact Indigenous communities.

In the context of increasing Indigenous representation in professions such as engineering, the MMIWG inquiry highlights the importance of addressing these underlying systemic issues, including poverty, lack of access to education and employment opportunities, and inadequate support services for Indigenous individuals. Efforts to increase Indigenous representation in engineering should recognize and respond to the intersecting challenges faced by Indigenous women and gender-diverse individuals, ensuring that initiatives are inclusive, culturally sensitive, and responsive to the needs of all Indigenous peoples. Moreover, the MMIW report calls for greater collaboration and partnership between governments, Indigenous communities, and other stakeholders to address the root causes of violence and promote the safety and well-being of Indigenous peoples. By integrating the recommendations of the MMIW report into efforts to increase Indigenous representation in engineering, organizations can contribute to broader efforts towards reconciliation, social justice, and equity for Indigenous communities.

it is recommended to prioritize MMIWG recommendations in the following areas:

- Acknowledging Indigenous Rights
- Cultural Competency Training
- Public Interest - Encouraging and Advocating for Proper Engagement

2.3.4 Summary of Themes

Several overarching themes intersect between the UNDRIP, TRC Calls to Action and MMIWG Calls to Justice, reflecting a common commitment to reconciliation, equity, and justice. These shared themes are outlined below and are considered as part of the overall recommendations in this report:

- 1) **Recognition of Indigenous Rights:** All three documents emphasize the importance of recognizing and upholding the rights of Indigenous peoples. UNDRIP explicitly outlines these rights, while the TRC Calls to Action and MMIWG Calls for Justice call for their implementation and respect.
- 2) **Cultural Preservation:** Each framework underscores the significance of preserving Indigenous cultures, languages, and traditional knowledge. UNDRIP, for instance, emphasizes the right of Indigenous peoples to maintain and revitalize their cultural practices, while the TRC Calls to Action and MMIWG Calls for Justice call for action to protect and revitalize Indigenous languages.
- 3) **Reconciliation and Healing:** Reconciliation is a central theme across these documents. The TRC Calls to Action call for reconciliation between Indigenous and non-Indigenous Canadians, while



the MMIWG Calls for Justice emphasize the need for healing and reconciliation for the families and communities affected by violence. UNDRIP similarly advocates for reconciliation and harmonious relations between Indigenous and non-Indigenous populations.

- 4) **Addressing Historical Injustices:** All three frameworks acknowledge historical injustices faced by Indigenous peoples, including the legacy of residential schools (TRC Calls to Action), violence against Indigenous women and girls (MMIWG Calls for Justice), and land dispossession (UNDRIP). They call for redress, acknowledgment, and action to address these historical wrongs.
- 5) **Inclusivity and Participation:** UNDRIP emphasizes the right of Indigenous peoples to participate in decision-making processes that affect their communities. Similarly, the TRC Calls to Action and MMIWG Calls for Justice advocate for increased Indigenous participation in various sectors, including education, government, and professional organizations.
- 6) **Education and Awareness:** All three documents stress the importance of education and awareness-building. The TRC Calls to Action call for education on Indigenous history and culture, while UNDRIP highlights the right to Indigenous education. The MMIWG Calls for Justice emphasize education and awareness to prevent violence against Indigenous women and girls.
- 7) **Accountability and Implementation:** These frameworks call for accountability in implementing their recommendations. UNDRIP emphasizes the responsibility of states to implement its provisions, while the TRC Calls to Action outline specific calls for government and organizations to act. The MMIWG Calls for Justice similarly demand accountability in addressing violence against Indigenous women and girls.

These themes highlight the shared commitment to rectifying historical injustices, fostering reconciliation, and promoting Indigenous rights and representation in Canada. They can inform the development of policy and frameworks for organizations, like PEO, to align their practices and policies with these overarching goals.



3 Primary Research Findings

The following section outlines the summary of primary research findings from:

- Interviews
- Surveys
- One Focus Group

Each of the sections include key points / common reoccurrences and preliminary ideas for recommendations prepared at that time. All final recommendations are provided in Section 4 are split by direct and indirect as many do not align with PEO's core mandates but are areas that will support the success of Indigenous Engineers, and PEO could encourage and support others like OSPE and Universities to undertake some of these tasks.

3.1 Interview Summaries

Over October and November 2023, ICE conducted a total of 9 interviews consisting of:

- 2 women and 7 as men,
- Ranging in age from 21- 32,
- participants are currently not registered with PEO and 5 working in engineering,
- most interviewed work in civil, structural, geotechnical, and environmental engineering.

The questions used are provided in **Appendix D**.

Generally, many noted that they do not really interact with the PEO so it was a challenge for them to comment on some specific questions we had; however some of the key themes that were raised are noted below, which includes areas specific to PEO oversight, as well as areas that PEO could provide to other organizations (like OSPE and Education Institutes) to support. Also, many of those we interviewed said that they do not necessarily “present” as Indigenous, so the did not see as many challenges with racism and systemic bias.

Indigenous engineers from reserve backgrounds encounter significant hurdles and lack of support and mentors throughout their educational and professional journeys. Their exposure to engineering prior to entering their post-secondary education was limited due to the absence of secondary school visits from professional engineering organizations or universities, which leaves them unaware of the possibilities within the field. This is also due to lack of Indigenous engineer role models.

Post-graduation, these engineers found themselves navigating their careers without adequate support structures, feeling disconnected and isolated within the broader engineering community. There is a strong call for the creation of networks specifically tailored to Indigenous engineers, providing a platform for communication and support, allowing them to share experiences and guidance among peers facing similar challenges, resulting in the same frustrations communicated throughout the interviews:

- Lack of outreach and support during education
- Post-degree support gap
- Need for Indigenous Engineer Networks
- Lack of representation in PEO
- Bridge the Knowledge Gap
- Recognize the importance of braiding traditional and western knowledge.



The lack of representation within PEO exacerbates this sense of isolation, with Indigenous engineers feeling their perspectives are overlooked or underrepresented. They emphasize the urgent need for increased diversity within these professional bodies to ensure a broader range of voices and perspectives. Additionally, there is a recognized gap in knowledge transfer, particularly in guiding indigenous university students on the path toward obtaining an engineering license. The provision of clearer information and guidance from PEO to students is crucial in empowering these individuals to navigate the steps and requirements for licensure. Additionally, to address the lack of Indigenous representation within PEO, it is crucial to include Indigenous individuals on staff or, at the very least, employ someone who understands the complexities of Indigenous culture. This inclusion will not only provide necessary cultural insights but also assist in addressing issues related to colonization, ensuring that the perspectives and needs of Indigenous engineers are adequately represented and respected. Overall, addressing these multifaceted challenges involves not only creating tailored networks but also fostering diversity within professional organizations and providing clearer pathways for indigenous individuals pursuing engineering careers.

Many Indigenous engineers also mentioned the fact that collaboration between western and Indigenous knowledge systems represents an invaluable opportunity for comprehensive problem-solving and sustainable progress. Western knowledge, rooted in scientific inquiry and technological advancements, offers structured methodologies and empirical evidence. On the other hand, Indigenous knowledge, stemming from generations of experiential learning and deep connections to nature, provides holistic insights into ecosystems, culture, and community dynamics. Integrating these diverse perspectives fosters innovative solutions that respect cultural heritage while addressing contemporary challenges in any engineering field would create great synergy and acknowledge the strength in both systems as well as create a more inclusive and harmony approach.

ICE interviews with Indigenous engineers illuminated crucial challenges and opportunities within the engineering landscape. The voices of these individuals highlighted pervasive gaps in support structures, starting from limited exposure during education to the absence of tailored networks post-graduation. The pressing need for Indigenous engineer-specific platforms and networks emerged as a recurring theme, signaling the necessity for a supportive community where experiences and guidance can be shared among peers facing similar obstacles. As noted above, participants struggled to identify a lot of specific challenges with PEO, but that was due to their limited involvement with PEO before, during and after receiving the Professional Designation.

Table 3 outlines some specific comments and preliminary ideas for recommendations prepared following the interviews that are considered as part of the overall recommendations outlined in Section 4.



Table 3: Comments and Preliminary Ideas for Recommendations from Interviews

Comment	Preliminary Ideas for Recommendations
Unaware of licensure requirements before program enrollment and limited exposure at school unless professors mentioned it.	<ul style="list-style-type: none"> PEO could advertise requirements for licensure during post graduate university tours and provide easy to use materials for professors.
Not enough Indigenous individuals to mentor students.	<ul style="list-style-type: none"> Prepare a program for Indigenous PEO members to have the option to mentor Indigenous university students. This could be coordinated with Engineers Canada as well, and/or OSPE.
Unaware of any other Indigenous engineers until after graduation – no one to “Look up to”.	<ul style="list-style-type: none"> PEO could support creation of a network for Indigenous engineers to connect and support.
Lack of Indigenous representation when consulting Indigenous communities, making it difficult for youth in the communities to envision an engineering career.	<ul style="list-style-type: none"> PEO could recommend to companies with Certificate of Authorizations (CofA’s) to incorporate Indigenous engineers in consultation especially when in Indigenous communities. PEO could prepare a best practice on engaging Indigenous Peoples guide for membership.
Not enough representation of Indigenous engineers visiting elementary, high schools and universities to educate future generations on importance of engineers. Not enough exposure to all the diverse types of engineering.	<ul style="list-style-type: none"> PEO could support schools to help connect them with for Indigenous engineers. PEO could include more Indigenous engineers in their materials and activities because diversity and representation matters. Encourage more open discussion about the variety of the engineering careers offered. Many only knew Civil, Mechanical, and Electrical.
With limited Indigenous Engineers involved in PEO, there are many at PEO who may not be aware of history and challenges. There can be judgement of different world views, prejudging the validity of what is being shared.	<ul style="list-style-type: none"> PEO could prepare (or contract) Cultural Awareness training for all PEO staff, Council and consider for volunteers. Consider a blanket ceremony for staff and/or Council. PEO could look to encourage Indigenous Engineers to participate as volunteers and/or run for the Council. PEO could start meetings and projects with ceremony and setting intentions (smudge, drum, prayer, etc.).
Unaware of any mentorship and support programs offered by PEO or others.	<ul style="list-style-type: none"> All interviewed have said they would be interested in participating in guidance / mentorship programs for new Indigenous engineers. PEO can create and advertise opportunities or pass on recommendation to OSPE if more appropriate.
Braiding of Western and Indigenous Knowledge would be beneficial.	<ul style="list-style-type: none"> Coordinate with OSPE to prepare something to provide guidance to engineers and those with CofAs about this. Some Universities have Indigenous Student Associations that PEO and/or OSPE could coordinate with. And consider component on environmental to support sustainability (specific to Indigenous ways of knowing and being).
Fewer options to work in engineering without connections.	<ul style="list-style-type: none"> Work with OSPE to highlight the benefits of a Reconciliation Action Plan for all organizations with a CofA.
Many did not plan to get PEng because of challenges in getting work with other Engineers in some cases.	<ul style="list-style-type: none"> See mentorship comments above for Engineering students and graduates, which could be coordinated with universities and/or OSPE.
No Indigenous success stories shown when promoting PEO work.	<ul style="list-style-type: none"> Demonstrate the excellent work indigenous engineers are currently doing and past projects that have been successful.
EIT program was cancelled, and this is seen as another barrier to some.	<ul style="list-style-type: none"> PEO to confirm if and why this was removed, and if it could be reinstated?



3.2 Survey Summaries

In January 2024, PEO send out a survey aimed at Indigenous engineers registered with PEO across Ontario. The survey consisted of 27 questions designed to gather insights into various aspects of their professional experiences, challenges, and aspirations within the engineering field, which are provided in **Appendix E**. This survey was done to supplement interviews undertaken by ICE, and to prepare for the Focus Group(s) to validate what was heard and to get insights on possible recommendations for PEO.

907 people opened the survey, but only 112 answered yes to identifying as Indigenous; most questions were only completed by a portion of respondent, generally around 50. The survey also noted some responses that could be interpreted as internalized racism, and some comments just focused on providing equal opportunities but did not consider the nuance of equity.

The survey findings highlight the importance of promoting diversity, inclusivity, and cultural integration within the engineering profession. Men aged 31-50 constituted most respondents. The survey also uncovered instances of inappropriate responses to gender identification questions, underscoring the necessity for enhanced sensitivity and inclusivity in survey design. Also, we note that about 50% of respondents indicated that they are not particularly looking to PEO to do anything new.

Regarding professional licensing and education, most respondents have achieved full P.Eng. licensing, indicating a robust professional credentialing landscape within the engineering community. STEM-related strengths emerged as primary motivators for pursuing engineering studies at the university level.

Concerning Indigenous representation and the associated challenges, the survey revealed that Indigenous identity did not significantly influence the decision to pursue engineering. However, participants reported facing hurdles in the workforce, including inappropriate comments and racial biases. There was a noticeable lack of Indigenous representation within the engineering field, with limited mentorship opportunities available for Indigenous youth.

Participants expressed a consensus on the importance of Indigenous representation in engineering, not only as a means of showcasing success but also for inspiring future generations. Suggestions were made to integrate Indigenous Knowledge and teachings into engineering practices, potentially enhancing project outcomes, and promoting cultural inclusivity. Most of the survey respondents indicated that they do not get to apply their engineering skills to their home community due to lack of indigenous consulting in the engineering field.

The survey results highlighted gaps in professional development and outreach, particularly in terms of awareness about the role of Professional Engineers Ontario (PEO) and its inclusivity initiatives. There is a palpable desire for additional support and outreach, especially targeting underrepresented groups such as Indigenous peoples and women.

Finally, the survey participants underscored the limited opportunities for engineers to apply their skills within Indigenous communities, pointing to a significant gap in Indigenous consulting and community engagement within the engineering field. Addressing these challenges requires concerted efforts from PEO to foster a more inclusive and culturally sensitive environment within the profession.

Table 4 outlines some of the key findings and preliminary ideas for recommendations prepared following review of the survey results that are considered as part of the overall recommendations outlined in



Section 4. Full results are not included in this report due to confidentiality and some concerns over language used on some responses, however PEO has access to the final survey results.

Table 4: Key Findings and Preliminary Ideas for Recommendations from the Survey

Key Findings	Suggestions
Many not aware of what PEO does.	This is probably not just Indigenous Engineers and PEO may want to consider a webinar and article that clarifies in plain language what they do as a regulator vs what they can influence.
Majority have never heard or taken part in PEO inclusivity initiatives or committees.	This is probably not just Indigenous Engineers and PEO may want to consider increasing visibility of committees and/or adding additional ones.
Indigenous youth are not mentored by engineers like people who grow up in a municipality and show interest are.	Consider Indigenous specific mentorship programs for interested youth. Encourage engineers when in Indigenous communities to go speak to youth about careers opportunities in engineering. Look for ways to support and improve how engineering is being conveyed in school (i.e. problem-solving skills, construction, helping your community, protecting mother earth, different types of engineering, etc.). This could also be due to lack of visibility of Indigenous engineers / lack of exposure to engineers/engineering.
There is no Indigenous knowledge applied in engineering fields, more specifically on projects on Indigenous territory or with community partnerships.	Encouraging ways IK can be applied in various streams of engineering and supported by PEO. Consider a practice guideline can be created about this and how to appropriately engage and consult with Indigenous Peoples.
Additional funding programs specifically aimed at Indigenous peoples / youth potentially interested in the field would augment the amount of Indigenous people in the engineering field.	Consider supporting funded school programs in Indigenous schools (after school program? Robotics club?) Consider supporting specific scholarships for Indigenous Peoples to get into engineering programs.
Most of the survey participants conveyed they have had no mentorship from PEO in their career but have had great mentorship from colleagues in the workplace.	Has PEO considered a mentorship program? If already existent, advertise it to all young professionals entering the field.
Indigenous representation in the engineering field is nonexistent. Indigenous representation in the workplace is important because it not only highlights that there are successful Indigenous engineers in the workplace, but it also teaches the youth that it is something achievable to them.	Including diversity in PEO daily activities, advertisements, including at the Chapter level, more Indigenous partnerships, and highlighting Indigenous engineering companies and Indigenous Engineers.
Lack of Indigenous representation impacts the way environmental and climate change issues are studied and worked on in the field due to western science methodology.	Discuss curriculum with engineering schools. Consider a practice guideline can be created about this (two-eyed seeing, braiding western and Indigenous knowledge).
Lack of Indigenous representation / indigenous voices result in subpar living conditions for Indigenous communities.	More Indigenous engineers = more engineers who understand challenges and can focus on clean drinking water, access to resources and improving community technology.



Many participants agreed that in one or more situations their Indigenous knowledge was used as an advantage. Incorporating Indigenous teachings such as 7 generations and third eye seeing would bring extraordinary benefit to engineering practices.	Treat IK as a valid form of knowledge. Consider a practice guideline, webinars, etc. can be created about this (two-eyed seeing, braiding western and Indigenous knowledge).
Allow for additional support for Indigenous practices in engineering field and Ontario wide standards for including Indigenous traditions (smudging).	Create space in meetings for opening ceremonies, land acknowledgment and other Indigenous practices. Educate engineers on the need for this.
Few challenges with being Indigenous in the workforce, however many have dealt with inappropriate comments. Racial comments made when clients / customers are made aware of Indigenous descent from participants.	More discussion and representation around successful Indigenous engineers and encouraging workplaces with engineers to focus on this in their ED&I training. Perhaps PEO can do a webinar as well.

3.3 Focus Group Summary

ICE hosted a focus group for Indigenous engineers on March 11, 2024. We had 7 participants that included both women and men mainly focused on civil/environmental/structural/geotechnical with one mechanical. It is important to acknowledge that while this number may seem small, it was selected to provide qualitative insights rather than broad quantitative. These interviews were conducted with a focus on gathering rich, detailed information and this approach was chosen to ensure a deep understanding of the issues at hand, and included every Engineer who identifies as Indigenous that was willing to participate in these discussions. Participants currently work for Indigenous firms, Indigenous Nations, Indigenous organizations, and energy companies. A presentation was given (**Appendix F**), and the following summarized the discussions that followed. The numbered items are those that were presented by ICE for discussion, with the sub-bullets summarizing the discussion on each.

- 1) Create Indigenous-specific Mentorship Programs and Networking forums.
 - a) This idea was very well received, and participants indicated that they would like to participate in something like this.
 - b) It was noted that this should start with youth in secondary school and then into post-secondary and for practicing engineers (postgraduate)
 - c) Many were surprised at how many people who identified as Indigenous engineers completed the survey (nearly 100)
- 2) Identify a target for Indigenous representation in Engineering – like 30 by 30 for women.
 - a) while an interesting idea, there is concern that this would be a very small percent, so there was a suggestion of a hard target instead (i.e. 200 by XX). This however means that PEO needs to better understand current representation. In addition, targets can be a challenge when PEO is not really involved in getting people into school for Engineering. Perhaps start with working with schools to increase Indigenous applicants and those who are accepted, then review how many Indigenous students obtain their PEng in Ontario, and if they stay in the profession.
- 3) Prepare Guidance documents for PEO members related to best practices for engaging Indigenous Peoples and braiding western and Indigenous knowledge.
 - a) Most indicated that this would be a good idea and helpful to engineers.



- b) Other ideas included a guide for working on reserve, and guidelines and best practices for doing structural work in the north (especially housing)
 - c) Include that we need the best solutions for the circumstances/environment, not just the best solution (i.e. if you are in the far north with limited access for large deliveries some technical solutions may not work)
 - d) Consider one about climate change and how Indigenous Knowledge can really help with this.
 - e) Increase visibility and inclusivity in advertising and highlighting engineers/project.
 - f) All agreed that this would be helpful.
 - g) There was discussion around project highlight not focusing on non-Indigenous engineers doing work, but on Indigenous Engineers and organizations.
 - h) There was a request to confirm if there is anything in the code of ethics about modesty that may impact this.
 - i) Include Indigenous engineers in outreach to high schools / middle schools.
- 4) Scholarships and education opportunities (i.e. supporting robotics club at schools)
- a) Definite support for this
 - b) Other ideas for working with schools could be to get them to collect climate data and consider all types of engineering.
 - c) Question around how scholarships could be given to those who are identified as part of a First Nation from their membership and leadership but may not be “status” due to government criteria as these members do not have access to some other education support that Status Indian do.
 - d) Consider some scholarships to focus on those who are moving from small communities to cities.
- 5) Encourage CofA holders to have appropriate anti-racism policies, review hiring practices and provide learning opportunities for staff, however this may be more appropriate to be handled by OSPE.
- a) agreed that this is important but needs to consider the size of the company.
- 6) Share findings with other organizations for their areas of mandate including education organizations, OSPE, and PEO’s Districts
- a) this was agreed.
 - b) Encourage universities to require a class on Indigenous awareness/relations (not elective)
 - c) Encourage universities to add an elective around working on reserve and Indigenous Services Canada (ISC)
 - d) Encourage universities to provide supports for Indigenous students, which may need to consider things like access to ceremony, supports for living in a city (including how to find a place to live), etc.
 - e) Encourage universities to investigate barriers to attending school related to housing and transportation and identify ways to improve. One example was that if you live of the reserve near Sault Ste. Marie there is no transit to the post-secondary and it would be many hours walk for those without access to a car.
 - f) PEO should partner with Indigenous Engineers and Indigenous companies with engineers to set up a program to go to schools.



