CHILDREN OF SHINGWAUK ALUMNI ASSOCIATION (CSAA)

Community Engagement and Site Search Processes

PHASES 1-7 CUMULATIVE REPORT | JANUARY 2025

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The Children of Shingwauk Alumni Association (CSAA) is a survivor-led organization. Its mission is to provide for the well-being of former students of the Shingwauk and Wawanosh Indian Residential Schools, their families, and their communities. The CSAA facilitates the ongoing development of a partnership with Algoma University and other site partners in fulfilling Chief Shingwauk's vision of a Teaching Wigwam – the creation of a lodge or schoolhouse where his people and settlers could learn together on the traditional lands of the Anishinaabeg, specifically Garden River and Batchewana First Nations as well as the Métis people.

If you have any questions about our work, or wish to contribute, please don't hesitate to contact us!

THE WORK PRESENTED IN THIS REPORT IS IN SUPPORT OF THE TRUTH AND RECONCILIATION COMMISSION OF CANADA'S CALL TO ACTION #76

We call upon the parties engaged in the work of documenting, maintaining, commemorating, and protecting residential school cemeteries to adopt strategies in accordance with the following principles:

i. The Aboriginal community most affected shall lead the development of such strategies.

ii. Information shall be sought from residential school Survivors and other Knowledge Keepers in the development of such strategies.

iii. Aboriginal protocols shall be respected before any potentially invasive technical inspection and investigation of a cemetery site.

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BOOZHOO WATCHIYA AND SPECIAL GREETINGS

The Children of Shingwauk Alumni Association (CSAA) is an organization that was started in 1991, with Michael Cachagee, Shirley Horn, Jackie Fletcher, Marjorie Lee along with Don Jackson. This association was the voice of former students of Shingwauk Hall. The main goal was to create awareness about what really happened in this residential school. It was more important to promote a place that we could gather again and heal together. Throughout the years, Children of Shingwauk Alumni Association worked with many partners that promotes the true vision of Chief Shingwauk namely Algoma University, Garden River First Nation, Batchewana First Nation, the Anglican Church and includes the Shingwauk Kinoomaage Gamig.

George, Survivor, CSAA Chair

The first five phases of the Unknown Burial Sites project are completed. It has been a long process but with due diligence and a dedicated staff with consistent teamwork it has accomplished all its intentions.

The Children of Shingwauk Alumni Association is honoured to present this report. We still have more work to do but with a dedicated staff we will be successful.

Margaret Diamond, Survivor, CSAA Vice-Chair

Wachay misawaywen (hello everyone). We are all in different stages in our healing journey. Some have attended our gatherings. Others have never attended. We have made everlasting friendships here. We have childhood memories. Yes, some hurt, which we do not want to face. Some are fond memories of friends and places and times we went through. We all became brothers and sisters. We became Family. That is how we survived. We found Love in each other, the Love we had with our families who we were taken from. Our Creator made it so. Each one of us has that special bond, a bond that nothing can break. A bond with even those who have passed on to the other realm. They are still with us. They visit with us in our dreams to keep us strong and to show us Love. Love is not only expressed in words, but with action. So show your Love for each other with acknowledgment, a hello, a smile, a hug. Huge hugs to you all. Thank you.

My name is Shirley Horn, and I'm one of the co-founders of The Children of Shingwauk, which is an organization that we started in 1991. Our goal is to bring the voice of the children forward to create awareness of what took place in the residential school, but also to provide a place where we can come together and heal together. And it took many, many years for us to do that – to heal. And we're still doing that.

A lot of people along the way, had a hard time with being able to come back here to the former Residential School, but eventually most of them have come back, and a few of us are still working for the Children of Shingwauk in conjunction with many partners as well. Partners like Algoma University, the Anglican Church, and Institutes like Shingwauk Kinoomaage Gamig.

Shirley Horn, Survivor CSAA Co-Founder

As co-founder of CSAA I would like to let the membership know that I am very proud of what we have accomplished in the last few years. Specifically the ability to identify memorialization of many projects: The auditorium project, The Crying Rock, Every Child Matters Sacred Memorial and the Wawanosh Memorial. Not all are completed but the end is near. I believe our ceremonies are key to completion. Our ability to carry out annual Gatherings are major events that are so important for Survivors, their families, friends as well as providing historical collection of stories and ongoing connections with partnerships. There is so much more to tell and will be captured in our newsletter. Good job everyone!

Jackie Fletcher CSAA Co-Founder

ACKNOWLEDGEMENTS

We wish to acknowledge the traditional lands of the Anishinaabek, Robinson-Huron Treaty Territory, Garden River and Batchewana First Nations where the former Shingwauk Indian Residential School and the Children of Shingwauk Alumni Association reside. We also wish to acknowledge that the children of Shingwauk were brought here from many beautiful lands and First Nation communities across Turtle Island:

Attawapiskat First Nation
Batchewana First Nation
Bay of Quinte / Tyendenaga
Beausoleil First Nation
Big Grassy River First Nation/Assabaska #173
Big Island Ojibway Anishinaabe of Naongashiing
Big Trout Lake #272 / Kitchenuhmaykoosib Inninuwug First Nation
Bird Tail Dakota Nation
Blood Tribe First Nation
Brunswick House First Nation
Canupawakpa Dakota First Nation
Cape Croker / Chippewas of Nawash Unceded First Nation
Cat Lake First Nation
Chapleau Cree First Nation
Chippewa of the Thames/Chippewas/ Thames River
Cockburn Island / Zhiibaahaasing First Nation
Conseil des Abénakis Odanak
Constance Lake First Nation
Cree Nation of Waskaganish
Curve Lake First Nation
Delaware Nation at Moraviantown
Delaware Nation at Moraviantown
Eabametoong/Fort Hope/Kabanet Lake
Flying Post First Nation
Fort Albany First Nation
Fort Severn First Nation
Fort William, Of Lake Superior
Garden River First Nation
Grand River Six Nations
Island Lake / Ministikwan Lake Cree Nation
James Bay Cree / Eastmain
Lac Seul First Nation
Long Lac #58 First Nation
Marten Falls First Nation
Matachewan First Nation
Mattagami First Nation
Michipicoten First Nation
Mishkeegogamang/Osnaburgh Ojibway Nation
Missanabie Cree First Nation
Mississauga, North Shore/Missisaugaas/ Mississagi River
Mistawasis Nêhiyawak
Mohawk Council of Kanesatake
Mohawks of Kahnawake
Moose Cree First Nation
Moose Mountain / White Bear First Nations
Munsee-Delaware Nation
North Caribou Lake First Nation
Oneida Nation of the Thames
Onion Lake Cree Nation
Peguis First Nation
Pic Mobert / Montizanbert
Pic River
Pikangikum
Rama First Nation
Rocky Bay First Nation
Sachigo Lake First Nation
Sagamok Anishnawbek
Saugeen First Nation
Serpent River First Nation
Shawanaga First Nation
Sheguiandah First Nation

Sheshegwaning First Nation
Shoal Lake First Nation
Sioux Valley Dakota Nation
St Regis Mohawk Tribe
Sucker Creek First Nation
Taykwa Tagamou Nation
The Cree First Nation of Waswanipi
The Cree Nation of Chisasibi
The Cree Nation of Nemaska
The Cree Nation of Wemindji / Old Factory
The Mistassini/Cree First Nation
The Mohawk Nation of Akwesasne
Wahta Mohawk
Walpole Island
Wasauksing First Nation
Waswanipi
Wauzhusk Onigum Nation
Wawakapewin First Nation
Webequie First Nation
Whapmagoostui First Nation
Whitefish River First Nation
Wikwemikong First Nation
Wunnumin First Nation
York Factory First Nation

We also wish to acknowledge the early support of Mattagami First Nation, Mohawk Council of Kanesatake, Sheguiandah First Nation, Sheshegwaning First Nation, and Taykwa Tagamou Nation for providing letters to support this sensitive and sacred work as well as Garden River First Nation and Batchewana First Nation.

Also, we wish to acknowledge the Shingwauk Indian Residential School site partners such as the Diocese of Algoma, Algoma District School Board, Shingwauk Education Trust, Shingwauk Residential Schools Centre, NORDIK Institute, and Algoma University.

We would like to express our gratitude to our funding partners, Crown-Indigenous Relations and Northern Affairs Canada, and the Ministry of Indigenous Affairs Ontario for providing the financial support to support the site search initiatives of the CSAA.

Finally, we would like to thank Carmen Misasi Design, Maker North, Heritage Canada, Parks Canada, Trophic Design and many others who offered financial or in-kind contributions to this project.

The CSAA mission and the objectives of the project are guided by the OCAP principles and UNDRIP. In adhering to these frameworks, we ensure that all work, is Indigenous-led, owned, controlled, accessible and in the possession of Indigenous people, which is their inherent and sovereign right.

INTRODUCTION

Since the Tk'emlúps te Secwépemc First Nation found 215 possible unmarked graves in 2021, Indigenous Peoples have grieved the loss of these children. People across Canada began to understand the need to search the grounds at former Indian Residential School sites across the country, so the former students who never came home are identified and appropriately honored; therefore, searches of the grounds ('site searches') must be done in a culturally appropriate way. They must also involve dedicated teams who follow the lead of impacted communities, Survivors and their families.

The Children of Shingwauk Alumni Association (CSAA) committed to a full search of the former Shingwauk Indian Residential School grounds ("Shingwauk site") for possible unmarked burials. In doing so, CSAA wishes to honor impacted communities, Survivors, their families, and the memories of those who did not make it home.

The front steps of Shingwauk Hall after the Tk'emlúps te Secwépemc First Nation discovery in 2021. By the end of the week, hundreds of pairs of shoes were left by community members in memoriam of the lost children.

Photo credit: Algoma University.

Historical records and archives curated by the SRSC have allowed us to identify about 1,500 children from 85 Indigenous Communities as who were sent to Shingwauk Indian Residential School between 1873 and 1970. The Shingwauk site cemetery (where work continues) contains 109 known graves, including 73 students who died between 1875 and 1956.

Known child burials are represented by lights at a large dreamcatcher located at the front of the school. The lights remind us that the lost children's spirits have and continue to guide this sacred process to locate the unmarked burials of the children that still remain to be found here, and across Canada.

Photo credit: Algoma University.

HISTORY AND CONTEXT

COLONIZATION

Colonization is the result of openly intentional actions by settler (non-Indigenous) states to control Indigenous Peoples. These actions are often violent and forceful, through the practice of foreign laws, values, policies, and religions. Colonization also involves taking away and controlling lands and resources once used by Indigenous Peoples. Although modern education teaches colonization as part of history, the unequal challenges and barriers still facing Indigenous Peoples tell us colonization continues, uninterrupted, to this day.

SHINGWAUK INDIAN RESIDENTIAL SCHOOL SITE HISTORY

In the early 1800s, Chief Shingwauk had a vision for a “Teaching Wigwam” after many newcomers to his community’s traditional lands raised concern for the community’s sovereignty. The Teaching Wigwam would make sure Anishnabek language and culture would continue, since it would be a place for Indigenous and non-Indigenous people to gather, learn about, understand, and respect each other’s way of life.

A wooden school house was opened on the Garden River Reserve in 1873. It was not the Teaching Wigwam requested by the community, but an Indian Residential School – a boarding institution where Indigenous children would learn Euro-Canadian religion, language, and cultural practices in place of Indigenous ones. The school burned down six days after opening.

In 1874, a stone school known as the Shingwauk Home was built on the front lawn of a 90-acre site in the settlement of Sault Ste. Marie. The Home (later named the Shingwauk Indian Residential School) was operated by the Anglican Church of Canada from from 1874 to 1970. Though boys and girls attended together for a short time, the children were soon separated based on Euro-Canadian gender identities. A separate Residential School, the Wawanosh Home, was built in the north end of the city. That site is currently owned by the Royal Canadian Legion.

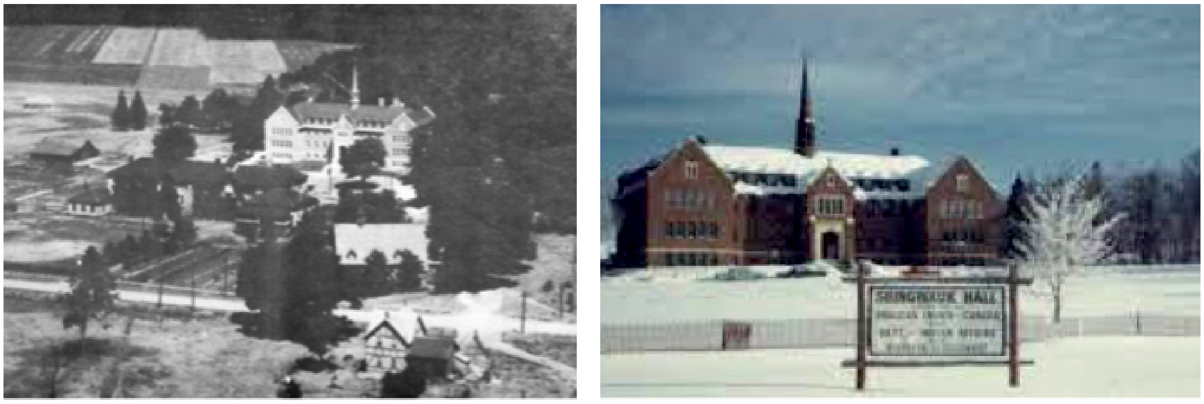
Photograph of an illustration of the Wawanosh Home, 1900. *Photo credit: National Centre for Truth and Reconciliation Archives.*

A memorial to the Wawanosh Home, at the present-day Royal Canadian Legion Branch 25. *Photo credit: Billy Wilson.*

The Chapel on site is known as the Shingwauk Chapel or the Bishop Fauquier Memorial Chapel, after the first Anglican Bishop in the Diocese of Algoma. It was built almost entirely by the students (boys aged 5-17) of the Shingwauk Residential School and was completed in 1883.

The chapel at the Shingwauk site in 1901 (left) and present-day (right). *Photo credits: Missionary Diocese of Algoma (left) and Algoma University Archives (right).*

By the late 1900s, the Wawanosh building was run down and overcrowded, and the management of two separate schools became difficult. Girl students once again attended the Shingwauk Home, after an expansion was built to maintain separation from the boys. The expansion, Shingwauk Hall, was designed for 150 students – girls on the right side and the boys on the left. Intermediate and senior students' dormitories were on the top floor, and junior students were on the floor below. A Principal's Residence was also built. Both the Hall and Residence were completed in 1935.



Aerial view of the New and Old Shingwauk Homes, 1935 (left) and a more recent photograph of Shingwauk Hall, prior to Algoma University expansion (right). *Photos credit: Shingwauk Residential Schools Centre.*

The Shingwauk Indian Residential School closed in 1970. One year later, Algoma University College moved onto the site, using Shingwauk Hall as the main administrative building of the University. The former Principal's Residence is now occupied by the Shingwauk Education Trust.