- g) One participant noted that the engineering in residence program is good, but focuses on grades 2 to 5, and would be good to expand to high school as that is when people are starting to really decide career path.
- 7) Review PEOs hiring policies and practices to determine if those are a barrier to having Indigenous Peoples on staff.
 - a) Seems like a good idea.
- 8) Mandatory training for Staff and Council on Indigenous Relations and history
 - a) Should be done.
- 9) Other ideas raised during the session:
 - a) add targets for participating in career fairs with Indigenous youth,
 - b) can PEO do anything to bring together discussions around the gaps for working on reserve given the differences and gaps in permitting and requirements between federal, provincial, and municipal. This discussion should involve ISC and could include Indigenous organizations like Ontario First Nations Technical Services Corporation (OFNTSC).
 - c) Provide Indigenous awareness/relations training including history, treaties, territories, and agreements/covenants like two row wampum, dish with one spoon, etc. as these lay out how we should be working together. This could also include history of different types of structures that were created by Indigenous Peoples.
 - d) Focus on STEAM (Science, Technology, Engineering, Art, and Math) and not just STEM (Science, Technology, Engineering and Math) as there is a need to be innovative and creative which can be missing in STEM.
 - e) Add Learning about Indigenous relations, etc. as part of what can apply to Practice Evaluation and Knowledge (PEAK) and consider creating a module about cultural competency and make it mandatory.
 - f) Confirm which TRC calls to action being focused on
 - g) All participants indicated that they would be interested in supporting PEO further in this work, for example if a working group is set up.



4 Proposed Recommendations and Next Steps

The following pulls together the recommendations and next steps proposed by ICE for PEO's consideration based on the primary and secondary research undertaken, as well as ideas from our experience.

As noted above, we kept the following TRC Calls to Action top of mind while preparing our recommendations:

- Calls to Action 62-65, which emphasize the importance of increasing Indigenous representation in education and professional training, including fields like engineering.
- Calls to Action 14-17 underscore the significance of preserving and revitalizing Indigenous languages and cultures, suggesting that efforts to increase Indigenous representation in engineering should incorporate Indigenous knowledge and worldviews.
- Calls to Action 50-52 highlight the necessity of providing professional development opportunities for public servants, including those in engineering, to better understand Indigenous history, rights, and cultures.
- Calls to Action 92-94 stress the importance of partnerships and collaboration between governments, Indigenous peoples, and other stakeholders to advance reconciliation, suggesting that initiatives to increase Indigenous representation in engineering should prioritize community-driven and culturally appropriate approaches.

In addition, key objectives for PEO to support UNDRIP may include:

- Encouraging better understanding, awareness and respect for the Right of Indigenous People as described in UNDRIP.
- Demonstrating awareness, respect and valuing Indigenous Knowledge in the profession.
- Equipping Planners with the competencies and expertise to act ethically and champion meaningful engagement and consultation when their projects have the potential to affect recognized or reasonably asserted Aboriginal and Treaty Rights.
- That PEO look for ways to lower accessibility barriers for diverse peoples interested or currently in the profession.
- That the PEO make a dedicated effort to address any real or perceived discrimination within the organization and within their field of influence.

4.1 Summary of Proposed Recommendations

The following set of recommendations are categorized by whether they are directly related to PEO and those where they can exert influence.

4.1.1 PEO's Anti-Racism & Equity Code (V1.1 – Issued April 2022)

Reviewing PEO's Anti-Racism & Equity Code (V1.1 – Issued April 2022) considering the research undertaken for this project, **Table 5** identifies the areas of that Code that we think PEO should reviewed, as well some commentary on why these sections were identified.

Generally, the Code covers a lot of ground, however as noted in the Code, PEO's Anti-racism and Anti-Discrimination Exploratory Working Group (AREWG) was first tasked to scope PEO's vulnerabilities to systemic racism and make recommendations to address any risk, and in November 2021 Council



approved an expanded AREWG Mandate to reach “other equity and human rights affairs” in addition to racism. Section 1.2 of the Code notes that “*This is a vast scope and much more work remains to adequately perform this mandate....*” and that the “*ARE Code was drafted primarily through a racial equity lens as a crucial start.*” Also, this is a living document, so the proposed areas below should be considered as part of this review.

Table 5: Areas of PEO’s Anti-Racism & Equity Code Recommended to Review

Areas to Review	Rationale
1.7 confirm actual level of underrepresentation by Indigenous Peoples in Engineering in Ontario	As other equity seeking groups are significantly underrepresented, including Indigenous Peoples, PEO should confirm the current areas/levels of underrepresentation and identify ways to address barriers (like those proposed in this report), to confirm strategies to address barriers including systemic and institutional racism and discrimination. This needs to consider intersectionality as well. This would align with Principle 1: Measurement of the ARE Code.
2.1 Application of the ARE Code	PEO should consider preparing guidelines or recommendations for PEO members and CofA holders based on the Code.
2.5 Constitutionally protected rights of Indigenous Peoples	This section is very important and should be expanded to be more fulsome in its acknowledgement. We do acknowledge that PEO undertaking this current project with ICE is a good sign to this commitment. In addition, we suggest adding more to explain that Indigenous Nations are rightsholders and what that means, and that truth needs to come before reconciliation.
B Listing of the ARE Code Principles and C Interpretation of the ARE Code Principles	Specifically, we suggest that PEO revisit: Principle 6 Stakeholder engagement talent pipeline as we believe that it is important to also engage with Indigenous organizations. The commentary section should also be revised to consider this recommendation. The principles noted in the document support many of the ideas noted below in Tables 6 and 7.
Appendix 1 Acknowledgements	It is not clear how much diversity there was in those who contributed to creation of the ARE Code, but we recommend that this be considered for future reviews, as voices of those with diverse lived experience is imperative.
Appendix 3 ARE Vision Statement	This vision statement should be revisited to capture the unique place that rightsholders should have.



4.1.2 Other Direct Action for PEO for PEO to Consider

A brief rationale is provided for each of the following recommended action in **Table 6**, tying recommendations back to primary and secondary research findings which include a lens of decolonizing mindset and practices and creating a safe space for Indigenous peoples.

Table 6: Direct Action for PEO that will Impact PEO Internally and/or Support for Members

Actions	Description
Collect baseline data for Indigenous Peoples in Engineering in Ontario	<p>PEO needs to gather baseline information to understand the following to better understand the current level of representation, which we acknowledge can produce flawed data as it relies on voluntary self-identification and comparison to the overall numbers.</p> <ul style="list-style-type: none"> • How many people who identify as Indigenous participate/d in the EIT program. Did this have any impact on the following questions? • How many people who identify as Indigenous are successfully completing and passing the PEO's Professional Practice Examination (PPE) and how this compares to general pass rates. Confirm who used PEO provided supports for exam preparation and if that may have contributed to the outcome. • How many people who identify as Indigenous that graduated a CEAB program had challenges getting at least 48 months of verifiable, acceptable engineering experience? How long did it take after graduation to achieve the experience required? • Has the requirement of good character been an issue that should be explored? • How many people who identify Indigenous fit into each category of membership at PEO? • For those who identify as Indigenous, what kinds of engineers are they? <p>As part of this review, PEO should also include an intersectionality lens considering those who also identify as women and/or LGBTQ2SIA+.</p> <p>Supports ARE Code Principle 1: Measurement.</p>
Identify dedicated resources	<p>Resources in terms of time and money are important for advancing reconciliation. Sufficient resources demonstrate a tangible commitment to reconciliation and provide resources to support reconciliatory efforts including facilitating meaningful engagement with Indigenous communities, the development of culturally sensitive policies, and the implementation of educational and capacity-building initiatives.</p> <p>Dedicated paid personnel with access to suitable resourcing and who are empowered to steer the organization, develop action plans, launch initiatives and programming, and enforce accountability for any agreed-upon commitments can increase the likelihood of success.</p> <p>This could also include an Advisory Council/Committee for TRC Calls to Action - Committees and/or advisory councils focused on Truth and Reconciliation (or similar) can function as subject matter experts to the organization and provide them with informed strategic advice and keep the organization accountable on delivery of reconciliation goals and objectives. Involving people with lived experiences, Indigenous knowledge and cultural insights can provide a more holistic and informed approach. The focused councils and committees represent dedicated resources and commitment by an organization to advance reconciliation efforts, which bolsters the organization's credibility and commitment. The value of their efforts and initiatives may be diminished and they face neglect if the means and authority to enforce them are lacking.</p>



	<p>Consideration of use or expansion or spin-off of the Anti-racism and Anti-Discrimination Exploratory Working Group (AREWG) could be considered, but it is important that Indigenous voices and lived experience are central.</p> <p>Supports ARE Code: Principle 3: Professional obligations Principle 5: Leadership and Sponsorship Principle 6: Stakeholder engagement talent pipeline Principle 7: Safeguards accountability.</p>
<p>Review of Licensure Process and Requirements</p>	<p>PEO should review licensure process and requirements to consider if there is any unconscious bias. This review can also include review for simple/plain language and clear outlines. Supports ARE Code Principle 2: Regulatory processes.</p>
<p>Create and release an Official Statement on Reconciliation</p>	<p>It is a consideration for Professional organizations to take a clear stance on reconciliation with Indigenous Peoples due to moral and ethical responsibility, to confirm their intentions to advance reconciliation and set an example for others. An official statement or stance on reconciliation is a commitment to inclusivity, equity, and the principles of truth and reconciliation. This statement should include acknowledgement of the impacts of past and present colonial practices that settlers and the institution have benefited from, and commitment to identify and address and reform these practices. In addition, it should consider:</p> <ul style="list-style-type: none"> • Recognition of Indigenous Rights • Cultural Preservation • Reconciliation and Healing • Addressing Historical Injustice • Inclusivity and Participation • Education and Awareness • Accountability and Implementation <p>Supports ARE Code Principle 5: Leadership.</p>
<p>Review practices around Land Acknowledgements at PEO events/activities</p>	<p>Land acknowledgments are important for professional organizations as they recognize and respect the Indigenous peoples' traditional territories on which these organizations operate, acknowledging the historic and continued presence of Indigenous people. This gesture demonstrates the organization's commitment to reconciliation and serves as a reminder of the need for meaningful engagement with Indigenous knowledge and perspectives. We understand that PEO does deliver a land acknowledgment at the beginning of some meetings, however it is essential that these acknowledgments are genuine and not performative, reflecting a sincere commitment to advancing reconciliation.</p> <p>PEO could also explore when it may be appropriate to start meetings and projects with ceremony and setting intentions (smudge, drum, prayer, etc.). Anything done needs to be meaningful, and not approached like a tick box exercise.</p> <p>Supports ARE Code Principle 3: Professional obligations and Principle 7: Safeguards accountability.</p>
<p>Consider preparing a RAP or CCAB PAR</p>	<p>Professional organizations should explore the development and adherence to a reconciliation action plan or include commitments that further reconciliation in their organization's Strategic Plan (or similar) to demonstrate their commitment to reconciliation with Indigenous Peoples and create accountability. Another option that some are pursuing in Progressive Aboriginal Relations (PAR) under the Canadian Council for Aboriginal Relations (CCAB).</p>



	<p>Supports the ARE Code commitment to “<i>equitable treatment of Indigenous persons and communities, ensuring that they have equitable access to all services and opportunities that PEO offers.</i>”</p> <p>Supports all ARE Code Principles.</p>
<p>Indigenous Representation and Recognition</p>	<p>Indigenous representation in key committees, councils and leadership positions is important to ensure diversity of people, worldview, mindset, knowledge, and values. It is also important for inspiration and connection with other Indigenous peoples and minorities who may find relatable aspects and role models in Indigenous people in leadership positions; this further promotes inclusivity and understanding.</p> <p>PEO should also review its Council election policies to ensure that there is no unconscious bias that may impact Indigenous Peoples form running.</p> <p>This is also important for marketing materials (including the website) to consider:</p> <ul style="list-style-type: none"> • Recognizing Indigenous contributions to professional engineering acknowledges the valuable expertise and perspectives that enrich the field, fostering innovation, inclusivity, and respect for Indigenous knowledge. The acknowledgement can foster feelings of pride and validation for other Indigenous professionals. • Professional organizations can demonstrate their commitment to reconciliation with Indigenous Peoples by maintaining dedicated sections on their websites that offer up-to-date information and resources related to Indigenous matters and the organization's reconciliation efforts. These sections serve as a transparent means of communicating the organization's commitment and progress in advancing reconciliation. • Observance - Acknowledgement of commemoration days for Indigenous peoples is important in demonstrating respect for Indigenous people and acknowledging historical injustices and promoting awareness of reconciliation efforts. <p>Supports ARE Code Principle 5: Leadership and sponsorship and Principle 8: Equitable organization.</p>
<p>Supporting funding initiatives to raise Indigenous participation in the engineering</p>	<p>Financial barriers can hinder Indigenous individuals from pursuing engineering in higher education. PEO should consider if they can support scholarships for Indigenous peoples looking to pursue engineering.</p> <p>In addition, PEO should explore if the costs related to becoming licenced (below) a barrier for Indigenous Peoples? If so, does PEO have any programs that could support this (for example Law Society of Ontario has a financial program called “Repayable Allowance Program that provides loans on a first come first serve basis.</p> <ul style="list-style-type: none"> • Application fee of \$360 + HST (total \$406.80), which must be submitted with the Application for Licence form. • Professional Practice Examination fee of \$200, which must be submitted with the Application to Write the PPE that PEO sends to applicants. • Where applicable, technical examination candidates are required to pay: <ul style="list-style-type: none"> • a one-time administration and first examination fee of \$700; • \$200 for each subsequent examination; and • \$360 for submission of a thesis. • Final registration/licensing fee of \$300 + HST (total \$339). • To remain licensed, you are required to pay annual dues, which are \$265 + HST (total \$299.45). <p>Supports ARE Code Principle 5: Leadership and Sponsorship.</p>



Identify a target for Indigenous representation in Engineering	<p>The baseline data would need to be available first to know where representation is now and suggest identifying a hard target rather than a percentage as that number would look very small.</p> <p>Supports ARE Code Principle 1: Measurement and Principle.</p>
<p>Review PEO’s HR Policies</p> <p>Review of the Professional Engineers Act including the Code of Ethics</p>	<p>Reviewing corporate HR policies with an Indigenous lens is essential to identify and rectify potential biases, disparities, or unintended consequences that might disproportionately affect Indigenous communities. It is an opportunity to address any systematic barriers and revise for a more inclusive and equitable approach to policymaking, aligning with the principles of reconciliation and respect for Indigenous rights and perspectives.</p> <p>Supports ARE Code: Principle 2: Regulatory processes Principle 6: Stakeholder engagement talent pipeline Principle 7: Safeguards accountability.</p>
Review of PEAK approved topics	<p>PEO should review guidance around what constitutes PEAK eligible Continuous Professional Development to consider learning around areas noted below under “Provide training and/or Guidelines to support all membership”. In addition, they should consider if any of these should be mandatory.</p> <p>Supports Principle 4: Training and influence.</p>
Provide mandatory training for PEO staff and Council	<p>PEO needs to identify and provide mandatory awareness and education training for PEO Council and Staff that should include at a minimum Indigenous Relations and History that also presents the Indigenous perspective and experience. They may wish to undertake a Blanket Exercise.</p> <p>Supports ARE Code Principle 4: Training and influence.</p>
Create additional programs to support Indigenous membership	<p>The following programs should be considered and could be coordinated with Engineering Canada and other Provincial Engineering organizations:</p> <ul style="list-style-type: none"> • Indigenous specific mentoring program • Indigenous Engineer Networking forum • Indigenous specific financial supports as noted above <p>Supports ARE Code Principle 5: Leadership and sponsorship and Principle 6: Stakeholder engagement talent pipeline.</p>
Provide training and/or Guidelines to support all membership	<p>The deliberate absence of exposure to accurate histories of settler colonialism and systemic racism against Indigenous Peoples has resulted in generations of Canadians who are uninformed or unaware. Only recently has reconciliation been at the forefront and the genuine experiences of Indigenous peoples been widely shared. Raising awareness and educating ourselves on the experiences of Indigenous peoples, the role settlers have had in colonization, lasting impacts and what can collectively be worked on to make progress towards meaningful reconciliation are important steps we must actively pursue.</p> <p>Learning is continuous, and it is important to include learning elements where possible (ex. In newsletters, website, articles, social media posts, in-house resources, additional learning opportunities, talks, presentations and more. PEO should look for appropriate Indigenous service providers and businesses to support this work, and a pan-Indigenous approach needs to be avoided, as each Nation (First Nation, Metis, and Inuit) have different perspectives, experiences, and world views. Some specific areas to consider include:</p> <ul style="list-style-type: none"> • Cultural Awareness and diversity training • Working on reserve, and guidelines and best practices for doing structural work in the north (especially housing)



	<ul style="list-style-type: none"> • Climate change and how Indigenous Knowledge benefits this • Indigenous awareness/relations training including history, treaties, territories, and agreements/covenants (i.e. two row wampum, dish with one spoon, etc.), UNDRIP, TRC, and MMIWG recommendations, and history of different types of structures that were created by Indigenous Peoples • Indigenous engagement and consultation - Engineers Canada recently released a guideline Indigenous consultation and engagement. <p>Supports ARE Code Principle 4: Training and influence and Principle 5: Leadership and sponsorship.</p>
Review engineering related permitting and design requirements on reserve	<p>Can PEO do anything to bring together discussions around the gaps for working on reserve given the differences and gaps in permitting and requirements between federal, provincial, and municipal. This discussion should involve Indigenous Services Canada (ISC) and could include Indigenous organizations like OFNTSC.</p> <p>Supports ARE Code Principle 6: Stakeholder engagement talent pipeline.</p>

4.1.3 Areas of Action for PEO to Exert Influence

Table 7 outlines indigenous areas that PEO could influence others.

Table 7: Areas for PEO to Exert Influence

Actions	Description
Connect with Canadian Engineering Accreditation Board (CEAB)-accredited programs to encourage them to undertake the activities described to the right	<p>Baseline data for Indigenous students in CEAB programs:</p> <ul style="list-style-type: none"> • Attract - % applying, % being accepted. • Pass Program • Applying and receiving Scholarships <p>CEAB and university specific considerations:</p> <ul style="list-style-type: none"> • Cultural Supports - Do you have an Indigenous Student support program at your university or an Elder available? • Do you have Indigenous specific recruitment and outreach? • Do you offer or require courses on: History of Canada, inclusion of Indigenous knowledge/braiding of western and Indigenous knowledge, cultural awareness, and diversity, and/or consultation and engagement approaches? • How is your Indigenous representation in teaching staff, and leadership/management? <p>Other Areas:</p> <ul style="list-style-type: none"> • Working with youth to develop an interest in engineering including consideration of mentorship programs, and supporting activities to increase interest in STEAM, including the range of types of engineering that exist, types of engineering, other ideas for working with schools include encouragement of community science and data collection programs such as collecting climate data, and showcasing different types of engineering. • Career fairs - add targets for participating in career fairs with Indigenous youth, including community specific career fairs which offer opportunity for a localize and more 1:1 interaction. • How PEO can support CEAB's in outreach to students, including providing guidance on the licensing process • Providing mentorship programs for Indigenous Engineering students



	<ul style="list-style-type: none"> • Encourage universities to investigate barriers to attending school related to housing and transportation and identify ways to improve. One example was that if you live of the reserve near Sault Ste. Marie there is no transit to the post-secondary, and it may take several hours of walking for those without access to a reliable vehicle. This should be considered for all students. • Encourage universities to require a class on Indigenous awareness /relations (not elective) • Encourage universities to add an elective around working on reserve and ISC. • Encourage universities to provide supports for Indigenous students, which may need to consider things like access to ceremony, supports for living in a city (including how to find a place to live), etc. • add targets for participating in career fairs with Indigenous youth
Connect with OSPE	<p>PEO should review all the recommendations within Table 5 to determine which areas could be coordinated with OSPE for support.</p> <p>In addition, could PEO and OSPE partner with Indigenous Engineers and Indigenous companies with engineers to set up a program to go to schools (Could this be an expansion of the engineering in residence program from focus on grades 2 to 5 though high school.</p>
Connect with other Professional Organizations in Ontario or Engineering Organizations across Canada	<p>Many professional organizations are undertaking similar reviews of what they need to do to support learning of their Councils, staff, and members. PEO should consider reaching out to determine if there are areas of learning and training that they could deliver together. There may be some cost savings and cross profession learning that could be accomplished through looking for opportunities to coordinate on offering training and preparing guidance and best practices information around Indigenous awareness, Indigenous Knowledge, Braiding of knowledge, Indigenous engagement, and consultation, etc.</p>
Provide guidance to CofA holders	<p>PEO could encourage and recommend to companies with Certificate of Authorizations (CofA's) to:</p> <ul style="list-style-type: none"> • have appropriate anti-racism policies, • review hiring policies and practices, • review policies and practices around advancement, mentoring, etc. • provide appropriate Indigenous awareness/relations training

PEO may also want to consider setting up booths at Indigenous community events like pow wows and career fairs.