The former Principal's Residence. *Photo credit: Shingwauk Residential Schools Centre.*

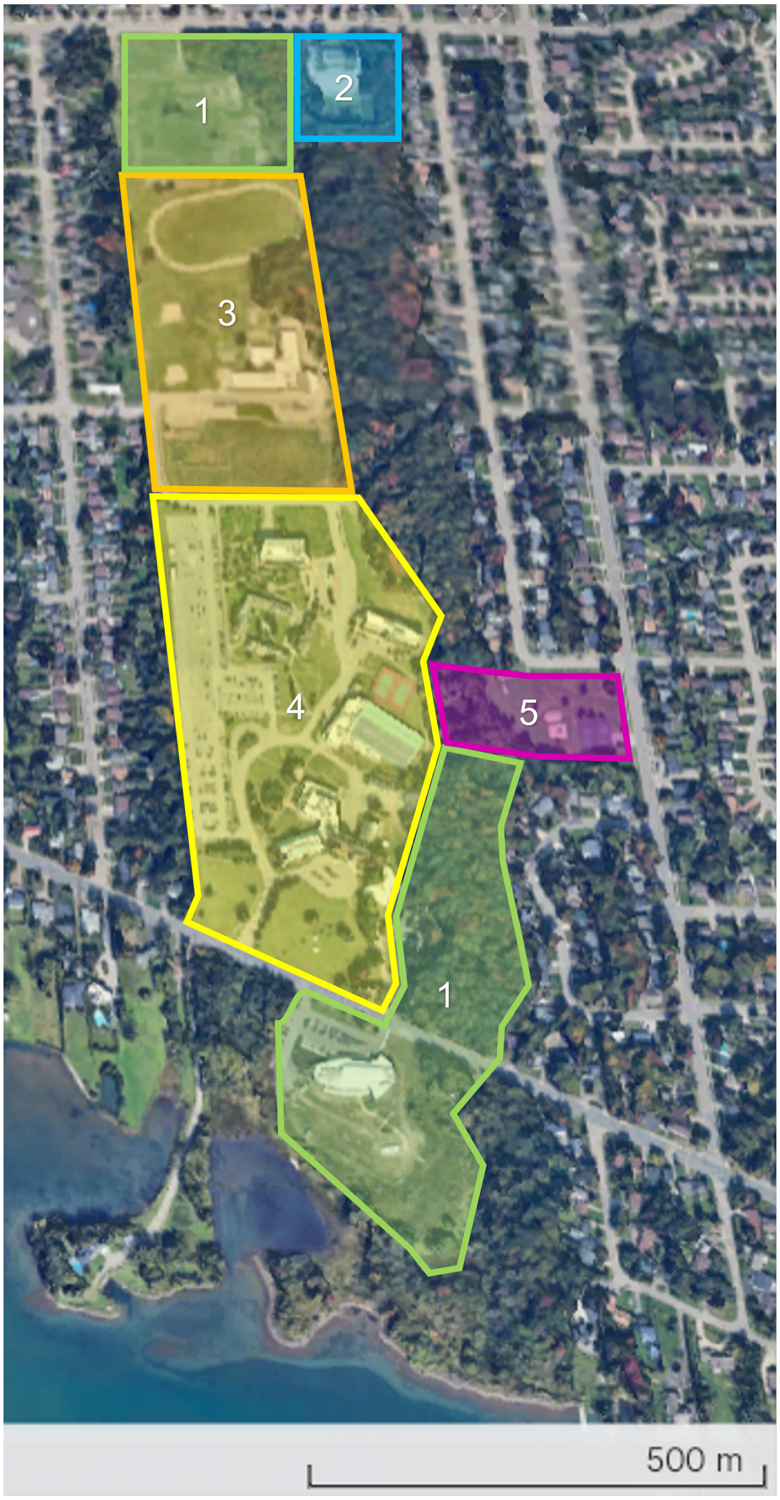
Residential School students came from at least 85 different communities and several Indigenous Nations from all over Canada – as far south as Walpole Island, as far North as the James Bay Coast/Northern Quebec, and as far west as Saskatchewan. A complete list of impacted communities can be viewed **here**.

THE MOCCASIN TRAIL: CREATING A PATH TOWARDS TRUTH AND RECONCILIATION

CSAA gatherings have inspired a movement towards truth and reconciliation around the former Indian Residential School. Since then, CSAA gatherings provide a culturally supportive safe space in which Survivors share their truth about the physical, sexual, spiritual and emotional harms that took place here. Survivors' memories about the abuse and deaths of children at this location give testimony to the spirits of the lost children, who are forever memorialized as they guide this sacred work. To commemorate this, a permanent exhibit named ***Reclaiming Shingwauk Hall*** was created. The 2018 CSAA gathering featured the grand opening of this effort. The exhibit was designed by Dr. Trina Bolam in a process led by the CSAA, and is dedicated to the generations of Survivors who attended Indian Residential Schools across Canada. The truth-telling continued, contributing to the expansion of the exhibit into the former auditorium space, which was unveiled at the 2023 CSAA gathering. Survivors and CSAA members shared stories about the auditorium, giving voice to more than 110 years of history.

Photographs of the Reclaiming Shingwauk Hall exhibit - the main entrance to Shingwauk Hall (top) and the former auditorium (bottom).
Photos credit: Shingwauk Residential Schools Centre

THE SHINGWAUK SITE SEARCH PROCESS



Present-day site responsibility:

1 (green) – Shingwauk Education Trust (includes Shingwauk Kinoomage Gamig)

2 (blue) – Anglican Church

3 (orange) – Algoma District School Board (Anna McCrea Public School)

4 (yellow) – Algoma University

5 (purple) – City of Sault Ste. Marie (Snowdon Park)

The former Residential School property encompasses the present campuses of Shingwauk Kinoomaage Gamig and Algoma University. The Shingwauk Education Trust, and the Algoma District School Board also have shared responsibility for areas of the site. Marked areas are approximate.

The CSAA's 40+ years of work includes the archival work that informs site search activities, in partnership with the Shingwauk Residential Schools Centre. Jay Jones from Walpole Island First Nation (the most impacted community) was asked to lead the search, in keeping with the TRC recommendation. In December 2020, a ceremony was held prior to the sacred work of the CSAA's community engagement strategy. The strategy included working with site related partners to communicate information, and to connect with communities, Survivors and their families to aid in the creation of a Shingwauk Indian Residential School Site Search Protocol Guidance document.

Many communities provided letters of support to conduct a comprehensive and culturally appropriate search of the grounds of the Shingwauk site. These letters reinforce the CSAA's commitment to the sensitive and complex work required to search the Shingwauk site. Virtual and in-person community consultations then took place. These discussions included Survivors, Elders, Knowledge Keepers, Spiritual Advisors, site partners, and archival specialists from the Shingwauk Residential School Center – Heather Fraser (M.A.s), who specializes in human osteology, forensic anthropology and osteoarchaeology, and Dr. Paulette Steeves, a Tier II Research Chair, archaeologist and Professor at Algoma University and in consultation with Site Search leads in Ontario.

First steps: We became familiar with the Shingwauk Student List and Impacted Community List, which were used to create a GIS map of the geographic range from which the children were taken and brought to the Shingwauk Indian Residential School. Noojimo Indigenous Health Services and Weecheetowin Support Services provided culturally centered, trauma informed support throughout the engagement and planning process. We also researched methods and technologies to support site search work (e.g., ground-penetrating radar (GPR), historic detection dogs, LiDAR, soil sampling, aerial photography). A consensus-based strategy was used to identify and define best practices for the site search process.

Data concerns: Historically, research and data collection practices have not always been beneficial to – or respectful of – Indigenous rights or interests. Every Indigenous Nation has the inherent right to make informed decisions about its information and how it is collected, accessed, used, and shared. The Ownership, Control, Access, and Possession (**OCAP**)® framework informs data collection and storage (data sovereignty). A Memorandum of Understanding is used to create an Indigenous framework that centers the principles of OCAP and the Universal Declaration of the Rights of Indigenous People (UNDRIP) to ensure that Indigenous knowledge, stories and protocols are respected and protected.

Search locations: Site(s) to be searched were determined using archival sources, oral testimony, and municipal/utility planning documents. Ground-penetrating radar (GPR) was chosen as it disturbs the ground as little as possible while still offering the information we required.

Historic Human Remains Detection Dogs (HHRDDs) are specially trained canines used to locate human remains that have been buried, scattered, or otherwise concealed for extended periods, often decades or centuries. These dogs are highly skilled in detecting faint scents of human decomposition, even in cases where environmental factors like soil composition, moisture, and time have significantly degraded the remains.

Dogs have an extraordinary sense of smell, with olfactory systems far more sensitive than humans. They can detect specific volatile organic compounds (VOCs) that are released during the decomposition process. HHRDDs are trained to recognize these scents even in the most challenging conditions, such as:

- Deeply buried remains
- Historic gravesites
- Archaeological sites
- Scattered remains due to environmental or human activity

AN INDIGENOUS-CENTERED, SURVIVOR-LED APPROACH

Algoma University supported Survivors, through the CSAA, develop a multi-year project plan for funds, research and knowledge gathering, engagement, memorialization and commemoration, archival maintenance, and Ground Penetrating Radar. This plan is visually represented in the following diagram.

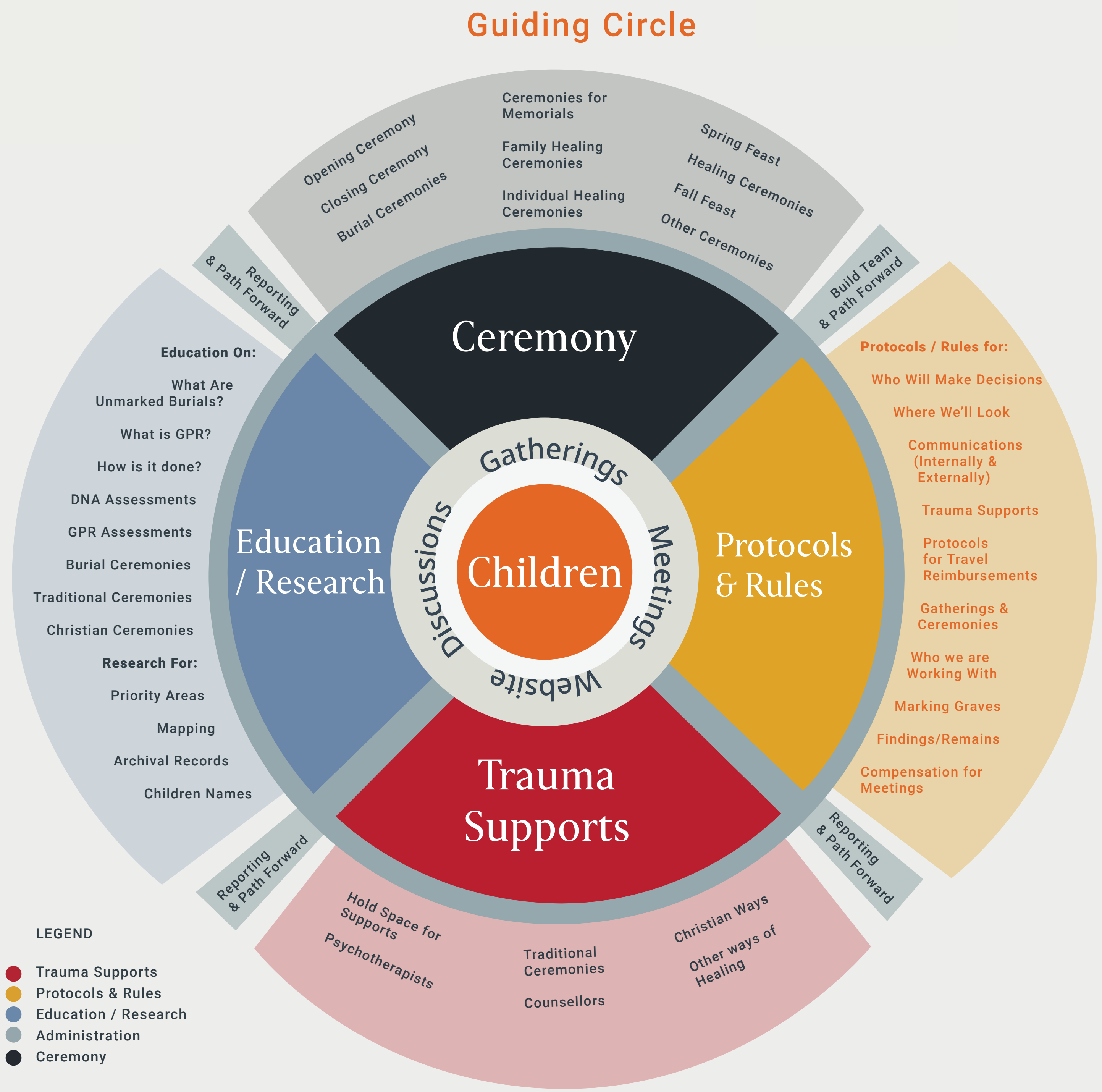


Diagram of the multi-year project plan for the Shingwauk Site Search, created in 2021.
Photo credit: Children of Shingwauk Alumni Association.

The Community Support team includes Community Engagement Facilitators to connect and develop relationships with Survivors, their families, and communities. The team shares information about the Site Search and assists with building Indigenous-centered and survivor-informed health and wellness capacities. We continue to increase awareness of the Indian Residential School impacts to honor Survivors, their families and communities.

Community engagement packages were created to establish and strengthen relationships with the 85 communities – including their Survivors, families and health leads – to educate, support, inform, discuss and decide on paths forward. This engagement strategy builds on the CSAA's decades-long commitment to increase awareness, engagement, dialogue and partnerships that continue to support projects that shed light on the Shingwauk site. This would not be possible without Survivors, whose experiences provide opportunities for education, healing, and learning the legacy, impacts and movement towards reconciliation.

COMMUNITY ENGAGEMENT ACTIVITIES COMPLETED TO DATE

WORK PLAN YEAR ONE (APRIL 2021 TO MARCH 2022)

- Implemented community consultations and development of cultural protocols.
- Conducted archival research to enhance Shingwauk burial registry.
- Conducted in-depth research on known burials on site.
- Developed complete project plan.
- Developed site plan for memorialization at Wawanosh site with the Royal Canadian Legion Branch 25.
- Designed concept for memorialization of Crying Rock site (located behind Shingwauk Hall).
- Held ceremonies for before, during and after GPR work.
- Provided culturally appropriate supports on site and in community.
- Continued to build database of children's names.

- Begain student record collation.
- Contractor surveyed high priority areas for GPR scanning.
- Developed and established communications protocols for the CSAA (adapt as necessary for communities).
- Contractor implemented Global Information Systems (GIS) mapping, Continue with GIS processes required for site assessment.
- Contractor completed GPR work for high priority areas identify for Phase 1.
- Analyzed GPR work.

WORK PLAN YEAR TWO (APRIL 2022 TO MARCH 2023)

- Hosted sharing circles, health and wellness workshops at survivor gatherings.
- Began work on installation of a monument to honor the children that drowned at Snowden Park (located behind Shingwauk site).
- Designed concept for memorialization of Crying Rock site (located behind Shingwauk Hall).
- Held ceremonies for the beginning, during and after GPR work.
- Hosted gathering to assist in identifying potential unmarked burials.
- Organized the 2022 CSAA Annual Gathering (July 30-August 1, 2022).
- Continued student record collation .
- Hosted four gatherings to support knowledge gathering and sharing.
- Received donations for Crying Rock memorialization project.
- Developed language learning campaign, which the the Site Search Team provided weekly on Facebook and Instagram. Through this initiative relationships with language speakers have been developed.

WORK PLAN YEAR THREE (APRIL 2023 TO MARCH 2024)

- Organized the 2023 CSAA Annual Gathering (August 4-7, 2023).
  - A Goosefeather gift and teaching were presented to the Survivors at the CSAA Gathering on behalf of the Cree Nation of Chisasibi, and will be displayed for commemoration.