4.2 Proposed Next Steps

We would recommend the following next steps:

- 1) PEO Staff review and provide comments on this draft report and ICE to update.
- 2) Per the RFP, if requested ICE can provide PEO with a signed statement outlining our role as the Indigenous Initiatives Consultant, how we contributed to the Project and our hopes for PEO's next steps – however we believe that Section 4 of this report achieves that.
- 3) Share the draft report with the former AREWG members for review and ICE to update.
- 4) ICE can contribute to a vision statement for PEO's Indigenous Initiatives.
- 5) ICE can participate in a PEO Council meeting to present the key findings and proposed recommendations outlined in this report and confirm if any of the recommendations would not be supported by PEO. This information can be used for the next steps, but we would not propose changing our report.
- 6) Share findings with membership and other organizations for their areas of mandate including education organizations, OSPE, and PEO's Districts.
- 7) Prepare a survey of PEO vetted recommendations and provide it to interview and focus group participants (possibly open to others who identify as Indigenous engineers) via survey to get input on what they see as the priorities between and within each of the above categories.
- 8) Prepare an Action Plan for the above recommendations based on prioritisation, costs and availability for staff and volunteers.
- 9) Undertake required approvals for the Action Plan to get funding needed and execute plan.

Should PEO wish, ICE would be happy to continue to support the next steps outlined here but would likely require additional budget.



Appendices



Appendix A –Engineering Organization Research

Indigenous Participation in Engineering Research

DRAFT – September 13, 2023
Revised – March 2024

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1. Introduction

The Professional Engineers of Ontario (PEO) has retained Indigenous and Community Engagement (ICE) Inc. to undertake primary and secondary research to support PEO in identifying policy approaches and other tasks to answer the TRC Calls to Action as they relate to PEO's Code of Ethics and Anti-Racism and Equity Code. This report reflects the findings of the review and research on the findings of other Engineering organizations in Canada and results and recommendations noted in Anti-Racism and Anti-Discrimination: A Bridge To PEO's More Successful Future first task.

1.1 Report Layout

We have divided the report into 4 main sections:

1. Introduction
2. Overview of Findings, Trends and Recommendations from Research
3. Overview of Anti-Racism and Anti-Discrimination: A Bridge To PEO's More Successful Future
4. Next Steps

1.2 Documents Reviewed

During the initial project meetings with PEO, we identified organizations and documents to consider as part of this review. This included Engineers Canada, the Ontario Society of Professional Engineers (OSPE), Indspire, the Organisation for Economic Co-operation and Development (OECD), and American Society for Engineering Education. All documents that were reviewed and/or cited in this report are listed in the References.

1.3 Report Limitations

Limitations of this report include:

- Limited available data on Indigenous specific data within the Canadian engineering sector.
- Limited primary data.
- Lack of longitudinal data that tracks the progression of Indigenous individuals through education to the transition to the workforce and across their careers.

1.4 Contextualizing Reconciliation and Anti-Racism in PEO

In recent years, the imperative of reconciliation with Indigenous People and the commitment to combat racism have gained substantial recognition within Canadian Government and across society. Professional organizations, including PEO, are pivotal players in shaping societal attitudes and practices; in particular of members and in their field. The work of planners has the potential to have significant impact on Indigenous people as planning can directly affect land use, community development, cultural preservation and economic opportunities; all of which can either support or hinder Indigenous rights, well-being and self-determination. The necessity of acknowledging and rectifying the historical injustices suffered by Indigenous communities resonates deeply within the broader context of promoting inclusivity, diversity, and equity. Similarly, addressing systemic racism is a fundamental step towards fostering a more just and equitable society.

Reconciliation entails recognizing and addressing the historical and ongoing impacts of colonialism, assimilation policies, and cultural marginalization that Indigenous People have endured.

Reconciliation is about forging a path towards healing, mutual respect, and collaboration between Indigenous and non-Indigenous individuals and organizations. Reconciliation encompasses acknowledging, upholding and respecting Indigenous rights, practices, and knowledge systems, as well as fostering equitable relationships built on trust and understanding.

KEY STEPS FOR RECONCILIATION

- 1) Respect for Indigenous people, their values, perspectives and knowledge
- 2) Acknowledgement of historical and ongoing impacts of colonialism, assimilation policies and marginalization
- 3) Awareness of the past
- 4) Action to change behaviours, mindsets, institutions and practices to create a more equitable and inclusive society

Anti-racism efforts further complement the reconciliation process by challenging prejudiced ideologies and dismantling discriminatory practices. It involves actively identifying and eradicating systemic inequalities that perpetuate racial discrimination. In professional organizations, such as PEO, the commitment to anti-racism is not only an ethical responsibility but also a strategic imperative to ensure a diverse and inclusive environment that benefits all members.

1.5 Significance of PEO's Role in Fostering Change

PEO holds a unique position of influence and responsibility within the engineering community and society at large. By actively engaging in the journey of reconciliation with Indigenous Peoples and promoting anti-racism, PEO can lead by example and inspire positive transformation within its membership and the broader engineering industry.

PEO's commitment to reconciliation and anti-racism aligns with its mandate to regulate and promote the engineering profession's integrity, safety, and ethical standards. By championing these principles, PEO not only upholds its duty to the public but also demonstrates its dedication to advancing social justice within its sphere of influence.

Incorporating reconciliation and anti-racism initiatives within PEO's framework can enhance the organization's internal culture, fostering an environment where Indigenous engineers and professionals from diverse racial backgrounds feel valued, respected, and empowered. Such inclusivity not only enriches the professional experiences of its members but also contributes to more innovative and holistic engineering solutions that consider a wider range of perspectives.

PEO's active involvement in reconciliation with Indigenous People and its commitment to anti-racism are recommended and important components of its purpose to regulate and promote the engineering profession. Some goals that PEO should work towards include:

- Trust Building with Indigenous People
- Capacity Building/Educational Opportunities
- Cultural Diversity/Diverse Perspectives
- Respect for Indigenous People
- Be a leader when it comes to Reconciliation with Indigenous People

We also want to note that the Association of Consulting Engineering Companies (ACEC), a not-for-profit organization established in 1925 and dedicated to representing the interests of Canadian consulting engineering firms does not appear to have a reconciliation action plan or similar. ACEC advocates for the commercial concerns of businesses offering professional engineering services encompassing a broad spectrum, including the planning, design, and execution of diverse engineering projects. CEC-Ontario works to support the commercial activities of consulting engineering firms by providing resources, advocacy, and networking opportunities within the province of Ontario. ACEC and the Ontario chapter have very limited Indigenous and Reconciliation focused content. We will consider this when making recommendations to PEO in our final document as to other organizations they may want to engage to coordinate reconciliation efforts.

2. Overview of Findings, Trends and Recommendations from Research

The following summarizes both barriers/challenges and opportunities that PEO and other engineering organizations face, identifying trends were noted in the research. We have considered each of these as part of the lifecycle of being an Engineer including:

1. Entry into an Engineering Program
2. Graduating with an Engineering Degree
3. Obtaining a Professional Engineer (P.Eng.) Designation
4. Staying a Practitioner/P.Eng.

A lack of Indigenous representation in the field of Engineering was noted by all studies reviewed. According to a report by Engineers Canada entitled "Indigenous Engineering in Canada," only 0.73% of Engineers identify as Indigenous, compared to 3.15% in the general workforce. What this means is that for the engineering profession in Canada to have a representative number of Indigenous engineers in the engineer profession, an additional 5,620 Indigenous engineers are needed. This number is substantially higher if we use the percentage of the total Canadian population that identify as Indigenous (4.9%) as the benchmark, then an additional 9,679 Indigenous engineers are required. The jurisdictions with the largest gaps in this regard is Nunavut, Northwest Territories, Yukon, Manitoba, and Saskatchewan.

2.1 Access to Education (Entry into an Engineering Program)

In most of the literature and documents reviews, access to education and addressing the barriers was repeatedly identified as a priority. The following summary highlights the main identified causes regarding educational barriers, as well as some of the identified solutions to these issues.

Engineers Canada had conducted studies regarding Indigenous participation in the field of engineering, and consulted with communities, organisations, and educational institutes for advice and feedback regarding meeting the above-mentioned benchmarks to produce more Indigenous engineers. The recommendations from those reports have been clear on the need to make changes at the educational institutes level to improve the outreach, recruitment, attendance and graduation levels for Indigenous populations. Access issues need to be addressed, as does early exposure to Engineering and other STEM fields. Other barriers identified were a lack of financial resources, inclusion of Indigenous knowledge, meaningful mentorship and networking opportunities and an overall lack of culturally appropriate support.

Barriers to accessing educational opportunities come from a number of sources. Engineers Canada's report, "Indigenous People's Access to Post-Secondary Engineering Programs," stated that 29% of Indigenous peoples have not completed secondary school, and that number increases to 35% when looking at those with status. This statistic identifies the first barrier to post-secondary education, especially STEM fields. As a result, seeking out ways to increase educational access for Indigenous peoples should be seen as a priority when attempting to increase the number of Indigenous engineers.

There were several reasons provided for poor educational outcomes for Indigenous peoples that are further explained below.

Challenges and Barriers Faced by Indigenous Students in Engineering Programs

Indigenous youths aspiring to enter engineering post-secondary programs encounter multifaceted barriers that hamper their pursuit of higher education. Socio-economic challenges, intergenerational impacts of residential schools, lack of access to prerequisites, and limited awareness about engineering as a viable and desirable career pathway are among the key impediments (Engineers Canada, 2020). Indigenous communities residing in remote or underserved areas face challenges such as inadequate resources, insufficient teaching staff, and subpar facilities that hinder proper academic preparation for engineering (Timmons, 2016). The legacy of cultural differences, historical inequalities, and the resulting disconnection from the mainstream education system also contribute to academic unpreparedness (Actua, 2021).

Misconceptions about mathematical capabilities persist despite evidence to the contrary, discouraging Indigenous students from pursuing engineering degrees (Xu & Ball, 2016). The Eurocentric nature of many educational institutions, lack of inclusion of Indigenous Knowledge systems and lack of Indigenous representation in teaching staff contributes to an environment where it is difficult for Indigenous participants to relate and see themselves as participants in STEM fields such as engineering (Xu & Ball, 2016). Institutionalized biases within educational systems further marginalize Indigenous knowledge and perspectives, reinforcing the notion that Indigenous ways of learning and knowing are less valuable within Western (or Eurocentric) education and engineering contexts (Xu & Ball, 2016). Addressing these challenges requires a comprehensive approach that acknowledges historical inequities and systemic biases and promotes inclusivity and diversity within STEM fields.

There are several ways to create positive environments that support Indigenous people entering into engineering programs; such as the creation of tailored pre-engineering programs and scholarships designed specifically to encourage and support Indigenous students pursuing engineering academically. These initiatives provide essential academic support and financial assistance, rendering higher education in engineering more accessible (Anderson, et al., 2021). By co-developing education initiatives, with Indigenous communities, that resonate with cultural values and priorities, educational institutions can foster higher engagement and success rates among Indigenous students (Ricci, 2018). Embracing interdisciplinary collaboration not only within engineering and science departments but also across Indigenous studies, environmental sciences, and community development fields can provide students with a holistic understanding of engineering's societal benefits and utility (Lin, et al., 2007). Empowerment can come from encouraging students to identify community-specific challenges that can be addressed through engineering solutions, instilling a sense of ownership and real-world application (Lin, et al., 2007). Also, we need to address under representation of Indigenous people in Engineering, provision of internships, acknowledging and changing trauma Eurocentric educational systems inflicted on native communities through colonization (education was both a target and tool of colonialism) that diminished the validity and legitimacy of Indigenous education.

2.2 Graduating with an Engineering Degree

Indigenous people navigating predominantly Western academic environments in pursuit of an engineering degree may experience feelings of isolation stemming from a lack of representation, a sense of cultural detachment, and instances of discrimination; these factors cumulatively contribute to a pronounced sense of alienation, adversely affecting both their academic performance and overall well-being (Chee et al., 2019). The absence of Indigenous perspectives and knowledge within engineering curricula may create a less engaging learning experience for Indigenous students since they may not see their culture, knowledge or perspectives reflected in the course materials (Timmons, 2016).

The development of Indigenous focused supports for students, educators and other staff, combined with the integration of Indigenous knowledge and perspectives into curriculum, can contribute to a more positive environment that fosters Indigenous student success and elevated graduation rates. One pivotal approach entail establishing dedicated Indigenous student support centers and mentorship programs, these initiatives create dedicated spaces for Indigenous people, offer guidance, advice, and promote a sense of belonging; aiding Indigenous students in navigating the academic landscape and overcoming challenges they might encounter (Boucher et al., 2020).

The development of tailored bridging programs catering specifically to Indigenous students presents a clear path for interested Indigenous learners. By aligning engineering-related content, projects, and activities with the cultural contexts and interests of Indigenous learners, these programs can kindle heightened engagement and intrigue, potentially supporting sustained interest in engineering as a field of study (Bennett et al., 2022). The inclusion of Indigenous engineers and professionals as educators and mentors within these programs is important as Indigenous students will be given the opportunity to engage with more relatable role models whose experiences may closely parallel their own. The professionals not only offer invaluable insights into their personal journeys but can provide guidance and inspiration to students as they pursue higher education (Bennett et al., 2022).

Revising the engineering curricula to incorporate Indigenous perspectives and knowledge can enrich the educational experience by creating relevant connections to the subject matter. By bridging the gap between Indigenous knowledge systems and engineering concepts, a more engaging and culturally resonant learning experience can be experienced (Actua, 2021); this also has the potential to benefit non-Indigenous students by providing them a more dynamic learning experience.

The recognition and presentation of both historical and current contributions made by Indigenous peoples to STEM fields, including engineering, plays a pivotal role in developing confidence among Indigenous learners, reinforcing their capacity, as Indigenous people, for achievement within the realm of STEM. This strategic inclusion of notable Indigenous accomplishments, innovations and contributions to the field serves multiple purposes: heightens the material's resonance with Indigenous learners, dismantles stereotypes, and provides a positive exemplar in the form of role models, reinforcing the notion that they too can excel (Xu & Ball, 2016).

Adjustments in the program delivery method that differs from the traditional Western methods can enhance engagement while infusing Indigenous knowledge and cultural perspectives into hands-on learning opportunities. Collaborations with Indigenous communities and knowledge keepers can facilitate education through alternatives to western teaching methods, which can create a more engaging, accessible and culturally relevant learning opportunities (Lin et al., 2007).

There exist socio-economic barriers that may hinder the higher education aspirations of Indigenous students in the realm of engineering. Accessible scholarships, bursaries, and financial aid exclusive to Indigenous students has proven instrumental in mitigating this obstacle (Jin, 2021).

Supporting the advancement and fostering greater success for Indigenous learners within STEM programming can significantly benefit from a comprehensive approach that intricately incorporates elements of Indigenous representation, inclusion, and dedicated Indigenous-specific support systems.

2.3 Obtaining a Professional Engineer (P.Eng.) Designation

Access to appropriate mentors can positively contribute to the success of learners. For Indigenous learners, the process of connecting and engaging with mentors and professional networks can be more meaningful and effective when those mentors share an Indigenous background or exhibit a comprehensive understanding of the distinct challenges and experiences faced by Indigenous peoples. The opportunity to engage and network with Indigenous professionals in the engineering field is limited due to the scarcity of such individuals. Access to high quality mentorship opportunities can be increased and created through the development of targeted mentorship networks that specifically function to connect Indigenous learners with relatable professionals that can provide meaningful guidance and career advice (UNESCO, 2010).

Offering targeted financial aid, internships, and co-operative programs tailored to Indigenous learners can serve as an effective measure to facilitate the transition from education to the workforce. By bridging the gap between academic learning and practical application, these programs can alleviate financial stress on learners, while providing them with tangible skills. Internships can provide confirmatory experiences for participants that contribute to their interest in the engineering field. Industry collaborations further enrich these opportunities by facilitating connections between Indigenous students and real-world experiences. (Actua, 2021).

Mitigating the obstacles that impede access to opportunities that foster and enhance the success of Indigenous individuals in their quest for the P.Eng. designation holds the potential to elevate the count of Indigenous engineers possessing the credential in the coming years. By strategically focusing on areas such as funding allocation, mentorship programs, and accessible work placements, barriers to complete the P.Eng. prerequisites can be minimized. This multifaceted approach not only unlocks pathways to professional development but also cultivates an environment wherein Indigenous individuals can more readily engage in the pursuit of the P.Eng. designation.

2.4 Staying a Practitioner/P.Eng.

Prioritizing strategic recruitment and sustained retention strategies for Indigenous individuals in engineering, is vital in creating a supportive environment that actively supports the growth of a larger community of professional Indigenous engineers. Workplaces lacking cultural sensitivity result in a sense of not belonging, reduced job satisfaction and increased turnover, as indicated by Desjarlais in 2022.

Employers have the opportunity to proactively address and develop a more inclusive workplace culture by instituting diversity and inclusion training, along with focused Indigenous awareness and sensitivity training. These initiatives serve to increase awareness of macroaggressions, fostering a more inclusive and respectful environment (Desjarlais 2022). Indigenous people in leadership and management roles empowers them to influence projects and offer perspectives that have the potential to instigate positive transformation within the engineering field (Desjarlais 2022).

Addressing concerns that adversely impact retention rates and promoting workplace inclusivity to counteract unwelcoming environments are key steps that can be taken to address challenges that significantly contribute to attrition rates among Indigenous engineers (Desjarlais, 2022).

2.5 Summary of Recommendations from Documents

The following summarizes the recommendations from documents reviewed.

2.5.1 Lack of Capacity

For the purpose of this report, a lack of capacity as related to increasing Indigenous representation in university-level Engineering programs has several meanings. Communities may not have the ability to promote STEM-related careers due to a lack of qualified members to act in mentorship capacities, limited primary and secondary school education opportunities, lack of in-community opportunities that could support the development of interest in STEM-related education and career opportunities. Even if a community wanted to create programming to encourage participation in the engineering profession, it may not have the ability to meet requirements set out by potential funders. Additionally, there are Indigenous communities in Northern regions where access to secondary school education requires youth to leave their home communities in order to attend school in cities. This has the potential to create adverse effects on youth, who find themselves isolated from their culture, support systems and families.

2.5.2 Lack of Support

A lack of support was identified in several of the reports reviewed for this summary. Support is required in a number of areas to increase the likelihood of success for Indigenous students, especially in fields with high academic requirements such as engineering. A York University study highlighted “The Leaky Pipeline” theory in order to identify reasons for the lack of representation of Black and Indigenous students in STEM-related fields and is described as the process of students exiting the educational system at various stages of their journeys. It also acknowledges systemic barriers in students’ educational journeys as a reason for premature leaving.

Socio-Economic Status

The socio-economic status of a student can affect their interest in, and access to, STEM-related fields. Many potential Indigenous students from lower socio-economic backgrounds may not have access to educational supports such as tutoring, or enrichment programs designed to encourage young students to take an interest in STEM-related fields. At the post-secondary level, tuition rates for engineering programs are high compared to other fields and may therefore be cost-prohibitive for many Indigenous students who may otherwise be interested in entering the profession.

Financial Considerations

Related to socio-economic status, a lack of financial resources has been identified as a reason for either not attending post-secondary education, or for early leaving. All focus group participants in Indspire’s study on early leavers stated that financial issues created heightened stress levels. As mentioned in the previous section, tuition rates are higher for certain programs – including engineering – which places additional burdens on lower socio-economic status students compared to those from higher income familial backgrounds. The cost of necessary school supplies and the cost of housing were also factors. Additionally, for students who live far from their home communities to attend university, travel expenses were another area of financial stress.

Access to Cultural Supports

Indspire’s research into reasons Indigenous students leave post-secondary institutes prior to graduation noted a lack of cultural supports as one reason for exiting college or university prematurely. While schools may have resources such as Indigenous Resource Centres, there was a perceived lack of

communication from institutions on what supports were available for Indigenous students, and how to access them. The organization’s study on paths to reconciliation noted a need to increase culturally relevant programming and resources for Indigenous students.