  - A ceremony at Snowdon Park was held to commemorate the new Every Child Matters Sacred Memorial to honor the lost lives of four boys (three being Shingwauk Indian Residential School students) who drowned in the nearby pond.
  - A viewing of a commissioned sculpture dedicated to the Crying Rock.
- Relaunched the CSAA website.
- Held the inaugural CSAA Candlelit Vigil for the National Day for Truth and Reconciliation on the Shingwauk Site.
- Attended the National Gathering of Elders held in Edmonton October 30-November 3, 2023. Four staff attended, sponsored by CSAA.
- Supported the Annual Winter Solstice, held at the Delta hosted by the Missanabie Cree First Nation.
- Recruited an Indigenous placement student from the School of Social Work at Algoma University from January-March, 2024.
- Revised community engagement plan (new hires).
- The CSAA provided support and assistance for a member and their family to attend and hold a ceremony in Sioux Lookout for their family member, one of the many children that never made it home.

WORK PLAN YEAR FOUR (APRIL 2024 TO MARCH 2025)

- Held a Welcoming Ceremony, led by Ozawa Ginew, Cultural Advisor, in the arbour at the Shingwauk Site to introduce two new team members to the CSAA and partners.
- Attended the National Gathering on Unmarked Burials in Iqaluit from January 30 to February 2, 2024.
  - Held a Travelling Ceremony, led by Ozawa Ginew, in the arbour at the Shingwauk Site for those attending the National Gathering in Iqaluit.
- Planned for Survivor participation in 1939 Play to be held in Sudbury.
- Renamed the Site Search Team to Community Support Team (CST).
- Hosted a Fish Fry Social at the Indigenous Friendship Center, in partnership with CSAA.
- Collaborated with the Shingwauk Anishinaabe Students Association and the team at the YES Theater to bring CSAA members, other Survivors, and our Indigenous students to the 1939 Play in Sudbury. While there, we celebrated a Survivor's 75th birthday with the cast and production staff as well!

- Hosted a community consultation session in collaboration with CSAA and Shingwauk Kinoomaage Gamig (SKG) to develop language and land-based educational initiatives, as envisioned by Chief Shingwauk, March 26-28, 2024. The event honored the wisdom and knowledge of the Survivors, Elders, Knowledge Keepers, community stakeholders and speakers.
- Attended the Site Search Forum in Thunder Bay hosted by Nishnawbe Aski Nation, April 3-6, 2024.
- Hosted a pre-reveal planning session regarding site search activities, in partnership with CSAA, at the Delta Waterfront April 26-27, 2024.
- Organized a reading of the 1939 Play at the Roberta Bondar Pavilion, June 1 and 2, 2024. Partners for this initiative included the CSAA, the City of Sault Ste. Marie, and YES Theater. Survivors and families also had the opportunity to visit the Shingwauk site, feast with the cast and production staff from the YES Theater and participate in a ceremony at the tipi on site.
- Partnered with Mark Mackisoc, Team Leader of the Residential Schools Death Investigation Team to assist a CSAA member in locating the records and final resting place of a sibling in July 2024.
- Hosted a luncheon and planting party at the Royal Canadian Legion Branch 25, May 29, 2024, to celebrate the groundbreaking of the Wawanosh Memorial (publicly unveiled on September 30, 2024).
- Hosted members of Tk’emlúps te Secwépemc, who visited the former Shingwauk Residential School site in August 2024. Our team, CSAA and the guests from Tk’emlúps te Secwépemc toured the Every Child Matters Sacred Memorial, where we were also joined by the Survivors’ Secretariat, Kimberly Murray (Independent Special Interlocutor for Missing Children and Unmarked Graves and Burial Sites associated with Indian Residential Schools), Laver Simard (Director of Procurement and Protocols at the Office of the Independent Special Interlocutor), and Tanya Talaga.
- Hosted a two-day visit with members of Taykwa Tagamou First Nation.

- Attended the Lead Gathering hosted by the Survivors' Secretariat in Thunder Bay in August 2024.
- Met with the Minister of Mental Health and Addictions in Shingwauk Hall (August).
- Organized the public unveiling of the Wawanosh Memorial on the National Day for Truth and Reconciliation in partnership with the CSAA and Royal Canadian Legion Branch 25, September 30, 2024.
- Organized the second Annual Candlelight Vigil at the former Shingwauk Indian Residential School, September 30, 2024.
- Hosted a Health and Wellness Summit in collaboration with CSAA, October 15-17 at SKG, with guest presenters Tanya Talaga, Sacha Bragg and Dr. Ann Seymour.
- Hosted a lunch-and-learn event at SKG November 22, 2024 with guest presenter Dr. Kathy Absolon and Phil Jones.
- Hosted a two-day information session with Survivors and community leads, in partnership with the CSAA the National Centre for Truth and Reconciliation (NCTR), regarding accessing NCTR, GIS Mapping project for Unmarked Burials in Canada, January 7-8, 2025.

DATA OWNERSHIP, CONTROL, AND POSSESSION

It is common practice for GPR contractors not to share scanning data with their clients, as specific software and trained skills are required to make use of them; however, in keeping with the OCAP® Principles and UNDRIP, it was important that our team steward the data for the affected communities. By the start of Work Plan Year 4 (by May 2024), the Community Support Team was able to acquire the scanning data from all parties that were contracted during Phases 1-4. Our team will steward the data until at least 2027 (end of Year 6). We will provide a long-term plan for data safekeeping in a future report, as we have begun to develop long term strategies that center and are guided by the cultural protocols and needs of the affected communities.

CONCLUSION

Since the first CSAA gathering in 1981, projects that were symbolic to specific locations at the Shingwauk site were incorporated into the events. These dedicated spaces were and continue to be the direct result of survivor-led community consultation at each gathering. Attendees at each gathering included a diverse mix of Survivors and representatives of their communities, cultures, languages, ceremonies and traditions. Through various benchmark projects that have spanned decades, the CSAA has remained committed to the health, well-being and healing journey of the survivor community, at the Shingwauk site and across Canada. The search for unmarked burials at the Shingwauk site is yet another step in the journey towards maintaining their commitment to their vision of providing for the well-being of former students, families and communities.

Ground Penetrating Radar Method and Outcomes

WHAT IS GROUND PENETRATING RADAR, AND HOW DOES IT WORK?

Ground penetrating radar (GPR), is a popular and established technique for mapping cemeteries and locating unmarked burials. There are many cemetery case studies that document the success of the technique in historic contexts (Bevan 1991; Bigman 2014; Conyers 2006; Davenport 2001; Dionne et al. 2010; Fiedler et al. 2009; Gleason et al. 2011; Honerkamp and Crook 2012; Hunter 2012; Jones 2008; Shaaban et al. 2009; Sjostrom et al. 2009; Tarver and Bigman 2013). Several researchers developed accurate expectations of various burial anomalies by dragging antennas over wood caskets, metal caskets, and grave shafts (Conyers 2006; Fiedler et al. 2009; Sutton and Conyers 2013). An anomaly is a detection by the GPR unit that indicates something underground that is different and stands out from the surrounding earth.

While wooden caskets, metal caskets, and stone box graves create a clear, high-amplitude, reflective signature (i.e., an energetic radar wave that is clearly detected by the scanner), other burial methods like burial pits, grave shafts, or deteriorated wooden caskets are more difficult to detect. Grave shafts or burial pits can produce lower amplitude reflections (i.e., less clear signal) at the ground surface since the top of the grave shaft is less compact than the surrounding, undisturbed ground surface (Bigman 2014).

In conditions where the ground has been systematically loosened, such as through plowing, it is difficult to identify graves. The bottom of burial pits or grave shafts may be visible against the surrounding ground at depth, but historic burials can break down and blend with the surrounding ground over time. As such, graves may produce a variety of different signatures based on varying length of time since interment, casket material, variation in deterioration rates, size, difference in burial type at the time of interment, and variation in grave shaft soil compactness. Thus, GPR signatures of targets varied in amplitude (which affects how clearly a signal is received), two-way travel time (i.e., how quickly the radar signal finds something and bounces back to give the scanner a signal), and other characteristics.

We used GPR to record information about the subsurface environment in the area of investigation, which was then projected and evaluated in a three-dimensional computer model. GPR sends electromagnetic pulses to a transmitting antenna at the ground surface which produces a radio wave that travels through the subsurface (Koppenjan 2009).

Wave speed depends on the ability of a given medium, or material, to transfer energy (Annan 2009, Conyers 2004). When an approaching wave encounters an irregularity in the physical properties of the soil and the wave's speed changes, some of the wave front's energy is reflected toward the ground surface (Annan 2009). These signals are translated by the GPR scanner's equipment into a profile of the ground, which can then be analyzed to determine what may be found beneath the surface.

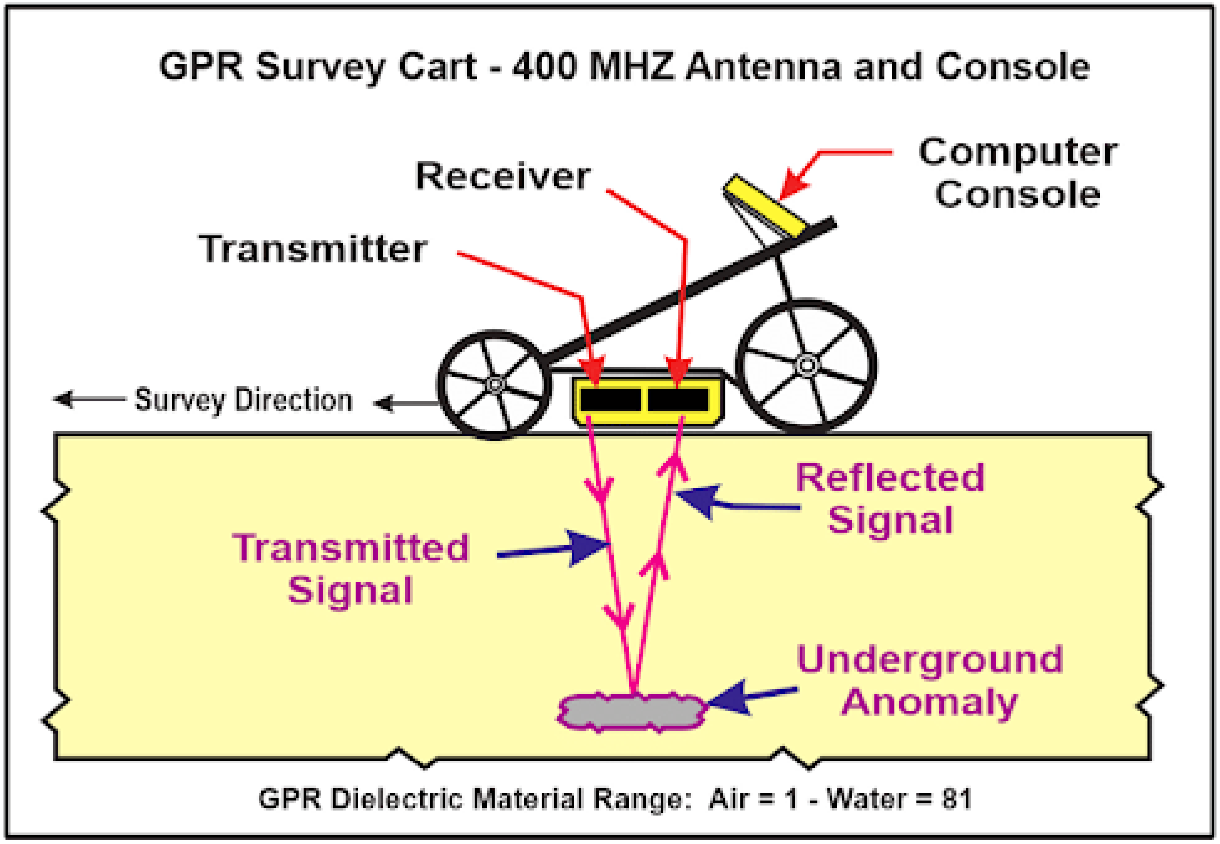


Figure 1: Photo showing the reflecting waves off of a buried metal pipe. The speed in which the wave travels through the soil, reflects off the object and returns to the machine gives the analyst the picture on the next page. This allows them to determine the type of object potentially buried. *Image credit: Topographix Cemetary Mapping (2024)*.

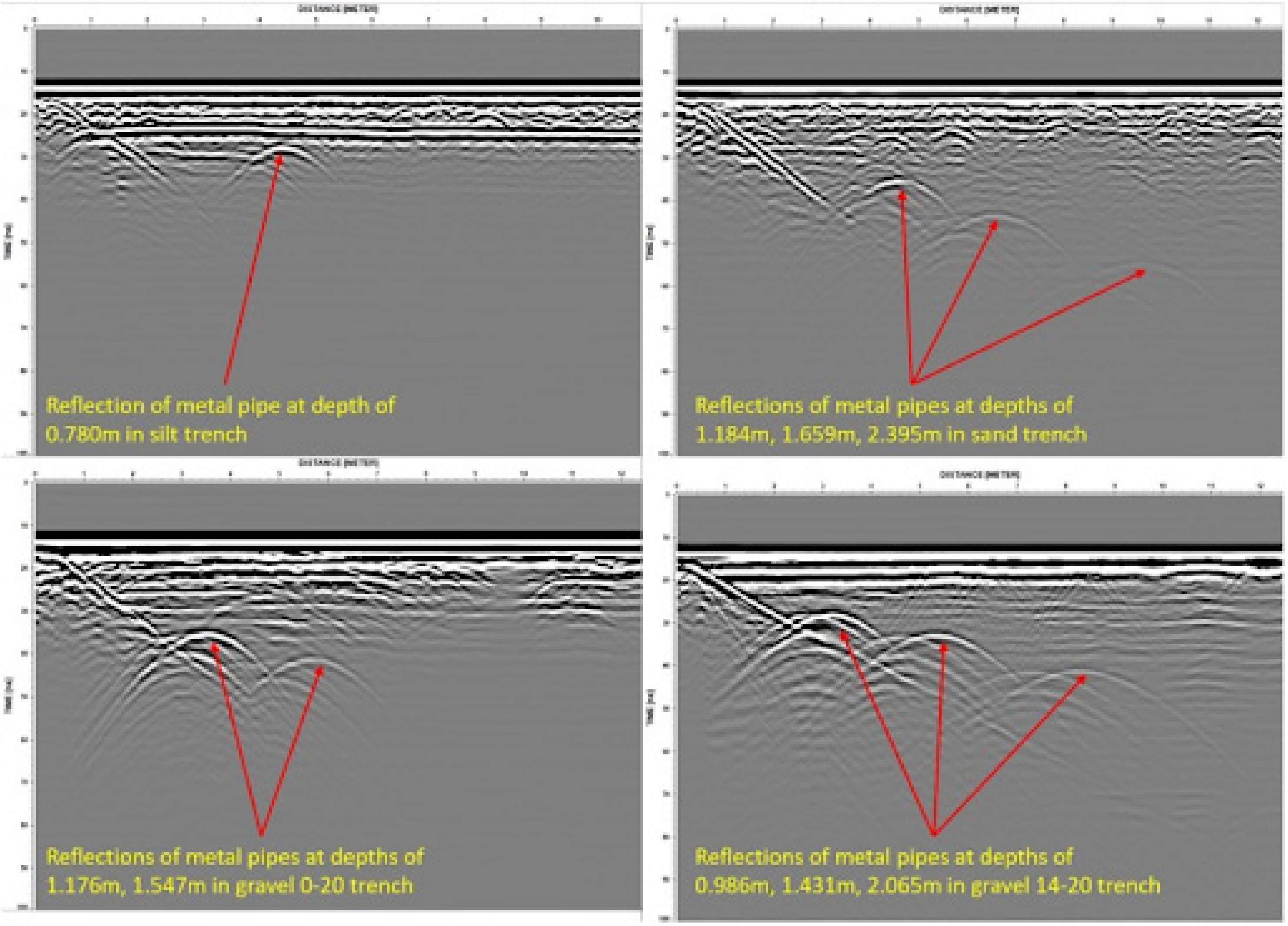


Figure 2: The image above depicts the reflection of a metal pipe as it would be traditionally seen on data collected from a site. *Image credit: Xie et al. (2021)****.***