Sense of Belonging

A lack of a sense of belonging in educational settings was mentioned in several of the studies reviewed. This includes not seeing themselves represented in faculty, management or leadership positions; not seeing their viewpoints and/or ways of knowledge incorporated in the curriculum; not seeing examples of successful and/or innovative professional Indigenous engineers; experiences of discrimination based on their Indigeneity; not having their current life circumstances, which may temporarily affect attendance and deadline requirements, not being taken into consideration; or not having many Indigenous students in their programs. A lack of cultural sensitivity was also identified as a cause for diminished sense of belonging in both the education and workplace settings.

Additional Notes

As a consideration on a lack of support, in “Indigenous Employment and Skills Strategies in Canada”, it was noted that a higher percentage of Indigenous students have identified learning challenges compared to non-Indigenous students -25% vs. 10% by age 14- creating the need for further considerations when developing programming aimed towards current and future Indigenous engineering students. While mentorship was suggested in studies, with the current rates of Indigenous peoples in the profession developing meaningful mentorship programs will be difficult.

Incorporating Indigenous viewpoints had also been mentioned in several studies. The article in the Northern Review entitled, “Indigineering: Engineering Through Indigenous Knowledge and Mino Pimachisowin | Nehinaw Osihcikewin: Nehinaw Kiskenitamowin Eyapatak Mena Mino Pimachisowin,” there is a need to reimagine engineering through an Indigenous cultural lens as well as seeing the value of Indigenous Knowledge in the field. The article also suggested the creation of an Indigenous engineering organization as a way to address issues faced by Indigenous students. Engineers Canada’s report titled, “Indigenous People’s Access to Post-Secondary Engineering Programs” makes several recommendations to address this issue.

2.5.3 Summary of Recommendations from Research

The following provides a summary of recommendations from documents reviewed and we have noted which of the lifecycle phases these recommendations may be appropriate.

Lifecycle Phase	Entry into an Engineering Program	Graduating with an Engineering degree	Obtaining a PEng	Staying a practitioner/ PEng
Development and maintenance of interest in engineering	x	x	x	
Mentorship	x	x	x	x
Indigenous specific recruitment	x		x	x
Inclusion of Indigenous Knowledge		x		x
Indigenous specific financial supports	x	x	x	
Cultural awareness and diversity training		x	x	x
Indigenous representation in teaching positions	x	x		
Indigenous representation in leadership & management	x			x
Cultural supports	x	x	x	x

3. Review of PEO's Anti-Racism and Anti-Discrimination Document

The *Anti-Racism and Anti-Discrimination: A Bridge to PEO's More Successful Future* report was received and accepted by the PEO council in June 2021. The report examines what further work the PEO should pursue to address anti-discrimination and anti-racism within PEO and the engineering profession; particularly vulnerabilities which might potentially exist in terms of systematic racism and discrimination in all areas of PEO's operations and governance. The report identifies specific areas of concern and provides recommendations to the PEO Council on how these areas may be further addressed. We have summarized some of the areas discussed in that report, and this will also be considered in our final recommendations report to PEO.

The 2021 report highlighted feedback from interviewees, notable feedback includes:

- 1) Little to no awareness building in the industry to help reduce systematic barriers.
- 2) Lack of coordinated and meaningful development of mentorship opportunities.
- 3) No coordinated approach to engaging with underrepresented groups.
- 4) Lack of training as it pertains to Equity, Diversity and Inclusion (EDI).
- 5) Lack of diverse representation on Council, PEO staff, disciplinary boards and other key committees.
- 6) Alleged race-based discrimination within and by the PEO and in the engineering industry.
- 7) Perceived under representation of Indigenous and racialized people in Engineering and in the PEO.

Upon review of the report, several recurring themes and areas that could benefit from focus surfaced:

- 1) Awareness building and reducing systematic barriers.
- 2) The need for an organized and coordinated approach to the development of mentorship and development pathways.
- 3) Need to develop specific Strategic Priorities with KPIs and accountability.
- 4) The benefits of establishing a culture of inclusive diversity.
- 5) Need to evaluate all policies and procedures to assess if they contribute or create barriers to Indigenous and other under-represented individuals, in the event that the assessment is positive, steps should be taken to revise the policy and address barriers.
- 6) Race based data collection: Understanding Indigenous participation and representation within PEO and the field of engineering.

These thematic elements can serve as potential guideposts for PEO's strategic endeavors, aimed at effecting positive advancements in alignment with the Truth and Reconciliation Calls to Action; these themes are further discussed below in the context of Reconciliation with Indigenous Peoples. The report describes and discusses several alleged instances of racism, behaviour and experiences in which racialized individuals experienced or observed racism and discrimination, and/or individuals perpetuating discriminatory and/or racist behaviours and practices. This overview discusses select instances and key themes that have emerged and does not diminish the validity and importance of other aspects of the report that are not directly discussed here.

Key Limitations in the Report

The specific count of interviewees is not disclosed in the report; it is known that interviews were conducted with more than 15 individuals. Considering the expansive scope of the PEO, encompassing over 87,500 license and certificate holders, it is important to recognize that the sample size may not be representative of all perspectives across the organization; nonetheless, the insights garnered from these interviews carry inherent value and merit serious consideration in evaluating how they can be applied to Truth and Reconciliation.

3.1 Theme 1: Awareness Building and Reducing Systematic Barriers

Within the PEO and the larger realm of engineering, the importance of raising awareness about Indigenous peoples carries immense significance. In a diverse and evolving society, it is crucial to foster an environment that respects Indigenous peoples' cultures, knowledge and perspectives. By embracing Indigenous knowledge and promoting inclusivity, the engineering community can enhance its diversity, awareness and enrich its problem-solving capabilities.

Indigenous engineers and people bring unique insights that stem from their deep connection to their values, communities, traditions, belief systems and lands; Indigenous worldviews may lead to a different approach when compared to Western planning practices. Encouraging Indigenous participation within the profession not only promotes diversity but also unlocks new perspectives and avenues for innovation. In the pursuit of meaningful reconciliation, STEM organizations such as PEO need to adopt proactive measures to invite the participation and inclusion of Indigenous people and voices; this entails acknowledging and educating themselves about the historical injustices endured by Indigenous communities, recognizing the enduring influence of colonization on the present-day experiences of Indigenous people, and addressing the persistent presence of colonial structures and institutions that impede their meaningful engagement.

Steps to address awareness of Indigenous People and barriers they face, could begin through the development and implementation of a compulsory training and awareness program for PEO staff; it is advisable that awareness and cultural competency training be extended to all PEO members - equipping them with the necessary background and context to engage more conscientiously, evaluate and refine policies, offer guidance, and operate in a more culturally sensitive and manner. Extending these learning opportunities to all members has the potential to create positive change within the industry through the promotion of more conscientious behaviour and approaches taken by members in their regular practice.

Systematic barriers refers to structural and institutional obstacles that are embedded within the education system, workforce, and societal norms. These barriers have the potential to disproportionately affect Indigenous individuals' access to and progress within the engineering field. Enhanced training and education on Indigenous cultural awareness can support fellows in identifying and addressing systematic barriers.

Indigenous individuals often encounter several systematic barriers when pursuing a career in engineering. These barriers can include:

1. **Limited Familiarity:** Engineering and other STEM disciplines' potential opportunities might not have been introduced, or the presentation may not have effectively captured the interest of young individuals as they develop their interests, which subsequently influences their career

decisions. This situation could arise from a shortage of available, engaging or community-based STEM expertise or exposure opportunities.

2. **Unequal Access to Education:** Unequal access to quality education, limited resources, and remote geographical locations can impede Indigenous students' educational attainment in science and math fields, which are foundational for engineering. Limited secondary school resources may mean that students lack access to the necessary support to complete demanding courses that are not requirements for high school graduation but are prerequisites for specific post-secondary programs such as engineering. Not completing core science and math courses (such as calculus, physics, chemistry, and biology) in grades 11 and 12 can restrict post-secondary options and limit future opportunities. Communication gaps and shortcomings regarding the lack of engagement with schools and students to communicate the need for grade 12 physics for any interested in pursuing engineering, was highlighted in the Anti-Racism and Anti-Discrimination: A Bridge to PEO's More Successful Future report; while this comment was not Indigenous specific, it highlights a potential focus area.
3. **Cultural Disconnect:** The engineering curriculum may not adequately incorporate Indigenous knowledge and perspectives, leading to a cultural mismatch and reduced engagement for Indigenous students.
4. **Financial Challenges:** Socioeconomic disparities can hinder access to resources such as tutoring, test preparation, and extracurricular activities that enhance students' chances of success in engineering programs.
5. **Lack of Representation:** A scarcity of Indigenous role models and mentors in the engineering field can create a sense of isolation and discourage Indigenous students from pursuing engineering as a viable career option.
6. **Limited Networking Opportunities:** Networking is vital for career advancement. Indigenous students may lack access to networks that provide internship opportunities, job placements, and industry connections.
7. **Workplace Bias:** Once in the workforce, Indigenous engineers can face bias and discrimination that affects their career growth and advancement.

Addressing these systematic barriers involves comprehensive efforts from educational institutions, industry, and professional organizations to create more inclusive and supportive pathways for Indigenous individuals to pursue and thrive in engineering careers.

Mentality and Behavioural Shift

Promoting EDI should be fundamental and embraced by every member and representative within PEO. The report highlights many instances of alleged discriminatory acts. An incident in which a Caucasian PEO Councillor at the time, stands out in particular; reportedly this individual dismissed the relevance of discussing EDI, stating that it was not his concern due to his ethnicity. Whether accurate or not, this behavior exemplifies actions that perpetuate systemic racism. The organization's objectives should include taking proactive measures to combat racism and discrimination against racialized groups, including Indigenous communities within all levels of itself and within its' realm of influence. Addressing and rectifying any attitudes or behaviors that hinder progress in this regard should be prioritized for moral and ethical purposes, but also to maintain the integrity and public image of the PEO. All members

of the PEO, particularly those in leadership or prominent roles, should demonstrate awareness, understanding, and exemplary behavior in matters of equity, diversity, and inclusivity at all times.

3.2 Theme 2: The need for an organized and coordinated approach to the development of mentorship and development pathways

Theme 2 intersects with Theme 1 as developing an organized a coordinated approach to establishing mentorship and development pathways for Indigenous people to pursue, excel and succeed in engineering is a possible approach to addressing existing systematic barriers. Supporting access to education, promoting, developing and delivering programs and initiatives that spark interest in engineering, support for Indigenous People pursuing education in the engineering field, and post graduation career development mentorship and support are initiatives that can support long term goals of increasing the number of Indigenous STEM professionals.

Building Sustainable Individual Interest in STEM

Fostering interest in STEM, particularly engineering, from an early age can lay the groundwork for future educational and career decisions.

Situational interest refers to a temporary response to highly engaging factors in the immediate surroundings (Palmer 2016), whereas **individual interest** is defined as a “personal disposition that develops over time in relation to a particular topic or domain and is associated with increased knowledge, value, and positive feelings” (Hidi and Harackiewicz 2000, p. 152). A key aspect of individual interest is that individuals invest their resources in activities related to the subject matter (Palmer 2016). In educational contexts, individual interests are significant; students who are more invested in a subject tend to acquire knowledge differently compared to those with less interest. When students' individual interests align with the subject matter, they typically pay closer attention, persevere for longer durations, and approach learning differently than those whose interests don't align (Hidi 1990). This alignment between individual interests and the subject matter enhances learning, leading to increased attention, prolonged engagement, and greater enjoyment during the learning process (Hidi and Harackiewicz 2000).

The 2016 Palmer study shows that sustained individual interest in a focused subject matter can be developed over a long period of time with repeated exposure to activities that generate situational interests. Factors that positively contributed to situational interest included:

- 1) Hands-on activities
- 2) Demonstrations
- 3) Toys
- 4) Models
- 5) Artefacts
- 6) Anecdotes
- 7) Science magic
- 8) Fun facts
- 9) Analogies
- 10) Discussion
- 11) Science games

In this study the teacher created opportunities designed to generate situational interests. The results of this study suggest that repeated exposure to stimuli that generates situational interest can lead to the long-term development of individual interest, which can influence future education and career decisions. Indigenous youth who lack engaging exposure to STEM may be lacking opportunities to experience situational interest; and the long-term development of sustained personal interest.

To enhance Indigenous representation in engineering, fostering and nurturing individual interest and the growth and development of Indigenous individuals throughout their educational journey and careers is crucial. This objective can be realized through a sustained, long-term strategy involving progressive workshops, engagement activities, and educational outreach throughout various educational stages. This approach opportunities for situational interest to evolve into individual interest; individual interests can lead to the pursuit of STEM post secondary education and career aspirations.

Fostering Indigenous Participation

The enduring impacts of colonization, encompassing policies, laws, and customs, have sustained repercussions that persistently shape the access Indigenous communities have to resources, opportunities, and decision-making avenues. These constructs encompass disparities in resource allocation, underrepresentation, restricted entry to education and healthcare, and obstacles concerning land rights and self-administration. While PEO may not possess the capacity to confront all the obstacles Indigenous Peoples encounter, it can proactively initiate change within its domain, acting as a catalyst for progressive transformation. Initial steps may include examining Indigenous representation within PEO and Indigenous membership, as well as evaluating internal attitudes, trends, policies and practices to determine if they inadvertently contribute to ongoing marginalization of Indigenous people. Addressing these issues is a crucial part of the reconciliation process and working towards a more equitable and inclusive society. Dismantling the colonial mindset and approaches and incorporating Indigenous perspectives into engineering practices can lead to increased Indigenous participating and more holistic and sustainable solutions, bridging the gap between modern technology and traditional wisdom.

3.3 Theme 3: Need to Develop Specific Strategic Priorities with KPIs and Accountability

Developing specific strategic priorities with Key Performance Indicators (KPIs) and accountability is crucial for demonstrating a genuine commitment to diversity, inclusivity, and reconciliation. It builds trust within the organization, among Indigenous communities, and in the eyes of the public. It keeps the organization accountable and enhances the organization's reputation and long-term impact, ultimately contributing to a more positive perception of the organization.

KPIs are quantifiable measures used to evaluate how well the organization is moving towards their objectives. KPIs allow the organization to track progress and performance over time and help identify areas where alternative approaches may be more effective.

Possible focus areas include:

- 1) Progressive youth focused programming to develop and support interest in STEM.
- 2) Development of Indigenous specific mentorship pathway or program, with clear communication of prerequisites for typical post secondary programs.
- 3) Networking with Indigenous communities, businesses, and people.
- 4) Minimum targets for Indigenous representation in leadership and other senior roles.

- 5) Increasing Indigenous membership.
- 6) Advancing reconciliation with Indigenous people.
- 7) Identifying and addressing systematic barriers to the meaningful engagement and involvement of Indigenous people.
- 8) Reviewing and amending policies and practices that may unintentionally be creating barriers to Indigenous participation.
- 9) Increasing memberships awareness and understanding of Indigenous cultural competency and best practices when working with Indigenous Nations and people.

The development of KPIs to advance reconciliation between PEO and Indigenous People would confirm PEO's commitment to reconciliation and provide a clear roadmap for measuring progress and accountability.

3.4 Theme 4: The need for mandated diversity

In reviewing the Anti-Racism and Anti-Discrimination: A Bridge To PEO's More Successful Future report, a reoccurring comment from participants and theme regarding the real or perceived lack of diversity within the PEO and Engineering space was expressed, this included:

- 1) A lack of diversity in paid PEO staff, councils and other relevant boards.
- 2) A lack of diversity on PEO disciplinary committees.
- 3) Dismissive attitudes and responses when lack of diversity in PEO is brought up.
- 4) A general lack of diversity in management positions in the engineering field.
- 5) A gap regarding a reporting mechanism to address complaints, compliance and disciplinary measures related to racism and discrimination.
- 6) Perception of an "old boys club" attitude in many PEO chapters. Perception that this mentality and behaviour is a barrier to the participation and advancement of racialized individuals within the organization.
- 7) Allegations of conversations and decisions to exclude individuals based on an accent.

Overlapping with Theme 3, the development of KPIs related to specific diversity targets for hires, membership, and representation in leadership and key councils is a possible strategic step for PEO to consider to actively address the issues highlighted. Ethnic diversity and the representation of racialized groups within the leadership structure of the PEO hold significant importance for several reasons:

- 1) **Inspiration and Representation:** Diverse leadership within PEO can serve as a source of inspiration for individuals from underrepresented ethnic backgrounds within the engineering profession. It demonstrates that success and leadership roles are attainable for everyone, regardless of their ethnic background, thus encouraging a broader and more diverse pool of talent within the engineering field.
- 2) **Fairness and Equity:** Diverse leadership is essential to advocate for and implement policies and practices that ensure equitable treatment of all members. Diversity within leadership, councils and boards will contribute to more equitable treatment of members. Inclusivity extends to the entire workforce, promoting fair opportunities and a more just environment for all engineers, regardless of their ethnic backgrounds.

- 3) **Diverse Perspectives:** A leadership team that represents a variety of ethnic backgrounds and experiences brings diverse perspectives to the decision-making process. This diversity of thought provides opportunity to enhance PEO's ability to address complex challenges by considering a wider range of expertise, experiences and viewpoints.
- 4) **Effective Engagement:** PEO's ability to engage with a diverse membership and stakeholders is greatly improved when its leadership mirrors the diversity of its constituency. Leaders who understand and appreciate the needs and viewpoints of engineers from diverse backgrounds can tailor PEO's programs, services, and outreach strategies more effectively.
- 5) **Inclusive Organizational Culture:** Diverse leadership within PEO signals a strong commitment to diversity and inclusion throughout the organization. This commitment should extend to PEO's policies and practices, cultivating an inclusive culture where all engineers feel valued, respected, and empowered to contribute their unique perspectives.
- 6) **Diversity in the Engineering Workforce:** Beyond leadership, promoting diversity within PEO's membership and the field of engineering is important. It ensures that all aspects of the organization and the field benefit from diverse perspectives, fostering creativity and innovation across various engineering disciplines. A diverse membership helps PEO reach a broader spectrum of engineers and better navigate the multicultural landscape of Ontario.

Diversity and the representation of racialized groups within all levels of PEO's leadership, committees, chapters, boards and workforce are steps towards developing an equitable, innovative, and inclusive professional organization. Promoting and supporting diversity is not only essential for internal organizational improvement but also for shaping public image. As a professional regulatory body, PEO plays a significant role in society, and its commitment to diversity has far-reaching impacts. By actively championing diversity, PEO can send the message that it values fairness, inclusivity, and the contributions of engineers from all backgrounds. This not only enhances the organization's reputation as a progressive and inclusive institution but also builds public trust. Creating dedicated space for Indigenous representation in leadership positions positively reflects on the organization's commitment to diversity and inclusivity but also has the potential to improve relationships with Indigenous communities, enhance trust and credibility, and inspire future generations of Indigenous professionals. Taking a proactive stance on diversity can demonstrate responsiveness to the evolving needs of a multicultural society, contributing to its credibility and fostering wider acceptance among the broader engineering community and general public.

We understand that PEO is currently searching for a new staff hire to lead their DEI work.

3.5 Theme 5: Need to evaluate all policies and procedures to assess if they contribute or create barriers to Indigenous and other under-represented individuals

When policies are not created with a reconciliation lens, there may be inadvertent perpetuation of systemic biases and discrimination against Indigenous peoples. This can hinder their access to opportunities and resources, it may lead to missed opportunities for meaningful engagement and partnership with Indigenous communities, and it can erode trust and credibility with Indigenous stakeholders and the public, hindering progress on reconciliation goals. Policies may not align with developing reconciliation and DEI goals and objectives that have arisen and continue to be developed in the present; this may expose the organization to legal and reputational risks.

Evaluating all PEO policies and procedures to assess their impact on Indigenous and other under-represented individuals is an important step to ensuring policies align with reconciliation efforts, maintain legal compliance, attracts diverse talent, enhances the organization's public image, satisfies members, and promotes long-term diversity and reconciliation goals.

Theme 6: Race Based Data Collection

Proposed race-based data metrics offer valuable insights into the representation and engagement of Indigenous and other racialized groups within the engineering profession, enabling PEO to set informed policy objectives and strategic goals. By collecting data on the number of engineers and students who identify as Indigenous and from racialized backgrounds, PEO can track progress towards greater diversity. Assessing the representation of Indigenous individuals in staff, committee, and leadership roles can support the equitable participation in decision-making processes. Metrics related to the presence of Indigenous members in STEM leadership and management positions provide transparency regarding career advancement opportunities. Furthermore, collecting data on Indigenous students in STEM programs helps identify trends in educational pathways. Finally, examining disciplinary outcomes for potential racial biases contributes to ensuring fairness and equity within the profession. These metrics, although currently not collected, could significantly inform PEO's efforts to promote inclusivity, diversity, and reconciliation.