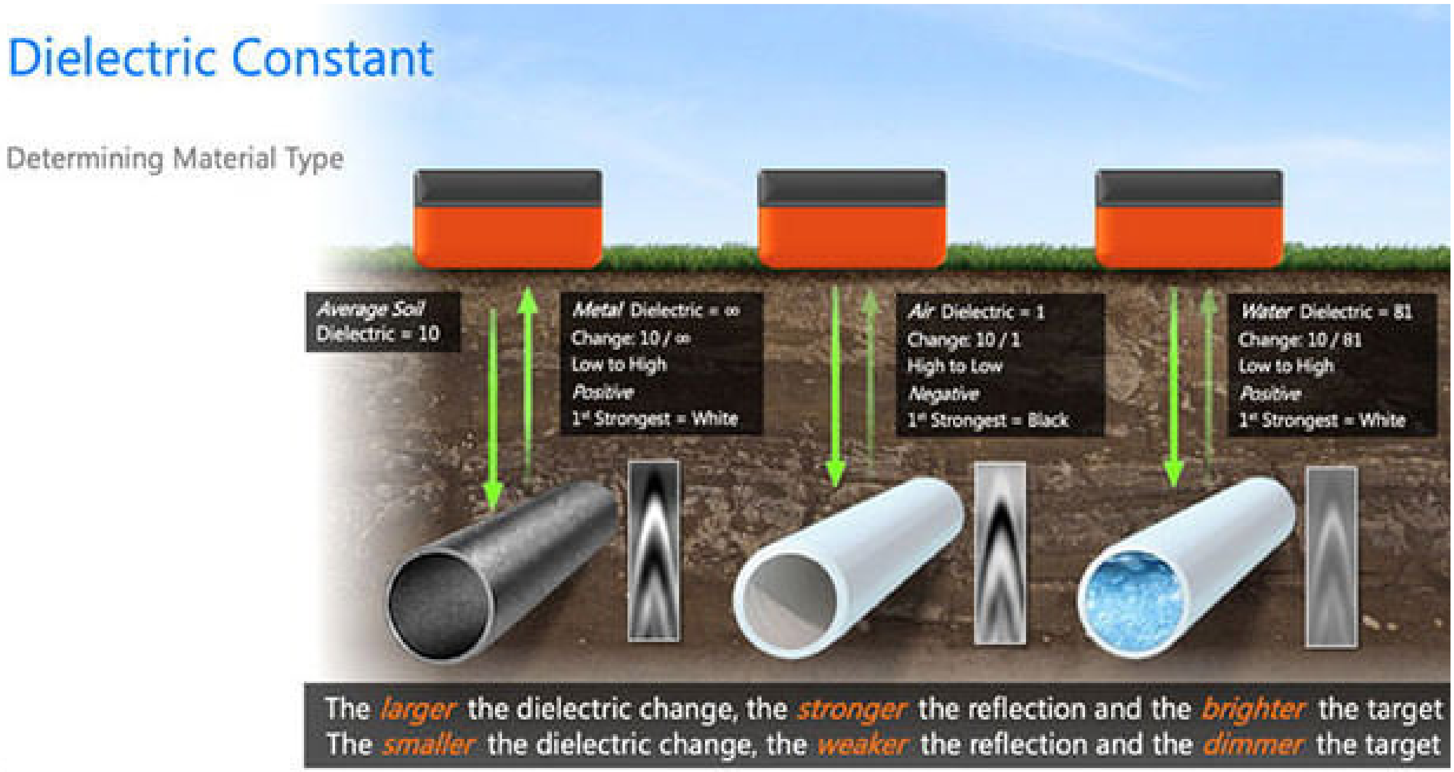


Figure 3: Image showing the different responses as expected from different building materials. Metal, PVC and water filled pipes all have distinctive responses allowing them to identified using GPR.
Image credit: Geophysical Survey Systems Inc. (2025).

The GPR machine is pushed back and forth across an area like a lawn mower, and a receiver antenna reads signals that it translates into pictures of what is below it. The two-way travel time is the time it takes a radar wave to penetrate the ground, hit an anomaly (i.e., a change in the consistency of the ground), and bounce back to the machine. Travel time is usually recorded in nanoseconds. The amplitude of the reflection is the energy, or speed and size, of the radar waves that bounce back. These two factors - the travel time and amplitude - tell the machine what to draw. Each time the machine is pushed across a length of the area, called a 'traverse', it provides a two-dimensional profile of the subsurface. When traverses are collected adjacent to each other, the data can be resampled (i.e., all the rows are put together) to create pseudo-3D visuals called time-slices or depth slices (Conyers 2004).

CSAA - TIMELINE OF EVENTS FOR UNMARKED BURIAL PROCESS

SITE PLAN ESTABLISHED

In December 2021, the Shingwauk site search Protocol Guidance was finalized, including a breakdown of all areas to be scanned. The former Shingwauk site, present-day Algoma University, is shown with the breakdown in Figure 4.

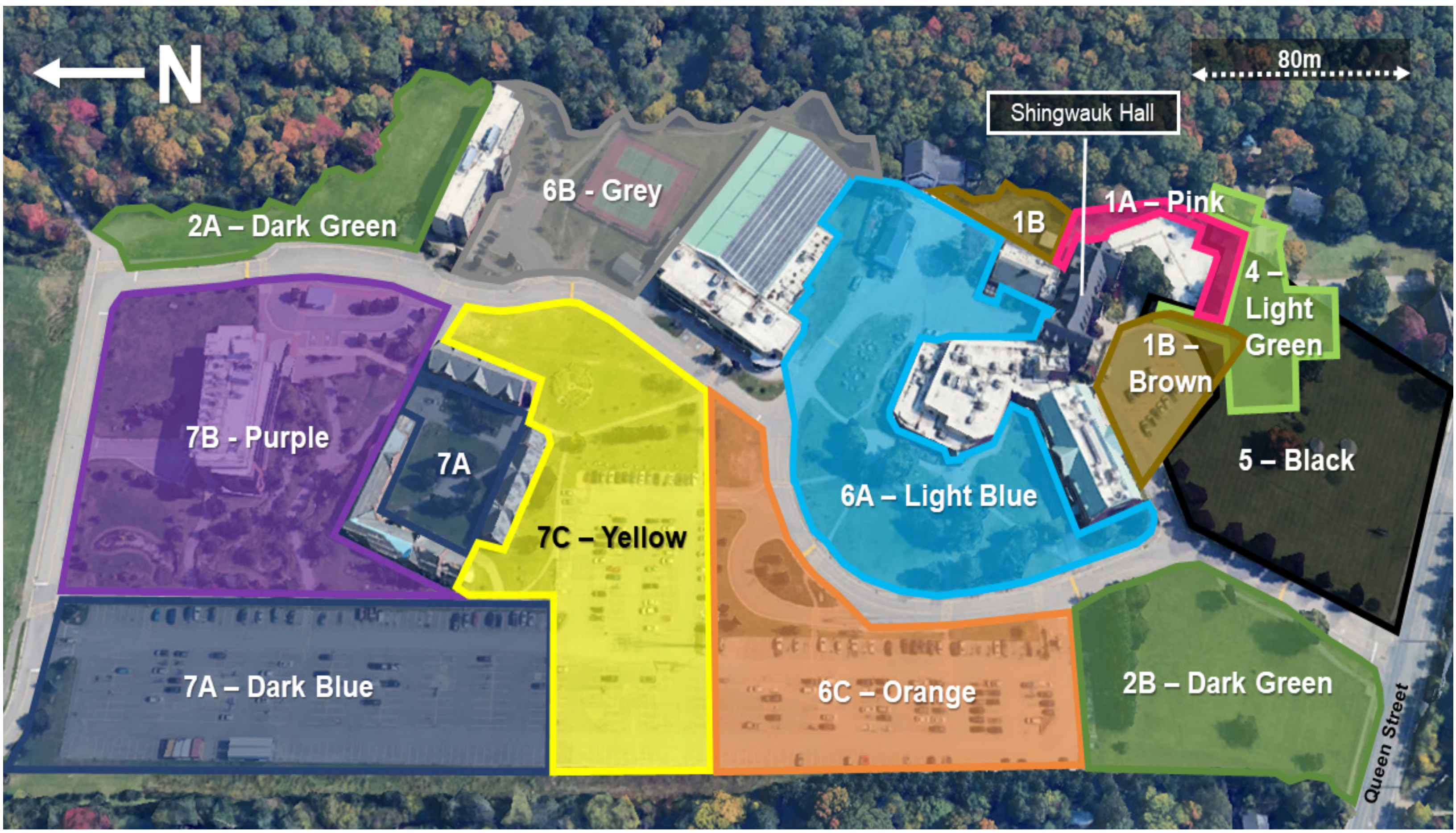


Figure 4: The Shingwauk site, including all areas scanned, numbered according to the Phase of scanning. Phase 3 is not represented, as that was focused on four borehole locations (not general areas).

Phase 1 Ground Penetrating Radar Method used for the Shingwauk Site

INTRODUCTION

In July of 2022, Hatch committed to provide Ground Penetrating Radar (GPR) data collection and interpretation services for several First Nations communities across Saskatchewan, Alberta, and Ontario. This work was undertaken on an internal budget and was provided free of charge to the First Nation communities with whom Hatch entered into an agreement. While the overarching goal of the GPR data collection initiative was to identify potential burial sites and bring some degree of closure to the families and Indigenous communities, it must be understood that GPR is not a conclusive technology. In this regard, GPR has been utilized as a preliminary and non-destructive screening tool to identify the presence of anything that may warrant further archeological investigation.

The work undertaken by Hatch in 2022 and 2023 for the Shingwauk site search was limited to the processing and analysis of GPR data previously collected by SNC-Lavalin, in September and December of 2021. Additional GPR data was collected by N1 Solutions in 2021 using equipment manufactured by Sensors & Software Inc.; however, the data collected with this equipment is not compatible with the software that Hatch purchased from GSSI (RADAN 7) for GPR data analysis. Only the SNC-Lavalin data was compatible, so the data collected by N1 Solutions using Sensors & Software equipment was not analyzed during Phase 1.

GROUND PENETRATING RADAR (GPR) EQUIPMENT USED (PHASE 1)

GPR data was collected by SNC-Lavalin in 2021 via a GSSI cart-based GPR data collection unit. For the scanning completed in 2021, the GSSI GPR data collection was completed with two GPR units, a 400 MHz analog antenna with a SIR 3000 data collector and a 350 MHz digital antenna with a SIR 4000 data collector. Both GPR units were equipped with a Distance Measuring Instrument (DMI). The 400 MHz and 350 MHz antennas were selected for this application as the frequency is best suited to achieve the requisite depth of penetration.

Generally, the frequency of an antenna can be correlated to the penetration depth achieved by the scan; however, the actual depth of penetration depends on the in-situ soil conditions and ground water levels at the site. The GPR data collection cart equipped with the SIR 3000 data collector utilized by SNC-Lavalin for the survey is shown in Figure 5.

Figure 5: GPR Data Collection Cart Equipped with a SIR 3000 Data Collector.
Photo credit: Allied Associates Geophysical Ltd. (2025).

REAL TIME KINEMATIC GLOBAL POSITIONING SYSTEM

The collection of Real Time Kinematic (RTK) Global Positioning System (GPS) data was undertaken to ensure that the precise extents and location of each GPS scan was recorded. This is important to ensure the data could be accurately represented in 3D when plotted on a site plan. Review of the initial GPR data was coupled with field notes from the time of data collection. We know the data transferred to Hatch did not contain all of the survey data and field notes that were collected in 2021, so there were also consultations with the parties who were onsite for data collection. Thus, the locations presented are determined based on GPS tracking and estimations based on field notes and proximity to known grid locations.

METHODOLOGY

DATA COLLECTION PROCEDURE

Data collection followed guidelines for the collection of GPR data at the sites of former Residential Schools, established by the Canadian Archeological Association (2021). In alignment with the guidelines, GPR data was collected for the Shingwauk site as a series of grids (i.e., smaller sections, delineated by perpendicular gridlines being temporarily strung on the property). Once gridlines are laid down, this type of GPR machine can internally track how much of the area has been covered, and where, to ensure the area is completely scanned.

SEPTEMBER 2021 - GPR COMPLETED ON 8 OUT OF 17 PLANNED GRIDS

1) 1-1 Directly behind (North side) Shingwauk Hall
2) 1-2 Behind (North side) East Wing
3) 1-3 Directly adjacent to East Wing (Northeast side)
4) 1-4 Directly adjacent to East Wing (East side)
5) 1-5 Directly adjacent to East Wing (Southeast side)
6) 1-6 East of East Wing under canopy
7) 1-7 Southeast of East Wing
8) 1-8 Within the Tipi

Areas of interest discussed further in the Phase 1 Results section.

DECEMBER 2021 - GPR COMPLETED COMPLETED ON THE REMAINING 9 OUT OF 17 PLANNED GRIDS

1) 2-1 Front of Shingwauk Hall, North of flag poles
2) 2-2 Behind Shingwauk Hall (including crying rock)
3) 2-3 Front of Shingwauk Hall, North of Grid 2-1
4) 2-4 Behind Shingwauk Hall, east of Grid 2-2
5) 2-5 Front of Shingwauk Hall, South of Grid 2-1 December 2021
6) 2-6 Behind Shingwauk Hall beside dumpster
7) 2-7 Front of Shingwauk Hall, Northeast of Grid 2-3
8) Sidewalk (North-South) North of Shingwauk Hall
9) 2-9 West side of Grid 2-5

Figure 6: Areas of interest discussed further in the Phase 1 Results section.

DATA PROCESSING

In order to assist in identifying potential anomalies it is beneficial to process the data following collection (i.e., to put all the individual depth slices together to create more of a complete, 3D picture). Then, during post-processing, filters that help the viewer focus on different parts of the image may be applied to assist with interpretation. The use of filters does not modify the raw data. For the scanning completed by SNC-Lavalin in 2021, post-processing and analysis of the data was completed in RADAN 7, a GPR data analysis program developed by GSSI. The scans were then examined for common identifying attributes including:

- GPR diffraction points (i.e., spots where the radar wave changes its shape and size due to bumping into a different substance than closer to the surface)
- Disturbed geological layers (e.g., evidence of human activity, like utility trenches)
- Hard radar reflections (i.e., very clear signals)
- Visibility in 3D with known approximate size or patterning (e.g., utilities will look a certain way, certain grave sites will look a different way, etc.)
- Disturbance or reflections at similar depths across adjacent scans (e.g., something may be unknown but show a certain shape or size of disturbance that indicates a need to investigate further.

The above-mentioned attributes are flagged in the data, as applicable, and are presented in the analysis and findings for further comment or investigation.

LEGEND FOR CLASSIFICATION OF RESULTS FOR AREAS OF INTEREST

GREEN potential anomalies that possess characteristics of commonly encountered (known) subsurface features (utilities, foundations, etc.).

AMBER potential anomalies that do not possess characteristics of commonly encountered subsurface features but a disturbance (of unknown nature) is shown. Please note, only areas of interest highlighted.

RED potential anomalies that do not possess characteristics of commonly encountered subsurface features and which have known characteristics or additional context indicating a burial.

LIMITATIONS

GPR is not a conclusive technology and relies upon physical verification or “ground truthing” (i.e., digging) to confirm any potential anomalies identified during scanning, to increase the accuracy of the analysis as it relates to the thickness, depth, and nature of the materials encountered.

Physical confirmation requires a disturbance of the ground down to the anomaly that has been identified; this may cause damage to the object itself or may possibly contravene cultural and other rules. In general, it is usually possible to identify the presence of potential anomalies based entirely upon interpretation of the GPR data; **however, it is not possible to state with certainty what the potential anomaly may be. The information presented in this report is intended to be used as a reference, to identify locations that would benefit from an archeological investigation to verify the nature of the potential anomaly.**

RESULTS OF THE GPR SCANS

Potential anomalies were identified in three locations, which are shown in Figure 7.

GRID 1-2: Parabolic reflections were found with a break in horizons. **Amber**. Unexplained potential anomaly with approximate dimensions of 1.2 m x 2.0 m, at 1.6 m depth – requires further exploration to verify.

GRID 1-6: Parabolic reflection/disturbance at approximately 0.9 m depth. **Amber**. Not fully scanned due to canopy – to be scanned again without an obstacle for full picture.

GRID 2-6: Reflection showing disturbance. **Amber**. Unexplained potential anomaly with approximate dimensions of 0.75 m x 2 m, at 2.3 m depth – requires further exploration to verify.

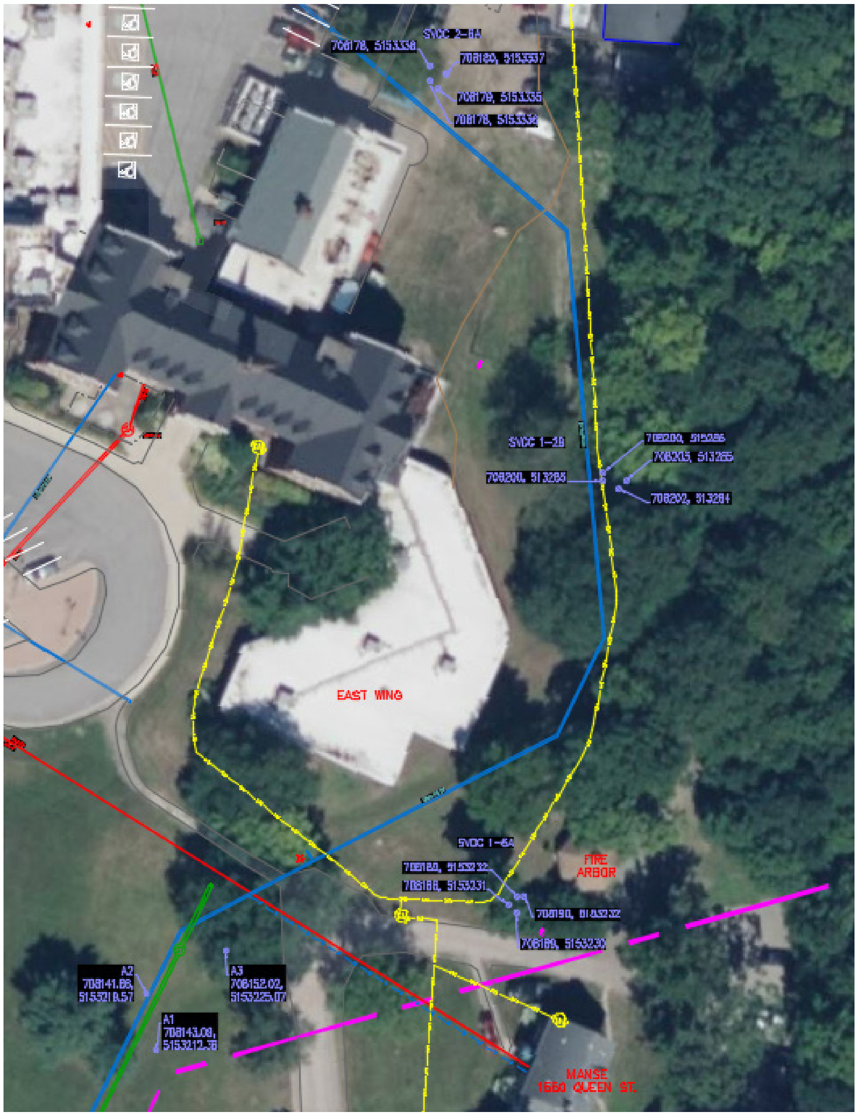


Figure 7. Potential anomalies in the survey area mapped alongside current utility lines. Historic utility uses are not mapped.

SUMMARY OF THE INTERPRETED RESULTS

The accuracy of the data collection resulted in many initial potential anomalies to be reviewed with more detail. The majority (i.e. thousands) of the initially observed anomalies were determined to be common features like boulders, underground services/trenches and other soil disturbances that appear to be more related to earthworks construction for the Site development over the years.

Anomalies that were interpreted to represent a potential unmarked grave location were based on subsurface disturbance patterns, by size, shape and depth of potential disturbed soils that may infer the presence of a grave shaft when compared to the surrounding soil deposits (i.e. resembles a grave shaft), as well as anomalies/objects that may infer the presence of an unmarked grave.

Phase 2 Ground Penetrating Radar Method used for the Shingwauk Site

INTRODUCTION

Ground Scan Ltd. was contracted to complete Ground Penetrating Radar (GPR) scanning and data analysis to determine if any possible unmarked graves are located in Phase 2 areas (Figure 8). The north **Section 2A** (garden area, 0.5 ha) and the west **Section 2B** (front lawn including the driveway, 0.7 ha) are the areas being scanned within this contract.

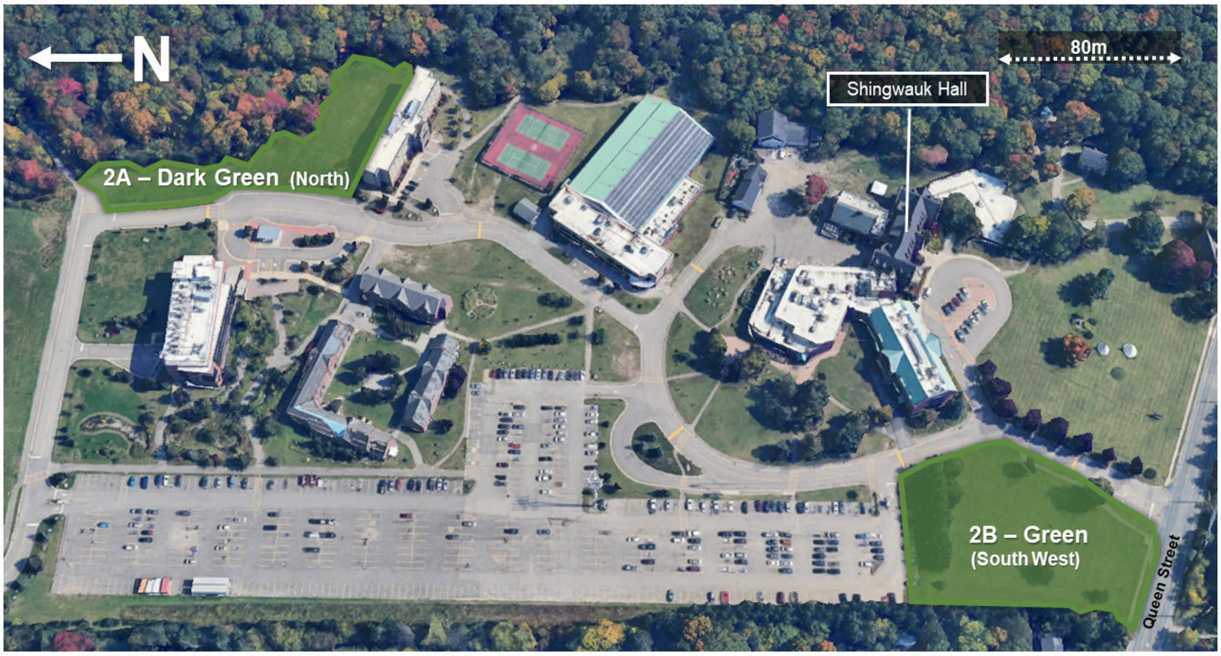


Figure 8. Areas scanned during Phase 2 (outlined areas 2A and 2B).

In accordance with the cultural protocols, the Site Search Community Coordinator met with Ozawa Ginew, Cultural Advisor on Friday, October 21, 2022 at Algoma University. She shared the locations planned to be scanned and the tentative scanning schedule. Semaa (tobacco) was passed with the request for a ceremony to be held in preparation for the scan to occur, and there was an Elder present the morning of the scan to smudge and offer morning prayer.

The Community Coordinator worked with the Cultural Services Department at Nogdawindamin Family and Community Services to identify an Elder and Helper who would attend the morning of the scan to offer morning prayer and smudge. Ozawa Ginew, spoke with Nogdawindamin's Cultural Services Supervisor, Mike Tegosh to ensure the work was being done with good intentions.

October 27, 2022 individuals from the Site Search Team, Algoma University, Shingwauk Kinoomaage Gamig, N1 Solutions, Ground Scan Ltd., NORDIK Institute, and Nogdawindamin Family and Community Services began the day in a good way, on the front lawn where the scanning would take place. Semaa was passed to everyone in the circle, and smudge, opening song and prayer were provided. Lorrie Boissoneau, Traditional Knowledge Keeper, shared with the group that she is a descendent of Chief Shingwauk and she was honoured to be leading the morning prayer. Following the cultural opening, those in attendance placed their Semaa at the base of a tree of their choosing within the area they had gathered.

GROUND PENETRATING RADAR (GPR) EQUIPMENT USED

Figure 9: The geophysical equipment used in the GPR survey was a Noggin 250MHz manufactured by Sensors & Software. *Photo credit: Sensors & Software (2025).*

EKKO_Project software

"EKKO_Project software is now part of the Locate Performance Management suite of tools from Radiodetection, solutions that help locate and protect underground assets. EKKO_Project, is designed to empower utility locators, concrete scanners, archaeologists, law enforcement, geoscientists, environmental scientists, geotechnical engineers, and other GPR practitioners to visualize GPR data and turn it into usable information and reports" (Sensors & Software, 2025).

METHODOLOGY

Ground Scan Ltd. began by marking off and gridding the front lawn area, to ensure the appropriate coverage for the scanning (Figure 10).

Figure 10: Gridding is a process of marking off the entire area to be scanned with string/twine. To ensure data collection accuracy, grid lines are secured to the ground with large nails at set intervals. Grid lines are fastened to the front lawn area in preparation for the GPR scan; 0.25 meter intervals are used to ensure a high degree of accuracy.

DATA COLLECTION PROCEDURE

The GPR equipment captures subsurface information in widths of 0.25 m interval spacing. As such, as an effort to capture a complete "picture" of the subsurface, a line spacing of 0.25 m was performed to identify subsurface disturbance patterns, by size, shape and depth of potential disturbed soils that may infer the presence of a grave shaft when compared to the surrounding soil deposits (i.e. resembles a grave shaft), as well as anomalies/objects that may infer the presence of an unmarked grave. A total of 14 separate GPR survey grids were required to cover the survey areas. The associated grid scan number, location and approximate scanned area are summarized in the following tables:

Table 1: Areas of Grid Scans Conducted at the South West Section.

Location		Grid Scan #	Scan Area (m^2)
	SOUTH WEST SECTION	1	2850 m^2
		2	400 m^2
		3	610 m^2
		4	940 m^2
		5	500 m^2
		6	95 m^2
		7	890 m^2
		8	385 m^2
		Total	6670 m^2

Table 2: Areas of Grid Scans Conducted at the North Section.

Location		Grid Scan #	Scan Area (m^2)
	NORTH SECTION	9	1080 m^2
		10	460 m^2
		11	1880 m^2
		12	230 m^2
		13	245 m^2
		14	185 m^2
		TOTAL	4080 m^2

DATA PROCESSING

After the GPR field data was collected, the raw data was processed using state-of-the-art EKKO_Project software. Detailed, high-resolution analyses were completed, and possible anomalies were marked in the software. Once the depth slices were pieced together, a more complete 3D image was used to better interpret each potential anomaly. Based on the inferred size, shape, depth and frequency of the interpretation markers, we were able to rule out the responses, or anomalies, that were likely caused by natural occurrences (e.g., boulders) from the responses that may infer locations of potential unmarked graves.

LIMITATIONS

Potential disturbed soils from possible previous excavation works are more detectable when they are located in relatively homogeneous lacustrine soil deposits (e.g., stone-free, sandy, silty, or clay earth), with alternating/layering of fine- and coarse-grained. In these environments, the earth around the potential anomaly is sorted into layers, so the potential anomaly stands out more clearly. When the soils are more heterogeneous in nature (e.g., different sizes of rock and earth, from clay to boulders), it makes detecting disturbed soils difficult, since the excavated and backfilled materials are still relatively the same as the unsorted surrounding soil materials. With the passage of time, this scenario tends to become less detectable.

It is noted that the Shingwauk site was interpreted to contain both lacustrine and heterogeneous soils, thus complicating the interpretation of potential unmarked graves, since the unsorted soil materials negatively impacted data interpretation.

SUMMARY OF THE INTERPRETED RESULTS

Based on the results of the GPR survey, potential anomalies were interpreted at one of the two areas surveyed, which are summarized in Table 3.

Table 3. Potential anomalies of concern identified in Phase 2.

Location	**Number of Potential Anomalies**
South West Section (Map 2B)	11
North Section (Map 2A)	0

Figure 11: Anomalies in the South West Section, mapped by Ground Scan Ltd.

In the scanned locations, most potential anomalies were determined to be subsurface cobbles, boulders, or subsurface soil conditions that result in a change in the way radar waves move through the soils, which could be due to:

- Variations in the moisture or air content of the soil (e.g., increases in moisture content due to nearby groundwater);
- Transition(s) and/or soil boundaries between one or more soil types (e.g., a dry sand/silt that overlays a potential saturated soil or possible groundwater table); and,
- Unrelated subsurface disturbances, such as utility excavations (e.g., for sewer pipes, electrical cables/conduits, communication cables, roadway/parking lot construction and general site development) over the years.

The above conditions are unrelated to the search for unmarked burials, and as such, make data interpretation more difficult and enormously time consuming to rule these conditions out. Most (e.g., thousands) of initially observed potential anomalies were determined to be boulders, underground services/trenches and other soil disturbances that appear to be more related to earthworks construction for the Site development over the years.

Result: **Amber**. No definitive unmarked graves were identified, further exploration was recommended.

Phase 3 Ground Penetrating Radar Method used for the Shingwauk Site

INTRODUCTION

Ground Scan Ltd. was retained by Algoma University to complete an additional, non-intrusive GPR survey at the at the Shingwauk site on April 28, 2023. The purpose of this survey was to investigate the subsurface area proposed for construction to identify possible unmarked graves in the vicinity of proposed borehole locations. The GPR survey focused on specific proposed borehole locations to expedite the project in order to allow the exploratory drilling to proceed as soon as reasonably possible. As such, broad scanning across an area was not completed; Figure 14 outlines the exact grids that were scanned in Phase 3.

CSAA's President, Jay Jones, met with Ozawa Ginew, Cultural Advisor, on April 27, 2023 at Algoma University. Semaa was passed with the request for a ceremony to be held in preparation for the scan to occur, to ensure the work was being completed in a good way.

GROUND PENETRATING RADAR (GPR) EQUIPMENT USED

Figure 12: The geophysical equipment implemented in the GPR survey was a Proceq GP8000 manufactured by Screening Eagle.