PEO should consider preparing a Reconciliation Action Plan, and/or pursuing the Progressive Aboriginal Relations (PAR) through the Canadian Council for Aboriginal Business (CCAB). Again, this will be further outlined in our future recommendations report.

4. Next Steps

This report is being provided to PEO for review and comment. We are also completing other that will be submitted under separate cover, and then we will move into engagement.

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Appendix B – Select STEM Organization Research

Select STEM Organization Reconciliation Efforts

DRAFT – September 21, 2023

Revised – March 2024

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1. Introduction

The Professional Engineers of Ontario (PEO) has retained Indigenous and Community Engagement (ICE) Inc. to undertake primary and secondary research to support PEO in identifying policy approaches and other tasks to answer the TRC Calls to Action as they relate to PEO's Code of Ethics and Anti-Racism and Equity Code. This report reflects the findings of the review and research on the findings of STEM related professional associations have approached the TRC Calls to Action and Indigenous/reconciliation related actions.

1.1 Report Layout

We have divided the report into 4 main sections:

1. Introduction
2. Approaches of Similar STEM Professional Associations
3. Common Elements on Reconciliation Initiatives Across Professional STEM Organizations
4. Lessons Learned

1.2 Documents Reviewed

All documents that were reviewed and/or cited in this report are listed in the References.

1.3 Report Limitations

This report provides an overview of publicly accessible information on initiatives undertaken by other similar Science, Technology, Engineering and Math (STEM) organizations to make progress on reconciliation with Indigenous People and recommendations coming from these organizations.

Limitations of this report include:

- Data on STEM organizations (including structure, initiatives and other activities) is limited to what is publicly available.
- Limited available data on Indigenous specific data within the Canadian engineering sector.
- Limited primary data.
- Lack of longitudinal data that tracks the progression of Indigenous individuals through education to the transition to the workforce and across their careers.

2. Approaches of Similar STEM Professional Associations

This section provides a summary of reconciliation focused initiatives and actions of other STEM professional organizations. Examining the efforts of other professional bodies in advancing reconciliation can provide valuable insights and best practices and lessons learned based on their experiences. Awareness of the actions and initiatives of others allows us to avoid duplication of effort, but also makes us aware of potential opportunities for collaboration and to pool resources for a more effective outcome.

2.1 Ontario Professional Planners Institute

The Ontario Professional Planners Institute (OPPI) is a recognized organization representing professional planners in Ontario, Canada. It aims to enhance the planning field's excellence and advocate for the interests of planners in the province. OPPI facilitates networking, knowledge-sharing, and professional development, contributing to the growth of the planning community. The institute is actively involved in advocacy, education, and public outreach to address key urban and regional planning issues in Ontario.

In 2019 OPPI formed the Indigenous Planning Perspectives Task Force (IPPTF) who delivered the *Indigenous Perspectives in planning, Report of the Indigenous Planning Perspectives Trask Force June, 2019*, the report provides recommendations on how OPPI can make positive movement on reconciliation with Indigenous Peoples. 14 recommendations of this report (outlined in Table 1 below) were adopted by OPPI and in the follow up of this report OPPI implemented an Indigenous Planning Advisory Committee (IPAC), IPAC advises staff on key actions to move the adopted recommendations forward. The IPAC then became the Indigenous Planning Perspectives Committee (IPP).

OPPI does have a dedicated page on their website to [Indigenous Planning Perspectives](#), this page links to various OPPI publications on the topic, as well as resources. Note that the OPPI website has a section titled "Calls to Action," this section focuses on broad public engagement which includes non-Indigenous and Indigenous people, this section is not focused on Truth and Reconciliation Commission (TRC) Calls to Action.

OPPI has also expanded its Continuous Professional Learning requirements for RPP's to include reconciliation and Indigenous related learning has included Indigenous focused topics in their annual conferences for the last few years and included Indigenous perspectives on topics in Ontario Planning Journal, Y Magazine. There have also been and increase in district events focusing on reconciliation and Indigenous learning.

Table 1: OPPI Recommendations: Indigenous Perspectives in planning, Report of the Indigenous Planning Perspectives Task Force

Description		
SHORT TERM	Organizational	<p>COMMUNICATION - That OPPI communicate the directions of these recommendations and the importance of the journey ahead for OPPI and the planners in reconciliation. <i>This recommendation includes acknowledging that planning has been used as a colonizing tool and that there is room to elevate Indigenous voices, enrich and change planning practices and mindset by including Indigenous perspectives to develop a more meaningful practice. This recommendation also includes upfront transparency and regular communications on the Task Force’s work, as well as creating spaces for OPPI members to connect, listen, learn and engage on Indigenous focused topics including TRC’s Calls to Actions and reconciliation.</i></p>
		<p>BROADEN ENGAGEMENT - That OPPI seek to involve and include more Indigenous individuals and perspectives so as to be guided by their contributions and recommendations for the organization and profession. <i>Including proactively seeking out and engaging Indigenous planners, people and communities to develop the action plan and implement the recommendations.</i></p>
		<p>FORMAL COMMITMENT - That OPPI formally recognize its obligation and commitment to advance reconciliation. <i>This is inclusive of better understanding Indigenous perspectives and integrating the TRC’s Calls to Action into planning, integrating Indigenous planning approaches and perspectives into the practice of planning and supporting members to work collaboratively within and with Indigenous communities and people.</i></p>
		<p>LEADERSHIP COMPETENCY - That OPPI Council and staff strengthen and regularly renew their competency and leadership capacity in this area. <i>This recommendation entails leadership and staff building their own cultural competency, knowledge and understanding of Indigenous Peoples in Ontario, the Indigenous understanding of the history and truth in reconciliation, the TRC Calls to action, Indigenous perspectives and more. Indigenous cultural training will demonstrate OPPI Council’s commitment to increasing their understanding and commitment to dedicating resources to reconciliation.</i></p>
		<p>ORGANIZATIONAL POLICIES, PRACTICES, PROGRAMS and TOOLS - That organizational policies, practices, programs, and tools be reviewed to ensure alignment with the statement of commitment. <i>This recommendation calls for Indigenous perspectives and TRC’s Calls to Action to be embedded in OPPI policies, practices, programs and methodologies. This is an important recommendation as it will guide the actions of OPPI and all people working within it.</i></p>
		<p>RECIPROCAL RELATIONSHIPS - That OPPI build lasting meaningful relationships with related Indigenous organizations and bodies that may assist in implementing and sustaining recommendations.</p>

	<p><i>This recommendation involves intentionally connecting and developing meaningful relationships with strategic Indigenous individuals and organizations such as Indigenous planners in both OPPI and in wider public policy forums and committees. The recommendation also speaks of developing a learning program, appreciating how traditional planning might deepen the practice of planning.</i></p>
The Profession	<p>PROFESSIONAL REQUIREMENT FOR NEW PLANNERS - That OPPI recommend to the Professional Standards Committee for the Planning Profession in Canada (PSC) and to accredited planning programs in Ontario that professional and ethical standards, competencies, and certification processes be updated to include and reflect Indigenous cultural training and related requirements and that undergraduate and graduate course curricula reflect and align accordingly. <i>If successful, this recommendation would cause changes in the minimum accreditation requirements administered by the Professional Standards Board for the Planning Profession of Ontario, changes would cause a rolling impact on Ontario's accredited planning programs course curricula to include materials on Indigenous Peoples, the TRC's Calls to Action, UNDRIP, treaties and Aboriginal Rights, Indigenous worldviews, teachings and practices related to planning.</i></p>
	<p>Continuous Professional Learning (CPL) for Current Planners - That OPPI encourage and inspire members to build their learning in this area through mandatory professional standards for continuous professional learning. <i>This recommendation would mandate that OPPI members increase their awareness, knowledge and understanding of Indigenous perspectives, worldviews, histories, cultures and belief systems; developing an understanding and appreciation is a step towards reconciliation between Indigenous and non-Indigenous people. This would be more than just a competency course, this is described as progressive development over time with regular interval audits to determine effectiveness.</i></p>
	<p>FACILITATION OF LEARNING – That OPPI facilitate access to resources and learning on Indigenous topics. <i>This recommendation includes the creating of an inventory of Indigenous people and organizations that have the capacity to offer learning opportunities. Priority would be given to Indigenous individuals and companies to ensure that the perspectives are Indigenous and that the economic benefits are returned to an Indigenous community. This recommendation also involves members engaging in informal learning programs such as conversation, reading books and accessing web content.</i></p>
	<p>RELEVANT LEGISLATION AND INITIATIVES - That OPPI to regularly communicate to members updates and briefings on current issues so members are kept abreast of developments in this area. <i>OPPI to keep members up to date on developments on key Indigenous issues and sensitivities including:</i></p> <ol style="list-style-type: none"> 1) <i>TRC's Calls to Action</i> 2) <i>The Nation to Nation relationship</i> 3) <i>Resolving Land Claims</i>

		<p>4) <i>The eventual elimination of the Indian Act and updates on current initiatives, including the Framework Agreement on First Nation Land Management</i></p> <p>5) <i>The adoption of UNDRIP</i></p> <p>6) <i>The constitutional reform and repatriation of Indigenous lands and resources rights and/or compensations, which these policies will set in motion</i></p> <p><i>OPPI acknowledges that this may require coordination with other planning institutes, associations, and organizations across Canada.</i></p>
LONG TERM	Organizational	<p>INDIGENOUS CAPACITY BUILDING AND SYSTEM CHANGE - That OPPI consider if and how the professional planning community might ally with Indigenous communities to build capacity and lower systematic barriers to their participation. <i>As a long term commitment, OPPI will review how it can best use its own resources and influence to encourage change, while still within its mandate. This may be done by implementing a Two-Eyed Seeing Approach and using its influence and having conversations to encourage review and revisions of current legislation so that they better align with TRC's Calls to Action, the pathway to reconciliation with Indigenous People and so that barriers to increasing capacity in Indigenous People is lowered.</i></p>
	The Profession	<p>RECOGNITION OF INDIGENOUS KNOWLEDGE - That OPPI encourage the dialogue, research, and process to identify steps towards the decolonization of planning. <i>Integration of Indigenous Knowledge and perspectives into the Core Competencies requires of the Planning Profession.</i></p>
		<p>INDIGENOUS STUDENTS - That OPPI, with accredited planning programs, encourage the enrollment, retention, and graduation of Indigenous students. <i>The aim of this recommendation is to increase the number of Indigenous Planners in the future. This may be accomplished by better understanding the current Indigenous enrollment numbers and increasing that number over time. Increasing this number may be done by changing the application process, working with accredited planning programs to encourage interest in planning as a career, apprenticeships, mentoring programs and more.</i></p>
		<p>PATHWAYS TO CERTIFICATION - That OPPI recommend to the Professional Standards Committee and the Professional Standards Board that they seek to recognize within the certification standard and process valid planning experience in the Indigenous setting. <i>OPPI to connect with other professional planning bodies and seek that the certification requirements be reviewed and inappropriate barriers to professional recognition and certification be removed.</i></p>

OPPI Council did a KAIROS Blanket Exercise (<https://www.kairosblanketexercise.org/>) a few years ago. OPPI hired a Director of Reconciliation and Social Justice in 2022, who has since left the organization and they are searching for someone to fill this role. OPPI also had an Indigenous board member (appointed in 2022) to support this work, who recently resigned due to other work demands. OPPI's IPPC resigned in 2023, and OPPI released the following statement to membership, which identified areas that OPPI needs to continue to work on improving.

Update on OPPI and Indigenous Reconciliation in planning

OPPI recognizes its responsibility to participate in the national discussion on truth and reconciliation and remains committed to its efforts to help foster positive relations with, and respect for, Indigenous Peoples, Nations, and Rights.

In early 2018, OPPI Council began discussing the role of OPPI in reconciliation. From this discussion, the Indigenous Planning Perspectives Task Force and Advisory Committee were formed. The Task Force was asked to create a path forward for OPPI in its capacity as both a regulator and member services provider. In June 2019, Council approved the 14 Indigenous Planning Perspectives Task Force recommendations.

Unfortunately, despite our best efforts we've had some delays and missteps. We wanted to take this opportunity to explain what has happened and what we're doing now to ensure we can achieve the goals established through the Task Force.

We hired a Director of Reconciliation & Social Justice in 2022 to lead this work but, unfortunately, we parted ways earlier this year. The organization recently received notice that all members of the Indigenous Planning Perspectives Committee (IPPC) have resigned.

We regret this development and have since met with some former committee members to hear their concerns and ideas about how to successfully move forward. We learned that there was concern about the original report's recommendations, about a lack of clarity and purpose among committee members and a concern about safe space for Indigenous committee members who formed the majority of the committee. We take this feedback seriously and appreciated having the opportunity for an open dialogue. Volunteers are at the core of OPPI, and it is important to us that all volunteers feel welcome, safe, and acknowledged for their efforts.

Our Plan to Move Forward

Based on what we have learned, OPPI is in the process of reassessing and rebooting our efforts as they relate to the original Task Force recommendations. Over the next several months, we will be reflecting on what we've learned to develop a path forward. We will consult with experts in the field, other organizations who have done this work, and members of the planning community. We will focus on internal structures, policies, and training before we engage volunteers. We will build trust and respect as an Institute seeking to guide our membership and the public on matters related to social justice and reconciliation.

We are in the process of hiring a new Director of Reconciliation and Social Justice to lead this work. We are committed to getting this right and demonstrating OPPI's leadership in championing the inclusion of Indigenous voices and priorities in planning across Ontario. OPPI remains committed to the principles of the 2019 Indigenous Planning Perspectives Task Force (IPPTF) Report and will continue moving this

important work forward in earnest and with the recognition that there is much still to learn. We are also committed to the principles of transparency and accountability to move forward together as a profession and will communicate our plans and progress with members along the way.

2.2 Canadian Institute of Planners (CIP)

The Canadian Institute of Planners (CIP) is the national professional organization for planners in Canada. It represents and supports over 7,000 professional planners across the country. CIP plays a key role in advocating for excellence in planning practice, providing professional development opportunities, and promoting the value of planning in Canada. CIP policies guide and advance best practices for professional planners in Canada.

CIP has clearly communicated on their [website](#) their support of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and recognizes the impact that these documents have on planning. CIP's Indigenous Community Planning Committee has developed CIP's [Policy on Planning Practice and Reconciliation](#) which acknowledges and highlights how Planners can show support and respect for the rights of Indigenous People and appreciation and understanding of the value of Indigenous Knowledge and stewardship practices. The document was created over an 18-month period which included individual interviews, focus groups and surveys; it was ratified by the CIP Board of Directors in December 2018. The policy highlights the importance, value and best practices for community engagement and consultation, and meaningful consideration of feedback provided by Indigenous communities and people. The document further describes the future goal of reconciliation being meaningfully embedded in the planning practice. Key policy objectives include:

- 1) Respectful planning that takes into consideration the well-being and the natural environment
- 2) That Planners support the realization of the TRC Calls to Action and implementation of the principles of UNDRIP into their work.
- 3) That Planners are aware of and understand the jurisdictional and legal context of planning as it relates to treaties and the rights of Indigenous People.
- 4) That Planners advocate for and engage in meaningful planning process with Indigenous and other communities.
- 5) Planners recognize and uphold Indigenous planning approaches, laws and governance systems.
- 6) Planners advocate for planning policy and legislations that ensures the rights, knowledge, protocols and planning approaches of Indigenous peoples are respected.
- 7) Planners support opportunities for Indigenous people to enter into the planning profession and that their contributions are acknowledged and celebrated.
- 8) Planners respect the diversity of Indigenous peoples across Canada and the different objectives.

CIP's website includes a brief land acknowledgement at the bottom of each webpage and states that they value the ongoing stewardship of Indigenous peoples; there is also a section on their website dedicated to [Indigenous Planning](#). The topic of Reconciliation plays a prominent role in CIP's five year (2022-2027) strategic plan (1835 Days of [Impact](#)). The goal of "More Equitable Planning, Together" is a key pillar of the strategic plan, supported by the long-term aspirations of reconciliation Equity, Diversity and Inclusion, Healthy Communities, Representation and more; this document affirms CIP's intention and

dedication to placing reconciliation, alongside diversity and inclusion, at the heart of the planning practice.

2.3 Ontario Association of Landscape Architects (OALA)

The Ontario Association of Landscape Architects (OALA) is composed of ~2,000 members and is a self-regulating organization within Ontario's professional landscape architecture community that regulates the title of "Landscape Architect." Dedicated to advancing the discipline and promoting the highest standards of practice, the OALA serves as a hub for landscape architects across the province. Through its commitment to professional development, advocacy, and the dissemination of knowledge, the OALA nurtures a network of experts, fostering collaboration and innovation in the field. OALA plays a key role in shaping the architecture landscape in Ontario.

OALA's website does feature a [land acknowledgement](#) and some articles with contributions from members regarding reconciliation and Indigenous topics – however these pages are not straightforward to navigate to. There is evidence of past virtual engagements that cover Indigenous perspectives on development. Overall information on reconciliation and Indigenous people on the OALA's website is not prominent.

OALA is a member of the Canadian Society of Landscape Architects (CSLA), who in June 2022 released [Phase: 3 Strategy & Action Plan](#) as part of their Justice, Equity, Diversity & Inclusion (JEDI) plan for CSLA, LACF and Component Associations. The plan lays out goals, action plans and Key Performance Indicators (KPIs) that will be used to assess effectiveness of the initiative. Key components of the plan include supporting systematic change and support for Black and Indigenous communities, dismantling systematic barriers, addressing racism in the profession and advancing DEI.

2.4 Canadian Society of Landscape Architects (CSLA)

CSLA is a nonprofit organization dedicated to advancing landscape architecture in Canada. With over 3,200 members, including landscape architects and students, CSLA promotes awareness of the profession, advocates for critical issues such as sustainability and cultural heritage; and supports the profession's growth and integrity through development opportunities and research. Established in 1934, CSLA has played a pivotal role in elevating the recognition of landscape architecture both nationally and internationally. Landscape architecture, the discipline at the heart of CSLA's mission, involves the design, planning, and management of outdoor spaces, encompassing a wide range of projects from urban design to environmental stewardship. CSLA is committed to innovation and sustainability, operating with an Environmental, Social, and Governance (ESG) perspective in mind, and strives to uphold the significance of landscape architecture in our evolving world.

CSLA has been actively pursuing initiatives to guide the profession and advance reconciliation with Indigenous People within the space; initiatives include establishing CSLA's Reconciliation Advisory Committee (RAC) on November 16, 2016, with the mandate "to guide the CSLA in improving awareness and capacity for supporting Canada's First Nations, Inuit, and Métis Peoples through landscape architecture and land use planning within CSLA leadership, membership, schools and landscape architecture." CSLA acknowledges how they can contribute to the national effort towards reconciliation between Indigenous and non-Indigenous Canadians by incorporating and the values, voices, and knowledge of Indigenous people in the planning, design and management of Canadian landscapes – and

that this should be the goal of all Landscape Architects. CSLA has published documents to support reconciliation outlined in Table 2 below.

Table 2: CSLA has published documents to support reconciliation

TITLE <i>hyperlinked</i>	Description
<u>CSLA Statement on Reconciliation 2020</u>	CSLA’s Statement on Reconciliation, core principles and vision for the future
<u>CSLA's LP Magazine Themes an Issue on Reconciliation</u>	In the Fall 2019, Reconciliation issue of Landscapes Paysages, read how David Thomas, other Indigenous designers and landscape architects, as well as many firms across the country are discussing the applying the concepts of reconciliation in their projects and practices.
<u>Reconciliation Advisory Committee (RAC) Action Plan for 2019-2021</u>	<p>Overview of CSLA’s Vision for Reconciliation, objectives to implement the vision and principles. The document sets out a roadmap for CSLA to work on meaningful reconciliation with Indigenous people. The document promotes:</p> <ol style="list-style-type: none"> 1) Actively seeking out and engaging with Indigenous people and organizations. 2) Taking an official position for the profession through an official statement and position paper. 3) Developing strategic partnerships. 4) Introduce and promote landscape architecture as a profession through the development of an educational outreach program.

CLSA has been actively working on initiatives to advanced Reconciliation with Indigenous Peoples and reaffirms their commitment to this in their land acknowledgement. In June of 2023, the CLSA Board of Directors adopted UNDRIP as a framework for action and decision making; this is described formally on their website and is in-line with their statement on Reconciliation and the goals and objectives of their Strategic Plan. There is an easily navigable section on their website dedicated to [Reconciliation](#), complete with resources; other material on the website, such as the section on [Cultural Landscapes](#), demonstrates that Indigenous values, views and perspectives are already being considered in the materials and best practices published and advocated for by the organization.