Ground Scan Lt.d. used **GPR Insights 2** software to analyze the results of this study. GPR Insights software extracts the clearest visualizations from all types of GPR data to assist with decision making on construction, maintenance or repairs, and for use in archaeological projects.

METHODOLOGY

The line spacing for each survey grid was selected to be 0.25 metres (m) both in lengthwise and widthwise directions as an effort to capture subsurface disturbances to identify patterns by size, shape and depth of probable disturbed soils when compared to the surrounding soils, as well as anomalies/objects that may infer the presence of an unmarked grave.

DATA COLLECTION PROCEDURE

A 6 m by 6 m grid was performed at each proposed borehole location of interest, for a total of 4 grid scans. The associated borehole and grid scan number are summarized in Table 4.

Table 4: Locations and Area of the Survey Grids.

Grid #	Area (m^2)	Grid Dimensions (m)	Corresponding Borehole #
1	36	6x6	BH22-08
2	36	6x6	BH22-07
3	36	6x6	BH22-06
4	36	6x6	BH22-04

Figure 13: The approximate location of each grid. *Image provided by Ground Scan Ltd.*

DATA PROCESSING

After the data was collected, the raw data was processed using state-of-the-art Screening Eagle software, which allowed for detailed, high-resolution viewing and interpretation of potential anomalies.

SUMMARY OF THE INTERPRETED RESULTS

The data collected within all completed survey grids contained no anomalies or indicators that can be interpreted as representing potential unmarked graves; however, the data allowed for the identification of linear subsurface features (e.g., utilities) within the boundaries of Grid 1 and Grid 2.

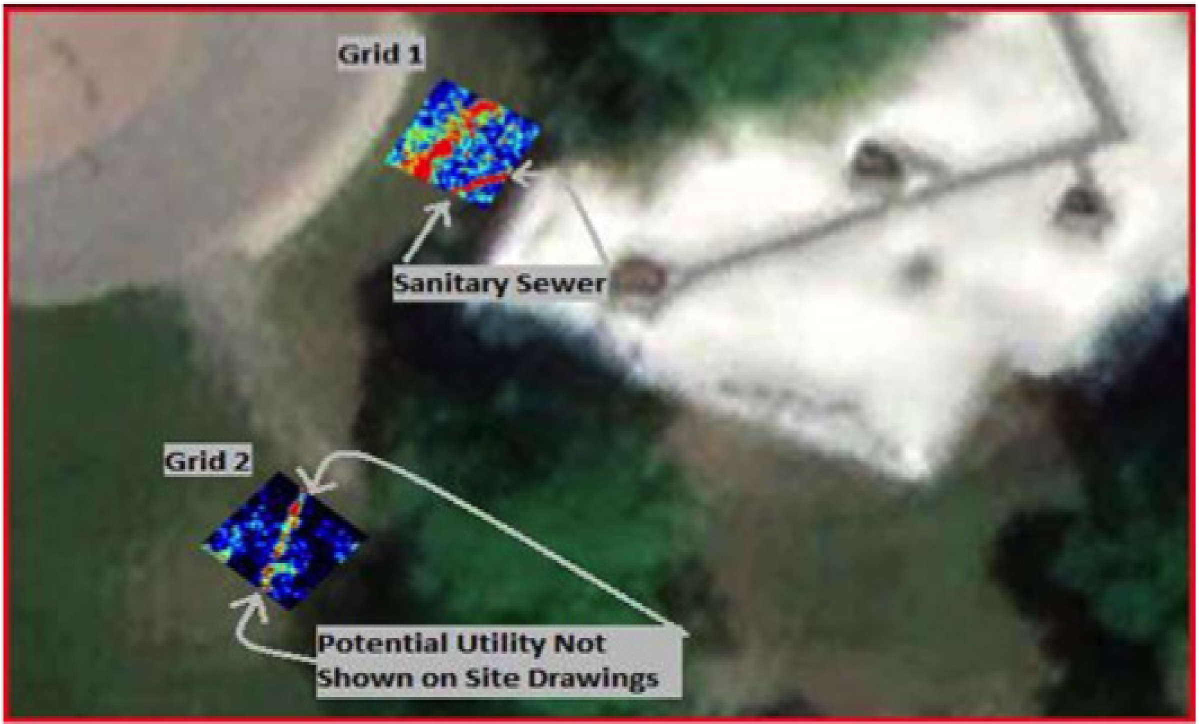


Figure 14: Grids 1 and 2 Overview provided by Ground Scan.

It was confirmed that the linear subsurface feature in Grid 1 is the sanitary sewer, based on site drawings provided to us. The highlighted feature presented by data found north of the identified sanitary sewer infers possible granular fill materials. No subsurface anomalies were identified within Grids 3 and 4.

Phase 4 Ground Penetrating Radar Method used for the Shingwauk Site

INTRODUCTION

CSAA President, Jay Jones, met with Ozawa Ginew, Cultural Advisor on May 23, 2023 at his residence in Garden River. Semaa was passed with the request for a ceremony to be held in preparation for the scans to occur May 24 to June 11, 2023, to ensure the work was being completed in a good way.

Figure 15. Area scanned during Phase 4.

GROUND PENETRATING RADAR (GPR) EQUIPMENT USED

EKKO_PROJECT SOFTWARE

"EKKO_Project software is now part of the Locate Performance Management suite of tools from Radiodetection, solutions that help locate and protect underground assets. EKKO_Project, is designed to empower utility locators, concrete scanners, archaeologists, law enforcement, geoscientists, environmental scientists, geotechnical engineers, and other GPR practitioners to visualize GPR data and turn it into usable information and reports" (Sensors & Software, 2025).

Figure 16: The geophysical equipment used in the GPR survey was a Noggin 250MHz manufactured by Sensors & Software.

METHODOLOGY

The GPR equipment captures subsurface information in widths of 0.25 m interval spacing. As such, as an effort to capture a complete "picture" of the subsurface, a line spacing of 0.25 m was performed to identify subsurface disturbance patterns, by size, shape and depth of potential disturbed soils that may resemble a grave shaft when compared to the surrounding soil deposits, as well as anomalies/objects that may infer the presence of an unmarked grave.

DATA COLLECTION PROCEDURE

A total of 6 separate GPR survey grids were required to cover the survey areas. The associated grid scan number, location and approximate scanned area are summarized in Table 5.

Table 5: Areas of Grid Scans Conducted at the East Section.

Location		Grid Scan #	Scan Areas (m^2)
	East Section	1	820 m^2
		2	120 m^2
		3	105 m^2
		4	200 m^2
		5	200 m^2
		6	420 m^2
		Total	1865 m^2

DATA PROCESSING

After the GPR field data was collected, the raw data was processed using state-of-the-art EKKO_Project software. Detailed, high-resolution analyses were completed, and possible anomalies were marked in the software. Once the depth slices were pieced together, a more complete 3D image was used to better interpret each potential anomaly. Based on the inferred size, shape, depth and frequency of the interpretation markers, we were able to rule out the responses, or anomalies, that were likely caused by natural occurrences (e.g., boulders) from the responses that may infer locations of potential unmarked graves. Where there was a different material that showed a sharp contrast from the most common materials surrounding it, indicating a potential anomaly, it is identified as A1-A3 in Figure 17.

Figure 17: Approximate location of potential anomalies. *Image credit: East Section Depth Slices.*

SUMMARY OF THE INTERPRETED RESULTS

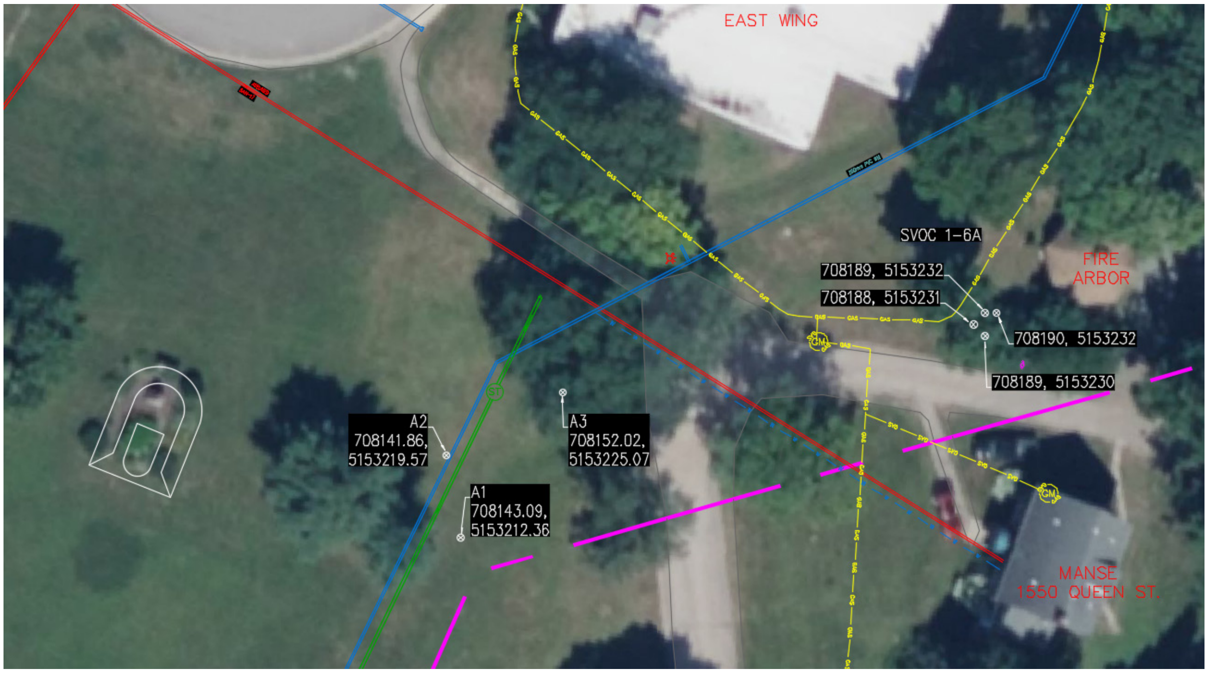


Figure 18: GPS location of three anomalies provided by Ground Scan Ltd., mapped alongside present-day utilities. Historic use of utilities is not mapped.

Table 6: GPS coordinates of the three anomalies identified during Phase 4.

Anomaly	Easting	Northing
A1	708143.09	5153212.36
A2	708141.86	5153219.57
A3	708152.02	5153225.07

LIMITATIONS

Based on the results of the GPR survey, three potential anomalies were interpreted at the areas surveyed (A1-A3). Although sophisticated computer aided analysis was completed, the interpreted results are subject to an approximated degree of error due to external factors that cause a decrease in the quality and accuracy of the data during collection, as explained in earlier sections.

Additional Methods Used at the Shingwauk Site

JUNE 10, 2023: In accordance with cultural protocols, CSAA President Jay Jones met with Ozawa Ginew, Cultural Advisor, the day prior to the arrival of the Historic Human Remains Detection Dogs (HHRDD) team at Algoma University. Semaa was passed with the request for a ceremony to be held to ensure the work was being completed in a good way. The team of HHRDDs from the United States detected no human remains in the areas that were previously flagged as potential anomalies.

Figure 19: Dawson and handler Pat Lamson searching small area previously searched by Pippa.

Figure 20: Pippa, handled by Karen Scobbie, searching area for proposed garden project.

JUNE 21, 2023: In accordance with cultural protocols, CSAA President Jay Jones met with Ozawa Ginew, Cultural Advisor, and passed Semaa with the request for ceremony to be held in preparation for borehole drilling to occur, to ensure the work was being completed in a good way. Borehole drilling took place in areas that were approved/cleared from anomalies.

NOVEMBER 1, 2023: In accordance with cultural protocols, CSAA President Jay Jones met with Ozawa Ginew, Cultural Advisor, the day prior to the arrival of an HHRDD team at Algoma University. Semaa was passed with the request for a ceremony to be held in preparation for the work to occur, to ensure it was being completed in a good way. The team of HHRDDs from the United States detected no human remains in the areas that were previously flagged as potential anomalies.

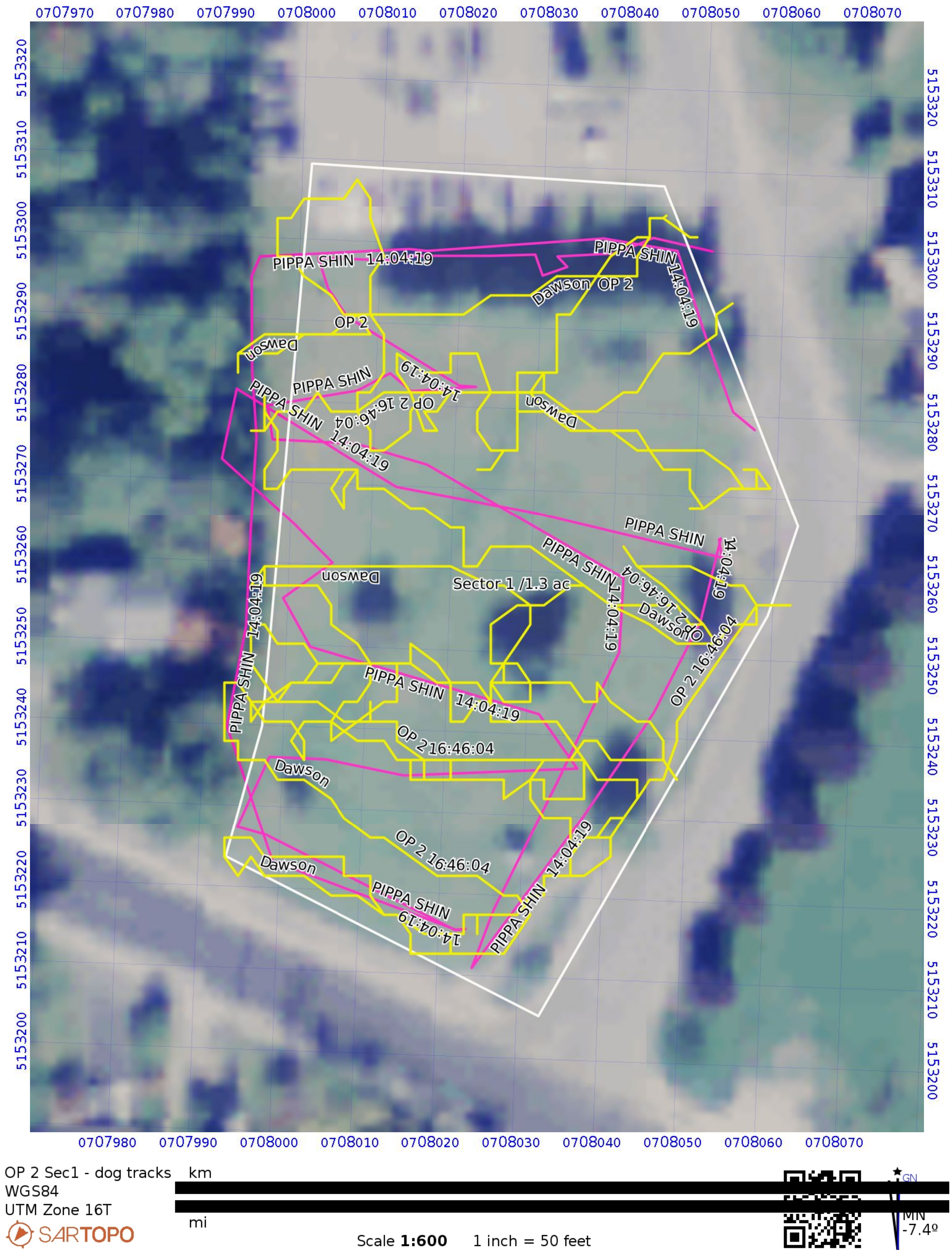


Figure 21: GPS-located route each dog - Pippa (pink) and Dawson (yellow) - traveled during their search of the Shingwauk site - South West section. *Image provided by Karen Scobbie.*

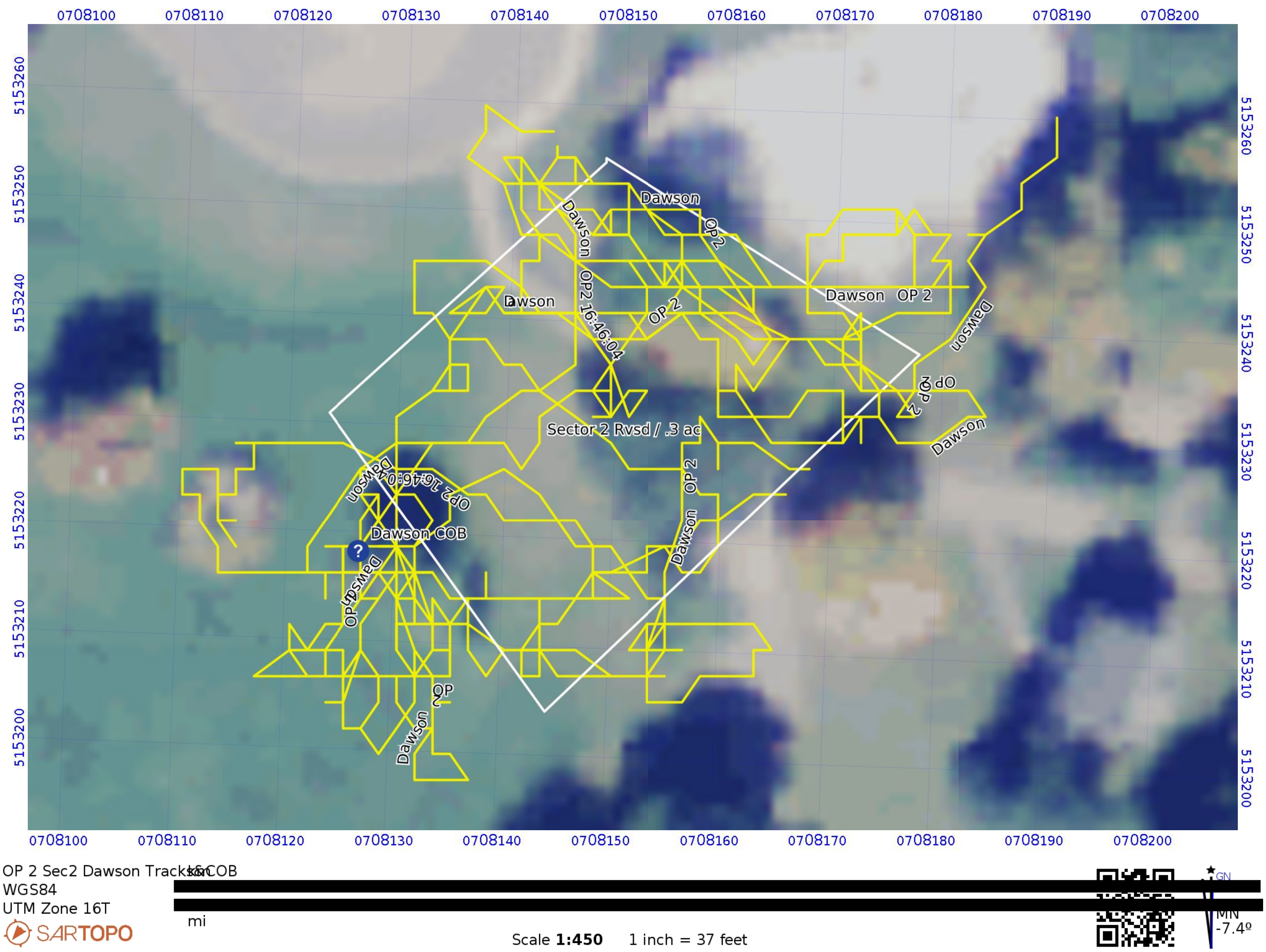


Figure 22: ***GPS-located route that Dawson (the HHRD dog) traveled during his search of the Shingwauk site - East/borehole section.*** *Image provided by Karen Scobbie.*

APRIL 13, 2024: In accordance with cultural protocols, CSAA President Jay Jones met with Ozawa Ginew the day prior to the arrival of an HHRDD team at Algoma University. Semaa was passed with the request for a ceremony to be held in preparation for the work to occur, to ensure it was being completed in a good way. The team of HHRDDs from Canada detected no human remains in the areas that were previously flagged as potential anomalies.

Figure 23: Ottawa Valley Search and Rescue Dog Association.

APRIL 26-28 2024: Pre-Reveal Planning Session for Survivors and Communities. A decision was made to delay the media release pending further investigation (need ground truthing). Ozawa Ginew, held ceremonies (opening/closing), supported attendees during facilitated sharing circles and ensured the work being completed was with good intentions.

MAY 1, 2024: We purchased new, state-of-the-art GPR machines - the Stream DP and the DS2000 - from Bigman Geophysical, so that we could verify scanning and offer GPR services to other communities. Please review the Phase 5 section for more information.

JUNE 8, 2024: Our team undertook an archeological validation exercise together with Woodland Canadian Heritage. In accordance with cultural protocols, CSAA President Jay Jones met with Ozawa Ginew and Semaa was passed with the request for a ceremony to be held in preparation for the archeological process to occur, to ensure the work was being completed in a good way.

To verify the results obtained through earlier GPR analyses, additional work through ground truthing was required. Three points of interest were identified in the East Section and were within the scope of the construction for the new building. Although these areas had also been cleared by the HHRDD teams, in order to be 100% positive that nothing was located in these areas, 1 m x 1 m test pits were dug. The test pits did not reveal any evidence of unmarked graves, and the areas were cleared.

Figure 24: Photo showing the 4 quadrants of the test pit. *Photo Credit Dave Norris.*

Figure 25: Photo showing the 4 quadrants of the test pit with quadrant top SW corner. *Photo Credit Dave Norris.*

JUNE 18, 2024: Our team undertook additional foundational exploration. In accordance with cultural protocols, CSAA President Jay Jones met with Ozawa Ginew and Semaa was passed with the request for ceremony to be held in preparation for the archeological process (borehole and bedrock testing) to occur, to ensure the work was being completed in a good way. Borehole activity taking place on site/Bedrock Testing for Makwa Waakaai'igan.

JUNE 19, 2024: An archeological team (Woodland Heritage) was contracted by Algoma University, assisted by our team's Technician, Heather Fraser, to undertake bedrock testing for Makwa Waakaai'igan.

JUNE 24 AND 25, 2024: Archeological Fieldwork

Figure 26: Borehole Drilling in East Section.

Figure 27: Borehole drilling equipment.

Figure 28, 29, 30 (left to right): Soil sifting after foundation exploration (in the 1B section of the site plan map).

Phase 5 Ground Penetrating Radar Method used for the Shingwauk Site

INTRODUCTION

Ground-penetrating radar (GPR) is a valuable tool for subsurface exploration, used for reasons ranging from archaeological investigations to infrastructure assessments. While initial GPR scans often yield useful data, advancements in technology and the specific needs of a project can necessitate rescanning. As with any technology, advancements are made more quickly now than ever before. Today's GPR equipment often features significant improvements over even the most recent older models, including higher resolution, better signal clarity, and enhanced depth penetration. As such, the latest advancements can reveal details that were previously not possible to detect, or which were indistinct. Using updated equipment ensures the most accurate and reliable data possible, which is critical for important decisions.

Initial scans at the Shingwauk site from 2021-2023 identified potential anomalies or features that were inconclusive due to limitations in equipment or environmental conditions. Vegetation cover and subsurface conditions like soil compaction and moisture levels can change over time, impacting GPR signal performance. Newer equipment is better equipped to address these challenges. Rescanning with updated equipment, potentially combined with adaptive settings, accounts for these changes, reducing data inconsistencies and improving accuracy. While rescanning requires additional resources, the long-term benefits outweigh the costs and time commitment. Subsurface uncertainties can lead to project delays, unexpected expenses and undue harm to the communities. Investing in accurate, updated scans minimizes these risks, providing a more reliable foundation for decision-making.

For this reason, our team purchased new, state-of-the-art GPR machines - the Stream DP and the DS2000 - from Bigman Geophysical in 2024. This decision was driven by technological progress, the need for clarity, and evolving project requirements. Rescanning permits the confirmation of potential findings and re-evaluation of questionable areas, capturing data in regions where soil moisture, underground utilities, and other 'inferences' previously obscured the results. Rescanning also permits us to cross-reference our results with previous results, with improved imaging for validation, while controlling the data and ensuring complete and thorough information is shared.

When precision is paramount, using a combination of the best available tools is not only beneficial, but essential. By rescanning the Shingwauk site, our team has made a commitment to the Survivors and other stakeholders to use the best available technology, combined with other methods described in this report (e.g., previous scans, HHRDDs, surveys, field notes, socials and gatherings). In doing so, we can ensure the data's accuracy and reliability to the best of our ability, helping avoid costly mistakes and strengthening community confidence in the results.

METHODOLOGY

August 8th, 2024: In accordance with the cultural protocols, Project Lead Tara Burrell met with Ozawa Ginew, Cultural Advisor on August 1, 2023 at Algoma University. Semaa was passed with the request for a ceremony to be held in preparation for the scan to occur, to ensure the work was being completed in a good way. Phase 5 scanning took place in the summer and fall of 2024, using different (newer) equipment than in the first four phases.

The Noggin 250 MHz (Phases 1-4) and the IDS GeoRadar Stream DP (Phase 5) are both advanced Ground Penetrating Radar (GPR) systems; however, they are designed with different capabilities and applications in mind. For full comparison please see attached Appendix 1.

Figure 31: The Shingwauk site is divided into sections for scanning. Section 5 was scanned on August 8th 2024, and Section 2B was re-scanned on October 24th 2024. Marked areas are approximate.

Figure 32: The equipment used on the Shingwauk site during Phase 5. *Image credit: IDS Georadar, 2025.*

The system used for modeling the subsurface was an IDS Georadar Stream DP (Figure 32). This equipment was chosen for its high quality of data, which allows for the highest resolution of subsurface features at the site location, to a depth of approximately 12 feet below the surface in the context of the Shingwauk site. More information about this equipment is provided in Appendix 1.

DATA PROCESSING

Geolitix software was used to process and interpret GPR data. Geolitix improves survey efficiency and accuracy by harnessing the power of cloud computing to enable the seamless importing, editing, analysis, and interpretation of underground imaging data. Any survey geometry can be used, from simple grids to complex GNSS or total-station tracked surveys – which means we can make use of any GPR data, collected by any equipment.During analysis, GPR signals are turned into imagery that show the approximate size and shape of any underground areas that are different than the surrounding ground. We can then view these areas in the layers they occur in the ground - e.g., showing pipes over or through different ground depths. An example of this '3D volume' is shown in Figure 33.

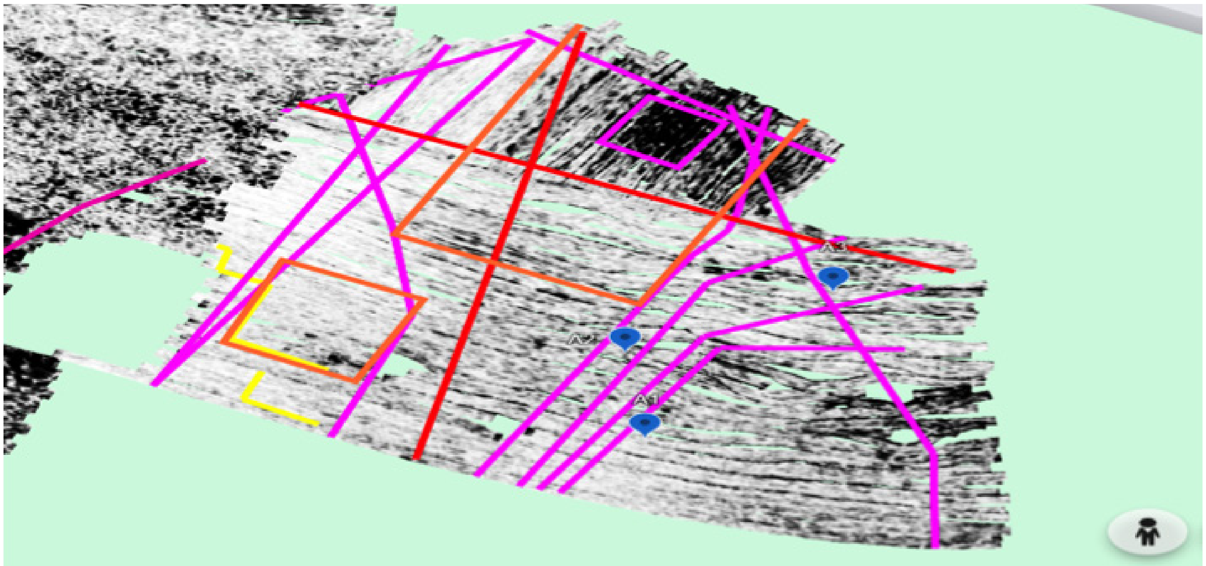


Figure 33: Potential anomalies identified by Ground Scan Ltd. (blue dots) are overlaid onto the same coordinates as previously scanned. As pictured the potential anomalies are located along utility lines. Which would explain the change in response on the GPR data.

SUMMARY OF THE INTERPRETED RESULTS (PHASE 5)

RESULTS: EAST SECTION RESCAN

The GPR scan of the East section recorded signatures with shape, size, and depth characteristic of those typically generated from utility pipes and previous foundations from archeological features. The scan was completed on August 8, 2024, with the analysis being completed on August 30, 2024.

In total 12 potential utility lines were identified in the East section investigation area. Two potential electrical lines were marked and indicated in red. In addition 10 potential utility lines were identified on the site.

The area also showed multiple potential anomalies, which were identified as the original, now demolished building foundation. These sites include an area that is previously unknown to the Community Support team and shows a square-shaped area of compact ground. This type of signature is commonly seen in historic structures such as cellars, but could also be indicative of a historic utility trench. SRSC staff was consulted and no official documentation that might confirm a historic structure was found, other than documents that indicate the kitchens were located in the back of the original building.

Data was collected by team members Tara Burell, MSW and Heather Fraser, MSc, who were trained to use the equipment. Analysis was completed by Heather Fraser, MSc and Dr. Sean McConnel, RPA, of Bigman Geophysical, who has extensive experience analyzing GPR data for archaeological purposes.

As can seen in Figures 11 and 34, the 11 points of interest from Ground Scan fall along the possible utility lines and the possible agricultural drainage. The GPR signatures also indicate the presence of utility lines and drainage and not a signature expected from an unmarked grave. Red lines indicate possible agricultural drainage, yellow lines indicate possible utility lines and teal indicate possible collapsed agricultural drainage.