2.5 Ontario Association of Architects (OAA)

The Ontario Association of Architects (OAA) is a professional organization with a mission to promote and uphold the highest standards of architectural practice; the OAA represents over 5,700 architects and interns in the province of Ontario. The OAA serves as a critical platform for networking, knowledge-sharing, and professional development within the architectural community. Through its advocacy efforts, the OAA actively engages on important issues such as urban design, sustainability, and the built environment, demonstrating its commitment to shaping the architectural landscape of Ontario. Additionally, the OAA is deeply involved in accrediting architectural programs and supporting ongoing education and research to ensure the growth and excellence of the architectural profession in the province.

OAA has purposefully taken steps to contribute to reconciliation efforts with Indigenous Peoples including:

- 1) Truth and Reconciliation Working Group, established in June 2020, has made interim recommendations focusing on recognizing the importance of the Truth and Reconciliation Report and Calls to Action for OAA and the architecture profession.
- 2) Emphasis on the value of incorporating traditional knowledge and values into the design and construction of buildings and infrastructure in Ontario.
- 3) Publication of the Truth and Reconciliation Environmental Scan Final Report in 2021, which compiles valuable information to inform their response to the TRC Calls to Action.
- 4) Creation of the Exceptional Leadership Through Design Excellence scholarship and a partnership with Creative Fire to develop a land acknowledgment highlight the OAA's dedication to promoting equity, diversity, inclusion, and reconciliation within the architectural profession.

The OAA has also ran Indigenous cultural competency training days for Councillors, Staff and members of the Truth and Reconciliation Working Group. The working group developed 40 recommendations for OAA to work on to advance reconciliation with Indigenous peoples with key recommendations outlined in Table 3 below.

Table 3: OAA Key Recommendations to Advance Reconciliation with Indigenous Peoples

#	Recommendation	Status
1	Creation of a committee dedicated to enacting the Calls to Action identified by the Truth and Reconciliation's working group as aligning with the OAA's mandate and architects Act.	Done
2	Hiring a Consultant (preference for an Indigenous consultant) to help the OAA's Truth and Reconciliation Committee develop a curriculum for training regarding awareness and education for members that combines Indigenous Cultural Competency Training with skills development for the profession of architecture.	Done
3	That acceptable Cultural Competency Training be eligible to count for yearly credits	Done
4	The OAA fund a scholarship for Indigenous students to study architecture at University or College.	Exceptional Leadership Through Design Excellence: Equity, Diversity & Inclusion (EDI) and Truth & Reconciliation Scholarship announced in 2021.
5	That OAA and OAA members advocate that at all Federal, Provincial and Municipal institutional buildings, and buildings funded or associated with publicly funded infrastructure, have a requirement to create spaces and/or markers to reflect and respect the traditional occupation of those lands by Indigenous peoples and to facilitate cultural awareness.	Ongoing
6	That a consultant be contracted to develop best practices for engaging with Indigenous peoples on land recognition ceremonies at various phases of a project.	Done

It is noted that in the fulsome document from OAA, creating the appropriate space and respecting Indigenous people, views and perspectives, including them in the conversation, having them lead and be active participants, was clearly communicated. OAA also has a mentorship program, the intake form is being revised to include opportunity to applicants to self-identify.

The OAA website has a dedicated section to Reconciliation which is easy to navigate, consideration for Indigenous contributions to Architecture has also been given prominence as you navigate their materials.

In 2021 OAA also conducted a voluntary survey that looked at demographic data within their membership, this survey found that 0.8% of respondents identified as Indigenous.

2.6 Royal Architectural Institute of Canada (RAIC)

The Royal Architectural Institute of Canada (RAIC) serves as the voice for architecture in Canada and represents thousands of architectural professionals and students across the country. Established in 1907, the RAIC is dedicated to promoting excellence in architecture and advocating for the value of design in enhancing the built environment. Through a range of programs and initiatives, including professional development, awards, and advocacy efforts, the RAIC fosters collaboration, knowledge sharing, and innovation within the architectural community. Furthermore, the RAIC is deeply committed to advancing sustainability, inclusivity, and the highest standards of architectural practice in Canada. As a prominent organization in the field, the RAIC plays a vital role in shaping the architectural landscape and contributing to the well-being of Canadian communities.

RAIC launched their Indigenous Task Force (ITF) on June 9, 2016 with a goal to promote Indigenous design and architecture in Canada in Indigenous communities, and to advocate with and on behalf of Indigenous communities. RAIC also has a Truth and Reconciliation Task Force that provides leadership on how the organization can advance reconciliation with Indigenous Peoples. RAIC adopted UNDRIP on June 30, 2021, the organization has also hosted events such as the 2021 International Indigenous Architecture and Design Symposium and Indigenous Architecture Day (June 20). RAIC has compiled Indigenous-focused conference materials and educational resources accessible to its members through the members' portal and course catalog; additionally they have contracted an Indigenous consulting company to delivery Indigenous focused educational materials. RAIC actively advocates for the meaningful engagement of Indigenous Peoples, and encourages their members to explore and expand their understanding of reconciliation, Indigenous communities and meaningful engagement, by providing relevant resources and support. RACI has a database of Indigenous professional architects, populated through voluntary self-identification.

RAIC's ongoing efforts reflect its commitment to reconciliation by promoting respectful collaboration, education, and awareness within the architectural profession.

2.7 The Ontario Archaeological Society (OAS)

OAS is a prominent non-profit organization dedicated to advancing the understanding, appreciation, and preservation of archaeology within the province of Ontario, Canada. With a rich history spanning decades, the society serves as a hub for archaeologists, scholars, students, and enthusiasts who share a passion for uncovering the past and unraveling the mysteries of Ontario's diverse heritage. Through its

diverse range of activities, including events, publications, research, and community engagement, the OAS plays a pivotal role in promoting archaeological knowledge, fostering collaboration, and fostering a deeper connection to the cultural narratives that shape the region. OAS has undertaken several initiatives, many in partnerships with Indigenous Nations, reflecting on and addressing archaeology's role in Truth and Reconciliation, two key initiatives are the OAS Mentorship Program and the Indigenous Archaeological Monitor Training Workshops.

2.7.1 OAS Mentorship Program

2023 is the second year OAS has run a mentorship program that pairs mentees (archaeology students and emerging professionals) with mentors who are more established in the industry and/or academic professional archaeologists. OAS takes special care to facilitate connections that align with cultural perspectives, aiming to pair Indigenous mentees with Indigenous mentors whenever feasible and requested. The program offers a personalized touch, allowing participants to select specific criteria that enhance the likelihood of ideal mentor-mentee matches, examples include:

- 1) Cultural resource management
- 2) Indigenous Engagement
- 3) Indigenous History and Culture

2.7.2 Indigenous Archaeological Monitor Training Workshops

Since 2017, the OAS has partnered with First Nations and other organizations to conduct training sessions for Indigenous Archaeological Monitors. These sessions, typically lasting around a week in southern Ontario, offer comprehensive classroom instruction covering various aspects including Ontario's archaeology, legislative context, standards, and ethical considerations. The training is adaptable, available either in-person or virtually, with workshops spanning 1-2 weeks based on the content. The workshops are designed to be inclusive and accommodating, requiring no prior training or education. They equip participants with essential background knowledge and skills, enabling more meaningful engagement and consultation activities related to archaeological fieldwork and report assessments. Notably, these Indigenous Archaeological Monitor Training Workshops prioritize accessibility, serving as a low barrier entry point for Indigenous communities and Nations to develop internal capacity and understanding of archaeology. The approach often includes community specific subject matter, which combined with the accessible delivery of materials and information, fosters increased attendance, effective capacity building, and heightened interest in archaeology among attendees.

OAS has hired Indigenous Archaeologists to facilitate the training, their efforts in pursuit of Reconciliation with Indigenous people is easily accessible and prominent on their website. OAS has offered support to Indigenous communities to guide their navigation of regulated archaeology practices and has demonstrated awareness of areas in policy and best practices that would benefit from review through an Indigenous lens.

3 Common Elements Across Professional STEM Organizations

In review of the reconciliatory efforts put forth by professional STEM organizations, common elements were apparent, and we have outlined these in Tables 4 and 5.

Table 4: Summary of Common Reconciliation Elements

#	Organization	Acronym	Official Statement	Plan	Advisory Council	Leadership	Indigenous Representation	Policy	Recognition	Observance	Initiatives	Training	Requirements	Indigenous Mentorship	Scholarship	Website	Strategic Partnership	Land Acknowledgement	Dedicated Paid Staff
	Organization name		Has the organization published an official statement pertaining to Indigenous focused reconciliation efforts and initiatives?	Does the organization have a strategic plan focused on/that includes objectives to advance reconciliation with Indigenous people?	Does the organization have an Advisory Council or similar, focused on Indigenous participation and reconciliation or similar?	Does the organization have goals and objectives that focus on ensuring that there is Indigenous representation in leadership positions, boards and/or councils?	Is the organization planning to/currently dedicating resources to increasing Indigenous representation and membership in the organization/field?	Is there a plan to/have organizational policies been reviewed with an Indigenous and or diversity focused lens?	Does the organization promote the recognition of the validity and value of Indigenous Knowledge in the field?	Does the organization observe or recognize dates of significance for Indigenous people?	Does the organization have current initiatives focused on increasing Indigenous participation in the focus field?	Does the organization offer Indigenous cultural competency training?	Does the organization plan to have Indigenous cultural competency as a requirement new and current members?	Does the organization have a mentorship program that has a mechanism to specifically address needs of Indigenous professionals in the field?	Does the organization plan to or currently fund scholarships or bursaries to support Indigenous people in their pursuit of post secondary studies in the focus field?	Does the organization have a dedicated section on their website focused on Indigenous inclusion, reconciliation and/or related?	Does the organization plan to or currently have developed strategic relationships with Indigenous organizations and/or individuals? Ex. Businesses, consultants	Does the organization have a visible Land Acknowledgement?	Does the organization have paid positions dedicated to reconciliation or DEI? "unknown"=no evidence of a paid position was found
1	Ontario Professional Planners Institute	OPPI	No	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes (Plan to)	No	Yes
2	Canadian Institute of Planners	CIP	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	No	No	Yes	No	Yes	Unknown
3	Ontario Association of Landscape Architects	OALA	No	Yes	No	No	No	No	No	No	No	No	Yes	No	No	No	Yes (Plan to)	Yes	Unknown
4	Canadian Society of Landscape Architecture	CSLA	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	Yes (current)	Yes	Yes (Plan to)	Yes	Unknown
5	Ontario Association of Architects	OAA	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes (current)	Yes	Yes (current)	No	Unknown
6	Royal Architectural Institute of Canada	RAIC	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	No	No	Yes	Yes (current)	No	Unknown
7	Association of Consulting Engineering Companies	ACEC-Ontario	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	Unknown

Table 2: Comparison of Reconciliation Initiatives on Professional Engineering Organizations

Disclaimer: The data presented in this chart was exclusively sourced from publicly available documents, and no direct communication or outreach was conducted with the organizations listed.

Table 5: Common Elements of Reconciliation Efforts in STEM Professional Organizations

#	ELEMENT	COMMENTARY
1	Official Statement <i>and/or stance on reconciliation</i>	It is a consideration for Professional organizations to take a clear stance on reconciliation with Indigenous Peoples due to moral and ethical responsibility, to confirm their intentions to advance reconciliation and set an example for others. Canada's history is marked by grave injustices against Indigenous communities, and acknowledging and addressing these wrongs is a key step in the reconciliatory journey. An official statement or stance on reconciliation is a commitment to inclusivity, equity, and the principles of truth and reconciliation.
2	Reconciliation Action Plan <i>and/or elements present in Strategic Plan</i>	Professional organizations should explore the development and adherence to a reconciliation action plan or include commitments that further reconciliation in their organization's Strategic Plan (or similar) to demonstrate their commitment to reconciliation with Indigenous Peoples and create accountability.
3	Advisory Council	Committees and/or advisory councils focused on Truth and Reconciliation (or similar) can act as subject matter experts to the organization and provide them with informed strategic advice and keep the organization accountable on delivery of reconciliation goals and objectives. Involving people with lived experiences, Indigenous knowledge and cultural insights can provide a more holistic and informed approach. The focused councils and committees represent dedicated resources and commitment by an organization to advance reconciliation efforts, which bolsters the organization's credibility and commitment.
4	Indigenous Representation	Indigenous representation in key committees, councils and leadership positions is important to ensure diversity of people, worldview, mindset, knowledge and values. It is also important for inspiration and connection with other Indigenous peoples and minorities who may find relatable aspects and role models in Indigenous people in leadership positions; this further promotes inclusivity and understanding.
5	Policy	Reviewing corporate policies with an Indigenous lens is essential to identify and rectify potential biases, disparities, or unintended consequences that might disproportionately affect Indigenous communities. It is an opportunity to address any systematic barriers and revise for a more inclusive and equitable approach to policy-making, aligning with the principles of reconciliation and respect for Indigenous rights and perspectives.
6	Recognition	Recognizing Indigenous contributions to professional engineering acknowledges the valuable expertise and perspectives that enrich the field, fostering innovation, inclusivity, and respect for Indigenous knowledge. The acknowledgement can foster feelings of pride and validation for other Indigenous professionals.

7	Observance	Acknowledgement of commemoration days for Indigenous peoples is important in demonstrating respect for Indigenous people and acknowledging historical injustices and promoting awareness of reconciliation efforts.
8	Supporting Initiatives ex. Scholarships to Raise Indigenous Interest and Participation in the Field	Financial barriers often hinder Indigenous individuals from pursuing planning and engineering in higher education. The current underrepresentation of Indigenous people in leadership and membership within professional engineering organizations can be addressed by implementing initiatives to generate interest and reduce entry and career maintenance barriers, facilitating the growth of professional Indigenous engineers and students.
9	Website	Professional organizations can demonstrate their commitment to reconciliation with Indigenous Peoples by maintaining dedicated sections on their websites that offer up-to-date information and resources related to Indigenous matters and the organization's reconciliation efforts. These sections serve as a transparent means of communicating the organization's commitment and progress in advancing reconciliation.
10	Land Acknowledgement	Land acknowledgments are important for professional organizations as they recognize and respect the Indigenous peoples' traditional territories on which these organizations operate, acknowledging the historical and ongoing presence of Indigenous communities. This gesture demonstrates the organization's commitment to reconciliation and serves as a reminder of the need for meaningful engagement with Indigenous knowledge and perspectives. It is essential that these acknowledgments are genuine and not performative, reflecting a sincere commitment to advancing reconciliation.
11	Dedicated Resources	Resources, both in terms of time and money, are important for advancing reconciliation with Indigenous people. Sufficient resources demonstrate a tangible commitment to reconciliation and provide resources to support reconciliatory efforts including facilitating meaningful engagement with Indigenous communities, the development of culturally sensitive policies, and the implementation of educational and capacity-building initiatives. Dedicated paid personnel with access to suitable resourcing and who are empowered to steer the organization, develop action plans, launch initiatives and programming and enforce accountability for any agreed-upon commitments can increase the likelihood of success. The value of their efforts and initiatives may be diminished and face neglect if the means and authority to enforce them are lacking.
12	Acknowledgement	Acknowledgement of the impacts of past and present colonial practices that settlers and the institution have benefited from, and commitment to identify and address and reform these practices.
13	Awareness and Education	The deliberate absence of exposure to accurate histories of settler colonialism and systemic racism against Indigenous Peoples has resulted in

		<p>generations of Canadians who are uninformed or unaware. Only recently has reconciliation been at the forefront and the genuine experiences of Indigenous peoples been widely shared. Raising awareness and educating ourselves on the experiences of Indigenous peoples, the role settlers have had in colonization, lasting impacts and what can collectively be worked on to make progress towards meaningful reconciliation are important steps we must actively pursue.</p> <p>Developing thorough Indigenous awareness learning modules that will become a requirement for professional certification will help to ensure that Professional Engineers have a better understanding of the experiences of Indigenous People, how to create culturally safe spaces and meaningful engagement opportunities.</p> <p>Learning is continuous, and it is important to include learning elements where possible (ex. In newsletters, articles, social media posts, in-house resources, additional learning opportunities, talks, presentations and more), and also to include genuine Indigenous voices to share their experiences and expertise.</p>
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4 Lessons Learned

1.1 Self-identification and Indigenous Identity Fraud

The issue of “Pretendians” are individuals who falsely claim Indigenous identity, it is a topic that has been receiving heightened attention lately and poses several issues within the context of Indigenous issues and reconciliation. One major concern is misrepresentation, as these individuals often portray themselves as Indigenous when they have no legitimate connection to Indigenous cultures or communities. This misrepresentation undermines the integrity of Indigenous identities and cultures. Pretendians may exploit their false claims to gain advantages, such as accessing financial benefits or occupying spaces and platforms intended for Indigenous people. This unethical behavior not only diverts resources away from genuine Indigenous individuals and communities but also erodes trust and authenticity within Indigenous advocacy and reconciliation efforts. Addressing the issue of Indigenous identity fraud is essential for fostering genuine dialogue, respecting Indigenous rights, and upholding the principles of reconciliation.

Self-identification as "Indigenous" can be a concern when it is not accompanied by a genuine connection to Indigenous cultures or communities. While self-identification is an important aspect of recognizing one's identity, it becomes problematic when individuals falsely claim Indigenous identity without a legitimate basis. It is important that those who self-identify as Indigenous can provide the supporting documents or demonstrate community support to verify the legitimacy of their claim and to ensure that those who genuinely belong to Indigenous communities receive the support and recognition they deserve. Institutions are now moving beyond self-identification and are now verifying Indigenous identity; this can be seen in the University of Waterloo, University of Saskatchewan and others.

There are several cases where Individuals have lost their employment due to Indigenous identity fraud, many of which have been named publicly and received heightened media attention. Professional organizations can mitigate reputational and relationship risks with Indigenous people and communities by proactively taking steps to mitigate Indigenous identity fraud within their organizations and ensuring that space for Indigenous people is occupied by Indigenous people.

There are several methods of confirming Indigenous identity such as:

- 1) A valid status card.
- 2) Confirmation from 2 prominent community members, such as elected Chief and Council that an individual is a band member. It is recommended that this confirmation be such that those who vouch for the individual would be willing to publicly confirm and be willing to testify to the validity of the claim.
- 3) Verified genealogy.

1.2 Decolonializing Mindset and Practices

The culture of the organization is largely influenced and determined by the collective and individual behaviours of staff and members of the organization. Decolonizing mindsets within professional organizations is a vital step towards truth and reconciliation, particularly for institutions that have been established with western mindsets and frameworks that perpetuate colonial values, hierarchies, and power structures. The presence of implicit bias, challenges in accepting that settlers have and continue

to benefit from colonial institutions and practices, can present hurdles; as does low receptiveness to Indigenous worldviews and knowledge systems which one is not familiar with. Decolonization involves challenging the dominance of Western thought, acknowledging contemporary realities and settler colonialism and dismantling these systems to create more equitable and inclusive environments. Pursuing reconciliation can come with many growing pains, so it is important that participants be open minded, flexible respectful intentional and dedicated.

Examining past behaviors, practices, and policies from an Indigenous perspective is important for decolonizing mindsets, fostering understanding, and gaining acceptance of necessary changes to adopt a more culturally appropriate approach. Decolonization is a gradual process and is well coupled with the development of awareness and education initiatives that can support the development of a more meaningful understanding and appreciation.

1.3 Creating a Safe Space for Indigenous Peoples

Indigenous safe spaces are environments, physical or virtual, where Indigenous individuals can engage, express themselves, and contribute without fear of discrimination, prejudice, or colonial oppression. These spaces are characterized by respect for Indigenous cultures, values, and perspectives and are free from microaggressions, stereotypes, or any form of harm directed at Indigenous Peoples. Indigenous safe spaces aim to foster a sense of belonging, empowerment, and cultural affirmation for Indigenous individuals, allowing them to share their experiences, knowledge, and insights freely. These spaces are essential for promoting inclusivity, diversity, and reconciliation within organizations and communities.

Settler behavior and response play a crucial role in the creation of safe spaces for Indigenous peoples. When settlers are welcomed into these spaces, it is essential for them to demonstrate respect, active listening, and a genuine commitment to learning and understanding Indigenous perspectives. Feedback and comments from Indigenous individuals should be taken seriously and used as opportunities for growth and reconciliation. Tokenistic or superficial behavior should be avoided as it can undermine the trust and positive intentions of the relationship between settlers and Indigenous individuals and communities. Authenticity and a sincere desire to engage in meaningful dialogue are key to fostering trust and building bridges between settlers and Indigenous peoples on the path to reconciliation.

5 Next Steps

This report is being provided to PEO for review and comment. We are also completing other that will be submitted under separate cover, and then we will move into engagement.

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Appendix C – Key Reconciliation Focused Documents Research

Reconciliation Documents Research Findings

DRAFT – October 06, 2023

Revised - March 2024

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1 Introduction

The Professional Engineers of Ontario (PEO) has retained Indigenous and Community Engagement (ICE) Inc. to undertake primary and secondary research to support PEO in identifying policy approaches and other tasks to answer the TRC Calls to Action as they relate to PEO's Code of Ethics and Anti-Racism and Equity Code. This report reflects the findings of the review and research on the findings of reconciliation related documents.