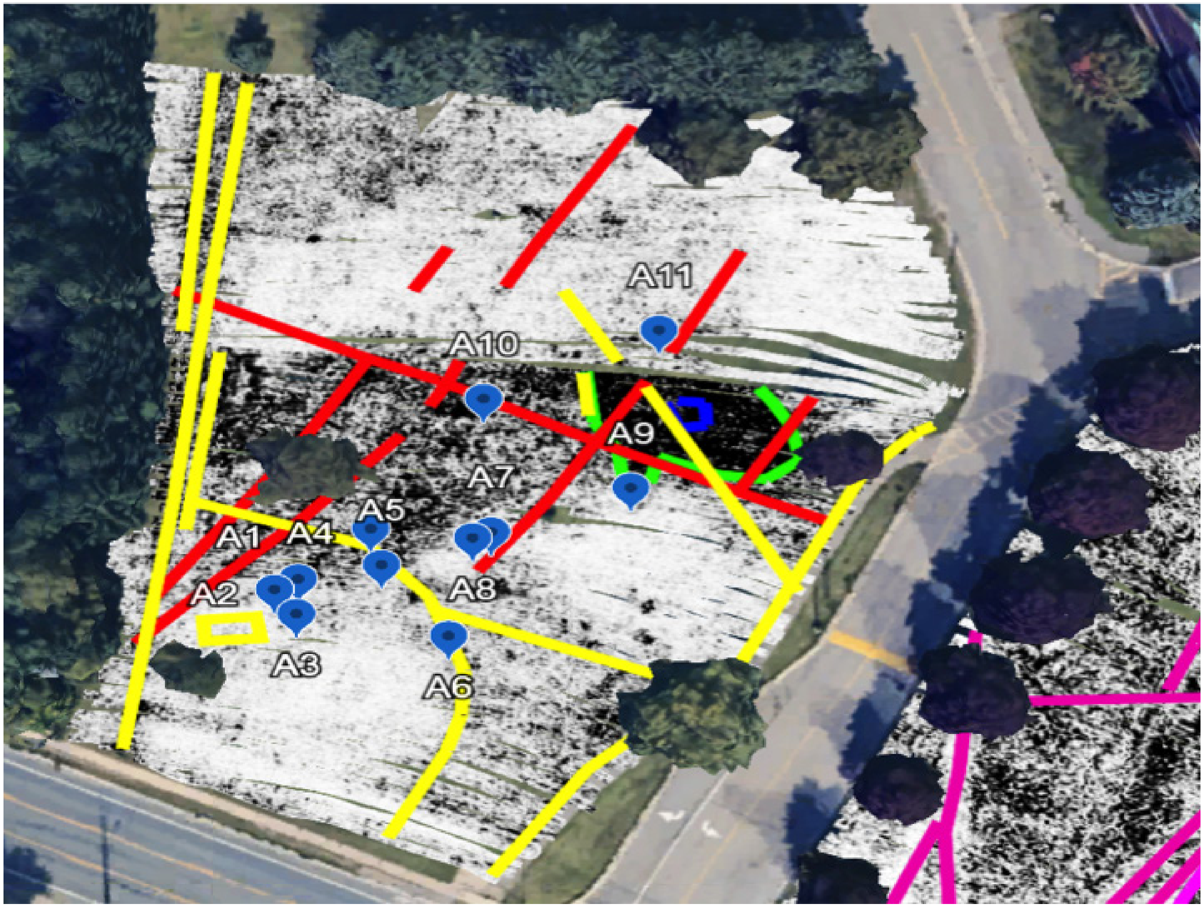


Figure 34: Shows the 11 Ground scan anomalies overlaid onto the rescanned map. Red lines indicate possible agricultural drainage, yellow lines indicate possible utility lines and teal indicate possible collapsed agricultural drainage.

CONFIRMING EARLIER DATA

A rescan and second analysis of the data by Ground Scan Ltd. allowed us to confirm the potential anomalies are not likely to be unmarked graves. As can be seen on the map the 11 points of interest previously identified by Ground Scan Ltd. fall along possible utility lines and possible agricultural drainage. The GPR signatures do not align with the signature expected from an unmarked grave.

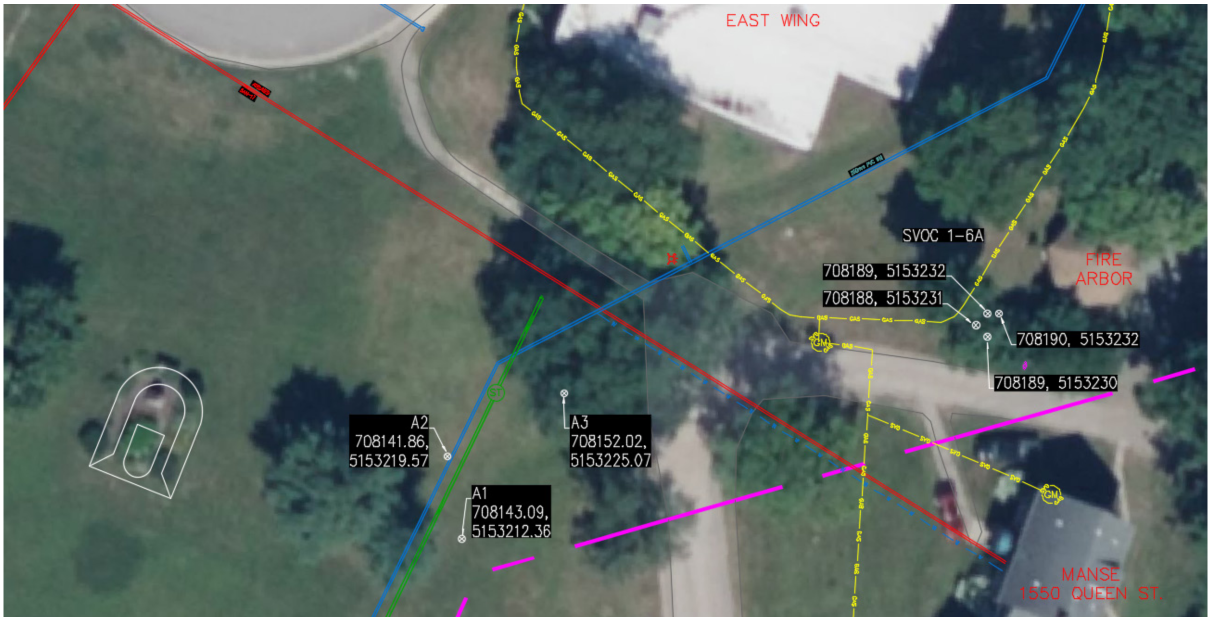


Figure 35: Survey map of front lawn on Shingwauk Residenti al School with the 11 coordinates.

Table 7: Coordinates of the 11 anomalies identified.

Anomaly	Easting	Northing
A1	708005.98	5153240.2
A2	708005.97	5153235.98
A3	708008.03	5153233.96
A4	708013.96	5153234.02
A5	708015.04	5153230.78
A6	708021.16	5153223.79
A7	708023.06	5153233.87
A8	708022.03	5153240.72
A9	708033.97	5153239.87
A10	708022.13	5153255.49
A11	708035.98	5153255.57

SEPTEMBER 11, 2024 - Back of Algoma University cleaned for GPR preparation.

CONCLUSION

There is nothing of significance to report at this time. Historical records of the site, current survey results of the property and use of the land, GPR, and two HHRDD teams (one from Canada and one from the United States) detected no human remains in the indicated areas.

Planned for Phases 6 and 7 GPR

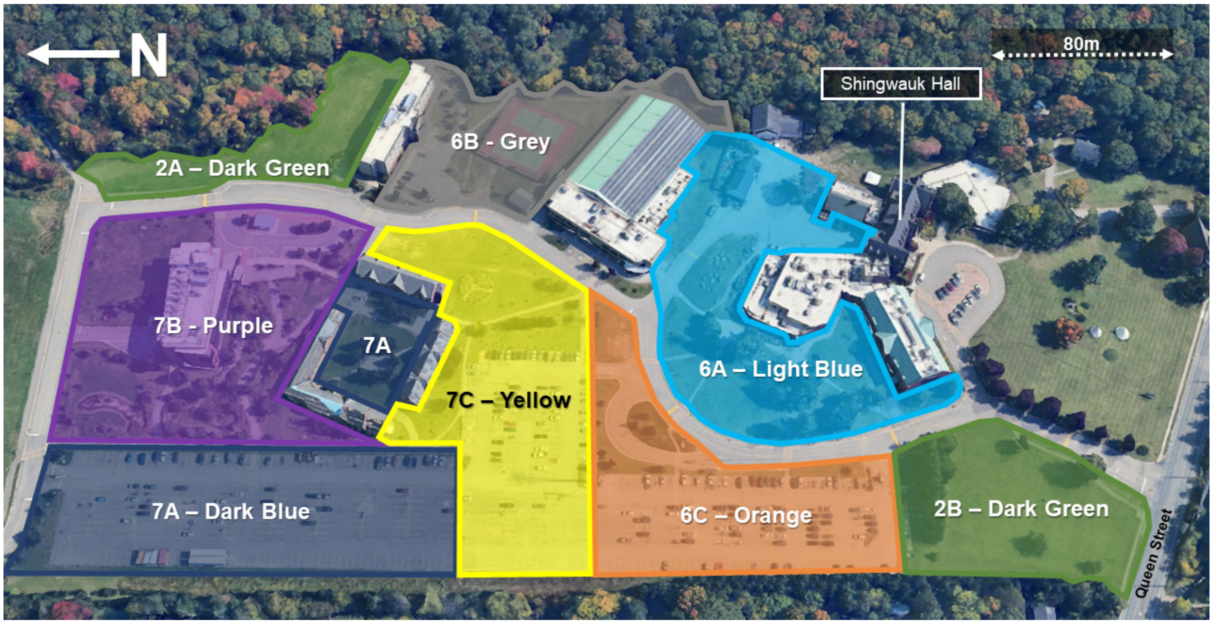


Figure 36. Planned rescans for Phases 6 and 7.

Phase 6 GPR work, to be completed by the summer of 2025, will focus on rescanning four areas: 2A (dark green), 6A (light blue), 6B (grey), and 6C (orange). Phase 7, to be completed by the fall of 2025, will focus on rescanning three areas: 7A (dark blue), 7B (purple), and 7C (yellow).

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APPENDIX 1

Two different pieces of equipment were used for the majority of this work (Phases 2-7): The Noggin 250 MHz and the IDS GeoRadar Stream DP. Here we provide more technical information that demonstrates the abilities and unique qualities of each piece of equipment.

Noggin 250 MHz, used in Phases 2-4 of this work, operates at a single frequency of 250 MHz. This machine is ideal for medium-depth investigations (2–8 meters, depending on soil conditions). It also offers a balance between depth penetration and resolution, suitable for detecting medium-sized objects or features like buried utilities. DS GeoRadar Stream DP, used in Phases 5-7 of this work, is a multi-frequency system with multiple antennas (usually covering a range like 200–600 MHz). This allows simultaneous high-resolution imaging at shallower depths and broader scans at medium depths. It is designed for both wide-area surveys and detailed investigations. The IDS GeoRadar Stream DP has greater versatility in frequency range and resolution, making it more suitable for multi-layered and complex subsurface studies.

Noggin 250 MHz is primarily a single-channel system which is suited for smaller-scale projects with linear or localized scanning needs. The survey area coverage depends on the operator’s speed and pattern. IDS GeoRadar Stream DP is an array-based system with multiple antennas in a swath (e.g., dozens of channels across the width of the array). This machine is highly efficient for covering large areas quickly. The IDS GeoRadar Stream DP is more efficient for large-scale projects, while the Noggin 250 MHz is better for targeted investigations. The IDS GeoRadar Stream DP requires less scanning time as it does not require grids to be laid down. This allows for more scanning time and less set up time.

Noggin 250 MHz has straightforward data acquisition and processing using Sensors & Software’s intuitive tools. This machine focuses on 2D imaging with optional software for 3D reconstruction. It is well-suited for operators who require easy-to-use and focused analysis tools. IDS GeoRadar Stream DP comes with advanced data processing software like IDS GeoRadar’s GRED HD, enabling detailed 3D imaging and high-density data visualization and it is ideal for large datasets and complex subsurface modeling. The Stream DP provides more sophisticated processing capabilities and better handles large datasets, while the Noggin 250 MHz offers simplicity and usability for smaller projects.

Data complications surfaced in this project due to the lack of compatibility between the software used in earlier phases and the data collected by different contractors/machines. We were limited in our ability to analyze early data by SNC-Lavalin and N1 Solutions. The SNC-Lavalin data was eventually analyzed, but N1's data was not usable. It wasn't until Phase 5, with the assistance of Bigman Geophysical, using Geolitix software, that all prior usable data was combined to be cumulatively analyzed. Phase 5 data was then able to add additional verification to earlier findings.

Noggin 250 MHz is more affordable, with a lower total cost of ownership but it is better for smaller organizations, projects with small budgets, and small area projects. IDS GeoRadar Stream DP is significantly more expensive due to its array design and advanced features but the machine is justifiable for organizations requiring high efficiency and coverage. The Noggin 250 MHz is cost-effective for smaller-scale projects, while the Stream DP requires a larger investment but delivers greater capability for large-scale applications.

The Noggin 250 MHz is used for focused projects on smaller, targeted projects that require medium-depth imaging with an easy-to-use and portable system. The IDS GeoRadar Stream DP is needed to cover large areas efficiently with advanced multi-frequency and multi-channel capabilities for high accuracy.

The Stream DP System was chosen for this project for its multichannel array of 30-600MHz antenna, which permits a scan density of ten-centimeter spacing between individual scans. Standard orientation (HH) antennas and cross-polarized (VV) antennas are integrated in the antenna array, allowing for a more introspective examination of the subsurface. The Stream DP also utilizes Equalized Scrambling Technology (EST), which expands the readable frequency range while reducing localized noise created by the system when collecting. The data density provided by the Stream DP system is optimized for the production of highly detailed top-down imagery (time-slices) of the subsurface. It was theorized that the top-down imagery would enable a higher probability of correctly identifying any anthropogenic features within the AOI.

An external GNSS system (Emlid RS2+) was attached and set to receive Real Time Kinematic (RTK) corrections over LoRa radio from a base station that was configured on site. GNSS points were in RTK fix for the majority of data collection. These GNSS data points are collected during each scan of the Stream DP, allowing each scan path to be accurately georeferenced and the radar data to be more precisely calculated to model the subsurface. More about the Stream DP System is shown in Figure 37, on the next page.

IDS GeoRadar

Stream DP	
TECHNICAL SPECIFICATIONS	
Sensor Frequency	200 MHz - 1000 MHz
Weight	42Kg
Stream DP System Size	116X82 cm
Scan Width	82.5cm
Number of channels	30 (19VV-11HH)
VV channels spacing	4.3cm
HH channels spacing	7.5cm
Power Consumption	Acquisition:19W; Stand-by:15W
Max Operating Time	8H (can be extended by hot swap capability)
Environmental	IP65
Max Acquisition Speed	14km/h (8.7 mph)
Positioning	Integrated Encoder and PPS; external GPS and TPS
Certification	EC FCC IC
Recommended Laptop	Panasonic FZ-G2
Temperature range	-20°C – 50°C
Scan Step Resolution	4 cm
SOFTWARE SPECIFICATIONS	
uMap Acquisition Software	Automatic calibration for an easy and quick start-up Visualization and storage of antenna array data set (30 channels) Visualization of radar tomography (time slices) Connection with NMEA positioning device Multilanguage support Metric and Imperial units
IQMaps Processing Software	Advanced 3D processing software with a direct export link to AutoCAD

PART OF HEXAGON

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Figure 37: Technical specifications of the Stream DP equipment used from Phase 5 onwards.

CHILDREN OF SHINGWAUK ALUMNI ASSOCIATION

childrenofshingwauk.ca