1.1 Report Layout

We have divided the report into 4 main sections:

- 1) Introduction
- 2) Overview, Key Recommendations and Takeaways
- 3) Similarities and Recommendations
- 4) Next Steps

1.2 Documents Reviewed

During the initial stages of the project we identified some key major documents to review to inform the policy approaches to answer the TRC Calls to Action as they relate to PEO's Code of Ethics and Anti-Racism and Equity Code. These documents include:

- 1) United Nations Declaration on the Rights of Indigenous Peoples
- 2) Truth and Reconciliation Commission Calls to Action, and
- 3) National Inquiry Into Missing and Murdered Indigenous Women and Girls, Calls to Justice

All documents that were reviewed and/or cited in this report are listed in the References.

2 United Nations Declaration on the Rights of Indigenous Peoples

2.1 Overview

The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) is an international framework that was adopted by the United Nations General Assembly September 13, 2007 (United Nations Declaration on the Rights of Indigenous People, 2007). UNDRIP sets out a comprehensive collection of individual and collective rights for Indigenous communities worldwide in 46 articles. It acknowledges the unique cultural, social, and economic attributes of Indigenous peoples and seeks to rectify historical injustices while promoting reconciliation, respect, and equitable partnerships.

2.2 Purpose

The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) does not introduce new human rights standards; it reaffirms and emphasizes rights that are already found in various international human rights treaties. UNDRIP serves as a framework for assessing whether states' laws and policies align with the human rights of Indigenous peoples. The endorsement of UNDRIP by the United Nations adds pressure on countries to uphold these standards, promoting consistency in human rights practices across nations.

UNDRIP acknowledges the specific rights of Indigenous people, that they are equal to all other peoples and affirms that all peoples contribute to the diversity and richness of civilizations and cultures. UNDRIP reaffirms that Indigenous people exercising their rights should be free from all discrimination. UNDRIP highlights collective rights, acknowledging that many Indigenous rights are shared and interconnected, especially in terms of land ownership and resource management.

2.3 UNDRIP in Canada

UNDRIP's significance lies in its global recognition of Indigenous rights and its ability to guide policy-making and legislative efforts towards greater respect, recognition, and protection of these rights. The 2015 TRC Calls to Action called on the Federal Canadian Government to “develop a national action plan, strategies, and other concrete measures to achieve the goals of the United Nations Declaration on the Rights of Indigenous Peoples” (#44 TRC Calls to Action p.4) ; throughout the TRC Calls to Action, organizations and Canadians are encouraged to become educated on UNDRIP and develop policies and pursue actions to implement UNDRIP as part of reconciliation work.

In 2016 the Government of Canada fully endorsed UNDRIP and committed to its implementation (Government of Canada, Department of Justice, Electronic Communications, 2023b). “On June 21, 2021, the United Nations Declaration on the Rights of Indigenous Peoples Act received Royal Assent and came into force. This Act provides a roadmap for the Government of Canada and First Nations, Inuit and Métis to work together to implement the UN Declaration based on lasting reconciliation, healing and cooperative relations” (Government of Canada, Department of Justice, Electronic Communications, 2023). The Act highlights the importance of ensuring that all federal laws are consistent with UNDRIP. The 2023-2028 UN Declaration Act Action Plan was developed in consultation with Indigenous communities and people across Canada and was released on June 21, 2023; the focus of this plan is to advance the implementation of UNDRIP. UNDRIP serves as a catalyst for positive change and a means to address historical injustices while promoting inclusive and equitable societies.

2.4 Key Recommendations, and Takeaways

UNDRIP is not legally binding, the document provides authoritative ideas and approaches to guide the development of laws, policies, and practices, in a way that protects and upholds the rights of Indigenous people. Central themes of UNDRIP:

- 1) **Self-Determination:** UNDRIP recognizes the right of Indigenous peoples to self-determination, allowing them to freely determine their political status, development, and economic systems. This principle reinforces the importance of Indigenous communities' autonomy and decision-making authority.
- 2) **Land and Resources:** The declaration acknowledges the inherent rights of Indigenous peoples to their traditional lands, territories, and resources. UNDRIP emphasizes the necessity of obtaining Free, Prior, and Informed Consent (FPIC) from Indigenous communities before any projects or activities impacting their land are undertaken.
- 3) **Cultural Identity and Participation:** UNDRIP affirms Indigenous peoples' right to practice, revitalize, and transmit their cultural heritage. The declaration also emphasizes the importance of their full and effective participation in all matters that concern them, particularly when policies and projects may affect their rights.
- 4) **Consultation and Consent:** UNDRIP underscores the significance of engaging in consultation and obtaining the FPIC of Indigenous communities before implementing projects that could affect their rights, resources, or territories.
- 5) **Non-Discrimination:** The declaration calls for the elimination of discrimination against Indigenous peoples and the promotion of their full participation in society without prejudice.
- 6) **Education and Language:** UNDRIP advocates for the right of Indigenous peoples to establish and control their educational systems, while ensuring that their cultural values and languages are preserved and respected.

The following outlines some of the key relevant articles from UNDRIP for PEO to consider in policy changes, training, and how they conduct business.

Article 2:

Indigenous peoples and individuals are free and equal to all other peoples and individuals and have the right to be free from any kind of discrimination, in the exercise of their rights, in particular that based on their indigenous origin or identity.

Article 5:

Indigenous peoples have the right to maintain and strengthen their distinct political, legal, economic, social and cultural institutions, while retaining their right to participate fully, if they so choose, in the political, economic, social and cultural life of the State.

Article 8:

1. Indigenous peoples and individuals have the right not to be subjected to forced assimilation or destruction of their culture.
2. States shall provide effective mechanisms for prevention of, and redress for:
 - (a) Any action which has the aim or effect of depriving them of their integrity as distinct peoples, or of their cultural values or ethnic identities;

- (b) Any action which has the aim or effect of dispossessing them of their lands, territories or resources;
- (c) Any form of forced population transfer which has the aim or effect of violating or undermining any of their rights;
- (d) Any form of forced assimilation or integration;
- (e) Any form of propaganda designed to promote or incite racial or ethnic discrimination directed against them.

Article 11:

1. Indigenous peoples have the right to practise and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as archaeological and historical sites, artefacts, designs, ceremonies, technologies and visual and performing arts and literature.

Article 13:

1. Indigenous peoples have the right to revitalize, use, develop and transmit to future generations their histories, languages, oral traditions, philosophies, writing systems and literatures, and to designate and retain their own names for communities, places and persons.
2. States shall take effective measures to ensure that this right is protected and also to ensure that indigenous peoples can understand and be understood in political, legal and administrative proceedings, where necessary through the provision of interpretation or by other appropriate means.

Article 14:

2. Indigenous individuals, particularly children, have the right to all levels and forms of education of the State without discrimination.
3. States shall, in conjunction with indigenous peoples, take effective measures, in order for indigenous individuals, particularly children, including those living outside their communities, to have access, when possible, to an education in their own culture and provided in their own language.

Article 15:

1. Indigenous peoples have the right to the dignity and diversity of their cultures, traditions, histories and aspirations which shall be appropriately reflected in education and public information.
2. States shall take effective measures, in consultation and cooperation with the indigenous peoples concerned, to combat prejudice and eliminate discrimination and to promote tolerance, understanding and good relations among indigenous peoples and all other segments of society.

Article 17:

3. Indigenous individuals have the right not to be subjected to any discriminatory conditions of labour and, inter alia, employment or salary.

Article 18:

Indigenous peoples have the right to participate in decision-making in matters which would affect their rights, through representatives chosen by themselves in accordance with their own procedures, as well as to maintain and develop their own indigenous decision-making institutions.

Article 23:

Indigenous peoples have the right to determine and develop priorities and strategies for exercising their right to development. In particular, Indigenous peoples have the right to be actively involved in developing and determining health, housing and other economic and social programmes affecting them and, as far as possible, to administer such programmes through their own institutions.

Article 26:

1. Indigenous peoples have the right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired.
2. Indigenous peoples have the right to own, use, develop and control the lands, territories and resources that they possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired.
3. States shall give legal recognition and protection to these lands, territories and resources. Such recognition shall be conducted with due respect to the customs, traditions and land tenure systems of the indigenous peoples concerned.

Article 32:

1. Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources.

2.5 Suggested Focus Areas of UNDRIP for PEO

PEO may choose to assess UNDRIP and the key components to develop a thorough understanding of how UNDRIP applies to the Planning Practice, as a regulator PEO can look at how UNDRIP applies to the regulation of the profession. Guiding policies can be developed to support planners and the PEO in advancing reconciliation through their daily work. Key objectives may include:

- 1) Encouraging better understanding, awareness and respect for the Right of Indigenous People as described in UNDRIP.
- 2) Demonstrating awareness, respect and valuing Indigenous Knowledge in the profession.
- 3) Equipping Planners with the competencies and expertise to act ethically and champion meaningful engagement and consultation when their projects have the potential to affect recognized or reasonably asserted Aboriginal and Treaty Rights.
- 4) That PEO look for ways to lower accessibility barriers for diverse peoples interested or currently in the profession.
- 5) That the PEO make a dedicated effort to address any real or perceived discrimination within the organization and within their field of influence.

Several organizations, including the Canadian Institute of Planners (CIP), have recognized the importance of UNDRIP in the context of urban planning. To underscore their commitment, CIP has issued an official statement expressing their endorsement of UNDRIP. CIP has also formulated a Policy on Planning Practice and Reconciliation, which not only acknowledges this endorsement but also emphasizes how planners can demonstrate their respect for Indigenous rights and showcase their understanding and appreciation for the significance of Indigenous Knowledge and stewardship practices within the field of planning.

3 Truth and Reconciliation Calls to Calls to Action

3.1 Overview

The Truth and Reconciliation Commission (TRC) of Canada was established as part of the Indian Residential Schools Settlement Agreement. One of the elements of the agreement was the establishment of the TRC of Canada to facilitate reconciliation between former students, their families, their communities and all Canadians. Over a period of 6 years the TRC travelled across Canada and heard from over 6500 witnesses. The final report was presented, which included the 94 Calls to Action aimed at addressing the historical injustices and ongoing impacts of the Indian Residential School system on Indigenous communities, was released on June 2, 2015. These Calls to Action constitute a comprehensive framework for advancing reconciliation and fostering understanding between Indigenous and non-Indigenous peoples in Canada. This marked a pivotal moment in Canada's history, as it officially acknowledged the atrocities committed within the residential school system and set forth a roadmap for reconciliation between Canada and Indigenous Peoples.

3.2 Purpose

The significance of the TRC Calls to Action lies in their potential to foster healing, restore relationships, and build a more equitable and inclusive society. The Calls to Action encompass a wide range of areas, including education, child welfare, language revitalization, health care, justice, and commemoration. They highlight the need for collaborative efforts between Indigenous peoples, governments, organizations, and Canadian society to address the intergenerational impacts of colonialism and to work towards a future of understanding, respect, and shared prosperity. Incorporating the principles of the TRC Calls to Action into the work of professional organizations like the PEO demonstrates a commitment to acknowledging the historical injustices faced by Indigenous communities and actively participating in the journey of reconciliation. By embracing these recommendations, PEO can contribute to dismantling systemic barriers, promoting diversity and inclusion, and fostering positive change within the engineering profession and beyond.

3.3 Key Recommendations, and Takeaways

The following TRC Calls to Action have been pulled from the original document to highlight some specific Calls to Action that can be considered as focus points.

TRC Call to Action # 57 – Professional Development

We call upon federal, provincial, territorial, and municipal governments to provide education to public servants on the history of Aboriginal peoples, including the history and legacy of residential schools, the United Nations Declaration on the Rights of Indigenous Peoples, Treaties and

Aboriginal rights, Indigenous law, and Aboriginal–Crown relations. This will require skills-based training in intercultural competency, conflict resolution, human rights, and anti-racism.

PEO can consider the development and implementation, and/or advocate for mandatory cultural competency training for its Council, staff and possibly members to support engaging respectfully and effectively with Indigenous communities and people both internally and externally.

TRC Call to Action # 92 – Business and Reconciliation

We call upon the corporate sector in Canada to adopt the United Nations Declaration on the Rights of Indigenous Peoples as a reconciliation framework and to apply its principles, norms, and standards to corporate policy and core operational activities involving Indigenous peoples and their lands and resources. This would include, but not be limited to, the following:

- I. Commit to meaningful consultation, building respectful relationships, and obtaining the free, prior, and informed consent of Indigenous peoples before proceeding with economic development projects;*
- II. Ensure that Aboriginal peoples have equitable access to jobs, training, and education opportunities in the corporate sector, and that Aboriginal communities gain long-term sustainable benefits from economic development projects;*
- III. Provide education for management and staff on the history of Aboriginal peoples, including the history and legacy of residential schools, the United Nations Declaration on the Rights of Indigenous Peoples, Treaties and Aboriginal rights, Indigenous law, and Aboriginal–Crown relations. This will require skills based training in intercultural competency, conflict resolution, human rights, and anti-racism.*

PEO could consider encouraging government, engineering firms and companies to adopt the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) as a reconciliation framework.

TRC Call to Action #64 - Indigenous Students and Engineering

We call upon all levels of government that provide public funds to denominational schools to require such schools to provide an education on comparative religious studies, which must include a segment on Aboriginal spiritual beliefs and practices developed in collaboration with Aboriginal Elders.

PEO can consider creating scholarships and financial support programs specifically for Indigenous students pursuing engineering degrees.

Call to Action #92 – Business and Reconciliation

We call upon the corporate sector in Canada to adopt the United Nations Declaration on the Rights of Indigenous Peoples as a reconciliation framework and to apply its principles, norms, and standards to corporate policy and core operational activities involving Indigenous peoples and their lands and resources. This would include, but not be limited to, the following:

Commit to meaningful consultation, building respectful relationships, and obtaining the free, prior, and informed consent of Indigenous peoples before proceeding with economic development projects;

Ensure that Aboriginal peoples have equitable access to jobs, training, and education opportunities in the corporate sector, and that Aboriginal communities gain long-term sustainable benefits from economic development projects;

Provide education for management and staff on the history of Aboriginal peoples, including the history and legacy of residential schools, the United Nations Declaration on the Rights of Indigenous Peoples, Treaties and Aboriginal rights, Indigenous law, and Aboriginal–Crown relations. This will require skills based training in intercultural competency, conflict resolution, human rights, and anti-racism.

This call to action specifically calls on corporate Canada to help create a better future. As an important leader in the field of engineering and regulator of the Professional Engineering designation, PEO may consider advocating for other professional organizations to develop and adopt reconciliation action plans and prioritize Indigenous engagement in their sectors. PEO should also consider preparing a Reconciliation Action Plan, and possibly pursuing the Progressive Aboriginal Relations (PAR) designation from the Canadian Council for Aboriginal Business (CCAB).

3.4 Suggested Focus Areas of TRC Calls to Action for PEO

In charting a path towards meaningful reconciliation with Indigenous people and addressing systemic barriers within the PEO, it is recommended to prioritize actionable and effective Truth and Reconciliation Commission (TRC) Calls to Action. The recommendations discussed below have been selected to support the positive development of relationships with Indigenous communities and people, but also to create long-term benefits for Indigenous communities, dismantle obstacles, and contribute to equitable opportunities in the engineering profession. By focusing on actions that offer long-term benefits for Indigenous communities and foster positive relationships, PEO can contribute to the broader reconciliation process while aligning with its capabilities and resources. The TRC Calls to Action contain several key takeaways and themes that may inform key developmental focus areas for PEO, as outlined below.

Acknowledgment of Indigenous Rights:

Recognizing Indigenous rights, including land rights and self-governance, is vital as it demonstrates respect for Indigenous sovereignty. By promoting active engagement in respectful dialogue and agreements with Indigenous communities, PEO is emphasizing the importance of legal and ethical obligations while building trust with Indigenous communities. This contributes to reconciliation through demonstrating awareness of historical injustices and working towards a more proactive and aware society. Acknowledgement and support of established and/or credibly asserted Aboriginal and treaty rights ultimately enhances PEO's reputation as a socially responsible and aware organization. A first step towards this may include the development of a Land Acknowledgement.

Cultural Competency and Training:

Cultural competency training can provide important knowledge and skills for all individuals who want to engage effectively with Indigenous people. Cultural competency training helps professionals understand and respect the cultural nuances, values, and protocols of Indigenous Peoples. By investing in such training, PEO can improve internal communications and encounters within the organization and support its members approach to interactions with cultural sensitivity - fostering positive relationships with

Indigenous communities. This advances reconciliation by bridging cultural divides, contributing to safe spaces for Indigenous people and promoting mutual understanding.

Partnerships and Collaboration:

PEO has the opportunity to advocate for the industry to always seek collaborative partnerships with Indigenous communities, promote shared decision-making and resource management. There is also opportunity to strengthen relationships with Indigenous Engineers internally through collaboration and dedicated efforts to address areas of improvement in Diversity Equity and Inclusion, and reconciliation efforts with Indigenous People. A collaborative approach that encourages Indigenous participation and that has dedicated resources and set asides for Indigenous people can demonstrate acknowledgement of the importance of efforts to advance reconciliation and importance of including diverse perspectives and knowledge.

Education and Awareness:

Educational initiatives that raise awareness about Indigenous history, culture, and rights are important as many adults did not grow up in the era of reconciliation where what is now accepted as the truth of Canada's history with Indigenous People was not taught to previous generations. The developments in the understanding of residential schools in Canada have advanced rapidly, and Canada has dedicated significant resources to uncover the truth and work on reconciliatory efforts. It is important that all Canadians be aware of experiences and history of Canada. This knowledge coupled with legal requirements such as the Duty to Consult, can provide Engineers the necessary background knowledge to better understand how their projects may impact Indigenous people, land use and their rights. Additional knowledge on the history of Indigenous people is also important to inform policies and best practices within the engineering realm of PEO. PEO is able to advocate for increased cultural competency training to provide members and other professionals with additional knowledge and tools to more effectively perform their jobs. Cultural competency training within PEO's staff and chapters can better prepare staff for future activities and interactions by dispelling stereotypes and misconceptions, promoting empathy, and encouraging active engagement in reconciliation efforts.

Equity and Inclusion:

Addressing disparities and promoting equity within the engineering profession is important. PEO could consider investing in efforts to eliminate systemic barriers demonstrate a commitment to fairness and justice. PEO may consider increasing inclusion through creating reconciliation focused council with Indigenous staff, reserving space for Indigenous People on ballots and other. By actively seeking to create a more inclusive environment, PEO not only opens doors for Indigenous engineers but also sets an example for other professional organizations. This promotes social credit by showcasing PEO as a leader in diversity and inclusion.

Mentorship and Support:

Providing mentorship and support for Indigenous students and professionals encourages their active participation in the engineering field. PEO's mentorship programs can be revised to include efforts that would better demonstrate a commitment to nurturing Indigenous talent. This investment in the future workforce contributes to reconciliation by breaking down barriers, supporting Indigenous student success, and ensuring that Indigenous voices are heard in the profession.

Data Collection:

Collecting race-based data is an important step in tracking progress and identifying areas for improvement. Accurate and fulsome data collection can be later used to demonstrate transparency and accountability in its efforts to increase diversity and inclusion. Through better data collection and the implementation of key recommendations, PEO may be able to show its dedication to reconciliation and provide evidence of positive change, enhancing its social credit as a responsible and progressive organization.

Incorporating and/or giving consideration to these focus areas in the development of policies, practices, and initiatives aligns PEO with the TRC Calls to Action but also positions it as a leader who advocates for and support the advancement of reconciliation within the engineering profession and Canadian society. This proactive stance not only fosters social credit but also contributes to a more equitable and inclusive future.

Additional efforts can be considered to address systemic barriers:

- Develop mentorship programs connecting Indigenous engineers with established professionals.
- Create pathways for Indigenous students to gain practical experience and meet PEO's requirements.
- Offer workshops on navigating the engineering licensure process for Indigenous individuals.

By focusing on these TRC Calls to Action and addressing systemic barriers, PEO can drive substantive change, foster relationships, and contribute to long-term benefits for Indigenous communities. These actions not only promote reconciliation but also ensure a more equitable and inclusive future for Indigenous individuals pursuing professional engineering designations.

4 National Inquiry Into Missing and Murdered Indigenous Women and Girls

4.1 Overview

The Final Report on the National Inquiry into Missing and Murdered Indigenous Women and Girls, also known as the "MMIWG Inquiry," is a comprehensive document that sheds light on the systemic issues contributing to the violence against Indigenous women, girls, and gender-diverse people in Canada. Released in 2019, it consists of a thorough examination of historical, social, economic, and political factors that have perpetuated this crisis. The report also includes a set of Calls for Justice, which provide actionable recommendations for addressing the underlying causes and seeking justice for the victims.

The relevance of this report to the Professional Engineers of Ontario (PEO) lies in its call for widespread societal change, including addressing the root causes of violence against Indigenous people. PEO, as a professional organization representing engineers, plays an important role in promoting equitable and inclusive practices within the engineering profession. The report's emphasis on systemic issues, gender-based violence, and the importance of meaningful engagement with Indigenous communities aligns with PEO's commitment to diversity, equity, and reconciliation.

For PEO, the report may serve as a valuable resource for understanding the broader context of reconciliation and Indigenous rights. It highlights the importance of Indigenous perspectives and the need for collaboration with Indigenous communities. PEO can draw insights from the report to inform its initiatives related to Indigenous engagement, education, and inclusivity, ensuring that its actions align with the Calls for Justice and contribute to addressing the ongoing challenges faced by Indigenous women, girls, and gender-diverse individuals. Ultimately, by incorporating the principles and recommendations of the MMIWG Inquiry into its practices, PEO can actively contribute to National reconciliation efforts.

4.2 Purpose

The MMIWG Inquiry aims to bring justice and accountability to the forefront. It seeks to uncover the truth about these cases and hold individuals, institutions, and systems accountable for any wrongdoing, ultimately aiming to provide justice for the victims and their families.

A pivotal purpose of this inquiry is to delve into the root causes of violence against Indigenous women and girls. This includes a comprehensive examination of systemic racism, poverty, inequality, and the enduring impacts of colonization. By understanding these underlying factors, the inquiry seeks to develop a set of recommendations, referred to as the "Calls for Justice," which offer a blueprint for long-term change.

The Calls for Justice encompass a wide range of areas, including legal reforms, social services, education, healthcare, and more. They emphasize the need for Indigenous voices and perspectives to be centered in policy development and decision-making processes, recognizing that meaningful engagement with Indigenous peoples is essential to addressing the root causes of violence and discrimination.

Another aspect of the report is the intent to raise awareness about the disproportionate violence faced by Indigenous women and girls and to prevent further cases. The inquiry functions as a catalyst for transformative change aimed at eliminating the conditions that render Indigenous women and girls vulnerable.

The MMIWG Inquiry aligns with Canada's reconciliation efforts with Indigenous peoples. It recognizes the need for healing, reconciliation, and the fostering of respectful relationships between Indigenous and non-Indigenous communities, placing it at the heart of the reconciliation journey.

The MMIWG Inquiry represents a profound exploration of human rights, social justice, and the enduring impact of historical and contemporary colonization on Indigenous communities. The inquiry provides insights into the complexities of addressing violence against Indigenous women and girls, offering a framework for understanding broader issues related to Indigenous rights, gender-based violence, and systemic discrimination. The recommendations arising from this inquiry have far-reaching implications for policy development, legal reforms, and societal change.

4.3 Key Recommendations and Takeaways

The recommendations in the Calls for Justice from the National Inquiry into MMIWG provide a framework for identifying and addressing systemic issues contributing to violence against Indigenous women and girls and encourages the urgent need for action, accountability, and reconciliation. For PEO, an organization committed to diversity, equity, and inclusion, these calls offer guidance on how to advance reconciliation, promote Indigenous representation, and contribute to the broader societal goals of justice and healing – all of which can inform policy development at PEO.

1.2 We call upon all governments, with the full participation of Indigenous women, girls, and 2SLGBTQQIA people, to immediately implement and fully comply with all relevant rights instruments, including but not limited to:[...]

UNDRIP, including recognition, protection, and support of Indigenous self-governance and self-determination, as defined by UNDRIP and by Indigenous Peoples, including that these rights are guaranteed equally to women and men, as rights protected under section 35 of the Constitution. This requires respecting and making space for Indigenous self-determination and self-governance, and the free, prior, and informed consent of Indigenous Peoples to all decision-making processes that affect them, eliminating gender discrimination in the Indian Act, and amending the Constitution to bring it into conformity with UNDRIP.

1.4 We call upon all governments, and in particular Indigenous governments and Indigenous representative organizations, to take urgent and special measures to ensure that Indigenous women, girls, and 2SLGBTQQIA people are represented in governance and that their political rights are respected and upheld. We call upon all governments to equitably support and promote the role of Indigenous women, girls, and 2SLGBTQQIA people in governance and leadership. These efforts must include the development of policies and procedures to protect Indigenous women, girls, and 2SLGBTQQIA people against sexism, homophobia, transphobia, and racism within political life.

2.6 We call upon all governments to educate their citizens about, and to confront and eliminate, racism, sexism, homophobia, and transphobia. To accomplish this, the federal government, in partnership with Indigenous Peoples and provincial and territorial governments, must develop and implement an Anti-Racism and Anti-Sexism National Action Plan to end racist and sexualized stereotypes of Indigenous women, girls, and 2SLGBTQQIA people. The plan must target the general public as well as public services.

15.2 Decolonize by learning the true history of Canada and Indigenous history in your local area. Learn about and celebrate Indigenous Peoples' history, cultures, pride, and diversity, acknowledging the land you live on and its importance to local Indigenous communities, both historically and today.

15.5 Confront and speak out against racism, sexism, ignorance, homophobia, and transphobia, and teach or encourage others to do the same, wherever it occurs: in your home, in your workplace, or in social settings.

4.4 Suggested Focus Areas of The MMIWG Calls to Justice for PEO

Review of Current Policies and Processes

PEO can utilize the MMIWG Calls to Justice to advance reconciliation within its regulatory mandate by reviewing current policies and processes to ensure that they do not perpetuate systemic barriers for Indigenous engineers. This might involve reviewing disciplinary actions, certification requirements, and accreditation processes for potential bias or discriminatory impacts.

PEO can advance Diversity, Equity, and Inclusion (DEI) objectives by actively advocating for DEI principals within the organization and profession. All staff and members should be encouraged to take a proactive stance in addressing and rectifying stances of inappropriate conduct that do not align with the institutional values and ethical conduct expected of members the organization.

Cultural Competency Training

PEO can explore integrating cultural competency training into its professional development requirements for engineers and advocate for cultural competency in engineering programs. This ensures that its members understand Indigenous cultures and perspectives, making them more effective in working collaboratively with Indigenous communities on engineering projects.

Public Interest - Encouraging and Advocating for Proper Engagement

PEO has the opportunity to empower its members with comprehensive knowledge to discern the appropriate instances for engaging and consulting with Indigenous communities on engineering projects. Through active advocacy and promotion of best practices in engagement, PEO can significantly mitigate the likelihood of its members unintentionally contributing to the encroachment of constitutionally protected Aboriginal and Treaty Rights. This approach encourages ethical conduct and contributes to the ongoing reconciliation process, affirming that PEO members consistently demonstrate moral responsibility in their professional endeavors.

5 Common Themes Among Recommendations

Several overarching themes intersect between the MMIWG Calls to Justice, UNDRIP, and the TRC Calls to Action, reflecting a common commitment to reconciliation, equity, and justice. These shared themes include:

- 1) **Recognition of Indigenous Rights:** All three documents emphasize the importance of recognizing and upholding the rights of Indigenous peoples. UNDRIP explicitly outlines these rights, while the TRC Calls to Action and MMIWG Calls for Justice call for their implementation and respect.
- 2) **Cultural Preservation:** Each framework underscores the significance of preserving Indigenous cultures, languages, and traditional knowledge. UNDRIP, for instance, emphasizes the right of Indigenous peoples to maintain and revitalize their cultural practices, while the TRC Calls to Action and MMIWG Calls for Justice call for action to protect and revitalize Indigenous languages.
- 3) **Reconciliation and Healing:** Reconciliation is a central theme across these documents. The TRC Calls to Action call for reconciliation between Indigenous and non-Indigenous Canadians, while the MMIWG Calls for Justice emphasize the need for healing and reconciliation for the families and communities affected by violence. UNDRIP similarly advocates for reconciliation and harmonious relations between Indigenous and non-Indigenous populations.
- 4) **Addressing Historical Injustices:** All three frameworks acknowledge historical injustices faced by Indigenous peoples, including the legacy of residential schools (TRC Calls to Action), violence against Indigenous women and girls (MMIWG Calls for Justice), and land dispossession (UNDRIP). They call for redress, acknowledgment, and action to address these historical wrongs.
- 5) **Inclusivity and Participation:** UNDRIP emphasizes the right of Indigenous peoples to participate in decision-making processes that affect their communities. Similarly, the TRC Calls to Action and MMIWG Calls for Justice advocate for increased Indigenous participation in various sectors, including education, government, and professional organizations.
- 6) **Education and Awareness:** All three documents stress the importance of education and awareness-building. The TRC Calls to Action call for education on Indigenous history and culture, while UNDRIP highlights the right to Indigenous education. The MMIWG Calls for Justice emphasize education and awareness to prevent violence against Indigenous women and girls.
- 7) **Accountability and Implementation:** These frameworks call for accountability in implementing their recommendations. UNDRIP emphasizes the responsibility of states to implement its provisions, while the TRC Calls to Action outline specific calls for government and organizations to take action. The MMIWG Calls for Justice similarly demand accountability in addressing violence against Indigenous women and girls.

These themes highlight the shared commitment to rectifying historical injustices, fostering reconciliation, and promoting Indigenous rights and representation in Canada. They can inform the development of policy and frameworks for organizations, like PEO, to align their practices and policies with these overarching goals.

6 Next Steps

This report is being provided to PEO for review and comment. We are also completing other that will be submitted under separate cover, and then we will move into engagement.

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Appendix D – Interview Outreach Email and Questions

Outreach email

Professional Engineers Ontario (PEO) has retained Indigenous and Community Engagement (ICE) Inc. to work collaboratively with PEO's Anti-Racism and Anti-Discrimination Exploratory Working Group (AREWG) to co-create policy approaches to answer the Truth and Reconciliation Commission (TRC) Calls to Action as they relate to PEO's Code of Ethics and Anti-Racism and Equity Code. ICE is undertaking desktop research as well as interviews to help in this process.

We would like to set up time with you for a virtual interview in October or early November, if possible. Might you be able to provide a few options that would work for you?

The attached outlines the questions that we are planning to go through, focusing on what PEO should know as a regulator. You can choose not to answer some questions. All responses will be anonymized and documented in a report that will be shared with PEO staff. These interviews along with desktop research will be used to prepare a recommendations report for PEO. We will share a summary of your answers with you to validate.

Under the authority of the Professional Engineers Act, PEO regulates the practice of professional engineering and governs its members to serve and protect the public interest by ensuring all professional engineers meet rigorous qualifications for licensing and that only properly qualified individuals practice engineering.

As part of its mandate, PEO also establishes, maintains and develops: standards of knowledge and skill; standards of practice for the profession; standards of professional ethics; and promotes public awareness of its role.

Interview Questions

Demographics

If you are comfortable, please provide answers to the following questions:

- Age
- Gender
- Preferred Pronouns

Are you:

- P.Eng.
- Working towards licensure

PEO – Engineering and Licensure

- 1) What motivated you to pursue a career in engineering, and how did your Indigenous background influence this decision (if at all)?
- 2) Did you have a fulsome understanding of PEO and requirements for licensure?
- 3) Can you share your journey of becoming a professional engineer and obtaining licensure with PEO? Did you (or other Indigenous engineers you know) experience any issues, challenges, or barriers with respect to becoming licensed?



- 4) Have you encountered any barriers or biases related to your Indigenous identity within the engineering profession, within PEO or while working towards your professional engineering designation?
- 5) In your experience, what steps could PEO take to create a more inclusive and equitable environment (in licensing and other regulatory activities) for Indigenous engineers and address any systemic biases that may exist?
- 6) From your perspective, what steps could PEO take to better support Indigenous engineers and address any barriers they may face in becoming licensed professionals?
- 7) Can you share examples of successful strategies or practices that you believe have the potential to reduce barriers and biases faced by Indigenous engineers within the profession?
- 8) Can you highlight any positive experiences or role models within PEO who have supported and advocated for Indigenous engineers, contributing to a more inclusive professional community?
- 9) What are your thoughts on the importance of representation of Indigenous engineers within the engineering community and leadership roles? How do you believe increased representation could benefit the profession?

PEO – Indigenous Perspectives and Knowledge, and the Public Interest

- 10) Do you see impacts to the public interest due to a lack of Indigenous engineers or Indigenous voices being engaged by engineers? If yes, please share some examples.
- 11) Can you describe any experiences where your Indigenous knowledge or perspective contributed positively to an engineering project or situation?
- 12) Are there specific Indigenous cultural practices or knowledge that you believe could be beneficial in the field of engineering or that you would like to see integrated into engineering projects?
- 13) How can PEO better incorporate Indigenous perspectives and knowledge into its policies, practices, and projects to ensure a more holistic and culturally sensitive approach to engineering?
- 14) Is there anything else that you would like to share that you think PEO should be aware of?

Additional Questions if time allowed

- 15) Have you been involved in any initiatives or efforts within diversity and inclusion initiatives or committees or advancing representation within PEO, and if so, what has been your experience with these efforts?
- 16) Have you participated in any mentorship or support programs for Indigenous engineers within PEO, and what impact have these programs had on your career?
- 17) Can you share any advice or insights for aspiring Indigenous engineers who are considering pursuing a career in the field or working towards PEO licensure?
- 18) Have you had the opportunity to apply your engineering skills to benefit your home community or another Indigenous community and how was that different (if at all) from the work you have done in municipal environments? If so, could you please share your experiences and the positive impact you have witnessed because of your engineering work within these communities?



Appendix E – Survey Outreach Language and Questions

Outreach email /Social Media Posts

PEO Indigenous and community members engagement survey

PEO is conducting a brief survey to help us understand the perspectives of our Indigenous licence holders, particularly around their experience with the P.Eng. licensure process, their work as professional engineers and on PEO's work as Ontario's engineering regulator.

Survey responses will help inform PEO's policy approaches to answer the Truth and Reconciliation Commission's (TRC) Calls to Action as they relate to PEO's [Code of Ethics](#) and [Anti-Racism and Equity Code](#). PEO has retained [Indigenous and Community Engagement \(ICE\) Inc.](#) to assist us in this work.

The survey deadline is **Monday, February 5, 2024, at 12:00 p.m. ET**. You can choose not to answer all questions. All responses will remain confidential.

Survey Questions

Demographics

- 1) Please indicate whether you are part of an Indigenous community in Canada to begin.
- 2) Your age range
- 3) Gender identity
- 4) Do you identify as Trans?
- 5) Sexual Orientation
- 6) Do you identify as a person with a disability?

Specific Questions

- 7) What is your engineer licence status?
- 8) What motivated you to pursue a career in engineering, and how did your Indigenous background influence this decision (if at all)?
- 9) Did you have a fulsome understanding of PEO and requirements for licensure?
- 10) Can you share your journey of becoming a professional engineer and obtaining licensure with PEO?
- 11) Did you (or other Indigenous engineers you know) experience any issues, challenges, or barriers with respect to becoming licensed?
- 12) Have you encountered any barriers or biases related to your Indigenous identity within the engineering profession, within PEO or while working towards your professional engineering designation?
- 13) In your experience, what steps could PEO take to create a more inclusive and equitable environment (in licensing and other regulatory activities) for Indigenous engineers and address any systemic biases that may exist?
- 14) From your perspective, what steps could PEO take to better support Indigenous engineers and address any barriers they may face in becoming licensed professionals?



- 15) Can you share examples of successful strategies or practices that you believe have the potential to reduce barriers and biases faced by Indigenous engineers within the profession?
- 16) Can you highlight any positive experiences or role models within PEO who have supported and advocated for Indigenous engineers, contributing to a more inclusive professional community?
- 17) What are your thoughts on the importance of the representation of Indigenous engineers within the engineering community and leadership roles?
- 18) How do you believe the increased representation of Indigenous engineers could benefit the profession?
- 19) Do you see impacts to the public interest due to a lack of Indigenous engineers or Indigenous voices being engaged by engineers? If yes, please share some examples.
- 20) Can you describe any experiences where your Indigenous knowledge or perspective contributed positively to an engineering project or situation?
- 21) Are there specific Indigenous cultural practices or knowledge that you believe could be beneficial in the field of engineering or that you would like to see integrated into engineering projects?
- 22) How can PEO better incorporate Indigenous perspectives and knowledge into its policies, practices, and projects to ensure a more holistic and culturally sensitive approach to engineering?
- 23) Is there anything else that you would like to share that you think PEO should be aware of?
- 24) Have you been involved in any initiatives or efforts within diversity and inclusion initiatives or committees or advancing representation within PEO, and if so, what has been your experience with these efforts?
- 25) Have you participated in any mentorship or support programs for Indigenous engineers within PEO, and what impact have these programs had on your career?
- 26) Can you share any advice or insights for aspiring Indigenous engineers who are considering pursuing a career in the field or working towards PEO licensure?
- 27) Have you had the opportunity to apply your engineering skills to benefit your home community or another Indigenous community and how was that different (if at all) from the work you have done in municipal environments? If so, could you please share your experiences and the positive impact you've witnessed because of your engineering work within these communities?



Appendix F – Focus Group Presentation

Indigenous Engineer Focus Group

PEO & ICE



Agenda

- Introductions
- Purpose of the project & the focus group
- Reminder of PEO's mandate
- High level Interview and survey overview
- Discussion on proposed ideas to address barriers



Heather Swan and Haley Rice

Participants

Introductions:

Project Purpose

Identify barriers and challenges for Indigenous peoples to become engineers in focusing on areas of PEO's mandate to help PEO in identifying policy approaches to answer the Truth and Reconciliation Commission Calls to Action.

Focus Group Purpose

- Sharing overview of what we have heard through 1:1 interviews and surveys
- Discussion around ideas on possible ideas to address what we have heard related to barriers

PEO regulates the practice of professional engineering and governs its members to serve and protect the public interest by ensuring all professional engineers meet rigorous qualifications for licensing and that only properly qualified individuals practice engineering.

About PEO

As part of its mandate, PEO also establishes, maintains and develops: standards of knowledge and skill; standards of practice for the profession; standards of professional ethics; and promotes public awareness of its role.

How PEO Serves and Protects the Public Interest

Ensuring all licensed professional engineers are qualified – and by licensing all who qualify

Disciplining professional engineers found guilty of professional misconduct

Investigating all complaints brought about unlicensed, unprofessional, inadequate, or incompetent engineering services

Conducting disputes resolution and hearings

Preparing performance guidelines as benchmarks for quality of service in the engineering profession

Preparing performance standards in regulation





Interview and Survey Overview

Most Common Comments

Limited Education Support

Indigenous communities often face barriers to accessing quality education, including limited resources, remote locations, and systemic inequalities in educational systems. This can impact the pipeline of Indigenous students pursuing engineering degrees.

Lack of Representation, Role Models and Mentors

Indigenous individuals pursuing engineering careers lack visible role models and mentors who share their cultural background and can provide guidance and support in navigating the challenges of the field.

Limited Networking Opportunities

Indigenous engineers may have limited access to networking opportunities and professional connections that can facilitate career advancement and opportunities for collaboration and mentorship.

Comments Specific to PEO's Mandate

Licensing

Most indicated that they did not have challenges with the licensing process but most of their understanding of the process came from their universities, not PEO directly.

Standards of knowledge and skill, practice, and professional ethics

Many noted a lack of materials for Engineers to help them understand best practices for engaging Indigenous Peoples, considerations when working on reserve, and lack of understanding of Indigenous world views and Indigenous Knowledge

Public awareness of PEO

There is a lack of diversity overall and particularly a lack Indigenous peoples represented in PEO's materials and a lack of outreach to Indigenous Peoples around what engineering is and different types of engineering.

Let's Discuss Possible Actions*

These have not been agreed by PEO, but are recommendations that ICE is considering making as part of their reporting



Create Indigenous-specific Mentorship Programs and Networking forums



Identify a target for Indigenous representation in Engineering – similar to 30 by 30 for women



Prepare Guidance documents for PEO members related to best practices for engaging Indigenous Peoples and braiding western and Indigenous knowledge



Increase visibility and inclusivity in advertising and highlighting engineers/projects



Scholarships and education opportunities (i.e. supporting robotics club at schools)

Let's Discuss Possible Actions*

These have not been agreed by PEO, but are recommendations that ICE is considering making as part of their reporting



Review PEOs hiring policies and practices to determine if those are a barrier to having Indigenous Peoples on staff



Mandatory training for Staff and Council on Indigenous Relations and history



Encourage CofA holders to have appropriate anti-racism policies, review hiring practices and provide learning opportunities for staff



Share findings with other organizations for their areas of mandate including education organizations, OSPE, and PEO's Districts



Let's
Discuss
Possible
Actions

Other suggestions?





Recap and
next steps



Next Steps

The report will be shared before it is made publicly available

